



# 2023 PRODUCT CATALOG



Including  
**NEW**  
PRODUCTS  
for **2023**

## PRODUCTS AT WORK

*Balances and Scales, Moisture Analyzers, Laboratory Equipment,  
Water Analysis Instruments, Calibration Weights*

*Ingeniously Practical*

[www.ohaus.com](http://www.ohaus.com)

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# The OHAUS Advantage

For more than a century, the OHAUS name has been synonymous with precision and reliability. Our high-quality balances and scales, laboratory equipment and analytical instruments are designed to meet the evolving needs of a growing range of industries. In addition to supporting the need for precision in every setting, our Ingeniously Practical methodology—demonstrated in all of our products and services—provides tangible benefits that improve accuracy and quality for our customers.

At OHAUS, we have an unwavering dedication to four principles that guide the way we conduct business and support our customers: trust, agility, ingenuity and commitment. That's the OHAUS Advantage, and it's the promise we make to our customers every day.

## TRUST

### *More Than A Century Of Precision & Reliability*

Trust is a cornerstone of our relationship with our customers. With more than a century of expertise, we have become a trusted resource for those who rely on precision weighing products and life science equipment. As customer needs have evolved over the decades, our ability to adapt to change and offer the latest practical innovations has contributed to this enduring trust.

Today, we continue to deliver the same level of trusted quality and reliability that our customers have come to expect. While remaining grounded in our deep American roots established by Gustav and Karl Ohaus in 1907, we have expanded into 20 countries across six continents, creating a strong global network positioned to meet customer needs around the world.

## AGILITY

### *Always Evolving*

Over the years, OHAUS has brought the quality and value that define our weighing products to a wider range of specialized products, including analytical instruments and laboratory equipment for various industries. Our ability to be agile supports our commitment to embrace and adapt new technologies that benefit our customers.

Through our global network of office locations, representatives, and dealers, we stay on top of industry trends around the world and are positioned to quickly adapt to market changes and customer needs. Together with research/development and advanced manufacturing processes, this knowledge enables us to design and craft every OHAUS product to meet and exceed the demands, trends and expectations of our markets.

## INGENUITY

### *Ingeniously Practical In Meeting Customer Needs*

Whether you're looking for traditional weighing products or specialized laboratory or analytical equipment, all OHAUS products are built with ingenuity while also remaining practical in meeting customer needs. In fact, we call our expanded portfolio of products "Ingeniously Practical." To us, this means they offer both pinpoint accuracy and ease of use, and they feature the highest quality while being affordable and durable.

All OHAUS products are rigorously tested to meet national and international safety, quality, and accuracy standards. As an ISO 9001-2015 manufacturer, we maintain our commitment to quality through certifications, listings and ratings such as NTEP, OIML, IP, NEMA and NSF, ensuring legal and operational compliance. Our products are further backed by our extended warranties and ongoing technical support.

OHAUS products also feature superior mechanical overload protection to protect the weighing cells, while IP and NEMA ratings demonstrate further protection from harsh environments. These protective attributes prolong the life of our equipment.

## COMMITMENT

### *Supporting Our Customers Around The Globe*

At OHAUS, we are committed to providing comprehensive customer support, from technical advice and marketing insight to the logistical capacity to meet specific requests and turnaround times. We complement these offerings with onsite training, webinars, video demonstrations and a monthly newsletter.

We believe this commitment means developing a relationship that benefits our customers for the long-term. Our responsive customer service and technical support representatives go the extra mile to provide value-added solutions in a timely manner. With offices in 20 countries, you can receive personalized service and support from anywhere in the world.

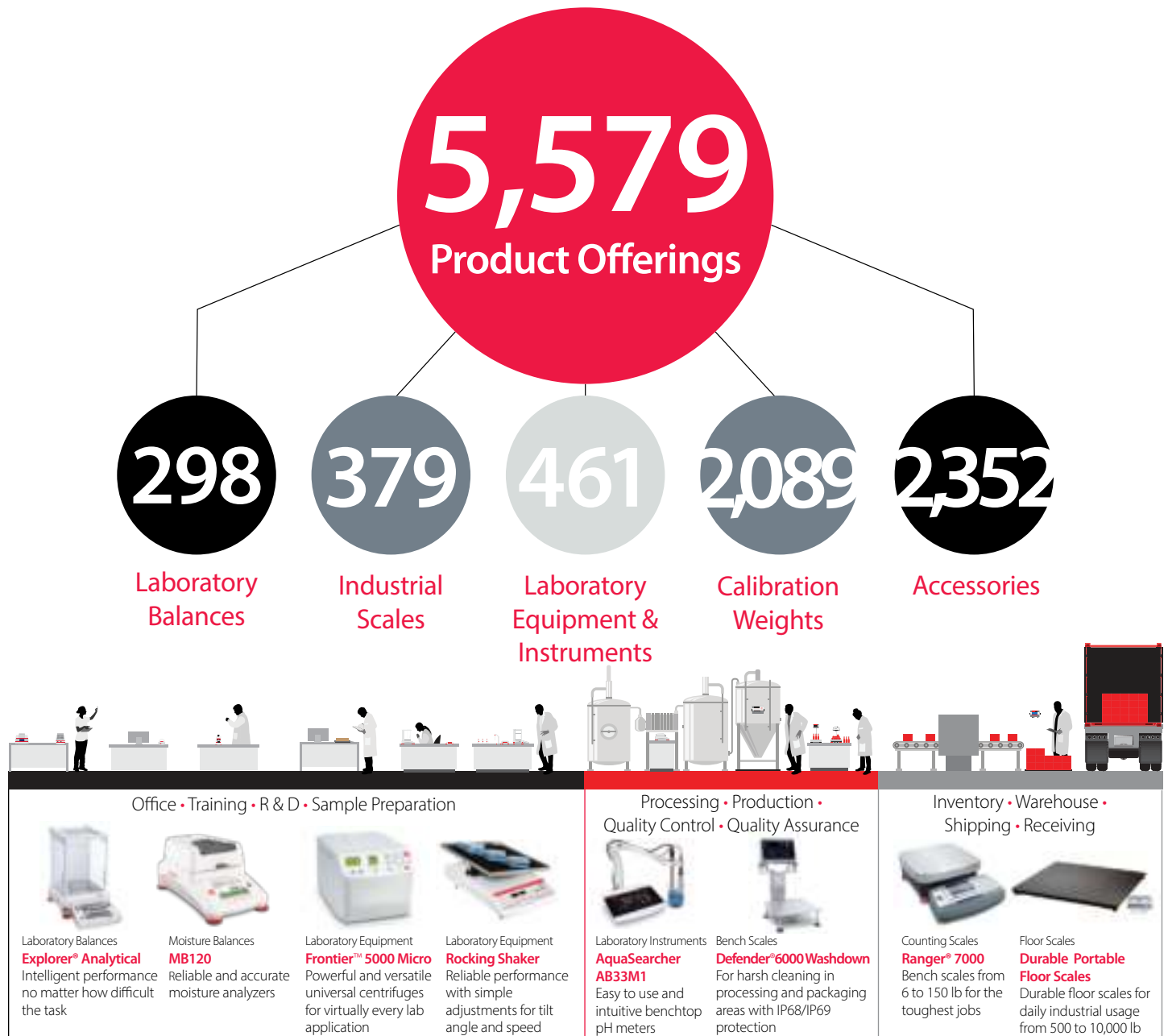


# Products at Work

The OHAUS product range is specifically designed to help maximize productivity, across every surface of the workspace. From the office to the warehouse, our Ingeniously Practical portfolio is packed with products made with your customers' needs in mind. Our industry-leading line of scales and balances offer the accuracy, speed, and peace of mind your customers need to Weigh It with ease, while our ever-growing line of laboratory instruments products allows them to Test It with the confidence they need. Introduced in 2017, the OHAUS line of laboratory equipment rounds out the ability to Do More in the lab, offering products ranging from mixers and shakers to clamps and supports—and everything in between.

No matter what your customers' needs are, from research and development to fulfilment and receiving, you can depend on OHAUS for everything you need to let your customers' operations thrive.

**Don't stop at just measurement—Do More.**



# NOTES

# Laboratory Weighing



*From our powerhouse flagship Explorer balance to our rugged and practical PR Series, OHAUS has a wide variety of semi-micro, analytical, precision, high-capacity, and moisture balances that are ideal for use in almost every area of your laboratory—and beyond.*



	Analytical Balances						Precision Balances				Portables		
	Explorer Semi-Micro	Pioneer Semi-Micro	Explorer	Adventurer	Pioneer	PR Series	Explorer	Adventurer	Pioneer	PR Series	Navigator	Scout	Compass CX/CR
<b>Weighing Capacity Range</b>	52 g - 220 g	82 g - 220 g	120 g - 320 g	120 g - 320 g	80 g - 220 g	64 g - 220 g	220 g - 35000 g	220 g - 8200 g	160 g - 4200 g	320 g - 6200 g	120 g - 20 k g	120 g - 8200 g	220 g - 5,200 g
<b>Readability Range</b>	0.01 mg	0.01 mg	0.1 mg	0.1 mg	0.1 mg	0.1 mg	0.001 g - 0.1 g	0.001 g - 0.1 g	0.001 g - 0.1 g	0.001 g - 0.1 g	0.001 g - 1 g	0.001 g - 1 g	0.1 g - 1 g
<b>Parts Counting</b>	•	•	•	•	•	•	•	•	•	•	•	•	
<b>Percent Weighing</b>	•	•	•	•	•	•	•	•	•	•	•	•	
<b>Custom Unit - Factor Entry</b>	•		•	•	•		•	•	•			•*	
<b>Checkweighing</b>	•		•	•			•	•			•	•	
<b>Dynamic Weighing</b>	•	•	•	•	•		•	•	•			•*	
<b>Gross/Net/Tare</b>	•	•	•	•		•	•	•		•			
<b>Totalization</b>	•		•	•			•	•				•	
<b>Statistics</b>	•		•	•			•	•					
<b>Differential Weighing</b>	•		•				•						
<b>Filling</b>	•		•				•						
<b>Mole Weighing</b>												•*	
<b>Density Determination</b>	•	•	•	•	•		•	•	•			•*	
<b>Pipette Calibration</b>	•		•				•*						
<b>High Point</b>	•		•				•						
<b>Display Hold</b>				•				•				•*	
<b>Formulation</b>	•		•	•			•	•					
<b>Ingredient Costing</b>			•				•						
<b>Battery Power</b>							•*				•	•	•
<b>Backlight LCD</b>		•			•	•			•	•	•	•	•*
<b>LCD</b>		•			•	•			•	•	•	•	•
<b>Color Graphics Display</b>	•		•	•			•	•				•*	
<b>Touchscreen</b>	•		•	•			•	•				•*	
<b>Keys</b>		•		•	•	•		•	•	•		•	
<b>Multi Languages</b>	•	•	•	•			•	•				•*	
<b>RS232</b>	•	•	•	•	•	•	•	•	•	•	○	○	
<b>USB - Host</b>	•		•	•			•	•				○	
<b>USB - Device</b>	•	•	•	•	•	○	•	•	•	○	○	○	
<b>Ethernet</b>	○	○	○	○	○	○	○	○	○	○	○	○	
<b>GLP / Time / Date</b>	•	•	•	•	•		•	•	•			•*	
<b>Internal Calibration</b>	•*	•	•*	•*	•*	•*	•*	•*	•*	•*			
<b>External Calibration</b>	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>AutoCal</b>	•*		•*	•*			•*	•*					
<b>Below Balance Weighing</b>	•	•	•	•	•	•	•	•	•	•	○	•	
<b>NTEP Certified or Measurement Canada Approved</b>			•*	•*			•*	•*		•		•	
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○ Optional \* on specific models



# EXPLORER™ SEMI-MICRO

Flagship Balances from OHAUS

## Display

Full-color VGA graphic display (5.7 in. diagonal), 4-wire resistive touch screen. QWERTY keyboard and numeric keypad to quickly input GLP and GMP data and other application data

## Communication

Easy access communication ports including 2 units of USB port and RS232 and an optional fourth port of either RS232 or Ethernet. GLP/GMP Data Output with Real Time Clock. Data Transfer Function.

## Construction

Metal base, ABS top housing, stainless steel pan, anti-static glass draftshield with flip-top door, replaceable in-use cover, automatic door as option models

## Design Features

AutoCal™ fully-automatic internal calibration system, fast stabilization time, four touchless sensors, built-in ionizer with automatic door models, up to 14 operating languages, OIML models available, SAVE to USB function, menu lock switch, security bracket, integral weigh below hook for below balance weighing applications, removable stainless steel weighing platform, stability indicator, overload and underload indicators, auto standby.

## Operation

AC Adapter (Included)



Explorer's weighing cells precision-machined from a solid metal block, together with AutoCal™ provides exceptional accuracy and durability suitable for laboratory and industrial environments.

Features such as four-level user management with password protection, and un-editable system log plus a high level of configurability make Explorer balances well suited for regulated applications.

A detachable terminal with a large color touchscreen, programmable IR sensors, optional built-in Ionizer & automatic doors, and a frameless draftshield make Explorer balances easy & convenient to use.

Model	Auto Door	Built-in Ionizer	AutoCal™	Capacity	Readability	Pan Size	Item Number
EX125	-	-	•	120 g	0.01 mg	3.14 in (80 mm)	30139511
EX125D	-	-	•	52 g/120 g	0.01 mg; 0.1 mg	3.14 in (80 mm)	30139510
EX225D	-	-	•	120 g/220 g	0.01 mg; 0.1 mg	3.14 in (80 mm)	30139512
EX225D/AD	•	•	•	120 g/220 g	0.01 mg; 0.1 mg	3.14 in (80 mm)	30139513
EX225/AD	•	•	•	220 g	0.01 mg	3.14 in (80 mm)	30139514

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Cable, RS422, 9m, EX EX-HiCap	30078078
Static Ionizer, ION-100A, AM	30130302
Pipette Adjustment Kit, EX Semi-Micro	30252145
Interface Kit, RS232-USB	30304101
Gridding Pan, EX5	30369673
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Paper Roll, CBM910	80251932
Ink Ribbon, CBM910	80251933
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Ethernet Kit, EX EX-HiCap	83021082
Cable Extension RS422 2m EX EX-HiCap	83021083
Cable, USB, Type A-B	83021085
In-Use-Cover, Terminal, EX	83033633
Sinker, Glass, Liquid, Density Kit	83034024

Accumulation

Check Weighing

Density Determination

Differential Weighing

Dynamic Weighing

Filling

Formulation

Gross / Net / Tare

Parts Counting

Peak Hold

Percent Weighing

Pipette Calibration

SQC

Statistics

Totalization

Weighing

Audible Alerts

Auto Standby

Backlight

Environmental Filters

GLP Data Output

GMP/GLP

Internal Calibration

Level Indicator

Leveling Feet

Multi-Language

Overload/Underload Indicators

Security Bracket

Software Lockout

Stability Indicator

Time/Date

Touchless Sensor

Touch Screen

Weigh Below Hook

# EXPLORER™ ANALYTICAL

Flagship Balances from OHAUS

## Display

5.7" (145 mm) Full-color VGA graphic touchscreen display with user-controlled brightness

## Communication

RS232 and USB (included) or second RS232/Ethernet (accessories sold separately) . GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with top mounted side doors & flip/sliding top door, illuminated up-front level indicator, weigh below hook, security bracket, calibration lock, 4 touchless sensors, in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, auto standby, up to 14 operating languages

## Operation

AC adapter (included)



Equipped with a weighing cell that's precision-machined from a solid metal block, Explorer balances are extremely accurate and durable, and are ideal for laboratory and industrial environments.

Features such as four-level user management with password protection and a non-editable system log plus a high level of configuration make Explorer balances well suited for regulated applications.

A detachable terminal with a large color touchscreen, programmable IR sensors, automatic doors, and a frameless draftshield make Explorer analytical balances easy and convenient to use.

Model	Auto Door	AutoCal™	Capacity	Readability	Pan Size	Item Number
EX124/AD	•	•	120 g	0.1 mg	3.5 in (90 mm)	30061976
EX124	-	•	120 g	0.1 mg	3.5 in (90 mm)	83021331
EX224/AD	•	•	220 g	0.1 mg	3.5 in (90 mm)	30061977
EX224	-	•	220 g	0.1 mg	3.5 in (90 mm)	83021332
EX324/AD	•	•	320 g	0.1 mg	3.5 in (90 mm)	30061978
EX324	-	•	320 g	0.1 mg	3.5 in (90 mm)	83021335

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Cable, RS422, 9m, EX EX-HiCap	30078078
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524

Accessories	Item Number
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device, SP PA AV NV	80850000
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Ethernet Kit, EX EX-HiCap	83021082
Cable Extension RS422 2m EX EX-HiCap	83021083
Cable, USB, Type A-B	83021085
Column Kit, EX	83021102
In-Use-Cover, Terminal, EX	83033633
Sinker, Glass, Liquid, Density Kit	83034024

Accumulation  
 Check Weighing  
 Density Determination  
 Differential Weighing  
 Dynamic Weighing  
 Filling  
 Formulation  
 Gross/Net/Tare  
 Ingredient Costing  
 Parts Counting  
 Peak Hold  
 Percent Weighing  
 Pipette Calibration  
 SQC  
 Statistics  
 Totalization  
 Weighing  
 Audible Alerts  
 Auto Standby  
 Backlight  
 Environmental Filters

GLP Data Output  
 GMP/GLP  
 Internal Calibration  
 Level Indicator  
 Leveling Feet  
 Multi-Language  
 Overload/Underload Indicators  
 Security Bracket  
 Software Lockout  
 Stability Indicator  
 Time/Date  
 Touchless Sensor  
 Touch Screen  
 Weigh Below Hook

# EXPLORER™ ANALYTICAL NTEP

Flagship Balances from OHAUS

## Display

5.7" (145 mm) Full-color VGA graphic touchscreen display with user-controlled brightness

## Communication

RS232 and USB (included) or second RS232/Ethernet (accessories sold separately) . GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with top mounted side doors & flip/sliding top door, illuminated up-front level indicator, weigh below hook, security bracket, calibration lock, 4 touchless sensors, in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, auto standby, up to 14 operating languages

## Operation

AC adapter (included)



Equipped with a weighing cell that's precision-machined from a solid metal block, Explorer balances are extremely accurate and durable, and are ideal for laboratory and industrial environments.

Features such as four-level user management with password protection, and un-editable system log plus a high level of configurability make Explorer balances well suited for regulated applications.

A detachable terminal with a large color touchscreen, programmable IR sensors, automatic doors, and a frameless draftshield make Explorer analytical balances easy and convenient to use.

Model	Auto Door	AutoCal™	Capacity	Readability	Certified Readability	Class	Pan Size	Item Number
EX224N/AD	•	•	220 g	0.1 mg	1 mg	I	3.5 in (90 mm)	30061998
EX224N	-	•	220 g	0.1 mg	1 mg	I	3.5 in (90 mm)	83021334
EX324N/AD	•	•	320 g	0.1 mg	1 mg	I	3.5 in (90 mm)	30061999
EX324N	-	•	320 g	0.1 mg	1 mg	I	3.5 in (90 mm)	83021337

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Cable, RS422, 9m, EX EX-HiCap	30078078
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524

Accessories	Item Number
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device, SP PA AV NV	80850000
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Ethernet Kit, EX EX-HiCap	83021082
Cable Extension RS422 2m EX EX-HiCap	83021083
Cable, USB, Type A-B	83021085
Column Kit, EX	83021102
In-Use-Cover, Terminal, EX	83033633
Sinker, Glass, Liquid, Density Kit	83034024

Accumulation  
 Check Weighing  
 Density Determination  
 Differential Weighing  
 Dynamic Weighing  
 Filling  
 Formulation  
 Gross / Net / Tare  
 Ingredient Costing  
 Parts Counting  
 Peak Hold  
 Percent Weighing  
 Pipette Calibration  
 SQC  
 Statistics  
 Totalization  
 Weighing  
 Audible Alerts  
 Auto Standby  
 Backlight  
 Environmental Filters

GLP Data Output  
 GMP/GLP  
 Internal Calibration  
 Level Indicator  
 Leveling Feet  
 Multi-Language  
 Overload/Underload Indicators  
 Security Bracket  
 Software Lockout  
 Stability Indicator  
 Time/Date  
 Touchless Sensor  
 Touch Screen  
 Weigh Below Hook  
 Measurement Canada Approved  
 NTEP Certified

# EXPLORER™ PRECISION

Flagship Balances from OHAUS

## Display

5.7" (145 mm) Full-color VGA graphic touchscreen display with user-controlled brightness

## Communication

RS232 and USB (included) or second RS232/Ethernet (accessories sold separately) . GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with top mounted side doors & flip/sliding top door (1 mg models), illuminated up-front level indicator, weigh below hook, security bracket, calibration lock, 4 touchless sensors, in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, auto standby, up to 14 operating languages

## Operation

AC adapter (included)



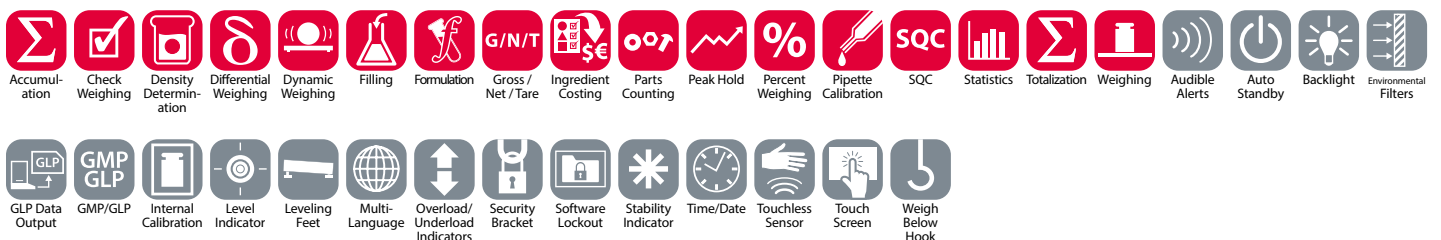
Equipped with a weighing cell that's precision-machined from a solid metal block, Explorer balances are extremely accurate and durable, and are ideal for laboratory and industrial environments.

Features such as four-level user management with password protection and a non-editable system log plus a high level of configuration make Explorer balances well suited for regulated applications.

A detachable terminal with a large color touchscreen, programmable IR sensors, and a frameless draftshield make Explorer precision balances easy and convenient to use.

Model	AutoCal™	Draftshield	Capacity	Readability	Pan Size	Item Number
EX223/E	-	•	220 g	1 mg	5.1 in (130 mm)	30061979
EX223	•	•	220 g	1 mg	5.1 in (130 mm)	83021341
EX423/E	-	•	420 g	1 mg	5.1 in (130 mm)	30061980
EX423	•	•	420 g	1 mg	5.1 in (130 mm)	83021342
EX623	•	•	620 g	1 mg	5.1 in (130 mm)	83021348
EX1103	•	•	1,100 g	1 mg	5.1 in (130 mm)	83021350
EX2202/E	-	-	2,200 g	0.01 g	7.5 in × 8 in (190 mm × 200 mm)	30061981
EX2202	•	-	2,200 g	0.01 g	7.5 in × 8 in (190 mm × 200 mm)	83021356
EX4202/E	-	-	4,200 g	0.01 g	7.5 in × 8 in (190 mm × 200 mm)	30061982
EX4202	•	-	4,200 g	0.01 g	7.5 in × 8 in (190 mm × 200 mm)	83021357
EX6202/E	-	-	6,200 g	0.01 g	7.5 in × 8 in (190 mm × 200 mm)	30061983
EX6202	•	-	6,200 g	0.01 g	7.5 in × 8 in (190 mm × 200 mm)	83021360
EX10202	•	-	10,200 g	0.01 g	7.5 in × 8 in (190 mm × 200 mm)	83021362
EX6201/E	-	-	6,200 g	0.1 g	7.5 in × 8 in (190 mm × 200 mm)	30061984
EX6201	•	-	6,200 g	0.1 g	7.5 in × 8 in (190 mm × 200 mm)	83021361
EX10201	•	-	10,200 g	0.1 g	7.5 in × 8 in (190 mm × 200 mm)	83021365

Accessories on next page



# EXPLORER™ PRECISION ACCESSORIES

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Cable, RS422, 9m, EX EX-HiCap	30078078
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524

Accessories	Item Number
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device, SP PA AV NV	80850000
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Ethernet Kit, EX EX-HiCap	83021082
Cable Extension RS422 2m EX EX-HiCap	83021083
Draft Shield Kit,EX	83021084
Cable, USB, Type A-B	83021085
Column Kit, EX	83021102
In-Use-Cover, Terminal, EX	83033633
Sinker, Glass, Liquid, Density Kit	83034024

# EXPLORER™ PRECISION NTEP

Flagship Balances from OHAUS

## Display

5.7" (145 mm) Full-color VGA graphic touchscreen display with user-controlled brightness

## Communication

RS232 and USB (included) or second RS232/Ethernet (accessories sold separately) . GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with top mounted side doors & flip/sliding top door (1 mg models), illuminated up-front level indicator, weigh below hook, security bracket, calibration lock, 4 touchless sensors, in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, auto standby, up to 14 operating languages

## Operation

AC adapter (included)



Equipped with a weighing cell that's precision-machined from a solid metal block, Explorer balances are extremely accurate and durable, and are ideal for laboratory and industrial environments.

Features such as four-level user management with password protection and a non-editable system log plus a high level of configuration make Explorer balances well suited for regulated applications.

A detachable terminal with a large color touchscreen, programmable IR sensors, and a frameless draftshield make Explorer precision balances easy and convenient to use.

Model	AutoCal™	Draftshield	Capacity	Readability	Certified Readability	Class	Pan Size	Item Number
EX223N/E	-	•	220 g	1mg	0.01 g	II	5.1 in (130 mm)	30553844
EX223N	•	•	220 g	1mg	0.01 g	II	5.1 in (130 mm)	30553843
EX423N/E	-	•	420 g	1mg	0.01 g	II	5.1 in (130 mm)	30553845
EX423N	•	•	420 g	1 mg	0.01 g	II	5.1 in (130 mm)	83021344
EX1103N	•	•	1,100 g	1 mg	0.01 g	I	5.1 in (130 mm)	83021352
EX2202N/E	-	-	2,200 g	0.01 g	0.1 g	II	7.5 in x 8 in (190 mm x 200 mm)	30553846
EX4202N/E	-	-	4,200 g	0.01 g	0.1 g	II	7.5 in x 8 in (190 mm x 200 mm)	30553847
EX4202N	•	-	4,200 g	0.01 g	0.1 g	II	7.5 in x 8 in (190 mm x 200 mm)	83021359
EX6202N/E	-	-	6,200 g	0.01 g	0.1 g	II	7.5 in x 8 in (190 mm x 200 mm)	30553889
EX6202N	•	-	6,200 g	0.01 g	0.1 g	II	7.5 in x 8 in (190 mm x 200 mm)	30553888
EX10202N	•	-	10,200 g	0.01 g	0.1 g	I	7.5 in x 8 in (190 mm x 200 mm)	83021364
EX6201N/E	-	-	6,200 g	0.1 g	0.1 g	II	7.5 in x 8 in (190 mm x 200 mm)	30553891
EX6201N	•	-	6,200 g	0.1 g	0.1 g	II	7.5 in x 8 in (190 mm x 200 mm)	30553890
EX10201N	•	-	10,200 g	0.1 g	0.1 g	I	7.5 in x 8 in (190 mm x 200 mm)	83021367

Accessories continued on next page

Accumulation, Check Weighing, Density Determination, Differential Weighing, Dynamic Weighing, Filling, Formulation, Gross / Net / Tare, Ingredient Costing, Parts Counting, Peak Hold, Percent Weighing, Pipette Calibration, SQC, Statistics, Totalization, Weighing, Audible Alerts, Auto Standby, Backlight, Environmental Filters, GLP Data Output, GMP/GLP, Internal Calibration, Level Indicator, Leveling Feet, Multi-Language, Overload/Underload Indicators, Security Bracket, Software Lockout, Stability Indicator, Time/Date, Touchless Sensor, Touch Screen, Weigh Below Hook, Measurement Canada Approved, NTEP Certified

# EXPLORER™ PRECISION NTEP ACCESSORIES

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Cable, RS422, 9m, EX EX-HiCap	30078078
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524

Accessories	Item Number
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device, SP PA AV NV	80850000
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Ethernet Kit, EX EX-HiCap	83021082
Cable Extension RS422 2m EX EX-HiCap	83021083
Draft Shield Kit,EX	83021084
Cable, USB, Type A-B	83021085
Column Kit, EX	83021102
In-Use-Cover, Terminal, EX	83033633
Sinker, Glass, Liquid, Density Kit	83034024

# EXPLORER™ PRECISION HIGH CAPACITY

Flagship Balances from OHAUS

## Display

5.7" (145 mm) Full-color VGA graphic touchscreen display with user-controlled brightness

## Communication

RS232 and USB (included) or second RS232/Ethernet (accessories sold separately) . GLP/GMP data output with real-time clock.

## Construction

Modular design, IP54 metal base, Die-cast top housing, stainless steel pan, up-front level indicator, integral weigh below hook, calibration lock, two touchless sensors, full housing in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, auto standby, up to 14 operating languages

## Operation

AC Adapter (included) or rechargeable battery (accessory sold separately)



Equipped with a weighing cell that's precision-machined from a solid metal block, Explorer balances are extremely accurate and durable, and are ideal for laboratory and industrial environments.

2-D shock protection and IP54 base enclosure protect the balance from damage, while the AutoCal™ automatic internal calibration system ensures performance.

A detachable terminal with a large color touchscreen and programmable IR sensors make Explorer High-Capacity balances easy and convenient to use.

Model	AutoCal™	Capacity	Readability	Pan Size	Item Number
EX12001	•	12,000 g	0.1 g	14.8 in x 12.2 in (377 mm x 311 mm)	30057099
EX24001	•	24,000 g	0.1 g	14.8 in x 12.2 in (377 mm x 311 mm)	30057100
EX35001	•	35,000 g	0.1 g	14.8 in x 12.2 in (377 mm x 311 mm)	30057101

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
BATTERY,pack,Li-ion,R,14.8V,2600mAh	30041295
Wheel Kit, Set(4), EX-HiCap	30041470
Printer, Impact, SF40A, AM	30064203
Cable, RS422, 9m, EX EX-HiCap	30078078
Column Kit, EX-HiCap	30078082
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Ethernet Kit, EX EX-HiCap	83021082
Cable Extension RS422 2m EX EX-HiCap	83021083
Cable, USB, Type A-B	83021085
In-Use-Cover, Terminal, EX	83033633

Accumulation

Check Weighing

Density Determination

Differential Weighing

Dynamic Weighing

Filling

Formulation

Gross / Net / Tare

Ingredient Costing

Parts Counting

Peak Hold

Percent Weighing

SQC

Statistics

Totalization

Weighing

Audible Alerts

Auto Standby

Backlight

Environmental Filters

GLP Data Output

GMP/GLP

Internal Calibration

Level Indicator

Leveling Feet

Multi-Language

Overload/Underload Indicators

Security Bracket

Software Lockout

Stability Indicator

Time/Date

Touchless Sensor

Touch Screen

Weigh Below Hook



# EXPLORER™ PRECISION HIGH CAPACITY NTEP

Flagship Balances from OHAUS

## Display

5.7" (145 mm) Full-color VGA graphic touchscreen display with user-controlled brightness

## Communication

RS232 and USB (included) or second RS232/Ethernet (accessories sold separately) . GLP/GMP data output with real-time clock.

## Construction

Modular design, IP54 metal base, Die-cast top housing, stainless steel pan, up-front level indicator, integral weigh below hook, calibration lock, two touchless sensors, full housing in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, auto standby, up to 14 operating languages

## Operation

AC Adapter (included) or rechargeable battery (accessory sold separately)



Equipped with a weighing cell that's precision-machined from a solid metal block, Explorer balances are extremely accurate and durable, and are ideal for laboratory and industrial environments.

2-D shock protection and IP54 base enclosure protect the balance from damage, while the AutoCal™ automatic internal calibration system ensures performance.

A detachable terminal with a large color touchscreen and programmable IR sensors make Explorer High-Capacity balances easy and convenient to use.

Model	AutoCal™	Capacity	Readability	Certified Readability	Class	Pan Size	Item Number
EX12001N	•	12,000 g	0.1 g	1 g	II	14.8 in x 12.2 in (377 mm x 311 mm)	30553892
EX24001N	•	24,000 g	0.1 g	1 g	II	14.8 in x 12.2 in (377 mm x 311 mm)	30553893
EX35001N	•	35,000 g	0.1 g	1 g	II	14.8 in x 12.2 in (377 mm x 311 mm)	30553894

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
BATTERY,pack,Li-ion,R,14.8V,2600mAh	30041295
Wheel Kit, Set(4), EX-HiCap	30041470
Printer, Impact, SF40A, AM	30064203
Cable, RS422, 9m, EX EX-HiCap	30078078
Column Kit, EX-HiCap	30078082
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Ethernet Kit, EX EX-HiCap	83021082
Cable Extension RS422 2m EX EX-HiCap	83021083
Cable, USB, Type A-B	83021085
In-Use-Cover, Terminal, EX	83033633

Accumulation

Check Weighing

Density Determination

Differential Weighing

Dynamic Weighing

Filling

Formulation

Gross / Net / Tare

Ingredient Costing

Parts Counting

Peak Hold

Percent Weighing

SQC

Statistics

Totalization

Weighing

Audible Alerts

Auto Standby

Backlight

Environmental Filters

GLP Data Output

GMP/GLP

Internal Calibration

Level Indicator

Leveling Feet

Multi-Language

Overload/Underload Indicators

Security Bracket

Software Lockout

Stability Indicator

Time/Date

Touchless Sensor

Touch Screen

Weigh Below Hook

Measurement Canada Approved

NTEP Certified

# ADVENTURER™ ANALYTICAL

Intuitive Balances Designed for a Variety of Needs

## Display

4.3" (109 mm) Full-color VGA graphic touchscreen with user-controlled brightness

## Communication

RS232, USB Host, USB Device (included). GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with two piece top mounted side doors and sliding top door, illuminated up-front level indicator, integral weigh below hook, security bracket, calibration lock, full housing in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, up to 9 operating languages

## Operation

AC adapter (included)



Adventurer balances feature a color touchscreen, icon-based user interface, and an ergonomic design making them easy to configure and use.

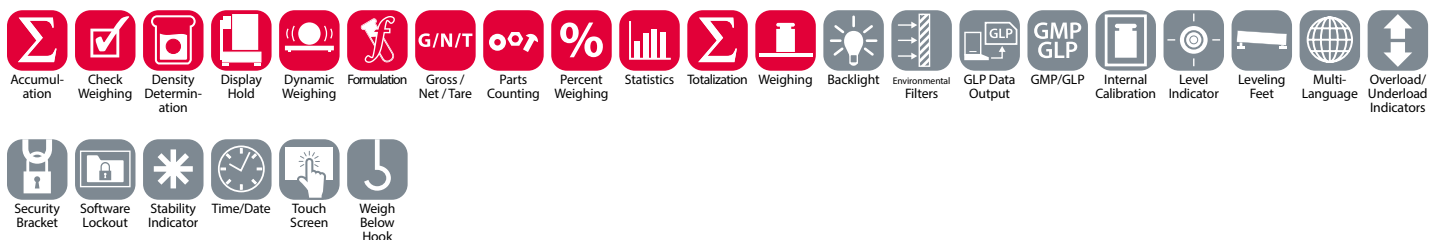
Features such as specialized weighing modes, multiple connectivity options, and AutoCal™ provide versatility and flexibility for a variety of applications.

Durable construction, large weighing surfaces, a space-saving draftshield design, and full housing in-use cover allow for use in lab, education and industrial environments.

Model	AutoCal™	Capacity	Readability	Pan Size	Item Number
AX124/E	-	120 g	0.1 mg	3.5 in (90 mm)	30100601
AX124	•	120 g	0.1 mg	3.5 in (90 mm)	30100600
AX224/E	-	220 g	0.1 mg	3.5 in (90 mm)	30100603
AX224	•	220 g	0.1 mg	3.5 in (90 mm)	30100602
AX324	•	320 g	0.1 mg	3.5 in (90 mm)	30100604

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
In-Use-Cover DS AX	30111792
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024



# ADVENTURER™ ANALYTICAL NTEP

*Intuitive Balances Designed for a Variety of Needs*

## Display

4.3" (109 mm) Full-color VGA graphic touchscreen with user-controlled brightness

## Communication

RS232, USB Host, USB Device (included). GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with two piece top mounted side doors and sliding top door, illuminated up-front level indicator, integral weigh below hook, security bracket, calibration lock, full housing in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, up to 9 operating languages

## Operation

AC adapter (included)



Adventurer balances feature a color touchscreen, icon-based user interface, and an ergonomic design making them easy to configure and use.

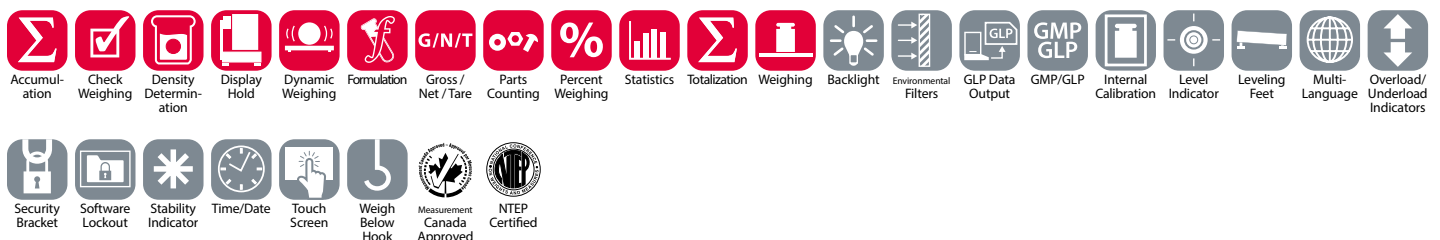
Features such as specialized weighing modes, multiple connectivity options, and AutoCal™ provide versatility and flexibility for a variety of applications.

Durable construction, large weighing surfaces, a space-saving draftshield design, and full housing in-use cover allow for use in lab, education and industrial environments.

Model	AutoCal™	Capacity	Readability	Certified Readability	Class	Pan Size	Item Number
AX224N	•	220 g	0.1 mg	1 mg	I	3.5 in (90 mm)	30100630

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
In-Use-Cover DS AX	30111792
Static Ionizer, ION-100A, AM	30130302
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992
Cable ST103-EX MB PA TxxP	80252581

Accessories	Item Number
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024



# ADVENTURER™ PRECISION

Intuitive Balance Designed for a Variety of Needs

## Display

4.3" (109 mm) Full-color VGA graphic touchscreen with user-controlled brightness

## Communication

RS232, USB Host, USB Device (included). GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with 2-piece top mounted side doors & sliding top door (1mg models only), illuminated up-front level indicator, weigh below hook, security bracket, calibration lock, full housing in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, up to 9 operating languages

## Operation

AC adapter (included)



Adventurer balances come with a color touchscreen, an icon-based user interface, and an ergonomic design, making them easy to configure and use.

Features such as specialized weighing modes, multiple connectivity options, and AutoCal™ provide versatility and flexibility for a variety of applications.

Durable construction, large weighing surfaces, a space-saving draftshield design, and full housing in-use cover allow for use in lab, education and industrial environments.

Model	AutoCal™	Draftshield	Capacity	Readability	Pan Size	Item Number
AX223/E	-	•	220 g	1 mg	5.1 in (130 mm)	30100606
AX223	•	•	220 g	1 mg	5.1 in (130 mm)	30100605
AX423/E	-	•	420 g	1 mg	5.1 in (130 mm)	30100608
AX423	•	•	420 g	1 mg	5.1 in (130 mm)	30100607
AX523/E	-	•	520 g	1 mg	5.1 in (130 mm)	30100610
AX523	•	•	520 g	1 mg	5.1 in (130 mm)	30100609
AX422/E	-	-	420 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30127981
AX622	•	-	620 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30122632
AX822/E	-	-	820 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30127983
AX1502/E	-	-	1,520 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100612
AX1502	•	-	1,520 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100611
AX2202/E	-	-	2,200 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100614
AX2202	•	-	2,200 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100613
AX4202/E	-	-	4,200 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100616
AX4202	•	-	4,200 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100615
AX5202	•	-	5,200 g	0.01 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100617
AX2201/E	-	-	2,200 g	0.1 g	7.7 in × 6.9 in (195 mm × 175 mm)	30248912
AX4201/E	-	-	4,200 g	0.1 g	7.7 in × 6.9 in (195 mm × 175 mm)	30122635
AX4201	•	-	4,200 g	0.1 g	7.7 in × 6.9 in (195 mm × 175 mm)	30122634
AX8201/E	-	-	8,200 g	0.1 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100619
AX8201	•	-	8,200 g	0.1 g	7.7 in × 6.9 in (195 mm × 175 mm)	30100618

Accessories on next page



# ADVENTURER™ PRECISION ACCESSORIES

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
In-Use-Cover wo DS AX	30111777
In-Use-Cover DS AX	30111792
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931

Accessories	Item Number
Printer, Thermal, STP-103, US	80251992
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085

# ADVENTURER™ PRECISION NTEP

Intuitive Balance Designed for a Variety of Needs

## Display

4.3" (109 mm) Full-color VGA graphic touchscreen with user-controlled brightness

## Communication

RS232, USB Host, USB Device (included). GLP/GMP data output with real-time clock.

## Construction

Metal base, ABS top housing, stainless steel pan, glass draftshield with 2-piece top mounted side doors & sliding top door (1mg models only), illuminated up-front level indicator, weigh below hook, security bracket, calibration lock, full housing in-use cover

## Design Features

Selectable environmental filters, auto tare, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user definable project and user IDs, up to 9 operating languages

## Operation

AC adapter (included)



Adventurer balances come with a color touchscreen, an icon-based user interface, and an ergonomic design, making them easy to configure and use.

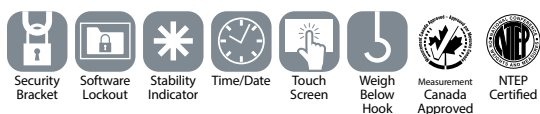
Features such as specialized weighing modes, multiple connectivity options, and AutoCal™ provide versatility and flexibility for a variety of applications.

Durable construction, large weighing surfaces, a space-saving draftshield design, and full housing in-use cover allow for use in lab, education and industrial environments.

Model	AutoCal™	Draftshield	Capacity	Readability	Certified Readability	Class	Pan Size	Item Number
AX223N/E	-	•	220 g	0.001 g	0.01 g	II	5.1 in (130 mm)	30100631
AX423N/E	-	•	420 g	0.001 g	0.01 g	II	5.1 in (130 mm)	30100633
AX423N	•	•	420 g	0.001 g	0.01 g	II	5.1 in (130 mm)	30100632
AX523N/E	-	•	520 g	0.001 g	0.01 g	II	5.1 in (130 mm)	30100634
AX622N/E	-	-	620 g	0.01 g	0.1 g	II	7.7 in × 6.9 in (195 mm × 175 mm)	30100635
AX1502N/E	-	-	1,520 g	0.01 g	0.1 g	II	7.7 in × 6.9 in (195 mm × 175 mm)	30100636
AX2202N/E	-	-	2,200 g	0.01 g	0.1 g	II	7.7 in × 6.9 in (195 mm × 175 mm)	30100637
AX4202N/E	-	-	4,200 g	0.01 g	0.1 g	II	7.7 in × 6.9 in (195 mm × 175 mm)	30122655
AX8201N/E	-	-	8,200 g	0.1 g	1 g	II	7.7 in × 6.9 in (195 mm × 175 mm)	30100639

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
In-Use-Cover wo DS AX	30111777
In-Use-Cover DS AX	30111792
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
Auxiliary display AD7-RS	30472064
Paper Roll, Thermal, STP103	80251931

Accessories	Item Number
Printer, Thermal, STP-103, US	80251992
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085



# PIONEER™ SEMI-MICRO

Combining Economy and High Performance for Essential Weighing

## Display

Backlit Liquid Crystal Display (LCD); Second line display for additional information or guidance (dot matrix)

## Communication

RS232 and USB device (included)

## Construction

Metal base, plastic top housing, removable stainless steel pan, glass draftshield, integrated weigh-below-hook, security bracket, calibration lock and in-use cover

## Design Features

User-selectable environmental filters and brightness settings, auto-tare, auto-dim, user-selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user-definable project and user IDs, software overload/underload indicator, stability indicator, four operating languages

## Operation

AC adapter (included)



The PX5 offers high accuracy and repeatability for essential weighing applications in laboratory, industrial and education settings at an economical price point.

Featuring a cast metal lower housing, sub-pan and stainless steel weighing pan, the PX5 is durably constructed for versatile, long-term use.

The PX5 features a second line display for additional information or guidance, a static removal bar for convenient grounding, and USB and RS232 connectivity for easy communication.

Model	InCal™	Capacity	Readability	Pan Size	Item Number
PX85	•	82 g	0.01 mg	80 mm	30475733
PX225D	•	82 g/220 g	0.01 mg; 0.1 mg	80 mm	30475734

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
In-Use-Cover, PX	30372546
Auxiliary display AD7-RS	30472064
PWR,W,IN,6W,12VDC,S21x55x9x100,S	46001724
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024



# PIONEER™ ANALYTICAL

Affordable Balance to Achieve Reliable Results

## Display

Backlit Liquid Crystal Display (LCD); Second line display for additional information or guidance (dot matrix)

## Communication

RS232 and USB device (included); GLP/GMP data output with real-time clock

## Construction

Metal base, plastic top housing, removable stainless steel pan, glass draftshield, integrated weigh-behind-hook, security bracket, calibration lock and in-use cover

## Design Features

User-selectable environmental filters and brightness settings, auto-tare, auto-dim, user-selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user-definable project and user IDs, software overload/underload indicator, stability indicator, four operating languages

## Operation

AC adapter (included)



The PX offers high accuracy and repeatability for essential weighing applications in laboratory, industrial and education settings at an economical price point.

Featuring a cast metal lower housing, sub-pan and stainless steel weighing pan, the PX is durably constructed for versatile, long-term use.

PX features a second line display for additional information/guidance, & USB/RS232 connectivity for easy communication. Draftshield models feature a static removal (ESR) bar for convenient grounding.

Model	InCal™	Capacity	Readability	Pan Size	Item Number
PX84/E	-	82 g	0.1 mg	90 mm	30429845
PX84	•	82 g	0.1 mg	90 mm	30429837
PX124/E	-	120 g	0.1 mg	90 mm	30429846
PX124	•	120 g	0.1 mg	90 mm	30429838
PX224/E	-	220 g	0.1 mg	90 mm	30429847
PX224	•	220 g	0.1 mg	90 mm	30430053

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
In-Use-Cover, PX	30372546
Auxiliary display AD7-RS	30472064
PWR,W,IN,6W,12VDC,S21x55x9x100,S	46001724
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024





# PIONEER™ PRECISION

Combining Economy and High Performance for Essential Weighing

## Display

2-Line LCD with Backlight

## Communication

RS232, USB

## Construction

Metal base, plastic top housing, removable stainless steel pan, weigh-below-hook

## Design Features

Metal base, plastic top housing, removable stainless steel pan, glass draftshield, Real Time Clock with GLP/ GMP Data integrated, weigh-below-hook, security bracket, calibration lock and in-use cover, user selectable environmental filters and brightness settings, auto-tare, auto-dim, user selectable span calibration points, overload indicator, software lockout and reset menu, user selectable communication settings and data print options, user-definable project and user IDs, software overload/underload indicator, stability indicator, four operating languages

## Operation

Power Adaptor



The PX offers high accuracy and repeatability for essential weighing applications in laboratory, industrial and educational settings at an economical pricepoint.

Featuring a cast metal lower housing, sub-pan and stainless steel weighing pan, the PX is durably constructed for versatile, long-term use.

The PX features a second line display for additional information or guidance, a static removal bar for convenient grounding, and USB and RS232 connectivity for easy communication.

Model	InCal™	Draftshield	Capacity	Readability	Pan Size	Item Number
PX163/E	-	•	160 g	0.001 g	120 mm	30429848
PX163	•	•	160 g	0.001 g	120 mm	30429839
PX323/E	-	•	320 g	0.001 g	120 mm	30429849
PX323	•	•	320 g	0.001 g	120 mm	30429840
PX523/E	-	•	520 g	0.001 g	120 mm	30430057
PX523	•	•	520 g	0.001 g	120 mm	30430054
PX623/E	-	•	620 g	0.001 g	120 mm	30699093
PX623	•	•	620 g	0.001 g	120 mm	30699092
PX1602/E	-	-	1,600 g	0.01 g	180 mm	30430058
PX1602	•	-	1,600 g	0.01 g	180 mm	30430055
PX2202/E	-	-	2,200 g	0.01 g	180 mm	30429850
PX2202	•	-	2,200 g	0.01 g	180 mm	30429841
PX3202/E	-	-	3,200 g	0.01 g	180 mm	30429851
PX3202	•	-	3,200 g	0.01 g	180 mm	30429842
PX4202/E	-	-	4,200 g	0.01 g	180 mm	30429852
PX4202	•	-	4,200 g	0.01 g	180 mm	30429843
PX6202/E	-	-	6,200 g	0.01 g	180 mm	30699095
PX6202	•	-	6,200 g	0.01 g	180 mm	30699094
PX2201/E	-	-	2,200 g	0.1 g	180 mm	30430059
PX2201	•	-	2,200 g	0.1 g	180 mm	30430056
PX4201/E	-	-	4,200 g	0.1 g	180 mm	30429853
PX4201	•	-	4,200 g	0.1 g	180 mm	30429844

Accessories on next page



# PIONEER™ PRECISION ACCESSORIES

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
In-Use-Cover, PX	30372546
Auxiliary display AD7-RS	30472064
PWR,W,IN,6W,12VDC,S21x55x9x100,S	46001724
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024

# PR SERIES ANALYTICAL

Designed for Routine Weighing Applications in Your Workplace

## Display

Backlit Liquid Crystal Display (LCD)

## Communication

RS232 (one port included)

## Construction

ABS top housing, removable stainless steel pan, removable glass draftshield with sliding top door, integrated weigh-below-hook, security bracket, calibration lock

## Design Features

User-selectable environmental filters and brightness settings, auto-tare, auto-dim, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user-definable project and user IDs, software overload/underload indicator, stability indicator

## Operation

AC adapter (included)



The PR is equipped with 3 essential weighing modes, RS-232 connectivity for data transfer and storage, and internal calibration (in select models), making it ideal for routine weighing applications.

Equipped with an easy-to-read, bright backlit display and a simple user interface, the PR is incredibly easy to operate, with almost no training required.

The PR's small footprint saves desktop space while providing a large weighing surface. The PR is durably constructed, and features a stainless steel pan to withstand day-to-day use in the workplace.

Model	InCal™	Capacity	Readability	Class	Pan Size	Item Number
PR64/E	-	62 g	0.1 mg	-	3.5 in (90 mm)	30430060
PR124/E	-	120 g	0.1 mg	-	3.5 in (90 mm)	30529066
PR124	•	120 g	0.1 mg	-	3.5 in (90 mm)	30529065
PR224/E	-	220 g	0.1 mg	-	3.5 in (90 mm)	30430062
PR224	•	220 g	0.1 mg	-	3.5 in (90 mm)	30430061

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
In-Use-Cover, PR	30372547
Auxiliary display AD7-RS	30472064
PWR,W,IN,6W,12VDC,S21x55x9x100,S	46001724
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024



# PR SERIES PRECISION

Designed for Routine Weighing Applications in Your Workplace

## Display

Backlit Liquid Crystal Display (LCD)

## Communication

RS232 (one port included)

## Construction

ABS top housing, removable stainless steel pan, removable glass draftshield with sliding top door, integrated weigh-below-hook, security bracket, calibration lock

## Design Features

User-selectable environmental filters and brightness settings, auto-tare, auto-dim, user selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user-definable project and user IDs, software overload/underload indicator, stability indicator

## Operation

AC adapter (included)



The PR is equipped with 3 essential weighing modes, RS-232 connectivity for data transfer and storage, and internal calibration (in select models), making it ideal for routine weighing applications.

Equipped with an easy-to-read, bright backlit display and a simple user interface, the PR is incredibly easy to operate, with almost no training required.

The PR's small footprint saves desktop space while providing a large weighing surface. The PR is durably constructed, and features a stainless steel pan to withstand day-to-day use in the workplace.

Model	InCal™	Draftshield	Capacity	Readability	Class	Pan Size	Item Number
PR223/E	-	•	220 g	0.001 g	-	4.7 in (120 mm)	30529239
PR523/E	-	•	520 g	0.001 g	-	4.7 in (120 mm)	30430063
PR1602/E	-	-	1,600 g	0.01 g	-	7.1 in (180 mm)	30529067
PR2202/E	-	-	2,200 g	0.01 g	-	7.1 in (180 mm)	30430064
PR4202/E	-	-	4,200 g	0.01 g	-	7.1 in (180 mm)	30430065
PR2201/E	-	-	2,200 g	0.1 g	-	7.1 in (180 mm)	30529238
PR4201/E	-	-	4,200 g	0.1 g	-	7.1 in (180 mm)	30430066

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
In-Use-Cover, PR	30372547
Auxiliary display AD7-RS	30472064
PWR,W,IN,6W,12VDC,S21x55x9x100,S	46001724
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024



# PR SERIES PRECISION NTEP

Designed for Routine Weighing Applications in Your Workplace

## Display

Backlit Liquid Crystal Display (LCD)

## Communication

RS232 (one port included)

## Construction

ABS top housing, removable stainless steel pan, removable glass draftshield with sliding top door, integrated weigh-below-hook, security bracket, calibration lock

## Design Features

User-selectable environmental filters and brightness settings, auto-tare, auto-dim, user-selectable span calibration points, software lockout and reset menu, user selectable communication settings and data print options, user-definable project and user IDs, software overload/underload indicator, stability indicator

## Operation

AC adapter (included)



The PR is equipped with 3 essential weighing modes, RS-232 connectivity for data transfer and storage, and internal calibration (in select models), making it ideal for routine weighing applications.

Equipped with an easy-to-read, bright backlit display and a simple user interface, the PR is incredibly easy to operate, with almost no training required.

The PR's small footprint saves desktop space while providing a large weighing surface. The PR is durably constructed, and features a stainless steel pan to withstand day-to-day use in the workplace.

Model	InCal™	Draftshield	Capacity	Readability	Certified Readability	Class	Pan Size	Item Number
PR323N/E	-	•	320 g	0.001 g	0.01 g	II	4.7 in (120 mm)	30455605
PR323NUS/E	-	-	320 g	0.001 g	0.01 g	II	5.7 in (145 mm)	30575407
PR523N	•	•	520 g	0.001 g	0.01 g	II	4.7 in (120 mm)	30452494
PR523N/E	-	•	520 g	0.001 g	0.01 g	II	4.7 in (120 mm)	30455606
PR822N/E	-	-	820 g	0.01 g	0.1 g	III	7.1 in (180 mm)	30455607
PR2202N/E	-	-	2,200 g	0.01 g	0.1 g	II	7.1 in (180 mm)	30455668
PR4202N/E	-	-	4,200 g	0.01 g	0.1 g	II	7.1 in (180 mm)	30455669
PR5202N/E	-	-	5,200 g	0.01 g	0.1 g	II	7.1 in (180 mm)	30455670
PR4201N/E	-	-	4,200 g	0.1 g	0.1 g	II	7.1 in (180 mm)	30455672
PR6201N/E	-	-	6,200 g	0.1 g	1 g	III	7.1 in (180 mm)	30455673

Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799
Printer, Impact, SF40A, AM	30064203
Static Ionizer, ION-100A, AM	30130302
Interface Kit, RS232-USB	30304101
In-Use-Cover, PR	30372547
Auxiliary display AD7-RS	30472064
PWR,W,IN,6W,12VDC,S21x55x9x100,S	46001724
Paper Roll, Thermal, STP103	80251931
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Density Kit, Solids	80253384
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Software, Winwedge	80850080
Cable, USB, Type A-B	83021085
Sinker, Glass, Liquid, Density Kit	83034024



# SCOUT™ STX

High-Performance Portable Balances with Intuitive Touchscreens for High Accuracy and Productivity

## Display

4.3" (109mm) full-color VGA graphic touchscreen display with user-controlled brightness

## Communication

RS232, USB Host, USB Device or Ethernet (available as an accessory)

## Construction

ABS housing, stainless steel pan, ABS draftshield (1mg models only), weigh below hook, transportation lock, manual calibration lock switch, security slot, adjustable leveling feet, illuminated up-front level indicator

## Design Features

Stability indicator, stackable design with included storage cover (excluding 1 mg models), mechanical and software overload/underload protection, low battery indicator, auto shut-off, auto tare, span calibration mass included on models up to 620g capacity

## Operation

AC Adapter (Included) or 4 AA Batteries (Not included)



Large, intuitive, color touchscreen display allows for easy operation - guiding the user through every step of the weighing application.

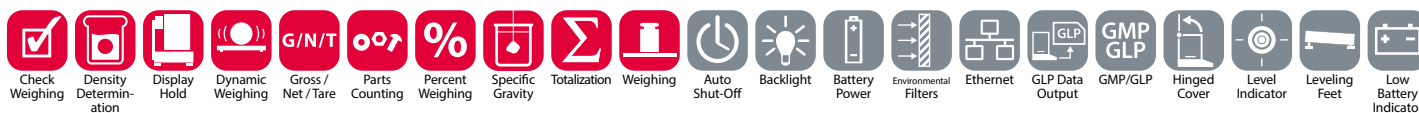
Advanced weighing technology allows for one-second stabilization time for increased productivity.

Integrated overload protection system rated at ten times the capacity protects the balance in demanding environments.

Model	Capacity	Readability	Pan Size	Item Number
STX123	120 g	0.001 g	3.7 in (93 mm)	30253005
STX223	220 g	0.001 g	3.7 in (93 mm)	30253006
STX222	220 g	0.01 g	4.7 in (120 mm)	30253007
STX422	420 g	0.01 g	4.7 in (120 mm)	30253008
STX622	620 g	0.01 g	4.7 in (120 mm)	30253009
STX1202	1,200 g	0.01 g	5.5 in x 6.7 in (140 mm x 170 mm)	30253010
STX2202	2,200 g	0.01 g	5.5 in x 6.7 in (140 mm x 170 mm)	30253011
STX421	420 g	0.1 g	4.7 in (120 mm)	30253012
STX621	620 g	0.1 g	5.5 in x 6.7 in (140 mm x 170 mm)	30253013
STX2201	2,200 g	0.1 g	5.5 in x 6.7 in (140 mm x 170 mm)	30253014
STX6201	6,200 g	0.1 g	5.5 in x 6.7 in (140 mm x 170 mm)	30253015
STX8200	8,200 g	1 g	5.5 in x 6.7 in (140 mm x 170 mm)	30253016

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
RS232 Interface, Scout	30268982
USB Host Interface, Scout	30268983
USB Device Interface, Scout	30268984
Ethernet Interface, Scout	30268986
Stacking Kit, x6, STX SPX SKX SJX/E	30268987

Accessories	Item Number
Stacking Kit, x1, STX SPX SKX SJX/E	30268988
Density Kit, SKX STX SJX/E	30269020
Carrying Case, Scout	30269021
Power Adapter 5V 1A US Scout CX	30330714
Auxiliary display AD7-MD	30472063
Anti-Theft Device Lab Balance	80850043



# SCOUT™ SPX

Portable Precision Balances Provide Consistently Accurate Measurements

## Display

Liquid crystal display (LCD) with backlight

## Communication

RS232, USB Host, USB Device or Ethernet (available as an accessory)

## Construction

ABS housing, stainless steel pan, ABS draftshield (1mg models only), weigh below hook, transportation lock, manual calibration lock switch, security slot, adjustable leveling feet, illuminated up-front level indicator

## Design Features

Stability indicator, stackable design with optional storage cover (excluding 1mg models), mechanical and software overload/underload protection, low battery indicator, auto shut-off, auto tare, span calibration mass included on models up to 620g capacity

## Operation

AC Adapter (Included) or 4 AA Batteries (Not included)



Large backlit display improves readability in low light conditions and is easier to view from a distance.

Integrated overload protection and impact-resistant pan allow the balance to operate efficiently in demanding environments.

Increase productivity with advanced weighing technology and stabilization time as fast as one-second.

Model	Capacity	Readability	Pan Size	Item Number
SPX123	120 g	0.001 g	3.7 in (93 mm)	30253017
SPX223	220 g	0.001 g	3.7 in (93 mm)	30253018
SPX222	220 g	0.01 g	4.7 in (120 mm)	30253019
SPX422	420 g	0.01 g	4.7 in (120 mm)	30253020
SPX622	620 g	0.01 g	4.7 in (120 mm)	30253021
SPX1202	1,200 g	0.01 g	5.5 in × 6.7 in (140 mm × 170 mm)	30253022
SPX2202	2,200 g	0.01 g	5.5 in × 6.7 in (140 mm × 170 mm)	30253023
SPX421	420 g	0.1 g	4.7 in (120 mm)	30253024
SPX621	620 g	0.1 g	5.5 in × 6.7 in (140 mm × 170 mm)	30253025
SPX2201	2,200 g	0.1 g	5.5 in × 6.7 in (140 mm × 170 mm)	30253026
SPX6201	6,200 g	0.1 g	5.5 in × 6.7 in (140 mm × 170 mm)	30253027
SPX8200	8,200 g	1 g	5.5 in × 6.7 in (140 mm × 170 mm)	30253028

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
RS232 Interface, Scout	30268982
USB Host Interface, Scout	30268983
USB Device Interface, Scout	30268984
Ethernet Interface, Scout	30268986
Stacking Kit, x6, STX SPX SKX SJX/E	30268987

Accessories	Item Number
Stacking Kit, x1, STX SPX SKX SJX/E	30268988
Density Kit, SKX STX SJX/E	30269020
Carrying Case, Scout	30269021
Power Adapter 5V 1A US Scout CX	30330714
Auxiliary display AD7-MD	30472063
Anti-Theft Device Lab Balance	80850043



# SCOUT™ SJX/E

Class II Legal-for-Trade Portable Balances Ideal for Jewelry Weighing

## Display

Liquid crystal display (LCD) with backlight

## Communication

RS232, USB Host, USB Device or Ethernet (available as an accessory)

## Construction

ABS housing, stainless steel pan, ABS draftshield (1 mg model only), weigh below hook, transportation lock, manual calibration lock switch, security slot, adjustable leveling feet, illuminated up-front level indicator

## Design Features

Stability indicator, mechanical and software overload/underload protection, low battery indicator, auto shut-off, auto tare, scoop and weight on 64g model

## Operation

AC Adapter (Included) or 4 AA Batteries (Not included)



Scout meets Class II and III accuracy requirements for countertop retail applications.

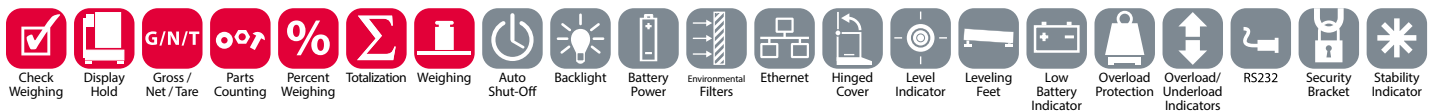
Multiple connectivity options are available for easy data logging and communication. An optional auxiliary display can also be installed for retail applications.

Advanced weighing technology ensures reliable, repeatable weighing results.

Model	Capacity	Readability	Certified Readability	Pan Size	Item Number
SJX323N/E	64 g	0.001 g	0.01 g	3.7 in (93 mm)	30253054
SJX622N/E	1.37 lb (620 g)	0.00005 lb (0.01 g)	0.0005 lb (0.1 g)	4.7 in (120 mm)	30253055
SJX1502N/E	3.3 lb (1,500 g)	0.00005 lb (0.01 g)	0.0005 lb (0.1 g)	5.5 in x 6.7 in (140 mm x 170 mm)	30253056
SJX6201N/E	13.67 lb (6,200 g)	0.0005 lb (0.1 g)	0.005 lb (1 g)	5.5 in x 6.7 in (140 mm x 170 mm)	30253057

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
RS232 Interface, Scout	30268982
USB Host Interface, Scout	30268983
USB Device Interface, Scout	30268984
Ethernet Interface, Scout	30268986
Stacking Kit, x6, STX SPX SKX SJX/E	30268987

Accessories	Item Number
Stacking Kit, x1, STX SPX SKX SJX/E	30268988
Density Kit, SKX STX SJX/E	30269020
Carrying Case, Scout	30269021
Power Adapter 5V 1A US Scout CX	30330714
Auxiliary display AD7-MD	30472063
Anti-Theft Device Lab Balance	80850043





# NAVIGATOR™

Multi-Purpose Portable Balances Suitable for Everyday Weighing

## Display

Liquid Crystal Display (LCD) with backlight

## Communication

RS232, USB, or Ethernet (available as accessories)

## Construction

ABS housing, stainless steel pan, transportation lock, slip-resistant and adjustable feet, leveling bubble

## Design Features

Menu and calibration lock switch, mechanical and software overload/underload protection, stability indicator, low battery indicator, auto shut-off, user-selectable print options, user-selectable communication settings

## Operation

AC adapter (included) or 4 C batteries (not included)



Navigator offers essential weighing applications at a competitive price point.

Advanced weighing technology offers one-second stabilization for fast and accurate weighing results, improving operator efficiency, productivity and throughput.

Overload protection system that can withstand loads up to four times the rated capacity safeguards the balance.

Model	Capacity	Readability	Pan Size	Item Number
NV123	120 g	0.001 g	3.7 in (93 mm)	30642238
NV223	220 g	0.001 g	3.7 in (93 mm)	30642239
NV323	320 g	0.001 g	3.7 in (93 mm)	30642240
NV222	220 g	0.01 g	5.7 in (145 mm)	30456410
NV422	420 g	0.01 g	5.7 in (145 mm)	30456411
NV622	620 g	0.01 g	5.7 in (145 mm)	30467960
NV1202	1,200 g	0.01 g	5.7 in × 7.5 in (144 mm × 190 mm)	30642241
NV2202	2,200 g	0.01 g	5.7 in × 7.5 in (144 mm × 190 mm)	30642242
NV3202	3,200 g	0.01 g	5.7 in × 7.5 in (144 mm × 190 mm)	30642243
NV221	220 g	0.1 g	5.7 in × 7.5 in (144 mm × 190 mm)	30456412
NV621	620 g	0.1 g	5.7 in × 7.5 in (144 mm × 190 mm)	30456413
NV1201	1,200 g	0.1 g	5.7 in × 7.5 in (144 mm × 190 mm)	30456414
NV2201	2,200 g	0.1 g	5.7 in × 7.5 in (144 mm × 190 mm)	30456415
NVT2201	2,200 g	0.1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30456416
NVT4201	4,200 g	0.1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30456417
NVT6201	6,200 g	0.1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30467961
NVT10201	10,200 g	0.1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30642244
NVT2200	2,200 g	1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30456418
NVT6200	6,200 g	1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30456419
NVT12000	12,000 g	1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30456420
NVT22000	22,000 g	1 g	6.9 in × 9.1 in (174 mm × 230 mm)	30456421

Accessories on next page



# NAVIGATOR™ ACCESSORIES

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Carrying Case NV NVT	30467963
Adaptor Kit 12V 0.5A EU-US-AU-UK-KR	30467987
Weigh below hook NV NVT	30628012

Accessories	Item Number
RS232 Kit TA NV NVT	83032107
USB Kit TA NV NVT	83032108
Ethernet Kit NV NVT	83032109

# COMPASS™ CX

Energy-Efficient Portable Scale Suitable for Workplace and in-the-Field Weighing

## Display

Liquid Crystal Display (LCD) with backlight

## Construction

ABS housing, stainless steel pan, transportation lock, slip-resistant feet

## Design Features

Stability indicator, mechanical and software overload/underload protection, low battery indicator, auto shut-off

## Operation

3 AA batteries (included) or AC adapter (not included)



Save money over the lifetime of the balance. Alkaline batteries allow you to maximize operating time by up to 1,000 hours of continuous, energy-efficient weighing in the workplace or classroom.

Large backlit display increases readability in low-light conditions and makes it easier to view results from a distance.

Slim, space-saving design allows for stackable storage for up to four scales.

Model	Capacity	Readability	Pan Size	Item Number
CX221	220 g	0.1 g	5.6 in × 5 in (142 mm × 128 mm)	30428199
CX621	620 g	0.1 g	5.6 in × 5 in (142 mm × 128 mm)	30428200
CX1201	1,200 g	0.1 g	5.6 in × 5 in (142 mm × 128 mm)	30428201
CX2200	2,200 g	1 g	5.6 in × 5 in (142 mm × 128 mm)	30428202
CX5200	5,200 g	1 g	5.6 in × 5 in (142 mm × 128 mm)	30428203
CX221P	220 g	0.1 g	5.6 in × 5 in (142 mm × 128 mm)	30467746
CX2200P	2,200 g	1 g	5.6 in × 5 in (142 mm × 128 mm)	30467747
CX5200P	5,200 g	1 g	5.6 in × 5 in (142 mm × 128 mm)	30467761
CX5200F*	5,200 g	1 g	5.6 in × 5 in (142 mm × 128 mm)	30467762

\*Carrying case included

Accessories	Item Number
Power Adapter 5V 1A US Scout CX	30330714
Power Adapter 5V 1A AU Scout CX	30333865
Power Adapter 5V 1A EU Scout CX	30333866
Power Adapter 5V 1A UK Scout CX	30333867

Accessories	Item Number
Pan SST CX	30428138
Carrying case CX CR	30467763
Bowl, 1050ml, CX CR	80850075



# COMPASS™ CR

Quality Portable Electronic Scales Suitable for Everyday Weighing.

## Display

Liquid Crystal Display (LCD)

## Construction

ABS housing and pan, transportation lock, slip-resistant feet

## Design Features

Stability indicator, mechanical and software overload/underload protection, auto shut-off

## Operation

3 AA batteries (included) or AC adapter (not included)



Intuitive two-button design makes for easy operation.

Slim, space-saving design allows for stackable storage.

Enlarged weighing platform can adequately handle large samples and a variety of objects.

Model	Capacity	Readability	Pan Size	Item Number
CR221	220 g	0.1 g	5.2 in × 5 in (132 mm × 125 mm)	30428204
CR621	620 g	0.1 g	5.2 in × 5 in (132 mm × 125 mm)	30428205
CR2200	2,200 g	1 g	5.2 in × 5 in (132 mm × 125 mm)	30428206
CR5200	5,200 g	1 g	5.2 in × 5 in (132 mm × 125 mm)	30428207

Accessories	Item Number
Carrying case CX CR	30467763
Adaptor Kit 12V 0.5A EU-US-AU-UK-KR	30467987

Accessories	Item Number
Bowl, 1050ml, CX CR	80850075



# PS SERIES

High Performance Portable Weighing in the Palm of Your Hand!

## Display

Liquid crystal display (LCD)

## Construction

ABS housing and protective sliding pan

## Design Features

Mechanical and software overload/underload protection, auto shut-off

## Operation

2 lithium batteries (included)

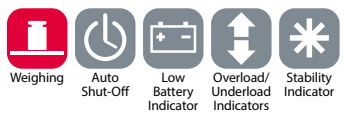


The one-piece combination pan and cover slides back when being used to weigh and forward when not in use to protect the buttons and display during storage and transportation.

One of the smallest portable balances on the market, PS can easily fit into a standard shirt pocket.

The "pop-out" design of the battery compartment provides simple and fast battery replacement.

Model	Capacity	Readability	Pan Size	Item Number
PS121	120 g	0.1 g	2.6 in × 2.5 in (66 mm × 63 mm)	80104060
PS251	250 g	0.1 g	2.6 in × 2.5 in (66 mm × 63 mm)	80104061



# YA GOLD SERIES

Portable Precision Weighing in a Compact Case

## Display

Backlit liquid crystal display (LCD)

## Construction

ABS housing, stainless steel pan, protective cover

## Design Features

Mechanical and software overload/underload protection, auto shut-off

## Operation

2 AAA batteries (included)

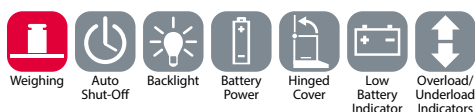


A hinged cover, sturdy plastic housing and stainless steel weighing pan protect the small balance from damage.

With an extremely fast stabilization time, your results will appear quickly on the blue backlit LCD display.

Powered by two 'AAA' batteries, a power-saving auto shut-off feature helps to conserve battery life.

Model	Capacity	Readability	Pan Size	Item Number
YA102	100 g	0.01 g	2.8 in × 2 in (70 mm × 50 mm)	80251910
YA302	300 g	0.05 g	2.8 in × 2 in (70 mm × 50 mm)	80251911
YA501	500 g	0.1 g	2.8 in × 2 in (70 mm × 50 mm)	80251912





## Moisture Analyzer Selector Guide



Moisture Analyzers				
	MB120	MB90	MB27	MB23
Weighing Capacity	120 g	90 g	90 g	110 g
Readability Range	0.001 g	0.001 g	0.001 g	0.01 g
SmartGuide™	•			
Halogen	•	•	•	
Infrared				•
Color Graphics Display	•	•		
Backlit LCD			•	•
Touchscreen	•	•		
% Moisture	•	•	•	•
% Solids	•	•	•	•
External Calibration	•	•	•	•
GLP / Time / Date	•	•		
RS232	•	•	•	•
Temperature Range	40-230 °C	40-200 °C	50-160 °C	50-160 °C
<b>Page No.</b>	<b>40</b>	<b>41</b>	<b>42</b>	<b>43</b>

## MB120

Faster, Smarter, More Efficient Moisture Analysis

### Display

4.3" TFT color touchscreen display

### Communication

RS232 with GLP/GMP data output, USB Host and USB Device (included)

### Construction

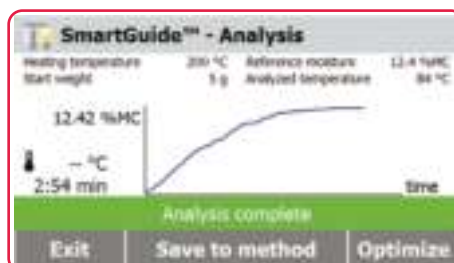
Metal base, ABS top housing, halogen heat source, stainless steel pan support, stainless steel pan handler, in-use cover

### Design Features

Seven shut-off criteria (manual, timed, autofree %/s, autofree mg/s, A30, A60 and A90), four drying profiles (standard, fast, ramp and step), storage up to 100 methods and 1000 test results for all methods, user guide, 40°C to 230°C heating temperature range (1°C increments), 14 operational languages

### Operation

Power cord (included)



Get started quickly with SmartGuide™. This revolutionary feature automatically analyzes a sample and creates a method, thereby removing the guesswork from the initial setup.

The MB120 has the capability to produce fast and accurate results due to features such as a halogen heating system, customizable shut-off criteria and four built in drying profiles.

The MB120 allows storage of up to 100 methods and 1,000 measurement results. Stored results can be exported, and methods can be shared across multiple devices.

Model	Capacity	Moisture Readability	Pan Size	Item Number
MB120	120 g	1 mg/0.01%	3.5 in (90 mm)	30241165

Accessories	Item Number
Temp. calibration kit MB Series	11113857
Printer, Impact, SF40A, AM	30064203
Handle Pan MB90 MB120	30246947
Scoop, Accessory, MB9x MB120	30284477
In-Use-Cover, Accessory, MB9x MB120	30284478
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102

Accessories	Item Number
Cage, Sample, MB Series	80252477
Pan, Reusable, Set(3), 7mm, MB Series	80252478
Pan, Reusable, Set(3), 14mm, MB Series	80252479
Anti-Theft Device Lab Balance	80850043
Pan Aluminum Set MB Series	80850086
Filter Glass Fiber, Set(200) Series	80850087





# MB90

Simple Operation. Precise Results.

## Display

4.3" TFT color touchscreen display

## Communication

RS232 with GLP/GMP data output, USB Host and USB Device (included)

## Construction

Metal base, ABS top housing, halogen heat source, stainless steel pan support, stainless steel pan handler, in-use cover

## Design Features

Three shut-off criteria (manual, timed or auto), two drying profiles (standard and fast), storage up to two methods, user guide, 40°C to 200°C heating temperature range (1°C increments), 14 operational languages

## Operation

Power cord (included)



Halogen heating increases efficiency for faster results.

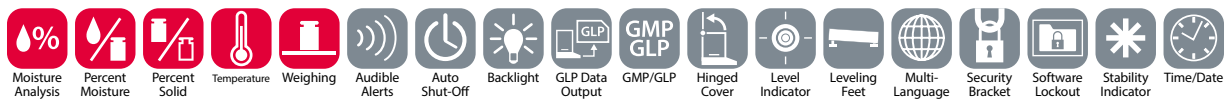
Intuitive touchscreen menu offers step-by-step guidance for any application.

Tool-free cleaning for easy maintenance.

Model	Capacity	Moisture Readability	Pan Size	Item Number
MB90	90 g	1 mg/0.01%	3.5 in (90 mm)	30241164

Accessories	Item Number
Temp. calibration kit MB Series	11113857
Printer, Impact, SF40A, AM	30064203
Handle Pan MB90 MB120	30246947
Scoop, Accessory, MB9x MB120	30284477
In-Use-Cover, Accessory, MB9x MB120	30284478
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102

Accessories	Item Number
Cage, Sample, MB Series	80252477
Pan, Reusable, Set(3), 7mm, MB Series	80252478
Pan, Reusable, Set(3), 14mm, MB Series	80252479
Anti-Theft Device Lab Balance	80850043
Pan Aluminum Set MB Series	80850086
Filter Glass Fiber, Set(200) Series	80850087



## MB27

Outstanding Performance, Flexible Configuration and Reliable Results

### Display

Backlit liquid crystal display (LCD)

### Communication

RS232 (included)

### Construction

Halogen heat source, ABS housing, metal pan support, metal pan handler, in-use cover

### Design Features

3 shut off criteria (manual, timed or auto), 1 standard heating profile, 50° to 160° C heating range (5° C increments)

### Operation

Power cord (included)



With 0.01% 0.001g accuracy, the MB27 Moisture Analyzer is suitable for most applications.

Halogen heating and dual weight-temperature calibration provide fast, reliable results.

User-friendly touch-button design for easy operation.

Model	Capacity	Moisture Readability	Pan Size	Item Number
MB27	90 g	1 mg/0.01%	3.5 in (90 mm)	30251683

Accessories	Item Number
Temp. calibration kit MB Series	11113857
Printer, Impact, SF40A, AM	30064203
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102
In-Use-Cover, MB23 MB25 MB27	80252475
Holder Pan MB23 MB25 MB27	80252476

Accessories	Item Number
Cage, Sample, MB Series	80252477
Pan, Reusable, Set(3), 7mm, MB Series	80252478
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Pan Aluminum Set MB Series	80850086
Filter Glass Fiber, Set(200) Series	80850087



# MB23

Outstanding Performance, Flexible Configuration and Reliable Results

## Display

Backlit liquid crystal display (LCD)

## Communication

RS232 (included)

## Construction

Infrared heat source, ABS housing, metal pan support, metal pan handler, in-use cover

## Design Features

3 shut off criteria (manual, timed or auto), 1 standard heating profile, 50° to 160° C heating range (5° C increments)

## Operation

Power cord (included)



Glass-less infrared heating increases efficiency for faster results.

User-friendly touch-button design for easy operation.

Compact design suits any workspace.

Model	Capacity	Moisture Readability	Pan Size	Item Number
MB23	110 g	10 mg/0.1%	3.5 in (90 mm)	83999801

Accessories	Item Number
Temp. calibration kit MB Series	11113857
Printer, Impact, SF40A, AM	30064203
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102
In-Use-Cover, MB23 MB25 MB27	80252475
Holder Pan MB23 MB25 MB27	80252476

Accessories	Item Number
Cage, Sample, MB Series	80252477
Pan, Reusable, Set(3), 7mm, MB Series	80252478
Cable RS232 IBM 9P Male-to-Female	80500525
Anti-Theft Device Lab Balance	80850043
Pan Aluminum Set MB Series	80850086
Filter Glass Fiber, Set(200) Series	80850087



# TRIPLE BEAM PRO™

Best-in-Class Mechanical Balance!

## Display

Easy to-read deep-notched, tiered beams and dial plates

## Construction

Metal base and beam, stainless steel pan

## Design Features

Two notched and tiered beams, positive poise positioning, spring loaded zero adjust compensator, self-aligning beam design, magnetic dampening to minimize oscillation and speed weighing, security loop, included weight set and storage compartment



The unique, easy-grip carrying handle is ergonomically designed to allow for effortless movement around the classroom.

A convenient compartment provides a place to store the weight set when not in use, preventing the weights from becoming lost.

Prevent theft and accidental dropping by securing the balance to a desk or bench top with the security loop or Kensington-type lock (sold separately).

Model	Capacity	Readability	Pan Size	Item Number
TP2611	2,610 g	0.1 g	5.8 in x 5.8 in (147 mm x 147 mm)	80621692

Accessories	Item Number	Accessories	Item Number
Kit, Rod and Clamp	80780011	Anti-Theft Device, SP PA AV NV	80850000
Weight Set, 2x1kg, 1x500g	80780108	Anti-Theft Device Lab Balance	80850043



Weighing

# TRIPLE BEAM™ 700 SERIES

The Standard by Which All Other Mechanical Balances Are Measured.

## Display

Easy to-read deep-notched, tiered beams and dial plates

## Construction

Metal base and beam, stainless steel pan

## Design Features

Easy-to-read notched and tiered beams, self-aligning beam design, magnetic dampening to minimize oscillation and speed weighing, zero adjust compensator



Superior magnetic damping provides stable results three times faster than any other three-beam balance on the market.

Five weighing pans of different sizes and designs can accommodate materials for a variety of weighing applications.

A counterbalancing knob provides quick zeroing of the balance while a self-aligning beam helps ensure accurate results.

Model	Pan Type	Readability	Capacity	Tare Beam	Pan Size	Item Number
750-S0	Fixed Pan	0.1 g	610 g		2.38 in x 6 in (60.5 mm x 152 mm)	80000012
760-00	Fixed Pan	0.1 g	610 g	•	2.38 in x 6 in (60.5 mm x 152 mm)	80000013
710-00	Removable Pan	0.1 g	610 g		0.74 in x 6 in (18.9 mm x 152 mm)	80000011
710-T0	Removable Pan	0.1 g	610 g	•	0.74 in x 6 in (18.9 mm x 152 mm)	80000031
720-00	Polypropylene Scoop	0.1 g	610 g		12 in x 2.75 in x 6 in (30.5 mm x 70 mm x 152 mm)	80000032
720-S0	Stainless Steel Scoop	0.1 g	610 g		12 in x 1.7 in x 7.4 in (305 mm x 43 mm x 188 mm)	80000033
730-00	Animal Container	0.1 g	610 g		6 in x 9 in (152 mm x 229 mm)	80000034

Accessories	Item Number
Subject Box	80000053
Scoop and Counter Weight	80780001
Scoop, PP, 0.8l	80780006
Kit, Rod and Clamp	80780011
Scoop and Counter Weight, Poly	80780014

Accessories	Item Number
Scoop and Counter Weight, SST	80780015
Scoop and Counter Weight, 1.75l	80780016
Weight Set, 2x1kg, 1x500g	80780108
Anti-Theft Device, SP PA AV NV	80850000
Clamp, Gas Cylinder	80850312



Weighing

# TRIPLE BEAM™ JUNIOR

All the Benefits of a Triple Beam, Just for Younger Students!

## Display

Easy to-read deep-notched, tiered beams and dial plates

## Construction

Metal base and beam, stainless steel pan

## Design Features

Notched and tiered beams, magnetic dampening, zero adjust compensator



The notched and tiered beams provide for easy reading of measurement results.

Prevent theft and accidental dropping by securing the balance to a desk or bench top with the security loop or Kensington-type lock (sold separately).

The zero adjust compensator ensures the balance is at zero and weighing results will be accurate.

Model	Maximum Capacity	Readability	Pan Size	Item Number
TJ611	610 g	0.1 g	5.9 in (150 mm)	80252052

Accessories	Item Number
Anti-Theft Device, SP PA AV NV	80850000



# TRIPLE BEAM DIAL-O-GRAM™ 1600 SERIES

*The Standard by Which All Others Are Measured!*

## Display

Easy to Read Deep Notched and Tiered Beams and Dial Plates

## Construction

Metal Base and Beam, Stainless Steel Pan

## Design Features

Counterbalancing knob for quick zeroing, positive poise positioning for repeatable results, self-aligning beam design, magnetic damping to minimize oscillation and speed weighing.



Superior magnetic damping provides three times faster stability reading than any other three-beam balance on the market.

Vernier dial convenience.

Counterbalancing knob for quick zeroing, self-aligning beam design.

Model	Readability	Capacity	Tare Beam	Pan Size	Item Number
1650-00	0.1 g	610 g	•	6 in (152 mm)	80000006
1610-00	0.1 g	610 g	•	6 in (152 mm)	80000036
1650-W0	0.1 g	2,610 g	•	6 in (152 mm)	80000037

Accessories	Item Number
Scoop, Flat Bottomed, SST, 0.6l	80250400
Scoop and Counter Weight	80780001
Scoop, PP, 0.8l	80780006
Kit, Rod and Clamp	80780011
Scoop and Counter Weight, Poly	80780014

Accessories	Item Number
Scoop and Counter Weight, SST	80780015
Scoop and Counter Weight, 1.75l	80780016
Weight Set, 2x1kg, 1x500g	80780108
Anti-Theft Device, SP PA AV NV	80850000
Clamp, Gas Cylinder	80850312



# DIAL-O-GRAM™ AND CENT-O-GRAM™ 300 SERIES

*Extremely Precise Mechanical Balance with High Readability.*

## Display

Easy to-read deep-notched, tiered beams and dial plates

## Construction

Metal base and beam, stainless steel pan

## Design Features

self-aligning beam design, magnetic damping to minimize oscillation and speed weighing, zero adjust compensator



With aluminum pressure castings for the base and beam assembly, agate bearings, steel knife-edges, and stainless steel pan, the Dial-O-Gram is built to the highest standard of quality.

The three-point base, special floating bearing principle and beam design eliminates the need for level adjustments.

The self-aligning beam ensures accurate results are garnered effortlessly.

Model	Capacity	Readability	Beams	Pan Size	Item Number
310-00	310 g	0.01 g	2 Beams with Dial	0.5 in × 3.5 in (13 mm × 89 mm)	8000009
311-00	311 g	0.01 g	4 Beams	0.5 in × 3.5 in (13 mm × 89 mm)	8000010

Accessories	Item Number
Anti-Theft Device, SP PA AV NV	80850000





# HARVARD JUNIOR

Two Pan Balance Designed to Teach Comparative Weighing.

## Display

Steel pointer

## Construction

ABS base, pans and bowls, metal beam

## Design Features

Manual dampening device, spring-loaded zero adjust compensator



The easy-grip carrying handle will help students and teacher alike securely move the balances around the classroom.

The balances can be stacked to minimize the amount of storage space needed, and the lock feature protects the balance from damage when in storage.

An eight piece weight set and bowls that fit on the weighing pans are included with every Harvard Junior.

Model	Capacity	Readability	Pan Size	Item Number
HJ2001	2,000 g	0.5 g	6 in (150 mm)	80252050

Accessories	Item Number
Anti-Theft Device, SP PA AV NV	80850000



# HARVARD TRIP™

Two Pan Balance Designed for Comparative Weighing.

## Display

Deep notched and tiered beams

## Construction

All-metal base and beam, stainless steel pan

## Design Features

Weight set (2000g model, accessory sold separately), built-in sliding masses, magnetic damping, self-aligning beam design and floating agate bearings, counterbalancing knob for quick zeroing, hardened steel edges



The built-in sliding masses make weighing very simple and quick.

Magnetic damping minimizes oscillation and helps speed up weighing.

A counterbalancing knob provides quick zeroing of the balance while floating agate bearings help ensure accurate results.

Model	Capacity	Readability	Beams	Pan Size	Item Number
1450-SD	2,000 g	0.1 g	1 Beam	6.2 in (152 mm)	8000003
1550-SD	2,000 g	0.1 g	2 Beams	6.2 in (152 mm)	8000004
1560-SD	2,000 g	0.1 g	2 Beams and Tare Beam	6.2 in (152 mm)	8000005

Accessories	Item Number
Scoop, PP, 0.8l	80780006
Kit, Rod and Clamp	80780011
Scoop and Counter Weight, Poly	80780014
Scoop and Counter Weight, SST	80780015

Accessories	Item Number
Scoop and Counter Weight, 1.75l	80780016
Anti-Theft Device, SP PA AV NV	80850000
Weight Set, 1kg-1g, ASTM 6, CYL	80850115



# SCHOOL BALANCE

*The Young Scientist's First Balance!*

## Display

Plastic pointer

## Construction

ABS base, beam, and pans

## Design Features

Zero adjust compensator



Large, washable pans provide optimal space for samples to be weighed.

18 piece, color coded stackable plastic mass set included.

Front and rear pointers allow students to view results from both sides of the balance.

Model	Capacity	Readability	Pan Size	Item Number
SB1200	2,000 g	0.5 g	5.5 in x 5.5 in (140 mm x 140 mm)	8000029



Weighing

# PRIMER™ BALANCE

*The Scale for Budding Scientists!*

## Display

Plastic pointer

## Construction

ABS base, beam, and pans

## Design Features

Large, washable weighing pans, dual pointers, 18 piece stackable plastic mass set



An activity guide with 16 exercises is included with every Primer balance.

The easy-to-slide zero adjustment weight makes ensuring the balance is ready for weighing very simple.

Front and rear pointers allow students to view results from both sides of the balance.

Model	Capacity	Readability	Pan Size	Item Number
80410-00	2,000 g	1 g	4 in × 4 in (102 mm × 102 mm)	8000024



# SPRING SCALES

Producing Reproducible Results at Unbeatable Prices!

## Display

Dial plates

## Construction

ABS housing with metal face plate, pointer, spring and hook

## Design Features

Large bright colored dial face, easy-to-read black graduations on a frosted aluminum background



Pull type spring scales feature an internal spring mechanism and offer a versatile and inexpensive way to display measurements in grams, ounces, pounds and Newton's.

Dial type spring scales offer a versatile and inexpensive weight determination in classrooms, laboratories, field studies and much more.

Demonstration spring scales offer a large faceplate for easy viewing and are ideal for all basic weighing applications.

Model	Capacity	Readability	Spring scale type	Item Number
8001-MA	9 oz / 250 g	0.25 oz / 10 g	Pull type	80000039
8002-MA	18 oz / 500 g	0.5 oz / 20 g	Pull type	80000041
8004-MA	72 oz / 20000 g	2 oz / 50 g	Pull type	80000044
8001-MN	250 g / 2.5 N	10 g / 0.1 N	Pull type	80000014
8002-MN	500 g / 5 N	20 g / 0.2 N	Pull type	80000015
8003-MN	1000 g / 10 N	25 g / 0.25 N	Pull type	80000016
8004-MN	2000 g / 20 N	50 g / 0.5 N	Pull type	80000017
8008-MN	5000 g / 50 N	100 g / 1 N	Pull type	80000018
8261-M0	100 g	1 g	Pull type	80000025
8262-M0	200 g	2 g	Pull type	80000026
8263-M0	500 g	5 g	Pull type	80000027
8264-M0	1000 g	10 g	Pull type	80000028
8265-M0	2000 g	20 g	Pull type	80000052
8002-PN	1.12 lb / 5 N	0.04 lb / 0.2 N	Pull type	80000042
8003-PN	2.25 lb / 10 N	0.05 lb / 0.25 N	Pull type	80000043
8004-PN	4.5 lb / 20 N	0.1 lb / 0.5 N	Pull type	80000045
8008-PN	11.25 lb / 50 N	0.25 lb / 1 N	Pull type	80000046
8011-MA	9 oz / 250 g	0.125 oz / 2 g	Dial type	80000047
8012-MA	18 oz / 500 g	0.25 oz / 5 g	Dial type	80000048
8014-MA	72 oz / 2000 g	0.5 oz / 20 g	Dial type	80000049
8011-MN	250 g / 2.5 N	2 g / 0.02 N	Dial type	80000019
8012-MN	500 g / 5 N	5 g / 0.05 N	Dial type	80000020
8013-MN	1000 g / 10 N	10 g / 0.1 N	Dial type	80000021
8014-MN	2000 g / 20 N	20 g / 0.2 N	Dial type	80000022
8015-00	22 hg	1/2 hg	Dial type	80000050
8016-00	20 N	1/2 N	Dial type	80000023
8018-50	50 N	2 N	Dial type	80000051



Weighing

# RELOADING SCALES

The Original OHAUS Reloading Scales are Back!

## Display

Easy to-read deep-notched main beams with large markings for easy reading and multiple poises

## Construction

Die-cast base, metal pan support, removable pan, cast metal beams, stainless steel poises, painted metal main poise, hardened steel beam pivots, single leveling foot

## Design Features

Mechanical design, magnetic damping system to speed reloading, self-aligning agate bearings, ounce-to-grain conversion label for quick reference, Approach-to Weight feature, large zero indicator

## Operation

No power required



Equipped with cast metal beams designed with widespaced deep notches to prevent accidental poise movement. Self-aligning agate bearings with steel beam pivots guarantee sensitivity to 0.1 grain.

Removable pan with handle and spout. Pan supports cradle the pan so that it doesn't tip off when weighing cases, loaded cartridges, arrows etc. Ounce to grain conversion labels for quick reference.

Die-cast bases with large leveling feet for extra stability and durable stainless steel poises. Mechanical design allows for use on the bench or at the practice range -battery or AC power not needed.

Model	Capacity	Readability	Pan Size	Item Number
5-0-5	511 grains	0.1 grains	3.03 in x 0.75 in x 2.95 in (77 mm x 19 mm x 75 mm)	30393272



# Industrial Weighing



*OHAUS offers a full line of products designed for industrial applications, including sophisticated, newly released software for our most powerful products. From shipping scales up to 10,000 lb floor scales, OHAUS has a product for use in every area of your facility.*



	Compact Bench Scales									Counting Scales			Modular Bench & Floor Scales						
	Ranger 7000	Ranger 4000	Ranger 3000	Valor 7000	Valor 4000	Valor 3000	Valor 2000	Valor 1000 (VT12)	Catapult 1000	Ranger 7000	Ranger Count 4000	Ranger Count 3000	VX/VN Floor	Drum Scale	Defender 6000	Defender 6000 Hybrid	Defender 5000	Defender 3000	ES / SD
Weighting Capacity Range (lb)	6 to 150	6 to 60	3 to 60	3 to 60	3 to 30	0.4 to 13.2	3 to 60	6 to 60	20 to 165	6 to 150	6 to 60	3 to 60	2,500 to 10,000	500 to 2,500	10 to 300 lb	5 to 250 lb	5 to 1,000	30 to 1,200	13 to 440
lb, oz, lb:oz	All	All	All	All	All	All	All	All	lb	All	All	All	All	All	All	All	All	All	ES -all SD lb
kg or g	•	•	•	•	•	•	•	•	kg	•	•	•	•	•	•	•	•	•	ES -all SD - kg
Parts Counting	•	•	•							•	•	•	•	•	•	•	•	•	
Checkweighing	•	•	•	•	•		•(XW)			•	•	•		•	•	•	•	•	
Percent Weighing	•	•	•	•	•	•				•					•	•	•		
Display Hold / Dynamic Weighing	•	•	•						•	•				•	•	•	•		SD only
Totalization / Accumulation	•	•	•	•	•					•	•	•		•	•	•	•	•	
Filling	•									•					•(XW)	•(XW)	•		
Barcode Scanner / Label Printer Support	• / O**									• / O**					•(XW)	•(XW)	O / • ‡	Label only	
NTEP Certified or Measurement Canada Approved	•	•	•	•	•	NTEP*		T models only		•	•	•	NTEP†		•	•	•	•	
Graphical Display LCD	•								•	•							•		
Backlit LCD			•	•		•		•			•	•	•	•	•(PW)	•(PW)		•	•
LED		•			•		•				•				•(XW)	•(XW)			
Numeric Keypad	•A									•A	•	•			•(XW)	•(XW)	•A		
Painted Metal	•	•								•	•		Base	•			•* Base	I* Base	•
ABS / PC			•	•	•*		•*	•	•			•	•* I		•(PW)	•(PW)	•* I	•*	•*
Stainless Steel					•*	•	•*						•* I		316 Base & Mounting, Indicator (XW)	316 Indicator (XW) / 304 Base & Mounting	•* I	•*	•*
Washdown IP / NEMA Rating					•8	65 / 4X*	•8								IP69K/68 all	IP69K/68 Indicator / IP67 Base	67 / 4X†	66 / 4X*	
NSF Listed / Certified				•	•	•	•	•							•	• Indicator only			
RS232	•	•	•	•				T models only		•	•	•	•	•	•	•	•	•	
2nd RS232	O	O	O	O						O	O	O			O (XW)	O (XW)	O		
RS485/422															O (XW)	O (XW)	O 485	O	
USB	•	O	O	O						•	O	O		O	• Host (XW)	• Host (XW)	O	O	
Ethernet	O	O	O	O						O	O	O		O	O (XW)	O (XW)	O		
AC or DC Relays / Digital I/O	O														O (XW)	O (XW)	O		
Wireless Connectivity															O (XW)	O (XW)	O		
GMP w/Time/Date	•									•					•	•	•		
Rechargeable Battery	O	•	•	•	•		•			O	•	•	•		O (XW)	O (XW)	O	•/O	
Disposable Batteries						•		•	•						•(PW)	•(PW)		•*	•
Remote Scale Base Input	O	O								O	O	O							

O Optional A Alphanumeric I Indicator \*on specific models † by base chosen ‡ Barcode scanner support is optional, Label Printer uses standard RS232  
 \*\* Barcode scanner support is included, Label Printer requires the 2nd RS232 port option



# DEFENDER™ DRUM SCALES - DFD32M

Convenient Portability with Floor Scale Capacity

## Display

Backlit liquid crystal display (LCD)

## Communication

Easy access communication port including RS232 interface (included)

## Construction

Painted steel platform with treads, front ABS/rear painted carbon steel, indicator & mounting bracket, aluminum junction box, four alloy steel load cells with top height adjustment, front/back access ramps

## Design Features

Low-profile design

## Operation

AC adapter with Auto Shut-off feature (included)



Our Drum Scales come in 5 models with platform sizes ranging from 30 × 30 to 36 × 36 inch, and capacities ranging from 500 to 2,500 lb, giving you the flexibility to choose what best suits your weighing needs.

The OHAUS Drum Scales feature a platform constructed of mild steel with an epoxy paint finish, which means that the scale can stand up to heavy industrial use.

A low-profile design with front and back access ramps that make it easy to roll pallet jacks, dollies, carts & drums on to the platform. High-density polyurethane wheels provide convenient portability.

Model	Capacity	Readability	Platform Size	Item Number
DFD32M500ES	500 lb (250 kg)	0.1 lb (0.05 kg)	30 in × 30 in (762 mm × 762 mm)	30469909
DFD32M1000ES	1,000 lb (500 kg)	0.2 lb (0.1 kg)	30 in × 30 in (762 mm × 762 mm)	30469910
DFD32M2500ES	2,500 lb (1,250 kg)	0.5 lb (0.2 kg)	30 in × 30 in (762 mm × 762 mm)	30469911
DFD32M1000ER	1,000 lb (500 kg)	0.2 lb (0.1 kg)	36 in × 36 in (914.4 mm × 914.4 mm)	30469912
DFD32M2500ER	2,500 lb (1,250 kg)	0.5 lb (0.2 kg)	36 in × 36 in (914.4 mm × 914.4 mm)	30469913

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102
Column Kit Painted Floor Scale	30531244

Accessories	Item Number
Floor Scale Column Kit SST	30539553
Printer, Thermal, STP-103, US	80251992
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525



## VX SERIES

Economical Floor Scales for Basic Industrial Applications

### Display

Backlit liquid crystal display (LCD)

### Communication

Easy access communication port with RS232 interface (included)

### Construction

NEMA 4X/IP65 stainless steel indicator with hinged front-cover, 5mm / 0.2 inch fixed top plate, wall bracket, epoxy painted steel platform and frame, NEMA 4/IP67 plastic junction box with side access, 4 IP67 NTEP alloy steel load cells

### Design Features

125% overload protection

### Operation

Power cord (included) or rechargeable battery (included)



VX is ruggedly constructed and includes an epoxy painted steel frame, a NEMA 4X/IP65 stainless steel indicator, NEMA 4X/IP67 sealed plastic junction box and IP67 sealed load cells.

The included internal rechargeable battery keeps the scale running and allows for placement of the platform away from outlets while the backlit LCD projects large 1" digits.

Weighing and counting modes produces results in five weighing units, and the included RS232 provides the ability to connect the scale to a printer or PC for data reporting purposes.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
VX32XW2500L	2,500 lb (1,000 kg)	0.5 lb (0.2 kg)	0.5 lb (0.2 kg)	4 ft x 4 ft (1,219 mm x 1,219 mm)	80253294
VX32XW5000L	5,000 lb (2,200 kg)	1 lb (0.5 kg)	1 lb (0.5 kg)	4 ft x 4 ft (1,219 mm x 1,219 mm)	80253295
VX32XW5000X	5,000 lb (2,200 kg)	1 lb (0.5 kg)	1 lb (0.5 kg)	5 ft x 5 ft (1,524 mm x 1,524 mm)	80253296
VX32XW10000L	10,000 lb (4,500 kg)	2 lb (1 kg)	2 lb (1 kg)	4 ft x 4 ft (1,219 mm x 1,219 mm)	80253297
VX32XW10000X	10,000 lb (4,500 kg)	2 lb (1 kg)	2 lb (1 kg)	5 ft x 5 ft (1,524 mm x 1,524 mm)	80253298

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Column Kit Painted Floor Scale	30531244
Floor Scale Column Kit SST	30539553
Printer, Thermal, STP-103, US	80251992
Foot (4) VX	80252545

Accessories	Item Number
Foot Plate (2) VX	80252548
Ramp, 48x48in, 2.5K/5K, VX	80252766
Cable RS232 XW Indicators	80500552
Software, Winwedge	80850080



# VN SERIES

Economical Painted Steel Floor Scales for Basic Industrial Applications

## Display

Backlit liquid crystal display (LCD)

## Communication

Easy access communication port with RS232 interface

## Construction

ABS plastic indicator, black painted steel treaded platform, NEMA 4X/IP65 stainless steel junction box with side access, IP67 NTEP alloy steel load cells, two carbon steel eye bolts, four self-swiveling ball-in-cup feet

## Design Features

125% overload protection

## Operation

AC adapter (included) or rechargeable battery (included)



The durable VN is constructed of an epoxy painted steel frame, an ABS T31P indicator, NEMA 4X/IP65 sealed stainless steel junction box and IP67 sealed load cells.

With a rechargeable lead acid battery included with each VN, position the floor scale freely in the workspace without having to be forced to work near an outlet.

Painted steel ramps are available to be added to any VN platform, which provide bottom support ribs that prevent the platform from bending under heavy loads.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
VN31P5000L	5,000 lb (2,200 kg)	1 lb (0.5 kg)	1 lb (0.5 kg)	4 ft x 4 ft (1,219 mm x 1,219 mm)	80252563
VN31P5000X	5,000 lb (2,200 kg)	1 lb (0.5 kg)	1 lb (0.5 kg)	5 ft x 5 ft (1,524 mm x 1,524 mm)	80252564

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102
Column Kit Painted Floor Scale	30531244
Floor Scale Column Kit SST	30539553
Foot plate kit Painted VE/DF-B1	72198344

Accessories	Item Number
Printer, Thermal, STP-103, US	80251992
Ramp, 48in, Painted, VN	80252565
Ramp, 60in, Painted, VN	80252566
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080



# VN SERIES FLOOR SCALE PLATFORMS

Basic Level Floor Scale Bases

## Construction

Black painted steel platform, raised embossed treads, fixed top plate 5mm / 0.2 inch thick, four IP67 NTEP alloy steel load cells, NEMA 4X/IP65 stainless steel junction box with side access, self swiveling stainless steel ball in cup leveling feet.

## Design Features

Ball-in-Cup Leveling Feet, Steel Eye Bolts for Easy Lifting and Positioning



Durable epoxy painted steel frame and platform.

NEMA4X/IP65 sealed stainless steel junction box.

IP67 sealed loadcells.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
VN5000L	5,000 lb (2,200 kg)	1 lb (0.5 kg)	1 lb (0.5 kg)	4 ft x 4 ft (1,219 mm x 1,219 mm)	80252561
VN5000X	5,000 lb (2,200 kg)	1 lb (0.5 kg)	1 lb (0.5 kg)	5 ft x 5 ft (1,524 mm x 1,524 mm)	80252562

Accessories	Item Number
Column Kit Painted Floor Scale	30531244
Floor Scale Column Kit SST	30539553
Foot plate kit Painted VE/DF-B1	72198344

Accessories	Item Number
Ramp, 48in, Painted, VN	80252565
Ramp, 60in, Painted, VN	80252566



# DEFENDER™ 6000 WASHDOWN - METAL INDICATOR

Advanced IP68/IP69k Washdown Bench Scale

## Display

6-digit, 7-segment white LED, 20 mm / 0.8 inch high digits, 3 color checkweigh bar matrix

## Communication

Easy access communication ports including RS232 and USB host (included), second RS232/RS485/USB device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

316 stainless steel platform and frame, hermetically-sealed, stainless steel load cell, IP68/IP69K 316 stainless steel housing indicator and mounting bracket, knife-resistant front panel

## Design Features

150% overload capacity protection, bar matrix check light, customizable print templates, menu and key lock, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, auto shut-off, auto tare, adjustable non-slip rubber feet

## Operation

100-240 VAC / 50/60 Hz universal power supply, hardwired



Defender 6000 stands up to harsh cleaning in processing and packaging environments with IP68 immersion/ IP69K washdown protection, 316 stainless steel base and hermetically-sealed load cell.

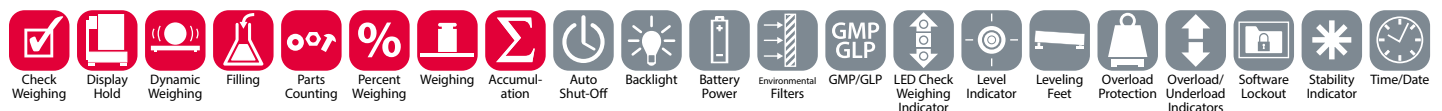
Durable Defender 6000 is NSF certified, supporting HACCP systems with a 316 stainless steel base and sturdy indicator providing corrosion protection in food, chemical processing, and packaging.

Versatile scales include fast weight display and multiple software modes to meet food, chemical processing, and packaging needs.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D61XWE5K1S6	10 lb (5 kg)	0.001 lb (0.5 g)	0.002 lb (1 g)	9.8 in x 9.8 in (250 mm x 250 mm)	30575563
D61XWE12K1R6	25 lb (12.5 kg)	0.002 lb (1 g)	0.005 lb (5 g)	11.8 in x 11.8 in (300 mm x 300 mm)	30575564
D61XWE25K1R6	50 lb (25 kg)	0.005 lb (2 g)	0.01 lb (5 g)	11.8 in x 11.8 in (300 mm x 300 mm)	30575565
D61XWE50K1L7	100 lb (50 kg)	0.01 lb (5 g)	0.02 lb (10 g)	19.7 in x 15.7 in (500 mm x 400 mm)	30575566
D61XWE150K1L7	300 lb (150 kg)	0.02 lb (10 g)	0.1 lb (50 g)	19.7 in x 15.7 in (500 mm x 400 mm)	30575567

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404
Cable Extension 9m/27 ft D52 / D61	30424409

Accessories	Item Number
Ethernet kit Defender Series	30429666
Sealing Kit External Power Bank	30572907
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Wheel Kit SST Defender Series	30616409
Printer, Thermal, STP-103, US	80251992
PCBA Kit, Alibi Memory, R71 T71	80500503
Cable RS232 XW Indicators	80500552



# DEFENDER™ 6000 WASHDOWN - PLASTIC INDICATOR

Advanced IP68/IP69K Washdown Bench Scale

## Display

6-digit, 7-segment LCD display with white backlight, 45 mm / 1.8 inch high digits, 3 color checkweigh bar matrix

## Communication

Easy access IR communication kit (available as an accessory); GLP/GMP data output with real-time clock

## Construction

316 stainless steel platform and frame, hermetically-sealed stainless steel load cell, IP68/IP69K food grade polycarbonate housing indicator and 316 stainless steel mounting bracket or column

## Design Features

150% overload capacity protection, 3-color check light bar, menu and key lock, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, low battery indicator, auto shut-off, auto tare, adjustable rubber feet

## Operation

6 D (LR20) Batteries (Included)



Defender 6000 stands up to harsh cleaning in processing and packaging environments with IP68 immersion/IP69K washdown protection, 316 stainless steel base and hermetically-sealed load cell.

Durable Defender 6000 is NSF certified, supporting HACCP systems with a 316 stainless steel base and sturdy indicator providing corrosion protection in food, chemical processing, and packaging.

Versatile scales include fast weight display and multiple software modes to meet food, chemical processing, and packaging needs.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D61PW5K1S6	10 lb (5 kg)	0.001 lb (0.5 g)	0.002 lb (1 g)	9.8 in x 9.8 in (250 mm x 250 mm)	30575569
D61PW12K1R6	25 lb (12.5 kg)	0.002 lb (1 g)	0.005 lb (5 g)	11.8 in x 11.8 in (300 mm x 300 mm)	30575570
D61PW25K1R6	50 lb (25 kg)	0.005 lb (2 g)	0.01 lb (5 g)	11.8 in x 11.8 in (300 mm x 300 mm)	30575571
D61PW50K1L7	100 lb (50 kg)	0.01 lb (5 g)	0.02 lb (10 g)	19.7 in x 15.7 in (500 mm x 400 mm)	30575572
D61PW150K1L7	300 lb (150 kg)	0.02 lb (10 g)	0.1 lb (50 g)	19.7 in x 15.7 in (500 mm x 400 mm)	30575573
D61PW5K1S5*	10 lb (5 kg)	0.001 lb (0.5 g)	0.002 lb (1 g)	9.8 in x 9.8 in (250 mm x 250 mm)	30575568
D61PW12K1R5*	25 lb (12.5 kg)	0.002 lb (1 g)	0.005 lb (5 g)	11.8 in x 11.8 in (300 mm x 300 mm)	30575562
D61PW25K1R5*	50 lb (25 kg)	0.005 lb (2 g)	0.01 lb (5 g)	11.8 in x 11.8 in (300 mm x 300 mm)	30608733
D61PW50K1L5*	100 lb (50 kg)	0.01 lb (5 g)	0.02 lb (10 g)	19.7 in x 15.7 in (500 mm x 400 mm)	30608734
D61PW150K1L5*	300 lb (150 kg)	0.02 lb (10 g)	0.1 lb (50 g)	19.7 in x 15.7 in (500 mm x 400 mm)	30608735

\* Models ending in 5 have a Front Mount indicator

Accessories	Item Number	Accessories	Item Number
Gland M16 D52	30379716	IR Communication Kit	30572910
Cable Extension 9m/27 ft D52 / D61	30424409	Wheel Kit SST Defender Series	30616409



# DEFENDER™ 6000 HYBRID - METAL INDICATOR

Washdown Bench Scale for Standard Industrial Applications

## Display

6-digit, 7-segment white LED, 20 mm / 0.8 inch high digits, 3 color checkweigh bar matrix

## Communication

Easy access communication ports including RS232 and USB host (included), second RS232/RS485/USB device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

304 stainless steel platform and frame, IP68/IP69K 316 stainless steel housing indicator and mounting bracket, knife-resistant front panel, IP67 load cell

## Design Features

150% overload capacity protection, bar matrix check light, customizable print templates, menu and key lock, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, auto shut-off, auto tare, adjustable non-slip rubber feet

## Operation

100-240 VAC / 50/60 Hz universal power supply, hardwired



Defender 6000 indicator, constructed of 316 stainless steel stands up to harsh cleaning in processing and packaging environments with IP68 immersion/IP69K washdown protection.

White LED displays clear results for fast processing. The indicator's configurable color bar matrix allows for detailed package weight checking to ensure compliance.

Durably constructed with a 304 stainless steel platform, frame, IP67 loadcell, Defender 6000 hybrid meets NTEP/Measurement Canada approvals.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D61XWE2WQS6	5 lb (2.5 kg)	0.0002 lb (0.1 g)	0.001 lb (0.5 g)	10 in x 10 in (254 mm x 254 mm)	30631706
D61XWE5WQS6	10 lb (5 kg)	0.0005 lb (0.2 g)	0.002 lb (1 g)	10 in x 10 in (254 mm x 254 mm)	30631707
D61XWE12WQS6	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	10 in x 10 in (254 mm x 254 mm)	30631718
D61XWE12WQR6	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	12 in x 12 in (305 mm x 305 mm)	30631719
D61XWE25WQR6	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in x 12 in (305 mm x 305 mm)	30631720
D61XWE50WQR6	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in x 12 in (305 mm x 305 mm)	30631721
D61XWE25WQL7	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	18 in x 18 in (457 mm x 457 mm)	30631722
D61XWE50WQL7	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in x 18 in (457 mm x 457 mm)	30631723
D61XWE125WQL7	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	18 in x 18 in (457 mm x 457 mm)	30631724

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404
Cable Extension 9m/27 ft D52 / D61	30424409

Accessories	Item Number
Ethernet kit Defender Series	30429666
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Wheel Kit SST Defender Series	30616409
Printer, Thermal, STP-103, US	80251992
PCBA Kit, Alibi Memory, R71 T71	80500503
Cable RS232 XW Indicators	80500552
Sealing Kit External Power Bank	30572907



# DEFENDER™ 6000 HYBRID-PLASTIC INDICATOR

Washdown Bench Scale for Standard Industrial Applications

## Display

6-digit, 7-segment LCD display with white backlight, 45 mm / 1.8 inch high digits, 3 color checkweigh bar matrix

## Communication

Easy access IR communication kit (available as an accessory); GLP/GMP data output with real-time clock

## Construction

321 stainless steel platform and frame, IP68/IP69K polycarbonate housing indicator and 316 stainless steel mounting bracket for D61PW-5 models, 304 stainless steel columns for D61PW-6 or 7 models, IP67 load cell

## Design Features

150% overload capacity protection, 3-color check light bar, menu and key lock, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, low battery indicator, auto shut-off, auto tare, adjustable rubber feet

## Operation

6 D (LR20) batteries (included)



Defender 6000 indicator constructed of polycarbonate stands up to harsh cleaning in processing and packaging environments with IP68 immersion/IP69K washdown protection.

Large, bright backlit LCD clearly displays results for fast processing. The color bar can be used for quick checking of package weights for fast go/no-go alert.

Durably constructed with a 304 stainless steel platform, frame, IP67 loadcell, Defender 6000 hybrid meets NTEP/Measurement Canada approvals.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D61PW2WQS6	5 lb (2.5 kg)	0.0002 lb (0.1 g)	0.001 lb (0.5 g)	10 in x 10 in (254 mm x 254 mm)	30626679
D61PW5WQS6	10 lb (5 kg)	0.0005 lb (0.2 g)	0.002 lb (1 g)	10 in x 10 in (254 mm x 254 mm)	30626680
D61PW12WQS6	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	10 in x 10 in (254 mm x 254 mm)	30626681
D61PW12WQR6	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	12 in x 12 in (305 mm x 305 mm)	30626682
D61PW25WQR6	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in x 12 in (305 mm x 305 mm)	30626683
D61PW50WQR6	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in x 12 in (305 mm x 305 mm)	30626684
D61PW25WQL7	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	18 in x 18 in (457 mm x 457 mm)	30631703
D61PW50WQL7	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in x 18 in (457 mm x 457 mm)	30631704
D61PW125WQL7	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	18 in x 18 in (457 mm x 457 mm)	30631705
D61PW2WQSS*	5 lb (2.5 kg)	0.0002 lb (0.1 g)	0.001 lb (0.5 g)	10 in x 10 in (254 mm x 254 mm)	30631725
D61PW5WQSS*	10 lb (5 kg)	0.0005 lb (0.2 g)	0.002 lb (1 g)	10 in x 10 in (254 mm x 254 mm)	30631726
D61PW12WQSS*	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	10 in x 10 in (254 mm x 254 mm)	30631727
D61PW12WQR5*	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	12 in x 12 in (305 mm x 305 mm)	30631728
D61PW25WQR5*	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in x 12 in (305 mm x 305 mm)	30631729
D61PW50WQR5*	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in x 12 in (305 mm x 305 mm)	30631730
D61PW25WQL5*	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	18 in x 18 in (457 mm x 457 mm)	30572969
D61PW50WQL5*	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in x 18 in (457 mm x 457 mm)	30572970
D61PW125WQL5*	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	18 in x 18 in (457 mm x 457 mm)	30572971

\* Models ending in 5 have a Front Mount indicator

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# DEFENDER™ 6000 HYBRID - PLASTIC INDICATOR ACCESSORIES

Accessories	Item Number
Gland M16 D52	30379716
Cable Extension 9m/27 ft D52 / D61	30424409

Accessories	Item Number
IR Communication Kit	30572910
Wheel Kit SST Defender Series	30616409

# DEFENDER™ 5000 WASHDOWN

Multifunctional Stainless Steel Washdown Bench Scale for Standard Industrial Applications

## Display

Backlit Liquid Crystal Display (LCD), 256 × 80 pixels

## Communication

Easy access communication ports including RS232 and Micro SD slot (included), USB Host, second RS232/RS485/USD device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog Output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

304-grade stainless steel platform and frame, stainless steel IP68 indicator, IP67 stainless steel load cell (single range), non-slip adjustable rubber feet

## Design Features

Resolution up to 12,500d, 150% overload capacity, checkweighing display and beep, menu lock switch, selectable display languages, selectable filter, stability indicator, overload/underload indicators, selectable display controls, auto print and tare

## Operation

Internal power supply with power cord (included) or rechargeable battery (sold separately as an accessory)



User-friendly model with an easy-to-use keypad, large backlit display and plain text on-screen prompts which guide you through operation.

Durably constructed of a stainless steel platform, frame & IP68 indicator; IP67 stainless steel loadcell (NTEP/MC/OIML/EC Type single range).

Features common industrial modes and supports a 50,000-item library with 1,000 user profiles for easy data management. Includes GMP/GLP with time/date for result traceability.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D52XW2WQS6	5 lb (2.5 kg)	0.0002 lb (0.1 g)	0.001 lb (0.5 g)	10 in × 10 in (254 mm × 254 mm)	30461673
D52XW5WQS6	10 lb (5 kg)	0.0005 lb (0.2 g)	0.002 lb (1 g)	10 in × 10 in (254 mm × 254 mm)	30461674
D52XW12WQS6	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	10 in × 10 in (254 mm × 254 mm)	30461675
D52XW12WQR6	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30461676
D52XW25WQR6	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30461677
D52XW50WQR6	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30461678
D52XW25WQL7	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	18 in × 18 in (457 mm × 457 mm)	30461679
D52XW50WQL7	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30461680
D52XW125WQL7	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	18 in × 18 in (457 mm × 457 mm)	30461681
D52XW50WTX7	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30461682
D52XW125WTX7	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30461683
D52XW250WTX7	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30461684
D52XW50WQV8	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30461685
D52XW125WQV8	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30461686
D52XW250WQV8	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30461687
D52XW500WQV8	1,000 lb (500 kg)	0.02 lb (20 g)	0.2 lb (100 g)	24 in × 24 in (610 mm × 610 mm)	30461688

Accessories on next page

# DEFENDER™ 5000 WASHDOWN ACCESSORIES

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Micro SD Card 8G	30303533
Wheel Kit, Defender Series	30372146
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
In-Use-Cover, TD52XW	30424023
Holder Kit Printer SST	30424025
Wall Mount Kit, SST, TD52XW	30424026
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404

Accessories	Item Number
Rechargeable battery Li-ion TD52	30424405
USB Host Interface for Dongle TD52	30424406
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
In-Use-Cover, Set(10), TD52XW	30469949
Auxiliary display AD7-RS	30472064
USB host interface for flash drive	30572923
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
Cable RS232 XW Indicators	80500552
Software, Winwedge	80850080

# DEFENDER™ 5000 WASHDOWN LOW PROFILE

Multifunctional Stainless Steel Washdown Bench Scale for Standard Industrial Applications

## Display

Backlit Liquid Crystal Display (LCD), 256 × 80 pixels

## Communication

Easy access communication ports including RS232 and Micro SD slot (included), USB Host, second RS232/RS485/USD device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog Output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

304-grade stainless steel platform and frame, stainless steel IP68 indicator, IP67 stainless steel load cell (single range), non-slip adjustable rubber feet

## Design Features

Resolution up to 12,500d, 150% overload capacity, checkweighing display and beep, menu lock switch, selectable display languages, selectable filter, stability indicator, overload/underload indicators, selectable display controls, auto print and tare

## Operation

Internal power supply with power cord (included) or rechargeable battery (option)



User-friendly model with an easy-to-use keypad, large backlit display and plain text on-screen prompts which guide you through operation.

Durably constructed of a stainless steel platform, frame & IP68 indicator; IP67 stainless steel loadcell (NTEP/MC/OIML/EC Type single range).

Features common industrial modes and supports a 50,000-item library with 1,000 user profiles for easy data management. Includes GMP/GLP with time/date for result traceability.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D52XW2WQS5	5 lb (2.5 kg)	0.0002 lb (0.1 g)	0.001 lb (0.5 g)	10 in × 10 in (254 mm × 254 mm)	30461661
D52XW5WQS5	10 lb (5 kg)	0.0005 lb (0.2 g)	0.002 lb (1 g)	10 in × 10 in (254 mm × 254 mm)	30461662
D52XW12WQS5	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	10 in × 10 in (254 mm × 254 mm)	30461663
D52XW12WQR5	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30461664
D52XW25WQR5	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30461665
D52XW50WQR5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30461464
D52XW25WQL5	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	18 in × 18 in (457 mm × 457 mm)	30461465
D52XW50WQL5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30461466
D52XW125WQL5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	18 in × 18 in (457 mm × 457 mm)	30461467
D52XW50WTX5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30461668
D52XW125WTX5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30461669
D52XW250WTX5	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30461670
D52XW50WQV5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30461671
D52XW125WQV5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30461672

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Micro SD Card 8G	30303533
Wheel Kit, Defender Series	30372146
Gland M16 D52	30379716

Accessories	Item Number
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
In-Use-Cover, TD52XW	30424023
Holder Kit Printer SST	30424025
Wall Mount Kit, SST, TD52XW	30424026

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# DEFENDER™ 5000 WASHDOWN LOW PROFILE ACCESSORIES

Accessories	Item Number
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404
Rechargeable battery Li-ion TD52	30424405
USB Host Interface for Dongle TD52	30424406
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
In-Use-Cover, Set(10), TD52XW	30469949

Accessories	Item Number
Auxiliary display AD7-RS	30472064
USB host interface for flash drive	30572923
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
Cable RS232 XW Indicators	80500552

# DEFENDER™ 5000

Multifunctional Bench Scale for Standard Industrial Applications

## Display

Backlit Liquid Crystal Display (LCD), 256 × 80 pixels

## Communication

Easy access communication ports including RS232 and Micro SD slot (included), USB Host, second RS232/RS485/USD device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog Output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

ABS plastic (TD52P) or stainless steel (TD52XW) indicator, 304-grade stainless steel platform with sand gray powder-coated steel frame, aluminum load cell, non-slip adjustable rubber feet

## Design Features

User-configurable resolution up to 25,000d, 150% overload capacity protection, checkweighing symbols with selectable operation and audible signal settings, menu lock switch, multiple selectable operating languages, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, selectable adjust contrast settings, auto-dim display, auto-off, brightness adjustment, screensaver, auto tare

## Operation

Internal power supply with power cord (included) or rechargeable battery (option)



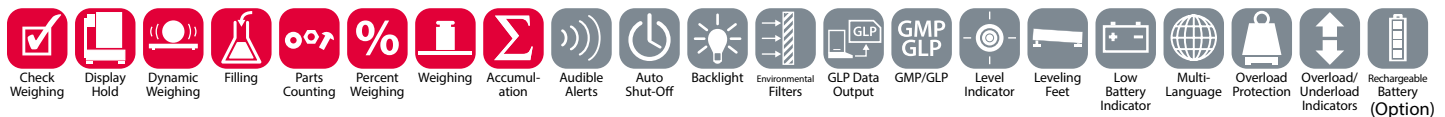
User-friendly model with an easy-to-use keypad, large backlit display and plain text on-screen prompts which guide you through operation.

Durable construction with a stainless steel platform, sand gray powder-coated steel frame & aluminum load cell. Defender meets NTEP/Measurement Canada or OIML/EC type approvals (depending on region).

Features common industrial modes and supports a 50,000-item library with 1,000 user profiles for easy data management. Includes GMP/GLP with time/date for result traceability.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D52XW12RQR1	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	12 in × 12 in (305 mm × 305 mm)	30461689
D52XW25RQR1	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30461690
D52XW50RQR1	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30461691
D52XW12RTR1	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	14 in × 12 in (355 mm × 305 mm)	30461692
D52XW25RTR1	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30461693
D52XW50RTR1	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30461694
D52XW50RQL2	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30461695
D52XW125RQL2	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	18 in × 18 in (457 mm × 457 mm)	30461696
D52XW50RTX2	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30461697
D52XW125RTX2	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 18 in (610 mm × 457 mm)	30461698
D52XW250RTX2	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30461699
D52XW50RQV3	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30461700
D52XW125RQV3	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 24 in (610 mm × 610 mm)	30461701
D52XW250RQV3	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30461702
D52XW500RQV3	1,000 lb (500 kg)	0.05 lb (20 g)	0.2 lb (100 g)	24 in × 24 in (610 mm × 610 mm)	30461703
D52XW125RTV3	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30461704
D52XW250RTV3	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30461705
D52XW500RTV3	1,000 lb (500 kg)	0.05 lb (20 g)	0.2 lb (100 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30461706
D52P12RQR1	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	12 in × 12 in (305 mm × 305 mm)	30461630
D52P25RQR1	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30461631
D52P50RQR1	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30461632

Continued on next page



# DEFENDER™ 5000

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D52P12RTR1	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	14 in × 12 in (355 mm × 305 mm)	30461633
D52P25RTR1	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30461634
D52P50RTR1	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30461635
D52P50RQL2	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30461636
D52P125RQL2	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	18 in × 18 in (457 mm × 457 mm)	30461637
D52P50RTX2	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30461638
D52P125RTX2	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 18 in (610 mm × 457 mm)	30461639
D52P250RTX2	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30461640
D52P50RQV3	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30461641
D52P125RQV3	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 24 in (610 mm × 610 mm)	30461642
D52P250RQV3	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30461643
D52P500RQV3	1,000 lb (500 kg)	0.05 lb (20 g)	0.2 lb (100 g)	24 in × 24 in (610 mm × 610 mm)	30461644
D52P125RTV3	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30461645
D52P250RTV3	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30461646
D52P500RTV3	1,000 lb (500 kg)	0.05 lb (20 g)	0.2 lb (100 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30461647

Accessories	Item Number
Cable, RS232, 1.5m, R71 to balance	30057595
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Micro SD Card 8G	30303533
Wheel Kit, Defender Series	30372146
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
In-Use-Cover, TD52P	30424022
In-Use-Cover, TD52XW	30424023
Holder Kit Printer SST	30424025
Wall Mount Kit, SST, TD52XW	30424026
Wall Mount Kit, CS, TD52P	30424027
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404

Accessories	Item Number
Rechargeable battery Li-ion TD52	30424405
USB Host Interface for Dongle TD52	30424406
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
In-Use-Cover, Set(10), TD52P	30469948
In-Use-Cover, Set(10), TD52XW	30469949
Auxiliary display AD7-RS	30472064
USB host interface for flash drive	30572923
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Cable RS232 XW Indicators	80500552
Software, Winwedge	80850080

# DEFENDER™ 5000 LOW PROFILE - METAL INDICATOR

Multifunctional Bench Scale for Standard Industrial Applications



## Display

Backlit Liquid Crystal Display (LCD), 256 × 80 pixels

## Communication

Easy access communication ports including RS232 and Micro SD slot (included), USB Host, second RS232/RS485/USD device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog Output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

ABS plastic (TD52P) or stainless steel (TD52XW) indicator, 304-grade stainless steel platform with sand gray powder-coated steel frame, aluminum load cell, non-slip adjustable rubber feet

## Design Features

User-configurable resolution up to 25,000d, 150% overload capacity protection, checkweighing symbols with selectable operation and audible signal settings

## Operation

Internal power supply with power cord (included) or rechargeable battery (sold separately as an accessory)



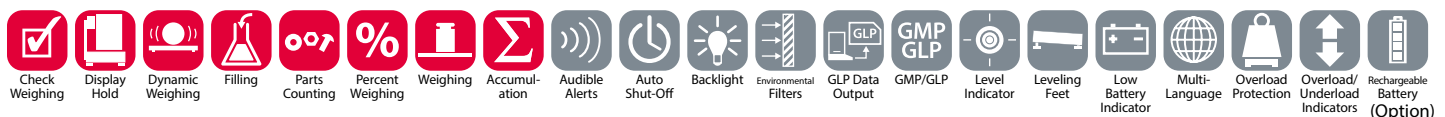
User-friendly model with an easy-to-use keypad, large backlit display and plain text on-screen prompts which guide you through operation.

Durable construction with a stainless steel platform, sand gray powder-coated steel frame & aluminum load cell. Defender meets NTEP/ Measurement Canada or OIML/EC type approvals (depending on region).

Features common industrial modes and supports a 50,000-item library with 1,000 user profiles for easy data management. Includes GMP/GLP with time/date for result traceability.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D52XW12RQR5	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	12 in × 12 in (305 mm × 305 mm)	30467608
D52XW25RQR5	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30467609
D52XW50RQR5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30467610
D52XW12RTR5	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	14 in × 12 in (355 mm × 305 mm)	30467611
D52XW25RTR5	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30467612
D52XW50RTR5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30467613
D52XW50RQL5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30467614
D52XW125RQL5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	18 in × 18 in (457 mm × 457 mm)	30467615
D52XW50RTX5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30467616
D52XW125RTX5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 18 in (610 mm × 457 mm)	30467617
D52XW250RTX5	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30467618
D52XW50RQV5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30467619
D52XW125RQV5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 24 in (610 mm × 610 mm)	30467620
D52XW250RQV5	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30470990
D52XW125RTV5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30467621

Accessories on next page





# DEFENDER™ 5000 LOW PROFILE ACCESSORIES

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Micro SD Card 8G	30303533
Wheel Kit, Defender Series	30372146
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
In-Use-Cover, TD52XW	30424023
Holder Kit Printer SST	30424025
Wall Mount Kit, SST, TD52XW	30424026
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404

Accessories	Item Number
Rechargeable battery Li-ion TD52	30424405
USB Host Interface for Dongle TD52	30424406
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
In-Use-Cover, Set(10), TD52XW	30469949
Auxiliary display AD7-RS	30472064
USB host interface for flash drive	30572923
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
Cable RS232 XW Indicators	80500552
Software, Winwedge	80850080

# DEFENDER™ 5000 LOW PROFILE - PLASTIC INDICATOR

Multifunctional Bench Scale for Standard Industrial Applications



## Display

Backlit Liquid Crystal Display (LCD), 256 × 80 pixels

## Communication

Easy access communication ports including RS232 and Micro SD slot (included), USB Host, second RS232/RS485/USD device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog Output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

ABS plastic (TD52P) or stainless steel (TD52XW) indicator, 304-grade stainless steel platform with sand gray powder-coated steel frame, aluminum load cell, non-slip adjustable rubber feet

## Design Features

User-configurable resolution up to 25,000d, 150% overload capacity protection, checkweighing symbols with selectable operation and audible signal settings

## Operation

Internal power supply with power cord (included) or rechargeable battery (sold separately as an accessory)



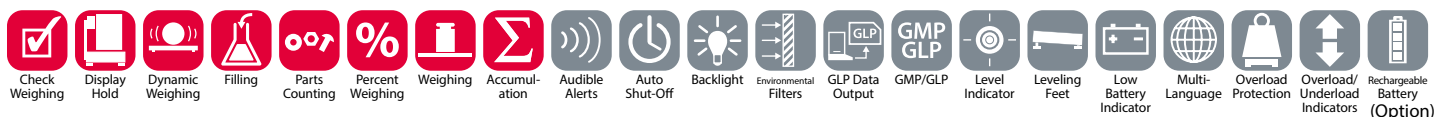
User-friendly model with an easy-to-use keypad, large backlit display and plain text on-screen prompts which guide you through operation.

Durable construction with a stainless steel platform, sand gray powder-coated steel frame & aluminum load cell. Defender meets NTEP/ Measurement Canada or OIML/EC type approvals (depending on region).

Features common industrial modes and supports a 50,000-item library with 1,000 user profiles for easy data management. Includes GMP/GLP with time/date for result traceability.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D52P12RQR5	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	12 in × 12 in (305 mm × 305 mm)	30461648
D52P25RQR5	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30461649
D52P50RQR5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30461650
D52P12RTR5	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	14 in × 12 in (355 mm × 305 mm)	30461651
D52P25RTR5	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30461652
D52P50RTR5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30461653
D52P50RQL5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30461654
D52P125RQL5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	18 in × 18 in (457 mm × 457 mm)	30461655
D52P50RTX5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30461656
D52P125RTX5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 18 in (610 mm × 457 mm)	30461657
D52P250RTX5	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30461658
D52P50RQV5	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30461659
D52P125RQV5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 24 in (610 mm × 610 mm)	30461660
D52P250RQV5	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30467606
D52P125RTV5	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30467607

Accessories on next page



# DEFENDER™ 5000 LOW PROFILE ACCESSORIES

Accessories	Item Number
Cable, RS232, 1.5m, R71 to balance	30057595
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Micro SD Card 8G	30303533
Wheel Kit, Defender Series	30372146
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
In-Use-Cover, TD52P	30424022
Holder Kit Printer SST	30424025
Wall Mount Kit, CS, TD52P	30424027
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404

Accessories	Item Number
Rechargeable battery Li-ion TD52	30424405
USB Host Interface for Dongle TD52	30424406
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
In-Use-Cover, Set(10), TD52P	30469948
Auxiliary display AD7-RS	30472064
USB host interface for flash drive	30572923
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080

# DEFENDER™ 3000 WASHDOWN - I-D33

Stainless Steel Bench Scales for Basic Industrial Washdown Applications

## Display

7 Segment LCD with multicolor backlight

## Communication

Standard RS232 and optional USB Device or Ethernet

## Construction

304-grade stainless steel platform and frame, stainless steel IP66 indicator, IP67 load cell, non-slip adjustable rubber feet

## Design Features

150% overload protection

## Operation

Internal power supply with power cord (included) or rechargeable battery (included)



Results are clearly shown using the large, bright backlit LCD display. In Checkweighing mode, the display changes color (yellow/green/red) to alert when it is within the target weight range.

This tough industrial scale features a 304-stainless steel platform and frame, IP67 load cell. Indicator features an IP66 washdown protected 304-stainless steel housing with mounting bracket.

Features software for Parts Counting, Checkweighing, and Totalization. Includes RS232 with optional USB Device or Ethernet for printing or data connectivity.

Model	Maximum Capacity	Readability	Certified Readability	Platform Size	Item Number
D33XW15C1R6	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30685180
D33XW15C1R5*	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30685209
D33XW30C1R6	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30685181
D33XW30C1R5*	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30685210
D33XW75C1R6	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30685182
D33XW75C1R5*	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30685211
D33XW75C1L7	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685191
D33XW75C1L5*	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685216
D33XW150C1L7	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685192
D33XW150C1L5*	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685217
D33XW150C1X7	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685197
D33XW150C1X5*	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685222
D33XW300C1X7	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685198
D33XW300C1X5*	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685223

\* Models ending in 5 have a Front Mount indicator

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Wheel Kit, Defender Series	30372146
Ethernet kit Defender Series	30429666
Printer Zebra Label GK420T	30611855

Accessories	Item Number
Wheel Kit SST Defender Series	30616409
USB Device Interface Kit i-DT33	30699120
Dust Cover Set(5) i-DT33	30699121
Cable RS232 XW Indicators	80500552



# DEFENDER™ 3000 HYBRID - ID33

Bench Scales for Basic Industrial Applications

## Display

7 Segment LCD with multicolor backlight

## Communication

Standard RS232 and optional USB Device or Ethernet

## Construction

Stainless steel indicator, 304-stainless steel platform, powder-coated steel tubular frame, aluminum load cell, non-slip adjustable rubber feet

## Design Features

150% overload protection

## Operation

Internal power supply with power cord (included) or rechargeable battery (included)



Results are clearly shown using the large bright backlight LCD display. Display changes color (yellow/green/red) in Checkweighing mode to alert when within the target weight range.

This industrial scale features a 304 stainless steel platform, powder-coated steel tubular frame, and aluminum load cell. Indicator features a stainless steel housing and mounting bracket.

Features software for Parts Counting, Checkweighing, and Totalization. Includes RS232 with optional USB Device or Ethernet for printing or data connectivity.

Model	Maximum Capacity	Readability	Certified Readability	Platform Size	Item Number
D33XW15B1R1	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30685177
D33XW15B1R5*	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30685206
D33XW30B1R1	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30685178
D33XW30B1R5*	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30685207
D33XW75B1R1	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30685179
D33XW75B1R5*	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30685208
D33XW75B1L2	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685185
D33XW75B1L5*	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685214
D33XW150B1L2	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685190
D33XW150B1L5*	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685215
D33XW150B1X2	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685195
D33XW150B1X5*	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685220
D33XW300B1X2	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685196
D33XW300B1X5*	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685221
D33XW300B1V3	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30685201
D33XW600B1V3	1,200 lb (600 kg)	0.2 lb (100 g)	0.5 lb (200 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30685202

\* Models ending in 5 have a Front Mount indicator

Accessories	Item Number	Accessories	Item Number
Printer, Impact, SF40A, AM	30064203	Wheel Kit SST Defender Series	30616409
Wheel Kit, Defender Series	30372146	USB Device Interface Kit i-DT33	30699120
Ethernet kit Defender Series	30429666	Dust Cover Set(5) i-DT33	30699121
Printer Zebra Label GK420T	30611855	Cable RS232 XW Indicators	80500552



# DEFENDER™ 3000 - ID33

Bench Scales for Basic Industrial Applications

## Display

7 Segment LCD with multicolor backlight

## Communication

Standard RS232 and optional USB Device or Ethernet

## Construction

ABS plastic indicator, 304-stainless steel platform, powder-coated steel tubular frame, aluminum load cell, non-slip adjustable rubber feet

## Design Features

150% overload protection

## Operation

Internal power supply with power cord (included), 6C (LR14) Batteries (not included) or Rechargeable Battery (option)



Results are clearly shown using the large, bright backlight LCD display. In Checkweighing mode, the display changes color (yellow/green/red) to alert when it is within the target weight range.

This tough industrial scale features a 304-stainless steel platform, powder-coated steel tubular frame, and aluminum load cell. Indicator features a durable ABS housing and steel mounting bracket.

Features software for Parts Counting, Checkweighing, and Totalization. Includes RS232 with optional USB Device or Ethernet for printing or data connectivity.

Model	Maximum Capacity	Readability	Certified Readability	Platform Size	Item Number
D33P15B1R1	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30685174
D33P15B1R5*	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30685203
D33P30B1R1	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30685175
D33P30B1R5*	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30685204
D33P75B1R1	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30685176
D33P75B1R5*	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30685205
D33P75B1L2	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685183
D33P75B1L5*	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685212
D33P150B1L2	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685184
D33P150B1L5*	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30685213
D33P150B1X2	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685193
D33P150B1X5*	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685218
D33P300B1X2	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685194
D33P300B1X5*	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30685219
D33P300B1V3	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30685199
D33P600B1V3	1,200 lb (600 kg)	0.2 lb (100 g)	0.5 lb (200 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30685200

\* Models ending in 5 have a Front Mount indicator

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Wheel Kit, Defender Series	30372146
Ethernet kit Defender Series	30429666
Printer Zebra Label GK420T	30611855
Wheel Kit SST Defender Series	30616409

Accessories	Item Number
USB Device Interface Kit i-DT33	30699120
Dust Cover Set(5) i-DT33	30699121
Rechargeable battery Kit i-DT33P	30699122
Cable RS232 IBM 9P Male-to-Female	80500525



# DEFENDER™ 3000 STAINLESS STEEL

Versatile Bench Scales Meet Basic Industrial Requirements for Washdown Applications

## Display

Backlit liquid crystal display (LCD)

## Communication

Easy access communication port with RS232 interface (included)

## Construction

IP65 stainless steel indicator with hinged front cover and eye bolt mounting holes, stainless steel column and wall bracket, 304 grade stainless steel platform with steel tubular frame, IP67 stainless steel load cell

## Design Features

125% overload protection

## Operation

Power cord (included) or rechargeable battery (included)



The NEMA 4X/IP65 stainless steel indicator is built to endure tough industrial elements. The 58-hour rechargeable battery offers continuous operation for multi-day operations.

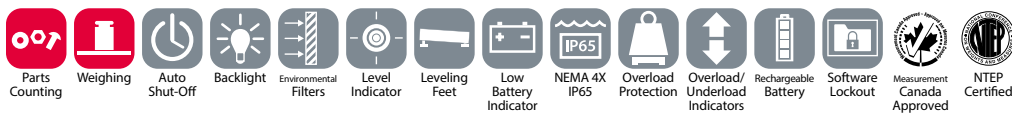
Durable construction with a 304 stainless steel platform, stainless steel tubular frame, column and indicator bracket, and IP67 stainless steel load cell.

Easy-to-read display & basic counting mode allow for simple operation for everyday basic industrial applications. Offered with NTEP/Measurement Canada or OIML/EC Type approvals (depending on region).

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D32XW150VL	330 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.7 in x 16.5 in (550 mm x 420 mm)	83999820

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Wheel Kit, Defender Series	30372146
Printer, Thermal, STP-103, US	80251992

Accessories	Item Number
Cable RS232 XW Indicators	80500552
Software, Winwedge	80850080



# DEFENDER™ 3000

Versatile Bench Scales Meet Basic Industrial Requirements for Dry Applications

## Display

Backlit liquid crystal display (LCD)

## Communication

Easy access communication port with RS232 interface (included)

## Construction

ABS indicator with reversible rear cover, painted steel column and wall bracket, 304 grade stainless steel platform with painted steel tubular frame, IP67 aluminum load cell, self-adjusting stainless steel feet with removable rubber caps

## Design Features

125% overload protection

## Operation

AC adapter (included) or rechargeable battery (included)



Durable ABS plastic terminal houses a 100-hour rechargeable battery which allows for continuous operation for five straight days.

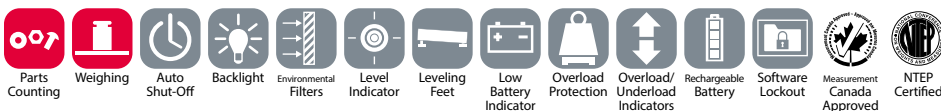
This tough industrial scale features a 304 stainless steel platform, painted steel tubular frame, column and indicator bracket, and aluminum load cell.

Easy-to-read display & basic counting mode allow for simple operation for everyday basic industrial applications. Offered with NTEP/Measurement Canada or OIML/EC Type approvals (depending on region).

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D31P30BR	66 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in x 12 in (355 mm x 305 mm)	83998111

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
In-Use-Cover, T24P T31P	30101017
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102

Accessories	Item Number
Wheel Kit, Defender Series	30372146
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080





# DEFENDER™ 3000 FIELD TEST

Portable Precision Ready for the Field

## Display

Backlit Liquid Crystal Display (LCD)

## Communication

Easy access communication port with RS232 interface (included)

## Construction

ABS plastic indicator housing with reinforced ribs and reversible rear cover, durable painted steel platform with raised embossed tread, flexible coiled cable (extendable up to 9 ft.)

## Design Features

125% overload protection, selectable span calibration points, auto-zero tracking, battery-saving auto-off, Geo Code geographical gravity calibration adjustment and software menu lockouts

## Operation

AC adapter and rechargeable battery (included)



A capacity of 165 lb with a readability of 0.05 lb and the painted steel base in a case means that the Digital Field Test Scale provides precise, clear measurements, no matter where you're working.

The Field Test Scale comes packaged in a durable metal carrying case with steel latches and carrying handle, ensuring maximum portability for use anywhere on the job - without limiting you to the lab.

The backlit LCD display allows for easy reading of results - even in low-light conditions. The internal battery means that you can operate for up to 70 hours between recharges.

Model	Capacity	Readability	Platform Size	Item Number
D31P75SD	165 lb (75 kg)	0.05 lb (0.02 kg)	12.44 in × 11 in (316 mm × 280 mm)	30448500

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
In-Use-Cover, T24P T31P	30101017
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102
Carrying Case SD	30454761

Accessories	Item Number
Printer, Thermal, STP-103, US	80251992
Cable, 25 Pin-9 Pin, PC-TxxP	80500524
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080



## ES SERIES

### Multipurpose Low Profile Shipping Scale

#### Display

Liquid crystal display (LCD)

#### Construction

ABS indicator, stainless steel platform, painted steel frame, 3 way mounting bracket

#### Design Features

Auto-zero tracking, auto shut-off

#### Operation

AC adapter (included) or 6 AA batteries (not included)

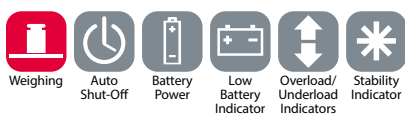


With different size low-profile platforms, there are ES scales that can accommodate weighing loads of different shapes and sizes.

The three-way mounting bracket allows you to mount the indicator to the scale base, above the scale platform, or on any vertical surface for maximum flexibility.

The sturdy and durable ES has a stainless steel platform and painted steel frame.

Model	Capacity	Readability	Platform Size	Item Number
ES6R	13.22 lb (6 kg)	0.005 lb (2 g)	12.2 in × 10.8 in (310 mm × 270 mm)	71138830
ES30R	66.1 lb (30 kg)	0.05 lb (10 g)	12.2 in × 10.8 in (310 mm × 270 mm)	71138831
ES50R	110.2 lb (50 kg)	0.05 lb (20 g)	12.2 in × 10.8 in (310 mm × 270 mm)	71138832
ES50L	110.2 lb (50 kg)	0.05 lb (20 g)	20.5 in × 15.7 in (520 mm × 400 mm)	71138833
ES100L	220.4 lb (100 kg)	0.1 lb (50 g)	20.5 in × 15.7 in (520 mm × 400 mm)	71138834
ES200L	440.8 lb (200 kg)	0.2 lb (100 g)	20.5 in × 15.7 in (520 mm × 400 mm)	71138835



# SD SERIES

## Rugged Economical Shipping Scales

### Display

Liquid crystal display (LCD)

### Construction

ABS indicator, painted steel base, raised, embossed tread platform (non-L models), rubber feet (adjustable on L models), mounting brackets, transportation handle, extendable coiled cable

### Design Features

Transportation handle on packaging (non-L models)

### Operation

AC adapter (included) or 3 C (LR14) batteries (not included)

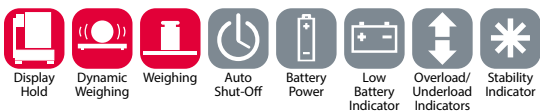


The SD is available in three capacities of 35kg, 75kg and 200kg and two platform sizes to meet the weighing needs of jobs of different physical sizes and capacities.

SD's painted steel platform and frame provides sturdy support for all materials placed on the platform.

SD provides accurate general weight determination and dynamic/animal weighing. WeighAlert™ mode flashes weight display when package is above 70 lb—the USPS shipping limit—but under 150 lb—when a package requires less-than-truckload shipment.

Model	Capacity	Readability	Platform Size	Item Number
SD35	77 lb (35 kg)	0.05 lb (20 g)	12.4 in × 11 in (316 mm × 280 mm)	83998234
SD75	165 lb (75 kg)	0.1 lb (50 g)	12.4 in × 11 in (316 mm × 280 mm)	83998235
SD75L	165 lb (75 kg)	0.1 lb (50 g)	20.5 in × 15.7 in (520 mm × 400 mm)	83998236
SD200	440 lb (200 kg)	0.2 lb (100 g)	12.4 in × 11 in (316 mm × 280 mm)	83998237
SD200L	440 lb (200 kg)	0.2 lb (100 g)	20.5 in × 15.7 in (520 mm × 400 mm)	83998238



# CATAPULT™ 1000

Economical Compact Shipping Scales

## Display

Liquid crystal display (LCD)

## Construction

ABS housing and platform, stainless steel platform (accessory sold separately), transportation handle

## Design Features

Low profile, compact design

## Operation

AC adapter (included) or 3 C (LR14) batteries (not included)



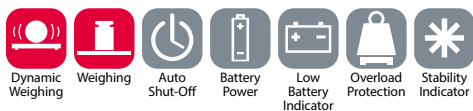
The sturdy ABS plastic housing and platform with optional stainless steel platform make Catapult® 1000 sturdy yet easy to maneuver and fit into your workspace.

Bring the Catapult 1000 right to your work with the integrated carrying handle and its battery powered operation.

Catapult 1000 provides accurate general weight determination and dynamic/animal weighing. WeighAlert™ mode flashes weight display when package is above 70 lb—the USPS shipping limit—but under 150 lb—when a package requires less-than-truckload shipment.

Model	Capacity	Readability	Platform Size	Item Number
C11P9	20 lb (9 kg)	0.01 lb (0.005 kg)	11 in x 12.4 in (280 mm x 316 mm)	83998137
C11P20	44 lb (20 kg)	0.02 lb (0.01 kg)	11 in x 12.4 in (280 mm x 316 mm)	83998138
C11P75	165 lb (75 kg)	0.1 lb (0.05 kg)	11 in x 12.4 in (280 mm x 316 mm)	83998139

Accessories	Item Number
Pan, SST, C11P	80251248



# RANGER™ COUNT 4000

Top-of-the-Line Counting Scales for Even the Toughest Industrial Weighing Conditions



## Display

3 window backlit liquid crystal display (LCD), 3 color checkweighing LEDs

## Communication

Easy access communication port including standard RS232 (included) and second RS232, USB or Ethernet (accessories sold separately)

## Construction

Rugged Cast Aluminum Housing, Stainless Steel Platform

## Design Features

Cast Aluminum Housing, stainless steel platform, sealed front panel, menu lockswitch, up front level indicator, adjustable leveling feet, selectable environmental and auto-print settings, stability indicator, overload and underload indicators, low battery indicator, auto shut-off, auto tare, rechargeable battery with 100 hours between charges.

## Operation

AC power (included) or rechargeable battery (included)



Sturdy metal housing and slip-resistant rubber feet provide the protection, stability and long product life needed for tough industrial weighing.

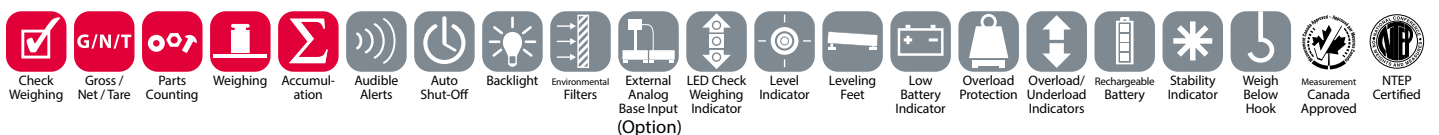
Accurate weighing and counting performance is assured with 1:1,500,000 internal counting resolution and auto-optimization software that reduces errors.

Easy-to-operate with SmarText™ software, a centrally located count display and dedicated Sample and Tare keys.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
RC41M3	6 lb (3 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30236779
RC41M6	15 lb (6 kg)	0.0005 lb (0.2 g)	0.005 lb (2 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30236940
RC41M15	30 lb (15 kg)	0.001 lb (0.5 g)	0.01 lb (5 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30236941
RC41M30	60 lb (30 kg)	0.002 lb (1 g)	0.02 lb (10 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30236942

Accessories	Item Number
PCBA Kit 2nd Platform RC31 R41 RC41	30037446
Ethernet Kit R31 RC31 R41 RC41 R71 V71	30037447
RS232 Kit R31 RC31 R41 RC41 R71 V71	30037448
USB Kit R31 RC31 R41 RC41 V71	30037449
Printer, Impact, SF40A, AM	30064203

Accessories	Item Number
In-Use-Cover, R41 RC41	30240697
Auxiliary display AD7-RS	30472064
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080



# RANGER™ COUNT 3000

Reliable Counting Scales to Ensure Accurate Results

## Display

3 window backlit liquid crystal display (LCD), 3 color checkweighing LEDs

## Communication

Easy access communication port including standard RS232 (included) and second RS232, USB or Ethernet (accessories sold separately)

## Construction

ABS housing, stainless steel platform, numeric keypad, menu lock switch, up front level indicator, transportation handle

## Design Features

30 item library, 210 hours of battery life, 3 LED checkweighing lights with selectable operation and audible signal settings, auto tare, selectable environmental and auto-print settings, auto shut-off, optional 2nd scale input

## Operation

AC power (included) or rechargeable battery (included)



Accurate weighing and counting are assured with high-resolution, 30-item library function, and auto-optimization software that reduces errors.

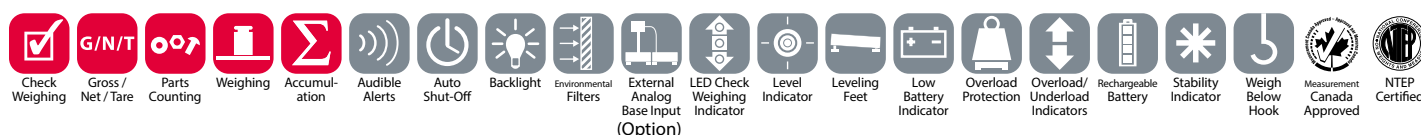
Easy to use in multi-step counting operations. Counting performance is assured with 1:1,500,000 internal counting resolution and auto-optimization software that reduces errors.

Eliminate waiting time and increase control of your operation with accurate one-second results.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
RC31P1502	3 lb (1.5 kg)	0.0001 lb (0.05 g)	0.001 lb (0.5 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031787
RC31P3	6 lb (3 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031788
RC31P6	15 lb (6 kg)	0.0005 lb (0.2 g)	0.005 lb (2 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031789
RC31P15	30 lb (15 kg)	0.001 lb (0.5 g)	0.01 lb (5 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031790
RC31P30	60 lb (30 kg)	0.002 lb (1 g)	0.02 lb (10 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031791

Accessories	Item Number
PCBA Kit 2nd Platform RC31 R41 RC41	30037446
Ethernet Kit R31 RC31 R41 RC41 R71 V71	30037447
RS232 Kit R31 RC31 R41 RC41 R71 V71	30037448
USB Kit R31 RC31 R41 RC41 V71	30037449
Hook R21 RC21 RC31 RC41 V71	30037450
In-Use-Cover, R21 RC21 R31 RC31	30037451

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080
Carrying Case, TR TC R31 RC31 V71	80850084



# RANGER™ 7000

Top-of-the-Line Compact Scales for Even the Most Complex Industrial Applications

## Display

4.3" (109 mm) Full-color WQVGA graphic display with user-controlled brightness

## Communication

Easy access communication port including standard USB and RS232 (included) and an optional third port of RS232 or Ethernet or Discrete IO (accessories sold separately). GLP/GMP Data Output with Real Time Clock. Data Transfer Function.

## Construction

Modular design, die-cast housing, removable stainless steel platform, integral weigh below hook, menu lock switch, level indicator

## Design Features

Checkweighing lights with selectable operation and audible signal settings, several selectable operating languages, selectable environmental and autoprint settings, stability indicator, overload/underload indicators, selectable brightness settings, auto-dim, auto-sleep, auto tare, chain tare

## Operation

AC power (included) or rechargeable battery (accessory sold separately)



Simplify complex applications and minimize the need for manual calculations with 10 advanced application modes, peripheral device control and an optional kit for a second scale platform.

The most precise scale in its class with one-second stabilization time, up to 75,000d or 350,000d display resolution and legal-for-trade certifications.

Extremely durable scale designed to thrive in rugged industrial environments. Features IP54-rated metal housing and sealed metal terminal.

Model	InCal™	Capacity	Readability	Certified Readability	Platform Size	Item Number
R71MD3	-	6 lb (3 kg)	0.0001 lb (0.05 g)	0.001 lb (0.5 g)	11 in × 11 in (280 mm × 280 mm)	30070289
R71MD6	-	15 lb (6 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	11 in × 11 in (280 mm × 280 mm)	30070310
R71MD15	-	30 lb (15 kg)	0.0005 lb (0.2 g)	0.005 lb (2 g)	12.2 in × 14.8 in (311 mm × 377 mm)	30070311
R71MD35	-	70 lb (35 kg)	0.001 lb (0.5 g)	0.01 lb (5 g)	12.2 in × 14.8 in (311 mm × 377 mm)	30070312
R71MD60	-	150 lb (60 kg)	0.002 lb (1 g)	0.02 lb (10 g)	12.2 in × 14.8 in (311 mm × 377 mm)	30212873
R71MHD3	•	6 lb (3 kg)	0.00002 lb (0.01 g)	0.0002 lb (0.1 g)	8.3 in × 8.3 in (210 mm × 210 mm)	30088840
R71MHD6	•	15 lb (6 kg)	0.00005 lb (0.02 g)	0.0005 lb (0.2 g)	8.3 in × 8.3 in (210 mm × 210 mm)	30088841
R71MHD15	•	30 lb (15 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	12.2 in × 14.8 in (311 mm × 377 mm)	30088842
R71MHD35	•	70 lb (35 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	12.2 in × 14.8 in (311 mm × 377 mm)	30088843

Accessories	Item Number
Ethernet Kit R31 RC31 R41 RC41 R71 V71	30037447
RS232 Kit R31 RC31 R41 RC41 R71 V71	30037448
BATTERY,pack,Li-ion,R,14.8V,2600mAh	30041295
Cable, RS232, 1.5m, R71 to balance	30057595
Printer, Impact, SF40A, AM	30064203
Column Kit, Painted, R71	30095408
PCBA Kit, 2nd Platform, R71	30097590
Discrete I/O Kit, R71 TD52 DT61XW	30097591

Accessories	Item Number
Cable, Extension, 9m, R71	30101495
Accessory, In Use Cover, R71	30135320
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T (requires 30037448)	30611855
Printer, Thermal, STP-103, US	80251992
PCBA Kit, Alibi Memory, R71 T71	80500503
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080

Check Weighing

Density Determination

Differential Weighing

Display Hold

Dynamic Weighing

Filling

Formulation

Gross / Net / Tare

Parts Counting

Percent Weighing

Statistics

Totalization

Weighing

Accumulation

Audible Alerts

Environmental Filters

External Analog Base Input

GLP Data Output

GMP/GLP

Internal Calibration

LED Check Weighing Indicator

Level Indicator

Leveling Feet

Overload/Underload Indicators

Rechargeable Battery

Stability Indicator

Time/Date

Weigh Below Hook

Measurement Canada Approved

NTEP Certified

# RANGER™ 4000

Durable Compact Scales for the Toughest Industrial Weighing Environments

## Display

Light-emitting diode display (LED), 3 color checkweighing LEDs

## Communication

Easy access communication port including standard RS232 (included) and second RS232, USB or Ethernet (accessories sold separately)

## Construction

Rugged Cast Aluminum Housing, Stainless Steel Platform

## Design Features

Cast Aluminum Housing, stainless steel platform, integral weigh-below hook, sealed front panel, menu lock switch, up front level indicator, adjustable leveling feet, selectable environmental and auto-print settings, stability indicator, overload and underload indicators, low battery indicator, auto shut-off, auto tare

## Operation

AC power (included) or rechargeable battery (included)



Sturdy metal housing and slip-resistant rubber feet provide the protection, stability and long product life needed for tough industrial weighing.

The most user-friendly scale on the market features Smart Text™ for easy operation and setup to ensure efficiency in the workplace. Includes rechargeable battery with 100 hours between charges.

With the largest display in its class, checkweighing LED indicators and backlit LCD display, the Ranger 4000 can function in almost any industrial environment.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
R41ME3	6 lb (3 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	8.9 in × 11.8 in (225 mm × 300 mm)	30236775
R41ME6	15 lb (6 kg)	0.0005 lb (0.2 g)	0.005 lb (2 g)	8.9 in × 11.8 in (225 mm × 300 mm)	30236776
R41ME15	30 lb (15 kg)	0.001 lb (0.5 g)	0.01 lb (5 g)	8.9 in × 11.8 in (225 mm × 300 mm)	30236777
R41ME30	60 lb (30 kg)	0.002 lb (1 g)	0.02 lb (10 g)	8.9 in × 11.8 in (225 mm × 300 mm)	30236778

Accessories	Item Number
PCBA Kit 2nd Platform RC31 R41 RC41	30037446
Ethernet Kit R31 RC31 R41 RC41 R71 V71	30037447
RS232 Kit R31 RC31 R41 RC41 R71 V71	30037448
USB Kit R31 RC31 R41 RC41 V71	30037449
Printer, Impact, SF40A, AM	30064203

Accessories	Item Number
In-Use-Cover, R41 RC41	30240697
Auxiliary display AD7-RS	30472064
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080





# RANGER™ 3000

Multi-Purpose Compact Bench Scales for Industrial Weighing Applications

## Display

Backlit liquid crystal display (LCD), 3 color checkweighing LEDs

## Communication

Easy access communication port including standard RS232 (included) and second RS232, USB or Ethernet (accessories sold separately)

## Construction

ABS housing, stainless steel platform, menu lock switch, up-front level indicator, integral weigh-below hook, transportation handle

## Design Features

210 hours of battery life, 3 LED checkweighing lights with selectable operation and audible signal settings, selectable environmental and auto-print settings, auto shut-off, auto tare

## Operation

AC power (included) or rechargeable battery (included)



With the largest display in its class, checkweighing LED indicators and backlit LCD display, the Ranger 3000 can function in tough industrial environments.

User-friendly scale with easy setup to ensure efficiency in the workplace.

Eliminate waiting time and increase control of your operation with accurate one-second results.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
R31P1502	3 lb (1.5 kg)	0.0001 lb (0.05 g)	0.001 lb (0.5 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031707
R31P3	6 lb (3 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031708
R31P6	15 lb (6 kg)	0.0005 lb (0.2 g)	0.005 lb (2 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031709
R31P15	30 lb (15 kg)	0.001 lb (0.5 g)	0.01 lb (5 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031710
R31P30	60 lb (30 kg)	0.002 lb (1 g)	0.02 lb (10 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031711

Accessories	Item Number
Ethernet Kit R31 RC31 R41 RC41 R71 V71	30037447
RS232 Kit R31 RC31 R41 RC41 R71 V71	30037448
USB Kit R31 RC31 R41 RC41 V71	30037449
In-Use-Cover, R21 RC21 R31 RC31	30037451
Printer, Impact, SF40A, AM	30064203

Accessories	Item Number
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080
Carrying Case, TR TC R31 RC31 V71	80850084



# VALOR™ 7000

Improve Productivity & Handle Demanding Applications With This Adaptable Multi-Functional Scale



## Display

Dual backlit Liquid Crystal Display (LCD), 3 color checkweigh LEDs

## Communication

RS232 (included); USB, Ethernet, or second RS232 (accessories sold separately)

## Construction

ABS housing, stainless steel platform, touchless sensor, transportation handle, menu lock switch, up front level indicator

## Design Features

210 hours of battery life, 3 LED checkweighing lights with selectable operation and audible signal settings, selectable environmental and auto-print settings, auto shut-off, auto tare

## Operation

AC power (included) or rechargeable battery (included)



Food-safe Valor 7000 is NSF-certified, USDA-AMS accepted, and supports HACCP-certified systems -- suitable for food applications in dry areas.

Large displays with backlight allow for easy viewing of results. Easy access communication ports for fast and useful data transfer and storage.

Valor 7000 produces repeatable and accurate results within less than one second to virtually eliminate your wait time and improve productivity.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
V71P1502T	3 lb (1.5 kg)	0.0001 lb (0.05 g)	0.001 lb (0.5 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031827
V71P3T	6 lb (3 kg)	0.0002 lb (0.1 g)	0.002 lb (1 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031828
V71P6T	15 lb (6 kg)	0.0005 lb (0.2 g)	0.005 lb (2 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031829
V71P15T	30 lb (15 kg)	0.001 lb (0.5 g)	0.01 lb (5 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031830
V71P30T	60 lb (30 kg)	0.002 lb (1 g)	0.02 lb (10 g)	8.9 in x 11.8 in (225 mm x 300 mm)	30031831

Accessories	Item Number
In-Use-Cover, V71	30037445
Ethernet Kit R31 RC31 R41 RC41 R71 V71	30037447
RS232 Kit R31 RC31 R41 RC41 R71 V71	30037448
USB Kit R31 RC31 R41 RC41 V71	30037449
Hook R21 RC21 RC31 RC41 V71	30037450
In-Use-Cover, Set(10), V71	30037469

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080
Carrying Case, TR TC R31 RC31 V71	80850084



# VALOR™ 4000

High-Performance, Legal-for-Trade Food Scale Perfect for Harsh, Wet Workplace Conditions

## Display

Dual light emitting diode (LED) displays, checkweighing LEDs on XW models

## Construction

ABS housing with stainless steel platform (PW), stainless steel housing and platform (XW), illuminated up-front level indicator, rear touchless sensor

## Design Features

Auto-close power jack cover, menu and mode setup navigation prompts on keys, transportation handle

## Operation

AC adapter (included) or rechargeable battery (included)



Food-safe Valor 4000 is NSF-certified, USDA-AMS accepted, and supports HACCP-certified systems, making it suitable demanding food processing applications.

Increase productivity with its touchless Tare sensor, half-second stabilization time, checkweighing mode and LEDs, and percent weighing mode.

Unique knife-resistant keypad and IPX8 protection ensures durability and safe operation in wet conditions.

Model	Capacity	Readability	Certified Readability	Top Housing	Platform Size	Item Number
V41XWE1501T	3 lb (1.5 kg)	0.0005 lb (0.2 g)	0.001 lb (0.5 g)	Stainless Steel	7.5 in × 9.5 in (190 mm × 242 mm)	30035444
V41XWE3T	6 lb (3 kg)	0.001 lb (0.5 g)	0.002 lb (1 g)	Stainless Steel	7.5 in × 9.5 in (190 mm × 242 mm)	30035445
V41XWE6T	15 lb (6 kg)	0.002 lb (1 g)	0.005 lb (2 g)	Stainless Steel	7.5 in × 9.5 in (190 mm × 242 mm)	30035446
V41XWE15T	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	Stainless Steel	7.5 in × 9.5 in (190 mm × 242 mm)	30035447
V41PWE1501T	3 lb (1.5 kg)	0.0005 lb (0.2 g)	0.001 lb (0.5 g)	Plastic	7.5 in × 9.5 in (190 mm × 242 mm)	30035434
V41PWE3T	6 lb (3 kg)	0.001 lb (0.5 g)	0.002 lb (1 g)	Plastic	7.5 in × 9.5 in (190 mm × 242 mm)	30035435
V41PWE6T	15 lb (6 kg)	0.002 lb (1 g)	0.005 lb (2 g)	Plastic	7.5 in × 9.5 in (190 mm × 242 mm)	30035436
V41PWE15T	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	Plastic	7.5 in × 9.5 in (190 mm × 242 mm)	30035437

Accessories	Item Number
Large Pan, 11.8x8.8 in, 300x225mm V22 V41	30251753

Accessories	Item Number
In-Use Cover Set 10 V22PW V41PW	30572906



# VALOR™ 3000

Rugged, Full Stainless Steel Design in a High Performance, Portable Scale



## Display

Backlit liquid crystal display (LCD)

## Construction

Stainless steel housing and platform, up-front level indicator, load cell lock

## Design Features

Selectable environmental settings, auto tare, auto shut-off, selectable power-up unit, optional food accessories

## Operation

AC adapter (included) or 4 C (LR14) batteries (not included)



The stainless steel Valor 3000 Xtreme is NSF Certified and supports HACCP-Certified systems helping to ensure the integrity and safety of all food products weighed on the scale.

The compact Valor 3000 Xtreme requires minimal counter space and offers resolutions up to 40,000d and 0.01g, providing precise measurements in demanding environments.

With software for general weighing, percent weighing and specific gravity, the Valor 3000 can be used for a variety of food weighing and measurement needs.

Model	Protection Rating	Capacity	Readability	Certified Readability	Platform Size	Item Number
V31XH202	-	0.44 lb (200 g)	0.00005 lb (0.01 g)		4.7 in (120 mm)	83998130
V31XH402	-	0.88 lb (400 g)	0.00005 lb (0.01 g)		4.7 in (120 mm)	83998178
V31X501	-	1.1 lb (500 g)	0.0005 lb (0.1 g)		4.7 in (120 mm)	83998176
V31XH2	-	4.4 lb (2 kg)	0.0005 lb (0.1 g)		6.2 in x 5.8 in (158 mm x 146 mm)	83998131
V31XH4	-	8.8 lb (4 kg)	0.0005 lb (0.1 g)		6.2 in x 5.8 in (158 mm x 146 mm)	83998177
V31X3	-	6.6 lb (3 kg)	0.005 lb (1 g)		6.2 in x 5.8 in (158 mm x 146 mm)	83998132
V31X3N	-	6.6 lb (3 kg)	0.002 lb (0.5 g)	0.005 lb (1 g)	6.2 in x 5.8 in (158 mm x 146 mm)	83999992
V31X6	-	13.22 lb (6 kg)	0.005 lb (1 g)		6.2 in x 5.8 in (158 mm x 146 mm)	83998133
V31X6N	-	13.22 lb (6 kg)	0.005 lb (1 g)	0.005 lb (2 g)	6.2 in x 5.8 in (158 mm x 146 mm)	83999996
V31XW301	IP65; NEMA 4X	0.66 lb (300 g)	0.0005 lb (0.1 g)		6.2 in x 5.8 in (158 mm x 146 mm)	83998134
V31XW3	IP65; NEMA 4X	6.6 lb (3 kg)	0.002 lb (0.5 g)	0.005 lb (1 g)	6.2 in x 5.8 in (158 mm x 146 mm)	83998135
V31XW6	IP65; NEMA 4X	13.22 lb (6 kg)	0.005 lb (1 g)	0.005 lb (2 g)	6.2 in x 5.8 in (158 mm x 146 mm)	83998136

Accessories	Item Number
Pan, SST, Sandwich, V31	80251147
Holder, SST, French Fries, V31	80251148

Accessories	Item Number
Holder, SST, Ice Cream Cone, V31	80251149
Carrying Case, V31	80251216



# VALOR™ 2000

High-Performance Food Scale Suitable for Harsh, Wet Workplace Conditions

## Display

Dual light emitting diode (LED) displays, checkweighing LEDs on XW models

## Construction

ABS housing with stainless steel platform (PW), stainless steel housing and platform (XW), up-front level indicator

## Design Features

Auto-close power jack cover, transportation handle

## Operation

AC adapter (included) or rechargeable battery (included)



The sturdy polycarbonate keypad offers protection from knives and other sharp instruments used in food preparation, processing and portioning applications.

A unique IPX8 flow-thru design ensures that the NSF-certified Valor 2000 will drain moisture in the scale when used in wet conditions.

Stabilization time is less than a half-second. Large front and rear LED displays allow for easy viewing so two operators can share one scale.

Model	Capacity	Readability	Top Housing	Platform Size	Item Number
V22XWE1501T	3 lb (1.5 kg)	0.0005 lb (0.2 g)	Stainless Steel	7.5 in x 9.5 in (190 mm x 242 mm)	30035439
V22XWE3T	6 lb (3 kg)	0.001 lb (0.5 g)	Stainless Steel	7.5 in x 9.5 in (190 mm x 242 mm)	30035440
V22XWE6T	15 lb (6 kg)	0.002 lb (1 g)	Stainless Steel	7.5 in x 9.5 in (190 mm x 242 mm)	30035441
V22XWE15T	30 lb (15 kg)	0.005 lb (2 g)	Stainless Steel	7.5 in x 9.5 in (190 mm x 242 mm)	30035442
V22XWE30T	60 lb (30 kg)	0.01 lb (5 g)	Stainless Steel	7.5 in x 9.5 in (190 mm x 242 mm)	30251705
V22PWE1501T	3 lb (1.5 kg)	0.0005 lb (0.2 g)	Plastic	7.5 in x 9.5 in (190 mm x 242 mm)	30035682
V22PWE3T	6 lb (3 kg)	0.001 lb (0.5 g)	Plastic	7.5 in x 9.5 in (190 mm x 242 mm)	30035683
V22PWE6T	15 lb (6 kg)	0.002 lb (1 g)	Plastic	7.5 in x 9.5 in (190 mm x 242 mm)	30035684
V22PWE15T	30 lb (15 kg)	0.005 lb (2 g)	Plastic	7.5 in x 9.5 in (190 mm x 242 mm)	30035685
V22PWE30T	60 lb (30 kg)	0.01 lb (5 g)	Plastic	7.5 in x 9.5 in (190 mm x 242 mm)	30251704

Accessories	Item Number
Large Pan, 11.8x8.8 in, 300x225mm V22 V41	30251753

Accessories	Item Number
In-Use Cover Set 10 V22PW V41PW	30572906



# VALOR™ 1000 - V12P

Reliable Food-Safe Scale for Dry Environments

## Display

LCD display with white backlight (dual display for T models)

## Communication

Optional RS232 for T models only

## Construction

ABS housing, plastic or stainless steel pan, carry handles

## Design Features

External digital calibration software, integrated level bubble and adjustable feet, selectable weighing units

## Operation

D-cell alkaline battery or power adapter



NSF-certified and USDA AMS-accepted design supports HACCP systems, making Valor 1000 perfect for food preparation tasks. Stainless steel pans and plastic in-use covers available for extra protection.

Save money on batteries. Energy-efficient design operates for up to one year or up to 1,500 hours.

Pioneer features a second line display for additional information or guidance, a static removal bar for convenient grounding, and USB connectivity.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
V12P3	6 lb (3 kg)	0.001 lb (0.5 g)	-	9.65 in x 7.48 in (245 mm x 190 mm)	30539390
V12P6	15 lb (6 kg)	0.002 lb (1 g)	-	9.65 in x 7.48 in (245 mm x 190 mm)	30539391
V12P15	30 lb (15 kg)	0.005 lb (2 g)	-	9.65 in x 7.48 in (245 mm x 190 mm)	30539392
V12P30	60 lb (30 kg)	0.01 lb (5 g)	-	9.65 in x 7.48 in (245 mm x 190 mm)	30539393
V12P2T	5 lb (2 kg)	0.0005 lb (0.2 g)	0.002 lb (1 g)	9.65 in x 7.48 in (245 mm x 190 mm)	30554442
V12P5T	10 lb (5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	9.65 in x 7.48 in (245 mm x 190 mm)	30554443
V12P10T	20 lb (10 kg)	0.002 lb (1 g)	0.01 lb (5 g)	9.65 in x 7.48 in (245 mm x 190 mm)	30554444
V12P20T	50 lb (20 kg)	0.005 lb (2 g)	0.02 lb (10 g)	9.65 in x 7.48 in (245 mm x 190 mm)	30554445

Accessories	Item Number
RS232 Cable 1.5m V12P for T models	30559103
In use cover 1 pcs V12P	30559105

Accessories	Item Number
In use cover 10 pcs V12P	30559106
Stainless Steel Platform, 11.8x8.9 in, 300x225 mm	30559107



# DT61XW

Advanced IP68/IP69K Washdown Indicator

## Display

6-digit, 7-segment white LED, 20 mm / 0.8 inch high digits, 3 color checkweigh bar matrix

## Communication

Easy access communication ports including RS232 and USB Host; second RS232/RS485/USB device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog output (available as accessories); GLP/GMP data output with real-time clock

## Construction

IP68/IP69K 316 stainless steel housing indicator and mounting bracket, knife-resistant front panel

## Design Features

3-color check light bar, menu and key lock, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, low battery indicator, auto shut-off, auto tare, Includes connection for EasyConnect bases -- connect to any EasyConnect base for instant configuration. Terminal block in housing provided for non-EasyConnect bases.

## Operation

100-240 VAC / 50/60 Hz universal power supply, hardwired



Defender 6000 indicator, constructed of 316 stainless steel, stands up to harsh cleaning in processing and packaging environments with IP68 immersion/IP69K washdown protection.

White LED displays clear results for fast processing. The indicator's configurable color bar matrix allows for detailed package weight checking to ensure compliance.

With knife-proof numeric touch keypad, indicator is suitable in harsh processing environments.

Model	Resolution	Certified Resolution	Protection Rating	Item Number
DT61XWE	75,000	10,000	IP69K/IP68	30575584

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404
Cable Extension 9m/27 ft D52 / D61	30424409

Accessories	Item Number
Ethernet kit Defender Series	30429666
Sealing Kit External Power Bank	30572907
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
PCBA Kit, Alibi Memory, R71 T71	80500503
Cable RS232 XW Indicators	80500552



# DT61PW

Advanced IP68/IP69K Washdown Indicator

## Display

6-digit, 7-segment LCD display with white backlight, 45 mm / 1.8 inch mm high digits

## Communication

Easy access IR communication kit (available as an accessory); GLP/GMP data output with real-time clock

## Construction

IP68/IP69K food grade polycarbonate housing and 316 stainless steel mounting bracket

## Design Features

3-color check light bar, menu and key lock, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, low battery indicator, auto shut-off, auto tare, Includes connection for EasyConnect bases -- connect to any EasyConnect base for instant configuration. Terminal block in housing provided for non-EasyConnect bases.

## Operation

6 D (LR20) Batteries (Included)



Defender 6000 indicator, constructed of polycarbonate, stands up to harsh cleaning in processing and packaging environments with IP68 immersion/IP69K washdown protection.

Large, bright backlit LCD clearly displays results for fast processing. The color bar can be used for quick checking of package weights for fast go/no-go alert.

Indicator operates for up to 1,600 hours on one set of batteries for months of use. Battery-powered design eliminates the need for a main connection for increased flexibility.

Model	Resolution	Certified Resolution	Battery Life	Protection Rating	Item Number
DT61PW	75,000	10,000	1600 Hours with Disposable Batteries	IP69K; IP68	30575583
DT61PW Front Mount	75,000	10,000	1600 Hours with Disposable Batteries	IP69K; IP68	30575585

Accessories	Item Number
Gland M16 D52	30379716
Cable Extension 9m/27 ft D52 / D61	30424409

Accessories	Item Number
IR Communication Kit	30572910





# TD52XW

Multifunctional Indicator for Standard Industrial Applications

## Display

Backlit Liquid Crystal Display (LCD), 256 x 80 pixels

## Communication

Easy access communication ports including RS232 and Micro SD slot (included), second RS232/RS485/USB device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog Output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

IP68/NEMA 4X stainless steel housing and mounting bracket

## Design Features

Check weighing symbols with selectable operation and audible signal settings, menu lock switch, multiple operating languages, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, selectable adjust contrast settings, auto-dim, auto-off, auto tare, screensaver, Includes connection for EasyConnect bases -- connect to any EasyConnect base for instant configuration. Terminal block in housing provided for non-EasyConnect bases.

## Operation

Internal power supply with power cord (included) or rechargeable battery (sold separately as an accessory)



See results clearly on the large backlit display. The alphanumeric keypad & function keys allow for a simplified user experience. On-screen prompts and soft keys will guide you through the operation.

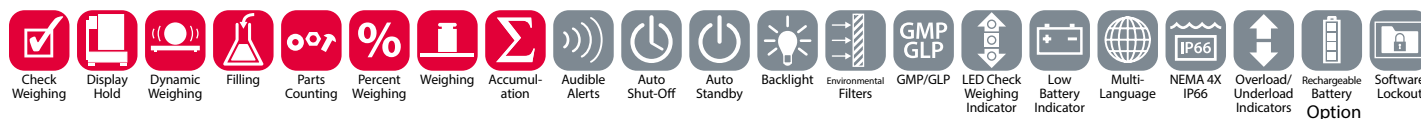
Results can be stored in the Micro SD card. Data output via built-in RS232 or optional interfaces including RS232/RS485/USB device, Ethernet & Bluetooth/WiFi. Analog Output & Discrete I/O with relays.

Features common industrial modes & supports a 50,000 item library & 1,000 user profiles which can be downloaded/uploaded for easy set-up (with SD Card). GMP/GLP with time/date for result traceability.

Model	Resolution	Certified Resolution	Battery Life	Protection Rating	Item Number
TD52XW	75,000	10,000	20 Hours with Rechargeable Battery	IP68	30424079

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Micro SD Card 8G	30303533
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
In-Use-Cover, TD52XW	30424023
Wall Mount Kit, SST, TD52XW	30424026
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404
Rechargeable battery Li-ion TD52	30424405
USB Host Interface for Dongle TD52	30424406

Accessories	Item Number
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
Auxiliary display AD7-RS	30472064
Sealing cover for D52 LC connector	30538022
LC cable adaptor for TD52 indicator	30548596
USB host interface for flash drive	30572923
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
Cable RS232 XW Indicators	80500552
Software, Winwedge	80850080



# TD52P

Multifunctional Indicator for Standard Industrial Applications

## Display

Backlit Liquid Crystal Display (LCD), 256 x 80 pixels

## Communication

Easy access communication ports including RS232 and Micro SD slot (included), second RS232/RS485/USB device, Ethernet and WiFi/Bluetooth, Discrete I/O and Analog Output (sold separately as accessories); GLP/GMP data output with real-time clock

## Construction

ABS plastic housing, painted steel mounting bracket.

## Design Features

Check weighing symbols with selectable operation and audible signal settings, menu lock switch, multiple operating languages, selectable environmental and auto-print settings, stability indicator, overload/underload indicators, selectable adjust contrast settings, auto-dim, auto-off, auto tare, screensaver, Includes connection for EasyConnect bases -- connect to any EasyConnect base for instant configuration. Terminal block in housing provided for non-EasyConnect bases.

## Operation

Internal power supply with power cord (included) or rechargeable battery (sold separately as an accessory)



See results clearly on the large backlit display. The alphanumeric keypad & function keys allow for a simplified user experience. On-screen prompts and soft keys will guide you through the operation.

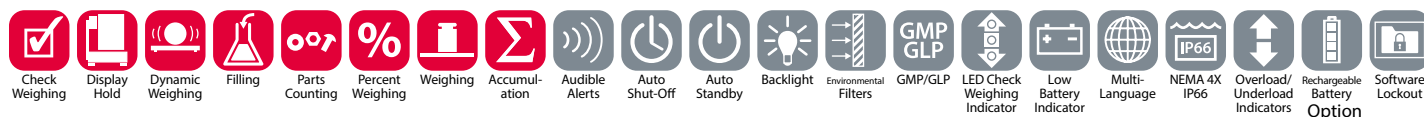
Results can be stored in the Micro SD card. Data output via built-in RS232 or optional interfaces including RS232/RS485/USB device, Ethernet & Bluetooth/WiFi. Analog Output & Discrete I/O with relays.

Features common industrial modes & supports a 50,000 item library & 1,000 user profiles which can be downloaded/uploaded for easy set-up (with SD Card). GMP/GLP with time/date for result traceability.

Model	Resolution	Certified Resolution	Battery Life	Protection Rating	Item Number
TD52P	75,000	10,000	20 Hours with Rechargeable Battery	-	30424078

Accessories	Item Number
Cable, RS232, 1.5m, R71 to balance	30057595
Printer, Impact, SF40A, AM	30064203
Discrete I/O Kit, R71 TD52 DT61XW	30097591
Micro SD Card 8G	30303533
Gland M16 D52	30379716
Wireless Dongle MTICWD-200	30412537
Alarm Beacon Kit 3 Colors 243mm OHAUS	30424021
In-Use-Cover, TD52P	30424022
Wall Mount Kit, CS, TD52P	30424027
Analog Output Kit, TD52 DT61XW	30424403
2nd RS232/RS485/USB Kit TD52 DT61XW	30424404
Rechargeable battery Li-ion TD52	30424405
USB Host Interface for Dongle TD52	30424406

Accessories	Item Number
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
In-Use-Cover, Set(10), TD52P	30469948
In-Use-Cover, Set(10), TD52XW	30469949
Auxiliary display AD7-RS	30472064
Sealing cover for D52 LC connector	30538022
LC cable adaptor for TD52 indicator	30548596
USB host interface for flash drive	30572923
Datalogic Barcode Scanner QD2131	30593703
Printer Zebra Label GK420T	30611855
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080



# T72XW

Advanced Performance Stainless Steel Indicator with External Device Control Capabilities

## Display

Transflective graphic LCD with white backlight, 240 × 96 pixels

## Communication

Easy access communication port including RS232 (included), USB, Ethernet and second RS232 or RS485 (accessories sold separately). GLP/GMP data output with real-time clock.

## Construction

IP66/NEMA 4X stainless steel housing and mounting bracket

## Design Features

Checkweighing lights with selectable operation and audible signal settings, sealed front panel, 5 operating languages (English, Spanish, French, German and Italian), selectable environmental and auto-print settings, stability and overload/underload indicators

## Operation

AC power (included)



With a 50,000 displayed resolution and the ability to support up to 10 load cells, T72XW was designed for heavy-duty industrial applications such as vehicle weighing.

Two option slots are available to enable a wide range of connectivity interfaces. Control external devices using the discrete I/O interface and transfer data through the serial, USB or Ethernet ports.

T72XW is very easy to set up and navigate - featuring a vivid graphic display with on-screen prompts and an alphanumeric keypad with designated keys for common functions such as Tare & ID information.

Model	Resolution	Certified Resolution	Battery Life	Protection Rating	Item Number
T72XW	75,000	10,000	-	IP66	30126959

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Ethernet Kit, T72XW	30132163
USB with I/O Kit, T72XW	30132164
COM2 Kit, T72XW	30132165

Accessories	Item Number
Printer, Thermal, STP-103, US	80251992
Cable, ST103-CKW55 TxxXW	80252584
Cable RS232 XW Indicators	80500552
Software, Winwedge	80850080



# i-DT33XW

Stainless Steel Washdown Indicator for Basic Industrial Applications

## Display

7 Segment LCD with multicolor backlight

## Communication

Standard RS232 and optional USB Device or Ethernet

## Construction

IP66 stainless steel housing and mounting bracket

## Operation

Internal power supply with power cord (included) or rechargeable battery (included)



Results are clearly shown using the large, bright backlit LCD display. In Checkweighing mode, the display changes color (yellow/green/red) to alert when it is within the target weight range.

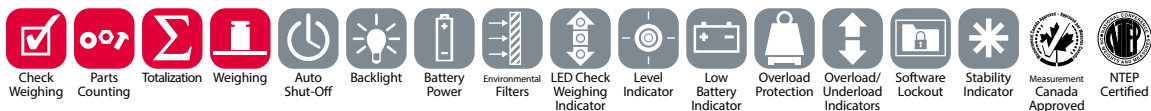
Features software for Parts Counting, Checkweighing, and Totalization. Includes RS232 with optional USB Device or Ethernet for printing or data connectivity.

Indicator features an IP66 protected 304-stainless steel housing with bracket. Display resolution up to 1:30,000; OIML approved resolution 1:10,000; NTEP and Measurement Canada approved to 1:6,000.

Model	Battery Life	Protection Rating	Item Number
DT33XW	100 Hours with Rechargeable Battery	IP66	30678638

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
Printer Zebra Label GK420T	30611855

Accessories	Item Number
USB Device Interface Kit i-DT33	30699120
Dust Cover Set(5) i-DT33	30699121
Cable RS232 XW Indicators	80500552



# i-DT33P

ABS Plastic Indicator for Basic Industrial Applications

## Display

7 Segment LCD with multicolor backlight

## Communication

Standard RS232 and optional USB Device or Ethernet

## Construction

ABS housing and powder-coated steel mounting bracket

## Operation

Internal power supply with power cord (included), 6C (LR14) Batteries (not included) or Rechargeable Battery option



Results are clearly shown using the large, bright backlit LCD display. In Checkweighing mode, the display changes color (yellow/green/red) to alert when it is within the target weight range.

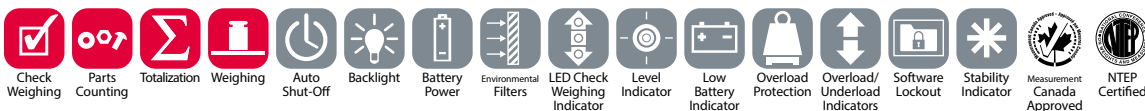
Features software for Parts Counting, Checkweighing, and Totalization. Includes RS232 with optional USB Device or Ethernet for printing or data connectivity.

Indicator features a durable ABS housing and steel mounting bracket. Display resolution up to 1:30,000; OIML approved resolution 1:10,000; NTEP and Measurement Canada approved to 1:6,000.

Model	Battery Life	Protection Rating	Item Number
DT33P	100 Hours with Rechargeable Battery; 360 Hours with Disposable Batteries	Not applicable	30648433

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Cable Extension 9m/27 ft D52 / D61	30424409
Ethernet kit Defender Series	30429666
Printer Zebra Label GK420T	30611855

Accessories	Item Number
USB Device Interface Kit i-DT33	30699120
Dust Cover Set(5) i-DT33	30699121
Rechargeable battery Kit i-DT33P	30699122
Cable RS232 IBM 9P Male-to-Female	80500525



# T32M

Economical Metal Indicator for Basic Industrial Applications

## Display

T32MC: Backlit liquid crystal display (LCD) T32ME: Light-emitting diode display (LED), 3 color checkweigh LEDs

## Communication

Easy access communication port including RS232 interface (included)

## Construction

Front ABS/rear painted steel housing and painted steel mounting bracket

## Design Features

User-configurable resolution up to 20,000d/6,000e, OIML Approved, NTEP Certified and Measurement Canada Approved

## Operation

AC adapter (included)



T32MC and T32ME are OIML approved, NTEP certified, and Measurement Canada approved for use in all legal-for-trade applications.

Application modes include weighing, simple parts counting, basic checkweighing, dynamic weighing and accumulation of results.

Constructed of painted steel housing and high-impact ABS faceplate, T32MC and T32ME are highly durable.

Model	Resolution	Certified Resolution	Protection Rating	Item Number
T32ME	20,000	6,000	-	83998166
T32MC	20,000	6,000	-	83998167

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102

Accessories	Item Number
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080



# T31P

Economical ABS Plastic Indicator for Basic Industrial Applications

## Display

Backlit liquid crystal display (LCD)

## Communication

Easy access communication port including RS232 interface (included)

## Construction

ABS housing and painted steel mounting bracket, non-slip rubber feet

## Design Features

User-configurable resolution up to 20,000d/6,000e, OIML Approved, NTEP Certified and Measurement Canada Approved

## Operation

AC adapter (included) or rechargeable battery (included)



T31P is OIML approved, NTEP certified and Measurement Canada approved for use in all legal-for-trade applications.

The ultra-long-lasting internal rechargeable battery provides operation on a single charge for up to 100 hours.

The reversible rear cover offers the flexibility for connected cables to exit above or below the indicator housing.

Model	Resolution	Certified Resolution	Battery Life	Protection Rating	Item Number
T31P	20,000	6,000	100 Hours with Rechargeable Battery	-	83998110

Accessories	Item Number
Printer, Impact, SF40A, AM	30064203
In-Use-Cover, T24P T31P	30101017
Interface Kit, RS232-USB	30304101
Interface Kit, RS232-Ethernet	30304102
Handle Kit, D3K	30381321

Accessories	Item Number
Wall Mount Kit, Painted, T31P	80251747
Printer, Thermal, STP-103, US	80251992
Cable RS232 IBM 9P Male-to-Female	80500525
Software, Winwedge	80850080



# DEFENDER™ 6000 WASHDOWN BASE

Advanced IP68/IP69K Washdown Base

## Construction

316 stainless steel platform and frame, hermetically-sealed stainless steel load cell, non-slip adjustable rubber feet, level indicator

## Design Features

150% overload capacity protection, open design to minimize build-up and support easy cleaning, Includes EasyConnect system with base capacity, readability and factory calibration programmed in module. Connect to any EasyConnect indicator for instant configuration. Can also easily be wired into non-EasyConnect indicators.



Defender 6000 stands up to harsh cleaning in processing and packaging environments with IP68 immersion/ IP69K washdown protection, 316 stainless steel construction and hermetically-sealed load cell.

The Defender 6000 bases are equipped with an EasyConnect cable, which allows instant configuration with Defender 5000 and 6000 indicators, speeding installation.

Durable Defender 6000 is NSF certified, supporting HACCP systems with a 316 stainless steel base providing corrosion protection in food, chemical processing, and packaging.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D5K1S	10 lb (5 kg)	0.001 lb (0.5 g)	0.002 lb (1 g)	9.8 in × 9.8 in (250 mm × 250 mm)	30575603
D12K1R	25 lb (12.5 kg)	0.002 lb (1 g)	0.005 lb (5 g)	11.8 in × 11.8 in (300 mm × 300 mm)	30575604
D25K1R	50 lb (25 kg)	0.005 lb (2 g)	0.01 lb (5 g)	11.8 in × 11.8 in (300 mm × 300 mm)	30575605
D50K1L	100 lb (50 kg)	0.01 lb (5 g)	0.02 lb (10 g)	19.7 in × 15.7 in (500 mm × 400 mm)	30575606
D150K1L	300 lb (150 kg)	0.02 lb (10 g)	0.1 lb (50 g)	19.7 in × 15.7 in (500 mm × 400 mm)	30575607

Accessories	Item Number
Cable Extension 9m/27 ft D52 / D61	30424409
Cable Kit Extension for base	30429931
Column Kit Column Kit 10.2 in/260mm high, 316 stainless steel D61	30572908

Accessories	Item Number
Column Kit Column Kit 26.4 in/670mm high, 316 stainless steel D61	30572909
Wheel Kit SST Defender Series	30616409
Mounting Set Front SST DT61	30626654





# DEFENDER™ 5000 STAINLESS STEEL BASE

Durable Bases for the Most Demanding of Industrial Applications

## Construction

304-grade stainless steel platform, stainless steel frame, IP67 load cell, non-slip adjustable rubber feet, level indicator

## Design Features

150% capacity overload protection. Includes EasyConnect system with base capacity, readability and factory calibration programmed in module. Connect to any EasyConnect indicator for instant configuration. Can also easily be wired into non-EasyConnect indicators.



The W series features a stainless steel platform, frame and IP67 load cell to withstand harsh industrial environments.

The Defender 5000 bases are equipped with an EasyConnect cable, which allows instant configuration with Defender TD52 or i-DT61 indicators, speeding up installation.

Defender 5000 bases are NTEP-certified and Measurement Canada approved. These bases also carry OIML and EC Type approvals, which make them ideal for legal-for-trade use.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D2WQS	5 lb (2.5 kg)	0.0002 lb (0.1 g)	0.001 lb (0.5 g)	10 in × 10 in (254 mm × 254 mm)	30419628
D5WQS	10 lb (5 kg)	0.0005 lb (0.2 g)	0.002 lb (1 g)	10 in × 10 in (254 mm × 254 mm)	30419629
D12WQS	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	10 in × 10 in (254 mm × 254 mm)	30419630
D12WQR	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30419634
D25WQR	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30419635
D50WQR	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30419636
D25WQL	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	18 in × 18 in (457 mm × 457 mm)	30419642
D50WQL	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30419643
D125WQL	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	18 in × 18 in (457 mm × 457 mm)	30419644
D50WTX	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30419648
D125WTX	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30419649
D250WTX	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30419650
D50WQV	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30419655
D125WQV	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30419656
D250WQV	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30419657
D500WQV	1,000 lb (500 kg)	0.05 lb (20 g)	0.2 lb (100 g)	24 in × 24 in (610 mm × 610 mm)	30419658

Accessories	Item Number
Wheel Kit, Defender Series	30372146
Mounting Set Front SST D52	30424024
Holder Kit Printer SST	30424025
Cable Extension 9m/27 ft D52 / D61	30424409
Column Kit 13.9 in / 35 cm Painted Steel D52xx	30424410
Column Kit 26.9 in / 68 cm Painted Steel D52xx	30424411

Accessories	Item Number
Column Kit 38.8 in / 98 cm Painted Steel D52xx	30424412
Column Kit 13.9 in / 35 cm 304 Stainless Steel D52xx	30424413
Column Kit 26.9 in / 68 cm 304 Stainless Steel D52xx	30424414
Column Kit 38.8 in / 98 cm 304 Stainless Steel D52xx	30424415
Cable Kit Extension for base	30429931



# DEFENDER™ 5000 BASE

Durable Bases for the Most Demanding of Industrial Applications

## Construction

304-grade stainless steel platform, sand grey powder-coated steel frame, aluminum load cell, non-slip adjustable rubber feet, level indicator

## Design Features

150% capacity overload protection. Includes EasyConnect system with base capacity, readability and factory calibration programmed in module. Connect to any EasyConnect indicator for instant configuration. Can also easily be wired into non-EasyConnect indicators.



The R Series features a stainless steel platform, powder-coated steel frame and an aluminum load cell to withstand harsh industrial environments.

The Defender 5000 bases are equipped with an EasyConnect cable, which allows instant configuration with Defender 5000 (TD52) or 6000 indicators, speeding up installation.

Defender 5000 bases are NTEP-certified and Measurement Canada approved. These bases also carry OIML and EC Type approvals, which make them ideal for legal-for-trade use.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D12RQR	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	12 in × 12 in (305 mm × 305 mm)	30419631
D25RQR	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	12 in × 12 in (305 mm × 305 mm)	30419632
D50RQR	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	12 in × 12 in (305 mm × 305 mm)	30419633
D12RTR	25 lb (12.5 kg)	0.001 lb (0.5 g)	0.005 lb (2 g)	14 in × 12 in (355 mm × 305 mm)	30419637
D25RTR	50 lb (25 kg)	0.002 lb (1 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30419638
D50RTR	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30419639
D50RQL	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	18 in × 18 in (457 mm × 457 mm)	30419640
D125RQL	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	18 in × 18 in (457 mm × 457 mm)	30419641
D50RTX	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 18 in (610 mm × 457 mm)	30419645
D125RTX	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 18 in (610 mm × 457 mm)	30419646
D250RTX	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 18 in (610 mm × 457 mm)	30419647
D50RQV	100 lb (50 kg)	0.005 lb (2 g)	0.02 lb (10 g)	24 in × 24 in (610 mm × 610 mm)	30419651
D125RQV	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	24 in × 24 in (610 mm × 610 mm)	30419652
D250RQV	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	24 in × 24 in (610 mm × 610 mm)	30419653
D500RQV	1,000 lb (500 kg)	0.05 lb (20 g)	0.2 lb (100 g)	24 in × 24 in (610 mm × 610 mm)	30419654
D125RTV	250 lb (125 kg)	0.01 lb (5 g)	0.05 lb (20 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30419659
D250RTV	500 lb (250 kg)	0.02 lb (10 g)	0.1 lb (50 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30419660
D500RTV	1,000 lb (500 kg)	0.05 lb (20 g)	0.2 lb (100 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30419661

Accessories	Item Number
Wheel Kit, Defender Series	30372146
Mounting Set Front SST D52	30424024
Holder Kit Printer SST	30424025
Cable Extension 9m/27 ft D52 / D61	30424409
Column Kit 13.9 in / 35 cm Painted Steel D52xx	30424410
Column Kit 26.9 in / 68 cm Painted Steel D52xx	30424411

Accessories	Item Number
Column Kit 38.8 in / 98 cm Painted Steel D52xx	30424412
Column Kit 13.9 in / 35 cm 304 Stainless Steel D52xx	30424413
Column Kit 26.9 in / 68 cm 304 Stainless Steel D52xx	30424414
Column Kit 38.8 in / 98 cm 304 Stainless Steel D52xx	30424415
Cable Kit Extension for base	30429931



# DEFENDER™ 3000 STAINLESS STEEL BASES

Bench Scale Bases for Basic Industrial Washdown Applications

## Construction

304-grade stainless steel platform, stainless steel tubular frame, IP67 stainless steel load cell



This tough industrial scale features a 304-stainless steel platform, frame and IP67 load cell.

Capacities from 15 kg/30 lb to 300 kg/600 lb, with platforms from 305 × 355 mm/12 × 14 inch to 500 × 650 mm/19.7 × 25.6 inch.

Default resolution up to 7,500d; OIML, NTEP certified and Measurement Canada approved to 3,000e for legal-for-trade performance.

Model	Maximum Capacity	Readability	Certified Readability	Platform Size	Item Number
D15C1R	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30683697
D30C1R	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30683698
D75C1R	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30683699
D75C1L	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30683702
D150C1L	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30683703
D150C1X	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30683706
D300C1X	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30683707

Accessories	Item Number
Wheel Kit, Defender Series	30372146
Column Kit 13.9 in / 35 cm Painted Steel D52xx	30424410
Column Kit 26.9 in / 68 cm Painted Steel D52xx	30424411
Column Kit 38.8 in / 98 cm Painted Steel D52xx	30424412
Column Kit 13.9 in / 35 cm 304 Stainless Steel D52xx	30424413
Column Kit 26.9 in / 68 cm 304 Stainless Steel D52xx	30424414
Wheel Kit SST Defender Series	30616409

Accessories	Item Number
Column Kit 13 in / 330 mm SST i-DT33	30696595
Column Kit 26.8 in / 680 mm SST i-DT33	30696596
Column Kit 13 in / 330 mm CS i-DT33	30696597
Column Kit 26.8 in / 680 mm CS i-DT33	30696598
Column Kit 38.8 in / 980 mm CS i-DT33	30696599
Carrying Handle Kit i-DT33	30696600



# DEFENDER™ 3000 BASES

Bench Scale Bases for Basic Industrial Applications

## Construction

304-grade stainless steel platform, powder-coated steel tubular frame, aluminum load cell.



This tough industrial scale features a 304-stainless steel platform, powder-coated steel tubular frame and column, aluminum load cell.

Capacities from 15 kg/30 lb to 600 kg/1,200 lb, with platforms from 305 × 355 mm/12 × 14 inch to 600 × 800 mm/23.6 × 31.5 inch.

Default resolution up to 7,500d; OIML, NTEP certified and Measurement Canada approved to 3,000e for legal-for-trade performance.



Model	Maximum Capacity	Readability	Certified Readability	Platform Size	Item Number
D15B1R	30 lb (15 kg)	0.005 lb (2 g)	0.01 lb (5 g)	14 in × 12 in (355 mm × 305 mm)	30683694
D30B1R	60 lb (30 kg)	0.01 lb (5 g)	0.02 lb (10 g)	14 in × 12 in (355 mm × 305 mm)	30683695
D75B1R	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	14 in × 12 in (355 mm × 305 mm)	30683696
D75B1L	150 lb (75 kg)	0.02 lb (10 g)	0.05 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30683700
D150B1L	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	21.6 in × 16.5 in (550 mm × 420 mm)	30683701
D150B1X	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30683704
D300B1X	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30683705
D300B1V	600 lb (300 kg)	0.1 lb (50 g)	0.2 lb (100 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30683708
D600B1V	1,200 lb (600 kg)	0.2 lb (100 g)	0.5 lb (200 g)	31.5 in × 23.6 in (800 mm × 600 mm)	30683709

Accessories	Item Number
Wheel Kit, Defender Series	30372146
Column Kit 13.9 in / 35 cm Painted Steel D52xx	30424410
Column Kit 26.9 in / 68 cm Painted Steel D52xx	30424411
Column Kit 38.8 in / 98 cm Painted Steel D52xx	30424412
Column Kit 13.9 in / 35 cm 304 Stainless Steel D52xx	30424413
Column Kit 26.9 in / 68 cm 304 Stainless Steel D52xx	30424414
Wheel Kit SST Defender Series	30616409

Accessories	Item Number
Column Kit 13 in / 330 mm SST i-DT33	30696595
Column Kit 26.8 in / 680 mm SST i-DT33	30696596
Column Kit 13 in / 330 mm CS i-DT33	30696597
Column Kit 26.8 in / 680 mm CS i-DT33	30696598
Column Kit 38.6 in / 980 mm CS i-DT33	30696599
Carrying Handle Kit SST i-DT33	30696600



# DEFENDER™ B SERIES

Economical Base for Industrial Weighing.

## Construction

304 grade stainless steel platform, black painted steel tubular frame, IP67 aluminum load cell, level indicator

## Design Features

125% capacity overload protection



The sturdy tubular 304 stainless steel platform provides ample support for industrial weighing applications.

The IP67 load cells ensure accurate and repeatable results.

The non-slip adjustable rubber leveling feet provide stability during the weighing process.

Model	Capacity	Readability	Certified Readability	Platform Size	Item Number
D60BR	150 lb (60 kg)	0.02 lb (10 g)	0.05 lb (20 g)	14 in × 12 in (355 mm × 305 mm)	30379436
D150BX	300 lb (150 kg)	0.05 lb (20 g)	0.1 lb (50 g)	25.6 in × 19.7 in (650 mm × 500 mm)	30379439

Accessories	Item Number
Wheel Kit, Defender Series	30372146
Handle Kit, D3K	30381321
Column Kit, For T71XW, CKW	30454644

Accessories	Item Number
Column Kit 13.9 in / 350 mm Painted Steel T31P	80251743
Column Kit 27.6 in / 700 mm Painted Steel T31P	80251744
Wall Mount Kit, SST, T51XW T71XW	80500735



# NOTES

# Weights & Weight Sets



*OHAUS' portfolio now includes the Troemner library of weights, backed by exclusive construction and more than 100 years of expertise. With a wide selection of weight classes backed by both ASTM and OIML, OHAUS weights offer a comprehensive range of 1 mg to 5,000 lb, and are available with certifications.*





Our weights and weight sets are backed by the world's leading supplier of precision weights and mass standards. Since 1838, Troemner has enhanced its reputation as being the premier precision weight company by having industry recognized metrologists and highly trained calibrators on staff. Troemner's production of precision weights involves using the finest materials and equipment available in a state-of-the-art facility. For these important reasons, Troemner is capable of providing unmatched measurements and metrological analysis, to provide our customers with the precision weights they need.

Only the finest raw materials are selected in order to manufacture high quality weights. Troemner is the only supplier that has a special stainless steel blend called Troemner Alloy 8, which possesses closely controlled density (8.03 g/cm<sup>3</sup>), extremely low magnetic properties, good stability and resistance to corrosion.

### Weight Selector Guide

**Troemner UltraClass** - For analytical and microbalances with readability as low as 1 g. These are the most precise two-piece weights available, with weight tolerances 40 to 50% better than ANSI/ASTM Class 1. Ultra Class weights combine high precision with the advantage of two-piece construction (1 g and larger) to avoid costly issues associated with one-piece weights.

**ANSI/ASTM Class 1** - Can be used as a reference standard in calibrating other weights and is appropriate for calibrating high-precision analytical balances with a readability as low as 0.1 mg to 0.01 mg.

**ANSI/ASTM Class 4** - For calibration of semi-analytical balances and for student use.

**ANSI/ASTM Class 6** - This class meets the specifications of OIML R 111 Class M2.

**OIML Class E1** - Used as a primary reference for calibrating other reference standards and weights where the stability of the environment and careful handling are assured. Class E1 weights have no method of adjustment and are not suitable for general laboratory use. The uncertainty is guaranteed to be 1/3 the tolerance.

**OIML Class E2** - Can be used as a reference standard in calibrating other weights and is appropriate for calibrating high-precision analytical balances with a readability as low as 0.1 mg to 0.01 mg.

**OIML Class F1** - Appropriate for calibrating high-precision top loading balances with a readability as low as 0.01 g to 0.001 g.

**OIML Class F2** - For calibration of semi-analytical balances and for student use.

**NIST Class F** - Primarily used to test commercial weighing devices by state and local weights and measures officials, device installers, and service technicians.



# ULTRAClass IND WEIGHTS WITHOUT CERTIFICATE

Reference Calibration Weights and Mass Standards Adjusted to  
Troemner UltraClass Tolerances



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390183
300 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390182
200 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390181
100 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390180
50 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390179
30 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390178
20 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390177
10 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390176
5 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	304 Stainless Steel	30390175
3 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	30390174
2 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	30390173
1 mg	0.005 mg	UltraClass; Troemner UltraClass	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	30390172



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	63 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390204
30 kg	38 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390203
25 kg	31 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390202
20 kg	25 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390201
10 kg	13 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390200
5 kg	6 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390199
3 kg	3.8 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390198
2 kg	2.5 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390197
1 kg	1.3 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390196
500 g	0.6 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390195
300 g	0.38 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390194
200 g	0.25 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390193
100 g	0.13 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390192
50 g	0.06 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390191
30 g	0.037 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390190
20 g	0.037 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390189
10 g	0.025 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390188
5 g	0.017 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390187
3 g	0.017 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390186
2 g	0.017 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390185
1 g	0.017 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390184

Weights by  
**TROEMNER**

# ULTRACLASS IND WEIGHTS WITH TRACEABLE CERTIFICATE

Reference Calibration Weights and Mass Standards Adjusted to Troemner UltraClass Tolerances



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
1 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30390270
500 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390215
300 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390214
200 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390213
100 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390212
50 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390211
30 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390210
20 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390209
10 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390208
5 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	304 Stainless Steel	30390207
3 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30390206
2 mg	0.005 mg	UltraClass; Troemner UltraClass	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30390205



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	63 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390236
30 kg	38 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390235
25 kg	31 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390234
20 kg	25 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390233
10 kg	13 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390232
5 kg	6 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390231
3 kg	3.8 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390230
2 kg	2.5 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390229
1 kg	1.3 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390228
500 g	0.6 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390227
300 g	0.38 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390226
200 g	0.25 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390225
100 g	0.13 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390224
50 g	0.06 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390223
30 g	0.037 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390222
20 g	0.037 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390221
10 g	0.025 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390220
5 g	0.017 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390219
3 g	0.017 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390218
2 g	0.017 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390217
1 g	0.017 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390216

Weights by  
**TROEMNER**

# ULTRAClass IND WEIGHTS WITH NVLAP CERTIFICATE

Reference Calibration Weights and Mass Standards Adjusted to Troemner UltraClass Tolerances



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390248
300 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390247
200 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390246
100 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390245
50 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390244
30 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390243
20 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390242
10 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390241
5 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	304 Stainless Steel	30390240
3 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30390239
2 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30390238
1 mg	0.005 mg	UltraClass; Troemner UltraClass	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30390237



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	63 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390269
30 kg	38 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390268
25 kg	31 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390267
20 kg	25 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390266
10 kg	13 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390265
5 kg	6 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390264
3 kg	3.8 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390263
2 kg	2.5 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390262
1 kg	1.3 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390261
500 g	0.6 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390260
300 g	0.38 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390259
200 g	0.25 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390258
100 g	0.13 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390257
50 g	0.06 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390256
30 g	0.037 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390255
20 g	0.037 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390254
10 g	0.025 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390253
5 g	0.017 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390252
3 g	0.017 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390251
2 g	0.017 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390250
1 g	0.017 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390249

Weights by  
**TROEMNER**

# ULTRAClass EB WEIGHTS WITHOUT CERTIFICATE

Reference Calibration Weights and Mass Standards Adjusted to  
Troemner UltraClass Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	38 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390301
25 kg	31 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390300
24 kg	28 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390299
20 kg	25 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390298
16 kg	18 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390297
10 kg	13 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390296
8 kg	9.5 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390295
5 kg	6 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390294
4 kg	4.9 mg	UltraClass; Troemner UltraClass	No Certificate	Grip Handle	303 Stainless Steel	30390292



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	6 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	303 Stainless Steel	30390293
4 kg	4.9 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	303 Stainless Steel	30390291
3 kg	3.8 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	303 Stainless Steel	30390290
2 kg	2.5 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	303 Stainless Steel	30390289
1,500 g	1.9 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390288
1,000 g	1.3 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390287
600 g	0.95 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390286
500 g	0.6 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390285
400 g	0.49 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390284
300 g	0.38 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390283
200 g	0.25 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390282
160 g	0.19 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390281
150 g	0.19 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390280
100 g	0.13 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390279
80 g	0.095 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390278
70 g	0.095 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390277
60 g	0.095 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390276
50 g	0.06 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390275
40 g	0.049 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390274
30 g	0.037 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390273
20 g	0.037 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390272
10 g	0.025 mg	UltraClass; Troemner UltraClass	No Certificate	Cylindrical	316 Stainless Steel	30390271

# ULTRAClass EB WEIGHTS WITH TRACEABLE CERTIFICATE

Reference Calibration Weights and Mass Standards Adjusted to Troemner UltraClass Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	38 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390332
25 kg	31 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390331
24 kg	28 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390330
20 kg	25 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390329
16 kg	18 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390328
10 kg	13 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390327
8 kg	9.5 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390326
5 kg	6 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390325
4 kg	4.9 mg	UltraClass; Troemner UltraClass	Traceable	Grip Handle	303 Stainless Steel	30390323



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	6 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	303 Stainless Steel	30390324
4 kg	4.9 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	303 Stainless Steel	30390322
3 kg	3.8 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	303 Stainless Steel	30390321
2 kg	2.5 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	303 Stainless Steel	30390320
1,500 g	1.9 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390319
1,000 g	1.3 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390318
600 g	0.95 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390317
500 g	0.6 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390316
400 g	0.49 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390315
300 g	0.38 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390314
200 g	0.25 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390313
160 g	0.19 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390312
150 g	0.19 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390311
100 g	0.13 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390310
80 g	0.095 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390309
70 g	0.095 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390308
60 g	0.095 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390307
50 g	0.06 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390306
40 g	0.049 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390305
30 g	0.037 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390304
20 g	0.037 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390303
10 g	0.025 mg	UltraClass; Troemner UltraClass	Traceable	Cylindrical	316 Stainless Steel	30390302

# ULTRAClass EB WEIGHTS WITH NVLAP CERTIFICATE

Reference Calibration Weights and Mass Standards Adjusted to Troemner UltraClass Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	38 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390363
25 kg	31 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390362
24 kg	28 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390361
20 kg	25 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390360
16 kg	18 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390359
10 kg	13 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390358
8 kg	9.5 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390357
5 kg	6 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390356
4 kg	4.9 mg	UltraClass; Troemner UltraClass	NVLAP	Grip Handle	303 Stainless Steel	30390354



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	6 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	303 Stainless Steel	30390355
4 kg	4.9 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	303 Stainless Steel	30390353
3 kg	3.8 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	303 Stainless Steel	30390352
2 kg	2.5 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	303 Stainless Steel	30390351
1,500 g	1.9 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390350
1,000 g	1.3 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390349
600 g	0.95 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390348
500 g	0.6 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390347
400 g	0.49 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390346
300 g	0.38 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390345
200 g	0.25 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390344
160 g	0.19 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390343
150 g	0.19 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390342
100 g	0.13 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390341
80 g	0.095 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390340
70 g	0.095 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390339
60 g	0.095 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390338
50 g	0.06 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390337
40 g	0.049 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390336
30 g	0.037 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390335
20 g	0.037 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390334
10 g	0.025 mg	UltraClass; Troemner UltraClass	NVLAP	Cylindrical	316 Stainless Steel	30390333

# ULTRAClass WEIGHT SETS WITHOUT CERTIFICATE

Reference Calibration Weight Sets and Mass Standards Adjusted to  
Troemner UltraClass Tolerances



Weights by



Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	UltraClass; Troemner UltraClass	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390097
50 kg - 1 mg	UltraClass; Troemner UltraClass	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390096
30 kg - 1 g	UltraClass	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390095
30 kg - 1 mg	UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390094
25 kg - 1 g	UltraClass	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390093
25 kg - 1 mg	UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390092
20 kg - 1 g	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390091
20 kg - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390090
10 kg - 1 g	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390089
10 kg - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390088
5 kg - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390087
5 kg - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390086
(2) 2 kg - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390011
(2) 2 kg - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390010
2 kg - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30390085
2 kg - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390084
1 kg - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30390083
1 kg - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390082
500 g - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30390081
500 g - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390080
(2) 200 g - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390009
(2) 200 g - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390008
200 g - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30390079
200 g - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390078
100 g - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30390077
100 g - 100 mg	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30390076
100 g - 10 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30390075
100 g - 5 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30390074
100 g - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390073
50 g - 1 g	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30390072

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Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 g - 100 mg	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30390071
50 g - 10 mg	UltraClass; Troemner UltraClass	-	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30390070
50 g - 5 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30390069
50 g - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390068
20 g - 1 g	UltraClass; Troemner UltraClass	-	10 g; 20 g; (2) 2 g; 1 g; 5 g	30390067
20 g - 100 mg	UltraClass; Troemner UltraClass	-	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30390066
20 g - 10 mg	UltraClass; Troemner UltraClass	-	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30390065
20 g - 5 mg	UltraClass; Troemner UltraClass	-	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30390064
20 g - 1 mg	UltraClass; Troemner UltraClass	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390063
500 mg - 10 mg	UltraClass; Troemner UltraClass	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30390062
500 mg - 1 mg	UltraClass; Troemner UltraClass	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390061



# ULTRAClass WEIGHT SETS WITH TRACEABLE CERTIFICATE

Reference Calibration Weight Sets and Mass Standards Adjusted to  
Troemner UltraClass Tolerances



Weights by



Traceable

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	UltraClass; Troemner UltraClass	Traceable	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390134
50 kg - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390133
30 kg - 1 g	UltraClass	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390132
30 kg - 1 mg	UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390131
25 kg - 1 g	UltraClass	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390130
25 kg - 1 mg	UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390129
20 kg - 1 g	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390128
20 kg - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390127
10 kg - 1 g	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390126
10 kg - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390125
5 kg - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390124
5 kg - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390123
(2) 2 kg - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390015
(2) 2 kg - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390014
2 kg - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30390122
2 kg - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390121
1 kg - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30390120
1 kg - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390119
500 g - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30390118
500 g - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390117
(2) 200 g - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390013
(2) 200 g - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390012
200 g - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30390116
200 g - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390115
100 g - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30390114
100 g - 100 mg	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30390113
100 g - 10 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30390112
100 g - 5 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30390111
100 g - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390110
50 g - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30390109

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Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 g - 100 mg	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30390108
50 g - 10 mg	UltraClass; Troemner UltraClass	Traceable	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30390107
50 g - 5 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30390106
50 g - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390105
20 g - 1 g	UltraClass; Troemner UltraClass	Traceable	10 g; 20 g; (2) 2 g; 1 g; 5 g	30390104
20 g - 100 mg	UltraClass; Troemner UltraClass	Traceable	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30390103
20 g - 10 mg	UltraClass; Troemner UltraClass	Traceable	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30390102
20 g - 5 mg	UltraClass; Troemner UltraClass	Traceable	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30390101
20 g - 1 mg	UltraClass; Troemner UltraClass	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390100
500 mg - 10 mg	UltraClass; Troemner UltraClass	Traceable	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30390099
500 mg - 1 mg	UltraClass; Troemner UltraClass	Traceable	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390098

# ULTRAClass WEIGHT SETS WITH NVLAP CERTIFICATE

Reference Calibration Weight Sets and Mass Standards Adjusted to  
Troemner UltraClass Tolerances



## NVLAP

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	UltraClass; Troemner UltraClass	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390171
50 kg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390170
30 kg - 1 g	UltraClass	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390169
30 kg - 1 mg	UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390168
25 kg - 1 g	UltraClass	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390167
25 kg - 1 mg	UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390166
20 kg - 1 g	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390165
20 kg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390164
10 kg - 1 g	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390163
10 kg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390162
5 kg - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390161
5 kg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390160
(2) 2 kg - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390019
(2) 2 kg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390018
2 kg - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30390159
2 kg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390158
1 kg - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30390157
1 kg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390156
500 g - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30390155
500 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390154
(2) 200 g - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390017
(2) 200 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390016
200 g - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30390153
200 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390152
100 g - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30390151
100 g - 100 mg	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30390150
100 g - 10 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30390149
100 g - 5 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30390148
100 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390147
50 g - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30390146

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Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 g - 100 mg	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30390145
50 g - 10 mg	UltraClass; Troemner UltraClass	NVLAP	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30390144
50 g - 5 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30390143
50 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390142
20 g - 1 g	UltraClass; Troemner UltraClass	NVLAP	10 g; 20 g; (2) 2 g; 1 g; 5 g	30390141
20 g - 100 mg	UltraClass; Troemner UltraClass	NVLAP	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30390140
20 g - 10 mg	UltraClass; Troemner UltraClass	NVLAP	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30390139
20 g - 5 mg	UltraClass; Troemner UltraClass	NVLAP	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30390138
20 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390137
500 mg - 10 mg	UltraClass; Troemner UltraClass	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30390136
500 mg - 1 mg	UltraClass; Troemner UltraClass	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390135



# CAL-PAKS

Reference Calibration Weight Sets and Mass Standards Adjusted to  
Troemner UltraClass Tolerances



## NVLAP

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
2 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	200 mg; 2 g; 1 mg	30391799
5 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	5 g; 500 mg; 1 mg	30391798



## 1

Set Capacity	Weight Set Range	ASTM Class	Density at 20°C	Item Number
55.2 g		1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30390007
57 g	50 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391795
110.02 g	100 g - 20 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391794
110.2 g	100 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391793
112 g	100 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391792
220.2 g	200 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391791
222 g	200 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391790
550.02 g	500 g - 20 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391789
550.2 g	500 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391788
552 g	500 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391787
1,102 g	1 kg - 2 g	1	8.03 g/cm <sup>3</sup>	30391786
1,120 g	1 kg - 20 g	1	8.03 g/cm <sup>3</sup>	30391785
2,202 g	2 kg - 2 g	1	2 kg is 7.95 g/cm <sup>3</sup> ; 1 kg and below are 8.03 g/cm <sup>3</sup>	30391784
2,220 g	2 kg - 20 g	1	2 kg is 7.95 g/cm <sup>3</sup> ; 1 kg and below are 8.03 g/cm <sup>3</sup>	30391783
5,502 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390005
5,502 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390006
5,520 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390004
5,520 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30391782
5,202 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390002
5,202 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390003
5,220 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390000
5,220 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390001
22.02 g	20 g - 20 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391797
22.2 g	20 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391796

# CLASS I IND WEIGHTS WITHOUT CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	125 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391425
30 kg	75 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391424
25 kg	62 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391423
20 kg	50 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391422
10 kg	25 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391421
5 kg	12 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391420
3 kg	7.5 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391419
2 kg	5 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391418
1 kg	2.5 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391417
500 g	1.2 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391416
300 g	0.75 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391415
200 g	0.5 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781143
100 g	0.25 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781141
50 g	0.12 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781139
30 g	0.074 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391411
20 g	0.074 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781135
10 g	0.05 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781133
5 g	0.034 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781131
3 g	0.034 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391407
2 g	0.034 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781127
1 g	0.034 mg	1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781125



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	80781123
300 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	30391403
200 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	80781119
100 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	80781117
50 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	80781115
30 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	30391399
20 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	80781111
10 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	80781109
5 mg	0.01 mg	1	No Certificate	Flat	304 Stainless Steel	80781107
3 mg	0.01 mg	1	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	30391395
2 mg	0.01 mg	1	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	80781103
1 mg	0.01 mg	1	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	80781101



# CLASS I IND WEIGHTS WITH TRACEABLE CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	125 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391607
30 kg	75 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391606
25 kg	62 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391605
20 kg	50 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391604
10 kg	25 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391603
5 kg	12 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391602
3 kg	7.5 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391601
2 kg	5 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391600
1 kg	2.5 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391599
500 g	1.2 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391598
300 g	0.75 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391597
200 g	0.5 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391596
100 g	0.25 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391595
50 g	0.12 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391594
30 g	0.074 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391593
20 g	0.074 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391592
10 g	0.05 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391591
5 g	0.034 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391590
3 g	0.034 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391589
2 g	0.034 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391588
1 g	0.034 mg	1	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391587



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391586
300 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391585
200 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391584
100 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391583
50 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391582
30 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391581
20 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391580
10 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391579
5 mg	0.01 mg	1	Traceable	Flat	304 Stainless Steel	30391578
3 mg	0.01 mg	1	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30391577
2 mg	0.01 mg	1	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30391576
1 mg	0.01 mg	1	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30391575

Weights by  
**TROEMNER**

# CLASS I IND WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	125 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391458
30 kg	75 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391457
25 kg	62 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391456
20 kg	50 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391455
10 kg	25 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391454
5 kg	12 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391453
3 kg	7.5 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391452
2 kg	5 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391451
1 kg	2.5 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391450
500 g	1.2 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391449
300 g	0.75 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391448
200 g	0.5 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781144
100 g	0.25 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781142
50 g	0.12 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781140
30 g	0.074 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391444
20 g	0.074 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781136
10 g	0.05 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781134
5 g	0.034 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781132
3 g	0.034 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391440
2 g	0.034 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781128
1 g	0.034 mg	1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80781126



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	80781124
300 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	30391436
200 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	80781120
100 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	80781118
50 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	80781116
30 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	30391432
20 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	80781112
10 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	80781110
5 mg	0.01 mg	1	NVLAP	Flat	304 Stainless Steel	80781108
3 mg	0.01 mg	1	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30391428
2 mg	0.01 mg	1	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80781104
1 mg	0.01 mg	1	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80781102





# CLASS 4 IND WEIGHTS WITHOUT CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	1 g	4	No Certificate	Cylindrical	316 Stainless Steel	30391295
30 kg	600 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391294
25 kg	500 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391293
20 kg	400 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391292
10 kg	200 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391291
5 kg	100 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391290
3 kg	60 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391289
2 kg	40 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391288
1 kg	20 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391287
500 g	10 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391286
300 g	6 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391285
200 g	4 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391284
100 g	2 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780063
50 g	1.2 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780075
30 g	0.9 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391281
20 g	0.7 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780068
10 g	0.5 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780062
5 g	0.36 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780074
3 g	0.3 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391277
2 g	0.26 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780067
1 g	0.2 mg	4	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780061



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.16 mg	4	No Certificate	Flat	304 Stainless Steel	80780073
300 mg	0.14 mg	4	No Certificate	Flat	304 Stainless Steel	30391273
200 mg	0.12 mg	4	No Certificate	Flat	304 Stainless Steel	80780066
100 mg	0.1 mg	4	No Certificate	Flat	304 Stainless Steel	80780060
50 mg	0.085 mg	4	No Certificate	Flat	304 Stainless Steel	80780072
30 mg	0.075 mg	4	No Certificate	Flat	304 Stainless Steel	30391269
20 mg	0.07 mg	4	No Certificate	Flat	304 Stainless Steel	80780065
10 mg	0.06 mg	4	No Certificate	Flat	304 Stainless Steel	80780059
5 mg	0.055 mg	4	No Certificate	Flat	304 Stainless Steel	80780071
3 mg	0.052 mg	4	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	30391265
2 mg	0.05 mg	4	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	80780064
1 mg	0.05 mg	4	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	80780058

# CLASS 4 IND WEIGHTS WITH TRACEABLE CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	1 g	4	Traceable	Cylindrical	316 Stainless Steel	30391108
30 kg	600 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391107
25 kg	500 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391106
20 kg	400 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391105
10 kg	200 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391104
5 kg	100 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391103
3 kg	60 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391102
2 kg	40 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391101
1 kg	20 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391100
500 g	10 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391099
300 g	6 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391098
200 g	4 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391097
100 g	2 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391096
50 g	1.2 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391095
30 g	0.9 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391094
20 g	0.7 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391093
10 g	0.5 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391092
5 g	0.36 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391091
3 g	0.3 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391090
2 g	0.26 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391089
1 g	0.2 mg	4	Traceable	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391088



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.16 mg	4	Traceable	Flat	304 Stainless Steel	30391087
300 mg	0.14 mg	4	Traceable	Flat	304 Stainless Steel	30391086
200 mg	0.12 mg	4	Traceable	Flat	304 Stainless Steel	30391085
100 mg	0.1 mg	4	Traceable	Flat	304 Stainless Steel	30391084
50 mg	0.085 mg	4	Traceable	Flat	304 Stainless Steel	30391083
30 mg	0.075 mg	4	Traceable	Flat	304 Stainless Steel	30391082
20 mg	0.07 mg	4	Traceable	Flat	304 Stainless Steel	30391081
10 mg	0.06 mg	4	Traceable	Flat	304 Stainless Steel	30391080
5 mg	0.055 mg	4	Traceable	Flat	304 Stainless Steel	30391079
3 mg	0.052 mg	4	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30391078
2 mg	0.05 mg	4	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30391077
1 mg	0.05 mg	4	Traceable	Flat	Aluminum; 3003-H14 Aluminum	30391076



# CLASS 4 IND WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
50 kg	1 g	4	NVLAP	Cylindrical	316 Stainless Steel	30391328
30 kg	600 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391327
25 kg	500 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391326
20 kg	400 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391325
10 kg	200 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391324
5 kg	100 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391323
3 kg	60 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391322
2 kg	40 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391321
1 kg	20 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391320
500 g	10 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391319
300 g	6 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391318
200 g	4 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391317
100 g	2 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80850287
50 g	1.2 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80850297
30 g	0.9 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391314
20 g	0.7 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80850292
10 g	0.5 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80850286
5 g	0.36 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80850296
3 g	0.3 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30391310
2 g	0.26 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80850291
1 g	0.2 mg	4	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80850285



## Flat

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.16 mg	4	NVLAP	Flat	304 Stainless Steel	80850295
300 mg	0.14 mg	4	NVLAP	Flat	304 Stainless Steel	30391306
200 mg	0.12 mg	4	NVLAP	Flat	304 Stainless Steel	80850290
100 mg	0.1 mg	4	NVLAP	Flat	304 Stainless Steel	80850284
50 mg	0.085 mg	4	NVLAP	Flat	304 Stainless Steel	80850294
30 mg	0.075 mg	4	NVLAP	Flat	304 Stainless Steel	30391302
20 mg	0.07 mg	4	NVLAP	Flat	304 Stainless Steel	80850289
10 mg	0.06 mg	4	NVLAP	Flat	304 Stainless Steel	80850283
5 mg	0.055 mg	4	NVLAP	Flat	304 Stainless Steel	80850293
3 mg	0.052 mg	4	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30391298
2 mg	0.05 mg	4	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80850288
1 mg	0.05 mg	4	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80850282

# CLASS I EB WEIGHTS WITHOUT CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	75 mg	1	No Certificate	Grip Handle	303 Stainless Steel	80781007
25 kg	62 mg	1	No Certificate	Grip Handle	303 Stainless Steel	30391488
24 kg	56 mg	1	No Certificate	Grip Handle	303 Stainless Steel	30391487
20 kg	50 mg	1	No Certificate	Grip Handle	303 Stainless Steel	80781005
16 kg	37.5 mg	1	No Certificate	Grip Handle	303 Stainless Steel	30391485
10 kg	25 mg	1	No Certificate	Grip Handle	303 Stainless Steel	80781003
8 kg	18.5 mg	1	No Certificate	Grip Handle	303 Stainless Steel	30391483
5 kg	12 mg	1	No Certificate	Grip Handle	303 Stainless Steel	80781001
4 kg	9.75 mg	1	No Certificate	Grip Handle	303 Stainless Steel	30391480



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	12 mg	1	No Certificate	Cylindrical	303 Stainless Steel	30391481
4 kg	9.75 mg	1	No Certificate	Cylindrical	303 Stainless Steel	80780027
3 kg	7.5 mg	1	No Certificate	Cylindrical	303 Stainless Steel	30391478
2 kg	5 mg	1	No Certificate	Cylindrical	303 Stainless Steel	80780024
1,500 g	3.75 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391476
1,000 g	2.5 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780021
600 g	1.85 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391474
500 g	1.2 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780029
400 g	0.975 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780026
300 g	0.75 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391471
200 g	0.5 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780023
160 g	0.375 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391469
150 g	0.375 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391468
100 g	0.25 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780020
80 g	0.185 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391466
70 g	0.185 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391465
60 g	0.185 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391464
50 g	0.12 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780028
40 g	0.097 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780025
30 g	0.074 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391461
20 g	0.074 mg	1	No Certificate	Cylindrical	316 Stainless Steel	80780022
10 g	0.05 mg	1	No Certificate	Cylindrical	316 Stainless Steel	30391459



# CLASS I EB WEIGHTS WITH TRACEABLE CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	75 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391520
25 kg	62 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391519
24 kg	56 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391518
20 kg	50 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391517
16 kg	37.5 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391516
10 kg	25 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391515
8 kg	18.5 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391514
5 kg	12 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391513
4 kg	9.75 mg	1	Traceable	Grip Handle	303 Stainless Steel	30391511



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	12 mg	1	Traceable	Cylindrical	303 Stainless Steel	30391512
4 kg	9.75 mg	1	Traceable	Cylindrical	303 Stainless Steel	30391510
3 kg	7.5 mg	1	Traceable	Cylindrical	303 Stainless Steel	30391509
2 kg	5 mg	1	Traceable	Cylindrical	303 Stainless Steel	30391508
1,500 g	3.75 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391507
1,000 g	2.5 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391506
600 g	1.85 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391505
500 g	1.2 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391504
400 g	0.975 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391503
300 g	0.75 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391502
200 g	0.5 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391501
160 g	0.375 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391500
150 g	0.375 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391499
100 g	0.25 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391498
80 g	0.185 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391497
70 g	0.185 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391496
60 g	0.185 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391495
50 g	0.12 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391494
40 g	0.097 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391493
30 g	0.074 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391492
20 g	0.074 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391491
10 g	0.05 mg	1	Traceable	Cylindrical	316 Stainless Steel	30391490

# CLASS I EB WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	75 mg	1	NVLAP	Grip Handle	303 Stainless Steel	80781008
25 kg	62 mg	1	NVLAP	Grip Handle	303 Stainless Steel	30391537
24 kg	56 mg	1	NVLAP	Grip Handle	303 Stainless Steel	30391536
20 kg	50 mg	1	NVLAP	Grip Handle	303 Stainless Steel	80781006
16 kg	37.5 mg	1	NVLAP	Grip Handle	303 Stainless Steel	30391535
10 kg	25 mg	1	NVLAP	Grip Handle	303 Stainless Steel	80781004
8 kg	18.5 mg	1	NVLAP	Grip Handle	303 Stainless Steel	30391534
5 kg	12 mg	1	NVLAP	Grip Handle	303 Stainless Steel	80781002
4 kg	9.75 mg	1	NVLAP	Grip Handle	303 Stainless Steel	30391532



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	12 mg	1	NVLAP	Cylindrical	303 Stainless Steel	30391533
4 kg	9.75 mg	1	NVLAP	Cylindrical	303 Stainless Steel	80850275
3 kg	7.5 mg	1	NVLAP	Cylindrical	303 Stainless Steel	30391531
2 kg	5 mg	1	NVLAP	Cylindrical	303 Stainless Steel	80850272
1,500 g	3.75 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391530
1,000 g	2.5 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850269
600 g	1.85 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391529
500 g	1.2 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850277
400 g	0.975 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850274
300 g	0.75 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391528
200 g	0.5 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850271
160 g	0.375 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391527
150 g	0.375 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391526
100 g	0.25 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850268
80 g	0.185 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391525
70 g	0.185 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391524
60 g	0.185 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391523
50 g	0.12 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850276
40 g	0.097 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850273
30 g	0.074 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391522
20 g	0.074 mg	1	NVLAP	Cylindrical	316 Stainless Steel	80850270
10 g	0.05 mg	1	NVLAP	Cylindrical	316 Stainless Steel	30391521



# CLASS 4 EB WEIGHTS WITHOUT CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	600 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391139
25 kg	500 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391138
24 kg	450 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391137
20 kg	400 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391136
16 kg	300 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391135
10 kg	200 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391134
8 kg	150 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391133
5 kg	100 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391132
4 kg	80 mg	4	No Certificate	Grip Handle	303 Stainless Steel	30391130



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	100 mg	4	No Certificate	Cylindrical	303 Stainless Steel	30391131
4 kg	80 mg	4	No Certificate	Cylindrical	303 Stainless Steel	30391129
3 kg	60 mg	4	No Certificate	Cylindrical	303 Stainless Steel	30391128
2 kg	40 mg	4	No Certificate	Cylindrical	303 Stainless Steel	80780145
1,500 g	30 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391126
1,000 g	20 mg	4	No Certificate	Cylindrical	316 Stainless Steel	80780143
600 g	15 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391124
500 g	10 mg	4	No Certificate	Cylindrical	316 Stainless Steel	80780141
400 g	8 mg	4	No Certificate	Cylindrical	316 Stainless Steel	80780139
300 g	6 mg	4	No Certificate	Cylindrical	316 Stainless Steel	80780137
200 g	4 mg	4	No Certificate	Cylindrical	316 Stainless Steel	80780135
160 g	3 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391119
150 g	3 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391118
100 g	2 mg	4	No Certificate	Cylindrical	316 Stainless Steel	80780133
80 g	1.6 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391116
70 g	1.6 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391115
60 g	1.6 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391114
50 g	1.2 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391113
40 g	1.05 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391112
30 g	0.9 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391111
20 g	0.7 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391110
10 g	0.5 mg	4	No Certificate	Cylindrical	316 Stainless Steel	30391109

# CLASS 4 EB WEIGHTS WITH TRACEABLE CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	600 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391170
25 kg	500 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391169
24 kg	450 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391168
20 kg	400 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391167
16 kg	300 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391166
10 kg	200 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391165
8 kg	150 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391164
5 kg	100 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391163
4 kg	80 mg	4	Traceable	Grip Handle	303 Stainless Steel	30391161



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	100 mg	4	Traceable	Cylindrical	303 Stainless Steel	30391162
4 kg	80 mg	4	Traceable	Cylindrical	303 Stainless Steel	30391160
3 kg	60 mg	4	Traceable	Cylindrical	303 Stainless Steel	30391159
2 kg	40 mg	4	Traceable	Cylindrical	303 Stainless Steel	30391158
1,500 g	30 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391157
1,000 g	20 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391156
600 g	15 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391155
500 g	10 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391154
400 g	8 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391153
300 g	6 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391152
200 g	4 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391151
160 g	3 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391150
150 g	3 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391149
100 g	2 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391148
80 g	1.6 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391147
70 g	1.6 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391146
60 g	1.6 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391145
50 g	1.2 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391144
40 g	1.05 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391143
30 g	0.9 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391142
20 g	0.7 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391141
10 g	0.5 mg	4	Traceable	Cylindrical	316 Stainless Steel	30391140





# CLASS 4 EB WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## Grip Handle

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
30 kg	600 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391194
25 kg	500 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391193
24 kg	450 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391192
20 kg	400 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391191
16 kg	300 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391190
10 kg	200 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391189
8 kg	150 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391188
5 kg	100 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391187
4 kg	80 mg	4	NVLAP	Grip Handle	303 Stainless Steel	30391185



## Cylindrical

Weight Value	Weight Tolerance	ASTM Class	Certificate Type	Design	Weight Material	Item Number
5 kg	100 mg	4	NVLAP	Cylindrical	303 Stainless Steel	30391186
4 kg	80 mg	4	NVLAP	Cylindrical	303 Stainless Steel	30391184
3 kg	60 mg	4	NVLAP	Cylindrical	303 Stainless Steel	30391183
2 kg	40 mg	4	NVLAP	Cylindrical	303 Stainless Steel	80780146
1,500 g	30 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391182
1,000 g	20 mg	4	NVLAP	Cylindrical	316 Stainless Steel	80780144
600 g	15 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391181
500 g	10 mg	4	NVLAP	Cylindrical	316 Stainless Steel	80780142
400 g	8 mg	4	NVLAP	Cylindrical	316 Stainless Steel	80780140
300 g	6 mg	4	NVLAP	Cylindrical	316 Stainless Steel	80780138
200 g	4 mg	4	NVLAP	Cylindrical	316 Stainless Steel	80780136
160 g	3 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391180
150 g	3 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391179
100 g	2 mg	4	NVLAP	Cylindrical	316 Stainless Steel	80780134
80 g	1.6 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391178
70 g	1.6 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391177
60 g	1.6 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391176
50 g	1.2 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391175
40 g	1.05 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391174
30 g	0.9 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391173
20 g	0.7 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391172
10 g	0.5 mg	4	NVLAP	Cylindrical	316 Stainless Steel	30391171

# CLASS I WEIGHT SETS WITHOUT CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



1

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	1	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391360
50 kg - 1 mg	1	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391359
30 kg - 1 g	1	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391358
30 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391357
25 kg - 1 g	1	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391356
25 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391355
20 kg - 1 g	1	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391354
20 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391353
10 kg - 1 g	1	-	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391352
10 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391351
5 kg - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391350
5 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391349
(2) 2 kg - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390054
(2) 2 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390053
2 kg - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30391348
2 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391347
1 kg - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30391346
1 kg - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391345
500 g - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30391344
500 g - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391343
(2) 200 g - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	80781033
(2) 200 g - 1 mg	1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80781031
200 g - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30391342
200 g - 1 mg	1	-	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391341
100 g - 1 g	1	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	80781029
100 g - 100 mg	1	-	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391340
100 g - 10 mg	1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30391339
100 g - 5 mg	1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391338
100 g - 1mg	1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80781027
50 g - 1 g	1	-	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	80781025
50 g - 100 mg	1	-	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391337
50 g - 10 mg	1	-	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30391336
50 g - 5 mg	1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391335
50 g - 1 mg	1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80781023
20 g - 1 g	1	-	10 g; 20 g; (2) 2 g; 1 g; 5 g	30391334
20 g - 100 mg	1	-	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30391333
20 g - 10 mg	1	-	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30391332
20 g - 5 mg	1	-	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30391331
20 g - 1 mg	1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391330
500 mg - 10 mg	1	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30391329
500 mg - 1 mg	1	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80781021

# CLASS I WEIGHT SETS WITH TRACEABLE CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



1

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	1	Traceable	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391574
50 kg - 1 mg	1	Traceable	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391573
30 kg - 1 g	1	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391572
30 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391571
25 kg - 1 g	1	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391570
25 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391569
20 kg - 1 g	1	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391568
20 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391567
10 kg - 1 g	1	Traceable	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391566
10 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391565
5 kg - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391564
5 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391563
(2) 2 kg - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390060
(2) 2 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390059
2 kg - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30391562
2 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391561
1 kg - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30391560
1 kg - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391559
500 g - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30391558
500 g - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391557
(2) 200 g - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390058
(2) 200 g - 1 mg	1	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390057
200 g - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30391556
200 g - 1 mg	1	Traceable	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391555
100 g - 1 g	1	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30391554
100 g - 100 mg	1	Traceable	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391553
100 g - 10 mg	1	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30391552
100 g - 5 mg	1	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391551
(2) 2g - 1mg	1	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391550
50 g - 1 g	1	Traceable	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30391549
50 g - 100 mg	1	Traceable	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391548
50 g - 10 mg	1	Traceable	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30391547
50 g - 5 mg	1	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391546
50 g - 1 mg	1	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391545
20 g - 1 g	1	Traceable	10 g; 20 g; (2) 2 g; 1 g; 5 g	30391544
20 g - 100 mg	1	Traceable	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30391543
20 g - 10 mg	1	Traceable	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30391542
20 g - 5 mg	1	Traceable	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30391541
20 g - 1 mg	1	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391540
500 mg - 10 mg	1	Traceable	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30391539
500 mg - 1 mg	1	Traceable	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30391538

# CLASS I WEIGHT SETS WITH NVLAP CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



1

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	1	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391392
50 kg - 1 mg	1	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391391
30 kg - 1 g	1	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391390
30 kg - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391389
25 kg - 1 g	1	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391388
25 kg - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391387
20 kg - 1 g	1	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391386
20 kg - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391385
10 kg - 1 g	1	NVLAP	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391384
10 kg - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391383
5 kg - 1 g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391382
5 kg - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391381
(2) 2kg - 1g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390056
(2) 2kg - 1mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390055
2 kg - 1 g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30391380
2 kg - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391379
1 kg - 1 g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30391378
1 kg - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391377
500 g - 1 g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30391376
500 g - 1 mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391375
(2) 200 g - 1g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	80781034
(2) 200 g - 1mg	1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80781032
200 g - 1 g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30391374
200 g - 1 mg	1	NVLAP	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391373
100 g - 1 g	1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	80781030
100 g - 100 mg	1	NVLAP	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391372
100 g - 10 mg	1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30391371
100 g - 5 mg	1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391370
100 g - 1 mg	1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80781028
50 g - 1 g	1	NVLAP	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	80781026
50 g - 100 mg	1	NVLAP	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391369
50 g - 10 mg	1	NVLAP	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30391368
50 g - 5 mg	1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391367
50 g - 1 mg	1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80781024
20 g - 1 g	1	NVLAP	10 g; 20 g; (2) 2 g; 1 g; 5 g	30391366
20 g - 100 mg	1	NVLAP	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30391365
20 g - 10 mg	1	NVLAP	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30391364
20 g - 5 mg	1	NVLAP	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30391363
20 g - 1 mg	1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391362
500 mg - 10 mg	1	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30391361
500 mg - 1 mg	1	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80781022

# CLASS 4 WEIGHT SETS WITHOUT CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



4

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	4	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391228
50 kg - 1 mg	4	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391227
30 kg - 1 g	4	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391226
30 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391225
25 kg - 1 g	4	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391224
25 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391223
20 kg - 1 g	4	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391222
20 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391221
10 kg - 1 g	4	-	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391220
10 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391219
5 kg - 1 g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391218
5 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391217
(2) 2 kg - 1 g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390048
(2) 2 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390047
2 kg - 1 g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30391216
2 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391215
1 kg - 1 g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30391214
1 kg - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391213
500g - 1g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30391212
500 g - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391211
(2) 200 g - 1 g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390046
(2) 200 g - 1 mg	4	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390045
200 g - 1 g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30391210
200 g - 1 mg	4	-	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391209
100 g - 1 g	4	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30391208
100 g - 100 mg	4	-	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391207
100 g - 10 mg	4	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30391206
100 g - 5 mg	4	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391205
100 g - 1 mg	4	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780101
50 g - 1 g	4	-	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30391204
50 g - 100 mg	4	-	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391203
50 g - 10 mg	4	-	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30391202
50 g - 5 mg	4	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391201
50 g - 1 mg	4	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780111
20 g - 1 g	4	-	10 g; 20 g; (2) 2 g; 1 g; 5 g	30391200
20 g - 100 mg	4	-	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30391199
20 g - 10 mg	4	-	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30391198
20 g - 5 mg	4	-	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30391197
20 g - 1 mg	4	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391196
500 mg - 10 mg	4	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30391195
500 mg - 1 mg	4	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80780100

# CLASS 4 WEIGHT SETS WITH TRACEABLE CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



4

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	4	Traceable	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391075
50 kg - 1 mg	4	Traceable	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391074
30 kg - 1 g	4	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391073
30 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391072
25 kg - 1 g	4	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391071
25 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391070
20 kg - 1 g	4	Traceable	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391069
20 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391068
10 kg - 1 g	4	Traceable	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391067
10 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391066
5 kg - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391065
5 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391064
(2) 2 kg - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390044
(2) 2 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390043
2 kg - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30391063
2 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391062
1 kg - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30391061
1 kg - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391060
500 g - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30391059
500 g - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391058
(2) 200 g - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390042
(2) 200 g - 1 mg	4	Traceable	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390041
200 g - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30391057
200 g - 1 mg	4	Traceable	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391056
100 g - 1 g	4	Traceable	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30391055
100 g - 100 mg	4	Traceable	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391054
100 g - 10 mg	4	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30391053
100 g - 5 mg	4	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391052
100 g - 1 mg	4	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391051
50 g - 1 g	4	Traceable	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30391050
50 g - 100 mg	4	Traceable	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391049
50 g - 10 mg	4	Traceable	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30391048
50 g - 5 mg	4	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391047
50 g - 1 mg	4	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391046
20 g - 1 g	4	Traceable	10 g; 20 g; (2) 2 g; 1 g; 5 g	30391045
20 g - 100 mg	4	Traceable	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30391044
20 g - 10 mg	4	Traceable	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30391043
20 g - 5 mg	4	Traceable	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30391042
20 g - 1 mg	4	Traceable	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391041
500 mg - 10 mg	4	Traceable	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30391040
500 mg - 1 mg	4	Traceable	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30391039

# CLASS 4 WEIGHT SETS WITH NVLAP CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



4

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	4	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391262
50 kg - 1 mg	4	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391261
30 kg - 1 g	4	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391260
30 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391259
25 kg - 1 g	4	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391258
25 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391257
20 kg - 1 g	4	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391256
20 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391255
10 kg - 1 g	4	NVLAP	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391254
10 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391253
5 kg - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30391252
5 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30391251
(2) 2 kg - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390052
(2) 2 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390051
2 kg - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30391250
2 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391249
1 kg - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30391248
1 kg - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391247
500 g - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30391246
500 g - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30391245
(2) 200 g - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390050
(2) 200 g - 1 mg	4	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390049
200 g - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30391244
200 g - 1 mg	4	NVLAP	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391243
100 g - 1 g	4	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30391242
100 g - 100 mg	4	NVLAP	10 g; (2) 20 g; 100 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391241
100 g - 10 mg	4	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 50 mg	30391240
100 g - 5 mg	4	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391239
100 g - 1 mg	4	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80850265
50 g - 1 g	4	NVLAP	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30391238
50 g - 100 mg	4	NVLAP	10 g; (2) 20 g; 100 mg; (2) 2 g; (2) 200 mg; 1 g; 50 g; 5 g; 500 mg	30391237
50 g - 10 mg	4	NVLAP	10 g; (2) 20 g; 100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 50 g; 5 g; 50 mg; 500 mg	30391236
50 g - 5 mg	4	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 50 mg	30391235
50 g - 1 mg	4	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80850264
20 g - 1 g	4	NVLAP	10 g; 20 g; (2) 2 g; 1 g; 5 g	30391234
20 g - 100 mg	4	NVLAP	10 g; 100 mg; 20 g; (2) 2 g; (2) 200 mg; 1 g; 5 g; 500 mg	30391233
20 g - 10 mg	4	NVLAP	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 50 mg; 500 mg	30391232
20 g - 5 mg	4	NVLAP	10 g; 100 mg; 20 g; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; 50 mg; 500 mg	30391231
20 g - 1 mg	4	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; 100 mg; 20 g; 10 mg; (2) 200 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30391230
500 mg - 10 mg	4	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 50 mg; 500 mg	30391229
500 mg - 1 mg	4	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80850263

# E1 IND WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
50 kg	25 mg	E1	NVLAP	Cylindrical	316 Stainless Steel	30390927
20 kg	10 mg	E1	NVLAP	Cylindrical	316 Stainless Steel	30390928
10 kg	5 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390929
5 kg	2.5 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390930
2 kg	1 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390931
1 kg	0.5 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390932
500 g	0.25 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390933
200 g	0.1 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390934
100 g	0.05 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390935
50 g	0.03 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390936
20 g	0.025 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390937
10 g	0.02 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390938
5 g	0.016 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390939
2 g	0.012 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390940
1 g	0.01 mg	E1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390941



## Flat

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.005 mg	E1	NVLAP	Flat	304 Stainless Steel	30390942
200 mg	0.003 mg	E1	NVLAP	Flat	304 Stainless Steel	30390943
100 mg	0.005 mg	E1	NVLAP	Flat	304 Stainless Steel	30390944
50 mg	0.004 mg	E1	NVLAP	Flat	304 Stainless Steel	30390945
20 mg	0.003 mg	E1	NVLAP	Flat	304 Stainless Steel	30390946
10 mg	0.003 mg	E1	NVLAP	Flat	304 Stainless Steel	30390947
5 mg	0.003 mg	E1	NVLAP	Flat	304 Stainless Steel; Aluminum	30390948
2 mg	0.003 mg	E1	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30390949
1 mg	0.003 mg	E1	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30390950





# E2 IND WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
50 kg	80 mg	E2	NVLAP	Cylindrical	316 Stainless Steel	30390903
20 kg	30 mg	E2	NVLAP	Cylindrical	316 Stainless Steel	80780306
10 kg	16 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780305
5 kg	8 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780304
2 kg	3 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780303
1 kg	1.6 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780302
500 g	0.8 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780301
200 g	0.3 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780300
100 g	0.16 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780299
50 g	0.1 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780298
20 g	0.05 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780297
10 g	0.06 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780296
5 g	0.05 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780295
2 g	0.04 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780294
1 g	0.03 mg	E2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780293



## Flat

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.025 mg	E2	NVLAP	Flat	304 Stainless Steel	80780292
200 mg	0.02 mg	E2	NVLAP	Flat	304 Stainless Steel	80780291
100 mg	0.016 mg	E2	NVLAP	Flat	304 Stainless Steel	80780290
50 mg	0.012 mg	E2	NVLAP	Flat	304 Stainless Steel	80780289
20 mg	0.01 mg	E2	NVLAP	Flat	304 Stainless Steel	80780288
10 mg	0.008 mg	E2	NVLAP	Flat	304 Stainless Steel	80780287
5 mg	0.006 mg	E2	NVLAP	Flat	304 Stainless Steel; Aluminum	80780286
2 mg	0.006 mg	E2	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80780285
1 mg	0.006 mg	E2	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80780284

# FLAT WEIGHTS WITHOUT CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
50 kg	250 mg	F1	No Certificate	Cylindrical	316 Stainless Steel	80780330
20 kg	100 mg	F1	No Certificate	Cylindrical	316 Stainless Steel	80780329
10 kg	50 mg	F1	No Certificate	Cylindrical	316 Stainless Steel	80780328
5 kg	25 mg	F1	No Certificate	Cylindrical	316 Stainless Steel	80780327
2 kg	10 mg	F1	No Certificate	Cylindrical	316 Stainless Steel	80780326
1 kg	5 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780325
500 g	2.5 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780324
200 g	1 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780323
100 g	0.5 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780322
50 g	0.3 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780321
20 g	0.25 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780320
10 g	0.2 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780319
5 g	0.16 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780318
2 g	0.12 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780317
1 g	0.1 mg	F1	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780316



## Flat

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.08 mg	F1	No Certificate	Flat	304 Stainless Steel	80780315
200 mg	0.06 mg	F1	No Certificate	Flat	304 Stainless Steel	80780314
100 mg	0.05 mg	F1	No Certificate	Flat	304 Stainless Steel	80780313
50 mg	0.04 mg	F1	No Certificate	Flat	304 Stainless Steel	80780312
20 mg	0.03 mg	F1	No Certificate	Flat	304 Stainless Steel	80780311
10 mg	0.025 mg	F1	No Certificate	Flat	304 Stainless Steel	80780310
5 mg	0.02 mg	F1	No Certificate	Flat	304 Stainless Steel; Aluminum	80780309
2 mg	0.02 mg	F1	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	80780308
1 mg	0.02 mg	F1	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	80780307



# FIND WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
50 kg	250 mg	F1	NVLAP	Cylindrical	316 Stainless Steel	30390901
20 kg	100 mg	F1	NVLAP	Cylindrical	316 Stainless Steel	80780353
10 kg	50 mg	F1	NVLAP	Cylindrical	316 Stainless Steel	80780352
5 kg	25 mg	F1	NVLAP	Cylindrical	316 Stainless Steel	80780351
2 kg	10 mg	F1	NVLAP	Cylindrical	316 Stainless Steel	80780350
1 kg	5 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780349
500 g	2.5 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780348
200 g	1 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780347
100 g	0.5 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780346
50 g	0.3 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780345
20 g	0.25 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780344
10 g	0.2 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780343
5 g	0.16 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780342
2 g	0.12 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780341
1 g	0.1 mg	F1	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	80780340



## Flat

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.08 mg	F1	NVLAP	Flat	304 Stainless Steel	80780339
200 mg	0.06 mg	F1	NVLAP	Flat	304 Stainless Steel	80780338
100 mg	0.05 mg	F1	NVLAP	Flat	304 Stainless Steel	80780337
50 mg	0.04 mg	F1	NVLAP	Flat	304 Stainless Steel	80780336
20 mg	0.03 mg	F1	NVLAP	Flat	304 Stainless Steel	80780335
10 mg	0.025 mg	F1	NVLAP	Flat	304 Stainless Steel	80780334
5 mg	0.02 mg	F1	NVLAP	Flat	304 Stainless Steel; Aluminum	80780333
2 mg	0.02 mg	F1	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80780332
1 mg	0.02 mg	F1	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	80780331

# F2 IND WEIGHTS WITHOUT CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
50 kg	800 mg	F2	No Certificate	Cylindrical	316 Stainless Steel	30390853
20 kg	300 mg	F2	No Certificate	Cylindrical	316 Stainless Steel	30390854
10 kg	160 mg	F2	No Certificate	Cylindrical	316 Stainless Steel	30390855
5 kg	80 mg	F2	No Certificate	Cylindrical	316 Stainless Steel	30390856
2 kg	30 mg	F2	No Certificate	Cylindrical	316 Stainless Steel	30390857
1 kg	16 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390858
500 g	8 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390859
200 g	3 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390860
100 g	1.6 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390861
50 g	1 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390862
20 g	0.8 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390863
10 g	0.6 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390864
5 g	0.5 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390865
2 g	0.4 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390866
1 g	0.3 mg	F2	No Certificate	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390867



## Flat

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.25 mg	F2	No Certificate	Flat	304 Stainless Steel	30390868
200 mg	0.2 mg	F2	No Certificate	Flat	304 Stainless Steel	30390869
100 mg	0.16 mg	F2	No Certificate	Flat	304 Stainless Steel	30390870
50 mg	0.12 mg	F2	No Certificate	Flat	304 Stainless Steel	30390871
20 mg	0.1 mg	F2	No Certificate	Flat	304 Stainless Steel	30390872
10 mg	0.08 mg	F2	No Certificate	Flat	304 Stainless Steel	30390873
5 mg	0.06 mg	F2	No Certificate	Flat	304 Stainless Steel; Aluminum	30390874
2 mg	0.06 mg	F2	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	30390875
1 mg	0.06 mg	F2	No Certificate	Flat	Aluminum; 3003-H14 Aluminum	30390876



# F2 IND WEIGHTS WITH NVLAP CERTIFICATE

Individual Calibration Weights Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## Cylindrical

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
50 kg	800 mg	F2	NVLAP	Cylindrical	316 Stainless Steel	30390877
20 kg	300 mg	F2	NVLAP	Cylindrical	316 Stainless Steel	30390878
10 kg	160 mg	F2	NVLAP	Cylindrical	316 Stainless Steel	30390879
5 kg	80 mg	F2	NVLAP	Cylindrical	316 Stainless Steel	30390880
2 kg	30 mg	F2	NVLAP	Cylindrical	316 Stainless Steel	30390881
1 kg	16 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8	30390882
500 g	8 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8	30390883
200 g	3 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8	30390884
100 g	1.6 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8	30390885
50 g	1 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390886
20 g	0.8 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8	30390887
10 g	0.6 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8	30390888
5 g	0.5 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8	30390889
2 g	0.4 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390890
1 g	0.3 mg	F2	NVLAP	Cylindrical	Troemner Alloy 8; Troemner Alloy 8.	30390891



## Flat

Weight Value	Weight Tolerance	OIML Class	Certificate Type	Design	Weight Material	Item Number
500 mg	0.25 mg	F2	NVLAP	Flat	304 Stainless Steel	30390892
200 mg	0.2 mg	F2	NVLAP	Flat	304 Stainless Steel	30390893
100 mg	0.16 mg	F2	NVLAP	Flat	304 Stainless Steel	30390894
50 mg	0.12 mg	F2	NVLAP	Flat	304 Stainless Steel	30390895
20 mg	0.1 mg	F2	NVLAP	Flat	304 Stainless Steel	30390896
10 mg	0.08 mg	F2	NVLAP	Flat	304 Stainless Steel	30390897
5 mg	0.06 mg	F2	NVLAP	Flat	304 Stainless Steel; Aluminum	30390898
2 mg	0.06 mg	F2	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30390899
1 mg	0.06 mg	F2	NVLAP	Flat	Aluminum; 3003-H14 Aluminum	30390900

# E1 WEIGHT SETS WITH NVLAP CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## E1

Weight Set Range	OIML Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	E1	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390904
50 kg - 1 mg	E1	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390905
20 kg - 1 g	E1	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390906
20 kg - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390907
10 kg - 1 g	E1	NVLAP	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390908
10 kg - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390909
5 kg - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390911
5 kg - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390912
2 kg - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30390913
2 kg - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390914
(2) 2 kg - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390037
(2) 2 kg - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390038
1 kg - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30390915
1 kg - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390916
500 g - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30390917
500 g - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390918
200 g - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30390919
200 g - 1 mg	E1	NVLAP	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390920
(2) 200 g - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390039
(2) 200 g - 1 mg	E1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390040
100 g - 1 g	E1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30390921
100 g - 1 mg	E1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390922
50 g - 1 g	E1	NVLAP	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30390923
50 g - 1 mg	E1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390924
500 mg - 1 mg	E1	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390926
5 g - 1 mg	E1	NVLAP	100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390925
5 kg - 1 kg	E1	NVLAP	(2) 2 kg; 1 kg; 5 kg	30390910



# E2 WEIGHT SETS WITH NVLAP CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## E2

Weight Set Range	OIML Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	E2	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780407
50 kg - 1 mg	E2	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780406
20 kg - 1 g	E2	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780405
20 kg - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780404
10 kg - 1 g	E2	NVLAP	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780403
10 kg - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780402
5 kg - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780400
5 kg - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780399
2 kg - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	80780398
2 kg - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780397
(2) 2 kg - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	80780396
(2) 2 kg - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780395
1 kg - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	80780394
1 kg - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780393
500 g - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	80780392
500 g - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780391
200 g - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	80780390
200 g - 1 mg	E2	NVLAP	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780389
(2) 200 g - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	80780388
(2) 200 g - 1 mg	E2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780387
100 g - 1 g	E2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	80780386
100 g - 1 mg	E2	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780385
50 g - 1 g	E2	NVLAP	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	80780384
50 g - 1 mg	E2	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780383
500 mg - 1 mg	E2	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80780381
5 g - 1 mg	E2	NVLAP	100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80780382
5 kg - 1 kg	E2	NVLAP	(2) 2 kg; 1 kg; 5 kg	80780401

# FI WEIGHT SETS WITHOUT CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## F1

Weight Set Range	OIML Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	F1	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780433
50 kg - 1 mg	F1	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780434
20 kg - 1 g	F1	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780432
20 kg - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780431
10 kg - 1 g	F1	-	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780430
10 kg - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780429
5 kg - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780427
5 kg - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780426
2 kg - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	80780425
2 kg - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780424
(2) 2 kg - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	80780423
(2) 2 kg - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780422
1 kg - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	80780421
1 kg - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780420
500 g - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	80780419
500 g - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780418
200 g - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	80780417
200 g - 1 mg	F1	-	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780416
(2) 200 g - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	80780415
(2) 200 g - 1 mg	F1	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780414
100 g - 1 g	F1	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	80780413
100 g - 1 mg	F1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780412
50 g - 1 g	F1	-	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	80780411
50 g - 1 mg	F1	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780410
500 mg - 1 mg	F1	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80780408
5 g - 1 mg	F1	-	100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80780409
5 kg - 1 kg	F1	-	(2) 2 kg; 1 kg; 5 kg	80780428





# F1 WEIGHT SETS WITH NVLAP CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## F1

Weight Set Range	OIML Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	F1	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780461
50 kg - 1 mg	F1	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780460
20 kg - 1 g	F1	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780459
20 kg - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780458
10 kg - 1 g	F1	NVLAP	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780457
10 kg - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780456
5 kg - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	80780454
5 kg - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	80780453
2 kg - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	80780452
2 kg - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780451
(2) 2 kg - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	80780450
(2) 2 kg - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780449
1 kg - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	80780448
1 kg - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780447
500 g - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	80780446
500 g - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	80780445
200 g - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	80780444
200 g - 1 mg	F1	NVLAP	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780443
(2) 200 g - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	80780442
(2) 200 g - 1 mg	F1	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780441
100 g - 1 g	F1	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	80780440
100 g - 1 mg	F1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780439
50 g - 1 g	F1	NVLAP	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	80780438
50 g - 1 mg	F1	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	80780437
500 mg - 1 mg	F1	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80780435
5 g - 1 mg	F1	NVLAP	100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	80780436
5 kg - 1 kg	F1	NVLAP	(2) 2 kg; 1 kg; 5 kg	80780455

# F2 WEIGHT SETS WITHOUT CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## F2

Weight Set Range	OIML Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	F2	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390807
50 kg - 1 mg	F2	-	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390808
20 kg - 1 g	F2	-	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390809
20 kg - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390810
10 kg - 1 g	F2	-	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390811
10 kg - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390812
5 kg - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390814
5 kg - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390815
2 kg - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30390816
2 kg - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390817
(2) 2 kg - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390029
(2) 2 kg - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390030
1 kg - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30390818
1 kg - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390819
500 g - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30390820
500 g - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390821
200 g - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30390822
200 g - 1 mg	F2	-	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390823
(2) 200 g - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390031
(2) 200 g - 1 mg	F2	-	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390032
100 g - 1 g	F2	-	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30390824
100 g - 1 mg	F2	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390825
50 g - 1 g	F2	-	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30390826
50 g - 1 mg	F2	-	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390827
500 mg - 1 mg	F2	-	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390829
5 g - 1 mg	F2	-	100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390828
5 kg - 1 kg	F2	-	(2) 2 kg; 1 kg; 5 kg	30390813



# F2 WEIGHT SETS WITH NVLAP CERTIFICATE

Calibration Weight Sets Adjusted to Meet or Exceed OIML Class E1, E2, F1, and F2 Tolerances



## F2

Weight Set Range	OIML Class	Certificate Type	Set Contents	Item Number
50 kg - 1 g	F2	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390830
50 kg - 1 mg	F2	NVLAP	(2) 20 kg; 50 kg; (2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390831
20 kg - 1 g	F2	NVLAP	(2) 2 g; (2) 200 g; 20 kg; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390832
20 kg - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 20 kg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390833
10 kg - 1 g	F2	NVLAP	(2) 2 g; (2) 200 g; 10 g; (2) 20 g; 100 g; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390834
10 kg - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 10 kg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390835
5 kg - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g; 5 kg	30390837
5 kg - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg; 5 kg	30390838
2 kg - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 2 kg; 500 g	30390839
2 kg - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 2 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390840
(2) 2 kg - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 500 g	30390033
(2) 2 kg - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; (2) 2 kg; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390034
1 kg - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 1 kg; 500 g	30390841
1 kg - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 1 kg; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390842
500 g - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g; 500 g	30390843
500 g - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; 500 g; (2) 2 mg; 50 mg; 1 mg	30390844
200 g - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g; 200 g	30390845
200 g - 1 mg	F2	NVLAP	(2) 2 g; (2) 20 mg; 200 g; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390846
(2) 200 g - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; (2) 200 g; 1 g; 50 g; 5 g	30390035
(2) 200 g - 1 mg	F2	NVLAP	(2) 2 g; (2) 200 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390036
100 g - 1 g	F2	NVLAP	10 g; (2) 20 g; 100 g; (2) 2 g; 1 g; 50 g; 5 g	30390847
100 g - 1 mg	F2	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390848
50 g - 1 g	F2	NVLAP	10 g; (2) 20 g; (2) 2 g; 1 g; 50 g; 5 g	30390849
50 g - 1 mg	F2	NVLAP	(2) 2 g; (2) 20 mg; 500 mg; 10 g; (2) 20 g; 100 mg; 10 mg; (2) 200 mg; 1 g; 50 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 1 mg	30390850
500 mg - 1 mg	F2	NVLAP	100 mg; 10 mg; (2) 200 mg; (2) 20 mg; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390852
5 g - 1 mg	F2	NVLAP	100 mg; 10 mg; (2) 2 g; (2) 200 mg; (2) 20 mg; 1 g; 5 g; 5 mg; (2) 2 mg; 50 mg; 500 mg; 1 mg	30390851
5 kg - 1 kg	F2	NVLAP	(2) 2 kg; 1 kg; 5 kg	30390836

# CAL-PAKS

Calibration Weight Sets Adjusted to Meet or Exceed ASTM Class 1-4 Tolerances



## NVLAP

Weight Set Range	ASTM Class	Certificate Type	Set Contents	Item Number
2 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	200 mg; 2 g; 1 mg	30391799
5 g - 1 mg	UltraClass; Troemner UltraClass	NVLAP	5 g; 500 mg; 1 mg	30391798



## 1

Set Capacity	Weight Set Range	ASTM Class	Density at 20°C	Item Number
55.2 g		1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30390007
57 g	50 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391795
110.02 g	100 g - 20 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391794
110.2 g	100 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391793
112 g	100 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391792
220.2 g	200 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391791
222 g	200 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391790
550.02 g	500 g - 20 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391789
550.2 g	500 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391788
552 g	500 g - 2 g	1	8.03 g/cm <sup>3</sup>	30391787
1,102 g	1 kg - 2 g	1	8.03 g/cm <sup>3</sup>	30391786
1,120 g	1 kg - 20 g	1	8.03 g/cm <sup>3</sup>	30391785
2,202 g	2 kg - 2 g	1	2 kg is 7.95 g/cm <sup>3</sup> ; 1 kg and below are 8.03 g/cm <sup>3</sup>	30391784
2,220 g	2 kg - 20 g	1	2 kg is 7.95 g/cm <sup>3</sup> ; 1 kg and below are 8.03 g/cm <sup>3</sup>	30391783
5,502 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390005
5,502 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390006
5,520 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390004
5,520 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30391782
5,202 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390002
5,202 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390003
5,220 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390000
5,220 g		1	1 kg and below are 8.03 g/cm <sup>3</sup> ; 2 kg and above are 7.95 g/cm <sup>3</sup>	30390001
22.02 g	20 g - 20 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391797
22.2 g	20 g - 200 mg	1	500 mg and below are 7.95 g/cm <sup>3</sup> ; 1 g and above are 8.03 g/cm <sup>3</sup>	30391796



# CAST IRON GRIP METRIC WEIGHTS

Individual Scale Calibration Weights Adjusted to Meet or Exceed NIST  
Class F Tolerances



## Grip Handle

Weight Value	NIST Class	Certificate Type	Design	Weight Material	Item Number
2 kg	F	-	Grip Handle	Cast Iron	80850300
5 kg	F	-	Grip Handle	Cast Iron	80850301
10 kg	F	-	Grip Handle	Cast Iron	80850302
20 kg	F	-	Grip Handle	Cast Iron	80850303
25 kg	F	-	Grip Handle	Cast Iron	80850304
50 kg	F	-	Grip Handle	Cast Iron	80850305
100 kg	F	-	Grip Handle	Cast Iron	30391713
200 kg	F	-	Grip Handle	Cast Iron	30391714
250 kg	F	-	Grip Handle	Cast Iron	30391715
500 kg	F	-	Grip Handle	Cast Iron	30391716
1,000 kg	F	-	Grip Handle	Cast Iron	30391717
2 kg	F	Traceable	Grip Handle	Cast Iron	30391736
5 kg	F	Traceable	Grip Handle	Cast Iron	30391737
10 kg	F	Traceable	Grip Handle	Cast Iron	30391738
20 kg	F	Traceable	Grip Handle	Cast Iron	30391739
25 kg	F	Traceable	Grip Handle	Cast Iron	30391740
50 kg	F	Traceable	Grip Handle	Cast Iron	30391741
100 kg	F	Traceable	Grip Handle	Cast Iron	30391742
200 kg	F	Traceable	Grip Handle	Cast Iron	30391743
250 kg	F	Traceable	Grip Handle	Cast Iron	30391744
500 kg	F	Traceable	Grip Handle	Cast Iron	30391745
1,000 kg	F	Traceable	Grip Handle	Cast Iron	30391746
2 kg	F	NVLAP	Grip Handle	Cast Iron	30391695
5 kg	F	NVLAP	Grip Handle	Cast Iron	30391696
10 kg	F	NVLAP	Grip Handle	Cast Iron	30391697
20 kg	F	NVLAP	Grip Handle	Cast Iron	30391698
25 kg	F	NVLAP	Grip Handle	Cast Iron	30391699
50 kg	F	NVLAP	Grip Handle	Cast Iron	30391700
100 kg	F	NVLAP	Grip Handle	Cast Iron	30391701
200 kg	F	NVLAP	Grip Handle	Cast Iron	30391702
250 kg	F	NVLAP	Grip Handle	Cast Iron	30391703
500 kg	F	NVLAP	Grip Handle	Cast Iron	30391704
1,000 kg	F	NVLAP	Grip Handle	Cast Iron	30391705

# CAST IRON GRIP AVD WEIGHTS

Individual Scale Calibration Weights Adjusted to Meet or Exceed NIST Class F Tolerances



## Grip Handle

Weight Value	NIST Class	Certificate Type	Design	Weight Material	Item Number
5 lb	F	-	Grip Handle	Cast Iron	80850306
10 lb		-	Grip Handle	Cast Iron	30391800
10 lb	F	-	Grip Handle	Cast Iron	80850307
20 lb	F	-	Grip Handle	Cast Iron	80850308
25 lb	F	-	Grip Handle	Cast Iron	80850309
30 lb	F	-	Grip Handle	Cast Iron	30391723
50 lb	F	-	Grip Handle	Cast Iron	80850310
250 lb	F	-	Grip Handle	Cast Iron	30391727
100 lb	F	-	Grip Handle	Cast Iron	80850311
200 lb	F	-	Grip Handle	Cast Iron	30391726
500 lb	F	-	Grip Handle	Cast Iron	30391728
1,000 lb	F	-	Grip Handle	Cast Iron	30391729
1,250 lb	F	-	Grip Handle	Cast Iron	30391730
1,500 lb	F	-	Grip Handle	Cast Iron	30391731
2,000 lb	F	-	Grip Handle	Cast Iron	30391732
2,500 lb	F	-	Grip Handle	Cast Iron	30391733
3,000 lb	F	-	Grip Handle	Cast Iron	30391734
5,000 lb	F	-	Grip Handle	Cast Iron	30391735
5 lb	F	Traceable	Grip Handle	Cast Iron	30391748
10 lb	F	Traceable	Grip Handle	Cast Iron	30391749
20 lb	F	Traceable	Grip Handle	Cast Iron	30391750
25 lb	F	Traceable	Grip Handle	Cast Iron	30391751
30 lb	F	Traceable	Grip Handle	Cast Iron	30391752
50 lb	F	Traceable	Grip Handle	Cast Iron	30391753
250 lb	F	Traceable	Grip Handle	Cast Iron	30391756
100 lb	F	Traceable	Grip Handle	Cast Iron	30391754
200 lb	F	Traceable	Grip Handle	Cast Iron	30391755
500 lb	F	Traceable	Grip Handle	Cast Iron	30391757
1,000 lb	F	Traceable	Grip Handle	Cast Iron	30391758
2,000 lb	F	Traceable	Grip Handle	Cast Iron	30391761
2,500 lb	F	Traceable	Grip Handle	Cast Iron	30391762
3,000 lb	F	Traceable	Grip Handle	Cast Iron	30391763
1,250 lb	F	Traceable	Grip Handle	Cast Iron	30391759
5,000 lb	F	Traceable	Grip Handle	Cast Iron	30391764
1,500 lb	F	Traceable	Grip Handle	Cast Iron	30391760
5 lb	F	NVLAP	Grip Handle	Cast Iron	30391765
10 lb	F	NVLAP	Grip Handle	Cast Iron	30391766
20 lb	F	NVLAP	Grip Handle	Cast Iron	30391767
25 lb	F	NVLAP	Grip Handle	Cast Iron	30391768
30 lb	F	NVLAP	Grip Handle	Cast Iron	30391769
50 lb	F	NVLAP	Grip Handle	Cast Iron	30391770
250 lb	F	NVLAP	Grip Handle	Cast Iron	30391773
100 lb	F	NVLAP	Grip Handle	Cast Iron	30391771
200 lb	F	NVLAP	Grip Handle	Cast Iron	30391772
500 lb	F	NVLAP	Grip Handle	Cast Iron	30391774
1,000 lb	F	NVLAP	Grip Handle	Cast Iron	30391775
1,250 lb	F	NVLAP	Grip Handle	Cast Iron	30391776
1,500 lb	F	NVLAP	Grip Handle	Cast Iron	30391777
2,000 lb	F	NVLAP	Grip Handle	Cast Iron	30391778
2,500 lb	F	NVLAP	Grip Handle	Cast Iron	30391779
3,000 lb	F	NVLAP	Grip Handle	Cast Iron	30391780
5,000 lb	F	NVLAP	Grip Handle	Cast Iron	30391781



# Accessories for Weighing



*Track your results on paper when you connect a balance or scale to a printer from OHAUS.*



# SF40A

OHAUS Value in a Full-Featured, Portable Printer.

## Communication

RS233 (included)

## Construction

ABS Housing

## Design Features

Status indicator, 40 characters per line, perform zero and tare operations directly from the printer

## Operation

AC adapter (included)



The statistics and totalization modes and real time clock complement OHAUS weighing instruments' application modes and offer functionality that assists the reporting processes.

SF40A helps support the efficiency of the weighing and recording processes. RS232 interface and PC configuration software make setting up and using the printer fast and simple.

With the ability to print in 13 different languages, SF40A can print in the language of the connected device to support universal operation.

Model	Printer Type	Print Speed	Item Number
SF40A	Impact Dot Matrix	1.2 lines per second	30064203

Accessories	Item Number	Accessories	Item Number
Paper Roll, 57.5mm, SF40A	12120799	Ink Ribbon SF40A	30529322
Axis, Paper Roll, SF40A	30063920	Cable RS9 M/F 1m	30529323





# STP103

*Economical Palm-Sized Thermal Printer.*

## Communication

RS232 (cable available as an accessory)

## Construction

ABS Housing

## Design Features

Status indicator, paper feeder, graphical printing capabilities

## Operation

AC Adapter (Included)



This ultra-compact printer has a very small footprint and also features very low power consumption, requiring limited resources from your workspace.

The extremely fast STP103 offers 42 column printing at a speed of approximately 11.8 lines per second.

Loading paper into the printer is quick and easy and when the paper becomes low, the printer will suspend printing in order to prevent printing errors resulting from lack of paper.

Model	Printer Type	Interface Type	Print Speed	Paper Type	Item Number
STP103	Direct Thermal	RS232 Serial	1.97 inches / sec	Thermal Paper, 57.5mm (W)	80251992

Accessories	Item Number
Adapter, 25 Pin-9 Pin, STP103	80251930
Paper Roll, Thermal, STP103	80251931
Cable, ST103-AR EP VP	80252580

Accessories	Item Number
Cable ST103-EX MB PA TxxP	80252581
Cable, ST103-TC TR	80252583
Cable, ST103-CKW55 TxxXW	80252584



Time/Date

# ZEBRA GK-420T

Economical Barcode Label Printer

## Applications

Thermal Transfer Barcode Label Printing for Defender 5000 (TD52) and Ranger 7000.

## Communication

RS232 (cable 80500525 required). Other communication not supported for OHAUS products.

## Construction

ABS Housing

## Design Features

Status indicator, paper feeder, graphical printing capabilities, AC adapter power (included).

Requires RS232 Kit 30037448 for connection to Ranger 7000.

Both Ranger 7000 and Defender 5000 (TD52) require RS232 Cable 80500525.



Datalogic QD2131  
Barcode Scanner  
Accessory

Fast label printing with full part information—supports EPL2 and ZLP II Zebra programming languages.

Quickly configured with Ranger 7000 and Defender 5000 (TD52 models) using ScaleMate and print templates available on OHAUS DMX for dealers.

Easy label loading—accepts wide range of labels.

Model	Printer Type	Print Speed	Media Specifications	Operating Temperature	Item Number
GK420T	Thermal Transfer, 203 dpi/8 dots per mm	4" / 102 mm per second maximum	0.75" / 19 mm to 4.25" / 108 mm wide 0.38" / 9.7 mm to 39" / 990 mm long 0.003" / 0.08 mm to 0.0075" / 0.19 mm thick Max. roll size 5"/127 mm O.D.	40° F to 105° F / 4.4° C to 41° C 10% to 90% non-condensing relative humidity	30611855
Accessories			Item Number	Accessories	
Datalogic Barcode Scanner QD2131			30593703	Cable, RS232 for TD52 and Ranger 7000	
RS232 Kit, Ranger 7000			30037448	USB Host (required for QD2131 to TD52)	
				30572923	

# Laboratory Equipment



*OHAUS is now offering equipment designed for every area of the laboratory, giving you the opportunity to Do More. From stirrers to shakers, lifts to clamps, our newly expanded portfolio is filled with products perfect for life sciences laboratories, giving you countless opportunities to fill every inch of your laboratory.*



# FRONTIER™ 5000 SERIES MICRO

Dependable Benchtop Micro Centrifuges, Ideal for High-speed Lab Applications

## Display

LCD, Backlight, 2 lines

## Construction

Brushless quiet motor, small footprint

## Design Features

High sample throughput, multi-safety control, personal program function

## Operation

AC Power (Included)



Excellent functionality when used with rotors compatible with 1.5/2.0ml or 5ml microtubes with high throughput & biocontainment options, spin columns, PCR strips, cryo tubes & hematocrit capillaries.

Designed for ease of operation, Frontier Micro centrifuges feature convenient controls on an intuitive interface, allowing responsive operation – even when wearing gloves.

Packaging all their functionality within a small footprint, Frontier Micro centrifuges save valuable space on the lab bench.

Model	Speed Range	Temp Range	Maximum Relative Centrifuge Force (x g)	Maximum Capacity(Rotor)	Item Number
FC5513 120V	200 rpm - 13,500 rpm		17,317 g	24 × 1.5 / 2.0 ml	30393188
FC5513 230V	200 rpm - 13,500 rpm		17,317 g	24 × 1.5 / 2.0 ml	30393187
FC5513+R01 120V	200 rpm - 13,500 rpm		17,317 g	24 × 1.5 / 2.0 ml	30370692
FC5513+R01 230V	200 rpm - 13,500 rpm		17,317 g	24 × 1.5 / 2.0 ml	30370691
FC5515 120V	200 rpm - 15,200 rpm		21,953 g	44 × 1.5 / 2.0ml; 12 × 5 ml	30130867
FC5515 230V	200 rpm - 15,200 rpm		21,953 g	44 × 1.5 / 2.0ml; 12 × 5 ml	30130866
FC5515R 120V	200 rpm - 15,200 rpm	-4 °F ; 104 °F (-20 °C ; 40 °C)	21,953 g	44 × 1.5 / 2.0ml; 12 × 5 ml	30130869
FC5515R 230V	200 rpm - 15,200 rpm	-4 °F ; 104 °F (-20 °C ; 40 °C)	21,953 g	44 × 1.5 / 2.0ml; 12 × 5 ml	30130868

Accessories	Item Number
Rotor, Angle, 30x1.5/2.0ml, Sealable	30130872
Rotor, Angle, 12x5ml, Sealable	30130873
Rotor, Angle, 4x8-Place PCR Stripes	30130874
Rotor, Hematocrit, 24xCapillaries	30130881
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884
Adapter, D8mm, 0.5ml Tubes x6	30130885

Accessories	Item Number
Angle Rotor 24 × 2.0 ml Spin Column	30210898
Rotor, Angle, 44x1.5/2.0ml, v2	30372717
Rotor Angle 24x1.5/2.0ml BIOSEALS V2	30472302
Rotor Hematocrit 24xCapillaries V2	30472304
Rotor Angle 24x1.5/2.0ml BIOSEALS V2	30642371

# FRONTIER™ 5000 SERIES MULTI PRO

Powerful and Versatile Universal Centrifuges for Virtually Every Lab Application

## Display

Backlit Liquid Crystal Display (LCD)

## Construction

Corrosion-resistant stainless steel chamber with Polycarbonate/ABS plastic lid

## Design Features

Ten acceleration & deceleration rates, selection of running time from 10s to 99h 59min or continuous, quick spin, CFC-free refrigeration system, sample temp. indication (refrigerated models), lid-locking system, over-speed protection, dual imbalance sensing

## Operation

Designed to be used with a variety of rotors and accessories



Our multi-purpose centrifuges offer a high-speed centrifugation platform which can be customized to fit workflow needs using a wide variety of rotors and accessories.

The intuitive design of the centrifuges and accessories enables easy access to parameter settings and quick rotation between applications. Features include automatic rotor recognition and backlit LCD.

The performance of these centrifuges is propelled by German engineering and high quality components for reliable use. Constructed from chemical-resistant stainless steel to ensure durability in lab use.

Model	Speed Range	Temp Range	Maximum Relative Centrifuge Force (x g)	Maximum Capacity(Rotor)	Item Number
FC5714 120V	200 rpm - 14,000 rpm		18,624 g	4 × 100 ml	30314811
FC5714 230V	200 rpm - 14,000 rpm		18,624 g	4 × 100 ml	30314810
FC5718 120V	200 rpm - 18,000 rpm		23,542 g	4 × 100 ml	30314813
FC5718 230V	200 rpm - 18,000 rpm		23,542 g	4 × 100 ml	30314812
FC5718R 120V	200 rpm - 18,000 rpm	-4 °F ; 104 °F (-20 °C ; 40 °C)	23,542 g	4 × 100 ml	30314815
FC5718R 230V	200 rpm - 18,000 rpm	-4 °F ; 104 °F (-20 °C ; 40 °C)	23,542 g	4 × 100 ml	30314814
FC5816 120V	200 rpm - 15,000 rpm		21,379 g	6 × 250 ml	30314817
FC5816 230V	200 rpm - 15,000 rpm		21,379 g	6 × 250 ml	30314816
FC5816R 120V	200 rpm - 16,000 rpm	-4 °F ; 104 °F (-20 °C ; 40 °C)	24,325 g	6 × 250 ml	30314819
FC5816R 230V	200 rpm - 16,000 rpm	-4 °F ; 104 °F (-20 °C ; 40 °C)	24,325 g	6 × 250 ml	30314818
FC5916 120V	200 rpm - 16,000 rpm		24,325 g	4 × 750 ml	30553037
FC5916R 120V	200 rpm - 16,000 rpm	-4 °F ; 104 °F (-20 °C ; 40 °C)	26,331 g	4 × 750 ml	30553103

Accessories	Item Number
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884
Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 7ml Tubes x2	30130889
Adapter, D13.5mm, 5ml Tubes x2	30130890
Adapter, D26mm, 30ml Tubes x2	30130891
Adapter, D18mm, 16ml Tubes x2	30130892
Adapter, D17mm, 15ml Tubes x2	30130893
Adapter D17mm 15ml RB/FA Tubes x2	30130894
Rack, 8x4-10ml D16mm Vac, 2/pk	30304367
Adapter, 9x1.5/2.0ml D11mm, 2/pk	30304368
Adapter, 8x1.5ml D11mm, 2/pk	30304369
Adapter, 5x10ml D16mm RB, 2/pk	30304370
Adapter, 4x15ml D17mm FA, 2/pk	30304371
Adapter, 2x30ml D26mm RB, 2/pk	30304372

Accessories continued on next page

Accessories	Item Number
Adapter, 1x50ml D29mm RB, 2/pk	30304373
Adapter, 1x50ml D30mm FA, 2/pk	30304374
Rack, 4x50ml D29mm FA, 2/pk	30304375
Rack, 10x15ml D17mm FA, 2/pk	30314583
Rack, 14x5-7ml D13mm Vac/Sar, 2/pk	30314584
Rack, 12x4-10ml D16mm Vac/Sar, 2/pk	30314585
Rotor, Swing out, 4x250ml, ID	30314820
Rotor, Angle, 6x250ml FB, ID	30314821
Rotor, Swing out, 4x100ml, ID	30314822
Rotor, Swing out, 4x100ml, ID, Sealable	30314823
Rotor Swing out 2x3MTP w/ bucket ID	30314824
Rotor, Angle, 6x85ml RB, ID, Hi	30314825
Rotor, Angle, 6x85ml RB, ID	30314826
Rotor, Angle, 4x85ml RB, ID, Hi	30314827
Rotor, Swing out, 16x50ml, ID	30314828

## FRONTIER™ 5000 SERIES MULTI PRO ACCESSORIES

Accessories	Item Number
Rotor, Angle, 10x50ml FA, ID	30314829
Rotor, Angle, 6x50ml RB/FA, ID	30314830
Rotor, Angle, 6x50ml RB, ID, Hi	30314831
Rotor, Angle, 30x15ml RB/FA, ID	30314832
Rotor, Angle, 20x10ml RB, ID, Hi	30314833
Rotor, Angle, 12x15ml RB/FA, ID	30314834
Rotor, Angle, 30x1.5/2.0ml, ID, Sealable	30314836
Rotor, Angle, 24x1.5/2.0ml, ID	30314838
Rotor, Angle, 12x1.5/2.0ml, ID	30314839
Rotor, Angle, 4x8-w PCR Strip, ID	30314841
Rack, 1x100ml D46mm RB, 2/pk	30314842
Rack, 1x85ml D38mm RB, 2/pk	30314843
Rack, 1x50ml D34mm RB, 2/pk	30314844
Rack, 1x50ml D29mm RB, 2/pk	30314845
Rack, 1x50ml D29mm FA, 2/pk	30314846
Rack, 1x50ml D29mm Rim, 2/pk	30314847
Rack, 1x30ml D25mm Rim, 2/pk	30314848
Rack, 1x25ml D25mm RB, 2/pk	30314849
Rack, 2x15ml D17mm FA, 2/pk	30314850
Rack, 1x15ml D17mm Rim, 2/pk	30314851
Rack, 7x15ml D17mm RB, 2/pk	30314852
Rack, 9x5-7ml D13mm RB, 2/pk	30314853
Rack, 10x1.5ml D11mm, 2/pk	30314854
Rack, 9x4.5ml D12mm FB, 2/pk	30314855
Rack, 7x5-7ml D13mm RB, 2/pk	30314856
Rack, 7x5-7ml D13mm Vac, 2/pk	30314857
Rack, 5x4-10ml D16mm Sar, 2/pk	30314858
Bucket, 100ml w/o Cap, 2/pk	30314860
Bucket, 100ml w/ Cap, Sealable, 2/pk	30314861
Screw Cap, 100ml Bucket, Sealable, 2/pk	30314862
O-ring, 100ml Bucket, Sealable, 10/pk	30314863
Rack, 1x100ml D40mm RB, 2/pk	30314864
Rack, 1x85ml D38mm RB, 2/pk, V2	30314865
Rack, 1x50ml D34mm RB, 2/pk, V2	30314866
Rack, 1x50ml D29mm RB, 2/pk, V2	30314867
Rack, 1x50ml D29mm FA, 2/pk, V2	30314868
Rack, 1x50ml D29mm Rim, 2/pk, V2	30314869
Rack, 1x30ml D25mm Rim, 2/pk, V2	30314870
Rack, 1x25ml D25mm RB, 2/pk, v2	30314871
Rack, 1x15ml D17mm FA, 2/pk	30314872
Rack, 2x15ml D17mm FA, 2/pk, V2	30314873
Rack, 2x15ml D17mm Rim, 2/pk	30314874
Rack, 4x15ml D17mm RB, 2/pk	30314875
Rack, 7x5-7ml D13mm RB, 2/pk, V2	30314876
Rack, 5x1.5ml D11mm, 2/pk	30314877
Rack, 3x10ml D17mm Sar, 2/pk	30314878
Rack, 4x5-7ml D13mm RB, 2/pk	30314879
Rack, 4x10ml D17mm Vac, 2/pk	30314880
Bucket, 2x50ml D29mm FA, w/ Rack, 2/pk	30314881
Bucket, 3x15ml D17mm FA, w/ Rack, 2/pk	30314882
Bucket, 3xMTP, 2/pk	30314890
Adapter, 48x1.5/2.0ml D11mm, 2/pk	30314891
Adapter, 1x15ml D17.5mm FA, 2/pk	30314892
Adapter, 1x15ml D17mm RB, 2/pk	30314893
Adapter, 1x30ml D25mm RB, 2/pk	30314894
Adapter, 1x50ml D29mm RB, 2/pk, V2	30314895
Adapter, 1x50ml D29mm FA, 2/pk	30314896
Adapter, 1x15ml D17mm FA, 2/pk	30314897
Adapter, 2x15ml D17mm RB, 2/pk	30314898

Accessories	Item Number
Adapter, 1x16ml D18mm RB, 2/pk	30314899
Adapter, 1x1.5ml for over16000xg, 6/pk	30314900
Screw Cap, Rack of 250ml Rotor, 2/pk	30314901
O-ring, Rack of 250ml Rotor, 10/pk	30314902
Rack, 1x250ml D62mm FB, 2/pk	30314903
Rack, 1x100ml D41mm RB, 2/pk	30314904
Rack, 3x50ml D29mm RB, 2/pk	30314905
Rack, 3x50ml D29mm FA, 2/pk	30314906
Rack, 1x50ml D34mm RB, 2/pk, V3	30314907
Rack, 2x50ml D29mm Rim, 2/pk	30314908
Rack, 1x50ml D29mm Rim, 2/pk, V3	30314909
Rack, 5x25ml D24.5mm RB, 2/pk	30314910
Rack, 3x25ml D24.5mm Rim, 2/pk	30314911
Rack, 9x15ml D17mm RB, 2/pk	30314912
Rack, 7x15ml D17mm FA, 2/pk	30314913
Rack, 7x15ml D17mm Rim, 2/pk	30314914
Rack, 8x10ml D16mm RB, 2/pk	30314915
Rack, 14x5-7ml D13mm RB, 2/pk	30314916
Rack, 10x1.6-7ml D13mm Vac, 2/pk	30314917
Rotor, Angle, 44x1.5/2.0ml, ID, v2	30372718
Adapter 1x15ml D17mm RB 2/pk V2	30472300
Adapter 1x15ml D17mm FA 2/pk V2	30472307
Rotor Swing out 4x750ml ID Sealable	30553085
Rotor Angle 4x500ml ID	30553086
Bucket MTP x2 V1	30553104
Holder removing aid for Bucket 30553104	30553105
Lid Assembly for bucket 30553104 PC x2	30553117
O-Ring for bucket 30553104 SIL x2	30553118
Bucket MTP x2 V2	30553119
Lid Assembly for Bucket 30602502 PC 2x	30553122
O-Ring for bucket 30602502 NBR 10x	30553123
Rack 1x500ml D96mm FA x2	30553124
Rack 1x250ml D62mm FB x2 V1	30553125
Rack 1x175/225ml D61mm FA x2	30553126
Rack 3x100ml D41mm RB x2	30553127
Rack 5x50ml D29mm FA x2	30553128
Rack 5x50ml D29mm Faw/R x2	30553129
Rack 7x50ml D29mm FA x2	30553130
Rack 7x50ml D29mm RB x2	30553131
Rack 8x30ml D26mm RB x2	30553132
Rack 14x15ml D17mm FA x2	30553133
Rack 17x15ml D17mm FA x2	30553134
Rack 18x15ml D17mm RB x2	30553135
Rack 21x10ml D16mm RB x2	30553136
Rack 32x7ml D13mm RB x2	30553138
Rack 27x1.8/7ml D13mm Vac/Sar x2	30553139
Rack 18x4/10ml D16mm Vac/Sar x2	30553140
Rack 38x1.1/1.4ml D8mm Sar x2	30559377
Adapter 15x1.5/2.0ml D11mm MTB x2	30559412
Adapter 1x175/225ml D61mm FA x2	30559414
Adapter 1x250ml D60.5mm FA x2	30559416
Adapter 1x175/225 ml D61.5mm FA x2	30559417
Adapter 1x50ml D29.5mm FA x2	30559419
Adapter 3x50ml D29mm RB x2	30559420
Adapter 4x30ml D25.5mm RB x2	30559421
Adapter 6x15ml D17mm FA x2	30559422
Adapter 1x250ml D61.5mm FB x2	30564850
Bucket 1x750ml D99mm FB x2 V1	30602502

# FRONTIER™ 5000 SERIES MULTI

Reliable and Compact Multi-Function Centrifuges Ideal for General Lab Applications

## Display

LCD, Backlight, 2 lines

## Construction

Brushless quiet motor, small footprint

## Design Features

Easy installation design

## Operation

AC Power (Included)



Designed for ease of operation, Frontier™ Multi Centrifuges feature convenient control on an intuitive interface, which allows for responsive operation – even when wearing gloves.

Frontier™ Multi Centrifuges can accommodate standard 50ml and 15ml tubes, including common blood tubes. When used with accessories, rotors can be adapted for sizes as small as 1.5ml.

Enclosing all its functionalities within a small footprint, Frontier™ Multi Centrifuges save valuable space on the lab bench.

Model	Speed Range	Maximum Relative Centrifuge Force (x g)	Maximum Capacity(Rotor)	Item Number
FC5707+R05 100-230V	200 rpm - 6,800 rpm	4,445 g	8 × 15 ml	30393189
FC5706 120V	200 rpm - 6,000 rpm	4,427 g	6 × 50 ml	30130876
FC5706 230V	200 rpm - 6,000 rpm	4,427 g	6 × 50 ml	30130875

Accessories	Item Number
Rotor Angle 12x15ml RB/FA	30130877
Rotor Angle 6x50ml RB/FA	30130878
Rotor, Swing Out, 6x5ml RB	30130880
Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 7ml Tubes x2	30130889
Adapter, D13.5mm, 5ml Tubes x2	30130890

Accessories	Item Number
Adapter, D26mm, 30ml Tubes x2	30130891
Adapter, D18mm, 16ml Tubes x2	30130892
Adapter, D17mm, 15ml Tubes x2	30130893
Adapter D17mm 15ml RB/FA Tubes x2	30130894
Buckets, For 30130880 x2	30130895
Rotor Angle 8x15ml	30472305

# FRONTIER™ 5000 SERIES MINI

Powerful and Convenient Mini Centrifuge for Simple and Quick Life Science Separation Applications!

## Construction

Brushless quiet motor, auto shut-off safety switches

## Design Features

One-touch operation

## Operation

AC adapter (included)



With a low voltage power input, quiet brushless motor and a rubber base that absorbs vibrations, Frontier 5306 minimizes operational noise and reduces disruptions in the laboratory.

Frontier 5306 is designed with operator safety in mind, and includes a rotor imbalance sensor and two safety switches which immediately stop the rotors should the lid open during use.

Frontier 5306 takes simple one-step operation to a new level. Simply place your sample in the centrifuge, close the lid, and it will begin to rotate without the press of a button.

Model	Speed Range	Maximum Relative Centrifuge Force (x g)	Maximum Capacity(Rotor)	Item Number
FC5306	0 rpm - 6,000 rpm	2,000 g	8 × 1.5 / 2.0 ml	30134157

Accessories	Item Number	Accessories	Item Number
Rotor, 1.5/2ml × 8, FC5306	30129559	Adapter, 0.2ml Tube × 8, FC5306	30129561
Rotor, 0.2ml PCR 8 × 4, FC5306	30129560	Adapter, 0.5ml Tube × 8, FC5306	30129562



# FRONTIER™ 5000 ROTORS

Offering Flexibility to Maximize Sample Preparation

## Construction

Aluminum or polypropylene material

## Design Features

Easy-installation



Choose from a range of rotors to be used with Frontier centrifuges to match capacities and flexibility required for your basic to high-performance sample preparation needs.

Designed with usability in mind, the Frontier rotors can be effortlessly installed or removed in a few quick and simple steps, and users have easy access to the samples.

The sturdy rotors are constructed of high-quality materials, built to last through demanding workflows from autoclave sterilization to sub-zero temperature.

Model	Angle	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Compatible Models	Item Number
R-A24x2SC	45°	24 × 1.5 / 2.0 ml	17,317 g	13,500 rpm	FC5513	30210898
R-A24X2/16MIS	45°	24 × 1.5 / 2.0 ml	24,325 g	16,000 rpm	FC5816R; FC5718R; FC5916R; FC5816; FC5718; FC5916; FC5714	30642361
R-A24X2/15MS	45°	24 × 1.5 / 2.0 ml	21,953 g	15,200 rpm	FC5515; FC5515R	30642371
R-A8x2/6M	45°	8 × 1.5 / 2.0 ml	2,560 g	6,000 rpm	FC5306	30129559
R-A4xPCR/6	45°	4 × 0.2 ml PCR8	2,260 g	6,000 rpm	FC5306	30129560
R-A30x2/13MS	45°	30 × 1.5 / 2.0 ml	19,150 g	13,500 rpm	FC5515; FC5515R	30130872
R-A12x5/14MS	45°	12 × 5 ml	19,978 g	14,500 rpm	FC5515; FC5515R	30130873
R-A4xPCR/15	45°	4 × 0.2 ml PCR8	15,342 g	15,000 rpm	FC5515; FC5515R	30130874
R-A12x15/6M	32°	12 × 15 ml	4,427 g	6,000 rpm	FC5706	30130877
R-A6x50/6M	40°	6 × 50 ml	4,427 g	6,000 rpm	FC5706	30130878
R-S6x5/4	0-90°	6 × 5 ml	1,817 g	4,000 rpm	FC5706	30130880
R-A24xCAP/12	90°	24 × Capillaries	14,970 g	12,000 rpm	FC5515; FC5515R	30130881
R-S4x250/4MI	0-90°	4 × 250 ml	3,780 g	4,500 rpm	FC5816R; FC5816	30314820
R-A6x250/8MI	28°	6 × 250 ml	10,016 g	8,000 rpm	FC5816R; FC5816; FC5916; FC5916R	30314821
R-S4x100/4MI	0-90°	4 × 100 ml	3,350 g	4,500 rpm	FC5718R; FC5718; FC5714	30314822
R-S4x100/5MIS	0-90°	4 × 100 ml	3,885 g	5,000 rpm	FC5718R; FC5718; FC5714	30314823
R-S6xMTP/4MI	0-90°	2 × 3MTP	2,716 g	4,500 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5714; FC5916; FC5916R	30314824
R-A6x85/14MI	25°	6 × 85 ml	20,984 g	13,500 rpm	FC5718R; FC5718	30314825
R-A6x85/13MI	38°	6 × 85 ml	21,726 g	13,000 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5916; FC5916R	30314826
R-A4x85/12MI	30°	4 × 85 ml	14,809 g	12,000 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5916; FC5916R	30314827
R-S16x50/4MI	0-90°	16 × 50 ml	3,735 g	4,500 rpm	FC5816R; FC5816	30314828
R-A10x50/10MI	38°	10 × 50 ml	16,022 g	10,500 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5916; FC5916R	30314829
R-A6x50/6MI	40°	6 × 50 ml	4,427 g	6,000 rpm	FC5718R; FC5718; FC5714	30314830
R-A6x50/13MI	26°	6 × 50 ml	15,869 g	13,000 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5916; FC5916R	30314831
R-A30x15/4MI	35°	30 × 15 ml	2,830 g	4,500 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5714	30314832
R-A20x10/12MI	30°	20 × 10 ml	15,775 g	12,000 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5916; FC5916R	30314833
R-A12x15/6MI	32°	12 × 15 ml	4,427 g	6,000 rpm	FC5718R; FC5718; FC5714	30314834
R-A30x2/14MIS	45°	30 × 1.5 / 2.0 ml	20,595 g	14,000 rpm	FC5718R; FC5718; FC5714; FC5916; FC5916R	30314836
R-A24x2/16MI	45°	24 × 1.5 / 2.0 ml	24,325 g	16,000 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5714; FC5916; FC5916R	30314838
R-A12x2/18MI	40°	12 × 1.5 / 2.0 ml	23,542 g	18,000 rpm	FC5718R; FC5718	30314839
R-A4xPCR/15I	45°	4 × 8 PCR Strip	15,343 g	15,000 rpm	FC5718R; FC5718	30314841
R-A44x2/16Mb	32° / 55°	44 × 1.5 / 2.0ml	21,379 g	15,000 rpm	FC5515; FC5515R	30372717
R-A44x2/16MIb	32° / 55°	44 × 1.5 / 2.0ml	24,325 g	16,000 rpm	FC5816R; FC5718R; FC5816; FC5718; FC5916; FC5916R	30372718
R-A24x2/13MSb	45°	24 × 1.5 / 2.0 ml	17,317 g	13,500 rpm	FC5513	30472302
R-A24xCAP/12b	90°	24 × Capillaries	16,058 g	13,000 rpm	FC5513	30472304
R-A8x15/7M	32°	8 × 15 ml	4,445 g	6,800 rpm	FC5707	30472305
R-S4X750/10MIS		4 × 750 ml	4,346 g	4,500 rpm	FC5916; FC5916R	30553085
R-S4X500/7MI	25°	4 × 500mL	10,367 g	8,000 rpm	FC5916; FC5916R	30553086

# FRONTIER™ 5000 ROTORS

Offering Flexibility to Maximize Sample Preparation

Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A24x2SC	24 × 1.5 / 2.0 ml	17,317 g	13,500 rpm	30210898



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A24X2/16MIS	24 × 1.5 / 2.0 ml	24,325 g	16,000 rpm	30642361



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A24X2/15MS	24 × 1.5 / 2.0 ml	21,953 g	15,200 rpm	30642371

Accessories	Item Number
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Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A8x2/6M	8 × 1.5 / 2.0 ml	2,560 g	6,000 rpm	30129559

Accessories	Item Number
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Adapter, 0.2ml Tube x8, FC5306	30129561
Adapter, 0.5ml Tube x8, FC5306	30129562



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A4xPCR/6	4 × 0.2 ml PCR8	2,260 g	6,000 rpm	30129560



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A30x2/13MS	30 × 1.5 / 2.0 ml	19,150 g	13,500 rpm	30130872

Accessories	Item Number
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Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A12x5/14MS	12 × 5 ml	19,978 g	14,500 rpm	30130873

Accessories	Item Number
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Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D12.6mm, 1.8ml Cryo x6	30130888
Adapter, D12.6mm, 1.0ml Cryo x6	30130887



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A4xPCR/15	4 × 0.2 ml PCR8	15,342 g	15,000 rpm	30130874



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A12x15/6M	12 × 15 ml	4,427 g	6,000 rpm	30130877

Accessories	Item Number
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Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 5ml Tubes x2	30130890
Adapter, D13.5mm, 7ml Tubes x2	30130889



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A6x50/6M	6 × 50 ml	4,427 g	6,000 rpm	30130878

Accessories	Item Number
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Adapter D17mm 15ml RB/FA Tubes x2	30130894
Adapter, D17mm, 15ml Tubes x2	30130893
Adapter, D18mm, 16ml Tubes x2	30130892
Adapter, D26mm, 30ml Tubes x2	30130891



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-S6x5/4	6 × 5 ml	1,817 g	4,000 rpm	30130880

Accessories	Item Number
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Buckets, For 30130880 x2	30130895
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Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A24xCAP/12	24 × Capillaries	14,970 g	12,000 rpm	30130881



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-S4x250/4MI	4 × 250 ml	3,780 g	4,500 rpm	30314820

Accessories	Item Number
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Rack, 3x25ml D24.5mm Rim, 2/pk	30314911
Screw Cap, Rack of 250ml Rotor, 2/pk	30314901
Rack, 9x15ml D17mm RB, 2/pk	30314912
Rack, 5x25ml D24.5mm RB, 2/pk	30314910
Rack, 2x50ml D29mm Rim, 2/pk	30314908
Rack, 1x50ml D29mm Rim, 2/pk, V3	30314909
Rack, 3x50ml D29mm FA, 2/pk	30314906
Rack, 10x1.6-7ml D13mm Vac, 2/pk	30314917
Rack, 1x50ml D34mm RB, 2/pk, V3	30314907
Rack, 8x10ml D16mm RB, 2/pk	30314915
Rack, 1x100ml D41mm RB, 2/pk	30314904
Rack, 3x50ml D29mm RB, 2/pk	30314905
Rack, 14x5-7ml D13mm RB, 2/pk	30314916
O-ring, Rack of 250ml Rotor, 10/pk	30314902
Rack, 7x15ml D17mm FA, 2/pk	30314913
Rack, 8x4-10ml D16mm Vac, 2/pk	30304367
Adapter, 9x1.5/2.0ml D11mm, 2/pk	30304368
Rack, 7x15ml D17mm Rim, 2/pk	30314914
Rack, 1x250ml D62mm FB, 2/pk	30314903



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A6x250/8MI	6 × 250 ml	10,016 g	8,000 rpm	30314821

Accessories	Item Number
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Adapter, 1x50ml D29mm RB, 2/pk	30304373
Adapter, 1x50ml D30mm FA, 2/pk	30304374
Adapter, 2x30ml D26mm RB, 2/pk	30304372
Adapter, 4x15ml D17mm FA, 2/pk	30304371
Adapter, 5x10ml D16mm RB, 2/pk	30304370
Adapter, 8x1.5ml D11mm, 2/pk	30304369



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-S4x100/4MI	4 × 100 ml	3,350 g	4,500 rpm	30314822

Accessories	Item Number
-------------	-------------

Rack, 10x1.5ml D11mm, 2/pk	30314854
Rack, 1x100ml D46mm RB, 2/pk	30314842
Rack, 1x15ml D17mm Rim, 2/pk	30314851
Rack, 1x25ml D25mm RB, 2/pk	30314849
Rack, 1x30ml D25mm Rim, 2/pk	30314848
Rack, 1x50ml D29mm FA, 2/pk	30314846
Rack, 1x50ml D29mm RB, 2/pk	30314845
Rack, 1x50ml D29mm Rim, 2/pk	30314847
Rack, 1x50ml D34mm RB, 2/pk	30314844
Rack, 1x85ml D38mm RB, 2/pk	30314843
Rack, 2x15ml D17mm FA, 2/pk	30314850
Rack, 5x4-10ml D16mm Sar, 2/pk	30314858
Rack, 7x15ml D17mm RB, 2/pk	30314852
Rack, 7x5-7ml D13mm RB, 2/pk	30314856
Rack, 7x5-7ml D13mm Vac, 2/pk	30314857
Rack, 9x4.5ml D12mm FB, 2/pk	30314855
Rack, 9x5-7ml D13mm RB, 2/pk	30314853



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-S4x100/5MIS	4 × 100 ml	3,885 g	5,000 rpm	30314823

Accessories	Item Number
-------------	-------------

Bucket, 100ml w/ Cap, Sealable, 2/pk	30314861
Bucket, 100ml w/o Cap, 2/pk	30314860
Bucket, 2x50ml D29mm FA, w/ Rack, 2/pk	30314881
Bucket, 3x15ml D17mm FA, w/ Rack, 2/pk	30314882
O-ring, 100ml Bucket, Sealable, 10/pk	30314863
Rack, 1x100ml D40mm RB, 2/pk	30314864
Rack, 1x15ml D17mm FA, 2/pk	30314872
Rack, 1x25ml D25mm RB, 2/pk, v2	30314871
Rack, 1x30ml D25mm Rim, 2/pk, V2	30314870
Rack, 1x50ml D29mm FA, 2/pk, V2	30314868
Rack, 1x50ml D29mm RB, 2/pk, V2	30314867
Rack, 1x50ml D29mm Rim, 2/pk, V2	30314869
Rack, 1x50ml D34mm RB, 2/pk, V2	30314866
Rack, 1x85ml D38mm RB, 2/pk, V2	30314865
Rack, 2x15ml D17mm FA, 2/pk, V2	30314873
Rack, 2x15ml D17mm Rim, 2/pk	30314874
Rack, 3x10ml D17mm Sar, 2/pk	30314878
Rack, 4x10ml D17mm Vac, 2/pk	30314880
Rack, 4x15ml D17mm RB, 2/pk	30314875
Rack, 4x5-7ml D13mm RB, 2/pk	30314879
Rack, 5x1.5ml D11mm, 2/pk	30314877
Rack, 7x5-7ml D13mm RB, 2/pk, V2	30314876
Screw Cap, 100ml Bucket, Sealable, 2/pk	30314862



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-S6xMTP/4MI	2 × 3MTP	2,716 g	4,500 rpm	30314824

Accessories	Item Number
-------------	-------------

Adapter, 48x1.5/2.0ml D11mm, 2/pk	30314891
Bucket, 3xMTP, 2/pk	30314890



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A6x85/14MI	6 × 85 ml	20,984 g	13,500 rpm	30314825

Accessories	Item Number
-------------	-------------

Adapter, 1x15ml D17mm FA, 2/pk	30314897
Adapter, 1x15ml D17mm RB, 2/pk	30314893
Adapter, 1x16ml D18mm RB, 2/pk	30314899
Adapter, 1x30ml D25mm RB, 2/pk	30314894
Adapter, 1x50ml D29mm FA, 2/pk	30314896
Adapter, 1x50ml D29mm RB, 2/pk, V2	30314895
Adapter, 2x15ml D17mm RB, 2/pk	30314898



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A6x85/13MI	6 × 85 ml	21,726 g	13,000 rpm	30314826

Accessories	Item Number
-------------	-------------

Adapter, 1x15ml D17mm FA, 2/pk	30314897
Adapter, 1x15ml D17mm RB, 2/pk	30314893
Adapter, 1x16ml D18mm RB, 2/pk	30314899
Adapter, 1x30ml D25mm RB, 2/pk	30314894
Adapter, 1x50ml D29mm FA, 2/pk	30314896
Adapter, 1x50ml D29mm RB, 2/pk, V2	30314895
Adapter, 2x15ml D17mm RB, 2/pk	30314898



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A4x85/12MI	4 × 85 ml	14,809 g	12,000 rpm	30314827

Accessories	Item Number
-------------	-------------

Adapter, 1x15ml D17mm FA, 2/pk	30314897
Adapter, 1x15ml D17mm RB, 2/pk	30314893
Adapter, 1x16ml D18mm RB, 2/pk	30314899
Adapter, 1x30ml D25mm RB, 2/pk	30314894
Adapter, 1x50ml D29mm FA, 2/pk	30314896
Adapter, 1x50ml D29mm RB, 2/pk, V2	30314895
Adapter, 2x15ml D17mm RB, 2/pk	30314898



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-S16x50/4MI	16 × 50 ml	3,735 g	4,500 rpm	30314828

Accessories	Item Number
-------------	-------------

Rack, 10x15ml D17mm FA, 2/pk	30314583
Rack, 14x5-7ml D13mm Vac/Sar, 2/pk	30314584
Rack, 12x4-10ml D16mm Vac/Sar, 2/pk	30314585
Rack, 4x50ml D29mm FA, 2/pk	30304375



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A10x50/10MI	10 × 50 ml	16,022 g	10,500 rpm	30314829

Accessories	Item Number
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Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 5ml Tubes x2	30130890
Adapter, D13.5mm, 7ml Tubes x2	30130889
Adapter 1x15ml D17mm FA 2/pk V2	30472307
Adapter 1x15ml D17mm RB 2/pk V2	30472300



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A6x50/6MI	6 × 50 ml	4,427 g	6,000 rpm	30314830

Accessories	Item Number
-------------	-------------

Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 5ml Tubes x2	30130890
Adapter, D13.5mm, 7ml Tubes x2	30130889
Adapter D17mm 15ml RB/FA Tubes x2	30130894
Adapter, D17mm, 15ml Tubes x2	30130893
Adapter, D18mm, 16ml Tubes x2	30130892
Adapter, D26mm, 30ml Tubes x2	30130891



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A6x50/13MI	6 × 50 ml	15,869 g	13,000 rpm	30314831

Accessories	Item Number
-------------	-------------

Adapter, D17mm, 15ml Tubes x2	30130893
Adapter, D18mm, 16ml Tubes x2	30130892
Adapter, D26mm, 30ml Tubes x2	30130891
Adapter, 1x15ml D17.5mm FA, 2/pk	30314892



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A30x15/4MI	30 × 15 ml	2,830 g	4,500 rpm	30314832

Accessories	Item Number
-------------	-------------

Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 5ml Tubes x2	30130890
Adapter, D13.5mm, 7ml Tubes x2	30130889



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A20x10/12MI	20 × 10 ml	15,775 g	12,000 rpm	30314833



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A12x15/6MI	12 × 15 ml	4,427 g	6,000 rpm	30314834

Accessories	Item Number
-------------	-------------

Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 5ml Tubes x2	30130890
Adapter, D13.5mm, 7ml Tubes x2	30130889



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A30x2/14MIS	30 × 1.5 / 2.0 ml	20,595 g	14,000 rpm	30314836

Accessories	Item Number
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Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884





Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A24x2/16MI	24 × 1.5 / 2.0 ml	24,325 g	16,000 rpm	30314838

Accessories	Item Number
-------------	-------------

Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A12x2/18MI	12 × 1.5 / 2.0 ml	23,542 g	18,000 rpm	30314839

Accessories	Item Number
-------------	-------------

Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884
Adapter, 1x1.5ml for over16000xg, 6/pk	30314900



Model	Capacity	Max g-force	Maximum Speed	Item Number
R-A4xPCR/15I	4 × 8 PCR Strip	15,343 g	15,000 rpm	30314841



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A44x2/16Mb	44 × 1.5 / 2.0ml	21,379 g	15,000 rpm	30372717

Accessories	Item Number
-------------	-------------

Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A44x2/16MIb	44 × 1.5 / 2.0ml	24,325 g	16,000 rpm	30372718

Accessories	Item Number
-------------	-------------

Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A24x2/13MSb	24 × 1.5 / 2.0 ml	17,317 g	13,500 rpm	30472302

Accessories	Item Number
-------------	-------------

Adapter, D8mm, 0.5ml Tubes x6	30130885
Adapter, D6mm, 0.2/0.4ml Tubes x6	30130884



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A24xCAP/12b	24 × Capillaries	16,058 g	13,000 rpm	30472304



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-A8x15/7M	8 × 15 ml	4,445 g	6,800 rpm	30472305

Accessories	Item Number
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Adapter, D11mm, 1.5/2.0ml Tubes x6	30130886
Adapter, D13.5mm, 5ml Tubes x2	30130890
Adapter, D13.5mm, 7ml Tubes x2	30130889



Model	Maximum Capacity(Rotor)	Max g-force	Maximum Speed	Item Number
R-S4X750/10MIS	4 × 750 ml	4,346 g	4,500 rpm	30553085

Accessories	Item Number
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Adapter 15x1.5/2.0ml D11mm MTB x2	30559412
Adapter 1x175/225ml D61mm FA x2	30559414
Adapter 6x15ml D17mm FA x2	30559422
Rack 38x1.1/1.4ml D8mm Sar x2	30559377
Rack 5x50ml D29mm Faw/R x2	30553129
Bucket 1x750ml D99mm FB x2 V1	30602502
Rack 14x15ml D17mm FA x2	30553133
Rack 1x250ml D62mm FB x2 V1	30553125
Holder removing aid for Bucket 30553104	30553105
Lid Assembly for bucket 30553104 PC x2	30553117
O-Ring for bucket 30553104 SIL x2	30553118
Adapter 1x50ml D29.5mm FA x2	30559419
Lid Assembly for Bucket 30602502 PC 2x	30553122
Rack 17x15ml D17mm FA x2	30553134
Rack 1x175/225ml D61mm FA x2	30553126
Rack 32x7ml D13mm RB x2	30553138
Adapter 1x250ml D61.5mm FB x2	30564850
Rack 7x50ml D29mm FA x2	30553130
Adapter 3x50ml D29mm RB x2	30559420
Adapter 1x250ml D60.5mm FA x2	30559416
Bucket MTP x2 V2	30553119
O-Ring for bucket 30602502 NBR 10x	30553123
Rack 18x15ml D17mm RB x2	30553135
Rack 3x100ml D41mm RB x2	30553127
Rack 27x1.8/7ml D13mm Vac/Sar x2	30553139
Rack 7x50ml D29mm RB x2	30553131
Adapter 4x30ml D25.5mm RB x2	30559421
Adapter 1x175/225 ml D61.5mm FA x2	30559417
Rack 8x30ml D26mm RB x2	30553132
Rack 1x500ml D96mm FA x2	30553124
Rack 21x10ml D16mm RB x2	30553136
Bucket MTP x2 V1	30553104
Rack 5x50ml D29mm FA x2	30553128
Rack 18x4/10ml D16mm Vac/Sar x2	30553140



Model	Capacity	Max g-force	Maximum Speed	Item Number
R-S4X500/7MI	4 × 500mL	10,367 g	8,000 rpm	30553086

Accessories	Item Number
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Adapter 6x15ml D17mm FA x2	30559422
Adapter 1x50ml D29.5mm FA x2	30559419
Adapter 1x250ml D61.5mm FB x2	30564850
Adapter 3x50ml D29mm RB x2	30559420
Adapter 1x250ml D60.5mm FA x2	30559416
Adapter 4x30ml D25.5mm RB x2	30559421
Adapter 1x175/225 ml D61.5mm FA x2	30559417





	Light Duty Orbital Shaker	Light Duty Orbital Shaker	Light Duty Orbital Shaker	Light Duty Orbital Shaker
Model	SHLD0415AL	SHLD0403DG	SHLD0415DG	SHLDMP03DG
Speed Range	40 to 300 rpm	100 to 1200 rpm	40 to 300 rpm	100 to 1200 rpm
Timer	N/A	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours
Motion	Orbital	Orbital	Orbital	Orbital
Orbit	15 mm	3 mm	15 mm	3 mm
Max Weight Capacity	8 lbs	8 lbs	8 lbs	4 microplates / 2 micro-tube racks
Audible Alarm	—	•	•	•
Load Sensor	—	—	—	—
Motor Type	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
CO <sub>2</sub> Environment	•	•	•	•
Overload Protection	—	•	•	•
User Calibration (Speed)	—	—	—	—
RS232 Interface	—	—	—	—
Included Tray (L × W)	11.75 × 8.75"	11.75 × 8.75"	11.75 × 8.75"	11 × 7.75"
Tray / Platform Options (L × W)	N/A	Adjustable Platform	Adjustable Platform	N/A



	High Speed Microplate Shaker	Extreme Environment Shaker	Heavy Duty Shaker	Heavy Duty Shaker	Heavy Duty Shaker
Model	SHHSMPDG	SHEX1619DG	SHHD1619AL	SHHD1619DG	SHHD2325AL
Speed Range	600 rpm to 2500 rpm	15 to 500 rpm	25 to 500 rpm	15 to 500 rpm	25 to 500 rpm
Timer	1 second to 160 hours	1 second to 160 hours	1 to 120 minutes	1 second to 160 hours	1 to 120 minutes
Motion	Orbital	Orbital	Orbital	Orbital	Orbital
Orbit	3.6 mm	19 mm	19 mm	19 mm	25 mm
Max Weight Capacity	48 microplates	35 lbs	35 lbs	35 lbs	50 lbs
Audible Alarm	•	•	—	•	—
Load Sensor	•	•	—	•	—
Motor Type	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
CO <sub>2</sub> Environment	•	•	•	•	•
Overload Protection	•	•	—	•	—
User Calibration (Speed)	•	•	—	•	—
RS232 Interface	•	•	—	•	—
Included Tray (L × W)	12.3 × 11"	11 × 13"	11 × 13"	11 × 13"	18 × 24"
Tray / Platform Options (L × W)	12.25 × 11" (31.1 × 27.9 cm)	11 × 13", 13 × 13", 18 × 18", 18 × 24" Adjustable Platform Separatory Funnel Platform	11 × 13", 13 × 13", 18 × 18", 18 × 24" Adjustable Platform Separatory Funnel Platform	11 × 13", 13 × 13", 18 × 18", 18 × 24" Adjustable Platform Separatory Funnel Platform	18 × 24", 18 × 30" Adjustable Platform Large Vessel Carrier Platform

• Yes \*Maximum speed/tilt angle may vary with heavy or unbalanced loads. \*\*Centered on tray.



	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker	Heavy Duty Orbital Shaker
Model	SHHD2325DG	SHHD4525DG	SHHD4550DG	SHHD6825DG	SHHD6850DG
Speed Range	20 to 500 rpm	15 to 500 rpm	15 to 300 rpm	15 to 500 rpm	15 to 300 rpm
Timer	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours
Motion	Orbital	Orbital	Orbital	Orbital	Orbital
Orbit	25 mm	25 mm	51 mm	25 mm	51 mm
Max Weight Capacity	50 lbs	100 lbs	100 lbs	150 lbs	150 lbs
Audible Alarm	•	•	•	•	•
Load Sensor	•	•	•	•	•
Motor Type	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
CO <sub>2</sub> Environment	•	•	•	•	•
Overload Protection	•	•	•	•	•
User Calibration (Speed)	•	•	•	•	•
RS232 Interface	•	•	•	•	•
Included Tray (L x W)	18 x 24"	24 x 24"	24 x 24"	24 x 36"	24 x 36"
Tray / Platform Options (L x W)	18 x 24", 18 x 30" Adjustable Platform Large Vessel Carrier Platform	24 x 24" Large Vessel Carrier Platform	24 x 24" Large Vessel Carrier Platform	24 x 36" Large Vessel Carrier Platform	24 x 36" Large Vessel Carrier Platform



	Rocking Shaker	Rocking Shaker	Waving Shaker	Waving Shaker	Reciprocating Shaker
Model	SHRK04DG	SHRK07AL1	SHWV02DG	SHWV02AL	SHRC0719DG
Speed Range	1 to 50 rpm*	1 to 75 rpm*	1 to 30 rpm*	1 to 75 rpm*	20 to 300 rpm
Timer	1 second to 160 hours	1 minute to 120 minutes	1 second to 160 hours	1 minute to 120 minutes	1 second to 160 hours
Motion	Rocking	Rocking	Waving	Waving	Reciprocating
Orbit	Tilt Angle: 0 to 15°	Tilt Angle: 0 to 15°	Tilt Angle: 0 to 20° *	Tilt Angle: 0 to 16°	Stroke: 19 mm
Max Weight Capacity	10 lbs**	16 lbs**	5 lbs**	5 lbs**	15 lbs
Audible Alarm	•	—	•	—	•
Load Sensor	—	—	—	—	•
Motor Type	Stepper Motor	Stepper Motor	Stepper Motor	Stepper Motor	Brushless DC Motor
CO <sub>2</sub> Environment	•	—	•	—	•
Overload Protection	•	—	•	—	•
User Calibration (Speed)	—	—	—	—	•
RS232 Interface	—	—	—	—	•
Included Tray (L x W)	12.75 x 10"	14 x 11"	11.75 x 8.75"	14 x 11"	11 x 13"
Tray / Platform Options (L x W)	Stacking Tray	Stacking Tray	Stacking Tray	—	11 x 13", 13 x 13", 18 x 18", 18 x 24" Separatory Funnel Platform

• Yes \*Maximum speed/tilt angle may vary with heavy or unbalanced loads. \*\*Centered on tray.

# LIGHT DUTY ORBITAL SHAKERS

Choose the Perfect Light Duty Orbital Shaker You Can Trust for Reliable Everyday Shaking

## Display

Easy-to-read, independent LED displays for speed/time allow the operator to view all settings simultaneously (digital models) and basic control knobs with dial markings for speed/time (analog models)

## Construction

Cast aluminum

## Design Features

Non-slip mat (11.75 x 8.75 inches or 29.9 x 22.2 cm) included with all models except the Microplate Shaker

## Operation

Detachable 3-wire cord and plug (included)



Designed for flexibility with your applications – OHAUS Light Duty Shakers include the ready-to-use tray and mat, or remove the mat and customize the tray with over 20 easy-to-install accessories.

Well-performing economical choice for your everyday laboratory shaking needs. Non-digital model offers reliable shaking across the entire speed range with the robust triple eccentric drive design.

Microplate shaker is designed to securely hold up to four microplates or deepwell plates, or easily install two microtube racks. Units slowly increase speed to desired setpoint to avoid splashing.

Model	Control	Speed Range	Speed Accuracy	Timer	Orbit	Maximum Weight Capacity	Tray Dimensions	Item Number
SHLD0403DG	Digital	100 rpm – 1200 rpm	±2% of set speed	1 second – 160 hours	0.1 in (3 mm)	3.6 kg	11.75 in x 8.75 in (29.9 cm x 22.2 cm)	30391898
SHLD0415AL	Analog	40 rpm – 300 rpm		-	0.6 in (15 mm)	3.6 kg	11.75 in x 8.75 in (29.9 cm x 22.2 cm)	30391891
SHLD0415DG	Digital	40 rpm – 300 rpm	±2 rpm, Above 100 rpm ±2% of set speed	1 second – 160 hours	0.6 in (15 mm)	3.6 kg	11.75 in x 8.75 in (29.9 cm x 22.2 cm)	30391912
SHLDMP03DG	Digital	100 rpm – 1200 rpm	±2% of set speed	1 second – 160 hours	0.1 in (3 mm)	4 Microplates or 2 Micro-tube Racks	11 in x 7.75 in (27.9 cm x 19.7 cm)	30391905

Accessories	Item Number
Flask Clamp, 10 mL	30400084
Flask Clamp, 25 mL	30400085
Flask Clamp, 50 mL	30400086
Flask Clamp, 125 mL	30400087
Flask Clamp, 250 mL	30400088
Flask Clamp, 500 mL	30400089
500 mL Media Bottle Clamp	30400097
Flask Clamp PVC 125mL	30400099
Flask Clamp PVC 250mL	30400100
Flask Clamp PVC 500mL	30400101
Micro Tube Rack	30400114

Accessories	Item Number
Test Tube Rack 10-13 mm Diameter	30400115
Test Tube Rack 14-16 mm Diameter	30400116
Test Tube Rack 18-20 mm Diameter	30400117
Test Tube Rack 22-25 mm Diameter	30400118
Test Tube Rack For 15 mL Tubes	30400119
Test Tube Rack For 50 mL Tubes	30400120
Adjustable Platform 22 X 30 cm, 2 Bars	30400121
Roller Bar, 22 cm	30400122
Universal Harness	30400123
Dimpled Mat, 22 X 30 cm, for SHLD0403DG	30400124
Dilution Cup Tray	30400125



# EXTREME ENVIRONMENT SHAKERS

High Performance Orbital Shaker Designed to Withstand Extreme Environments Up To 100% Humidity

## Display

Independent LED displays for speed/time allow the operator to view both settings simultaneously

## Communication

RS232 interface provides two-way communication for data logging and unit control (digital models)

## Construction

Cold rolled steel (CRS) and stainless steel, external control module, thin ribbon cable (5.5 feet or 1.7 m) easily passes underneath an incubator door or via incubator's utility port

## Design Features

Built-in tray (11x13 inch or 28x33 cm) with a non-slip rubber mat (included)

## Operation

Detachable 3-wire cord and plug (included)



Defy the elements - rely on this orbital shaker's unique construction to deliver exceptional speed control, accuracy and durability under the most extreme environmental conditions.

Best in class load capacity to maximize efficiency in your incubator. Customize the Extreme Environment Shaker for your unique application with over 50 accessories.

For repeatable results, the exclusive Accu-Drive shaking system ensures speed accuracy. The triple eccentric drive provides smooth, stable shaking motion throughout the entire speed range.

Model	Control	Speed Range	Speed Accuracy	Timer	Orbit	Tray Dimensions	Item Number
SHEX1619DG	Digital	15 rpm – 500 rpm	$\pm 1$ rpm, Above 100 rpm $\pm 1\%$ of set speed	1 second – 160 hours	0.8 in (19 mm)	13 in x 13 in (33 cm x 33 cm)	30391809

Accessories	Item Number
Double Tier Braces, Set of 4	30400051
Universal Platform, 28 X 33 cm, S/S	30400052
Universal Platform, 33 X 33 cm, S/S	30400053
Universal Platform, 46 X 46 cm, S/S	30400054
Universal Platform, 61 X 46 cm, S/S	30400056
Rubber Mat, 28 x 33 cm	30400060
Rubber Mat, 33 x 33 cm	30400061
Rubber Mat, 46 x 46 cm	30400062
Rubber Mat, 46 X 61 cm	30400063
Culture Platform with Mat, 46 X 46 cm	30400066
Culture Platform with Mat, 46 X 61 cm	30400067
Adjustable Platform, 46 X 46 cm	30400068
Adjustment Bar, 46 cm	30400073
Dedicated Platform, 33 X 33 cm, 125 mL	30400075
Dedicated Platform, 33 X 33 cm, 250 mL	30400076
Dedicated Platform, 33 X 33 cm, 500 mL	30400077
Dedicated Platform, 33 X 33 cm, 1000 mL	30400078
Dedicated Platform, 46 X 46 cm, 125 mL	30400079
Dedicated Platform, 46 X 46 cm, 250 mL	30400080
Dedicated Platform, 46 X 46 cm, 500 mL	30400081
Dedicated Platform, 46 X 46 cm, 1000 mL	30400082

Accessories	Item Number
Separatory Funnel Platform 46 X 46 cm	30400083
Flask Clamp, 10 mL	30400084
Flask Clamp, 25 mL	30400085
Flask Clamp, 50 mL	30400086
Flask Clamp, 125 mL	30400087
Flask Clamp, 250 mL	30400088
Flask Clamp, 500 mL	30400089
1 Liter Erlenmeyer Flask Clamp	30400090
2 Liter Erlenmeyer Flask Clamp	30400091
2.8 Liter Erlenmeyer Flask Clamp	30400092
3 Liter Erlenmeyer Flask Clamp	30400093
4 Liter Erlenmeyer Flask Clamp	30400094
5 Liter Erlenmeyer Flask Clamp	30400095
6 Liter Erlenmeyer Flask Clamp	30400096
500 mL Media Bottle Clamp	30400097
1000 mL Media Bottle Clamp	30400098
Flask Clamp PVC 125mL	30400099
Flask Clamp PVC 250mL	30400100
Flask Clamp PVC 500mL	30400101
Flask Clamp PVC 1000mL	30400102
Flask Clamp PVC 2000mL	30400103

Accessories continued on next page



# EXTREME ENVIRONMENT SHAKERS ACCESSORIES

Accessories	Item Number
Clamp Microplate Stainless Steel	30400104
Test Tube Rack 13 mm Pivoting	30400105
Test Tube Rack 16 mm Pivoting	30400106
Test Tube Rack 20 mm Pivoting	30400107
Test Tube Rack 25 mm Pivoting	30400108
Test Tube Rack 30 mm Pivoting	30400109
Test Tube Rack 10-14 mm Stationary	30400110
Test Tube Rack 16-20 mm Stationary	30400111
Test Tube Rack 21-25 mm Stationary	30400112

Accessories	Item Number
Test Tube Rack 50 mL Tubes Stationary	30400113
Micro Tube Rack	30400114
Test Tube Rack 10-13 mm Diameter	30400115
Test Tube Rack 14-16 mm Diameter	30400116
Test Tube Rack 18-20 mm Diameter	30400117
Test Tube Rack 22-25 mm Diameter	30400118
Test Tube Rack For 15 mL Tubes	30400119
Test Tube Rack For 50 mL Tubes	30400120



# HEAVY DUTY ORBITAL SHAKERS

Eight Orbital Shakers Offering a Variety of Capacities and Flexibility to Maximize Sample Processing

## Display

Independent LED displays for speed/time allow the operator to view both settings simultaneously and control knobs with dial markings (analog models)

## Communication

RS232 interface provides two-way communication for data logging and unit control (digital models)

## Construction

Cold rolled steel (CRS)

## Design Features

Built-in tray (11 × 13 inch or 28 × 33 cm) with a non-slip rubber mat (included on 16kg models)

## Operation

Detachable 3-wire cord and plug (included)



Ready for your lab - all models include a tray and rubber mat and can be customized with over 70 accessory options.

Rely on the digital shakers' exclusive Accu-Drive shaking system for exceptional speed control, accuracy and durability. All models feature a maintenance-free motor for long-term use.

Protect your samples. Optimal speed ramping feature slowly increases speed to setpoint to avoid splashing. The load sensor detects unbalanced conditions and automatically reduces to a safe speed.

Model	Control	Speed Range	Speed Accuracy	Timer	Orbit	Capacity	Tray Dimensions	Item Number
SHHD1619AL	Analog	25 rpm – 500 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 minute – 120 minutes	0.8 in (19 mm)	16 kg	11 in × 13 in (27.9 cm × 33 cm)	30391307
SHHD1619DG	Digital	15 rpm – 500 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 second – 160 hours	0.8 in (19 mm)	16 kg	11 in × 13 in (27.9 cm × 33 cm)	30391807
SHHD2325AL	Analog	25 rpm – 500 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 minute – 120 minutes	1 in (25 mm)	22.7 kg	18 in × 24 in (45.7 cm × 61 cm)	30391835
SHHD2325DG	Digital	20 rpm – 500 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 second – 160 hours	1 in (25 mm)	22.7 kg	18 in × 24 in (45.7 cm × 61 cm)	30391842
SHHD4525DG	Digital	15 rpm – 500 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 second – 160 hours	1 in (25 mm)	45.4 kg	24 in × 24 in (61 cm × 61 cm)	30391863
SHHD4550DG	Digital	15 rpm – 300 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 second – 160 hours	2 in (51 mm)	45.4 kg	24 in × 24 in (61 cm × 61 cm)	30391870
SHHD6825DG	Digital	15 rpm – 500 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 second – 160 hours	1 in (25 mm)	68 kg	24 in × 36 in (61 cm × 91 cm)	30391877
SHHD6850DG	Digital	15 rpm – 300 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 second – 160 hours	2 in (51 mm)	68 kg	24 in × 36 in (61 cm × 91 cm)	30391884

Accessories	Item Number
Double Tier Braces, Set of 4	30400051
Universal Platform, 28 X 33 cm, S/S	30400052
Universal Platform, 33 X 33 cm, S/S	30400053
Universal Platform, 46 X 46 cm, S/S	30400054
Universal Platform, 61 X 46 cm, S/S	30400056
Universal Platform, 61 X 61 cm, S/S	30400057
Universal Platform, 76 X 46 cm, S/S	30400058
Universal Platform, 91 X 61 cm, S/S	30400059

Accessories	Item Number
Rubber Mat, 28 × 33 cm	30400060
Rubber Mat, 33 × 33 cm	30400061
Rubber Mat, 46 × 46 cm	30400062
Rubber Mat, 46 X 61 cm	30400063
Rubber Mat, 61 X 61 cm	30400064
Rubber Mat, 61 X 91 cm	30400065
Culture Platform with Mat, 46 X 46 cm	30400066
Culture Platform with Mat, 46 X 61 cm	30400067

Accessories continued on next page



# HEAVY DUTY ORBITAL SHAKERS ACCESSORIES

Accessories	Item Number
Adjustable Platform, 46 X 46 cm	30400068
Adjustable Platform, 61 X 46 cm	30400069
Large Vessel Carrier, 76 X 46 cm	30400070
Large Vessel Carrier, 61 X 61 cm	30400071
Large Vessel Carrier, 91 X 61 cm	30400072
Adjustment Bar, 46 cm	30400073
Adjustment Bar, 61 cm	30400074
Dedicated Platform, 33 X 33 cm, 125 mL	30400075
Dedicated Platform, 33 X 33 cm, 250 mL	30400076
Dedicated Platform, 33 X 33 cm, 500 mL	30400077
Dedicated Platform, 33 X 33 cm, 1000 mL	30400078
Dedicated Platform, 46 X 46 cm, 125 mL	30400079
Dedicated Platform, 46 X 46 cm, 250 mL	30400080
Dedicated Platform, 46 X 46 cm, 500 mL	30400081
Dedicated Platform, 46 X 46 cm, 1000 mL	30400082
Separatory Funnel Platform 46 X 46 cm	30400083
Flask Clamp, 10 mL	30400084
Flask Clamp, 25 mL	30400085
Flask Clamp, 50 mL	30400086
Flask Clamp, 125 mL	30400087
Flask Clamp, 250 mL	30400088
Flask Clamp, 500 mL	30400089
1 Liter Erlenmeyer Flask Clamp	30400090
2 Liter Erlenmeyer Flask Clamp	30400091
2.8 Liter Erlenmeyer Flask Clamp	30400092
3 Liter Erlenmeyer Flask Clamp	30400093
4 Liter Erlenmeyer Flask Clamp	30400094

Accessories	Item Number
5 Liter Erlenmeyer Flask Clamp	30400095
6 Liter Erlenmeyer Flask Clamp	30400096
500 mL Media Bottle Clamp	30400097
1000 mL Media Bottle Clamp	30400098
Flask Clamp PVC 125mL	30400099
Flask Clamp PVC 250mL	30400100
Flask Clamp PVC 500mL	30400101
Flask Clamp PVC 1000mL	30400102
Flask Clamp PVC 2000mL	30400103
Clamp Microplate Stainless Steel	30400104
Test Tube Rack 13 mm Pivoting	30400105
Test Tube Rack 16 mm Pivoting	30400106
Test Tube Rack 20 mm Pivoting	30400107
Test Tube Rack 25 mm Pivoting	30400108
Test Tube Rack 30 mm Pivoting	30400109
Test Tube Rack 10-14 mm Stationary	30400110
Test Tube Rack 16-20 mm Stationary	30400111
Test Tube Rack 21-25 mm Stationary	30400112
Test Tube Rack 50 mL Tubes Stationary	30400113
Micro Tube Rack	30400114
Test Tube Rack 10-13 mm Diameter	30400115
Test Tube Rack 14-16 mm Diameter	30400116
Test Tube Rack 18-20 mm Diameter	30400117
Test Tube Rack 22-25 mm Diameter	30400118
Test Tube Rack For 15 mL Tubes	30400119
Test Tube Rack For 50 mL Tubes	30400120

# ROCKING & WAVING SHAKERS

Reliable Rocking and Waving Shakers with Simple Adjustments for Tilt Angle and Speed

## Display

Easy-to-read, independent LED displays for speed, tilt angle and time allow the operator to view all settings simultaneously (digital models) and basic control knobs with dial markings for speed, tilt angle and time (analog models)

## Construction

Cast aluminum housing, non-slip rubber mat (included), stacking tray option (with all models except the analog Waver model)

## Design Features

Spill-resistant design, overload protection with audio/visual alarm on digital models and audible alarm on analog models

## Operation

Detachable 3-wire cord and plug (included)



Electronic control allows simple tilt angle and speed adjustments while the unit is still running to achieve optimal mixing.

Achieve reproducible results you can trust with digital models. Precisely adjust the tilt angle in 1° increments with variable speed down to 1 rpm with intuitive touchpad controls.

Optimal speed ramping feature slowly increases speed to desired setpoint to avoid splashing. Smooth rocking or waving motion is maintained with state-of-the-art motor and electronics.

Model	Speed Range	Speed Accuracy	Motion	Timer	Maximum Weight Capacity	Tray Dimensions	Item Number
SHRK07AL1	1 rpm – 75 rpm	-	Rocking, 0 – 15°	1 minute – 120 minutes	7.3 kg	14 in x 11 in (35.6 cm x 27.9 cm)	30391959
SHRK07AL2	1 rpm – 75 rpm	-	Rocking, 0 – 15°	1 minute – 120 minutes	7.3 kg	14 in x 11 in (35.6 cm x 27.9 cm)	30391966
SHWV02DG	1 rpm – 30 rpm	±1 rpm	Waving, 0 – 20°	1 second – 160 hours	2.3 kg	11.75 in x 8.75 in (29.9 cm x 22.2 cm)	30391947
SHWV02AL	1 rpm – 75 rpm	-	Waving, 0 – 16°	1 second – 160 hours	2.3 kg	14 in x 11 in (35.6 cm x 27.9 cm)	30391973
SHRK04DG	1 rpm – 50 rpm	±1 rpm	Rocking, 0 – 15°	1 second – 160 hours	4.5 kg	12.75 in x 10 in (32.4 cm x 25.4 cm)	30391994

Accessories	Item Number
Double Tier Platform Kit Rocker SHRK04DG	30400137
Double Tier Platform Kit Waver SHWV02DG	30400138
Double Tier Platform Kit Rocker SHRK07AL	30400139

Accessories	Item Number
Dimpled Mat For Rocker SHRK04DG	30400140
Dimpled Mat For Waver SHWV02DG	30400142
Dimpled Mat For Rocker SHRK07AL	30400144



# RECIPROCATING SHAKERS

Providing Consistent, Repeatable Reciprocating Shaking Action for a Variety of Applications

## Display

Independent LED displays for speed/time allow the operator to view both settings simultaneously

## Construction

Cold rolled steel (CRS)

## Design Features

Built-in tray (11x13 inch or 28x33 cm) with a non-slip rubber mat (included)

## Operation

Detachable 3-wire cord and plug (included)



A flexible unit for the lab - our multi-purpose Reciprocating Shakers can be customized to fit your unique workflow needs using a wide variety of accessories.

Reciprocating motion is ideal for gentle-to-vigorous mixing of separatory funnels with the sturdy separatory funnel platform. Other optional platforms for flask clamps, media bottles and tube racks.

Designed for safety - speed ramping feature slowly increases speed to avoid splashing. Load sensor detects unbalanced conditions and automatically reduces to a safe speed to protect samples.

Model	Speed Range	Speed Accuracy	Timer	Stroke	Maximum Weight Capacity	Tray Dimensions	Item Number
SHRC0719DG	20 rpm – 300 rpm	±1 rpm, Above 100 rpm ±1% of set speed	1 second – 160 hours	0.75 (19)	6.8 kg	11 in × 13 in (27.9 cm × 33 cm)	30391828

Accessories	Item Number
Universal Platform, 28 X 33 cm, S/S	30400052
Universal Platform, 33 X 33 cm, S/S	30400053
Universal Platform, 46 X 46 cm, S/S	30400054
Universal Platform, 61 X 46 cm, S/S	30400056
Rubber Mat, 28 × 33 cm	30400060
Rubber Mat, 33 × 33 cm	30400061
Rubber Mat, 46 × 46 cm	30400062
Rubber Mat, 46 X 61 cm	30400063
Culture Platform with Mat, 46 X 46 cm	30400066
Culture Platform with Mat, 46 X 61 cm	30400067
Dedicated Platform, 33 X 33 cm, 125 mL	30400075
Dedicated Platform, 33 X 33 cm, 250 mL	30400076
Dedicated Platform, 33 X 33 cm, 500 mL	30400077
Dedicated Platform, 33 X 33 cm, 1000 mL	30400078
Dedicated Platform, 46 X 46 cm, 125 mL	30400079
Dedicated Platform, 46 X 46 cm, 250 mL	30400080
Dedicated Platform, 46 X 46 cm, 500 mL	30400081
Dedicated Platform, 46 X 46 cm, 1000 mL	30400082
Separatory Funnel Platform 46 X 46 cm	30400083
Flask Clamp, 10 mL	30400084
Flask Clamp, 25 mL	30400085

Accessories	Item Number
Flask Clamp, 50 mL	30400086
Flask Clamp, 125 mL	30400087
Flask Clamp, 250 mL	30400088
Flask Clamp, 500 mL	30400089
1 Liter Erlenmeyer Flask Clamp	30400090
2 Liter Erlenmeyer Flask Clamp	30400091
2.8 Liter Erlenmeyer Flask Clamp	30400092
3 Liter Erlenmeyer Flask Clamp	30400093
4 Liter Erlenmeyer Flask Clamp	30400094
5 Liter Erlenmeyer Flask Clamp	30400095
6 Liter Erlenmeyer Flask Clamp	30400096
500 mL Media Bottle Clamp	30400097
1000 mL Media Bottle Clamp	30400098
Flask Clamp PVC 125mL	30400099
Flask Clamp PVC 250mL	30400100
Flask Clamp PVC 500mL	30400101
Flask Clamp PVC 1000mL	30400102
Flask Clamp PVC 2000mL	30400103
Clamp Microplate Stainless Steel	30400104
Test Tube Rack 13 mm Pivoting	30400105
Test Tube Rack 16 mm Pivoting	30400106

Accessories continued on next page



# RECIPROCATING SHAKERS ACCESSORIES

Accessories	Item Number
Test Tube Rack 20 mm Pivoting	30400107
Test Tube Rack 25 mm Pivoting	30400108
Test Tube Rack 30 mm Pivoting	30400109
Test Tube Rack 10-14 mm Stationary	30400110
Test Tube Rack 16-20 mm Stationary	30400111
Test Tube Rack 21-25 mm Stationary	30400112
Test Tube Rack 50 mL Tubes Stationary	30400113

Accessories	Item Number
Micro Tube Rack	30400114
Test Tube Rack 10-13 mm Diameter	30400115
Test Tube Rack 14-16 mm Diameter	30400116
Test Tube Rack 18-20 mm Diameter	30400117
Test Tube Rack 22-25 mm Diameter	30400118
Test Tube Rack For 15 mL Tubes	30400119
Test Tube Rack For 50 mL Tubes	30400120

# HIGH SPEED MICROPLATE SHAKERS

High Speed Shaking for up to 48 Microplates

## Display

Independent LED displays for speed and time

## Communication

RS-232

## Construction

Die Cast Aluminum

## Design Features

Programmable pulse feature with adjustments for pulse ON and pulse OFF intervals of between 1 and 59 seconds. Program timer to count down from set time and turn off when timer reaches zero, or to run in continuous mode as timer counts accumulated time until user turns it off.



Sturdy, adjustable top plate secures up to 48 microplates, 6 deep well plates, or small tubes less than 5 in. (12.7 cm) tall and up to 7 lb. (3.2 kg).

For difficult to mix samples, or to prevent overheating samples while shaking, the Pulse Feature can be adjusted to Pulse ON and Pulse OFF for intervals of between 1 and 59 seconds.

Independent LEDs and Touchpad Control for Speed and Time allow you to accurately reproduce the exact settings every time.

Model	Motion	Speed Range	Capacity	Dimensions	Tray Dimensions	Timer	Item Number
SHHSMPDG	Orbital, 3.6 mm	600 rpm – 2,500 rpm	48 microplates	15.5 in x 12.8 in x 12 in (394 mm x 325 mm x 305 mm)	12.25 in x 11 in (311 mm x 279 mm)	1 second – 160 hours	30573784





	Incubating Cooling Thermal Shakers	Incubating Light Duty Orbital Shaker	Incubating Light Duty Orbital Shakers
<b>Model</b>	ISTHBLCTS (Heat/Cool) ISTHBLHTS (Heat)	ISLD04HDG	ISLDMPHDG ISLDMPHDGL
<b>Temperature Range</b>	17 below ambient to 100°C / ambient +4 to 100°C	Ambient +5° to 65°C	Ambient +5° to 65°C
<b>Speed Range</b>	300 to 3000 rpm	100 to 1200 rpm	100 to 1200 rpm
<b>Timer</b>	1 minute to 99 hours, 59 min	1 second to 160 hours	1 second to 160 hours
<b>Motion</b>	Orbital	Orbital	Orbital
<b>Orbit</b>	3 mm	3 mm	3 mm
<b>Max Weight Capacity</b>	1 Block	8 lbs	4 Microplates / 2 Micro-Tube Racks
<b>Audible Alarm</b>	•	•	•
<b>Load Sensor</b>	•	—	—
<b>Drive System</b>	—	Triple Eccentric	Triple Eccentric
<b>Motor Type</b>	Brushless DC Motor	Brushless DC Motor	Brushless DC Motor
<b>Set-Point Retention</b>	• Displays Last Setting	• Displays Last Setting	• Displays Last Setting
<b>Restart/Power Out</b>	•	•	•
<b>Ramp to Speed</b>	•	•	•
<b>Temperature Overshoot Protection</b>	•	—	—
<b>Overload Protection</b>	•	•	•
<b>User Calibration (Temperature)</b>	•	•	•
<b>User Calibration (Speed)</b>	•	—	—
<b>Interface</b>	USB	—	—
<b>Overall Dimensions (L x W xH)</b>	10.59 x 10.31 x 5.39"	17 x 11 x 10.5"	17 x 11 x 7.75"
<b>Included Tray (L x W)</b>	N/A	11 x 7.75"	11 x 7.75"
<b>Platform Options (L x W)</b>	N/A	N/A	N/A

- Yes \*\* Maximum speed/tilt angle may vary with heavy or unbalanced loads.
- \*\* Centered on tray.



	Incubating Cooling Light Duty Orbital Shaker	Incubating Rocking Shaker	Incubating Waving Shaker	Incubating Heavy Duty Orbital Shakers
<b>Model</b>	ISICMBCDG	ISRK04HDG	ISWV02HDG	ISHD16HDG, ISHD23HDG, ISHD23CDG
<b>Temperature Range</b>	10°C Below Ambient to 65°C	Ambient +5° to 65°C	Ambient +5° to 65°C	Ambient +5°C to 65°C, 15°C below ambient to 65°C (ISHD23CDG Models only)
<b>Speed Range</b>	100 to 1200 rpm	1 to 50 rpm	1 to 30 rpm	15 to 500 rpm
<b>Timer</b>	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours	1 second to 160 hours
<b>Motion</b>	Orbital	Rocking	Waving	Orbital
<b>Orbit</b>	3 mm	Tilt Angle: 0 to 15° *	Tilt Angle: 0 to 20° *	19 mm
<b>Max Weight Capacity</b>	2 Microplates 2 Modular Blocks	10 lbs**	5 lbs**	ISHD16HDG 35 lb ISHD23HDG 50 lb ISHD23CDG 50 lb
<b>Audible Alarm</b>	•	•	—	•
<b>Load Sensor</b>	—	—	—	•
<b>Drive System</b>	Triple Eccentric	Cable	Cable	Triple Eccentric
<b>Motor Type</b>	Brushless DC Motor	Stepper Motor	Stepper Motor	Brushless DC Motor
<b>Set-Point Retention</b>	• Displays Last Setting	• Displays Last Setting	• Displays Last Setting	• Displays Last Setting
<b>Restart/Power Out</b>	•	•	—	•
<b>Ramp to Speed</b>	•	•	—	•
<b>Temperature Overshoot Protection</b>	—	—	—	•
<b>Overload Protection</b>	•	•	—	•
<b>User Calibration (Temperature)</b>	—	—	—	•
<b>User Calibration (Speed)</b>	—	—	—	•
<b>Interface</b>	—	—	—	RS-232 Interface
<b>Overall Dimensions (L x W x H)</b>	16.49 x 10.11 x 10.98"	17 x 11 x 10.5"	17 x 11 x 10.5"	ISHD16HDG 16.0 x 25.5 x 14.0" ISHD23HDG 23.5 x 32.1 x 26.6" ISHD23CDG 23.5 x 41.1 x 26.6"
<b>Included Tray (L x W)</b>	N/A	10 x 7.5"	9.25 x 7.25"	ISHD16HDG 13 x 11" ISHD23HDG 18 x 18" ISHD23CDG 18 x 18"
<b>Platform Options (L x W)</b>	N/A	N/A	N/A	N/A

- Yes \*\* Maximum speed/tilt angle may vary with heavy or unbalanced loads.
- \*\* Centered on tray.



# INCUBATING COOLING THERMAL SHAKERS

Industry Leading Thermal Shaker with Exceptional Heating/Cooling Performance with High Speed Shaking

## Display

4.3 inch (10.9 cm) color touchscreen Liquid Crystal Display (LCD) which can be programmed in six languages

## Communication

USB port provides greater flexibility in data collection and transfer

## Construction

Valox cool touch housing, removable plastic rack, cover and screwdriver for block removal (included)

## Design Features

Hot top indicator, audible alarm, maximum temperature limiting function, temperature priority function, pulse/quick mix mode, temperature calibration mode, temperature ramp rate function

## Operation

Detachable 3-wire cord and plug (included), unit requires a block - compatible with Eppendorf Thermomixer® R blocks



Best in class temperature performance. Enhanced electronics and software allow for fast and accurate temperature control you can trust. Cooling models reach temperatures down to 17°C below ambient.

Intuitive touchscreen for simple operation and programming. Set the functions and the comprehensive help screens in one of six languages to guide the user through the operation of the unit.

Easily create programs for repeat applications. Storage for five separate, 5-step programs. The USB port allows the transfer of test data to a flash drive for data logging and program storage.

Model	Blocks Included	Temp. Range	Temperature accuracy (±)	Speed Range	Speed Accuracy	Timer	Cooling rate	Heating Rate (/min)	Item Number
ISTHBLCTSN	Blocks sold separately	17°C below Ambient – 100°C	+/- 0.5°C between 20°C and 45°C; +/-2°C below 20°C and 45°C	300 rpm – 3,000 rpm	±2%	1 minute – 99 hours, 59 minutes	Above ambient 2-3°C/min	5°C/min	30573841
ISTHBLHTSN	Blocks sold separately	Ambient +4°C – 100°C	+/- 0.5°C between 20°C and 45°C; +/-2°C below 20°C and 45°C	300 rpm – 3,000 rpm	±2%	1 minute – 99 hours, 59 minutes		5°C/min	30573847
ISTHBLCTS	24 X 1.5 mL tube block, rack and cover	17°C below Ambient – 100°C	+/- 0.5°C between 20°C and 45°C; +/-2°C below 20°C and 45°C	300 rpm – 3,000 rpm	±2%	1 second – 99 hours, 59 minutes	Above ambient 2-3°C/min	5°C/min	30391996
ISTHBLHTS	24 X 1.5 mL tube block, rack and cover	Ambient +4°C – 100°C	+/- 0.5°C between 20°C and 45°C; +/-2°C below 20°C and 45°C	300 rpm – 3,000 rpm	±2%	1 second – 99 hours, 59 minutes		5°C/min	30392003

Accessories	Item Number
Microplate Thermal Block	30400126
384 Well PCR Plate Thermal Block	30400127
0.2 mL PCR Plate/Tube Thermal Block	30400128
Block For 30 X 0.5 mL Tubes	30400129
Block For 24 X 1.5 mL Tubes	30400130
Block For 24 X 2.0 mL Tubes	30400131
Block For 24 X 5-7 mL Tubes (12mm)	30400132

Accessories	Item Number
Block For 24 X 2.0 mL Cryotubes	30400133
Block For 9 X 5mL Eppendorf Tubes	30400134
Block For 9 X 15 mL Conical Tubes	30400135
Block For 4 X 50 mL Conical Tubes	30400136
Rack For 30 X 0.5 mL Tube Block	30400250
Rack For 24X1.5 / 24X2.0 mL Tube Blocks	30400251
Cover For 0.5mL/1.5mL/2.0mL Tube Blocks	30400252



# INCUBATING LIGHT DUTY ORBITAL SHAKERS

Save Bench Space with Combined Incubating and Shaking Features

## Display

Easy-to-read, independent LED displays for temperature, speed and time allow the operator to view all settings simultaneously

## Construction

Cast aluminum housing with polycarbonate lid, brushless DC motor

## Design Features

Spill-resistant design, overload protection, caution hot indicator

## Operation

Detachable 3-wire cord and plug (included)



Designed to provide flexibility in your applications, these shakers with a 4 kg capacity include the ready-to-use tray to customize with over 10 easy-to-install accessories.

When precision is required, achieve temperature accuracy with the user-controlled temperature calibration feature for sensitive applications. Digital control for reliable and repeatable shaking speed.

Microplate shaker is designed to hold up to 4 microplates or deepwell plates, or easily install 2 microtube racks. Two options - opaque lid for light sensitive samples and clear lid for viewing samples.

Model	Temp. Range	Temp Uniformity	Speed Accuracy	Timer	Maximum Weight Capacity	Tray Dimensions	Item Number
ISLD04HDG	Ambient +5°C – 65°C	± 0.5°C at 37°C	±2%	1 second – 160 hours	3.6 kg	11 in × 7.75 in (27.9 cm × 19.7 cm)	30391924
ISLDMPHDGL	Ambient +5°C – 65°C	± 0.5°C at 37°C	±2%	1 second – 160 hours	4 Microplates or 2 Micro-tube Racks	11 in × 7.75 in (27.9 cm × 19.7 cm)	30391931
ISLDMPHDG	Ambient +5°C – 65°C	± 0.5°C at 37°C	±2%	1 second – 160 hours	4 Microplates or 2 Micro-tube Racks	11 in × 7.75 in (27.9 cm × 19.7 cm)	30391938

Accessories	Item Number
Flask Clamp, 10 mL	30400084
Flask Clamp, 25 mL	30400085
Flask Clamp, 50 mL	30400086
Flask Clamp, 125 mL	30400087
Flask Clamp, 250 mL	30400088
Flask Clamp PVC 125mL	30400099

Accessories	Item Number
Flask Clamp PVC 250mL	30400100
Micro Tube Rack	30400114
Test Tube Rack 10-13 mm Diameter	30400115
Test Tube Rack 14-16 mm Diameter	30400116
Test Tube Rack For 15 mL Tubes	30400119
Test Tube Rack For 50 mL Tubes	30400120



# INCUBATING COOLING ORBITAL SHAKERS

*Innovatively Designed Incubating Orbital Shaker to Heat, Cool and Shake Samples*

## Display

Easy-to-read, independent LED displays for temperature, speed and time allow the operator to view all settings simultaneously

## Construction

Cast aluminum housing with polycarbonate lid, brushless DC motor

## Design Features

Spill-resistant design, overload protection, caution hot indicator

## Operation

Detachable 3-wire cord and plug (included)



Designed to provide flexibility in your applications, these shakers are microplate ready - no accessories required, and can easily accommodate modular blocks with the included block adapter.

When precision is required, achieve temperature accuracy with the unique temperature calibration feature for sensitive applications. Digital control for reliable and repeatable shaking speed.

Innovative temperature system allows for fast, accurate and uniform temperatures you can trust. The unique Peltier design with direct plate-to-sample contact offers precise heating and cooling.

Model	Temp. Range	Temp Uniformity	Speed Range - Microplates	Speed Range - Modular Blocks	Speed Accuracy	Timer	Maximum Weight Capacity	Item Number
ISICMBCDG	10°C below Ambient – 65°C	± 0.5°C at 37°C	100 to 1200 rpm	100 to 600 rpm	±2%	1 second – 160 hours	2 Microplates or 2 Modular Blocks	30391945

Accessories	Item Number
Module Block 10 mm Test Tube	30400151
Module Block 12/13 mm 20 Hole	30400152
Module Block Combination	30400156
Module Block 0.5 mL Microtaper	30400157
Module Block 6 mm Test Tube	30400158
Module Block 1.5 mL Microtaper	30400159
Module Block 50mL Conical Centrifuge	30400168
Module Block 15 mL Conical Centrifuge	30400172
Module Block For Vials 12 mm	30400182
Module Block For Vials 15 mm	30400183

Accessories	Item Number
Module Block For Vials 17 mm	30400184
Module Block For Vials 19 mm	30400185
Module Block For Vials 21 mm	30400186
Module Block For Vials 23 mm	30400187
Module Block For Vials 25 mm	30400188
Module Block For Vials 28 mm	30400189
Module Block For Vials 16 mm	30400190
Module Block, 2.0 mL Tube	30400191
Module Block Combo, 50 mL, 15 mL, 1.5 mL	30400193
Module Block Combo - Micro Tube	30400194

# INCUBATING HEAVY DUTY ORBITAL SHAKERS

Save Incubator Space with Benchtop Incubating and Incubating Refrigerating Shakers

## Display

Independent LED displays for temperature, speed and time

## Communication

RS232

## Construction

Aluminum and Cycology

## Design Features

Temperature calibration feature, overload protection, overshoot protection (temperature), load sensor, PID temperature controller, Triple Eccentric Drive system



The exclusive Opti-Flow Forced Ventilation System utilizes twin induction or a single large fan. Air is deflected around & not directly on samples, creating a circular flow of air ensuring uniformity.

For repeatable results, the exclusive Accu-Drive shaking system ensures speed accuracy. The Triple Eccentric Drive provides consistent shaking motion throughout the entire speed range.

The chambers for the ISHD23HDG and ISHD23CDG units are large enough to hold 2 x 6 L Erlenmeyer flasks with optional clamps and platform.

Model	Capacity	Speed Range	Speed Accuracy	Temp. Range	Temp Uniformity	Timer	Item Number
ISHD16HDG	35 lb (16kg)@ 75rpm, 5 lb (2.3kg)@ 500 rpm	15 rpm - 500 rpm	Above 100rpm +/- 1%, Below 100rpm /- 1 rpm	Ambient +5°C – 65°C	± 0.5°C at 37°C	1 second – 160 hours	30573769
ISHD23HDG	50 lb (22.7kg) @ 125 rpm, 10 lb (4.53kg) @ 500 rpm	15 rpm - 500 rpm	Above 100rpm +/- 1%, Below 100rpm /- 1 rpm	Ambient +5°C – 65°C	± 0.5°C at 37°C	1 second – 160 hours	30573774
ISHD23CDG	50 lb (22.7kg) @ 125 rpm, 10 lb (4.53kg) @ 500 rpm	15 rpm - 500 rpm	Above 100rpm +/- 1%, Below 100rpm /- 1 rpm	15°C below Ambient – 65°C	± 0.5°C at 37°C	1 second – 160 hours	30573779

Accessories	Item Number
Universal Platform, 28 X 33 cm, S/S	30400052
Universal Platform, 46 X 46 cm, S/S I-HR	30400055
Rubber Mat, 28 x 33 cm	30400060
Flask Clamp, 10 mL	30400084
Flask Clamp, 25 mL	30400085
Flask Clamp, 50 mL	30400086
Flask Clamp, 125 mL	30400087
Flask Clamp, 250 mL	30400088
Flask Clamp, 500 mL	30400089
1 Liter Erlenmeyer Flask Clamp	30400090
2 Liter Erlenmeyer Flask Clamp	30400091
2.8 Liter Erlenmeyer Flask Clamp	30400092
3 Liter Erlenmeyer Flask Clamp	30400093
4 Liter Erlenmeyer Flask Clamp	30400094
5 Liter Erlenmeyer Flask Clamp	30400095
6 Liter Erlenmeyer Flask Clamp	30400096
500 mL Media Bottle Clamp	30400097
1000 mL Media Bottle Clamp	30400098
Flask Clamp PVC 125mL	30400099
Flask Clamp PVC 250mL	30400100

Accessories	Item Number
Flask Clamp PVC 500mL	30400101
Flask Clamp PVC 1000mL	30400102
Flask Clamp PVC 2000mL	30400103
Clamp Microplate Stainless Steel	30400104
Test Tube Rack 13 mm Pivoting	30400105
Test Tube Rack 16 mm Pivoting	30400106
Test Tube Rack 20 mm Pivoting	30400107
Test Tube Rack 25 mm Pivoting	30400108
Test Tube Rack 30 mm Pivoting	30400109
Test Tube Rack 10-14 mm Stationary	30400110
Test Tube Rack 16-20 mm Stationary	30400111
Test Tube Rack 21-25 mm Stationary	30400112
Test Tube Rack 50 mL Tubes Stationary	30400113
Test Tube Rack 10-13 mm Diameter	30400115
Test Tube Rack 14-16 mm Diameter	30400116
Test Tube Rack 18-20 mm Diameter	30400117
Test Tube Rack 22-25 mm Diameter	30400118
Test Tube Rack For 15 mL Tubes	30400119
Test Tube Rack For 50 mL Tubes	30400120



# INCUBATING ROCKING & WAVING SHAKERS

Save Incubator Space with Unique Benchtop Incubating Rocking and Waving Shakers

## Display

Easy-to-read, independent LED displays for temperature, speed/tilt angle and time allow the operator to view all settings simultaneously

## Construction

Cast aluminum housing with polycarbonate lid

## Design Features

Spill-resistant design, overload protection with audio/visual alarm on digital models and audible alarm on analog models, caution hot indicator

## Operation

Detachable 3-wire cord and plug (included)



Electronic control allows simple tilt angle, speed and temperature adjustments while the unit is still running to achieve optimal mixing.

Achieve reproducible results you can trust. Precisely adjust the tilt angle in 1° increments, vary the speed by 1 rpm and set temperature in 1°C increments with intuitive touchpad controls.

Innovative speed ramping feature slowly increases speed to desired setpoint to avoid splashing. Smooth rocking or waving motion is maintained with unique, state-of-the-art motor and electronics.

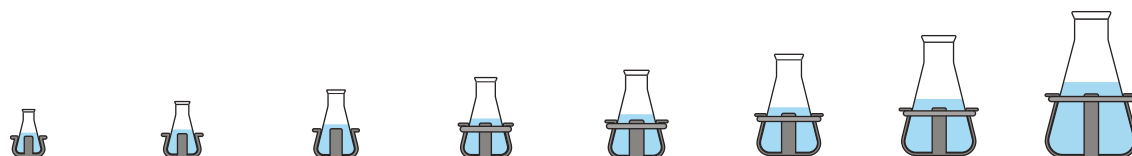
Model	Temp. Range	Temp Uniformity	Speed Accuracy	Tilt Angle	Timer	Maximum Weight Capacity	Tray Dimensions	Item Number
ISWV02HDG	Ambient +5°C – 65°C	± 0.5°C at 37°C	±1 rpm	Waving, 0 – 20°	1 second – 160 hours	2.3 kg	9.25 in x 7.25 in (23.5 cm x 18.4 cm)	30391987
ISRK04HDG	Ambient +5°C – 65°C	± 0.5°C at 37°C	±1 rpm	Rocking, 0 – 15°	1 second – 160 hours	4.5 kg	10 in x 7.75 in (25.4 cm x 19.7 cm)	30391980



# OPEN AIR, INCUBATING, INCUBATING COOLING SHAKERS ACCESSORIES

## Stainless Steel Flask Clamps

Designed to hold Erlenmeyer flasks from 10 mL to 6 L. Constructed of type 302 and 304 stainless steel. Includes hardware for easy attachment to platforms. Flask clamps 50 mL and higher are supplied with a spring to hold the flask in place. The 2.8 L clamp is designed to hold a Fernbach flask. Media bottle clamps feature the same details as flask clamps.



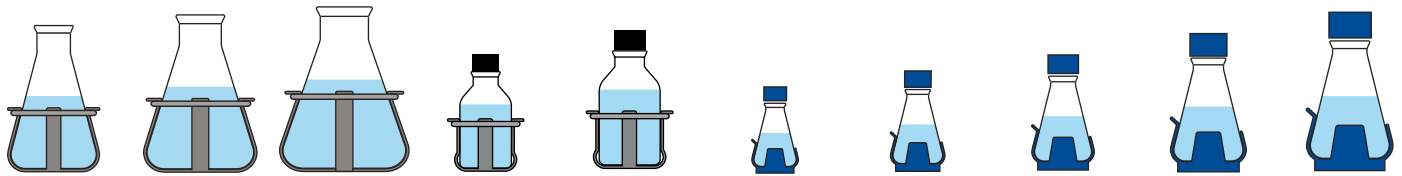
	10 mL Erlenmeyer Flask Clamp	25 mL Erlenmeyer Flask Clamp	50 mL Erlenmeyer Flask Clamp	125 mL Erlenmeyer Flask Clamp	250 mL Erlenmeyer Flask Clamp	500 mL Erlenmeyer Flask Clamp	1 L Erlenmeyer Flask Clamp	2 L Erlenmeyer Flask Clamp
<b>Material</b>	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
<b>Item No.</b>	30400084	30400085	30400086	30400087	30400088	30400089	30400090	30400091
<b>List Price (USD)</b>	38	38	40	40	40	43	58	91
<b>Tray or Platform</b>	Number of Flask Clamps per Tray or Platform							
11.75 × 8.75" (29.9 × 22.2 cm) Open Air Digital 4 kg Shakers	35	20	15	12	6	4	N/A	N/A
11 × 7.75" (27.9 × 19.7 cm) Incubating 4 kg Shakers	35	20	12	8	5	N/A	N/A	N/A
11 × 13" (27.9 × 33 cm) Analog/Digital 16 kg Shakers	60	25	13	10	9	7	4	N/A
Digital Reciprocating Shakers	60	25	13	10	9	7	4	N/A
13 × 13" (33 × 33 cm) Analog/Digital 16 kg Shakers	60	30	15	12	12	8	4	3
Digital Reciprocating Shakers	60	30	15	12	12	8	4	3
18 × 18" (45.7 × 45.7 cm) Analog/Digital 16 kg Shakers	113	64	32	20	20	13	8	5
Digital Reciprocating Shakers	113	64	32	20	20	13	8	5
18 × 24" (45.7 × 61 cm) Analog/Digital 16 kg Shakers	158	88	44	28	28	20	12	6
Digital Reciprocating Shakers	158	88	44	28	28	20	12	6
Analog/Digital 23 kg Shakers	158	88	44	28	28	20	12	6
18 × 30" (45.7 × 76.2 cm) Analog/Digital 23 kg Shakers	203	112	56	36	36	26	15	8
24 × 24" (61 × 61 cm) Digital 45 kg Shakers	221	121	61	41	41	25	16	9
24 × 36" (61 × 91.4 cm) Digital 63 kg Shakers	336	160	94	61	64	40	24	14

\*All units require a universal platform for mounting flask clamps or test tube racks with the exception of the digital open air and incubating 4 kg shakers

# OPEN AIR, INCUBATING, INCUBATING COOLING SHAKERS ACCESSORIES

## PVC Flask Clamps

Constructed of one piece, molded PVC. Autoclavable. Will not scratch or mark flask like other clamps. Includes hardware for easy attachment to universal platforms. The attachment and removal of flasks is quick and easy. Ideal for polycarbonate flasks.



2.8 L & 3 L Fernbach Flask Clamp	4 L Erlenmeyer Flask Clamp	5 L & 6 L Erlenmeyer Flask Clamp	500 mL Media Bottle Clamp	1 L Media Bottle Clamp	125 mL Erlenmeyer Flask Clamp	250 mL Erlenmeyer Flask Clamp	500 mL Erlenmeyer Flask Clamp	1 L Erlenmeyer Flask Clamp	2 L Erlenmeyer Flask Clamp
Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	PVC	PVC	PVC	PVC	PVC
2.8L-30400092 3L-30400093	30400094	5 L-30400095 6 L-30400096	30400097	30400098	30400099	30400100	30400101	30400102	30400103
121 / 164	151	183 / 179	113	122	42	43	49	55	92
Number of Flask Clamps per Tray or Platform									
N/A	N/A	N/A	3	N/A	12	6	4	N/A	N/A
N/A	N/A	N/A	N/A	N/A	8	4	N/A	N/A	N/A
N/A	N/A	N/A	5	2	10	8	5	2	N/A
N/A	N/A	N/A	5	2	10	8	5	2	N/A
1	1	1	6	5	12	10	6	4	3
1	1	1	6	5	12	10	6	4	3
2	4	2	16	10	20	18	12	8	4
2	4	2	16	10	20	18	12	8	4
3	4	3	20	13	28	25	16	10	6
3	4	3	20	13	28	25	16	10	6
3	4	3	20	13	28	25	16	10	6
3	6	4	28	18	36	33	20	14	8
5	5	5	25	18	41	35	24	13	9
7	9	7	40	30	61	55	38	22	13

# OPEN AIR, INCUBATING, INCUBATING COOLING SHAKERS ACCESSORIES

## Test Tube Racks

### Half Size, Stationary

Racks constructed of PVC coated steel. Includes hardware for easy attachment to platforms.

### Dimensions:

5 L x 7 W x 4" H (12.7 x 17.8 x 10.2 cm) / Micro-Tube Rack: 1.7" H (4.3 cm).



	1.5 to 2 mL Micro-Tube Rack Half Size, Stationary	10 to 13 mm Test Tube Rack Half Size, Stationary	14 to 16 mm Test Tube Rack Half Size, Stationary	18 to 20 mm Test Tube Rack Half Size, Stationary	22 to 25 mm Test Tube Rack Half Size, Stationary	15 mL Centrifuge Tube Rack Half Size, Stationary	50 mL Centrifuge Tube Rack Half Size, Stationary
Tube Capacity	70	63	48	35	24	35	12
Item No.	30400114	30400115	30400116	30400117	30400118	30400119	30400120
List Price (USD)	165	182	182	182	182	189	189
Tray or Platform	Number of Test Tube Racks per Tray or Platform						
11.75 x 8.75" (29.9 x 22.2 cm)							
Digital Open Air 4 kg Shakers	2	2	2	2	2	2	2
11 x 7.75" (27.9 x 19.7 cm)							
Incubating 4 kg Shakers	2	1	1	N/A	N/A	1	1
Digital Open Air 4 kg Shakers	2	N/A	N/A	N/A	N/A	N/A	N/A
Incubating Microplate Shakers	2	N/A	N/A	N/A	N/A	N/A	N/A
11 x 13" (27.9 x 33 cm)							
Analog/Digital 16 kg Shakers	2	2	2	2	2	2	2
Digital Reciprocating Shakers	2	2	2	2	2	2	2
13 x 13" (33 cm x 33 cm)							
Analog/Digital 16 kg Shakers	2	2	2	2	2	2	2
Digital Reciprocating Shakers	2	2	2	2	2	2	2
18 x 18" (45.7 x 45.7 cm)							
Analog/Digital 16 kg Shaker	4	4	4	4	4	4	4
Digital Reciprocating Shakers	4	4	4	4	4	4	4
18 x 24" (45.7 x 61 cm)							
Analog/Digital 16 kg Shakers	6	6	6	6	6	6	6
Digital Reciprocating Shakers	6	6	6	6	6	6	6
Analog/Digital 23 kg Shakers	6	6	6	6	6	6	6
18 x 30" (45.7 x 76.2 cm)							
Analog/Digital 23 kg Shakers	8	8	8	8	8	8	8
24 x 24" (61 x 61 cm)							
Digital 45 kg Shakers	8	8	8	8	8	8	8
24 x 36" (61 x 91.4 cm)							
Digital 63 kg Shakers	7	7	7	7	7	7	7

\*All units require a universal platform for mounting flask clamps or test tube racks with the exception of the digital open air and incubating 4 kg shakers



# OPEN AIR, INCUBATING, INCUBATING COOLING SHAKERS ACCESSORIES

## Test Tube Racks

### Full Size, Stationary

Racks constructed of PVC coated steel. Includes hardware for easy attachment to platforms.

#### Dimensions:

3.75 L x 16.5 W x 4" H (9.5 x 41.9 x 10.2 cm)

### Full Size, Pivoting

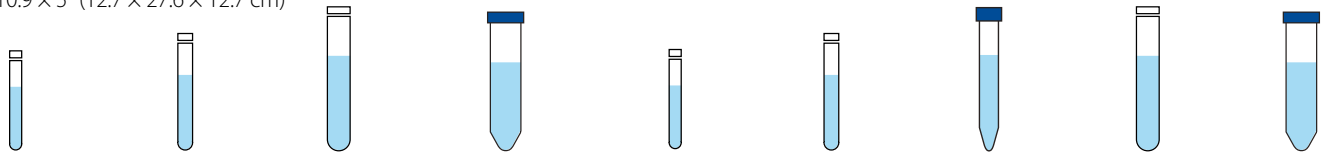
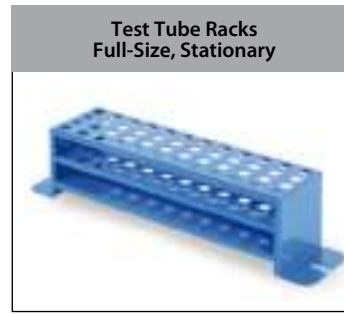
Has adjustable angle, custom tilt. Stainless steel holder includes removable plastic rack. Rack is easily removed to transport from work area to shaker.

#### Inside pivoting rack dimensions:

5.1 x 10.8 x 3.9" (12.9 x 27.4 x 9.9 cm)

#### Outside stationary rack dimensions:

5.0 x 10.9 x 5" (12.7 x 27.6 x 12.7 cm)



10 to 14 mm Test Tube Rack Full Size, Stationary	16 to 20 mm Test Tube Rack Full Size, Stationary	21 to 25 mm Test Tube Rack Full Size, Stationary	50 mL Centrifuge Tube Rack Full Size, Stationary	13 mm Test Tube Rack Full Size, Pivoting	16 mm Test Tube Rack Full Size, Pivoting	20 mm Test Tube Rack Full Size, Pivoting	25 mm Tube Rack Full Size, Pivoting	30 mm Tube Rack Full Size, Pivoting
48	33	21	17	90	60	40	24	21
30400110	30400111	30400112	30400113	30400105	30400106	30400107	30400108	30400109
359	359	359	376	320	320	320	320	320
Number of Test Tube Racks per Tray or Platform								
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	1	1	1	1	1
N/A	N/A	N/A	N/A	1	1	1	1	1
N/A	N/A	N/A	N/A	2	2	2	2	2
N/A	N/A	N/A	N/A	2	2	2	2	2
N/A	N/A	N/A	N/A	2	2	2	2	2
N/A	N/A	N/A	N/A	2	2	2	2	2
5	5	5	5	3	3	3	3	3
5	5	5	5	3	3	3	3	3
5	5	5	5	3	3	3	3	3
6	6	6	6	4	4	4	4	4
7	7	7	7	4	4	4	4	4
5	5	5	5	6	6	6	6	6

# MINI VORTEX MIXERS

Choose the Perfect Vortex Mixer From Four Durable Models for Everyday Mixing

## Display

Independent LED displays for speed/time allow the operator to view both settings simultaneously (digital models) and adjustment knob with dial markings for variable speed control (analog models)

## Construction

Cup head and 3-inch accessory platform for beakers, flasks, test tubes etc. (included with all models), stainless steel microtube holder for 12 tubes (pulsing models)

## Design Features

Microprocessor-control to maintain set speed for consistent mixing action (digital models), 230V models have a maximum speed of 2500 rpm

## Operation

Detachable 3-wire cord and plug (included)



Touch mode operation activates mixing when depressing the cup head or continuous mode for use with accessory attachments. Sturdy, rugged design ensures the unit stays in place while in use.

Robust digital and non-digital Vortex Mixers offer effective speed control from low RPM start-up for gentle shaking to high-speed mixing for vigorous vortexing of samples.

The Fixed Speed Vortex Mixer is an economical choice for vigorous mixing of samples at high speed. To ease repetitive sample processing, this unit provides simple, effective full-speed mixing.

Model	Type	Speed Range	Timer	Orbit	Capacity	Duty Rating	Item Number
VXMNAL	Analog	300 rpm – 3200 rpm	-	0.2 in (4.9 mm)	0.5 kg	Intermittent	30392115
VXMNDG	Digital	500 rpm – 3000 rpm	1 second - 9999 minutes	0.2 in (4.9 mm)	0.5 kg	Intermittent	30392122
VXMNFS	Fixed Speed	3200 rpm	-	0.2 in (4.9 mm)	0.5 kg	Intermittent	30392108
VXMNPS	Pulsing	500 rpm – 3000 rpm	1 second - 9999 minutes	0.1 in (2.5 mm)	0.5 kg	Intermittent	30392129

Accessories	Item Number
8 cm Head with Rubber Cover	30400196
Tube Holder Kit with Retainer	30400197
Micro Tube and Well Plate Holder Kit	30400198
Micro Well Plate Kit with Retainer	30400199
Microtube Kit with Retainer	30400200
Foam Insert Variety Pack	30400201
Single Tube Holder	30400202
Single Tube Holder Adapter Vortex Genie	30400203
0.5 mL Micro-Tube Holder	30400204
1.5-2.0 mL Micro-Tube Holder	30400205
1.5-2.0 mL Stainless Steel Tube Holder	30400206
Ampule Tube Holder - Small (15-17mm)	30400207

Accessories	Item Number
Ampule Tube Holder - Large (10-17mm)	30400208
Insert Retainer	30400227
Vessel Harness, Pack of 2	30400228
Holder For 9-13 mm Tubes, Pack of 2	30400229
Holder For 14-19 mm Tubes, Pack of 2	30400230
Holder For 20-25 mm Tubes, Pack of 2	30400231
Micro-Tube Holder, Pack of 2	30400232
Micro-Well Plate Holder, Pack of 2	30400233
Flat Foam Insert, Pack of 2	30400234
Cup Head	30400235
7.6 cm Head (3")	30400236
7.6 cm Rubber Head Cover (3")	30400237



# HEAVY-DUTY VORTEX MIXERS

Increase Productivity with Continuous-Duty Vortexing of Multiple Samples

## Display

Independent LED displays for speed/time allow the operator to view both settings simultaneously (digital models) and adjustment knob with dial markings for variable speed control (analog models)

## Construction

Cyclopol, Touch/Standby/On rocker switch (both models)

## Design Features

Universal holder, foam insert for (38) 1.5 to 2 ml microtubes, universal cover and cup head (included)

## Operation

Detachable 3-wire cord and plug (included)



Safe to mix at high speeds - the unique locking design of the mixer accessories allows the mixer to safely operate throughout the entire speed range.

For the most demanding applications, these mixers utilize a high quality German-manufactured motor, allowing for continuous duty operation and increased load capacities up to 1.1 kg.

Robust digital and non-digital models offer effective speed control from low rpm for gentle shaking to high-speed mixing for vigorous vortexing of difficult samples.

Model	Control	Speed Range	Timer	Orbit	Capacity	Duty Rating	Item Number
VXHDAL	Analog	On Mode, 300 rpm – 2500 rpm; Touch Mode, 300 rpm – 3500 rpm	-	0.2 in (4.9 mm)	1.1 kg	Continuous	30392148
VXHDDG	Digital	On Mode, 300 rpm – 2500 rpm; Touch Mode, 300 rpm – 3500 rpm	1 second - 9999 minutes	0.2 in (4.9 mm)	1.1 kg	Continuous	30392146

Accessories	Item Number
Foam Insert Blank	30400209
Cup Head, VXHD and VXMP Vortex Mixers	30400210
Large Vessel Holder For 500 ml/1 L Flask	30400211
4 Place Stackable Microplate Holder	30400212
Double Microplate Holder	30400213
4 Place Microplate Holder	30400214
Single Microplate Holder	30400215
Foam Insert For (52) 0.5 mL Microtubes	30400216
Foam Insert (38) 1.5-2.0 mL Microtubes	30400217

Accessories	Item Number
Small Vessel Holder 125 & 250 mL Flasks	30400218
Foam Insert For (34) 12-13 mm Tubes	30400220
Foam Insert For (20) 15-18 mm Tubes	30400221
Foam Insert For (18) 19-21 mm Tubes	30400222
Foam Insert For (13) 22-25 mm Tubes	30400223
Foam Insert For (4) 26-29 mm Tubes	30400224
Cover For Universal Holder	30400225
Universal Holder	30400226



# MICROPLATE VORTEX MIXERS

The Ideal Solution for Dependable Vortex Mixing of Microplates

## Display

Independent LED displays for speed/time allow the operator to view both settings simultaneously (digital models) and adjustment knob with dial markings for variable speed control (analog models)

## Construction

Cyclool

## Design Features

Microplate adapter and cup head (included)

## Operation

Detachable 3-wire cord and plug (included)



Safe to mix at high speeds - the innovative locking design of the microplate accessories allows these mixers to safely operate throughout the entire speed range.

These mixers utilize a high quality German-manufactured motor allowing for reliable, continuous-duty operation at any speed.

Robust digital and non-digital models offer effective speed control from low rpm for gentle shaking to high-speed mixing for vigorous vortexing of samples.

Model	Control	Speed Range	Timer	Orbit	Capacity	Duty Rating	Item Number
VXMPAL	Analog	On Mode, 300 rpm – 2500 rpm; Touch Mode, 300 rpm – 3500 rpm	-	0.1 in (3.5 mm)	2 Microplates	Continuous	30392162
VXMPDG	Digital	On Mode, 300 rpm – 2500 rpm; Touch Mode, 300 rpm – 3500 rpm	1 second - 9999 minutes	0.1 in (3.5 mm)	2 Microplates	Continuous	30392160

Accessories	Item Number
Cup Head, VXHD and VXMP Vortex Mixers	30400210
Double Microplate Holder	30400213

Accessories	Item Number
Single Microplate Holder	30400215



# MULTI-TUBE VORTEX MIXERS

Powerful Hands-Free Vortex Mixer for Efficient High-Throughput Mixing

## Display

Independent LED displays for speed/time allow the operator to view both settings simultaneously (digital models)

## Construction

Stainless steel foam rack for (50) 12 mm diameter tubes (included), interchangeable foam racks for vortexing tubes from 10 - 29 mm in diameter

## Operation

Detachable 3-wire cord and plug (included)



Easily process up to 50 samples at one time - the Multi-Tube Vortex Mixer can be customized for your application with six different tube racks and a post- extension kit.

The Multi-Tube Vortex Mixers feature either an easy-to-clean one-piece stainless steel housing that is perfect for clean rooms, or a painted steel version for a more economical option.

For challenging samples, enhance vortex action & create a more vigorous mix with the programmable pulse mode on the digital models. Adjust the pulse-on/pulse-off time interval to customize operation.

Model	Speed Range	Timer	Orbit	Maximum Weight Capacity	Tray Dimensions	Item Number
VXMTAL	1200 rpm – 2400 rpm	-	0.1 in (3.6 mm)	4.5 kg	7.25 in × 12.25 in (18.4 cm × 31.1 cm)	30392164
VXMTDG	500 rpm – 2500 rpm	1 second - 9999 minutes	0.1 in (3.6 mm)	4.5 kg	7.25 in × 12.25 in (18.4 cm × 31.1 cm)	30392171
VXMTALB	1200 rpm – 2400 rpm	-	0.1 in (3.6 mm)	4.5 kg	7.25 in × 12.25 in (184 mm × 311 mm)	30573831
VXMTDGB	500 rpm – 2500 rpm	1 second - 9999 minutes	0.1 in (3.6 mm)	4.5 kg	7.25 in × 12.25 in (184 mm × 311 mm)	30573836

Accessories	Item Number
10 mm Tube Rack (Gray)	30400238
12 mm Tube Rack (Blue)	30400239
13 mm Tube Rack (Yellow)	30400240
16 mm Tube Rack (Green)	30400241

Accessories	Item Number
50 mL Tube Rack (Red)	30400242
25 mm Tube Rack (White)	30400243
Post Extension Kit	30400244
Tray Pad Set - Top And Bottom	30400245

# I BLOCK DRY BLOCK HEATERS

Versatile block heaters designed for everyday use with accessories for every application

## Display

LED display (digital models) and dual-adjustment knobs with dial markings (analog models)

## Construction

Painted steel housing, support rod holder with locking knob

## Design Features

Touchpad control and audible alarm (digital models)

## Operation

Detachable 3-wire cord and plug (included), analog models require an external thermometer or temperature device for temperature setpoint



Designed for reliable everyday use in the lab. Digital and non-digital block heaters offer exceptional temperature uniformity with outstanding temperature stability.

Ensure temperature accuracy. Digital models include a unique single point calibration feature to match the block heater's display to a known external temperature standard for 3 temperature setpoints.

Digital models feature easy to use touchpad controls with independent displays for temperature and time. Robust non-digital models are controlled with dual temperature adjustment knobs.

Model	Temp. Range	Temp Stability	Uniformity Within the Block	Heat Up Time	Item Number
HB1AL	High 75°C – 150°C; Low Ambient + 5°C – 100°C	± 1°C	± 0.1°C at 37°C	16 min	30392045
HB1DG	Ambient + 5°C – 120°C	± 0.1°C	± 0.1°C at 37°C	16 min	30392059

Accessories	Item Number
Module Block 10 mm Test Tube	30400151
Module Block 12/13 mm 20 Hole	30400152
Module Block 15/16 mm 12 Hole	30400153
Module Block 20 mm 8 Well Test Tube	30400154
Module Block 25 mm Test Tube 6 Hole	30400155
Module Block Combination	30400156
Module Block 0.5 mL Microtaper	30400157
Module Block 6 mm Test Tube	30400158
Module Block 1.5 mL Microtaper	30400159
Module Block Solid	30400160
Module Block Cuvette - 12 Cuvet	30400161
Module Block 11.5/1.5 mL Microcentrifuge	30400162
Module Block 250 Microliter/6 mm	30400163
Module Block 12/13 mm 16 Holes	30400165
Module Block 4 X 35 mm Test Tube	30400167
Module Block 50mL Conical Centrifuge	30400168
Module Block 0.2 mL Micro 80 Hole	30400169
Module Block 0.2 mL Micro 64 Hole	30400170
Module Block 15 mL Conical Centrifuge	30400172
Sand Bath, 1 Block Unit	30400173

Accessories	Item Number
Sand, 0.5 kg (1 Lb) Bag	30400177
Stainless Steel Shot, 0.5 kg (1 Lb)	30400178
Cover Low-Temperature 2 Block	30400179
Cover Low-Temperature 4 Block	30400180
Cover Low-Temperature 6 Block	30400181
Module Block For Vials 12 mm	30400182
Module Block For Vials 15 mm	30400183
Module Block For Vials 17 mm	30400184
Module Block For Vials 19 mm	30400185
Module Block For Vials 21 mm	30400186
Module Block For Vials 23 mm	30400187
Module Block For Vials 25 mm	30400188
Module Block For Vials 28 mm	30400189
Module Block For Vials 16 mm	30400190
Module Block, 2.0 mL Tube	30400191
Module Block, 2.0 mL Corning Tube	30400192
Module Block Combo, 50 mL, 15 mL, 1.5 mL	30400193
Module Block Combo - Micro Tube	30400194
Module Block 12 Holes 17-18 mm	30400195
Stainless Steel Probe Kit	30400246



# 2 BLOCK DRY BLOCK HEATERS

Versatile block heaters designed for everyday use with accessories for every application

## Display

LED display (digital models) and dual-adjustment knobs with dial markings (analog models)

## Construction

Painted steel housing, support rod holder with locking knob

## Design Features

Touchpad control and audible alarm (digital models)

## Operation

Detachable 3-wire cord and plug (included), analog models require an external thermometer or temperature device for temperature setpoint



Three models to customize your application. All models offer exceptional temperature uniformity with outstanding temperature stability.

Avoid contamination to ensure repeatable, reliable results. The Heatblock with Heated Lid features a second heater in the lid to minimize condensation to maintain your sample integrity.

Ensure temperature accuracy. Digital models include a unique single point calibration feature to match the block heater's display to a known external temperature standard for 3 temperature setpoints.

Model	Temp. Range	Temp Stability	Uniformity Within the Block	Uniformity Across Similar Blocks	Heat Up Time	Item Number
HB2AL	High 75°C – 150°C; Low Ambient + 5°C – 100°C	± 1.5°C	± 0.1°C at 37°C	± 0.1°C at 37°C	16 min	30392052
HB2DG	Ambient + 5°C – 120°C	± 0.1°C	± 0.1°C at 37°C	± 0.1°C at 37°C	16 min	30392080
HB2DGHL	Ambient + 5°C – 100°C	± 0.1°C	± 0.1°C at 37°C	± 0.1°C at 37°C	16 min	30392101

Accessories	Item Number
Module Block 10 mm Test Tube	30400151
Module Block 12/13 mm 20 Hole	30400152
Module Block 15/16 mm 12 Hole	30400153
Module Block 20 mm 8 Well Test Tube	30400154
Module Block 25 mm Test Tube 6 Hole	30400155
Module Block Combination	30400156
Module Block 0.5 mL Microtaper	30400157
Module Block 6 mm Test Tube	30400158
Module Block 1.5 mL Microtaper	30400159
Module Block Solid	30400160
Module Block Cuvette - 12 Cuvet	30400161
Module Block 11.5/1.5 mL Microcentrifuge	30400162
Module Block 250 Microliter/6 mm	30400163
Module Block Titer Plate	30400164
Module Block 12/13 mm 16 Holes	30400165
Module Block Solid Double	30400166
Module Block 4 X 35 mm Test Tube	30400167
Module Block 50mLConical Centrifuge	30400168
Module Block 0.2 mL Micro 80 Hole	30400169

Accessories	Item Number
Module Block 0.2 mL Micro 64 Hole	30400170
Module Block 0.2mL96Hole DoubleBloc	30400171
Module Block 15 mL Conical Centrifuge	30400172
Sand Bath, 2 Block Unit	30400174
Sand, 0.5 kg (1 Lb) Bag	30400177
Stainless Steel Shot, 0.5 kg (1 Lb)	30400178
Cover Low-Temperature 2 Block	30400179
Cover Low-Temperature 4 Block	30400180
Cover Low-Temperature 6 Block	30400181
Module Block For Vials 12 mm	30400182
Module Block For Vials 15 mm	30400183
Module Block For Vials 17 mm	30400184
Module Block For Vials 19 mm	30400185
Module Block For Vials 21 mm	30400186
Module Block For Vials 23 mm	30400187
Module Block For Vials 25 mm	30400188
Module Block For Vials 28 mm	30400189
Module Block For Vials 16 mm	30400190
Module Block, 2.0 mL Tube	30400191

Accessories continued on next page



## 2 BLOCK DRY BLOCK HEATERS ACCESSORIES

Accessories	Item Number
Module Block, 2.0 mL Corning Tube	30400192
Module Block Combo, 50 mL, 15 mL, 1.5 mL	30400193
Module Block Combo - Micro Tube	30400194

Accessories	Item Number
Module Block 12 Holes 17-18 mm	30400195
Stainless Steel Probe Kit	30400246



# 4 BLOCK DRY BLOCK HEATERS

Versatile and dependable block heaters deliver precise, reliable results

## Display

LED display (digital models) and dual-adjustment knobs with dial markings (analog models)

## Construction

Painted steel housing, support rod holder with locking knob

## Design Features

Touchpad control and audible alarm (digital models)

## Operation

Detachable 3-wire cord and plug (included), analog models require an external thermometer or temperature device for temperature setpoint



Designed for flexibility with your applications. The four-block capacity allows you to process multiple samples simultaneously with one device.

Ensure temperature accuracy. Digital models include a unique single point calibration feature to match the block heater's display to a known external temperature standard for 3 temperature setpoints.

Digital models feature easy to use touchpad controls with independent displays for temperature and time. Robust non-digital models are controlled with dual temperature adjustment knobs.

Model	Temp. Range	Temp Stability	Uniformity Within the Block	Uniformity Across Similar Blocks	Heat Up Time	Item Number
HB4AL	High 75°C – 150°C; Low Ambient + 5°C – 100°C	± 2°C	± 0.1°C at 37°C	± 0.2°C at 37°C	23 min	30392066
HB4DG	Ambient + 5°C – 120°C	± 0.1°C	± 0.1°C at 37°C	± 0.2°C at 37°C	23 min	30392087

Accessories	Item Number
Module Block 10 mm Test Tube	30400151
Module Block 12/13 mm 20 Hole	30400152
Module Block 15/16 mm 12 Hole	30400153
Module Block 20 mm 8 Well Test Tube	30400154
Module Block 25 mm Test Tube 6 Hole	30400155
Module Block Combination	30400156
Module Block 0.5 mL Microtaper	30400157
Module Block 6 mm Test Tube	30400158
Module Block 1.5 mL Microtaper	30400159
Module Block Solid	30400160
Module Block Cuvette - 12 Cuvet	30400161
Module Block 11.5/1.5 mL Microcentrifuge	30400162
Module Block 250 Microliter/6 mm	30400163
Module Block Titer Plate	30400164
Module Block 12/13 mm 16 Holes	30400165
Module Block Solid Double	30400166
Module Block 4 X 35 mm Test Tube	30400167
Module Block 50mL Conical Centrifuge	30400168
Module Block 0.2 mL Micro 80 Hole	30400169
Module Block 0.2 mL Micro 64 Hole	30400170

Accessories	Item Number
Module Block 0.2mL 96Hole DoubleBloc	30400171
Module Block 15 mL Conical Centrifuge	30400172
Sand Bath, 4 Block Unit	30400175
Sand, 0.5 kg (1 Lb) Bag	30400177
Stainless Steel Shot, 0.5 kg (1 Lb)	30400178
Cover Low-Temperature 2 Block	30400179
Cover Low-Temperature 4 Block	30400180
Cover Low-Temperature 6 Block	30400181
Module Block For Vials 12 mm	30400182
Module Block For Vials 15 mm	30400183
Module Block For Vials 17 mm	30400184
Module Block For Vials 19 mm	30400185
Module Block For Vials 21 mm	30400186
Module Block For Vials 23 mm	30400187
Module Block For Vials 25 mm	30400188
Module Block For Vials 28 mm	30400189
Module Block For Vials 16 mm	30400190
Module Block, 2.0 mL Tube	30400191
Module Block, 2.0 mL Corning Tube	30400192
Module Block Combo, 50 mL, 15 mL, 1.5 mL	30400193

Accessories continued on next page



## 4 BLOCK DRY BLOCK HEATERS ACCESSORIES

Accessories	Item Number
Module Block Combo - Micro Tube	30400194
Module Block 12 Holes 17-18 mm	30400195

Accessories	Item Number
Stainless Steel Probe Kit	30400246

# 6 BLOCK DRY BLOCK HEATERS

Process more samples with large capacity block heaters that deliver precise, reliable results

## Display

LED display (digital models) and dual-adjustment knobs with dial markings (analog models)

## Construction

Painted steel housing, support rod holder with locking knob

## Design Features

Touchpad control and audible alarm (digital models)

## Operation

Detachable 3-wire cord and plug (included), analog models require an external thermometer or temperature device for temperature setpoint



Unique design for high throughput applications. The six-block capacity allows you the most flexibility to process multiple samples simultaneously with one device.

Ensure temperature accuracy. Digital models include a unique single point calibration feature to match the block heater's display to a known external temperature standard for 3 temperature setpoints.

Digital models feature easy to use touchpad controls with independent displays for temperature and time. Robust non-digital models are controlled with dual temperature adjustment knobs.

Model	Temp. Range	Temp Stability	Uniformity Within the Block	Uniformity Across Similar Blocks	Heat Up Time	Item Number
HB6AL	High 75°C – 150°C; Low Ambient + 5°C – 100°C	± 2°C	± 0.1°C at 37°C	± 0.3°C at 37°C	30 min	30392073
HB6DG	Ambient + 5°C – 120°C	± 2°C	± 0.1°C at 37°C	± 0.3°C at 37°C	30 min	30392094

Accessories	Item Number
Module Block 10 mm Test Tube	30400151
Module Block 12/13 mm 20 Hole	30400152
Module Block 15/16 mm 12 Hole	30400153
Module Block 20 mm 8 Well Test Tube	30400154
Module Block 25 mm Test Tube 6 Hole	30400155
Module Block Combination	30400156
Module Block 0.5 mL Microtaper	30400157
Module Block 6 mm Test Tube	30400158
Module Block 1.5 mL Microtaper	30400159
Module Block Solid	30400160
Module Block Cuvette - 12 Cuvet	30400161
Module Block 11.5/1.5 mL Microcentrifuge	30400162
Module Block 250 Microliter/6 mm	30400163
Module Block Titer Plate	30400164
Module Block 12/13 mm 16 Holes	30400165
Module Block Solid Double	30400166
Module Block 4 X 35 mm Test Tube	30400167
Module Block 50mL Conical Centrifuge	30400168
Module Block 0.2 mL Micro 80 Hole	30400169
Module Block 0.2 mL Micro 64 Hole	30400170

Accessories	Item Number
Module Block 0.2mL 96Hole DoubleBloc	30400171
Module Block 15 mL Conical Centrifuge	30400172
Sand Bath, 6 Block Unit	30400176
Sand, 0.5 kg (1 Lb) Bag	30400177
Stainless Steel Shot, 0.5 kg (1 Lb)	30400178
Cover Low-Temperature 2 Block	30400179
Cover Low-Temperature 4 Block	30400180
Cover Low-Temperature 6 Block	30400181
Module Block For Vials 12 mm	30400182
Module Block For Vials 15 mm	30400183
Module Block For Vials 17 mm	30400184
Module Block For Vials 19 mm	30400185
Module Block For Vials 21 mm	30400186
Module Block For Vials 23 mm	30400187
Module Block For Vials 25 mm	30400188
Module Block For Vials 28 mm	30400189
Module Block For Vials 16 mm	30400190
Module Block, 2.0 mL Tube	30400191
Module Block, 2.0 mL Corning Tube	30400192
Module Block Combo, 50 mL, 15 mL, 1.5 mL	30400193

Accessories continued on next page



## 6 BLOCK DRY BLOCK HEATERS ACCESSORIES

Accessories	Item Number
Module Block Combo - Micro Tube	30400194
Module Block 12 Holes 17-18 mm	30400195

Accessories	Item Number
Stainless Steel Probe Kit	30400246

# GUARDIAN™ 7000 HOTPLATES & STIRRERS

Durable Digital Hotplate Stirrers with Superior Safety Features and Intelligent Performance

## Display

Backlit LCD Display for temperature, speed and time, green indicator lights when unit is heating and stirring, two prominent hot top indicator lights, icons for SmartRate™, SmartHeat™, SmartPresence™, SmartLink™, probe in use, Single Point Calibration

## Communication

USB port provides flexibility for programming of repeat applications and enhancing safety with SmartLink™ technology; the long range user detection function operated with the OHAUS Bluetooth dongle accessory (sold separately)

## Construction

Probe connection, SmartHousing™ stays cool to the touch and is chemical-resistant, IP21 Ingress Protection, hardened glass front panel, control knobs, On/Off switch for heater disconnect, built-in support rod holder, easy-to-clean ceramic or aluminum tops

## Design Features

Hot top indicator lights, audible alarm, SmartHeat™ temperature limiting function, SafetyHeat™ shuts off heater in the event of malfunction, temperature calibration feature for 5 probe & 5 plate setpoints, temperature priority function, SmartRate™ functions



## Operation

Timer, Stirring from 60 to 1600 rpm, temperature range of ambient +5°C to 500°C (ceramic top) or 380°C (aluminum top), power cord (included), 8" (20.3 cm) stainless steel RTD temperature probe, 1.5" (3.8 cm) PTFE coated stir bar, in-use cover

Protect your lab with SmartPresence™ and SmartLink™ technologies. These exclusive features automatically shut off the heater if no one is detected after a user-defined "time out" period has elapsed.

SafetyHeat™ protects the lab – an industry-leading early detection system uses two independent safety controls to monitor the electronics and stop heating before an overtemperature condition occurs.

Precise stirring from 60 to 1600 rpm is made possible by the design of a powerful motor, strong magnet and software controlled ramp rate, ensuring secure magnetic coupling for viscous applications.

Model	Function	Temp. Range	Speed Range	Maximum Stirring Capacity (H <sub>2</sub> O)	Plate Size	Item Number
e-G71HS07C	Heating and Stirring	Ambient +5°C – 500°C	60 rpm ; 1,600 rpm	15 L	7 in x 7 in (178 mm x 178 mm)	30500600
e-G71HS10C	Heating and Stirring	Ambient +5°C – 500°C	60 rpm ; 1,600 rpm	18 L	10 in x 10 in (254 mm x 254 mm)	30500610
e-G71HSRDM	Heating and Stirring	Ambient +5°C – 380°C	60 rpm ; 1,600 rpm	20 L	5.3 in (135 mm)	30500620

Accessories	Item Number
Clamp, Specialty, Rod, CLS-RODS	30392233
Clamp, Specialty, Column, CLS-COLMNSS	30392314
Clamp, Specialty, Column, CLS-COLMNSM	30392315
Clamp, Specialty, Column, CLS-COLMNSL	30392316
Clamp, Specialty, Column, CLS-COLMNSX	30392317
Clamp, Specialty, Nester, CLS-NESTXS	30392318
Ultra Flex Support Kit	30400145
Support Rod And Clamp Kit	30400146
Spinbar 2.5 cm PTFE	30400147
Spinbar 3.8 cm PTFE	30400148
Spinbar 7 cm PTFE	30400149
Spinbar 10 cm with Pivot Ring PTFE	30400150
Wireless Dongle MTICWD-200	30412537
Base Plate 135 mm	30500570
Handles for Base Plate	30500571
Sectional Block 12 mm Vials	30500572
Sectional Block 15 mm vials	30500573

Accessories	Item Number
Sectional Block 17 mm Vials	30500574
Sectional Block 21 mm Vials	30500575
Sectional Block 28 mm Vials	30500576
Sectional Block 12 mm Test Tubes	30500577
Sectional Block 16 mm Test Tubes	30500578
Sectional Block 20 mm Test Tubes	30500579
Sectional Block 25 mm Test Tubes	30500580
Uni Block 12 mm Vials	30500581
Uni Block 15 mm vials	30500582
Uni Block 17 mm Vials	30500583
Uni Block 21 mm Vials	30500584
Uni Block 28 mm Vials	30500585
Uni Block 12 mm Test Tubes	30500586
Uni Block 16 mm Test Tubes	30500587
Uni Block 20 mm Test Tubes	30500588
Uni Block 25 mm Test Tubes	30500589
Temperature Probe 20 cm S/S	30500590

Accessories continued on next page



# GUARDIAN™ 7000 HOTPLATES & STIRRERS ACCESSORIES

Accessories	Item Number
Temperature Probe 20 cm PTFE	30500591
Temperature Probe 25 cm S/S	30500592
Temperature Probe 25 cm PTFE	30500593
In Use Cover Guardian 7x7	30500594

Accessories	Item Number
In Use Cover Guardian 10x10	30500595
In Use Cover Guardian Round	30500596
Vessel Clamp	30500597
Stir Bar Retriever	30500598

# GUARDIAN™ 5000 HOTPLATES & STIRRERS

Reliable Digital Hotplate Stirrers with Exceptional Safety Features for Everyday Use

## Display

Backlit LCD Display for temperature and speed, green indicator lights when unit is heating and stirring, prominent hot top indicator light, probe in use icon, Single Point Calibration icon

## Construction

Probe connection, SmartHousing™ stays cool to the touch and is chemical resistant, IP21 Ingress Protection, polycarbonate front panel, control knobs, On/Off switch for heater disconnect, built-in support rod holder, easy to clean ceramic or aluminum tops

## Design Features

Hot top indicator light, audible alarm, SafetyHeat™ protection shuts off the heater in the event of a malfunction, temperature calibration feature for 3 probe and 3 plate setpoints

## Operation

Stirring from 60 to 1600 rpm, Temperature range of ambient +5°C to 500°C (ceramic top) or 380°C (aluminum top), power cord (included), stirring models include a 1.5" (3.8 cm) PTFE coated stir bar



SafetyHeat™ protects the lab - an industry-leading early detection system uses two independent safety controls to monitor the electronics and stop heating before an overtemperature condition occurs.

Precise stirring from 60 to 1600 rpm is made possible by the design of a powerful motor, strong magnet and software controlled ramp rate, ensuring secure magnetic coupling for viscous applications.

The bright LCD display includes large temperature and speed settings, intuitive icons and a prominent hot top indicator - all designed to quickly and easily monitor performance from across the lab.

Model	Power	Function	Temp. Range	Speed Range	Maximum Stirring Capacity (H <sub>2</sub> O)	Plate Size	Item Number
e-G51HP07C	120V, 10A, 50/60Hz	Heating	Ambient +5°C – 500°C		15 L	7 in × 7 in (178 mm × 178 mm)	30500530
e-G51ST07C	120V, 1.0A, 50/60Hz	Stirring		60 rpm ; 1,600 rpm	15 L	7 in × 7 in (178 mm × 178 mm)	30500540
e-G51HS07C	120V, 10A, 50/60Hz	Heating and Stirring	Ambient +5°C – 500°C	60 rpm ; 1,600 rpm	15 L	7 in × 7 in (178 mm × 178 mm)	30500520
e-G51HS10C	120V, 11.2A, 50/60Hz	Heating and Stirring	Ambient +5°C – 500°C	60 rpm ; 1,600 rpm	18 L	10 in × 10 in (254 mm × 254 mm)	30500550
e-G51HSRDM	120V, 8.3A, 50/60Hz	Heating and Stirring	Ambient +5°C – 380°C	60 rpm ; 1,600 rpm	20 L	5.3 in (135 mm)	30500560

Accessories	Item Number
Clamp, Specialty, Rod, CLS-RODS	30392233
Clamp, Specialty, Column, CLS-COLMNSS	30392314
Clamp, Specialty, Column, CLS-COLMNSM	30392315
Clamp, Specialty, Column, CLS-COLMNSL	30392316
Clamp, Specialty, Column, CLS-COLMNSX	30392317
Clamp, Specialty, Nester, CLS-NESTXS	30392318
Ultra Flex Support Kit	30400145
Support Rod And Clamp Kit	30400146
Spinbar 2.5 cm PTFE	30400147
Spinbar 3.8 cm PTFE	30400148
Spinbar 7 cm PTFE	30400149
Spinbar 10 cm with Pivot Ring PTFE	30400150
Base Plate 135 mm	30500570

Accessories	Item Number
Handles for Base Plate	30500571
Sectional Block 12 mm Vials	30500572
Sectional Block 15 mm vials	30500573
Sectional Block 17 mm Vials	30500574
Sectional Block 21 mm Vials	30500575
Sectional Block 28 mm Vials	30500576
Sectional Block 12 mm Test Tubes	30500577
Sectional Block 16 mm Test Tubes	30500578
Sectional Block 20 mm Test Tubes	30500579
Sectional Block 25 mm Test Tubes	30500580
Uni Block 12 mm Vials	30500581
Uni Block 15 mm vials	30500582
Uni Block 17 mm Vials	30500583

Accessories continued on next page



# GUARDIAN™ 5000 HOTPLATES & STIRRERS ACCESSORIES

Accessories	Item Number
Uni Block 21 mm Vials	30500584
Uni Block 28 mm Vials	30500585
Uni Block 12 mm Test Tubes	30500586
Uni Block 16 mm Test Tubes	30500587
Uni Block 20 mm Test Tubes	30500588
Uni Block 25 mm Test Tubes	30500589
Temperature Probe 20 cm S/S	30500590
Temperature Probe 20 cm PTFE	30500591

Accessories	Item Number
Temperature Probe 25 cm S/S	30500592
Temperature Probe 25 cm PTFE	30500593
In Use Cover Guardian 7x7	30500594
In Use Cover Guardian 10x10	30500595
In Use Cover Guardian Round	30500596
Vessel Clamp	30500597
Stir Bar Retriever	30500598



# GUARDIAN™ 3000 HOTPLATES & STIRRERS

Affordable Digital Hotplate Stirrers Designed for Safety, Powerful Stirring and Rapid Heating

## Display

Backlit LCD Display for temperature and speed, green indicator lights when unit is heating and stirring, prominent hot top indicator light, probe in use icon, Single Point Calibration icon

## Construction

Durable metal housing, PET front panel, control knobs, on/off switch for heater disconnect, built-in support rod holder, easy-to-clean ceramic or ceramic-coated stainless steel tops

## Design Features

Hot top indicator light to protect user; green indicator lights illuminate when unit is heating and stirring; temperature probe connector for use with optional temperature probe

## Operation

Stirring from 80 to 1600 rpm, ambient temperature range from +5°C to 500°C (ceramic top) or 380°C (ceramic-coated steel top), power cord (included), stirring models include PTFE-coated stir bar



Industry-leading safety at affordable prices. Guardian 3000 units offer safety, controlled heating and powerful stirring for general laboratory use – all at a competitive price point.

SafetyHeat™ protects the lab. An industry-leading early detection system uses two independent safety controls to monitor electronics and stop heating before overheating occurs.

Designed to last: the rugged metal housing has a spill-resistant design for long life in the lab under harsh conditions. The smooth, chemical-resistant ceramic top makes for easy clean-ups.

Model	Power	Function	Temp. Range	Speed Range	Capacity	Plate Size	Item Number
E-G31HS07C	100V-120V~ 10A 50/60Hz	Heating and Stirring	Ambient +5°C – 500°C	80 rpm ; 1,600 rpm	15 L	7 in × 7 in (178 mm × 178 mm)	30680267
E-G31HS07C	220V-240V~ 7A 50/60Hz	Heating and Stirring	Ambient +5°C – 500°C	80 rpm ; 1,600 rpm	15 L	7 in × 7 in (178 mm × 178 mm)	30680255
E-G31HS04C	100V-120V~ 5A 50/60Hz	Heating and Stirring	Ambient +5°C – 500°C	80 rpm ; 1,600 rpm	15 L	4 in × 4 in (102 mm × 102 mm)	30680268
E-G31HS04C	220V-240V~ 4A 50/60Hz	Heating and Stirring	Ambient +5°C – 500°C	80 rpm ; 1,600 rpm	15 L	4 in × 4 in (102 mm × 102 mm)	30680256
E-G31HSRDS	100V-120V~ 5A 50/60Hz	Heating and Stirring	Ambient +5°C – 380°C	80 rpm ; 1,600 rpm	15 L	5.3 in (135 mm)	30680266
E-G31HSRDS	220V-240V~ 4A 50/60Hz	Heating and Stirring	Ambient +5°C – 380°C	80 rpm ; 1,600 rpm	15 L	5.3 in (135 mm)	30680254

Accessories	Item Number
Clamp, Specialty, Rod, CLS-RODS	30392233
Clamp, Specialty, Column, CLS-COLMNS	30392314
Clamp, Specialty, Column, CLS-COLMNSM	30392315
Clamp, Specialty, Column, CLS-COLMNSL	30392316
Clamp, Specialty, Column, CLS-COLMNSX	30392317
Clamp, Specialty, Nester, CLS-NESTXS	30392318
Spinbar 2.5 cm PTFE	30400147
Spinbar 3.8 cm PTFE	30400148
Spinbar 7 cm PTFE	30400149
Spinbar 10 cm with Pivot Ring PTFE	30400150
Base Plate 135 mm	30500570
Handles for Base Plate	30500571
Sectional Block 12 mm Vials	30500572
Sectional Block 15 mm vials	30500573
Sectional Block 17 mm Vials	30500574
Sectional Block 21 mm Vials	30500575
Sectional Block 28 mm Vials	30500576
Sectional Block 12 mm Test Tubes	30500577

Accessories	Item Number
Sectional Block 16 mm Test Tubes	30500578
Sectional Block 20 mm Test Tubes	30500579
Sectional Block 25 mm Test Tubes	30500580
Uni Block 12 mm Vials	30500581
Uni Block 15 mm vials	30500582
Uni Block 17 mm Vials	30500583
Uni Block 21 mm Vials	30500584
Uni Block 28 mm Vials	30500585
Uni Block 12 mm Test Tubes	30500586
Uni Block 16 mm Test Tubes	30500587
Uni Block 20 mm Test Tubes	30500588
Uni Block 25 mm Test Tubes	30500589
Temperature Probe 20 cm S/S	30500590
Temperature Probe 20 cm PTFE	30500591
Temperature Probe 25 cm S/S	30500592
Temperature Probe 25 cm PTFE	30500593
Vessel Clamp	30500597
Stir Bar Retriever	30500598



Accessories continued on next page

# GUARDIAN™ 3000 HOTPLATES & STIRRERS ACCESSORIES

Accessories	Item Number
Holder Kit Thermometer e-G31	30692826

Accessories	Item Number
Spinbar 3.8 cm with Pivot Ring PTFE	30726783

# GUARDIAN™ 2000 HOTPLATES & STIRRERS

*Rugged and Reliable Analog Hotplates and Stirrers for General Purpose Heating and Stirring*

## Display

Prominent hot top indicator light, green indicator lights when unit is heating and stirring

## Construction

Durable metal housing, PET front panel, control knobs, ON/OFF switch for heater disconnect, built-in support rod holder, easy to clean resin, ceramic or ceramic-coated stainless steel tops

## Design Features

Hot top indicator light to protect user, green indicator lights illuminate when unit is heating and stirring

## Operation

Simple knob control, stirring up to 1600 rpm, temperature up to 500°C (ceramic top) or 380°C (ceramic-coated stainless steel top), power cord (included), stirring models include PTFE-coated stir bar



Powerful stirring and fast heating at an economical price. Safely heat up to 500°C and stir up to 15L with easy to use knob control for simple and reliable everyday heating and stirring in the lab.

Designed to last: The rugged metal housing has a spill resistant design for a long lifetime in the lab under harsh conditions. The smooth, chemical-resistant ceramic top plate is perfect for easy cleanup.

Safety is of utmost importance, and the prominent hot top indicator light illuminates when the heater is above 40°C, keeping the end user safe during all heating applications.

Model	Power	Function	Temp. Range	Speed Range	Capacity	Plate Size	Item Number
E-G21HS07C	100V-120V~ 10A 60Hz	Heating and Stirring	70°C - 500°C	200 rpm ; 1,600 rpm	15 L	7 in x 7 in (178 mm x 178 mm)	30680258
E-G21HS07C	220V-240V~ 7A 50Hz	Heating and Stirring	70°C - 500°C	200 rpm ; 1,600 rpm	15 L	7 in x 7 in (178 mm x 178 mm)	30680246
E-G21HS04C	100V-120V~ 10A 60Hz	Heating and Stirring	70°C - 500°C	200 rpm ; 1,600 rpm	15 L	4 in x 4 in (102 mm x 102 mm)	30680259
E-G21HS04C	220V-240V~ 4A 50Hz	Heating and Stirring	70°C - 500°C	200 rpm ; 1,600 rpm	15 L	4 in x 4 in (102 mm x 102 mm)	30680247
E-G21HSRDS	100V-120V~ 10A 60Hz	Heating and Stirring	50°C - 380°C	200 rpm ; 1,600 rpm	15 L	5.3 in (135 mm)	30680257
E-G21HSRDS	220V-240V~ 4A 50Hz	Heating and Stirring	50°C - 380°C	200 rpm ; 1,600 rpm	15 L	5.3 in (135 mm)	30680245
E-G21ST07R	100V-120V~ 2A 60Hz	Stirring		200 rpm ; 1,600 rpm	15 L	7 in x 7 in (178 mm x 178 mm)	30680264
E-G21ST07R	220V-240V~ 1A 50Hz	Stirring		200 rpm ; 1,600 rpm	15 L	7 in x 7 in (178 mm x 178 mm)	30680252
E-G21ST04R	100V-120V~ 2A 60Hz	Stirring		200 rpm ; 1,600 rpm	15 L	4 in x 4 in (102 mm x 102 mm)	30680265
E-G21ST04R	220V-240V~ 1A 50Hz	Stirring		200 rpm ; 1,600 rpm	15 L	4 in x 4 in (102 mm x 102 mm)	30680253
E-G21STRDS	100V-120V~ 2A 60Hz	Stirring		200 rpm ; 1,600 rpm	15 L	5.3 in (135 mm)	30680263
E-G21STRDS	220V-240V~ 1A 50Hz	Stirring		200 rpm ; 1,600 rpm	15 L	5.3 in (135 mm)	30680251
E-G21HP07C	100V-120V~ 10A 50/60Hz	Heating	70°C - 500°C		15 L	7 in x 7 in (178 mm x 178 mm)	30680261
E-G21HP07C	220V-240V~ 7A 50/60Hz	Heating	70°C - 500°C		15 L	7 in x 7 in (178 mm x 178 mm)	30680249
E-G21HP04C	100V-120V~ 5A 50/60Hz	Heating	70°C - 500°C		15 L	4 in x 4 in (102 mm x 102 mm)	30680262
E-G21HP04C	220V-240V~ 4A 50/60Hz	Heating	70°C - 500°C		15 L	4 in x 4 in (102 mm x 102 mm)	30680250
E-G21HPRDS	100V-120V~ 5A 50/60Hz	Heating	50°C - 380°C		15 L	5.3 in (135 mm)	30680260
E-G21HPRDS	220V-240V~ 4A 50/60Hz	Heating	50°C - 380°C		15 L	5.3 in (135 mm)	30680248

Accessories	Item Number
Spinbar 2.5 cm PTFE	30400147
Spinbar 3.8 cm PTFE	30400148
Spinbar 7 cm PTFE	30400149
Spinbar 10 cm with Pivot Ring PTFE	30400150

Accessories	Item Number
Vessel Clamp	30500597
Stir Bar Retriever	30500598
Holder Kit Thermometer e-G31	30692826
Spinbar 3.8 cm with Pivot Ring PTFE	30726783



# MULTI-POSITION STIRRERS

*Synchronized and Uniform Mixing*

## Display

Independent LED displays for speed and time (on digital models); Knob with 1-10 dial markings (on non-digital models)

## Construction

Cast aluminum housing, glass filled nylon top plate. Includes stir bars to accommodate each stirring position

## Design Features

Speed ramping feature slowly increases motor speed for enhanced coupling & improved stirring. Microprocessor-controlled for precise speed regulation. Timer counts up or when programmed to a set time will turn off stirring & sound alarm when timer reaches zero.



The 318 × 279 mm top plate accommodates up to 9 × 250 mL or 4 × 1 L flasks. The glass-filled nylon surface has a reflective white color, is chemical-resistant & minimizes unintended heating of samples.

Speed ramping feature slowly increases the motor speed for improved safety and enhanced coupling. Avoids splashing, improves spin bar control and provides excellent low-end speed control.

Digital models have touchpad controls for input of speed & time. Non-digital models have an adjustment knob with dial markings from 1-10. The microprocessor regulates adjustments throughout the range.

Model	Speed Range	Capacity	Dimensions	Timer	Item Number
STMP4AL	60 rpm to 1400 rpm	4 × 1L	17 in × 4 in × 11 in (432 mm × 970 mm × 279 mm)	-	30573789
STMP9AL	60 rpm to 1400 rpm	9 × 250mL	17 in × 4 in × 11 in (432 mm × 970 mm × 279 mm)	-	30573794
STMP4DG	60 rpm to 1400 rpm	4 × 1L	17 in × 4 in × 11 in (432 mm × 970 mm × 279 mm)	1 second – 160 hours	30573799
STMP9DG	60 rpm to 1400 rpm	9 × 250mL	17 in × 4 in × 11 in (432 mm × 970 mm × 279 mm)	1 second – 160 hours	30573804

Accessories	Item Number
Spinbar 2.5 cm PTFE	30400147

# LARGE VOLUME STIRRERS

Powerful Motor and Magnet Mixes Samples Up To 200 L

## Display

Independent LED displays for speed, and time (on digital models); Knob with 1-10 dial markings (on non-digital models)

## Construction

High Volume Stirrers feature a cast aluminum housing and glass filled nylon top plate. Large Capacity Stirrers feature both stainless steel housing and top plate. Models include either a 70 mm egg shaped stir bar or 102 mm stir bar with pivot ring.

## Design Features

Speed ramping feature slowly increases motor speed for enhanced coupling & improved stirring. Microprocessor-controlled for precise speed regulation. Timer counts up or when programmed to a set time, will turn off stirring & sound alarm when timer reaches 0.



Large Capacity Stirrers with a 100 or 200 L capacity are made with a stainless steel base offering durability and stability, and feature a 54 × 53 cm stainless steel top plate.

Large 32 × 28 cm top plate is chemical-resistant with a white reflective surface that is easy to clean. Digital and non-digital models allow you to choose the right model for your application.

Speed ramping feature slowly increases the motor speed for improved safety and enhanced coupling. Avoids splashing, improves spin bar control and provides excellent low-end speed control.

Model	Control	Speed Range	Capacity	Dimensions	Plate Size	Timer	Item Number
STHVAL	Analog	60 rpm - 1400 rpm	25 L	17 in × 4 in × 11 in (432 mm × 97 mm × 279 mm)	12.5 in × 11 in (318 mm × 279 mm)	-	30573809
STHV DG	Digital	60 rpm - 1400 rpm	25 L	17 in × 4 in × 11 in (432 mm × 97 mm × 279 mm)	12.5 in × 11 in (318 mm × 279 mm)	1 second – 160 hours	30573814
STLC1DG	Digital	100 rpm - 1800 rpm	100 L	28.5 in × 5.25 in × 26.75 in (724 mm × 133 mm × 680 mm)	21.25 in × 25 in (540 mm × 635 mm)	1 second – 160 hours	30573819
STLC2DG	Digital	100 rpm - 1800 rpm	200 L	28.5 in × 5.25 in × 26.75 in (724 mm × 133 mm × 680 mm)	21.25 in × 25 in (540 mm × 635 mm)	1 second – 160 hours	30573825

Accessories	Item Number
Spinbar 7 cm PTFE	30400149

Accessories	Item Number
Spinbar 10 cm with Pivot Ring PTFE	30400150



# ACHIEVER™ 5000

Reliable Overhead Stirrers with Excellent Performance for Everyday Use

## Display

Bright LED digital display for speed, real-time torque tendency LED indicator bar, and integrated timer

## Construction

Sealed aluminum housing with IP54 ingress protection rating. Keyless Chuck for simple, one-hand operation, and brushless motor for quiet operation and main power switch

## Design Features

Compact design for easy handling, simple knob control, lock button to prevent unintentional setting changes, and full protection for overload, overtemperature and overcurrent conditions

## Operation

Stirring from 6 rpm to 2000 rpm with speed accuracy of 1 rpm and maximum torque from 20 Ncm to 200 Ncm, depending on model. Stable torque at any speed, and volume capacity ranging from 25L to 100L



Powerful mixing and constant speed is assured with the brushless motor and torque compensation technology – delivering accurate, controlled stirring of viscous liquids with quiet operation.

Simplify setup with the Keyless Chuck – no tools required. Change shafts quickly and easily with one-handed operation. This unique design will save time and effort for everyone in the lab.

Designed for safety. The lock button prevents accidental speed changes, and the motor's overload sensing technology simply shuts off stirring before an overload condition occurs to protect the sample.

Model	Speed Range	Speed Accuracy	Stirring Volume (L)	Timer	Max Viscosity (mPas)	Torque @ Max Speed (Ncm)	Chuck Range (Diameter)	Shaft Pass-Through (Diameter)	Item Number
e-A51ST020	30 rpm – 2000 rpm	±1 rpm	25 L	1 minute – 99 hours, 59 minutes	maximum 10,000	20 Ncm	1-13 mm	up to 8.5 mm	30586763
e-A51ST040	30 rpm – 2000 rpm	±1 rpm	25 L	1 minute – 99 hours, 59 minutes	maximum 25,000	40 Ncm	1-13 mm	up to 8.5 mm	30586764
e-A51ST060	30 rpm – 2000 rpm	±1 rpm	40 L	1 minute – 99 hours, 59 minutes	maximum 50,000	60 Ncm	1-13 mm	up to 8.5 mm	30586765
e-A51ST100	30 rpm – 1300 rpm	±1 rpm	100 L	1 minute – 99 hours, 59 minutes	maximum 70,000	100 Ncm	1-13 mm	up to 8.5 mm	30586766
e-A51ST200	6 rpm – 400 rpm; 30 rpm – 2000 rpm	±1 rpm	100 L	1 minute – 99 hours, 59 minutes	maximum 100,000	200 Ncm	1-13 mm	up to 8.5 mm	30586767

Accessories	Item Number
Support Stand Universal-H	30586771
Support Stand Telescopic-H	30586772
Clamp Double	30586773
Clamp Ribbon	30586774
Stirrer Shaft 40x0.7 cm Anchor Blade	30586775
Stirrer Shaft 40x0.7 cm Fixed Blade	30586776
Stirrer Shaft 40x0.7 cm Floating Blade	30586777

Accessories	Item Number
Stirrer Shaft 40x0.7 cm Folding Blade	30586778
Stirrer Shaft 51x0.7 cm Paddle 6 Holes	30586779
Stirrer Shaft 40x0.7 cm Propeller	30586780
Stirrer Shaft 40x0.7 cm Turbine	30586781
Stirrer Shaft 40x0.7 cm Turbo Propeller	30586782
Chuck Cover e-A51	30586842

# HT LYSING HOMOGENIZER

*Provides Simple and Powerful Solutions for Rapid High-Throughput Grinding*

## Display

Easy-to-read LED display allows the operator to view speed and time settings

## Construction

Polyurethane Elastomer top housing, Cycloy bottom housing, and Lexan lid

## Design Features

Microprocessor-controlled unit includes sample clamp and hex key

## Operation

Five pre-set program buttons and touchpad controls for speed and time



For high performance grinding, the HT Lysing Homogenizer is one of the most flexible models on the market. The built-in adjustable holder allows for easy processing of samples - no accessories needed.

This versatile Homogenizer allows high throughput grinding, and is ideal for processing multiple tubes, microplates, deep-well plates, or any sample container that fits in the 10.2x12.7x6.4 cm holder.

Take the guesswork out of sample preparation. Five preset programs optimized for speed and time to process the most common samples, including bacteria, fungi, plant, and animal tissue easily.

Model	Speed Range	Motion	Timer	Capacity	Max Capacity	Dimensions	Item Number
HOHTDG	300 rpm – 1600 rpm	Vertical, 31 mm	1 second – 10 minutes	1 Deep Well, 4 Microplates or any sample to 10.2 × 12.7 × 6.4 cm	0.7 lb (300 g)	17.5 in × 20.5 in × 11.5 in (443 mm × 518 mm × 288 mm)	30391393

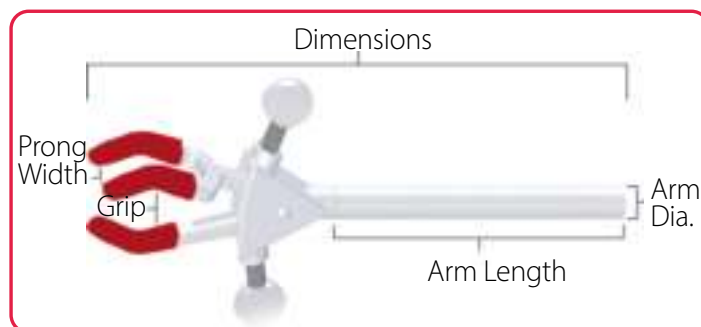
Accessories	Item Number
2mL Tube, White, Bacteria, 100/box	30391402
2mL Tube, Yellow, Yeast, 100/box	30391404
2mL Tube, Blue, Fungi, 100/box	30391405
2mL Tube, Orange, Soft Sample, 100/box	30391406
2mL Tube, Green, Plant, 100/box	30391408

Accessories	Item Number
2mL Tube, Red, Animal Tissue, 100/box	30391409
2mL Tube, Brown, Environmental, 100/box	30391410
Tube Rack, 25 × 2ml Tubes, 2 per pack	30391431
Sample Tube Kit, 14 Tubes	30391433



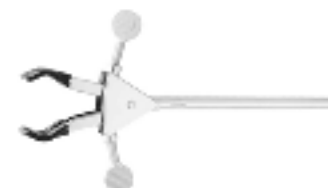
# MULTI PURPOSE CLAMPS

A LabJaws Clamp for Every Application - Choose From Over 85 Options to Hold Everything In Your Lab



## Hosecock - Adjustable Control

Model	Grip Range	Dimensions	Material	Item Number
CLF-HKRGZ	0 in ; 0.67 in (0 mm ; 17 mm)	2.44 in x 1.46 in (62 mm x 37 mm)	Nickel plated	30392210
CLF-HKRG5	0 in ; 0.67 in (0 mm ; 17 mm)	2.44 in x 1.46 in (62 mm x 37 mm)	Stainless Steel	30392221



## 2-Prong Dual Adjust

Model	Size	Grip Range	Prong Width	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLM-MULTI2DZL	Large	0 in ; 3.74 in (0 mm ; 95 mm)	0.91 in (23 mm)	5 in (127 mm)	0.43 in (11 mm)	9.76 in (248 mm)	Nickel plated	30392207
CLM-MULTI2DZM	Medium	0 in ; 2.95 in (0 mm ; 75 mm)	0.91 in (23 mm)	5 in (127 mm)	0.43 in (11 mm)	9.02 in (229 mm)	Nickel plated	30392209
CLM-MULTI2DSM	Medium	0 in ; 2.95 in (0 mm ; 75 mm)	0.91 in (23 mm)	5 in (127 mm)	0.43 in (11 mm)	9.02 in (229 mm)	Stainless Steel	30392220
CLM-MULTI2DSL	Large	0 in ; 3.74 in (0 mm ; 95 mm)	0.91 in (23 mm)	5 in (127 mm)	0.43 in (11 mm)	9.76 in (248 mm)	Stainless Steel	30392223





## 2-Prong Single Adjust

Model	Size	Grip Range	Prong Width	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLM-MULTI2SZL	Large	0 in ; 3.62 in (0 mm ; 92 mm)	0.91 in (23 mm)	5 in (127 mm)	0.43 in (11 mm)	9.02 in (229 mm)	Nickel plated	30392206
CLM-MULTI2SZM	Medium	0 in ; 3.07 in (0 mm ; 78 mm)	0.91 in (23 mm)	5 in (127 mm)	0.43 in (11 mm)	8.5 in (216 mm)	Nickel plated	30392208
CLM-SWIVL2SZM	Medium	0 in ; 3 in (0 mm ; 76 mm)	0.91 in (23 mm)			6.42 in (163 mm)	Nickel plated	30392215
CLM-SWIVL2SZL	Large	0 in ; 3.74 in (0 mm ; 95 mm)	0.91 in (23 mm)			7.09 in (180 mm)	Nickel plated	30392216
CLM-FIXED2SZM	Medium	0 in ; 3.03 in (0 mm ; 77 mm)	0.91 in (23 mm)			5.24 in (133 mm)	Nickel plated	30392218
CLM-SWIVL2SSM	Medium	0 in ; 3 in (0 mm ; 76 mm)	0.91 in (23 mm)			6.42 in (163 mm)	Stainless Steel	30392226
CLM-FIXED2SSM	Medium	0 in ; 3.03 in (0 mm ; 77 mm)	0.91 in (23 mm)			5.24 in (133 mm)	Stainless Steel	30392230



## Buret Holder

Model	Size	Dimensions	Material	Item Number
CLS-BTDBLS	micro – 100 mL burets	6.8 in × 4.25 in (173 mm × 108 mm)	Stainless Steel	30392227
CLS-BTDBLZ	micro – 100 mL burets	4.25 in × 6.8 in (173 mm × 108 mm × 173 mm)	Nickel plated	30392234



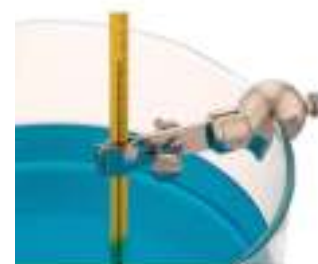
## Double 2-Prong Single Adjust

Model	Grip Range	Dimensions	Material	Item Number
CLS-DBJAWZ	0 in ; 3 in (0 mm ; 76 mm)	8.74 in (222 mm)	Nickel plated	30392236



## Thermometer

Model	Grip Range	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLS-THMSWZ	0.24 in ; 0.32 in (6 mm ; 8 mm)			6.26 in (159 mm)	Nickel plated	30392238
CLS-THMEXZ	0.24 in ; 0.47 in (6 mm ; 12 mm)	5 in (127 mm)	0.43 in (11 mm)	8.27 in (210 mm)	Nickel plated	30392239



## 2-Prong Dual Adjust Water Bath

Model	Size	Grip Range	Dimensions	Material	Item Number
CLS-WBATHZS	Small	0.2 in ; 0.39 in (5 mm ; 10 mm)	3.5 in (89 mm)	Nickel plated	30392240



## 3-Prong Dual Adjust Water Bath

Model	Size	Grip Range	Dimensions	Material	Item Number
CLS-WBATHZL	Large	0 in ; 1.81 in (0 mm ; 46 mm)	4.61 in (117 mm)	Nickel plated	30392241



## Electrode

Model	Dimensions	Material	Item Number
CLS-ELECTZ	7 in (178 mm)	Nickel plated	30392242



## Suspension

Model	Dimensions	Material	Item Number
CLS-SUSPNB	5.39 in (137 mm)	Nickel plated	30392243



## 2-Prong Dual Adjust Wall Mount

Model	Grip Range	Dimensions	Material	Item Number
CLS-WALLCZ	0.2 in ; 0.39 in (5 mm ; 10 mm)	3.15 in (80 mm)	Nickel plated	30392244



## 3-Prong Single Adjust

Model	Size	Grip Range	Prong Width	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLM-MULTI3SZL	Large	0 in ; 4.25 in (0 mm ; 108 mm)	1.14 in (29 mm)	5 in (127 mm)	0.43 in (11 mm)	9.76 in (248 mm)	Nickel plated	30392200
CLM-MULTI3SZM	Medium	0 in ; 2.8 in (0 mm ; 71 mm)	0.75 in (19 mm)	5 in (127 mm)	0.43 in (11 mm)	8.58 in (218 mm)	Nickel plated	30392203
CLM-MULTI3SZS	Small	0 in ; 1.54 in (0 mm ; 39 mm)	0.43 in (11 mm)	4 in (102 mm)	0.32 in (8 mm)	6.3 in (160 mm)	Nickel plated	30392205
CLM-ULTRA3SZL	Large	0 in ; 2.83 in (0 mm ; 72 mm)	1.14 in (29 mm)	5 in (127 mm)	0.43 in (11 mm)	10.24 in (260 mm)	Nickel plated	30392250
CLM-ULTRA3SZM	Medium	0 in ; 1.97 in (0 mm ; 50 mm)	0.75 in (19 mm)	5 in (127 mm)	0.43 in (11 mm)	9.02 in (229 mm)	Nickel plated	30392252
CLM-ULTRA3SZS	Small	0 in ; 0.91 in (0 mm ; 23 mm)	0.24 in (6 mm)	4 in (102 mm)	0.32 in (8 mm)	6.38 in (162 mm)	Nickel plated	30392254



### Chain

Model	Size	Grip Range	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLS-CHAINSL	Large	1.38 in ; 11.02 in (35 mm ; 280 mm)	5 in (127 mm)	0.51 in (13 mm)	8.11 in (206 mm)	Stainless Steel	30392224
CLS-CHAINZM	Small	1.38 in ; 6.69 in (35 mm ; 170 mm)	5 in (127 mm)	0.51 in (13 mm)	7.4 in (188 mm)	Nickel plated	30392235
CLS-CHAINZL	Large	1.38 in ; 11.02 in (35 mm ; 280 mm)	5 in (127 mm)	0.51 in (13 mm)	8.11 in (206 mm)	Nickel plated	30392259
CLS-CHNEXZL	Large	1.38 in ; 11.02 in (35 mm ; 280 mm)	12 in (305 mm)	0.51 in (13 mm)	15.12 in (384 mm)	Nickel plated	30392260



### Column

Model	Size	Grip Range	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLS-COLMNSS	Small	2.56 in ; 3.5 in (65 mm ; 89 mm)	8.31 in (211 mm)	0.43 in (11 mm)	11.1 in (282 mm)	Stainless Steel	30392314
CLS-COLMNSM	Medium	3.58 in ; 4.49 in (91 mm ; 114 mm)	8.31 in (211 mm)	0.43 in (11 mm)	12.41 in (315 mm)	Stainless Steel	30392315
CLS-COLMNSL	Large	2.52 in ; 5.51 in (64 mm ; 140 mm)	8.31 in (211 mm)	0.43 in (11 mm)	13.31 in (338 mm)	Stainless Steel	30392316
CLS-COLMNSX	Extra Large	3.62 in ; 6.5 in (92 mm ; 165 mm)	8.31 in (211 mm)	0.43 in (11 mm)	14.49 in (368 mm)	Stainless Steel	30392317



### Nester

Model	Grip Range	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLS-NESTXS	1.97 in ; 4 in (50 mm ; 102 mm)	5.98 in (152 mm)	0.39 in (10 mm)	10.32 in (262 mm)	Stainless Steel	30392318



### Open Ring

Model	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLS-OPENRAS	2.28 in (58 mm)	0.35 in (9 mm)	5.2 in (132 mm)	Aluminum	30392343
CLS-OPENRAM	2.28 in (58 mm)	0.35 in (9 mm)	6.22 in (158 mm)	Aluminum	30392344
CLS-OPENRAL	2.4 in (61 mm)	0.43 in (11 mm)	7.2 in (183 mm)	Aluminum	30392345
CLS-OPENRPS	10 in (254 mm)	0.35 in (9 mm)	12.91 in (382 mm)	PVC	30392346
CLS-OPENRPM	12 in (305 mm)	0.35 in (9 mm)	15.91 in (404 mm)	PVC	30392347
CLS-OPENRPL	12 in (305 mm)	0.43 in (11 mm)	16.81 in (427 mm)	PVC	30392348



### 3-Prong Dual Adjust

Model	Size	Grip Range	Prong Width	Arm Length	Arm Diameter	Dimensions	Material	Item Number
CLM-MULTI3DZL	Large	0 in ; 4.13 in (0 mm ; 105 mm)	1.14 in (29 mm)	5 in (127 mm)	0.43 in (11 mm)	10.75 in (273 mm)	Nickel plated	30392198
CLM-MLTEX3DZL	Large	0 in ; 4.13 in (0 mm ; 105 mm)	1.14 in (29 mm)	12 in (305 mm)	0.5 in (13 mm)	17.76 in (451 mm)	Nickel plated	30392199
CLM-MULTI3DZM	Medium	0 in ; 2.72 in (0 mm ; 69 mm)	0.75 mm (19 mm)	5 in (127 mm)	0.43 in (11 mm)	9.02 in (229 mm)	Nickel plated	30392201
CLM-MLTEX3DZM	Medium	0 in ; 2.72 in (0 mm ; 69 mm)	0.75 mm (19 mm)	12 in (305 mm)	0.5 in (13 mm)	16 in (406 mm)	Nickel plated	30392202
CLM-MULTI3DZS	Small	0 in ; 1.81 in (0 mm ; 46 mm)	0.43 in (11 mm)	4 in (102 mm)	0.32 in (8 mm)	6.61 in (168 mm)	Nickel plated	30392204
CLM-SWIVL3DZM	Medium	0 in ; 2.72 in (0 mm ; 69 mm)	0.79 in (20 mm)			7.01 in (178 mm)	Nickel plated	30392214
CLM-FIXED3DZM	Medium	0 in ; 2.72 in (0 mm ; 69 mm)	0.79 in (20 mm)			5.75 in (146 mm)	Nickel plated	30392217
CLM-SWIVL3DSM	Medium	0 in ; 2.72 in (0 mm ; 69 mm)	0.79 in (20 mm)			7.01 in (178 mm)	Stainless Steel	30392225
CLM-FIXED3DSM	Medium	0 in ; 2.72 in (0 mm ; 69 mm)	0.79 in (20 mm)			5.75 in (146 mm)	Stainless Steel	30392229
CLM-ULTRA3DZL	Large	0 in ; 4.06 in (0 mm ; 103 mm)	1.14 in (29 mm)	5 in (127 mm)	0.43 in (11 mm)	10.24 in (260 mm)	Nickel plated	30392249
CLM-ULTRA3DZM	Medium	0 in ; 2.76 in (0 mm ; 70 mm)	0.75 in (19 mm)	5 in (127 mm)	0.43 in (11 mm)	8.74 in (222 mm)	Nickel plated	30392251
CLM-ULTRA3DZS	Small	0 in ; 1.26 in (0 mm ; 32 mm)	0.24 in (6 mm)	4 in (102 mm)	0.32 in (8 mm)	5.98 in (152 mm)	Nickel plated	30392253
CLM-MULTI3DSL	Large	0 in ; 4 in (0 mm ; 102 mm)	1.14 in (29 mm)	5 in (127 mm)	0.51 in (13 mm)	10.75 in (273 mm)	Stainless Steel	30392352
CLM-MULTI3DSM	Medium	0 in ; 2.72 in (0 mm ; 69 mm)	0.75 in (19 mm)	5 in (127 mm)	0.51 in (13 mm)	9.02 in (229 mm)	Stainless Steel	30392353
CLM-MULTI3DSS	Small	0 in ; 1.9 in (0 mm ; 48 mm)	0.51 in (13 mm)	4 in (102 mm)	0.39 in (10 mm)	6.77 in (172 mm)	Stainless Steel	30392354



Kettle

Model	Size	Item Number
CLS-KTLCLS	500 mL, 1000 mL Flask	30392365
CLS-KTLCLM	2000 mL, 3000 mL, 4000 mL Flask	30392366



Airejector

Model	Dimensions	Material	Item Number
CLN-AIREJ	140 mm x 5.51 in	Nickel plated	30392367

# RODS, FRAMES & SUPPORTS

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## Lab Frame Rod

Model	Material	Rod Length	Item Number
CLR-RODA004	Aluminum	1.61 in (41 mm)	30392271
CLR-RODA005	Aluminum	2 in (51 mm)	30392272
CLR-RODA015	Aluminum	6 in (152 mm)	30392273
CLR-RODA030	Aluminum	12 in (305 mm)	30392274
CLR-RODA046	Aluminum	18 in (457 mm)	30392275
CLR-RODA061	Aluminum	24 in (610 mm)	30392276
CLR-RODA091	Aluminum	36 in (914 mm)	30392277
CLR-RODA122	Aluminum	48 in (1,219 mm)	30392278
CLR-RODA152	Aluminum	60 in (1,524 mm)	30392279
CLR-RODA183	Aluminum	72 in (1,829 mm)	30392280
CLR-RODA244	Aluminum	96 in (2,438 mm)	30392281
CLR-RODS004	Stainless Steel	1.61 in (41 mm)	30392293
CLR-RODS005	Stainless Steel	2 in (51 mm)	30392294
CLR-RODS015	Stainless Steel	6 in (152 mm)	30392295
CLR-RODS030	Stainless Steel	12 in (305 mm)	30392296
CLR-RODS046	Stainless Steel	18 in (457 mm)	30392297
CLR-RODS061	Stainless Steel	24 in (610 mm)	30392298
CLR-RODS091	Stainless Steel	36 in (914 mm)	30392299
CLR-RODS122	Stainless Steel	48 in (1,219 mm)	30392300
CLR-RODS152	Stainless Steel	60 in (1,524 mm)	30392301
CLR-RODS183	Stainless Steel	72 in (1,829 mm)	30392302
CLR-RODS244	Stainless Steel	96 in (2,438 mm)	30392303



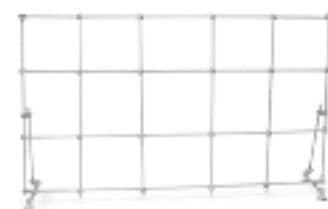
## Rod with Channel Connector

Model	Material	Dimensions	Grip Range	Connection Angle	Rod Length	Adjustment Type	Maximum Capacity	Item Number
CLC-UNSMBA	Aluminum		0 in ; 0.78 in (0 mm ; 20 mm)			Thumbscrew	5 lb (2.27 kg)	30392265
CLC-HTZMBA05	Aluminum				2 in (51 mm)	Locking Nut		30392266
CLC-HTZMBA10	Aluminum				4 in (102 mm)	Locking Nut		30392267
CLC-HTZMBA15	Aluminum				6 in (152 mm)	Locking Nut		30392268
CLC-HTZMBA20	Aluminum				8 in (203 mm)	Locking Nut		30392269
CLC-SHGRPA	Aluminum	7.75 in (197 mm)		Fixed 90°		Thumbscrew		30392311



### Buret Holder Kit

Model	Material	Dimensions	Rod Length	Size	Item Number
CLS-BTSETS	Stainless Steel	7 in x 1 in x 13 in (178 mm x 25 mm x 330 mm)	22.76 in (578 mm)	micro – 100 mL burets	30392231
CLS-BTSETA	Nickel plated	7 in x 1 in x 13 in (178 mm x 25 mm x 330 mm)	22.76 in (578 mm)	micro – 100 mL burets	30392313



### Lab Frame Kit

Model	Material	Dimensions	Size	Item Number
CLR-FRAMEAS	Aluminum	18 in x 24 in x 24 in (457 mm x 610 mm x 610 mm)	Small	30392304
CLR-FRAMEAM	Aluminum	18 in x 24 in x 48 in (457 mm x 610 mm x 1,219 mm)	Medium	30392305
CLR-FRAMEAL	Aluminum	18 in x 48 in x 48 in (457 mm x 1,219 mm x 1,219 mm)	Large	30392306
CLR-FRAMEAX	Aluminum	12 in x 48 in x 72 in (305 mm x 1,219 mm x 1,829 mm)	Extra Large	30392307
CLR-FRAMEAH	Aluminum	21.7 in x 75 in x 72 in (551 mm x 1,905 mm x 1,829 mm)		30392309
CLR-FRAMESS	Stainless Steel	18 in x 24 in x 24 in (457 mm x 610 mm x 610 mm)	Small	30392323
CLR-FRAMESM	Stainless Steel	18 in x 24 in x 48 in (457 mm x 610 mm x 1,219 mm)	Medium	30392324
CLR-FRAMESL	Stainless Steel	18 in x 48 in x 48 in (457 mm x 1,219 mm x 1,219 mm)	Large	30392325
CLR-FRAMESX	Stainless Steel	12 in x 48 in x 72 in (305 mm x 1,219 mm x 1,829 mm)	Extra Large	30392326
CLR-FRAMESH	Stainless Steel	21.7 in x 75 in x 72 in (551 mm x 1,905 mm x 1,829 mm)		30392328
CLR-FHOODSS	Stainless Steel	12 in x 36 in x 38 in (305 mm x 914 mm x 965 mm)		30392329
CLR-FHOODSM	Stainless Steel	12 in x 36 in x 50 in (305 mm x 914 mm x 1,270 mm)		30392330
CLR-FHOODSL	Stainless Steel	12 in x 36 in x 62 in (305 mm x 914 mm x 1,575 mm)		30392331
CLR-FHOODSX	Stainless Steel	12 in x 36 in x 86 in (305 mm x 914 mm x 2,184 mm)		30392332



Model	Item Number
CLR-CHROMA	30392308
CLR-RODAX	30392333





## Support Plates

Model	Material	Adjustment Type	Platform Size	Size	Item Number
CLR-PLATEAR	Aluminum		6 in (152 mm)		30392342
CLR-PLATEAS	Aluminum	Thumbscrew	9.5 in × 6.5 in (241 mm × 165 mm)	Small	30392349
CLR-PLATEAL	Aluminum	Thumbscrew	12.75 in × 9 in (324 mm × 229 mm)	Medium	30392350
CLR-PLATEAX	Aluminum	Thumbscrew	15.75 in × 12 in (400 mm × 305 mm)	Large	30392351



## Lab Frame Foot

Model	Material	Dimensions	Grip Range	Adjustment Type	Item Number
CLR-LFOOTZ	Nickel plated	1.25 in × 2.3 in (32 mm × 58.4 mm)	0 in ; 0.51 in (0 mm ; 13 mm)	Set Screw	30392263
CLR-LFOOTS	Stainless Steel	1.25 in × 2.3 in × 2.3 in (58.4 mm × 32 mm × 58.4 mm)	0 in ; 0.51 in (0 mm ; 13 mm)	Set Screw	30392356



## Connector

Model	Material	Grip Range	Connection Angle	Adjustment Type	Item Number
CLC-RDENDS	Stainless Steel	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Set Screw	30392222
CLC-LTTCEA	Aluminum	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Set Screw	30392255
CLC-RDENDZ	Nickel plated	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Set Screw	30392256
CLC-SCONNZ	Nickel plated	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Set Screw	30392257
CLC-HOOKCZ	Nickel plated	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Thumbscrew	30392258
CLC-CHANLZ	Nickel plated			Set Screw	30392261
CLC-MTRODZ	Nickel plated	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Thumbscrew & Set Screw	30392262
CLC-EN2ENA	Aluminum	0 in ; 0.51 in (0 mm ; 13 mm)	End to End	Set Screw	30392264
CLC-SCONNS	Stainless Steel	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Set Screw	30392355
CLC-HOOKCS	Stainless Steel	0 in ; 0.51 in (0 mm ; 13 mm)	Fixed 90°	Thumbscrew	30392358



## Support Stand Base

Model	Material	Dimensions	Item Number
CLR-RBASECS	Cast Iron	4 in × 6 in (102 mm × 152 mm)	30392359
CLR-RBASECM	Cast Iron	5 in × 8 in (127 mm × 203 mm)	30392360
CLR-RBASECL	Cast Iron	6 in × 9 in (152 mm × 229 mm)	30392361
CLR-RBASECX	Cast Iron	8 in × 10 in (203 mm × 254 mm)	30392362
CLR-TBASEC	Cast Iron	14.75 in (375 mm)	30392363
CLR-UBASEC	Cast Iron	7 in × 7 in (178 mm × 178 mm)	30392364



## Lab Lift

Model	Material	Height Range	Maximum Capacity	Platform Size	Item Number
CLR-LBLFTS008	Stainless Steel	64 mm ; 127	100 lb (45.36 kg)	3 in × 3 in (76 mm × 76 mm)	30400000
CLR-LBLFTS010	Stainless Steel	64 mm ; 127	100 lb (45.36 kg)	4 in × 4 in (102 mm × 102 mm)	30400001
CLR-LBLFTS015	Stainless Steel	76 mm ; 248	133 lb (60.33 kg)	6 in × 6 in (152 mm × 152 mm)	30400002
CLR-LBLFTS020	Stainless Steel	76 mm ; 248	227 lb (102.97 kg)	8 in × 8 in (203 mm × 203 mm)	30400003
CLR-LBLFTS025	Stainless Steel	89 mm ; 330	247 lb (112.04 kg)	10 in × 10 in (254 mm × 254 mm)	30400004
CLR-LBLFTS030	Stainless Steel	102 mm ; 495	100 lb (45.36 kg)	12 in × 12 in (305 mm × 305 mm)	30400005
CLR-LBLFTS041	Stainless Steel	102 mm ; 495	100 lb (45.36 kg)	16 in × 16 in (406 mm × 406 mm)	30400006
CLR-LBLFTA010	Aluminum	64 mm ; 127	66 lb (29.94 kg)	4 in × 4 in (102 mm × 102 mm)	30400007
CLR-LBLFTA015	Aluminum	76 mm ; 248	132 lb (59.87 kg)	6 in × 6 in (152 mm × 152 mm)	30400008
CLR-LBLFTA020	Aluminum	76 mm ; 248	176 lb (79.83 kg)	8 in × 8 in (203 mm × 203 mm)	30400009
CLR-LBLFTA025	Aluminum	89 mm ; 330	186 lb (84.37 kg)	10 in × 10 in (254 mm × 254 mm)	30400010



## Flex System

Model	Material	Dimensions	Grip Range	Arm Diameter	Arm Length	Item Number
CLS-FLEXSM	Nickel plated	5 in × 0.5 in × 5 in (127 mm × 13 mm × 127 mm)		0.51 in (13 mm)	12 in (305 mm)	30400011
CLS-FLEXBM	Nickel plated		0 mm ; 43 mm	0.51 in (13 mm)	12 in (305 mm)	30400012
CLS-FLEXLM	Nickel plated		0 mm ; 19 mm	0.51 in (13 mm)	12 in (305 mm)	30400013
CLS-FLEXSL	Nickel plated	5 in × 0.5 in × 5 in (127 mm × 13 mm × 127 mm)		0.51 in (13 mm)	18 in (457 mm)	30400014
CLS-FLEXBL	Nickel plated		0 mm ; 43 mm	0.51 in (13 mm)	18 in (457 mm)	30400015
CLS-FLEXLL	Nickel plated		0 mm ; 19 mm	0.51 in (13 mm)	18 in (457 mm)	30400016



## Gas Cylinder Supports

Model	Material	Dimensions	Cylinder Diameter	Support Type	Item Number
CLR-703	Cast Aluminum	6 in × 18.25 in (152 mm × 464 mm)	8 in ; 9 (203 mm ; 229)	Floor Stand	30400018
CLR-704	Cast Aluminum	7.5 in × 18.5 in (191 mm × 470 mm)	6 in ; 9.25 (152 mm ; 235)	Floor Stand	30400019
CLR-711	Cast Aluminum	3.25 in × 6.25 in × 5.25 in (83 mm × 159 mm × 133 mm)	4 in ; 14 (102 mm ; 356)	Bench	30400020
CLR-711M	Cast Aluminum	3.25 in × 6.5 in × 5.25 in (83 mm × 165 mm × 133 mm)	4 in ; 14 (102 mm ; 356)	Bench	30400021
CLR-712	Cast Aluminum	3.25 in × 4.5 in × 6 in (83 mm × 152 mm × 152 mm)	4 in ; 14 (102 mm ; 356)	Bench	30400022
CLR-713	Cast Aluminum	3 in × 15.5 in (76 mm × 394 mm)	7 in ; 9.25 (178 mm ; 235)	Floor Stand	30400023
CLR-715	Cast Aluminum	1.88 in × 4.63 in × 8.1 in (48 mm × 118 mm × 206 mm)	4 in ; 14 (102 mm ; 356)	Wall	30400024
CLR-715M	Cast Aluminum	1.88 in × 4.63 in × 8.1 in (48 mm × 118 mm × 206 mm)	4 in ; 14 (102 mm ; 356)	Wall	30400025
CLR-716	Cast Aluminum	3.25 in × 6.5 in × 5.25 in (83 mm × 165 mm × 133 mm)	4 in ; 14 (102 mm ; 356)	Bench	30400026
CLR-716M	Cast Aluminum	3.25 in × 6.5 in × 5.25 in (83 mm × 165 mm × 165 mm)	4 in ; 14 (102 mm ; 356)	Bench	30400027
CLR-717	Cast Aluminum	1.88 in × 4.63 in × 8.1 in (48 mm × 118 mm × 206 mm)	4 in ; 14 (102 mm ; 356)	Wall	30400028
CLR-717M	Cast Aluminum	1.88 in × 4.63 in × 8.1 in (48 mm × 118 mm × 206 mm)	4 in ; 14 (102 mm ; 356)	Wall	30400029



## Support Stand with Rod

Model	Material	Dimensions	Rod Length	Item Number
CLS-STRODS	Stainless Steel	7 in × 1 in × 13 in (178 mm × 25 mm × 330 mm)	22.76 in (578 mm)	30392232
CLS-STRODA	Aluminum	7 in × 1 in × 13 in (178 mm × 25 mm × 330 mm)	22.76 in (578 mm)	30392312
CLR-STRODC046	Stainless Steel	12 in × 16.5 in (305 mm × 419 mm)	18 in (475 mm)	30392334
CLR-STRODC058	Stainless Steel	12 in × 16.5 in (305 mm × 419 mm)	23 in (584 mm)	30392335
CLR-STRODC071	Stainless Steel	12 in × 16.5 in (305 mm × 419 mm)	28 in (711 mm)	30392336
CLR-STRODC091	Stainless Steel	12 in × 16.5 in (305 mm × 419 mm)	36 in (914 mm)	30392337
CLR-STRODC102	Stainless Steel	12 in × 16.5 in (305 mm × 419 mm)	40 in (1,016 mm)	30392338
CLR-STRODC122	Stainless Steel	12 in × 16.5 in (305 mm × 419 mm)	48 in (1,219 mm)	30392339
CLR-STRODC152	Stainless Steel	12 in × 16.5 in (305 mm × 419 mm)	60 in (1,524 mm)	30392340
CLR-STRODS058	Stainless Steel	10.5 in × 17.75 in (267 mm × 451 mm)	23 in (58.4 cm)	30400030
CLR-STRODS071	Stainless Steel	10.5 in × 17.75 in (267 mm × 451 mm)	28 in (71.1 cm)	30400031
CLR-STRODS091	Stainless Steel	10.5 in × 17.75 in (267 mm × 451 mm)	36 in (91.4 cm)	30400032
CLR-STRODS102	Stainless Steel	10.5 in × 17.75 in (267 mm × 451 mm)	40 in (101.6 cm)	30400033
CLR-STRODS122	Stainless Steel	10.5 in × 17.75 in (267 mm × 451 mm)	48 in (121.9 cm)	30400034
CLR-STRODS152	Stainless Steel	10.5 in × 17.75 in (267 mm × 451 mm)	60 in (152.4 cm)	30400035



## Holder

Model	Material	Dimensions	Grip Range	Connection Angle	Adjustment Type	Size	Item Number
CLC-CLMPHA	Aluminum	2.75 in (70 mm)	0 in ; 0.66 in (0 mm ; 17 mm)	Fixed 90°	Thumbscrew		30392195
CLC-JUMBOA	Aluminum	2.25 in (57.2 mm)	0 in ; 0.83 in (0 mm ; 21 mm)	Fixed 90°	Thumbscrew	Jumbo	30392196
CLC-REGLRZ	Nickel plated	1.9 in (48.3 mm)	0 in ; 0.71 in (0 mm ; 18 mm)	Fixed 90°	Thumbscrew	Regular	30392197
CLC-SWIVLZ	Nickel plated		0 in ; 0.75 in (0 mm ; 19 mm)	Variable	Thumbscrew		30392213
CLC-REGLRS	Stainless Steel	1.9 in (48.3 mm)	0 in ; 0.71 in (0 mm ; 18 mm)	Fixed 90°	Thumbscrew		30392219
CLC-SWIVLS	Stainless Steel		0 in ; 0.75 in (0 mm ; 19 mm)	Variable	Thumbscrew		30392228
CLC-ALLPSZ	Nickel plated		0 in ; 0.75 in (0 mm ; 19 mm)	Variable	Thumbscrew		30392248
CLC-JUMBOS	Stainless Steel	2.25 in (57.2 mm)	0 in ; 0.83 in (0 mm ; 21 mm)	Fixed 90°	Thumbscrew		30392357
CLR-HOLDRS	Stainless Steel			Fixed 90°	Oversized Knob		30400043
CLC-ULTRAA	Aluminum	4 in × 4 in (102 mm × 102 mm)	0.24 in ; 0.95 in (6 mm ; 24 mm)	Fixed 90°	Oversized Knob	Heavy Duty	30400045



## Innoculating Turntable

Model	Material	Dimensions	Platform Size	Size	Item Number
CLN-INOTTS	Cast Iron	3 in × 4.49 in (76 mm × 114 mm)	4.49 in (114 mm)	Petri Dish size, 100 mm	30400046
CLN-INOTTL	Cast Iron	1.26 in × 5.91 in (32 mm × 150 mm)	5.91 in (150 mm)	Petri Dish size, 100 mm, 150 mm	30400047



## Slide Staining Rack

Model	Material	Dimensions	Item Number
CLN-STNRK	Stainless Steel	23.7 in × 3.5 in (603 mm × 89 mm)	30400048

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	Bench Meters								Portable Meters							Pen Meters							
	Starter 5000	AquaSearcher AB41	AquaSearcher AB33M1	AquaSearcher AB33PH	AquaSearcher AB33EC	AquaSearcher AB23PH	AquaSearcher AB23EC	Starter 2200	Starter 300	Starter 300C	Starter 300D	Starter ST400	Starter ST400M	Starter ST400D	pH meters	ORP meters	Conductivity meters	DO meters	Salinity meters	TDS meters	Multi meters		
Measurement Range	-2,000 to 20,000 pH; -30°C to 130°C	-2,000 – 20,000 pH; -2000.00 – +2000.00 mV; -10.0 °C – 125.0 °C	-2,000 – 20,000 pH; -2000.00 – +2000.00 mV; -5 °C – 110 °C	-2,000 – 16,000 pH; -2000.00 – +2000.00 mV; -5 °C – 110 °C	0.001 µS/cm – 1000 mS/cm; 5.0 to 110.0°C	0.00 – 14.00 pH; -1999 – 1999 mV; 0 – 100°C	0.00 µS/cm – 199.9 mS/cm; 0.0 to 100.0 °C	-2.00 to 16.00 pH; 0 °C to 100 °C	0.00 to 14.00 pH 0 °C to 100 °C	0.0 µS/cm to 1999 mS/cm 0 °C to 100 °C	0.0 to 199.9%; 200 to 400% 0 °C to 50 °C	-2.00 – 16.00 pH -1999 – 1999 mV -5 °C – 110 °C	pH -2...16.00 pH ORP -1999 ... 1999 mV Conductivity 0.0 µS/cm ... 199.9 mS/cm TDS 0.1 mg/l ... 199.9 g/l Salinity 0.0 ... 99.9 psu Resistivity 0... 20MΩ-cm Temperature -5 °C ... 110 °C	0.0 to 200.0% 0 °C to 50 °C	0.00 to 14.00 pH*	-1000mV to 1000mV	0.0 to 1999 µS/cm*	0.0 to 199 mg/L	0.0 to 80.0 ppt*	0 to 1000 mg/L*	0.00 to 14.00 pH; 0-1999 µS/cm; 0-19.99 mS/cm; 0-1000 mg/L; 0.0-10.0 ppt		
Input	BNC	BNC	BNC	BNC	Mini-Din	BNC	Mini-Din	BNC	BNC	Mini-Din	BNC	BNC	BNC	Mini-DIN									
Automatic Temp. Compensation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•*	•*	•*	•*	•*	•*	•		
Manual Temp. Compensation	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
Battery Power									•	•	•	•	•	•	•	•	•	•	•	•	•		
1 Pt. Calibration	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•*	•*	•*	•*	•*	•*	•		
2 Pt. Calibration	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•*								
≥3 Pt. Calibration	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•*						•		
Memory	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
Backlit LCD	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
LCD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Touchscreen	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
Mechanical Keys						•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
USB	•	•	•	•	•							•	•										
RS232	•	•	•	•	•																		
USB Host	•															•							
GLP / Time / Date	•	•	•	•	•				•														
Multi Languages	•	•	•	•	•							•	•										
IP Protection	IP54	IP54	IP54	IP54	IP54	IP54	IP54		IP54	IP54	IP54	IP67	IP67	IP54	IP67	IP67	IP67	IP67	IP67	IP67	IP67		
Stand-alone Electrode Holder	•	•	•	•	•	•	•																
Quick Reference Operation Guide	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
In-Use Cover	•	•	•	•	•	•	•																
Hold Function								•	•	•	•	•	•	•	•*	•	•	•	•	•	•		
Auto Shut Off		•	•	•	•	•	•					•	•		•	•	•	•	•	•	•		
<b>Page No.</b>	<b>245</b>	<b>239</b>	<b>241</b>	<b>240</b>	<b>242</b>	<b>243</b>	<b>244</b>	<b>246</b>	<b>251</b>	<b>252</b>	<b>253</b>	<b>247</b>	<b>248</b>	<b>250</b>	<b>254</b>	<b>254</b>	<b>254</b>	<b>254</b>	<b>254</b>	<b>254</b>	<b>254</b>		

\* on specific models

	Bench Meters								Portable Meters					Pen Meters													
	ST5000	AB41PH	AB33M1	AB33PH	AB33EC	AB23PH	AB23EC	ST2200	ST400	ST400M	ST400D	ST300	ST300C	ST300D	ST10	ST20	ST20M-B	ST20M-C	ST10C	ST20C	ST10T	ST20T	ST10S	ST20S	ST10R	ST20R	ST20D
pH	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Cond.			•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•							
TDS			•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•							
ORP	•	•	•	•	•	•	•	•	•	•	•	•	•	•											•	•	
Salinity			•	•	•	•	•	•	•	•	•	•	•	•				•	•	•				•	•	•	
Resistivity			•	•	•	•	•	•	•	•	•	•	•	•													
DO																											•
Temp.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

# AQUASEARCHER™ AB41PH BENCH METER

An Advanced, Research-Grade Benchtop pH Meter Offering Accurate, Repeatable Results

## Display

6.5" Segment & Dot matrix LCD with backlight

## Communication

RS232, USB Device (included), GLP/GMP data output with real-time clock

## Construction

AC adapter (included)

## Design Features

i-Steward, 3 endpoint modes, calibration due alarm, 1,000 measurement memory, ten most recent calibrations, password management

## Operation

Capacitive touch, ABS top housing, standalone electrode holder



With selectable resolution from 0.1 to 0.001 and an intelligent i-Steward system, AB41PH is an excellent pH bench meter with high resolution and consistent accuracy.

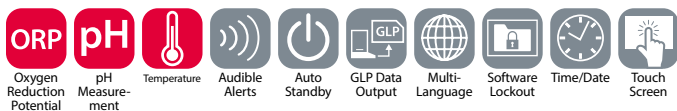
Equipped with a 6.5-inch large LCD display and a touch keypad, AB41PH offers a simple and precise control experience.

The AB41PH features a 1000-item memory and password management for GLP documentation. Provides connectivity and data output capabilities with RS232 and USB interface.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
AB41PH-B	-	-2.000 – 20.000 pH; -10.0 °C – 125.0 °C; -2000.00 – +2000.00 mV	0.1 mV; 0.1 °C; 0.001 pH	30589830
AB41PH-F	ST410 pH Electrode and STTEMP Probe included	-2.000 – 20.000 pH; -10.0 °C – 125.0 °C; -2000.00 – +2000.00 mV	0.1 mV; 0.1 °C; 0.001 pH	30589831

Accessories	Item Number
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
pH Electrode, ST350, EN	30129354
pH Electrode, ST260, EN	30129357

Accessories	Item Number
pH Electrode, STSURF, EN	30129470
pH Electrode, ST270	30240974
pH electrode ST272	30393265
pH Electrode ST410	30656037
ECS Special accessories	30658042
Electrode holder AB33/AB41	30661423
Stirrer Compact AS20	30661425
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971



# AQUASEARCHER™ AB33PH BENCH METER

Highly Reliable and User-Friendly pH Benchtop Meter for Standard Laboratory Applications

## Display

6.5" Segment & Dot matrix LCD with backlight

## Communication

RS232, USB Device (included)

## Construction

AC adapter (included)

## Design Features

i-Steward, Calibration due alarm, 1,000 measurement memory

## Operation

Capacitive touch, ABS top housing, standalone electrode holder



With multifunctional touch keypads, AB33PH makes measurement simple and fast within 3 steps. The intelligent i-Steward monitors the condition of electrodes, ensuring the accuracy of the results.

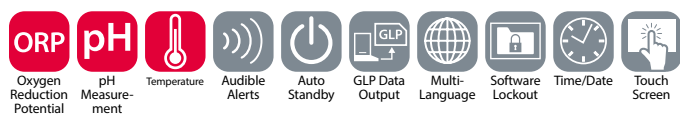
Auto endpoint mode and auto buffer recognition makes calibration easy. A 1000-item memory for pH measurements and calibration trail makes for efficient data documentation.

A user-friendly bench meter with an innovative design, including 6.5 in. large LCD display & adjustable stand-alone electrode holder. Multiple connectivity capabilities include RS232 & USB interface.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
AB33PH-B	-	-5 °C – 110 °C; -2.00 – 16.00 pH; -2000.00 – +2000.00 mV	0.1 °C; 0.01 pH; 1 mV	30589826
AB33PH-F	ST310 (Included)	-5 °C – 110 °C; -2.00 – 16.00 pH; -2000.00 – +2000.00 mV	0.1 °C; 0.01 pH; 1 mV	30589827

Accessories	Item Number
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
pH Electrode, ST350, EN	30129354
pH Electrode, ST260, EN	30129357

Accessories	Item Number
pH Electrode, STSURF, EN	30129470
pH Electrode, ST270	30240974
pH electrode ST272	30393265
pH Electrode ST410	30656037
ECS Special accessories	30658042
Electrode holder AB33/AB41	30661423
Stirrer Compact AS20	30661425
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971





# AQUASEARCHER™ AB33M1 BENCH METER

Easy-to-Use and Accurate Multi-Parameter Benchtop Meter

## Display

6.5" Segment & Dot matrix LCD with backlight

## Communication

RS232, USB Device (included)

## Construction

AC adapter (included)

## Design Features

i-Steward, Two Independent Channels, Calibration due alarm, 1,000 measurement memory

## Operation

Capacitive touch, ABS top housing, standalone electrode holder



Capable of measuring up to 7 parameters including pH, ORP, conductivity, TDS, salinity, resistivity and temperature, the AB33M1 utilizes 2 independent measuring channels which can work simultaneously.

With multifunctional touch keypads, AB33M1 makes measurement simple and fast. The intelligent i-Steward monitors the condition of electrodes, ensuring the accuracy of the results.

A 1000-item memory for measurement and calibration allows for efficient data documentation. Records are kept with date/time for traceability. RS232 and USB enable connection to external devices.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
AB33M1-B	-	-2.00 – 20.00 pH; -5 °C – 110 °C; -2000.00 – +2000.00 mV	0.1 mV; 0.1 °C; 0.01 pH	30589824
AB33M1-F	ST310 (Included); STCON3 (Included)	-2.00 – 20.00 pH; -5 °C – 110 °C; -2000.00 – +2000.00 mV	0.1 mV; 0.1 °C; 0.01 pH	30589825

Accessories	Item Number
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
Cond Electrode STCON7	30080693
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
Standard Conduct 84µS/cm 250ml	30100442
Standard Conduct 1413µS/cm 250ml	30100443
Standard Conduct 12.88mS/cm 250ml	30100444
pH Electrode, ST350, EN	30129354
pH Electrode, ST260, EN	30129357
pH Electrode, STSURF, EN	30129470

Accessories	Item Number
pH Electrode, ST270	30240974
pH electrode ST272	30393265
Conductivity Electrode STCON3 IP67	30468962
pH Electrode ST410	30656037
ECS Special accessories	30658042
Electrode holder AB33/AB41	30661423
Stirrer Compact AS20	30661425
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
Conductivity Electrode STCON5	30681116
Conductivity Electrode STCON8	30681117
Cond Electrode STCON8 w Flow chamber	30681235
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971
Conductivity Electrode, STCON3	83033972



# AQUASEARCHER™ AB33EC BENCH METER

Highly Reliable Conductivity/TDS/Salinity/Resistivity Benchtop Meter for Standard Laboratory Applications

## Display

6.5" Segment & Dot matrix LCD with backlight

## Communication

RS232, USB Device (included)

## Construction

AC adapter (included)

## Design Features

i-Steward, Calibration due alarm, 1,000 measurement memory

## Operation

Capacitive touch, ABS top housing, standalone electrode holder



Selectable reading reference temperatures of 20 or 25 °C with linear curve options and automatic temperature compensation ensures accurate results.

Features such as auto-stop, auto temperature compensation, adjustable TDS factor, 2- or 4-cell conductivity probe compatibility make AB33EC well suited for universal laboratory applications.

A 1000-item memory for conductivity measurements and calibration trail allows for efficient data documentation. Standard RS232 and USB interface allows connection to external devices.

Model	Electrode	Measurement Range	Conductivity accuracy (±)	Item Number
AB33EC-B	-	0.001 µS/cm – 1000 mS/cm	0.5 %	30589828
AB33EC-F	STCON7(Included)	0.001 µS/cm – 1000 mS/cm	0.5 %	30589829

Accessories	Item Number
Cond Electrode STCON7	30080693
Standard Conduct 84µS/cm 250ml	30100442
Standard Conduct 1413µS/cm 250ml	30100443
Standard Conduct 12.88mS/cm 250ml	30100444
Cond standard 500µS/cm, 250ml	30393269
ECS Special accessories	30658042

Accessories	Item Number
Electrode holder AB33/AB41	30661423
Stirrer Compact AS20	30661425
Conductivity Electrode STCON5	30681116
Conductivity Electrode STCON8	30681117
Cond Electrode STCON8 w Flow chamber	30681235
Conductivity Electrode, STCON3	83033972



# AQUASEARCHER™ AB23PH BENCH METER

Simple to Use Benchtop Meter for Easily Measuring pH and ORP

## Display

5 inch segment LCD with backlight

## Construction

ABS housing, mechanical keys, Stand-Alone electrode holder

## Design Features

Auto buffer recognition, two point calibration, electrode condition icon

## Operation

AC adapter (included)



With an intuitive design and auto buffer recognition, AB23PH is an easy and straightforward meter for pH measurement.

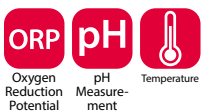
Large bright LCD display with complete measurement information simplifies operation and allows you to monitor the results from a distance.

Featuring a compact stand-alone electrode holder, AB23PH increases the flexibility of experiments and fits ideally in any lab.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
AB23PH-B	-	0 – 100°C; 0.00 – 14.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	30589820
AB23PH-F	ST320 (Included)	0 – 100°C; 0.00 – 14.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	30589821

Accessories	Item Number
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
pH Electrode, ST350, EN	30129354
pH Electrode, ST260, EN	30129357

Accessories	Item Number
pH Electrode, STSURF, EN	30129470
pH Electrode, ST270	30240974
pH electrode ST272	30393265
pH Electrode ST410	30656037
Electrode holder AB23	30661424
Stirrer Compact AS20	30661425
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971



Oxygen Reduction Potential    pH Measurement    Temperature

# AQUASEARCHER™ AB23EC BENCH METER

Simple-to-Use Benchtop Meter Designed to Easily Measure Conductivity, TDS and Salinity

## Display

5 inch segment LCD with backlight

## Construction

ABS housing, mechanical keys, standalone electrode holder

## Design Features

99 measurement memory, automatic and manual endpoint functions, automatic and manual temperature compensation

## Operation

AC adapter (included)



With six instructional menu buttons and auto temperature compensation, the AB23EC is an easy and straightforward meter for measurement.

A large 5-inch backlit LCD display with complete measurement information simplifies operation and allows you to monitor the results from a distance.

Featuring a compact stand-alone electrode holder, the AB23EC increases the flexibility of the experiment and fits ideally in any lab.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
AB23EC-B	-	00.0 $\mu$ S/cm – 199.9 mS/cm	0.01 $\mu$ S/cm	30589822
AB23EC-F	STCON3 (Included)	00.0 $\mu$ S/cm – 199.9 mS/cm	0.01 $\mu$ S/cm	30589823

Accessories	Item Number
Cond Electrode STCON7	30080693
Standard Conduct 84 $\mu$ S/cm 250ml	30100442
Standard Conduct 1413 $\mu$ S/cm 250ml	30100443
Standard Conduct 12.88mS/cm 250ml	30100444
Electrode holder AB23	30661424

Accessories	Item Number
Stirrer Compact AS20	30661425
Conductivity Electrode STCON5	30681116
Conductivity Electrode STCON8	30681117
Cond Electrode STCON8 w Flow chamber	30681235
Conductivity Electrode, STCON3	83033972



# STARTER 5000 PH BENCH

High Performance Benchtop pH Meter Ideal for Accurate Everyday Measurements in the Laboratory

## Display

Backlit liquid crystal display (LCD), touchscreen

## Communication

RS232 and USB (included). GLP/GMP data output with real-time clock.

## Construction

ABS housing, standalone electrode holder, replaceable in-use cover

## Design Features

3 endpoint modes, continuous measurement mode, up to 9 point calibration, 1,000 measurement memory

## Operation

AC adapter (included)



A 1000-item library allows for easy recall from data storage. Flexible pH analysis from 10 sensors for calibration storage, 1 self-defined and 8 pre-defined buffer groups, 3 endpoint modes & GLP mode.

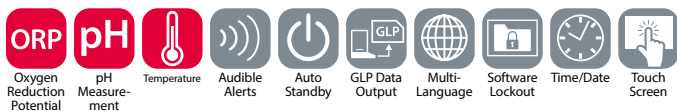
A user-friendly bench meter with an innovative design, including an adjustable standalone electrode holder and large touch-screen, backlit LCD display.

Featuring a USB port, IP54 housing and in-use cover, this flexible and smooth-operating bench meter is built to last.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
ST5000-B	-	-2.00 – 20.00 pH; -30 – 130°C; -2000.00 – +2000.00 mV	0.1 °C; 0.001 pH; 0.01 mV	30129895
ST5000-F	ST350 (Included)	-2.00 – 20.00 pH; -30 – 130°C; -2000.00 – +2000.00 mV	0.1 °C; 0.001 pH; 0.01 mV	30129896

Accessories	Item Number
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
Holder, Stand Alone, Electrode	30058733
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
Adapter Cable 9 Pin-9 Pin PC-SF40A	30059316
Printer, Impact, SF40A, AM	30064203
pH sensor protect bottle(10 in bag)	30064800
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440

Accessories	Item Number
pH Electrode, ST350, EN	30129354
pH Electrode, ST260, EN	30129357
pH Electrode, STSURF, EN	30129470
In-Use-Cover, ST5000	30129897
pH Electrode, ST270	30240974
Cable, 4m, BNC, STARTER electrodes	30282603
pH electrode ST272	30393265
pH Electrode ST410	30656037
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971



# STARTER™ 2200 PH BENCH METER

Affordable Benchtop pH Meter for Basic Laboratory Applications

## Display

3.5 inch segment LCD with backlight

## Construction

ABS housing, mechanical keys, built-in electrode holder

## Design Features

Auto buffer recognition, two point calibration, electrode condition icon

## Operation

AC adapter (included)



ST2200 is a user-friendly bench meter that clearly displays critical information - with five distinctly marked keys which allow users to operate the instrument with minimal training.

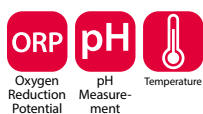
Auto buffer recognition and auto-endpoint mode make calibration and measurement simple and ideal for routine pH measurement.

The built-in electrode holder provides straightforward and convenient all-in-one operation, while the attached quick guide clearly explains the operating steps.

Model	Electrode	Measurement Range	Measurement Resolution	Temperature compensation	Item Number
ST2200-B	ST320 (Included)	0 – 100°C; 0.00 – 14.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	Yes	30656033
ST2200-F	ST320 (Included)	0 – 100°C; 0.00 – 14.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	Yes	30655944

Accessories	Item Number
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
pH Electrode, ST350, EN	30129354
pH Electrode, ST260, EN	30129357

Accessories	Item Number
pH Electrode, STSURF, EN	30129470
pH Electrode, ST270	30240974
pH electrode ST272	30393265
pH Electrode ST410	30656037
Electrode holder AB23	30661424
Stirrer Compact AS20	30661425
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971



# STARTER 400 PH PORTABLE

Durable, Waterproof Battery-Operated pH Meters Ideal for Field Testing!

## Display

Backlit Liquid Crystal Display (LCD)

## Communication

Built-in micro-USB port

## Construction

IP67 waterproof housing, IP67 probes, rubber cover

## Design Features

Data storage of up to 1000 items

## Operation

Rechargeable lithium battery



Built with IP67 waterproof housing as well as a rubber cover and IP67 probes, the ST400 is ideal for prolonged use in any field environment.

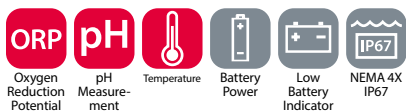
Rechargeable lithium battery provides 40 hours of uninterrupted use and more than 300 charge cycles - eliminating the need to change out batteries often.

The ST400 features intuitive software which guides the user through operation. All necessary information to run tests successfully such as electrode condition is displayed clearly on the large LCD.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
ST400-B	-	-5 °C – 110 °C; -2.00 – 16.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	30468964
ST400-F	ST320 IP67 3m (Included)	-5 °C – 110 °C; -2.00 – 16.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	30468965
ST400-G	ST320 IP67 3m (Included)	-5 °C – 110 °C; -2.00 – 16.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	30468966

Accessories	Item Number
Portable Bag STARTER	30031635
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
pH Electrode, ST350, EN	30129354

Accessories	Item Number
pH Electrode, ST260, EN	30129357
pH Electrode, STSURF, EN	30129470
pH Electrode, ST270	30240974
pH electrode ST272	30393265
pH Electrode ST320 IP67 3m	30468960
pH Electrode ST410	30656037
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971



# STARTER 400M PH & CONDUCTIVITY PORTABLE

Durable, Waterproof Battery-Operated Multi-Parameter Meters Ideal for Field Testing!

## Display

Backlit Liquid Crystal Display (LCD)

## Communication

Built-in micro-USB port

## Construction

IP67 waterproof housing, IP67 probes, rubber cover

## Design Features

Data storage of up to 1000 items

## Operation

Rechargeable lithium battery



Built with IP67 waterproof housing as well as a rubber cover and IP67 probes, the ST400 is ideal for prolonged use in any field environment.

Rechargeable lithium battery provides 40 hours of uninterrupted use and more than 300 charge cycles - eliminating the need to change out batteries often.

The ST400M features intuitive software which guides the user through operation. All necessary information to run tests successfully such as electrode condition is displayed clearly on the large LCD.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
ST400M-B	-	0-20 MΩ·cm; -5 °C – 110 °C; -2.00 – 16.00 pH; 00.0 μS/cm – 199.9 mS/cm; 0.1 mg/L – 199.9 g/L (TDS); -1999 – 1999 mV; 0-99.9 psu	0.01 mg/L; 0.01 psu; 0.1 °C; 0.1 μS/cm; 0.01 pH; 0.01 Ω·cm; 1 mV	30468990
ST400M-F	ST320 IP67 3m (Included); STCON3 IP67 3m (Included)	0-20 MΩ·cm; -5 °C – 110 °C; -2.00 – 16.00 pH; 00.0 μS/cm – 199.9 mS/cm; 0.1 mg/L – 199.9 g/L (TDS); -1999 – 1999 mV; 0-99.9 psu	0.01 mg/L; 0.01 psu; 0.1 °C; 0.1 μS/cm; 0.01 pH; 0.01 Ω·cm; 1 mV	30468991
ST400M-G	ST320 IP67 3m (Included); STCON3 IP67 3m (Included)	0-20 MΩ·cm; -5 °C – 110 °C; -2.00 – 16.00 pH; 00.0 μS/cm – 199.9 mS/cm; 0.1 mg/L – 199.9 g/L (TDS); -1999 – 1999 mV; 0-99.9 psu	0.01 mg/L; 0.01 psu; 0.1 °C; 0.1 μS/cm; 0.01 pH; 0.01 Ω·cm; 1 mV	30468992

Accessories	Item Number
Portable Bag STARTER	30031635
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
Cond Electrode STCON7	30080693
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
Standard Conduct 84μS/cm 250ml	30100442

Accessories	Item Number
Standard Conduct 1413μS/cm 250ml	30100443
Standard Conduct 12.88mS/cm 250ml	30100444
pH Electrode, ST350, EN	30129354
pH Electrode, ST260, EN	30129357
pH Electrode, STSURF, EN	30129470
pH Electrode, ST270	30240974
pH electrode ST272	30393265
Cond standard 500μS/cm, 250ml	30393269
pH Electrode ST320 IP67 3m	30468960
Conductivity Electrode STCON3 IP67	30468962
pH Electrode ST410	30656037
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
Conductivity Electrode STCON5	30681116
Conductivity Electrode STCON8	30681117
Cond Electrode STCON8 w Flow chamber	30681235

Accessories continued on next page





# STARTER 400M PH & CONDUCTIVITY PORTABLE ACCESSORIES

Accessories	Item Number
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969

Accessories	Item Number
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971
Conductivity Electrode, STCON3	83033972

# STARTER 400D DO PORTABLE

High-Performance, Low-Maintenance Dissolved Oxygen (DO) Meter with Optical Technology for Accurate Measurements



## Display

Backlit Color Liquid Crystal Display (LCD)

## Construction

ABS Housing

## Design Features

99 measurement memory, last calibration data recall, auto barometric pressure measurement, auto temperature compensation with manual salinity compensation

## Operation

4 AAA batteries (included)

Optical DO probe requires minimal maintenance and offers immediate measurement readings. No warm up or sample preparation needed.

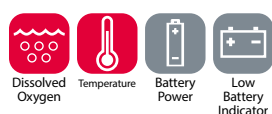
Large backlit LCD screen provides easy to read results - even in low light environments. Ideal for secure field use with a meter stand, wrist strap and durable IP54 housing.

The 99-measurement library stores data for future reference and allows for easy one-touch recall of the last calibration data.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
ST400D-B	-	0.00 – 20.0 mg/L(ppm); 0 – 50°C	0.01 mg/L; 0.1%; 0.1 °C	30378541
ST400D	STDO21 (Included)	0.00 – 20.0 mg/L(ppm); 0 – 50°C	0.01 mg/L; 0.1%; 0.1 °C	30378543
ST400D-G	STDO21 (Included)	0.00 – 20.0 mg/L(ppm); 0 – 50°C	0.01 mg/L; 0.1%; 0.1 °C	30378542

Accessories	Item Number
Portable Bag STARTER	30031635
Zero Oxygen Chemicals, STARTER	30059257
DO Probe Cap, STDO21	30253566

Accessories	Item Number
DO Electrode, STDO21, 1m Cable	30378544
DO Electrode, STDO21, 5m Cable	30378545
Temperature Electrode STTEMP30	83033970



# STARTER 300 PH PORTABLE

Convenient Portable pH Meter for Wherever Your Work Takes You

## Display

Liquid crystal display (LCD)

## Construction

ABS housing, wrist strap

## Design Features

Automatic and manual temperature compensation, auto buffer recognition, calibration icon

## Operation

4 AAA batteries (included)



Auto buffer recognition with four different buffer groups makes it easy to avoid errors during the calibration process.

Easy-to-use and accurate with a simple calibration process, automatic temperature compensation and fast results. Ideal for secure field use with a meter stand, wrist strap and durable IP54 housing.

The 30-measurement library stores data for future reference and allows the user to easily recall the last calibration data with one quick touch.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
ST300-B	-	0 – 100°C; 0.00 – 14.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	83033962
ST300	ST320 (Included)	0 – 100°C; 0.00 – 14.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	83033961
ST300-G	ST320 (Included)	0 – 100°C; 0.00 – 14.00 pH; -1999 – 1999 mV	0.1 °C; 0.01 pH; 1 mV	30219114

Accessories	Item Number
Portable Bag STARTER	30031635
ORP electrode STORP2	30038553
ORP electrode STORP1	30038555
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
pH sensor protect bottle(10 in bag)	30064800
pH Electrode STMICRO5	30087566
pH Electrode STMICRO8	30087569
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
pH Electrode, ST350, EN	30129354

Accessories	Item Number
pH Electrode, ST260, EN	30129357
pH Electrode, STSURF, EN	30129470
pH Electrode, ST270	30240974
Cable, 4m, BNC, STARTER electrodes	30282603
pH electrode ST272	30393265
pH Electrode ST410	30656037
pH Electrode ST322	30681113
pH Electrode ST280	30681114
pH Electrode ST420	30681115
Seal kit, STARTER portables	83032962
pH Electrode ST310	83033965
pH Electrode ST320	83033967
pH Electrode ST230	83033968
pH Electrode STPURE	83033969
Temperature Electrode STTEMP30	83033970
Buffer Powder pH4.01,7.00,10.01	83033971



# STARTER 300C CONDUCTIVITY PORTABLE

Convenient Portable Conductivity Meter for Wherever Your Work Takes You

## Display

Liquid crystal display (LCD)

## Construction

ABS housing, wrist strap

## Design Features

Automatic temperature compensation, adjustable temperature coefficient

## Operation

4 AAA batteries (included)



Four-pole linear electrode with temperature sensor safeguards the unit from polarization and pollution effects to ensure accurate readings.

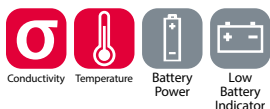
Easy-to-use and accurate with a simple calibration process, automatic temperature compensation and fast results.

The 30-measurement library stores data for future reference and allows the user to easily recall the last calibration data with one quick touch.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
ST300C-B	-	00.0 $\mu\text{S}/\text{cm}$ – 199.9 $\text{mS}/\text{cm}$ ; 0 – 100°C; 0.1 $\text{mg}/\text{L}$ – 199.9 $\text{g}/\text{L}$ (TDS)	0.1 °C; 0.01 $\mu\text{S}/\text{cm}$ ; 0.1 $\text{mg}/\text{L}$	30092000
ST300C	STCON3 (Included)	00.0 $\mu\text{S}/\text{cm}$ – 199.9 $\text{mS}/\text{cm}$ ; 0 – 100°C; 0.1 $\text{mg}/\text{L}$ – 199.9 $\text{g}/\text{L}$ (TDS)	0.1 °C; 0.01 $\mu\text{S}/\text{cm}$ ; 0.1 $\text{mg}/\text{L}$	83033964
ST300C-G	STCON3 (Included)	00.0 $\mu\text{S}/\text{cm}$ – 199.9 $\text{mS}/\text{cm}$ ; 0 – 100°C; 0.1 $\text{mg}/\text{L}$ – 199.9 $\text{g}/\text{L}$ (TDS)	0.1 °C; 0.01 $\mu\text{S}/\text{cm}$ ; 0.1 $\text{mg}/\text{L}$	30219115

Accessories	Item Number
Portable Bag STARTER	30031635
Cond Electrode STCON7	30080693
Standard Conduct 84 $\mu\text{S}/\text{cm}$ 250ml	30100442
Standard Conduct 1413 $\mu\text{S}/\text{cm}$ 250ml	30100443
Standard Conduct 12.88 $\text{mS}/\text{cm}$ 250ml	30100444

Accessories	Item Number
Conductivity Electrode STCON5	30681116
Conductivity Electrode STCON8	30681117
Cond Electrode STCON8 w Flow chamber	30681235
Seal kit, STARTER portables	83032962
Conductivity Electrode, STCON3	83033972



# STARTER 300D DO PORTABLE

Convenient Portable Dissolved Oxygen (DO) Meter for Wherever Your Work Takes You

## Display

Liquid crystal display (LCD)

## Construction

ABS housing, wrist strap

## Design Features

30 measurement memory

## Operation

4 AAA batteries (included)



The galvanic electrode can be used immediately after being powered on without the typical wait time associated with dissolved oxygen meters.

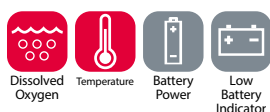
Easy-to-use and accurate with a simple calibration process, automatic temperature compensation and fast results.

The 30-measurement library stores data for future reference and allows the user to easily recall the last calibration data with one quick touch.

Model	Electrode	Measurement Range	Measurement Resolution	Item Number
ST300D-B	-	20.0 – 45.0 mg/L; 0.00 – 19.99; 200 – 400%; 0 – 50°C	0.1%; 1%; 1 mg/L; 0.1 °C; 0.1 ppm; 1 ppm; 0.1 mg/L	30031656
ST300D	STTEMP30 (Included); STDO11 (Included)	20.0 – 45.0 mg/L; 0.00 – 19.99; 200 – 400%; 0 – 50°C	0.1%; 1%; 1 mg/L; 0.1 °C; 0.1 ppm; 1 ppm; 0.1 mg/L	30031655
ST300D-G	STTEMP30 (Included); STDO11 (Included)	20.0 – 45.0 mg/L; 0.00 – 19.99; 200 – 400%; 0 – 50°C	0.1%; 1%; 1 mg/L; 0.1 °C; 0.1 ppm; 1 ppm; 0.1 mg/L	30219116

Accessories	Item Number
Portable Bag STARTER	30031635
DO Electrode, STDO11	30031639
Zero Oxygen Chemicals, STARTER	30059257

Accessories	Item Number
Seal kit, STARTER portables	83032962
Temperature Electrode STTEMP30	83033970



# STARTER PEN METERS

Compact Design for Fast, Convenient Electrochemistry Measurement At Your Fingertips

## Display

Liquid crystal display (LCD) display with secondary information line (on select models)

## Construction

ABS Housing

## Design Features

Easily replaceable electrodes, automatic shut off feature

## Operation

4 1.5V batteries (included)



Small, economical pen meters offer simple, fast, and straightforward operation.

With durable IP67 waterproof ABS housing, protective sensor cap, and an automatic shutdown feature that preserves battery life, OHAUS pen meters can endure consistent use in rough, wet environments.

Equipped with a wrist strap to prevent accidental drop and damage.

Model	Meter Type	Measurement Range	Measurement Resolution	Temperature Display	Item Number
ST10	pH	0.00 – 14 pH	0.1 pH	Not Applicable	30073970
ST20	pH	0.0 – 99.0 °C; 0.00 – 14 pH	0.01 pH	Yes	30073971
ST20M-B	TDS; Conductivity; pH	0.0 – 1000 mg/L; 0.0 – 99.0 °C; 0.00 – 14 pH; 0 – 1999 µs/cm	1 µs/cm; 0.01 pH	Yes	30393199
ST20M-C	Conductivity; pH; Salinity	0.0 – 10.0 ppt; 0.0 – 99.0 °C; 0.00 – 14 pH; 0.00 – 19.99 ms/cm	0.1 °C; 0.1 ppt; 0.01 pH; 0.01ms/cm	Yes	30393200
ST10C-A	Conductivity	0.00 – 199.9 µs/cm	0.1 µs/cm	Not Applicable	30073972
ST10C-B	Conductivity	0 – 1999 µs/cm	1 µs/cm	Not Applicable	30073973
ST10C-C	Conductivity	0.00 – 19.99 ms/cm	10 µs/cm	Not Applicable	30073974
ST20C-A	Conductivity	0.00 – 199.9 µs/cm; 0.0 – 99.0 °C	0.1 µs/cm	Yes	30073975
ST20C-B	Conductivity	0.0 – 99.0 °C; 0 – 1999 µs/cm	1 µs/cm	Yes	30073976
ST20C-C	Conductivity	0.0 – 99.0 °C; 0.00 – 19.99 ms/cm	10 µs/cm	Yes	30073977
ST10T-A	TDS	0.0 – 100.0 mg/L	0.1 mg/L	Not Applicable	30073978
ST10T-B	TDS	0.0 – 1000 mg/L	1 mg/L	Not Applicable	30073979
ST20T-A	TDS	0.0 – 100.0 mg/L; 0.0 – 99.0 °C	0.1 mg/L	Yes	30073980
ST20T-B	TDS	0.0 – 1000 mg/L; 0.0 – 99.0 °C	1 mg/L	Yes	30073981
ST10S	Salinity	0.0 – 10.0 ppt	0.1 ppt	Not Applicable	30073982
ST20S	Salinity	0.0 – 80.0 ppt; 0.0 – 99.0 °C	0.1 ppt	Yes	30073983
ST10R	ORP	-1000 – 1000 mV	1 mV	Not Applicable	30073984
ST20R	ORP	-1000 – 1000 mV; 0.0 – 99.0 °C	1 mV	Yes	30073985
ST20D	Dissolved Oxygen	0.0 – 19.9 mg/L	0.1 mg/L	Yes	30073986

Accessories on next page



# STARTER PEN METERS ACCESSORIES

Accessories	Item Number
pH electrode protection solution(3M KCl)	30059256
Pen Electrode, ST10	30087992
Pen Electrode, ST20	30087993
Pen Electrode, ST10C-A ST10T-A	30087994
Pen Electrode, ST10C-B ST10T-B	30087995
Pen Electrode, ST10C-C ST10S	30087996
Pen Electrode, ST20C-A ST20T-A	30087997
Pen Electrode, ST20C-B ST20T-B	30087998
Pen Electrode, ST20C-C ST20S	30087999
Pen Electrode, ST10R	30088020
Pen Electrode, ST20R	30088021

Accessories	Item Number
Buffer pH4.01 250ml	30100425
Buffer pH7.00 250ml	30100427
Buffer pH10.01 250ml	30100429
Standard Conduct 84 $\mu$ S/cm 250ml	30100442
Standard Conduct 1413 $\mu$ S/cm 250ml	30100443
Standard Conduct 12.88mS/cm 250ml	30100444
Pen Electrode, ST20D	30222083
Membrane Kit Replaceable, ST20D	30222084
Pen Electrode, ST20M-B	30393203
Pen Electrode, ST20M-C	30393204

# STARTER ELECTRODES

OHAUS Precision Powers the Starter Electrodes

## Construction

Metal, glass, or plastic shaft

## Design Features

Suitable for Various Applications



All sturdy and durable electrodes are constructed of either plastic or glass shafts and built to withstand daily use.

Most electrodes include a temperature sensor, which powers automatic temperature compensation and ensures accurate measurements.

All electrodes fit perfectly in the electrode holders on OHAUS bench meters and electrode clips on all OHAUS portable meters.

Model	Electrode Type	Shaft Material	Item Number
ST210	pH	Plastic	83033966
ST230	pH	Glass	83033968
ST260	pH	Glass	30129357
ST270	pH	Glass	30240974
ST272	pH	Plastic	30393265
ST280	pH	Glass	30681114
ST310	pH	Plastic	83033965
ST320	pH	Plastic	83033967
ST320 IP67 3m	pH	Plastic	30468960
ST322	pH	Plastic	30681113
ST350	pH	Glass	30129354
ST410	pH	Glass	30656037
ST420	pH	Glass	30681115
STMICRO5	pH	Glass	30087566
STMICRO8	pH	Glass	30087569
STPURE	pH	Glass	83033969
STCON3	Conductivity	Plastic	83033972
STCON3 IP67 3m	Conductivity	Plastic	30468962
STCON5	Conductivity	Glass	30681116
STCON7	Conductivity	Plastic	30080693
STCON8	Conductivity	Glass	30681117
STCON8C	Conductivity	Glass	30681235
STDO11	DO	Plastic	30031639
STDO21-1	DO	Plastic	30378544
STDO21-5	DO	Plastic	30378545

Continued on next page





# STARTER ELECTRODES

Model	Electrode Type	Shaft Material	Item Number
STORP1	ORP	Plastic	30038555
STORP2	ORP	Glass	30038553
STSURF	pH	Plastic	30129470
STTEMP30	Temperature	Stainless Steel	83033970
STREF1	Reference	Glass	30059253

Accessories	Item Number
pH electrolyte (KCl saturated AgCl, 30ml)	30059255
pH electrode protection solution(3M KCl)	30059256
Zero Oxygen Chemicals, STARTER	30059257
pH sensor protect bottle(10 in bag)	30064800
Buffer pH1.68 250ml	30100424
Buffer pH4.01 250ml	30100425
Buffer pH6.86 250ml	30100426
Buffer pH7.00 250ml	30100427
Buffer pH9.18 250ml	30100428

Accessories	Item Number
Buffer pH10.01 250ml	30100429
Buffer pH12.45 250ml	30100440
Standard Conduct 84 $\mu$ S/cm 250ml	30100442
Standard Conduct 1413 $\mu$ S/cm 250ml	30100443
Standard Conduct 12.88mS/cm 250ml	30100444
DO Probe Cap, STDO21	30253566
Cable, 4m, BNC, STARTER electrodes	30282603
Cond standard 500 $\mu$ S/cm, 250ml	30393269
Buffer Powder pH4.01,7.00,10.01	83033971

# NOTES

# OHAUS Resources

## TERMS AND CONDITIONS OF SALE

### U.S. and Canada

Terms are net 30 days, FOB Worthington, Ohio USA, a service charge of 1.5% will be applied on invoice amounts past due 30 days • All orders for immediate release • No cancellations within 48 hours of acknowledged ship date • Prices, terms & specifications subject to change without prior notice • Drop shipments not available in Canada • OHAUS Corporation's products are warranted against defects in materials & workmanship from date of delivery through duration of the warranty period. During the warranty period OHAUS will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to OHAUS Corporation. All other approved returns require issuance of a Return Order number from Parsippany, NJ, USA and may be subject to a 20% restocking fee. This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than the OHAUS Corporation or an authorized OHAUS Regional Service Center. This warranty only covers products shipped within the United States and to Canada by OHAUS Corporation to the dealer within the United States and in Canada. The warranty period for OHAUS products shall begin at the date of shipment to the end-user, or 3 months from the date of shipment to the dealer by OHAUS Corporation, whichever occurs first. A properly completed Warranty Registration Form must be received by OHAUS Corporation or product may be registered at [www.ohaus.com](http://www.ohaus.com) within 30 days from the date of purchase to initiate coverage under the warranty. No other expressed or implied warranty is given by OHAUS Corporation. OHAUS Corporation shall not be liable for any consequential damages.

### Outside U.S. and Canada

Payment terms: As per agreement • All prices Ex-Factory, Worthington, Ohio USA • Service charge of 1.5% will be applied on invoice amounts past due • All approved returns require issuance of a Return Order number from Parsippany, NJ, USA • Restocking fee 20% of dealer net • Minimum order: \$50.00 • All orders for immediate release • No cancellations within 48 hours of acknowledged ship date • Prices, terms & specifications subject to change without prior notice.

### Business Partner Code of Conduct

OHAUS is committed to conducting its business ethically, legally and in a socially responsible manner. We expect our business partners and Dealers to share this commitment and we have therefore developed this Business Partner Code of Conduct. It covers Ethical Conduct, Fair Competition, Environment, Health and Safety, as well as Labor Practices. This code applies to all your activities in your business relationship with us. It defines the minimum standards of business conduct we expect you to comply with in your business relationship with OHAUS. You must also comply with all applicable laws, regulations, and codes of the countries in which you operate. We encourage you to work with your own business partners to ensure they also strive to meet the principles of this code, or equivalent principles. For more information and to view the whole code, please visit <https://us.ohaus.com/en-us/business-partner>.

6 Month Warranty			3 Year Warranty
AquaSearcher & Starter Series Electrodes			Harvard Junior® Balances
1 Year Warranty			TJ611 Balance
Accessories	Frontier Mini Centrifuge	Scale Bases, all models	5 Year Warranty
CX & CR Scales	Defender® Scales	ES, SD and Catapult Scales	All Other Mechanical Balances
Drum & VN/VX Floor Scales	Indicators, all models	Spring Scales	10 Year Warranty
JE Emerald & JR Ruby Scales	MB23 with MB27	AquaSearcher & Starter Series Meters	Triple Beam Pro® Balances
Navigator® Scales	Primer® Balance		
PS Scales	Ranger® Scales	TAJ Scales	
Valor® Scales	Weights & Weight Sets	Y Series Scales	
2 Year Warranty			
Adventurer® Balances	Homogenizers	Pioneer® Balances	
Dry Block Heaters	Incubating & Incubating Cooling Shakers	PR Series Balances	
Explorer® Balances	Labjaws Clamps & Supports	Scout® STX , SPX & SJX Balances	
Frontier Micro & Multi Centrifuges	MB90 & MB120	Specialty Stirrers	
Guardian™ Hotplates & Stirrers	Open Air Shakers	Vortex Mixers	
Heavy Duty Incubating/Cooling Shakers	Achiever™ Overhead Stirrers		

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# OHAUS MINIMUM ADVERTISED PRICE (MAP) POLICY

## Section 1. Purpose and Applicability:

- OHAUS Corporation ("OHAUS") has adopted this Minimum Advertised Price (MAP) policy to protect the reputation of its brand name, better serve our customers, and to properly position the OHAUS brand in the marketplace. OHAUS products which are subject to this MAP policy are defined in the Appendix.
- This Policy has been unilaterally adopted and will be enforced strictly and uniformly.
- The minimum advertised prices (MAPs) effective December 1, 2021 are set forth in the schedule below, exclusive of all state and local taxes.

## Section 2. Geographic Scope and Modification:

- OHAUS has unilaterally established this Minimum Advertised Price ("MAP") Policy and it is applicable to its United States and Canadian based resellers. It may be modified at any time by OHAUS, and the minimum advertised price may be affected by promotional periods designated by OHAUS.
- No dealer's consent or agreement to this Policy is sought and no such consent or agreement will be accepted by OHAUS. OHAUS is providing this Policy to dealers strictly as notice.

## Section 3. Minimum Advertised Pricing Rules and Violations:

- Resellers shall not post OHAUS products for sale in any online or other marketplace if such a posting will result in the advertisement, by the Reseller or by the marketplace, of prices below the MAPs set by OHAUS.
- Resellers are free to establish their own resale prices; however, they should not advertise OHAUS products below the minimum advertised prices (MAP) set by OHAUS.
- Advertising includes any form of providing information about pricing that is not associated with the act of purchasing or negotiating the purchase of a product. Examples of advertising include, but are not limited to, signage, catalogs, displays, mailings, flyers, internet advertisements, internet price lists, and internet "click here" links or pop-ups and similar web-based techniques. For purposes of this policy, advertising does not include responses to email inquiries, verbal communications, or prices displayed in internet "shopping carts" or "baskets."
- It is a violation of this MAP policy for any reseller to state or suggest in advertising or on a web site that a price lower than the MAP for an OHAUS product may be available during an online checkout or purchase process, including but not limited to the following: "click here for lower price," "add to cart for discounted price," "price too low to advertise", or a line through the price which indicates a lower price is available. If the customer moves a product to the online shopping cart and establishes the intent to purchase, then those further negotiations are outside this MAP Policy.
- It is not a violation of this MAP Policy to advertise that a customer may "call for price" or "email for price," "Request a Quote", specifically with respect to MAP Products, so long as no price is listed below MAP level.
- OHAUS will monitor the resale market to ensure dealers are in compliance with the MAPs set by OHAUS.
- This Policy does not apply to refurbished or discontinued OHAUS products.

## Section 4. Penalties and Administration:

- Upon verification that a dealer has advertised any of OHAUS Corporation's products at a price less than the minimum advertised price established and announced by OHAUS Corporation, OHAUS will, without assuming any liability, take unilateral action including but not limited to: (1) sending warning letters to notify dealers of violations; (2) revoking buying privileges for products in violation of this policy for 30 days, 90 days and up to one year based on number of warnings (3) and indefinitely refusing to accept any new orders from any reseller. OHAUS may take any of these actions in any order.
- If a reseller with multiple websites or store locations violates this MAP Policy at any one website or store location, OHAUS will consider this to be a violation by the reseller.
- OHAUS has established an internal MAP manager. All communication regarding MAP Policy should be directed to [ohausbrandprotection@ohaus.com](mailto:ohausbrandprotection@ohaus.com) and not to any other representative of OHAUS. The Manager is responsible for monitoring pricing and for MAP enforcement. OHAUS will not respond to any communication reporting a violation of this policy.
- In addition to other methods, OHAUS may use a third party to monitor pricing on the internet. Any third party who monitors OHAUS pricing has no authority to make any decisions about enforcement or application of this Policy or any other OHAUS business

## Appendix

- The minimum advertised prices (MAPs) effective December 1, 2021 are set forth below, exclusive of all state and local taxes.

Product Series	MAP Price % off List Price
Valor® 7000	15%
Ranger® 7000	20%
Defender® 6000	10%
Defender® 5000 (D52 Models)	10%
Defender® 3000 (DFD Models)	30%
Drum Scales	30%
Explorer®	15%
Adventurer®	15%
Pioneer™	15%
PR Series	15%
Moisture Analyzers (MB Series)	15%
Scout® (SKX Series Only)	30%

Download the complete MAP Product Listing

[www.OHAUS.com/MAP-Policy](http://www.OHAUS.com/MAP-Policy)

# DEALER RESOURCES



## OHAUS Partner Shop

The OHAUS Partner Shop is purposefully aimed at delivering a better shopping experience. We've added some great new features, making it easier to use and quicker to navigate. With advanced search capabilities, a convenient comparison function, and an order template designed to help you anticipate and quickly execute all of your ordering needs, the OHAUS Partner Shop was designed with you and your customers in mind.

### Why Use OHAUS Partner Shop?

- Online Ordering
- View Product Availability and Pricing
- View Order Status
- Track Shipments
- View Invoices

Contact your OHAUS representative today to experience our Partner Shop!

## Contact Us

### Ordering

We welcome your orders however you choose to place them!

- Email your order to [sales@ohaus.com](mailto:sales@ohaus.com) or
- Order online through the [OHAUS Partner Shop](#)

### Dealer Support

We are here to support your sales! Our Customer Service Team is happy to help with any of your questions.

- Email your inquiries to [cs@ohaus.com](mailto:cs@ohaus.com) or
- Call us at **1-800-672-7722** and press 1 to reach a Customer Service Representative

### Technical Support

Having technical trouble or questions on how to operate your OHAUS equipment?

Contact one of our Technical Support Specialists to assist you with your technical needs.

- Visit [www.ohaus.com/Support/Frequently-Asked-Questions/Technical-FAQ](http://www.ohaus.com/Support/Frequently-Asked-Questions/Technical-FAQ) for frequently asked questions, or
- Visit [www.ohaus.com/Support/Contact-Us/Technical-Inquiry](http://www.ohaus.com/Support/Contact-Us/Technical-Inquiry) to submit your question, or
- Email your question to [TechSupport@OHAUS.com](mailto:TechSupport@OHAUS.com), or
- Call us at **1-800-672-7722** and press 3 to reach a Technical Support Agent

# DEALER SUPPORT

## Dealer Zone

OHAUS.com's Dealer Zone is your one-stop resource center for marketing, sales, and service support designed to help you grow your business. Featuring a comprehensive collection of e-launch kits, product information and photos, service and support assistance, promotions, events, and much more, the OHAUS Dealer Zone is a fully-loaded, constantly updated website that allows access to every kind of marketing support. From customizable marketing email templates to product pricing and specifications, the OHAUS Dealer Zone takes the guesswork out of your sales and marketing experience, and gives you the tools you need to keep your own OHAUS materials as up-to-date and effective as possible.



## Why Use OHAUS Dealer Zone?

Update your website and catalog with simple access to

- Product photos in a variety of formats (jpg, tif, 360° spins)
- Web banners for products and promotions
- Product videos for both overview tutorials as well as popular applications
- The OHAUS Magic Spreadsheet for in-depth product specifications

Downloadable content for marketing assistance, such as

- Promotional flyers
- Customizable email templates to send your customers
- Product-related infographics for a wide range of industries and applications
- Up-to-date OHAUS catalogs and brochures

One-click access to essential documents, including

- Service and instruction manuals
- Up-to-date documents and software for OHAUS products
- Service and support FAQ
- Comprehensive adapter lists and cable guides for OHAUS products

## OHAUS Service Training Seminars

Several times a year, OHAUS offers its authorized dealers a Service Training Seminar, held at our facility in Parsippany, NJ. The seminar lasts three days and covers a mix of troubleshooting, load cell repair / replacement, solutions to common problems and access to available service resources. The emphasis will be placed on the practical side of equipment repair.

As our weighing and non-weighing portfolio continues to expand, this is also a refresher for those who have attended past seminars, or latest training for any new service personnel.

If you are interested in finding out more about these training seminars, please contact us at [TechService@ohaus.com](mailto:TechService@ohaus.com)

## OHAUS Webinar Series

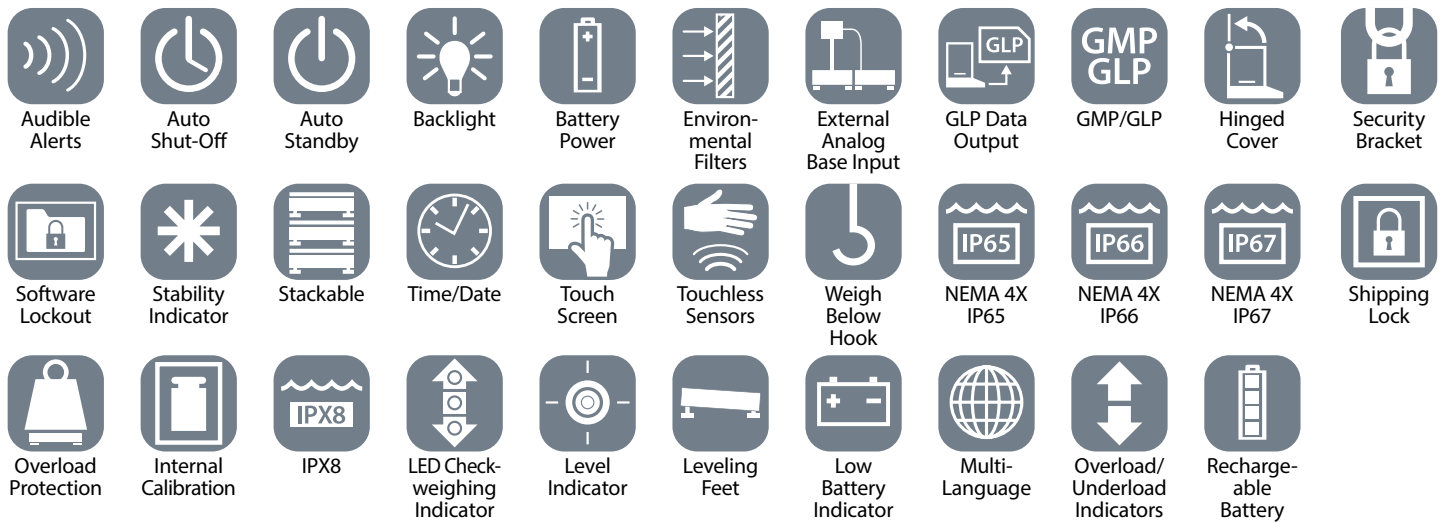
The OHAUS Webinar Series features a variety of brief webinars designed to cover a broad range of products and topics. Courses are added continuously, and offer real-time expertise with OHAUS professionals across a variety of features, industries, and applications.

If you are interested in finding out more about our Webinar Series, please contact your regional OHAUS representative.

## Applications



## Features



## Approvals





Laboratory Weighing



Laboratory Equipment



Laboratory Instruments



Industrial Weighing



Portable Balances



Calibration Weights

From sophisticated, semi-micro balances all the way to large capacity industrial floor scales, the OHAUS portfolio has weighing solutions to fit every workplace, as well as a wide variety of essential laboratory equipment including centrifuges, clamps and supports, and more, as well as OIML and ASTM certified weights and weight sets. Whether your applications include sample preparation, advanced formulation, or bulk packaging and checkweighing, OHAUS does it all!

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ISO 9001:2015  
Registered Quality  
Management System



Certificate No: US015459

*Ingeniously Practical*