



# Defender<sup>®</sup> 5000

Washdown Bench Scales



## *Multifunctional Bench Scale for Standard Industrial Applications*

The OHAUS next generation Defender 5000 Series multifunctional bench scale is ideal for a multitude of applications, including production, packaging, inventory and shipping. Built durably and equipped with advanced features such as maximum configurability print output, GMP/GLP data output, library/user management, and multiple connectivity options - the Defender 5000 is designed to simplify demanding industrial and commercial applications.

### *Standard Features:*

- **Indicator Guides The User with On-Screen Prompts**  
See results clearly on the large backlit display. The alpha-numeric keypad and function keys allow for a simplified user experience. On-screen prompts and soft keys will guide you through the operation.
- **Durably Constructed To Withstand Harsh Industrial Environments**  
Durably constructed with a stainless steel platform, frame, column, IP67 loadcell and IP68/NEMA4X indicator. Supports up to 5,000d NTEP and Measurement Canada certified resolution for legal-for-trade applications.
- **Multiple Application Modes and High Storage Capacity for Greater Flexibility**  
Features common industrial modes and supports a 50,000 item library and 1,000 user profiles which can be downloaded/uploaded for easy set-up with the included Micro SD Card. Also equipped with GLP/GMP output capability with time/date for result traceability. Alibi memory available.
- **Multiple Connectivity Options for Convenient Data Transfer and Storage**  
Results can be stored in the Micro SD card. Data output via built-in RS232 or optional interfaces including 2nd RS232/RS485/USB device, Ethernet, Bluetooth/WiFi, Analog Output and Discrete I/O with relays.

*Ingeniously Practical*

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## Simplified Use

Results can be read easily on the Defender 5000's large transfective dot matrix display, even in bright sunlight. The SmartText 3.0 interface will guide you through all of the Defender 5000's unique and advanced features. With five soft keys, SmartText 3.0 makes an advanced scale very simple to use, and reduces training time for operators.



## Durable Construction

The Defender 5000 can be used for both general and legal-for-trade applications. For standard industrial applications, the Defender 5000 bench scales offer durable performance at a practical price.

## Simple Operation

Featuring most common applications including Parts Counting with APW optimization, Checkweighing or Checkcounting, Percent Weighing, and Dynamic Weighing or Display Hold, the Defender 5000 meets the weighing and measurement needs of practically every industrial application or manufacturing process. Many application modes eliminate the need for long and complicated manual calculations. GMP/GLP with time/date allows for traceability of results.

Equipped with the included Micro SD card, the Defender 5000 can support storage of up to 50,000 items and 1,000 user profiles. Weighing results can also be stored in Alibi or regular format, addressing all your data storage needs.



## Multiple Connectivity Options

Weighing results can be easily exported through the standard RS232 port. Additional connectivity options include a second RS232, RS485 or USB device; Ethernet; and WiFi/Bluetooth interfaces.

Using the Analog Option (either 4-20mA or 0-10V) or the two In/four Out Discrete I/O, the new Defender 5000 indicator can also be used for systems including PLCs.



## Indicator Specifications

| TD52XW             |                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------|
| Construction       | 304 stainless steel with sand blasted surface treatment                                                                    |
| Protection         | IP68 / NEMA 4X                                                                                                             |
| Weighing Units     | lb, oz, lb:oz, kg, g, metric ton, short ton, custom unit                                                                   |
| Application Modes  | Weighing, Percent Weighing, Piece Counting with Optimized APW, Checkweighing/Checkcounting, Dynamic Weighing/Display Hold  |
| Display            | Dot matrix LCD with white LED backlight, 256 x 80 pixels                                                                   |
| Keyboard           | 6 function, 5 quick, 12 alpha numeric membrane switches                                                                    |
| Auto-zero Tracking | Off, 0.5 d, 1 d or 3 d                                                                                                     |
| Zeroing Range      | 2% or 100% of capacity                                                                                                     |
| Interface          | Standard RS232, Optional Ethernet, WiFi/Bluetooth, 2 <sup>nd</sup> RS232/RS485/USB, Analog Output, 2 In/4 Out Discrete I/O |
| Power              | 100-240 VAC / 50/60 Hz Universal Power Supply, rechargeable lithium battery (optional)                                     |
| Battery Life       | 20 hours of continuous use                                                                                                 |
| Calibration        | Zero, Span or 3 point-Linear                                                                                               |

# Defender® 5000 Washdown Bench Scales

## Column Mount Bench Scale Specifications

| Model                                       | D52XW2WQS6                                                                                                           | D52XW5WQS6                        | D52XW12WQS6                         | D52XW12WQR6                                                                | D52XW25WQR6                     | D52XW50WQR6                      | D52XW25WQL7                                                                 | D52XW50WQL7                      |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------|----------------------------------------------------------------------------|---------------------------------|----------------------------------|-----------------------------------------------------------------------------|----------------------------------|
| Capacity × Readability                      | 5 lb × 0.0002 lb<br>2.5 kg × 0.1 g                                                                                   | 10 lb × 0.0005 lb<br>5 kg × 0.2 g | 25 lb × 0.001 lb<br>12.5 kg × 0.5 g |                                                                            | 50 lb × 0.002 lb<br>25 kg × 1 g | 100 lb × 0.005 lb<br>50 kg × 2 g | 50 lb × 0.002 lb<br>25 kg × 1 g                                             | 100 lb × 0.005 lb<br>50 kg × 2 g |
| Maximum Displayed Resolution                | 1:25,000                                                                                                             |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Capacity ×<br>Certified Readability         | 5 lb × 0.001 lb<br>2.5 kg × 0.5 g                                                                                    | 10 lb × 0.002 lb<br>5 kg × 1 g    | 25 lb × 0.005 lb<br>12.5 kg × 5 g   |                                                                            | 50 lb × 0.01 lb<br>25 kg × 5 g  | 100 lb × 0.02 lb<br>50 kg × 10 g | 50 lb × 0.01 lb<br>25 kg × 5 g                                              | 100 lb × 0.02 lb<br>50 kg × 10 g |
| Min APW (g)                                 | 0.005                                                                                                                | 0.01                              | 0.025                               |                                                                            | 0.05                            | 0.1                              | 0.05                                                                        | 0.1                              |
| Internal Counting Resolution                | 1:500,000                                                                                                            |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Linearity/Repeatability                     | ± 2d                                                                                                                 |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Indicator                                   | TD52XW                                                                                                               |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Column                                      | 13.8 in / 350 mm stainless steel                                                                                     |                                   |                                     |                                                                            |                                 |                                  | 26.8 in / 680 mm stainless steel                                            |                                  |
| Base Construction                           | Stainless steel removable weighing platform with stainless steel frame, silicon-sealed IP67 stainless steel loadcell |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Safe Overload Capacity                      | 150% of maximum capacity                                                                                             |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Stabilization Time                          | Within 1 second                                                                                                      |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Operating Temperature Range                 | 14°F to 104°F / -10°C to 40°C                                                                                        |                                   |                                     |                                                                            |                                 |                                  |                                                                             |                                  |
| Scale Dimensions<br>(A × B × C × D × E × F) | 10 × 10 × 2.9 × 1.8 × 23.6 × 15.1 in<br>254 × 254 × 74 × 45 × 600 × 383 mm                                           |                                   |                                     | 12 × 12 × 3.7 × 2.4 × 23.8 × 17.4 in<br>305 × 305 × 95 × 60 × 604 × 442 mm |                                 |                                  | 18 × 18 × 4.3 × 2.8 × 36.8 × 24.7 in<br>457 × 457 × 110 × 70 × 934 × 627 mm |                                  |
| Shipping Dimensions<br>(L × W × H)          | 18.9 × 17.5 × 14.3 in<br>480 × 445 × 363 mm                                                                          |                                   |                                     |                                                                            |                                 |                                  | 39.1 × 26.8 × 9.25 in<br>994 × 680 × 235 mm                                 |                                  |
| Approx. Net Weight                          | 19.8 lb / 9 kg                                                                                                       |                                   |                                     | 24.3 lb / 11 kg                                                            |                                 |                                  | 41.9 lb / 19 kg                                                             |                                  |
| Approx. Shipping Weight                     | 24.3 lb / 11 kg                                                                                                      |                                   |                                     | 26.5 lb / 12 kg                                                            |                                 |                                  | 46.3 lb / 21 kg                                                             |                                  |

| Model                                       | D52XW125WQL7                                                                                                         | D52XW50WTX7                                                                 | D52XW125WTX7                      | D52XW250WTX7                      | D52XW50WQV8                                                                  | D52XW125WQV8                      | D52XW250WQV8                      | D52XW500WQV8                                                                                                  |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------|-----------------------------------|------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------|
| Capacity × Readability                      | 250 lb × 0.01 lb<br>125 kg × 5 g                                                                                     | 100 lb × 0.005 lb<br>50 kg × 2 g                                            | 250 lb × 0.01 lb<br>125 kg × 5 g  | 500 lb × 0.02 lb<br>250 kg × 10 g | 100 lb × 0.005 lb<br>50 kg × 2 g                                             | 250 lb × 0.01 lb<br>125 kg × 5 g  | 500 lb × 0.02 lb<br>250 kg × 10 g | 1000 lb × 0.05 lb<br>500 kg × 20 g                                                                            |
| Maximum Displayed Resolution                | 1:25,000                                                                                                             |                                                                             |                                   |                                   |                                                                              |                                   |                                   |                                                                                                               |
| Capacity ×<br>Certified Readability         | 250 lb × 0.05 lb<br>125 kg × 50 g                                                                                    | 100 lb × 0.02 lb<br>50 kg × 10 g                                            | 250 lb × 0.05 lb<br>125 kg × 50 g | 500 lb × 0.1 lb<br>250 kg × 50 g  | 100 lb × 0.02 lb<br>50 kg × 10 g                                             | 250 lb × 0.05 lb<br>125 kg × 50 g | 500 lb × 0.1 lb<br>250 kg × 50 g  | 1000 lb × 0.2 lb<br>500 kg × 100 g                                                                            |
| Min APW (g)                                 | 0.25                                                                                                                 | 0.1                                                                         | 0.25                              | 0.5                               | 0.1                                                                          | 0.25                              | 0.5                               | 1                                                                                                             |
| Internal Counting Resolution                | 1:500,000                                                                                                            |                                                                             |                                   |                                   |                                                                              |                                   |                                   |                                                                                                               |
| Linearity/Repeatability                     | ± 2d                                                                                                                 |                                                                             |                                   |                                   |                                                                              |                                   |                                   |                                                                                                               |
| Indicator                                   | TD52XW                                                                                                               |                                                                             |                                   |                                   |                                                                              |                                   |                                   |                                                                                                               |
| Column                                      | 26.8 in / 680 mm stainless steel                                                                                     |                                                                             |                                   |                                   | 38.6 in / 980 mm stainless steel                                             |                                   |                                   |                                                                                                               |
| Base Construction                           | Stainless steel removable weighing platform with stainless steel frame, silicon-sealed IP67 stainless steel loadcell |                                                                             |                                   |                                   |                                                                              |                                   |                                   | Stainless steel removable weighing platform with stainless steel frame, silicon-sealed IP67 aluminum loadcell |
| Safe Overload Capacity                      | 150% of maximum capacity                                                                                             |                                                                             |                                   |                                   |                                                                              |                                   |                                   |                                                                                                               |
| Stabilization Time                          | Within 1 second                                                                                                      |                                                                             |                                   |                                   |                                                                              |                                   |                                   |                                                                                                               |
| Operating Temperature Range                 | 14°F to 104°F / -10°C to 40°C                                                                                        |                                                                             |                                   |                                   |                                                                              |                                   |                                   |                                                                                                               |
| Scale Dimensions<br>(A × B × C × D × E × F) | 18 × 18 × 4.3 × 2.8<br>× 36.8 × 24.7 in<br>457 × 457 × 110 ×<br>70 × 934 × 627 mm                                    | 24 × 18 × 5.1 × 3.5 × 36.8 × 30.5 in<br>610 × 457 × 130 × 90 × 934 × 775 mm |                                   |                                   | 24 × 24 × 5.1 × 3.5 × 48.6 × 30.4 in<br>610 × 610 × 130 × 90 × 1234 × 773 mm |                                   |                                   |                                                                                                               |
| Shipping Dimensions<br>(L × W × H)          | 39.1 × 26.8 × 9.25 in<br>994 × 680 × 235 mm                                                                          |                                                                             |                                   |                                   | 45.9 × 30.7 × 9.25 in<br>1165 × 780 × 235 mm                                 |                                   |                                   |                                                                                                               |
| Approx. Net Weight                          | 68.4 lb / 31 kg                                                                                                      |                                                                             |                                   |                                   | 88.2 lb / 40 kg                                                              |                                   |                                   |                                                                                                               |
| Approx. Shipping Weight                     | 72.8 lb / 33 kg                                                                                                      |                                                                             |                                   |                                   | 99.2 lb / 45 kg                                                              |                                   |                                   |                                                                                                               |

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## Application Modes



**Weighing:** Determine the weight of items in the selected unit of measure.



**Percent Weighing:** Measure the weight of a sample displayed as a percentage of a pre-established reference weight.



**Parts Counting:** Count samples of uniform weight. Advanced auto-optimization software recalculates the average piece of weight as the overall weight increases.



**Dynamic Weighing and Display Hold:** Weigh an unstable load. Scale takes an average of weights over a period of time. The Display Hold feature manually or automatically holds the last stable weight on the display.



**Checkweighing/Counting:** Compare the weight/count of a sample against target limits. Connect with Discrete I/O and Light Tower Kit for external check lights.

## Other Standard Features and Equipment

User-configurable resolution up to 25,000d for general applications and up to 6,250e for legal-for-trade applications (depending on model and unit of measure), 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, auto tare, non-slip adjustable rubber feet, a Wheel Kit option is also available for scales up to 300 kg.

## Compliance

- **Metrology:** Measurement Canada (Indicators: NoA AM-6093, Platforms: NoA AM-6107); NTEP (Indicators: CC 18-065, Platforms: CC 18-077) Class III
- **Product Safety:** CAN/CSA C22.2 61010-1; UL61010-1; IEC/EN 61010-1
- **Electromagnetic Compatibility:** FCC Part 15 Class B; Canada ICES-003 Class B; IEC/EN 61326-1 Class B, basic environments
- **Compliance Marks:** CE; CSA

## Accessories

|                                                                 |          |
|-----------------------------------------------------------------|----------|
| Battery Kit, Li-ion, TD52 .....                                 | 30424405 |
| USB Host for Dongle, TD52 .....                                 | 30424406 |
| Light Tower, 3 Colors, 243mm, IP65<br>(Requires 30097591) ..... | 30424021 |
| In-use Cover Kit, TD52P .....                                   | 30424022 |
| In-use Cover Kit, TD52XW .....                                  | 30424023 |
| In-use Cover set (10), TD52P .....                              | 30469948 |
| In-use Cover set (10), TD52XW .....                             | 30469949 |
| Printer Holder Kit, D52 .....                                   | 30424025 |
| Wall Mount Kit, SST, TD52XW .....                               | 30424026 |
| Wall Mount Kit, CS, TD52P .....                                 | 30424027 |
| LC Extension Cable, 9 meters, D52 <sup>1</sup> .....            | 30424409 |

|                                                                     |          |
|---------------------------------------------------------------------|----------|
| M16 Gland with Ferrite, to TD52 .....                               | 30379716 |
| Micro SD Card, 8G .....                                             | 30303533 |
| Analog Output Kit, TD52 <sup>3</sup> .....                          | 30424403 |
| Second RS232/RS485/USB Kit, TD52 <sup>3</sup> .....                 | 30424404 |
| I/O with Relay (2 In/4 Out) <sup>3</sup> .....                      | 30097591 |
| WiFi/BT Dongle, OHAUS <sup>2</sup> (Requires 30424406) .....        | 30412537 |
| Ethernet Kit, D52 <sup>2</sup> .....                                | 30429666 |
| Wheel Kit, Defender Series <sup>1</sup> (For bases up to 300 kg) .. | 30372146 |
| Impact Printer SF40A .....                                          | 30064203 |
| Thermal Printer STP-103 .....                                       | 80251992 |

<sup>1</sup> Cannot be used for legal-for-trade applications   <sup>2</sup> Only one of them can be used at the same time   <sup>3</sup> Only one of them can be used at the same time

