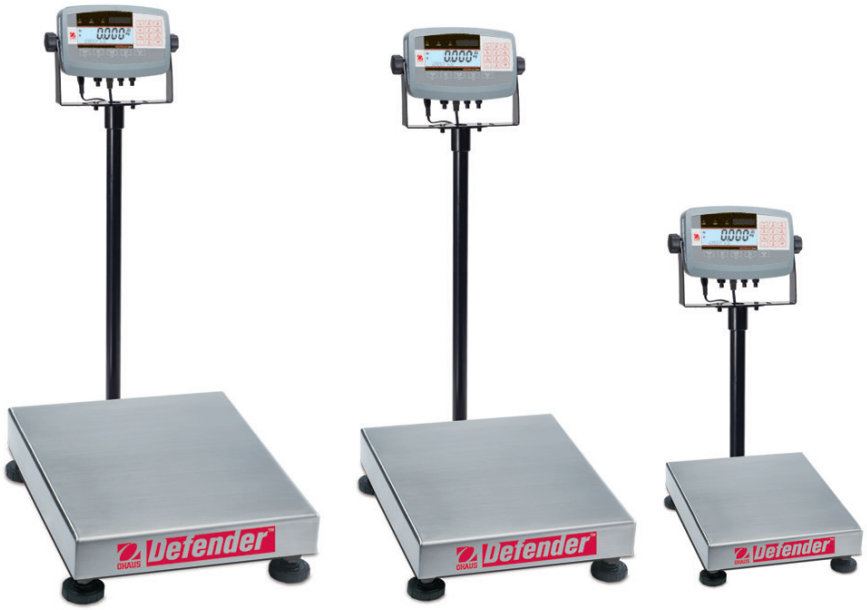
Defender® 7000 Series

Advanced Rectangular Scales



Counting function is not legal for trade

Advanced Smart Functionality, Durability, OHAUS Quality and Value

The OHAUS Defender 7000 Series is a feature-rich line of bench scales, combining an ABS plastic T71P indicator with painted steel bases and columns. Ideal for shipping and receiving, production, packaging and general commercial and industrial weighing applications, the Defender 7000 offers a multifunctional indicator with multiple weighing units, alpha-numeric keypad and software modes to meet the requirements of industrial and lab applications. With rugged construction, comprehensive yet intuitive software and multiple connectivity options, the Defender 7000 can meet the needs of demanding industrial operations.

Standard Features Include:

- Painted steel base with ABS indicator
- 5,000-7,500d default resolution
- Certified resolution up to 1:3,000
- Quick display of results using large dual line LCD with high-contrast white backlight
- Temporary display of 10x readability in weighing mode using quick key press
- Easy to operate with positive feedback 5-function key and alpha-numeric membrane keypad
- Weighs in one or more units: kg, g, lb, oz, lb:oz (decimal), tonnes and user-definable custom unit
- Multiple weighing modes including Counting, Percent Weighing, Dynamic/Animal Weighing, Checkweighing, Display Hold, and Accumulation
- 255 item Library data storage function
- Internal power supply with universal line cord or 6 “C” batteries (80 hour battery life) – optional NiMH internal rechargeable power pack available
- Includes RS232 interface with GMP/GLP data output including date and time, and external analog base input
- Base and indicator connected using quick connect plug
- Options include DC relay control kit, AC relay control kit, RS485/422 and 2nd RS232 interfaces, Alibi memory module

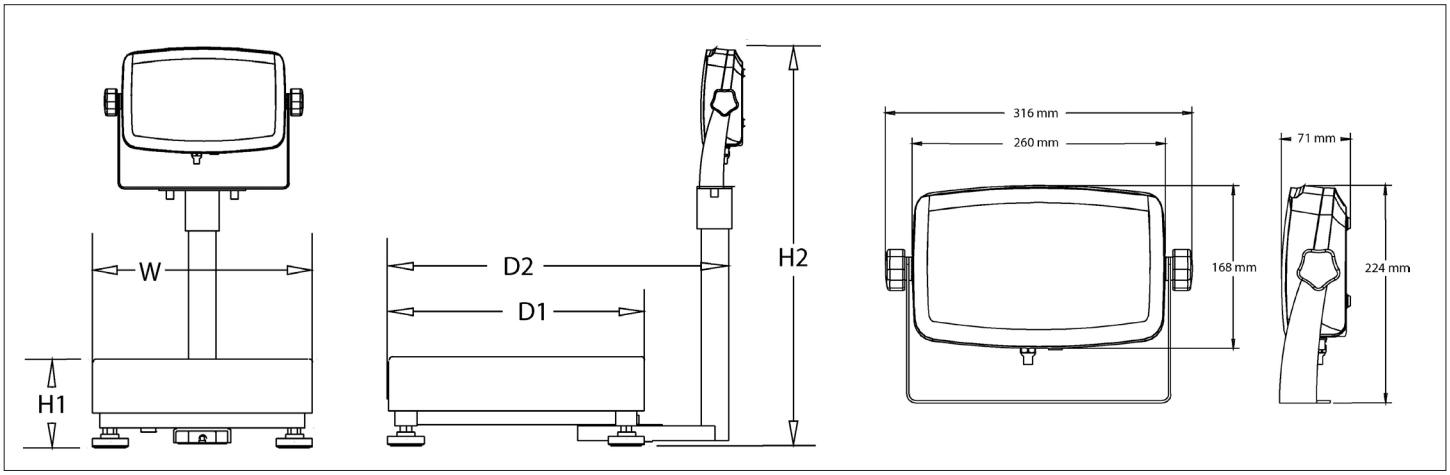
Defender® 7000 *Advanced Rectangular Scales*

The Defender 7000 Offers Multiple Features and Easy Configuration:

To meet different operational needs, the Defender 7000 includes a suite of configurable software:

- Counting mode for packaging and inventory control, enabling counting into a container or out of a container for bulk operations. Supports a maximum counting resolution to 1:500,000 (minimum APW equal to 0.1d), selectable auto-optimization of average piece weight (APW). APW data can be displayed at any time using a quick key press.
- Percent Weighing mode for formulation and mixing applications, with display of reference weight with quick key press.
- Dynamic/Animal Weighing with selectable averaging times from 0-60 seconds.
- Checkweighing function for count and weight checking, with display of results using LCD display and red/yellow/green LEDs. Audible beeper can be configured to prompt when weight is within range, under, over, or under or over range. Target values can be displayed at any time using a quick key press.
- Display Hold mode for weighing large packages, holds last stable weight on display until cleared manually or automatically
- The Defender 7000 weighs in one or more user-selectable units: kg, g, lb, oz, lb:oz (decimal), tonnes and user-definable custom unit
- Supports GMP/GLP data output with date, time user ID, project ID and scale ID. The Defender 7000 features selectable print options for data and print format
- To limit operator access to functions, the Defender 7000 offers both software lockouts for menu items as well as individual key functions.
- Library storage for up to 255 memory records that may contain data from a combination of different modes. These reference data can be quickly and conveniently recalled for use with the active mode.
- Multi-language feature allows the user to display operation and menu text in the language of their choice: English, Spanish, French, German, Italian. This allows for convenience and ease of training and operation of the Defender 7000.
- Accumulation mode with statistics feature allows totalizing weight and count values manually or automatically. The total accumulated value is displayed in real-time. With the press of the "Info" key, the number of weighments, average, standard deviation, minimum, maximum and difference are displayed. These statistical values can also be printed.
- Dual scale connections are built-in for 2-scale counting configuration. Connect two bases, a higher resolution base to optimize average piece weight, in conjunction with a large capacity base to weigh/count in bulk.
- Store, view and print over 262,000 date and time-stamped weighing results with the optional Alibi memory kit.

Outline Dimensions

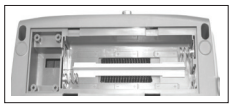


Standard Features:

3-Color LED Checkweigh Indication
with configurable beeper alert

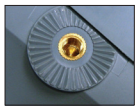
High-Visibility Dual Line LCD Display
with bright white LED backlight. Fast display stable weight within 2 seconds

Simple Plug-In Battery Installation



Use six C- alkaline batteries or the optional NiMH battery

Included Table/Wall Mount Bracket
With large ergonomic adjustable knobs to maximize viewing angles. A ratchet-type angle adjustment with metal inserts ensure that viewing angles are set securely, and lasts a long time even with frequent adjustments



Internal Slot for Capacity Label
Protects label from the effects of moisture and external environments

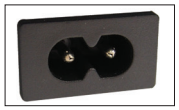
Reversible Rear Housing
Cables can exit above (table or front scale mounting) or below (wall or bench scale mounting) for convenient mounting. Front scale mounting with available accessory. Internal structural ribs provide strength and minimize flexing.

Library Data Storage Function
Storage and quick recall of data records for up to 255 items

One-Key, Multiple Mode Selection
Counting, Dynamic Weighing, Display Hold, Percent Weighing and Checkweighing

Stay Connected/Output
Built in RS232 bi-directional interface and built-in external input, optional RS422/485, optional second RS232 and optional AC or DC relay. Optional Alibi memory kit for data recording and traceability

Universal Switching Power Supply

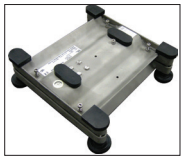


100-240 VAC with AC line cord; no need for an external AC adapter!

Plug-in Load Cell Connector
Allows for simple connection to Defender bases or directly to terminal block.

Painted Steel Columns
Available in both short and tall lengths

Durable Base Frame Construction
Stainless steel pans and painted steel form-and-weld painted steel frames (R, L bases) provide maximum durability, rigidity and structural integrity. Load-unload cycle tested to ensure long-termperformance.



Fully Adjustable Feet
Four rugged, adjustable feet help prevent slippage on wet or uneven surfaces

Options and Accessories

Interface Options	OHAUS Number
AC Relay Kit	80500720
DC Relay Kit	80500727
RS485/422 Interface Kit	80500731
Second RS232 Interface Kit	80500733

Power Options	
Rechargeable Battery Kit, T71P/T71XW	80500729

Other Accessories	OHAUS Number
Compact Dot Matrix Impact Printer	80252042
Compact Thermal Printer	80251992
OHAUS Collect Software	80500746
Alibi Memory Option Kit	80500503
TAL Software WinWedge	80850080
Paper for Printer, 80252042 (1 roll)	80251932
Ribbon for Printer, 80252042	80251933
RS232 Cable & Adapter, 80252042 Printer to T71P	80252571
RS232 Cable, PC 9-pin to T71	80500525
RS232 Cable, PC 25-pin to T71P	80500524

Defender® 7000 *Rectangular Scales*

Model	D71P15HR1	D71P30HR1	D71P60HR1	D71P60HL2	D71P100HL2	D71P150HX2	D71P300HX2
Capacity (max) x Default Readability (d)	30lb × 0.002lb 480oz × 0.05oz 30lb : 0.05oz 15kg × 0.001kg 15,000g × 1g	60lb × 0.005lb 960oz × 0.1oz 60lb : 0.1oz 30kg × 0.002kg 30,000g × 2g	150lb × 0.01lb 2,400oz × 0.2oz 150lb : 0.2oz 60kg × 0.005kg 60,000g × 5g		250lb × 0.02lb 4,000oz × 0.5oz 250lb : 0.5oz 100kg × 0.01kg 100,000g × 10g	300lb × 0.02lb 4,800oz × 0.5oz 300lb : 0.5oz 150kg × 0.01kg 150,000g × 10g	600lb × 0.05lb 9,600oz × 1oz 600lb : 1oz 300kg × 0.02kg 300,000g × 20g
Maximum Displayed Resolution	1:15,000	1:12,000	1:15000		1:12,500	1:15,000	1:12,000
Capacity × Certified/Approved Readability	30 lb × 0.01 lb 15 kg × 0.005 kg	60 lb × 0.02 lb 30 kg × 0.01 kg	150 lb × 0.05 lb 60 kg × 0.02 kg		250 lb × 0.1 lb 100 kg × 0.05 kg	300 lb × 0.1 lb 150 kg × 0.05 kg	600 lb × 0.2 lb 300 kg × 0.1 kg
Maximum Certified Resolution	1:3,000	1:3,000	1:3,000		1:2,500	1:3,000	1:3,000
Indicator Model	T71P						
Column	13.8 in / 350 mm painted steel			26.8 in / 680 mm painted steel			
Construction	ABS plastic indicator, stainless steel removable weighing platform, painted steel column and base construction, aluminum loadcell						
Safe Overload Capacity	150% of maximum capacity						
Protection	Dry use for scale, IP67 for loadcell						
Weighing Units	lb, oz, lb:oz, kg, g, custom unit						
Modes/Features	Static Weighing (single or dual range), Dynamic Weighing, Counting, Checkweighing, Percent Weighing, Display Hold, Accumulation, Library						
Display	6-digit, 7-segment LCD, 25mm/1 inch high primary digits, dual line, with high-contrast white LED backlight						
Keypad	Positive feedback membrane keys, 5 function keys and alpha-numeric keypad						
Stabilization Time	Within 2 seconds						
Auto-zero Tracking	Off, 0.5, 1 or 3 d						
Zeroing Range	2% or 100% of capacity						
Calibration	Span: 1kg or 1lb to 100% of capacity / Linearity: 3 or 5 point						
Power	100-240 VAC / 50-60Hz internal universal power supply, 6 'C' cell batteries (not supplied) with 80 hour life						
Interface	RS232 and external input						
Operating Temperature Range	14°F to 104°F / -10°C to 40°C						
Scale Dimensions (W × H1 × H2 × D1 × D2)	12 × 3.7 × 23.6 × 14 × 18.7 in 305 × 95 × 600 × 355 × 475 mm			15.7 × 4.1 × 37 × 19.7 × 24.4 in 400 × 105 × 940 × 500 × 620 mm		16.5 × 4.9 × 37 × 21.7 × 26.4 in 420 × 125 × 940 × 550 × 670 mm	
Shipping Dimensions (L × W × H)	19.3 × 16.1 × 17.3 in 490 × 410 × 440 mm			29.1 × 27.2 × 9.1 in 740 × 690 × 230 mm		29.5 × 30 × 9.1 in 750 × 710 × 230 mm	
Approx. Net Weight	25.3 lb / 11.5 kg			49.1 lb / 22.3 kg		61.1 lb / 27.7 kg	
Approx. Shipping Weight	30.2 lb / 13.7 kg			56.4 lb / 25.6 kg		67.7 lb / 30.7 kg	

Features

T71P: ABS plastic housing with internal rib reinforcements, reversible rear cover, backlit LCD weight display, checkweighing indication (green, yellow, red), membrane keypad with raised tactile keys, built-in bi-directional RS232 with manual/continuous/interval printing, external tare input, hardware configuration lockout switch, internal switching power supply with line cord and battery power using 6 "C" cell batteries.

Other Features

Zero point calibration, calibration test, span or linear calibration, selectable auto-zero tracking range, selectable stability range, selectable averaging level, selectable LCD backlight, selectable auto shutoff, retain zero weight data after power-off, Geo geographical adjustment, selectable key beep, key function lock, menu lock, selectable power-on and calibration unit, battery status display, display of gross/net weight, indication of stability, center of zero, over- and underweight, overload and underload conditions. Configuration menus for PRINT1, PRINT2, COM1, COM2, and I/O.

Compliance

- **Legal for Trade (Made from Certified/Approved weighing components):** NTEP (CC No. 09-102 for indicator; 99-203A3 for bases) / Measurement Canada (Approval No. AM-5762 for Indicator; AM-5675 for bases)
- **Safety and EMC:** cULus 2005/95/EC low voltage directive: EN60950-1:2001, FCC Part 15 Class A 2004/108/EC EMC directive: EN61326-1:1997; +A1:1998; +A2:2001; + A3>2003
- **Other:** Compliant to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)
- **Quality:** OHAUS quality management system registered to ISO 9001:2008

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