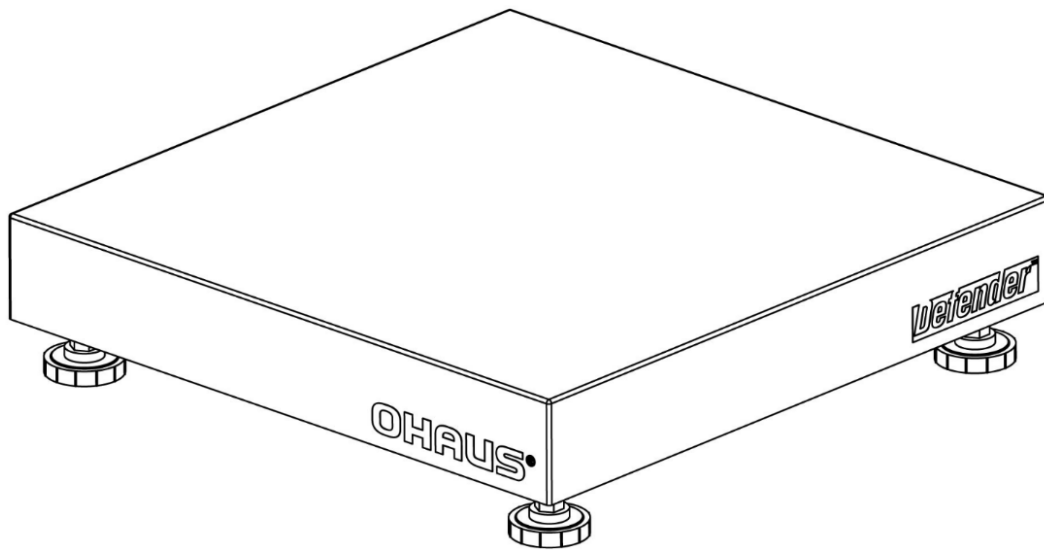




# Defender<sup>®</sup> Series Base Instruction Manual



# INTRODUCTION

This manual covers installation, and maintenance instructions for the OHAUS Defender™ Series Base. Please read this manual completely before installation and operation.

## SAFETY PRECAUTIONS

For safe and dependable operation of this product, please comply with the following precautions:



- Operate the base only under ambient conditions specified in these instructions
- Ensure that the load cell cable does not pose an obstruction or tripping hazard
- Do not operate the base in hazardous environments or unstable locations
- Do not drop loads on the base
- Do not lift the base by the top frame; always lift from the bottom frame when moving the base
- Service should only be performed by authorized personnel

## INSTALLATION

### Unpacking

Unpack and inspect the product to make sure that all components have been included. The package includes the following:

- Defender™ Series Base
- Weighing Pan
- Instruction Manual

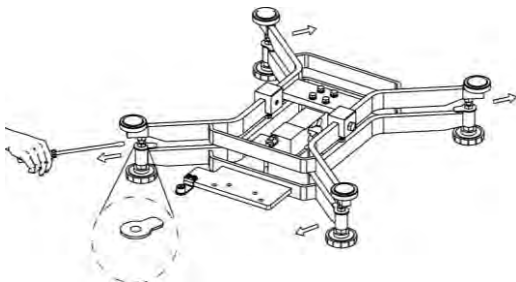
When purchased as a complete Defender Series Scale, the package will also include:

- Indicator
- Column Assembly

## ASSEMBLY

### Weighing Pan

Remove the shipping spacers, and place the weighing pan securely over the rubber load pads on the top frame of the base.



Note: Not included with some models

### Wiring Connections

When connecting the base to an OHAUS indicator equipped with the matching circular connector, push the base connector onto the indicator connector and turn the locking ring clockwise to lock it in place.

When connecting the base to an indicator that does not have the matching connector, install the optional load cell cable adapter (P/N 30429931 sold separately) to the indicator using the wiring codes in Table 1. Then attach the load cell cable to the cable adapter.

Note: As an alternate wiring method, cut off the connector, strip the wires and attach them to the indicator using the wiring codes in Table 1.

The extension cable accessory (P/N: 30429931) cannot be used if the scale will be used in a legal for trade or legally controlled application, because there is no provision to seal the connection between the indicator and platform.

**TABLE 1. LOAD CELL CONNECTION**

**Type1. DxxxWxx Bases**

FUNCTION	WIRE COLOR
+ Excitation	Green
- Excitation	Black
+ Signal	Red
- Signal	White
+ Sense	Blue
- Sense	Brown
Shield	Yellow

**Type2. DxxxRxx Bases**

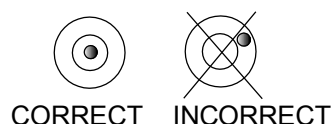
FUNCTION	WIRE COLOR
+ Excitation	Green
- Excitation	Black
+ Signal	White
- Signal	Red
+ Sense	Blue
- Sense	Brown
Shield	Yellow

## Selecting the Location

To ensure accuracy, proper performance and safety, locate and operate the base on a stable, level surface. Avoid locations with rapid temperature changes or excessive dust, air currents, vibrations, electromagnetic fields or heat.

Level the base by adjusting the four leveling feet until the bubble in the level indicator is centered. A wrench may be needed to loosen the locking nut above each leveling foot. When the base is level, retighten the locking nuts up against the base to lock each foot into place.

Note: Ensure that the base is level each time its location is changed.



## MAINTENANCE

### Cleaning

The base components should be kept clean and free of excessive material build up.

- A damp cloth with water and a mild detergent may be used to wipe clean the external surfaces – do not use acids, alkalis, strong solvents or abrasive materials.

To maintain surface integrity, do not allow debris to remain on the surface of the painted or stainless steel base frame.

- Remove the pan and use fresh water to clean the base frame surface of any debris. Dry the base with a clean cloth or allow to air dry before replacing the pan. Repeat daily for best care.

## Troubleshooting

Aside from installing components and leveling adjustments, the Defender Series Base does not require any other adjustments as shipped from the factory.

Operational difficulties that may be encountered can often be traced to simple causes such as:

- Loose or incorrect wiring connections
- Failure to remove the shipping spacers
- Obstructions to the base frame
- Unstable environments
- Incorrect calibration or setup of the indicator

If the troubleshooting section does not resolve or describe your problem, contact your authorized OHAUS service agent. For service assistance or technical support in the United States call toll-free 1-800-526-0659 between 8:00 AM and 5:00 PM EST. An OHAUS product service specialist will be available to provide assistance. Outside the USA, please visit our web site,

## TECHNICAL DATA

### Technical Specifications

The technical data is valid under the following ambient conditions:

Ambient temperature: -10°C to +40 °C (14 °F to 104 °F)

Relative humidity: 10% to 90% relative humidity, non-condensing

Altitude: Up to 2,000m

Operability is assured at ambient temperature -10°C to +40 °C (14 °F to 104 °F)

Note: Not all models may be available in your area. Check with your local OHAUS representative.

**TABLE 2.1 SPECIFICATIONS**

MODEL	D12RQR	D25RQR	D50RQR	D12RTR	D25RTR	D50RTR	D50RQL	D125RQL
Capacity	25 lb / 12.5 kg	50 lb / 25 kg	100 lb / 50 kg	25 lb / 12.5 kg	50 lb / 25 kg	100 lb / 50 kg	100 lb / 50 kg	250 lb / 125 kg
Approved Resolution	NTEP and Measurement Canada 5000e							
Safe Overload Capacity	150% of capacity							
Pan Dimensions	305 x 305 mm 12 x 12 in			305 x 355 mm 12 x 14 in			457 x 457 mm 18 x 18 in	
Base Construction	Stainless Steel platform with painted steel frame and rubber leveling feet							
Load Cell Capacity	22 kg	50 kg	100 kg	22 kg	50 kg	100 kg	100 kg	200 kg
Load Cell Cable	2 m L x 6-wire							
Load Cell Type	350 Ohm, aluminum, single point							
Load Cell Excitation	5-15V DC/AC							
Load Cell Rated Output	2mV/V							
Load Cell Protection	IP67							
Net Weight	6.kg / 13.2 lb			7 kg / 15.4 lb			11.5 kg / 25.4 lb	
Shipping Weight	7 kg / 15.4 lb			8 kg / 17.6 lb			13.5 kg / 29.8 lb	

TABLE 2.2 SPECIFICATIONS

MODEL	D50RTX	D125RTX	D250RTX	D50RQV	D125RQV	D250RQV	D500RQV	D125RTV	D250RTV	D500RTV
Capacity	100 lb / 50kg	250 lb / 125 kg	500 lb / 250 kg	100 lb / 50 kg	250 lb / 125 kg	500 lb / 250 kg	1000 lb / 500 kg	250 lb / 125 kg	500 lb / 250 kg	1000 lb / 500 kg
Approved Resolution	NTEP and Measurement Canada 5000e									
Safe Overload Capacity	150% of capacity									
Pan Dimensions	457 x 610 mm 18 x 24 in			610 x 610 mm 24 x 24 in				600 x 800 mm 24 x 31.5 in		
Base Construction	Stainless Steel platform with painted steel frame and rubber leveling feet									
Load Cell Capacity	100 kg	250 kg	500 kg	100 kg	250 kg	500 kg	750 kg	250 kg	500 kg	750 kg
Load Cell Cable	2 m L x 6-wire									
Load Cell Type	350 Ohm, aluminum, single point									
Load Cell Excitation	5-15V DC/AC									
Load Cell Rated Output	2mV/V									
Load Cell Protection	IP67									
Net Weight	21.5 kg / 47.4 lb			31 kg / 68.3 lb				39.2 kg / 86.4 lb		
Shipping Weight	24 kg / 52.9 lb			34 kg / 75.0 lb				42.7 kg / 94.1 lb		

TABLE 2.3 SPECIFICATIONS

MODEL	D2WQS	D5WQS	D12WQS	D12WQR	D25WQR	D50WQR	D25WQL	D50WQL	D125WQL
Capacity	5 lb / 2.5 kg	10 lb / 5 kg	25 lb / 12.5 kg	25 lb / 12.5 kg	50 lb / 25 kg	100 lb / 50 kg	50 lb / 25 kg	100 lb / 50 kg	250 lb / 125 kg
Approved Resolution	NTEP and Measurement Canada 5000e								
Safe Overload Capacity	150% of capacity								
Pan Dimensions	254 x 254 mm 10 x 10 mm			305 x 305 mm 12 x 12 in			457 x 457 mm 18 x 18 in		
Base Construction	Stainless Steel platform with stainless steel frame and rubber leveling feet								
Load Cell Capacity	6 kg	10 kg	30 kg	30 kg	50 kg	100 kg	50 kg	100 kg	200 kg
Load Cell Cable	1 m L x 4-wire			2 m L x 6-wire					2.5 m L x 6-wire
Load Cell Type	350 Ohm, stainless steel, single point								
Load Cell Excitation	5-15V DC/AC								
Load Cell Rated Output	2mV/V								
Load Cell Protection	IP67								
Net Weight	4.5 kg / 9.9 lb			6 kg / 13.2 lb			12.5 kg / 27.6 lb		
Shipping Weight	6 kg / 13.2 lb			7 kg / 15.4 lb			14 kg / 30.9 lb		

TABLE 2.4 SPECIFICATIONS

MODEL	D50WTX	D125WTX	D250WTX	D50WQV	D125WQV	D250WQV	D500WQV
Capacity	100 lb / 50 kg	250 lb / 125 kg	500 lb / 250 kg	100 lb / 50 kg	250 lb / 125 kg	500 lb / 250 kg	1000 lb / 500 kg
Approved Resolution	NTEP and Measurement Canada 5000e						
Safe Overload Capacity	150% of capacity						
Pan Dimensions	457 x 610 mm 18 x 24 in			610 x 610 mm 24 x 24 in			
Base Construction	Stainless Steel platform with stainless steel frame and rubber leveling feet						
Load Cell Capacity	150 kg	300 kg	500 kg	150 kg	300 kg	500 kg	750 kg
Load Cell Cable	2 m L x 6-wire	2.5 m L x 6-wire		2 m L x 6-wire	2.5 m L x 6-wire		
Load Cell Type	350 Ohm, stainless steel, single point						
Load Cell Excitation	5-15V DC/AC						
Load Cell Rated Output	2mV/V						
Load Cell Protection	IP67						
Net Weight	24 kg / 52.9 lb			31.5 kg / 69.4 lb			
Shipping Weight	26 kg / 57.3 lb			35.5 kg / 78.3 lb			

## Drawings

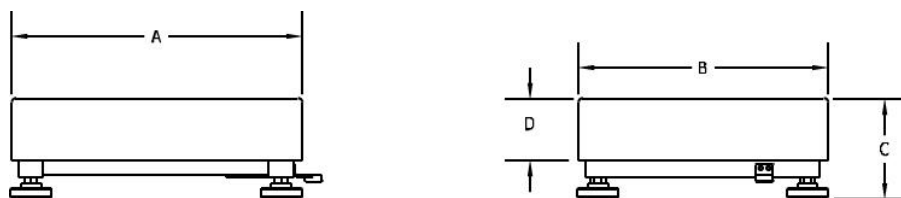


Figure 1. Defender Base Dimension Drawing.

TABLE 3. DIMENSIONS

Base	A	B	D	C
	Pan Depth	Pan Width	Height of Pan	Height of Pan to Surface of Table
DxxxWQS	254 mm / 10.0 in	254 mm /	32 mm / 1.3 in	74 mm / 2.9 in
DxxxRQR DxxxWQR	305 mm / 12.0 in	305 mm / 12.0 in	52 mm / 2.1 in	95 mm / 3.7 in
DxxxRTR	305 mm / 12.0 in	355 mm / 14.0 in	52 mm / 2.1 in	99 mm / 3.9 in
DxxxRQL DxxxWQL	457 mm / 18.0 in	457 mm / 18.0 in	65 mm / 2.6 in	110 mm / 4.3 in
DxxxRTX DxxxWTX	457 mm / 18.0 in	610 mm / 24.0 in	80 mm / 3.2 in	130 mm / 5.1 in
DxxxRQV DxxxWQV	610 mm / 24.0 in	610 mm / 24.0 in	82 mm / 3.2 in	130 mm / 5.1 in
DxxxRTV	600 mm / 23.6 in	800 mm / 31.5 in	90 mm / 3.5 in	132 mm / 5.2 in

\*For leveling purposes, the feet may be extended up to an additional 15 mm.

## COMPLIANCE



This product complies with the applicable harmonized standards of EU Directive 2011/65/EU (RoHS).

The EU Declaration of Conformity is available

### Disposal

In conformance with the European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.



Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

For disposal instructions in Europe, refer to

Thank you for your contribution to environmental protection.

### ISO 9001 Registration

In 1994, OHAUS Corporation, USA, was awarded a certificate of registration to ISO 9001 by Bureau Veritas Quality International (BVQI), confirming that the OHAUS quality management system is compliant with the ISO 9001 standard's requirements.

On May 21, 2009, OHAUS Corporation, USA, was re-registered to the ISO 9001:2008 standard.

## ACCESSORIES

TABLE 4. ACCESSORIES

Part Number	Description
30424024	Base Mount Kit, stainless steel
30424410	Column Kit, 35 cm painted steel
30424411	Column Kit, 68 cm painted steel
30424412	Column Kit, 98 cm painted steel
30424413	Column Kit, 35 cm stainless steel
30424414	Column Kit, 68 cm stainless steel
30424415	Column Kit, 98 cm stainless steel
30429931	Load Cell Cable Adapter Kit
30424025	Printer Holder Kit

## LIMITED WARRANTY

OHAUS products are warranted against defects in materials and workmanship from the date of delivery through the 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. 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 OHAUS. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by OHAUS Corporation. OHAUS Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact OHAUS or your local OHAUS dealer for further details