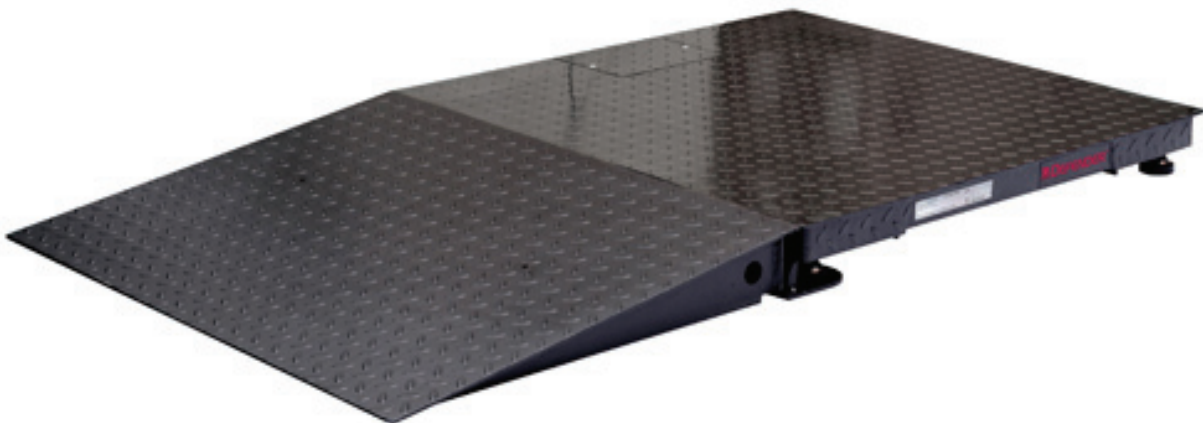




## DEFENDER 3000 Series Floor Scale Instruction Manual





## INTRODUCTION

This manual contains installation, operation and maintenance instructions for the DEFENDER 3000 Series Floor Scale.

## SAFETY PRECAUTIONS



Please follow these safety precautions:

- Never operate in hazardous areas.
- The foundation at the installation site must be capable of safely supporting the weight of the floor scale plus the weight of the maximum load.
- Ensure that vibrations due to machines near the installation site are kept to a minimum. This applies also when the floor scale is integrated into conveying systems.

## INSTALLATION



**CAUTION: THE FLOOR SCALE IS VERY HEAVY.  
ALWAYS USE AN APPROPRIATE HOIST TO LIFT IT FROM THE PACKAGING  
OR TO MOVE IT INTO THE REQUIRED POSITION.**

### Unpacking

1. Remove the outer packaging materials from the top and sides of the floor scale.
2. Install the two included eye bolts into holes in top of platform. (See *Figure 1.*)
3. Lift the floor scale from the packaging material, see caution notice.

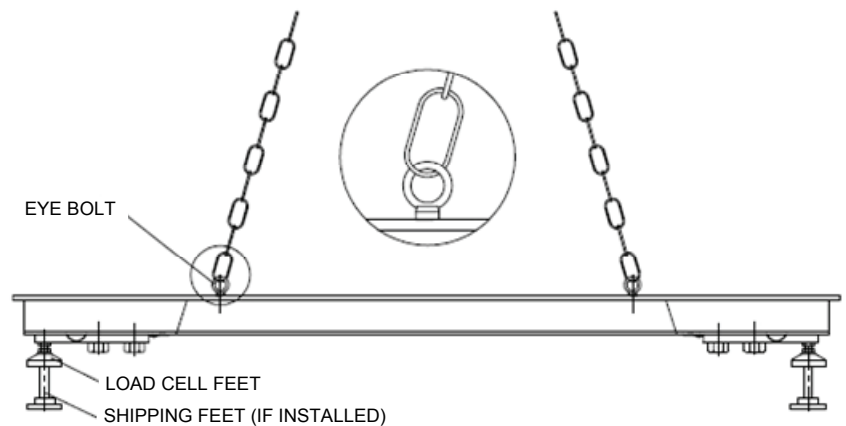


Figure 1. Hoisting Method.

## Positioning

Ensure the surface is flat in the area where the scale will be positioned, especially in the region of the load cell feet. Small differences in height can be compensated by adjusting the load cell feet.

1. If an Indicator is included with the floor scale, ensure that it is kept with the floor scale during positioning as there may be an attached connecting cable.
2. With the floor scale positioned over the final work area, remove the 4 shipping feet (if installed).
3. Install the 4 load cell feet (if not already installed).
4. Lower the scale on to the final work area.
5. Check that the floor scale is level; check that the 4 feet are in contact with the floor; make adjustments by rotating the nuts on the load cell feet. Use an external level.
6. Ensure that the floor scale's output cable does not become trapped or crushed during lifting or positioning.

## Connecting an Indicator

Certain Floor Scale systems will have an Indicator already attached to the cable end. If the Indicator is not attached or if the Indicator is purchased separately follow the steps listed below to make the proper connections.

1. Route the Floor Scale cable to the position where the Indicator will be mounted.
2. Consult the installation instructions of the Indicator to properly attach the cable connections inside the Indicator,
3. The Signal names of the Floor Scale wires are shown in Table 1, Floor Scale Wiring Color Code.

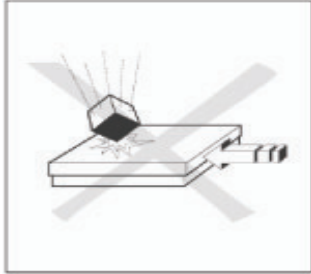
**Caution:** Ensure that the cable is protected against possible damage when routed to the Indicator.

**TABLE 1. FLOOR SCALE WIRING COLOR CODE**

Indicator Signal Name	Floor Scale Wire Color
EXC+ (IN+)	Green
SEN+	Yellow
SIG+ (OUT+)	White
SIG- (OUT-)	Red
SEN-	Blue
EXC- (IN-)	Black
Shield (GND)	Yellow/Green

## OPERATION

For setup, calibration and proper operation, refer to the instruction manual supplied with the indicator. Refer to the specifications section of the floor scale for capacity, and readability information.



For continued best operating performance:

- Avoid falling loads, shocks and hard lateral impacts
- When weighing, all items should be centrally located on the floor scale and not over hanging the sides or the ramps.
- Verify the calibration of the floor scale system at regular intervals.

### Operating Limits

Although the floor scales have extremely rugged construction, certain load limits must not be exceeded. Depending on the type of loading, the maximum safe static load, i.e. the maximum admissible loading, is shown in Table 2.

**TABLE 2. MAX ADMISSIBLE LOADING**

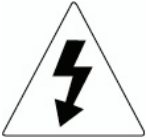
Model	Maximum Central Load <sup>1</sup> (80% Surface Area)	Maximum side Load <sup>2</sup> (30% Surface Area)	One Side corner load <sup>3</sup> (10% Surface Area)	
DF1500BS	2500 kg	1500 kg	1000 kg	
DF1500BR	2500 kg	1500 kg	1000 kg	
DF1500BL	2500 kg	1500 kg	1000 kg	
DF3000BL	3800 kg	1800 kg	1200 kg	
DF1500BX	2500 kg	1500 kg	1000 kg	
DF3000BX	3800 kg	1800 kg	1200 kg	
DF3000BV	3800 kg	1800 kg	1200 kg	
DF1500BRL	2500 kg	1500 kg	1000 kg	
DF1500BLX	2500 kg	1500 kg	1000 kg	
DF3000BLX	3800 kg	1800 kg	1200 kg	

## MAINTENANCE

### Daily Checks

- Check that the rocker feet are properly seated in the holes of each load cell.
- Check that the 4 feet are in contact with the floor.
- Check that the scale is free from debris, especially under the edges of the scale.
- Check that there is no damage to the connecting cable.

### Cleaning



#### Risk of Electrical Shock

**Disconnect the power source before cleaning the scale with any liquids.**

Maintenance of the floor scale is limited to regular cleaning.



- Wipe surfaces with a damp cloth.
- Use only common household cleaning agents.
- Never use water spray or high pressure cleaners.

When using optional Ramps or Foot Plates:



- Keep the air gap at the edge of the Floor Scale free of debris.

## TECHNICAL DATA

### Specifications

**TABLE 3. FLOOR SCALE SPECIFICATIONS**

Floor Scale Models	DF1500BS	DF1500BR	DF1500BRL	DF1500BL DF3000BL	DF1500BLX DF3000BLX	DF1500BX DF3000BX	DF3000BV
Dimensions (mm)	800 x 800 x 110	1,000 x 1,000 x 110	1,000 x 1,200 x 110	1,200 x 1,200 x 110	1,200 x 1,500 x 110	1,500 x 1,500 x 110	2,000 x 2,000 x 110
Capacity (kg)	1500	1500	1500	1500 / 3000	1500 / 3000	1500 / 3000	3000
Operating temperature/ Humidity	-10° to 40° / 0% to 95% Relative Humidity, Non-condensing						
Emin (kg)	0.5	0.5	0.5	0.5 / 1	0.5 / 1	0.5 / 1	1
Material	Painted carbon steel, black painted, treaded surface, fixed top plate 5 mm thick						
Platform net wt (kg)	72	90	105	122	209	249	375
Feet	4 x swivel design, screw-in, carbon steel with rubber bottom cap, adjustable height						
Load Cell Model / Material	4 x OIML C3, IP67 alloy steel, shear beam						
Load Cell Capacity Emax (kg)	1,000			1,000 / 1,500			1,500
Load Cell Safe Overload Limit	150% of Emax						
Load Cell Output Impedance	350 $\Omega$ $\pm$ 1 $\Omega$						
Load Cell Excitation Voltage	5V ~ 15V, DC/AC						
Junction Box	Top access, IP65, Stainless steel, with 5m long cable						

**DRAWINGS**

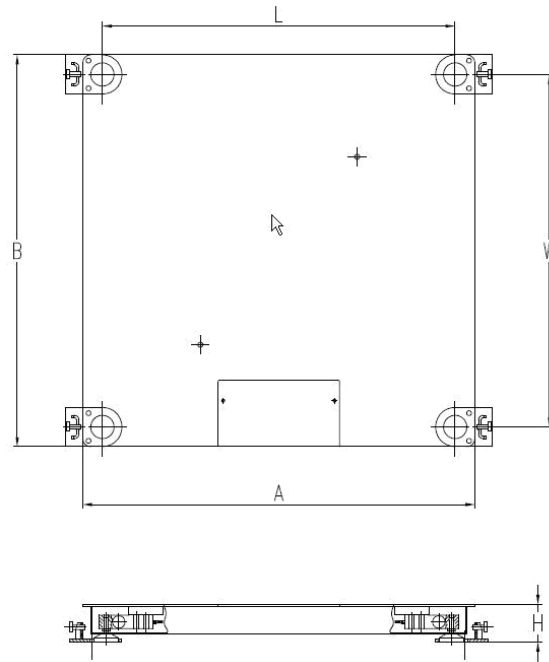


Figure 2. Floor Scale Dimensions, (Shown with optional Foot Plates)

**TABLE 4. FLOOR SCALE DIMENSIONS**

MODELS	DIMENSIONS(mm)				
	FLOOR SCALE PLATFORM			FOOT CENTERS	
	A	B	H	W	L
DF1500BS	800	800	110	700	700
DF1500BR	1000	1000	110	900	900
DF1500BL	1200	1200	110	1100	1100
DF3000BL					
DF1500BX	1500	1500	110	1400	1400
DF3000BX					
DF3000BV	2000	2000	110	1900	1900
DF1500BRL	1200	1000	110	900	1100
DF1500BLX	1500	1200	110	1100	1400
DF3000BLX					

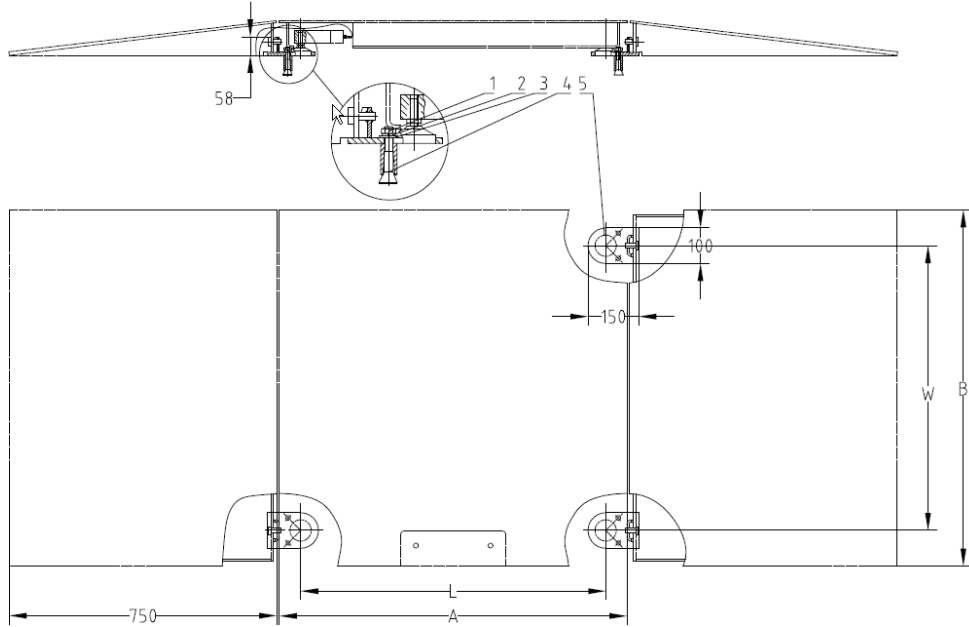


**ACCESSORIES****TABLE 5. LIST OF ACCESSORIES**

<b>ITEM</b>	<b>PART NUMBER</b>
Foot Plate Kit, Painted steel, DF-B	72225239
Ramp Kit, Painted steel, 0.8m, DF-B	80252722
Ramp Kit, Painted steel, 1.0m, DF-B	80252723
Ramp Kit, Painted steel, 1.2m, DF-B	80252724
Ramp Kit, Painted steel, 1.5m, DF-B	80252725
Ramp Kit, Painted steel, 2m, DF-B	80252726
Pit Frame Kit, Painted steel, 0.8m, DF-B	83033708
Pit Frame Kit, Painted steel, 1.0m, DF-B	83033709
Pit Frame Kit, Painted steel, 1.2m, DF-B	83033710
Pit Frame Kit, Painted steel, 1.5m, DF-B	83033711
Pit Frame Kit, Painted steel, 2.0m, DF-B	83033712
Pit Frame Kit, Painted steel, 1.0m x 1.2m, DF-B	83033713
Pit Frame Kit, Painted steel, 1.2m x 1.5m, DF-B	83033714

## DEFENDER 3000 SERIES FLOOR SCALE, Installation of Optional Foot Plates and Ramps

Plates are required for certifiable installations. Installation of each Ramp also requires the installation of one set of Foot Plates. Foot Plates are available separately and are included with the Ramp accessory kit. Refer to Figure 3 for mounting of the Foot Plates and Ramps. Installation of Floor Plates and Ramps must be done before final placement of the Floor Scale.



LEGEND: 1. Nut, 2. Spring Washer, 3. Washer, 4. Expanding Bolt, 5. Foot Plate

Figure 3. Optional Foot Plate and Ramp Installation

- Notes:**
1. Expanding bolts require 12.5mm diameter holes drilled 60mm deep into the floor surface.
  2. Foot Plate center to center dimensions W and L are shown in Table 6.
  3. The Floor Scale must be positioned so the load cell feet rest within the large holes of the Foot Plates.
  4. Ensure that a free air gap exists between the sides of the Floor Scale and the edges of the Ramps.

**TABLE 6. DIMENSIONS FOR FLOOR PLATE AND RAMP INSTALLATION**

MODELS	DIMENSIONS (mm)			
	RAMP		FOOT PLATE CENTERS	
	A	B	W	L
DF1500BS	800	800	700	700
DF1500BR	1000	1000	900	900
DF1500BL	1200	1200	1100	1100
DF3000BL				
DF1500BX	1500	1500	1400	1400
DF3000BX				
DF3000BV	2000	2000	1900	1900
DF1500BRL	1200	1000	900	1100
DF1500BLX	1500	1200	1100	1400
DF3000BLX				

**DEFENDER 3000 SERIES FLOOR SCALE,  
Installation and Dimensions of Pit Frame**

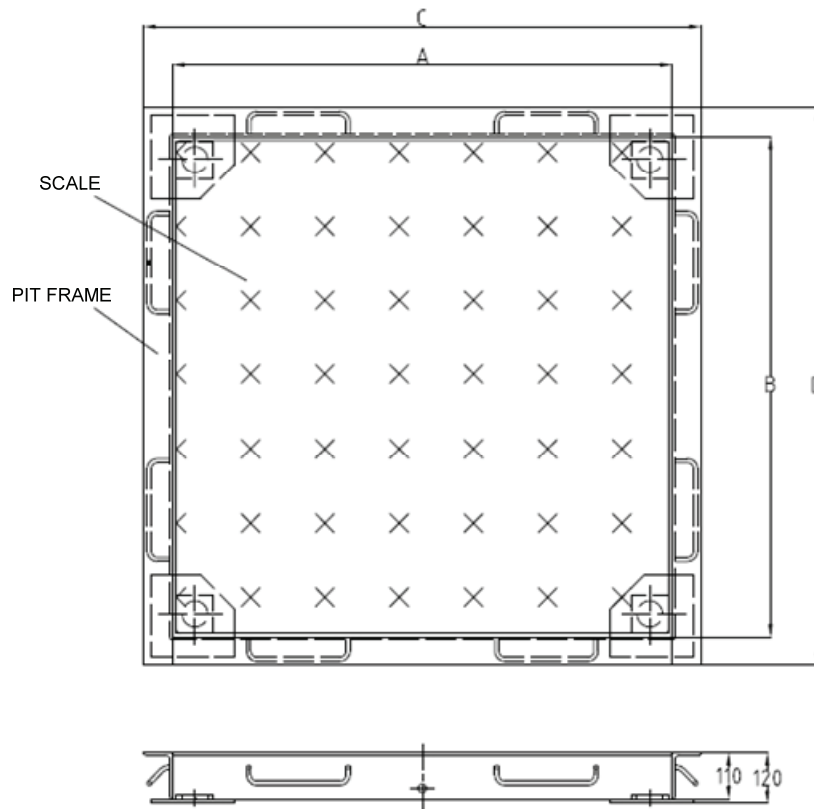


Figure 4. Pit Frame Installation

**TABLE 7. DIMENSIONS OF PIT FRAME**

SCALE MODEL	MATCHED PIT FRAME MODEL	DIMENSIONS(mm)			
		A	B	C	D
DF1500BS	Pit Frame 0.8m	810	810	940	940
DF1500BR	Pit Frame 1.0m	1010	1010	1140	1140
DF1500BL	Pit Frame 1.2m	1210	1210	1340	1340
DF3000BL					
DF1500BX	Pit Frame 1.5m	1510	1510	1640	1640
DF3000BX					
DF3000BV	Pit Frame 2.0m	2010	2010	2140	2140
DF1500BRL	Pit Frame 1.0 x 1.2m	1210	1010	1340	1140
DF1500BLX	Pit Frame 1.2 x 1.5m	1510	1210	1640	1340
DF3000BLX					

## Compliance



This product conforms to the EMC directive 2004/108/EC and the Low Voltage Directive 2006/95/EC. The complete declaration of Conformity is available from Ohaus Corporation.

### Disposal

In conformance with the European Directive 2002/96/EC 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 [www.ohaus.com](http://www.ohaus.com).

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 15, 2003, Ohaus Corporation, USA, was re-registered to the ISO 9001:2000 standard.

## 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.