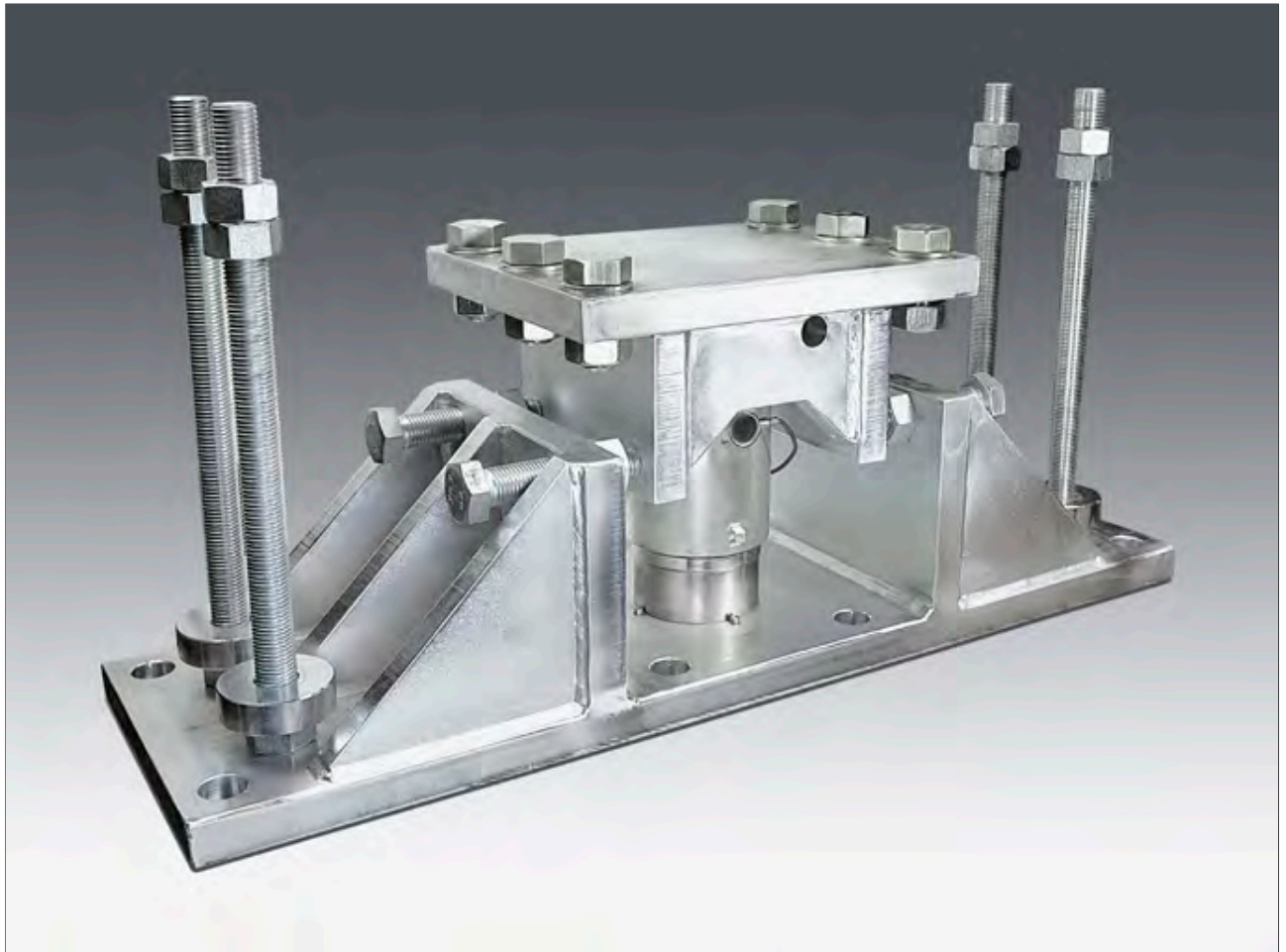


**Installation Manual**

**SeismicMount PR 6144**



## **Foreword**

### **Must be followed!**

Any information in this document is subject to change without notice and does not represent a commitment on the part of Minebea Intec unless legally prescribed. This product should only be operated/installed by trained and qualified personnel. In correspondence concerning this product, the type, name, and release number/serial number as well as all license numbers relating to the product have to be cited.

### **Note**

This document is partially protected by copyright. It may not be changed or copied, and it may not be used without purchasing or written permission from the copyright owner (Minebea Intec). The use of this product constitutes acceptance by you of the abovementioned provisions.

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# 1 Introduction

## 1.1 Read the manual

- Please read this manual carefully and completely before using the product.
- This manual is part of the product. Keep it in a safe and easily accessible location.

## 1.2 This is what operating instructions look like

1. - n. are placed before steps that must be done in sequence.
  - ▶ is placed before a step.
  - ▷ describes the result of a step.

## 1.3 This is what lists look like

- indicates an item in a list.

## 1.4 This is what menu items and softkeys look like

[ ] frame menu items and softkeys.

**Example:**

[Start]- [Applications]- [Excel]

## 1.5 This is what the safety instructions look like

Signal words indicate the severity of the danger involved when measures for preventing hazards are not followed.

### **DANGER**

#### **Warning of personal injury**

DANGER indicates death or severe, irreversible personal injury which will occur if the corresponding safety measures are not observed.

- ▶ Take the corresponding safety precautions.

### **WARNING**

#### **Warning of hazardous area and/or personal injury**

WARNING indicates that death or severe, irreversible injury may occur if appropriate safety measures are not observed.

- ▶ Take the corresponding safety precautions.

### **CAUTION**

#### **Warning of personal injury.**

CAUTION indicates that minor, reversible injury may occur if appropriate safety measures are not observed.

- ▶ Take the corresponding safety precautions.

**NOTICE****Warning of damage to property and/or the environment.**

NOTICE indicates that damage to property and/or the environment may occur if appropriate safety measures are not observed.

- ▶ Take the corresponding safety precautions.
- 

**Note:**

User tips, useful information, and notes.

---

**1.6 Hotline**

Phone: +49.40.67960.444

Fax: +49.40.67960.474

eMail: [help@minebea-intec.com](mailto:help@minebea-intec.com)

## 2 Safety instructions

### 2.1 General notes

#### NOTICE

**Warning of damage to property and/or the environment.**

The product was in perfect condition with regard to safety features when it left the factory.

- To maintain this condition and to ensure safe operation, the user must follow the instructions and observe the warnings in this manual.

### 2.2 Intended use

The mounting kits PR 6144 are intended for weighing tasks, and must only be used as such.

The mounting kits PR 6144 are designed for installing the load cells PR 6201, PR 6203, PR 6204.

The dimensions of all mounting and structural components must be calculated so that sufficient overload capacity is ensured for all loads which may occur while taking the relevant standards into account. In particular, upright weighing objects must be safeguarded against the weighing installation turning over or being shifted, thus eliminating danger to people, animals, or goods even in the case of a break in a load cell or mounting element.

Installation and repair work must only be carried out by expert/qualified personnel.

The mounting kits reflect the state of the art. The manufacturer does not accept any liability for damage caused by third-party system components or due to incorrect use of the product.

### 2.3 Initial inspection

Check the contents of the consignment for completeness. Check the contents visually to determine whether any damage has occurred during transport. If there are grounds for rejection of the goods, a claim must be filed with the carrier immediately. The Minebea Intec sales or service organization must also be notified.

### 2.4 Before operational startup

#### NOTICE

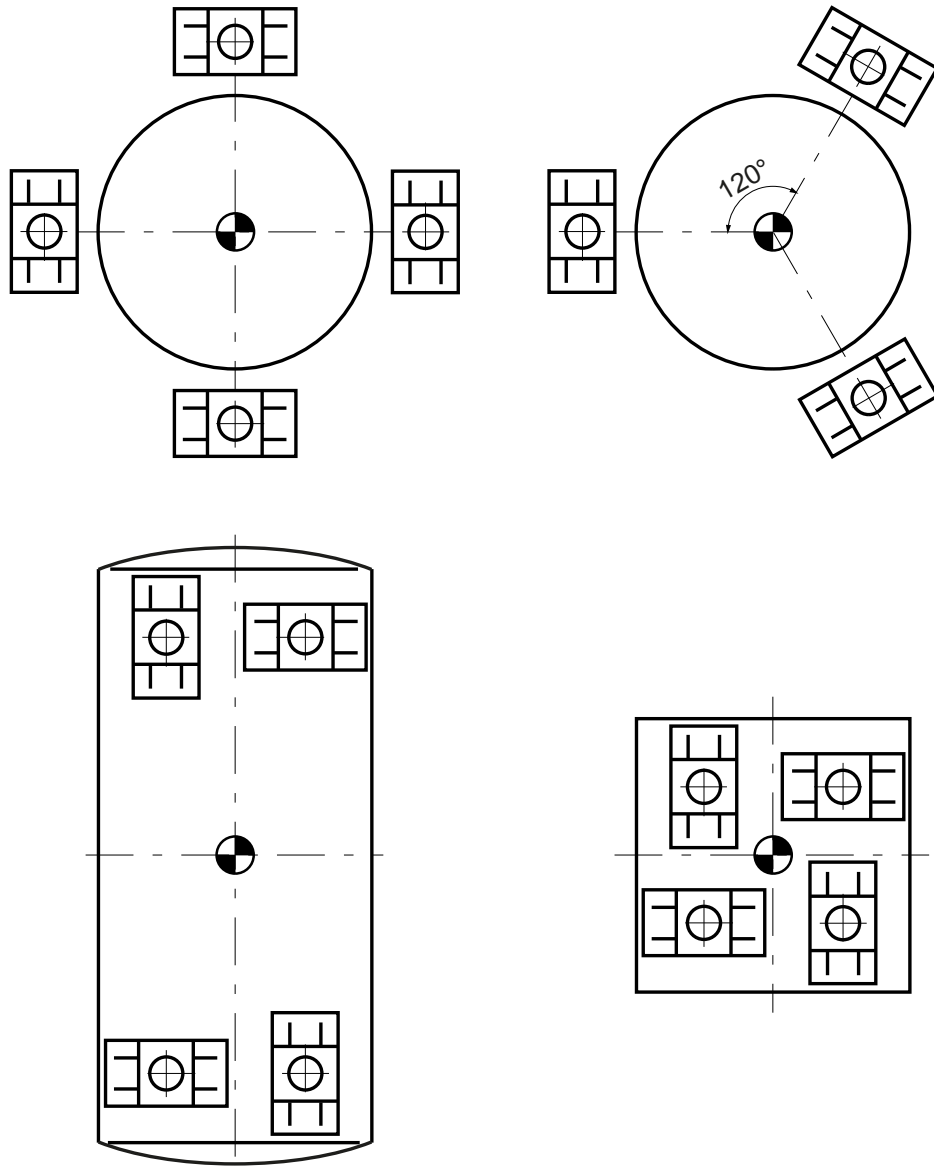
**Perform visual inspection.**

- Before operational startup as well as after storage or transport, inspect the mounting kit visually for signs of mechanical damage.

### 3 Recommendations for installation

#### 3.1 Load cell arrangement

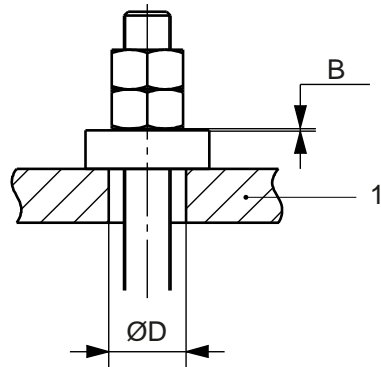
Examples:





### 3.2 Internal lift-off protection

For safety reasons, internal lift-off protection is provided.



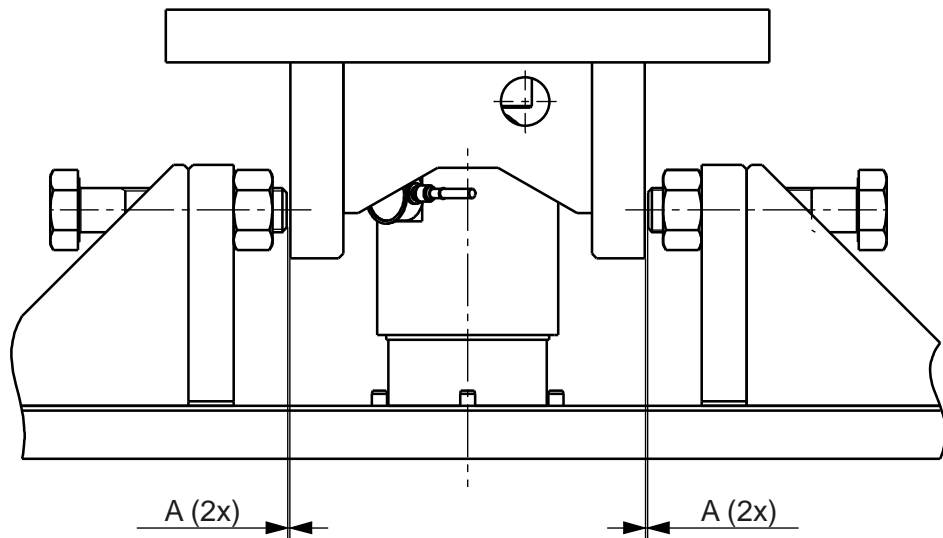
1 = vessel bracket/foot

**Recommended diameter "ØD" in the vessel bracket/foot for the lift-off protection and distance "B"**

Type	ØD	Type	B
PR 6144/54	50 mm		0.5 to 1.5 mm
PR 6144/15	50 mm		0.5 to 1.5 mm
PR 6144/35	56 mm		0.5 to 1.5 mm
PR 6144/55	56 mm		0.5 to 1.5 mm

### 3.3 Stops

The stops must be adjusted as shown in the following drawing.

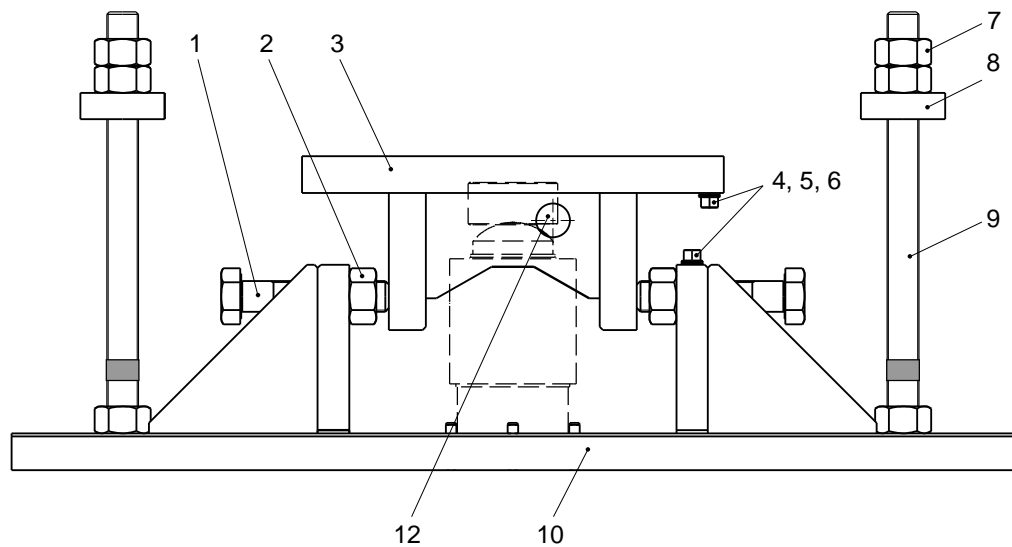


A = 1 to 4 mm, depending on the thermal expansion of the vessel.

## 4 Specifications

### 4.1 Equipment supplied

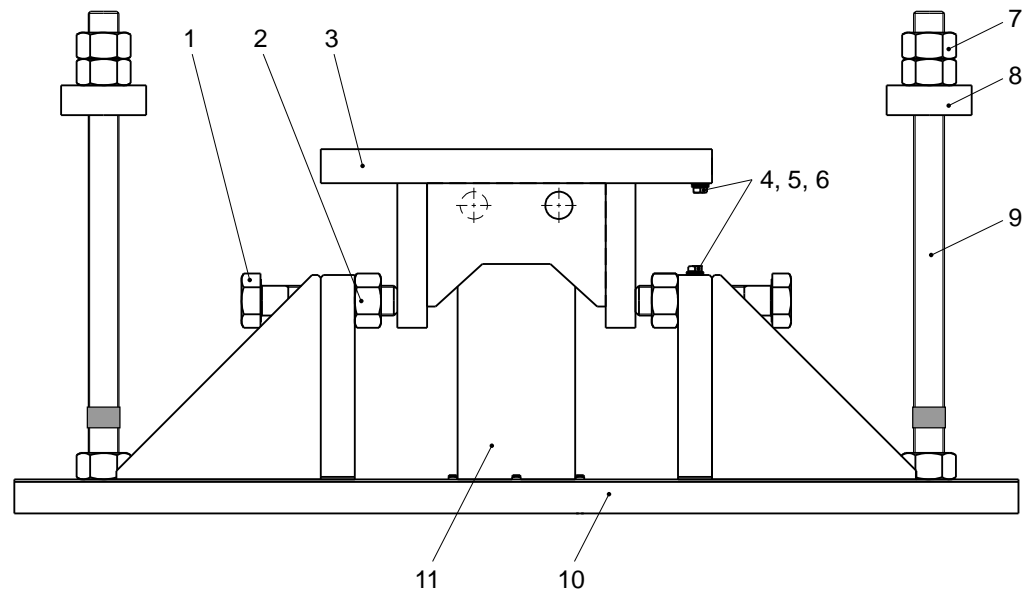
#### 4.1.1 SeismicMount PR 6144/54, ../15, ../35



No.	Description
1	Screw (4x)
2	Nut (4x)
3	Upper plate
4	Screw (2x)
5	Spring washer (2x)
6	Washer (2x)
7	Nut (12x)
8	Washer (4x)
9	Threaded rod with marking to check the screw-in depth (4x)
10	Lower plate
11	Dummy (not shown)
12	Upper load disc
13	Quick guide (not shown)

} for the equipotential bonding cable

## 4.1.2 SeismicMount PR 6144/55

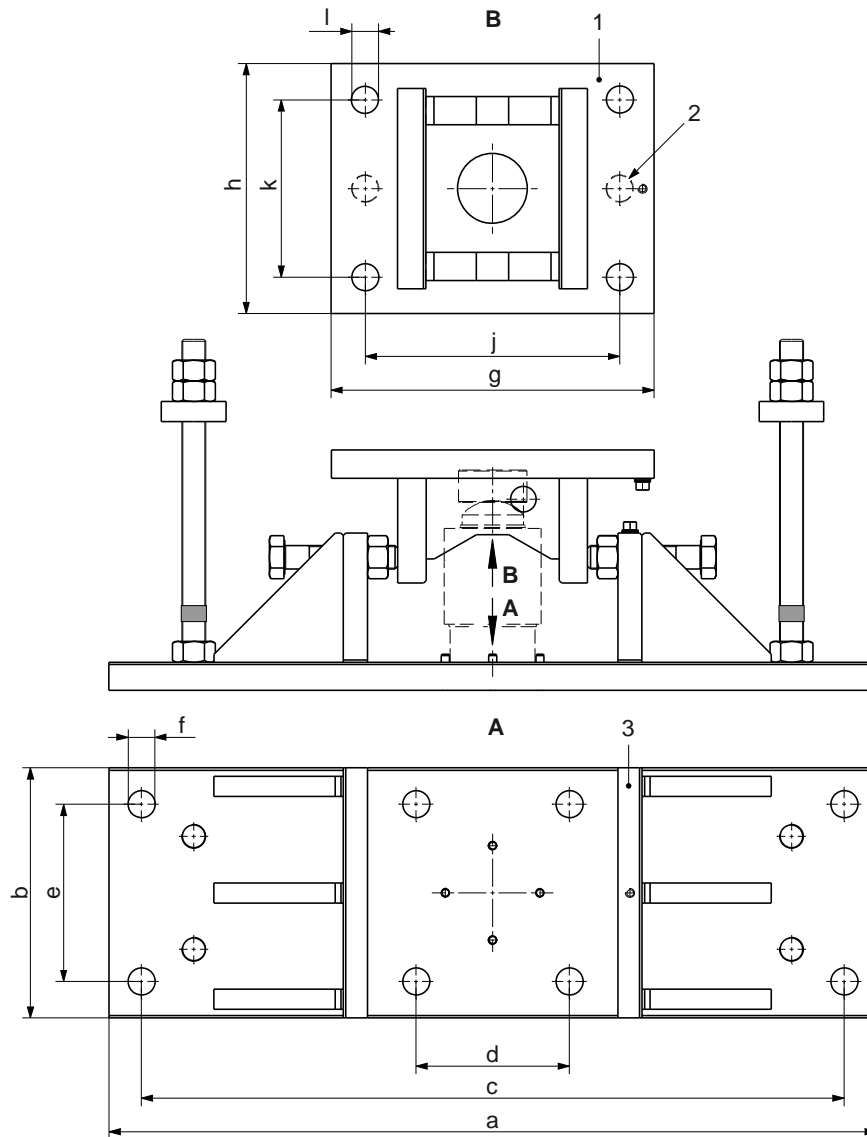


No.	Description
1	Screw (4x)
2	Nut (4x)
3	Upper plate
4	Screw (2x)
5	Spring washer (2x)
6	Washer (2x)
7	Nut (12x)
8	Washer (4x)
9	Threaded rod with marking to check the screw-in depth (4x)
10	Lower plate
11	Dummy
12	Quick guide (not shown)

} for the equipotential bonding cable  
(supplied with load disc kit PR 6143/55)

## 4.2 Dimensions

### 4.2.1 Hole patterns

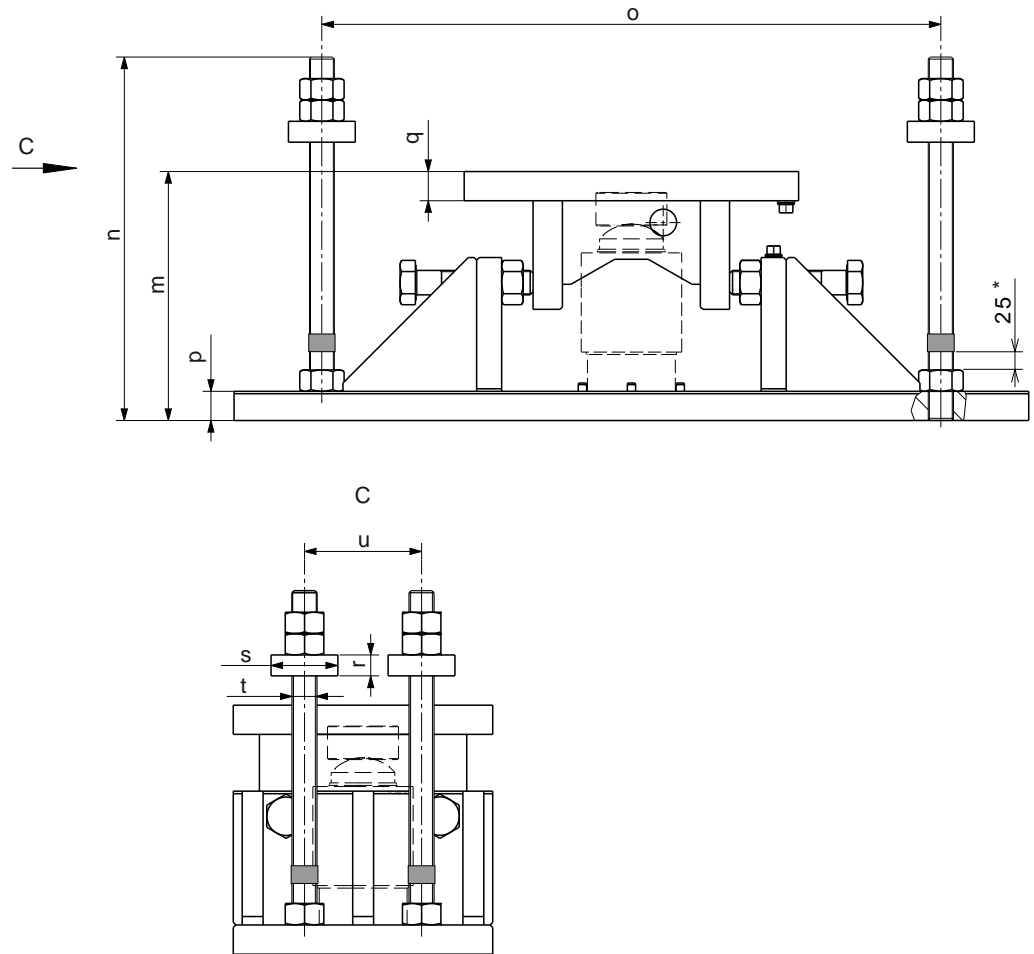


All dimensions in mm

No.	Description
1	Hole pattern in the upper plate
2	For PR6144/35 and PR6144/55 only
3	Hole pattern in the lower plate

Mounting kit	a	b	c	d	e	f	g	h	j	k	l
PR 6144/54	820	240	740	160	160	33	380	240	300	160	33
PR 6144/15	950	310	870	190	220	33	400	310	315	220	33
PR 6144/35	1150	350	1070	230	260	39	460	350	380	260	39
PR 6144/55	1180	350	1100	230	260	39	460	350	380	260	39

### 4.2.2 Mounting dimensions



All dimensions in mm

\* Threaded rod is completely screwed in.

Mounting kit	m	n	o	p	q	r	s	t	u
PR 6144/54	217	350	620	30	30	25	∅80	M30	120
PR 6144/15	298	435	740	35	35	25	∅80	M30	140
PR 6144/35	387	545	920	40	40	30	∅100	M36	150
PR 6144/55	428	590	970	40	40	30	∅100	M36	150

### 4.3 Technical data

<b>Mounting kit</b>	<b>PR 6144/54</b>	<b>PR 6144/15</b>	<b>PR 6144/35</b>	<b>PR 6144/55</b>
Max. capacity of LC*	0.5 to 75 t	100 t	200 + 300 t	520 t
Perm. horizontal force	max. 370 kN	max. 440 kN	max. 520 kN	max. 520 kN
Horizontal destructive force	>600 kN	>800 kN	>1200 kN	>1200 kN
Perm. lifting force	max. 400 kN	max. 600 kN	max. 880 kN	max. 880 kN
Lifting destructive force	>600 kN	>900 kN	>1200 kN	>1200 kN
Perm. vertical load without LC* (dummy function)	max. 16 t	max. 24 t	max. 60 t	max. 110 t
Material	**	**	**	**
Net weight without dummy	121 kg	197 kg	320 kg	348 kg
Gross weight with dummy	122 kg	200 kg	328 kg	364 kg

\* LC = load cell

\*\* Steel-galvanized, passivated and sealed (RoHS-compliant)

## 5 Installation

### 5.1 Prior to mounting

#### 5.1.1 Preparing the foundation/substructure

- The foundation for the mounting kit must be horizontal (use spirit level), flat, and rigid for the intended loads.
- The load distribution on the available load cells must be as even as possible to prevent overload of the individual load cells.
- The substructure foundations/supporting surfaces for the mounting kits should be at the same level, and the supporting surfaces of the weighing object (e.g. vessel feet) must be arranged in parallel.
- If soft filler layers (e.g. made from rubber or plastic material) are used between the mounting kit and vessel/or between the mounting kit and substructure for vibration dampening or for temperature insulation, a load compensating plate must be provided between this soft filler layer and the mounting kit to ensure even load application into the mounting kit.

The design of the insulation and compensation plates depends on the respective application.

### 5.2 Tightening torques

The corresponding tightening torques are given in the following table.

Mounting kit	Mounting parts	Screws	Tightening torque
PR 6144/54	Upper plate/lower plate	M30-8.8	1400 Nm
PR 6144/15	Upper plate/lower plate	M30-8.8	1400 Nm
PR 6144/35	Upper plate/lower plate	M36-8.8	2500 Nm
PR 6144/55	Upper plate/lower plate	M36-8.8	2500 Nm

### 5.3 Assembly

#### 5.3.1 Safety instructions

#### **WARNING**

**The vessel may turn over during mounting.**

Securing the vessel against tipping is imperative.

- ▶ Use an appropriate lifting jack.

**NOTICE****Welding or lightning strike current flowing through the cell can damage it.**

All electrical welding on the weighing system must be finished before mounting the load cells.

- ▶ When installing the load cell, immediately bypass the load cell with a flexible copper strap (included in the load cell equipment).

During any additional electrical welding work near the load cell:

- Disconnect the load cell cables.
- Bypass the load cell using the flexible copper strap.
- Make sure that the grounding clamp of the welding set is fitted as closely as possible to the welding joint.

### 5.3.2 Installing the mounting kit

**Note:**

When welding the upper and lower plates, always observe the weld specifications.

Min. thickness of circumferential fillet weld:  $a = 8 \text{ mm}$  (a  $\nabla$ ).

**Note:**

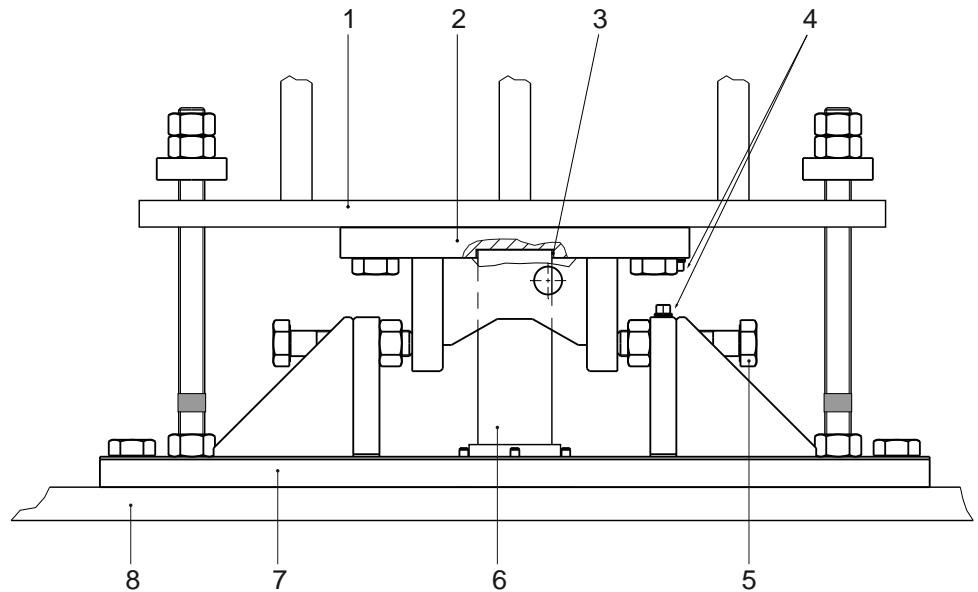
Screw mounting of the upper and lower plates is described below.

The work steps must be carried out on all support points of the vessel.

**Requirements:**

- All threaded holes for the lower plate are available in the foundation/substructure (see Chapter [4.2.1](#)).
- All threaded holes for the upper plate are available in the vessel bracket/vessel foot (see Chapter [4.2.1](#)).



**Procedure:**

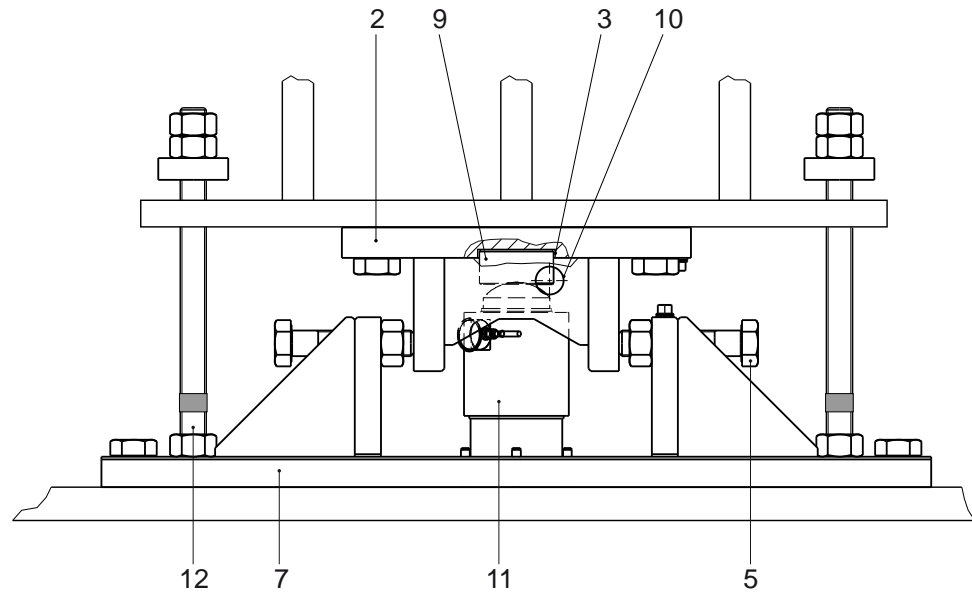
1. Screw the upper plate (2) to the vessel bracket/vessel foot (1). The property classes and tightening torques of the screws must be observed; see Chapter 5.2.
2. Position the lower plate (7) with the dummy (6) on the foundation. Ensure that the upper and lower plates are parallel and seated vertically above each other.
3. Carefully place the vessel on the lower plate so that the dummy is seated in the recess (3) of the upper plate.
4. Fix the upper plate (2) using stops (5) (4x).

**Note:**

Turn the dummy to check whether there is clearance between dummy (6) and recess (3). If necessary, insert thin, deburred sheet-metal plates between

- the upper plate (2) and vessel bracket/foot (1) or
- the lower plate (7) and foundation (8).

5. Fix the lower plate to the foundation. The property classes and tightening torques of the screws must be observed; see Chapter 5.2.
6. Connect an equipotential bonding conductor (not supplied with the mounting kit) between the upper and the lower plates (4).
7. Release the stops and lift the vessel until the dummy can be removed:
  - PR 6144/54N: approx. 25 mm
  - PR 6144/15N: approx. 30 mm
  - PR 6144/35N: approx. 30 mm
  - PR 6144/55N: approx. 35 mm
8. Remove the dummy.



9. Clean the load cell base on the plate of the lower plate (7) and the recess (3) for the upper load disc (9) in the upper plate (2).
10. Insert the load cell (11) with the load discs vertically into the mounting kit.
11. Lower the vessel slowly and make sure that the upper load disc (9) in the recess (3) is not canted (check using the borehole [10]).
12. Adjust the lift-off protection devices (12) (4x) as described in Chapter 3.2.
13. Adjust the stops (5) (4x) as described in Chapter 3.3.

---

**Note:**

Only for PR 6144/55 (Max. capacity 520 t):

The PR 6143/55 load disc kit must be ordered separately; for order no. see Chapter 8.2.1.

---

## 5.4 Check mounting

When all mounting kits have been installed, check them for proper mounting.

In particular, force shunts should be avoided.

It is essential to check:

- whether the load cell has been inserted in the mounting kit vertically and without being canted.
- whether the upper and lower plates are mounted in a horizontal position.
- whether free moving space and the required play for thermal expansion are provided.

The free moving space which is required for displacement of the measured object due to thermal expansion, vibration, etc. can be utilized without reducing the measuring accuracy only if the load cell has been installed exactly.

To avoid force shunts, all incoming and outgoing lines (hoses, pipes, cables) must be connected to the measured object with the greatest flexibility possible.

The entire load must be supported by the load cells!

## 6 Cleaning

The mounting kit is easy to clean. It can be spray-washed with water.

For this purpose, spray the water jet from top to bottom and around the mounting kit.

### **NOTICE**

**Some cleaning agents may not be compatible with the mounting kit material.**

- ▶ When using cleaning agents, ensure that their compatibility with the mounting kit material has been tested and approved (see Chapter [4.3](#)).
-

## 7 Disposal

Our products and their packaging should not be disposed of in municipal waste (e.g. garbage can for recyclable packaging, garbage can for paper packaging, etc.). They can either be recycled by the customer themselves, providing this complies with requirements set out by electrical or electronic waste or packaging waste laws, or sent back to Minebea Intec at a charge.

This option of returning the product is intended to provide proper recycling or reuse in a manner that is collected separately from municipal waste.

Before disposing of or scrapping the old products, any single-use or rechargeable batteries should be removed and taken to a suitable collection point. The type of battery used is specified in the technical data.

Please see our General Terms and Conditions for further information.

Service addresses for repair acceptance and collection points can be found on the product information enclosed with the product as well as on our website ([www.minebea-intec.com](http://www.minebea-intec.com)).

Should you have any further questions, please contact your local service representative or our service center.

Minebea Intec GmbH

Repair center

Meiendorfer Strasse 205 A

22145 Hamburg, Germany

Phone: +49.40.67960.333

[service.HH@minebea-intec.com](mailto:service.HH@minebea-intec.com)

We reserve the right not to accept products that are contaminated with hazardous substances (ABC contamination).

## 8 Spare parts and accessories

### 8.1 Replacement parts

No.	Description	Max. capacity	Order no.
1	Upper load disc	100 t	5322 520 10552
2	Upper load disc	200 t, 300 t	5322 520 10553

### 8.2 Accessories

#### 8.2.1 Load discs

To install the load cell, the following load discs are recommended:

No.	Description	Max. capacity	Order no.
1	Load disc kit PR 6143/55N	520 t	9405 361 43551

N = steel zinc plated, passivated and sealed (RoHS-compliant)

## 9 Certificates

Ser. no.	Description	Document no.	see Chapter
1	CE marking	CE-PR 6144	<a href="#">9.1</a>
2	Declaration of Performance	003/2021	<a href="#">9.2</a>
3	Conformity of the Factory Production Control	2451-CPR-EN1090-2014.2089.005	<a href="#">9.3</a>

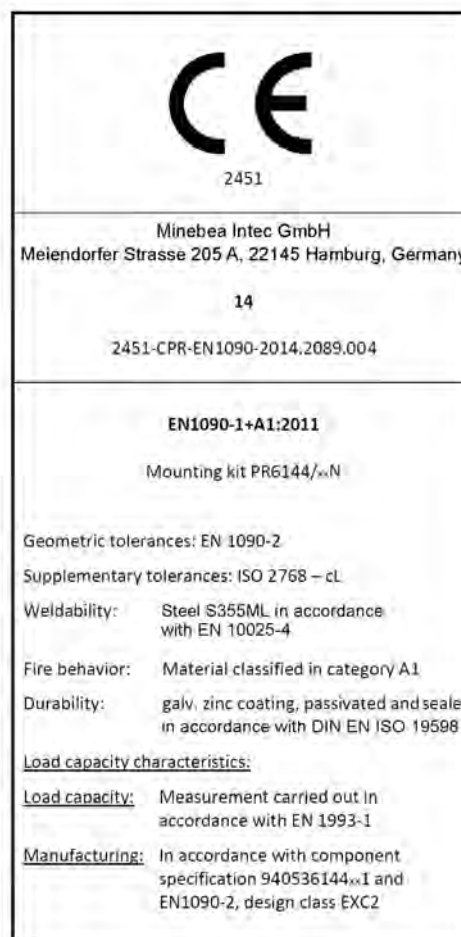
## 9.1 CE-PR 6144

### European Standard EN 1090

Since July 2014, load-bearing parts made of steel have required EN 1090 certification to obtain general technical approval.

#### The standard applies in the following countries:

Belgium, Bulgaria, Denmark, Germany, Estonia, Finland, France, Greece, Ireland, Iceland, Italy, Croatia, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Austria, Poland, Portugal, Romania, Sweden, Switzerland, Slovakia, Slovenia, Spain, the Czech Republic, Hungary, the United Kingdom and Cyprus



9.2 003/2021



## Declaration of Performance

in accordance with Annex III of regulation (EU) no 305/2011  
(Building Products Regulation)

No 003/2021

- 1. ID code of product type: Mounting kit
- 2. ID to identify the building product in accordance with article 11, paragraph 4: PR 6144/xxN
- 3. Intended use: The mounting kit is used in combination with a PR 6201/PR 6203/PR 6204 load cell for container and silo weighing.
- 4. Manufacturer in accordance with Article 11, Paragraph 5: Minebea Intec GmbH  
Meiendorfer Strasse 205 A  
22145 Hamburg, Germany
- 5. System to evaluate and check the constancy of performance of the building product in accordance with Annex V: System 2+
- 6. The notified location: DVS ZERT GmbH has carried out the first inspection of the plant and in-house production control, as well as continuous monitoring, assessment and evaluation of the in-house production control in accordance with system 2+ and issued the following: **Certification of Conformity for In-House Production Control**

Harmonized standard: EN 1090-1:2009+A1:2011

Certificate number: 2451-CPR-EN1090-2014.2089.004

7. Performance declaration:

Essential features	Performance/classification
Geometric tolerances	EN 1090-2
Extended tolerances	ISO 2768 - cL
Weldability	Steel S355ML in accordance with EN 10025-4





Fracture toughness	27J at -50°C
Fire behavior	Material classified in category A1
Durability	galv. zinc coating, passivated and sealed in accordance with DIN EN ISO 19598
Load capacity	Measurement carried out in accordance with EN 1993-1
Manufacturing	In accordance with component specification 940536144x1 and EN1090-2, execution class EXC2

- 8. The performance of the product in accordance with numbers 1 and 2 corresponds to the performance declaration in number 7. The manufacturer in accordance with number 4 is solely responsible for creating this performance declaration.

Signed for the manufacturer and on behalf of the manufacturer by:

Minebea Intec GmbH  
Hamburg, June 21, 2021

Dr. Karl Christoph Sommer  
Managing Director

Robert Fuchs  
Responsible for in-house production control (according to DIN EN 1090)

### 9.3 2451-CPR-EN1090-2014.2089.005

	
<h1>CERTIFICATE</h1>	
<p>Conformity of the Factory Production Control  <b>2451-CPR-EN1090-2014.2089.005</b></p>	
<p>In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the following construction product:</p>	
<b>Construction product</b>	<b>Structural components and kits for steel structures to EXC2 according to EN 1090-2</b>
<b>Intended use</b>	for load-bearing structures in all types of buildings
<b>CE - marking method</b>	ZA.3.2 to ZA.3.5 acc. to EN 1090-1:2009+A1:2011
<b>Manufacturer</b>	produced by or for <b>Minebea Intec GmbH</b>  <b>Meiendorfer Straße 205 A</b> <b>22145 Hamburg</b> <b>GERMANY</b>
<b>Manufacturing plant</b> <small>Production facility of the manufacturer</small>	HW-1
<b>Confirmation</b>	This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the harmonised standard <b>EN 1090-1:2009+A1:2011</b> under system 2+ are applied, and that the factory production control fulfills all the prescribed requirements stated therein.
<b>Date of first issue</b>	11.11.2014
<b>Next Surveillance audit</b>	10.11.2023
<b>Period of validity</b>	This certificate will remain valid as long as the test methods and/or the factory production control requirements included in the harmonised standard used to assess the performance of the declared characteristics do not change, and the product and the manufacturing conditions in the plant are not modified significantly.
<b>Remarks</b>	see reverse
<b>Place and date of issue</b>	Düsseldorf, 02.08.2021 Bullert
	 Dipl.-Ing. Gurschke <small>Head of certification body</small>
<p>DVS ZERT GmbH, Aachener Straße 172, 40223 Düsseldorf, GERMANY</p>	
	



**Certificate number: 2451-CPR-EN1090-2014.2089.005**

**Remarks**

The Notified Body - 2451 DVS ZERT GmbH has performed the initial inspection of the/of manufacturing plant(s) and of the factory production control and performs the continuous surveillance, assessment and approval of the factory production control.

**General provisions**

The conditions of the standard EN 1090-1:2009+A1:2011, from section B. 4.1 until including section B. 4.4, must be fulfilled.

The requirements of EN 1090-1:2009 + A1: 2011, section B. 4.3 are observed. These refer to the annual statements to be submitted in writing of the manufacturer to the Notified Body.

The General Terms and Conditions of the DVS ZERT GmbH apply in the currently valid version.

DVS ZERT GmbH, Aachener Straße 172, 40223 Düsseldorf, GERMANY



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[www.minebea-intec.com](http://www.minebea-intec.com)

