

Installation manual

Mounting kits PR 6021



Foreword

Must be followed!

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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

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 6021 are intended for weighing tasks, and must only be used as such.

The mounting kits PR 6021 are designed for installing the load cells PR 6221 and PR 6224.

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

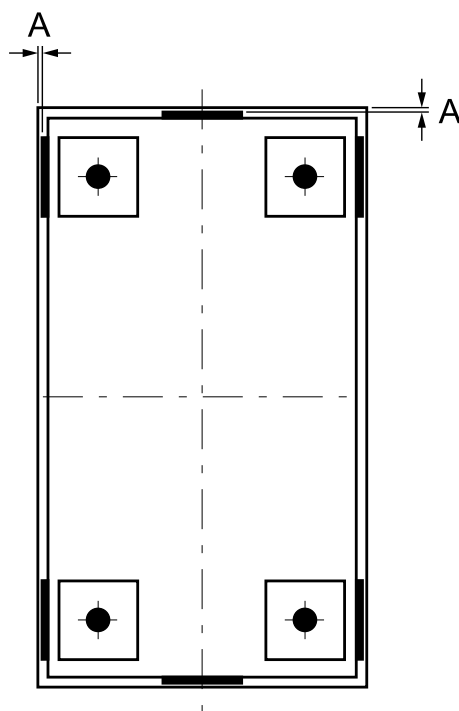
NOTICE

Perform visual inspection.



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

3 Setup instructions

3.1 Load cell arrangement



Key

	Load application
	Stop
A	5 mm

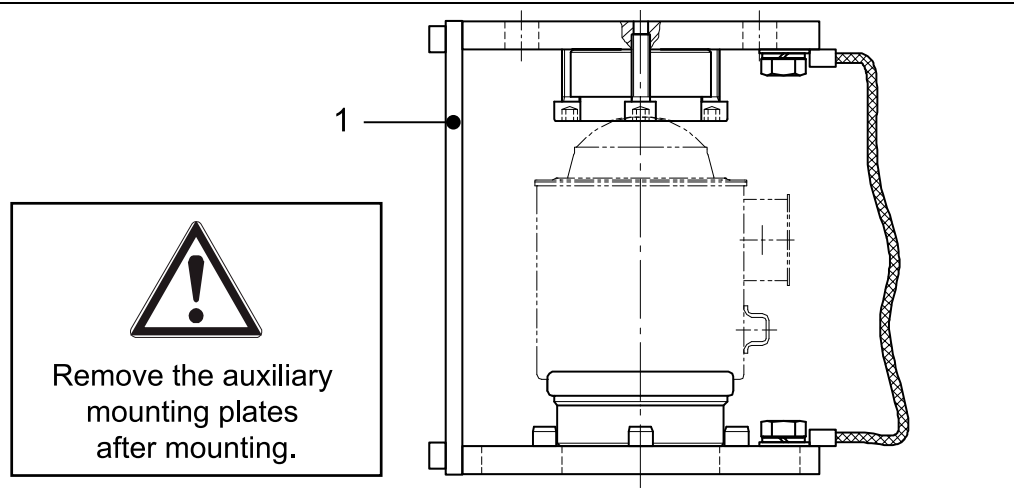
- If stops are used, damage and measuring errors can be prevented without affecting the required space for movement in the direction of the measurement.

The lateral play of the weighbridge must always be restricted to the distance "A" (see figure) in the longitudinal and transverse direction by appropriate stops.

Consideration should be given to the fact that thermal expansion and contractions may constrict the required space for movement of the object to be weighed and could thereby lead to significant falsification of the measuring results.

3.2 Mounting aid

Example: PR 6021/01N

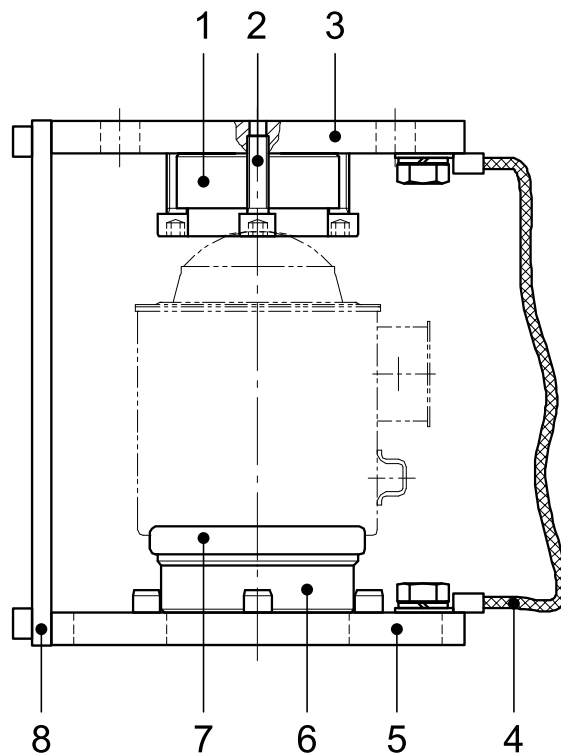


The auxiliary mounting plate (1) is intended to facilitate installation of the mounting kit and load cell.

4 Specifications

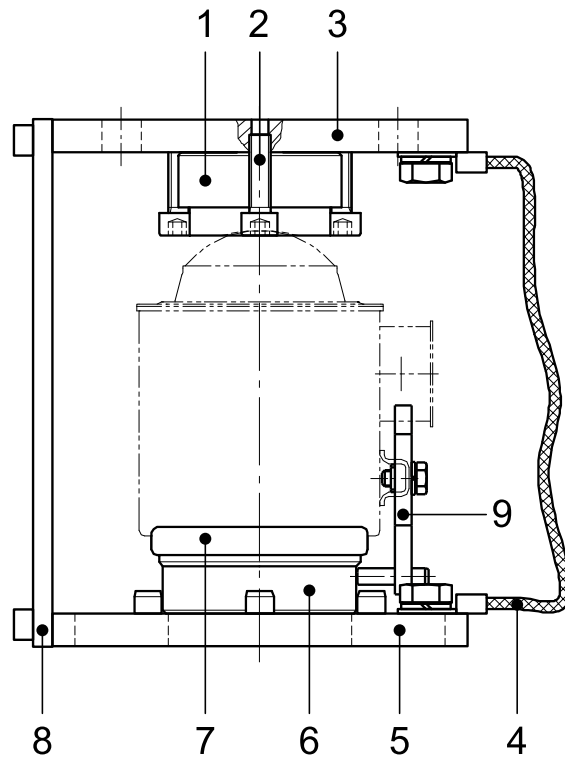
4.1 Equipment supplied

4.1.1 Mounting Kit PR 6021/01N



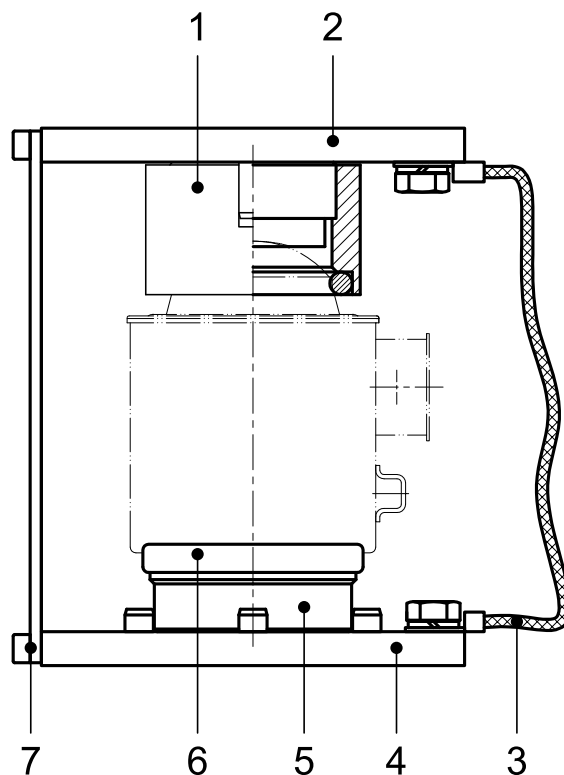
No.	Description
1	Upper load disc
2	Securing elements (3x screws) for the upper load disc
3	Upper plate
4	Flexible copper strap
5	Lower plate
6	Lower load disc
7	Supporting ring
8	Mounting aid
9	Quick guide (not shown)

4.1.2 Mounting kit PR 6021/03N



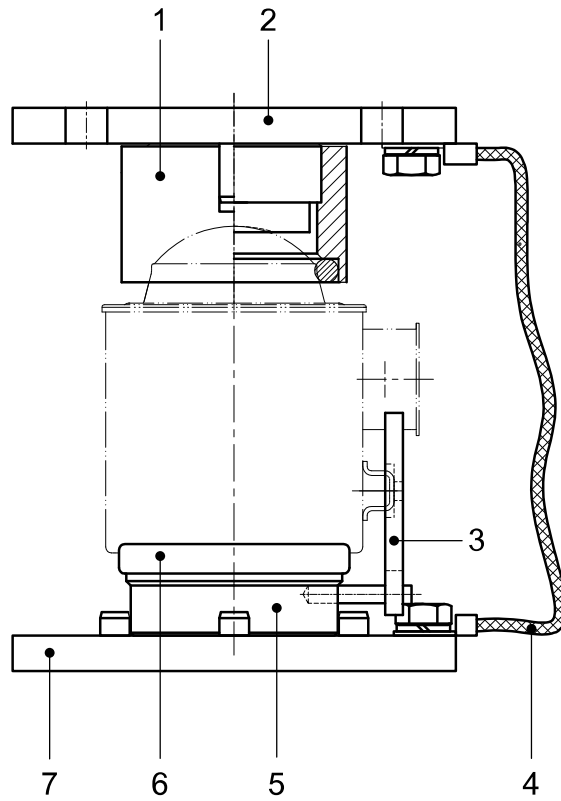
No.	Description
1	Upper load disc
2	Securing elements (3× screws) for the upper load disc
3	Upper plate
4	Flexible copper strap
5	Lower plate
6	Lower load disc
7	Supporting ring
8	Mounting aid
9	Anti-twist protection
10	Quick guide (not shown)

4.1.3 Mounting kit PR 6021/05N



No.	Description
1	Turbo Load disc
2	Upper plate
3	Flexible copper strap
4	Lower plate
5	Lower load disc
6	Supporting ring
7	Mounting aid
8	Quick guide (not shown)

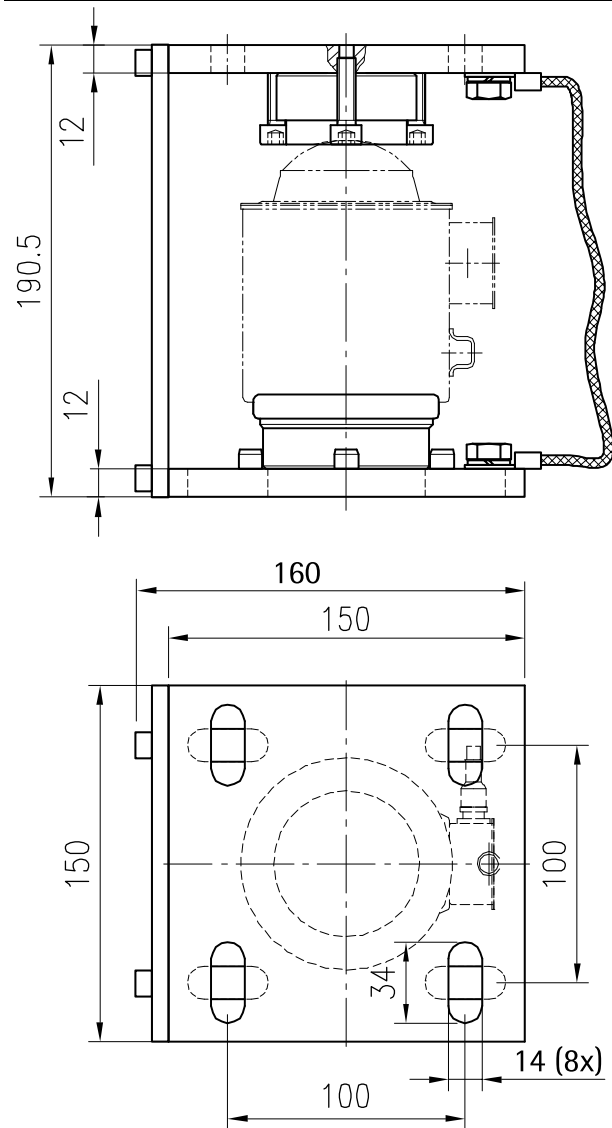
4.1.4 Mounting kit PR 6021/07N



No.	Description
1	Turbo Load disc
2	Upper plate
3	Anti-twist protection
4	Flexible copper strap
5	Lower load disc
6	Supporting ring
7	Lower plate
8	Quick guide (not shown)

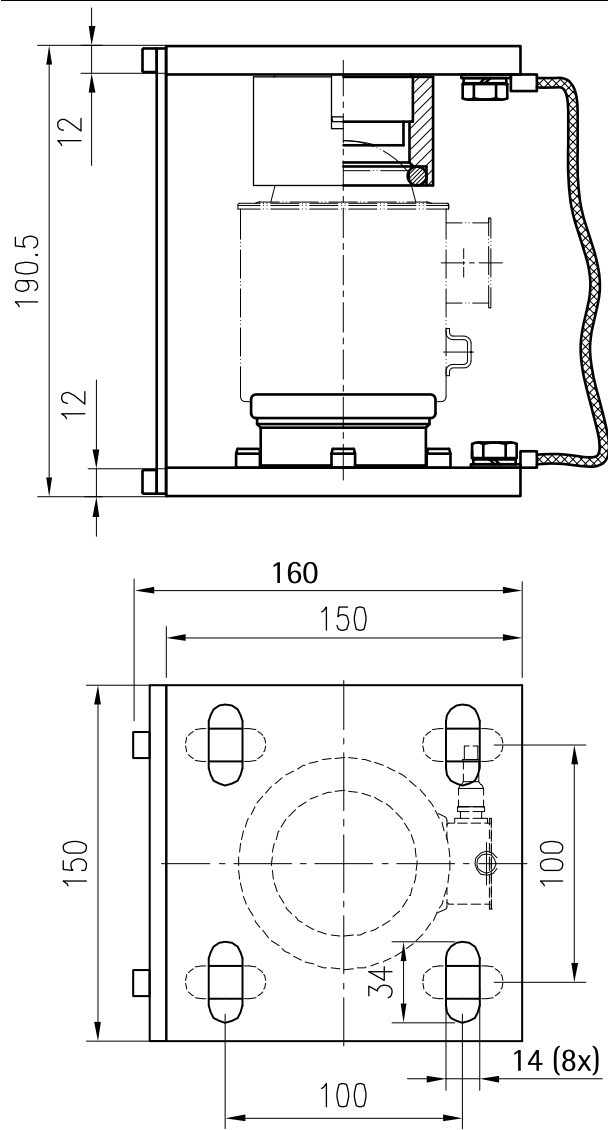
4.2 Dimensions

PR 6021/01N, ../03N



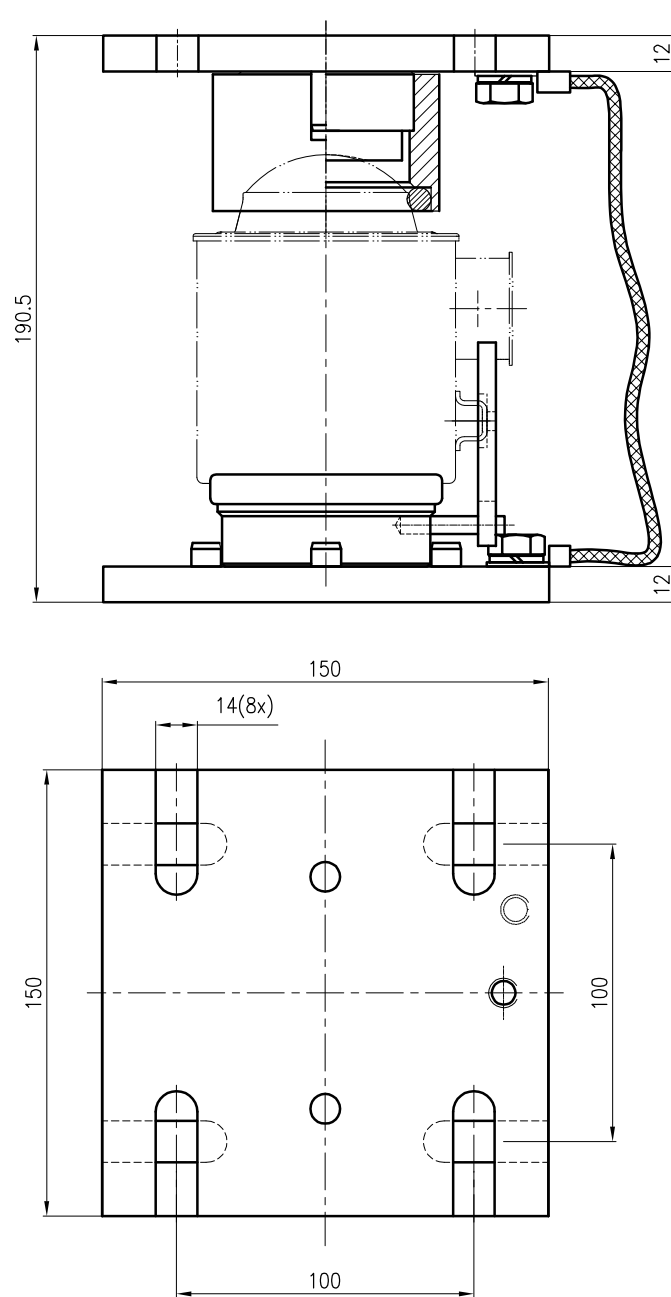
all dimensions in mm

PR 6021/05N



all dimensions in mm

PR 6021/07N



all dimensions in mm

4.3 Technical data

Mounting kits PR 6021/01N, ../03N, ../05N, ../07N

	PR 6021/01N	PR 6021/03N	PR 6021/05N	PR 6021/07N
Nominal load of load cell	12.5–75 t		12.5–75 t	
Permissible temperature range	-40°C–+100°C		-40°C–+100°C	
Material	Steel; zinc-plated, chromated, and sealed (RoHS-compliant)		Steel; zinc-plated, chromated, and sealed (RoHS-compliant)	
Net weight	6.1 kg	6.2 kg	6.4 kg	6.5 kg
Gross weight	6.2 kg	6.3 kg	7.0 kg	7.1 kg

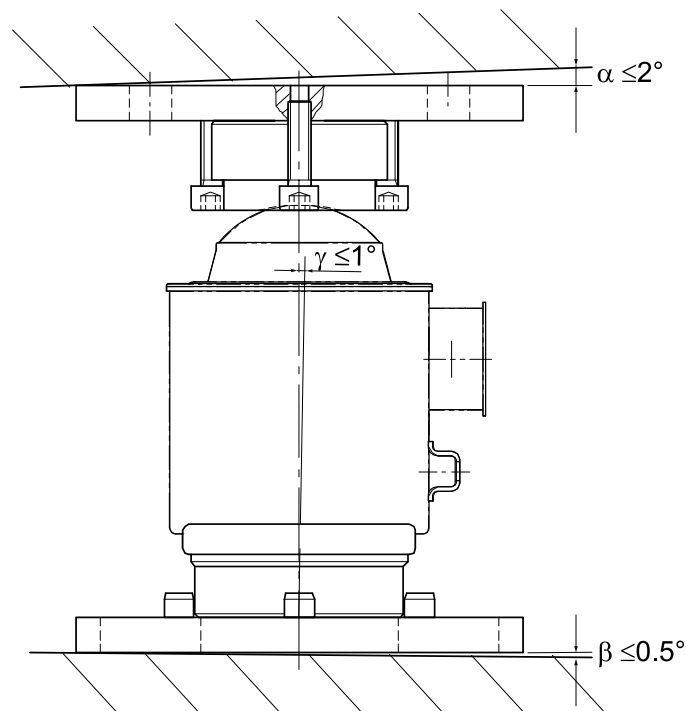
5 Installation

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.
- **For screw mounting of the upper and lower plates:**
 - Generate the drilling pattern of the lower plate of the mounting kit (see Chapter 4.2) according to the load application arrangement on the foundation/substructure.
 - Generate the drilling pattern of the upper plate of the mounting kit (see Chapter 4.2) according to the load application arrangement on the underside of the weighbridge (platform).
- If soft filler layers (e.g. made from rubber or plastic material) are used between the mounting kit and weighbridge/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.



The maximum permissible inclination must be strictly observed in order to keep the impact on the measuring accuracy to a minimum (see figure).

5.2 Tightening torques

The corresponding tightening torques are given in the following table.

Mounting parts	Thread	Tightening torque
Upper plate	M12-8.8	85 Nm
Lower plate	M12-8.8	85 Nm
Recommendation for the washers of M8 mounting screws:	DIN 7349 (d = 21, h = 4) or DIN 9021 or ISO 7093-2 (d = 24, h = 2)	

5.3 Assembly

5.3.1 Safety instructions

WARNING

The weighbridge is heavy.

The weighbridge must be mounted by at least 2 people.

- ▶ Use an appropriate lifting jack.
- ▶ Wear personal protective clothing (safety gloves, safety shoes, safety goggles if applicable).

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 the flexible copper strap provided for this purpose (included in the equipment supplied, see Chapter 4.1).

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 and inserting the load cell

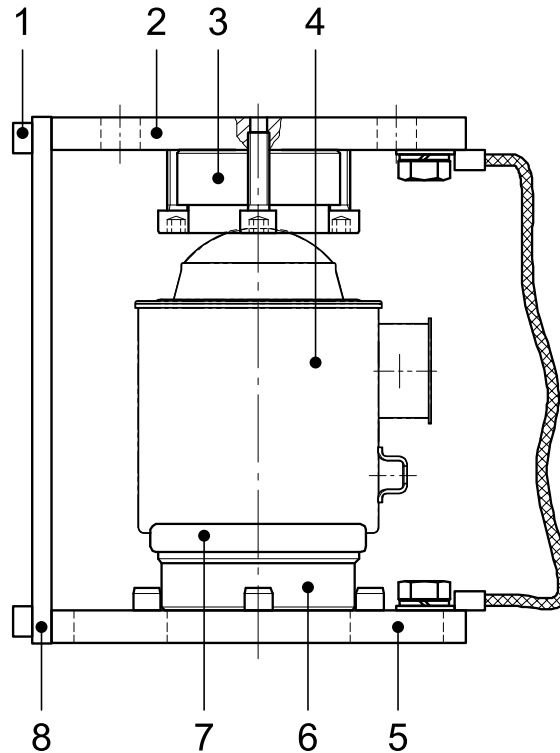
Note:

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

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

Requirements:

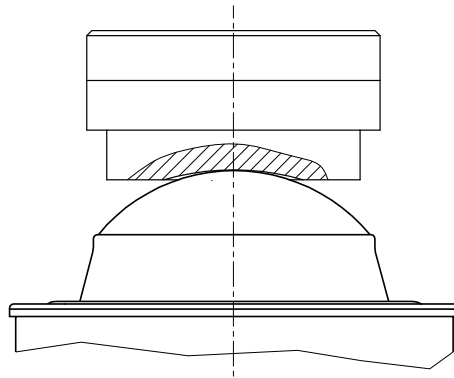
- All threaded holes for the lower plate are available in the foundation/substructure (see Chapter 4.2).
- All threaded holes for the upper plate are available in the weighbridge (see Chapter 4.2).

Procedure:

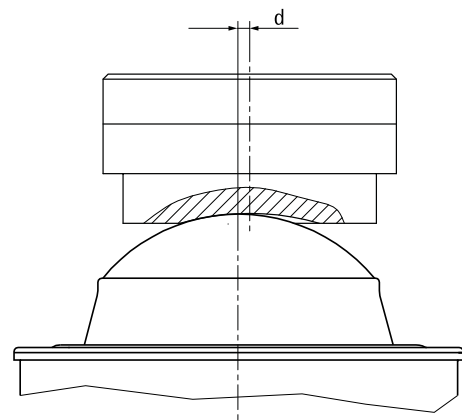
1. Unscrew the screws (1) of the mounting aid plate (8) on the upper plate (2).
2. Using the supporting ring (7), place the load cell (4) vertically on the lower load disc (6).
3. Position the upper plate (2) so that the upper load disc (3) is on the weighbridge (4). Make sure that the load cell is vertical and that the load cell dome is positioned in the exact center of the upper load disc (3). See Chapter 5.3.3.
4. Screw on the upper plate (2) using the mounting aid plate (8).
5. The attached mounting kit can now be placed in the required position.
6. Attach all mounting kits and position them on the foundation.
7. Do not fully tighten the screws used to secure the lower plates (5) on the foundation.
8. Slowly lower the weighbridge onto the mounting kits.
9. Align the mounting kits and tighten all screws with the proper torque (see Chapter 5.2).
10. Install the upper plates (2) on the weighbridge.
11. Remove the mounting aids plates (8).

5.3.3 Positioning upper load disc

Center positioning

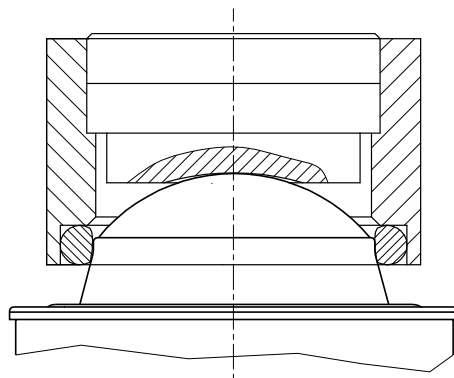


Off-center positioning



It is imperative that the load disc finds exact center positioning on the top of the load cell. Any off-center positioning (d) will cause deviations in the corner load test and lead to errors in the shift test.

Turbo Load disc



In difficult cases, a specially designed upper load disc (Turbo Load disc; included in PR 6021/05N and ../07N) can facilitate positioning in the exact center on the top of the load cell. This uses an O-ring to ensure that the load disc is positioned in the exact center on the top of the load cell.

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 auxiliary mounting plate has been removed.
- 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).

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

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

8 Replacement parts

No.	Description	Order no.
1	Flexible copper strap, 250 mm long	5312 321 28056

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