General installation guide

Multi-couplings in plate construction for customer-side infeed

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The German version is the original.

1 General installation guide

1.1 About this guide

These instructions provide guidance on installing a multi-coupling in plate construction for customer-side infeed on a customer structure that does not yet have any mounting holes.

These instructions apply only in conjunction with the currently valid project-specific documentation, such as overview drawings, functional diagrams, and CAD models.
All illustrations are symbolic and may differ from the actual product. Colour highlighting is for illustrative purposes only.

Installation work may only be carried out by qualified persons in compliance with the relevant accident prevention regulations and in accordance with the state of the art.
Electrical connections may only be made by trained and authorised electricians.

If you have any questions, please contact our Technical Service.

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1.2 Liability

WALTHER-PRÄZISION shall assume no liability or warranty for the completeness, correctness and topicality of the information provided in its print media and on its website. Therefore, all information is non-binding and subject to changes and errors. Illustrations are similar.

Due to the different functionalities and the versatility of use of quick coupling systems, WALTHER-PRÄZISION and the associated network of dealers is not able to guarantee that a specific quick coupling system is suitable for each specific end use. Not all of the technical details that are to be taken into consideration in the selection of a quick coupling system are being analysed. The user is responsible for their own analysis of the following points:

- For safe operation and compliance with all performance, durability, maintenance, safety and warning requirements.
- The selection of their quick coupling system.
- The fulfilment of the requirements of the end user.
- The safety precautions which are necessary in order to avoid personal injuries and damage when using quick coupling systems.
- Own technical changes.

Technical performance data applies under ideal conditions and is provided without guarantee. Liability for the accuracy of performance data for the respective application at the customer's premises is excluded.

1.3 Safety precautions

As a matter of principle, all WALTHER-PRÄZISION products are intended only for use in the industrial or commercial sector, observing the relevant occupational health and safety regulations in each case.
Only trained professionals or persons instructed by professionals may work on and with WALTHER-PRÄZISION products, e.g. install, operate, maintain, and repair them.

You can find our detailed safety instructions on our website under “Service” or use the QR code provided.

⚠ WARNING

Danger from suspended loads.

Possible personal injury and property damage.

- ▶ Use lifting equipment of sufficient capacity.
- ▶ Use the attachment points provided for lifting (e.g. eye bolts).
- ▶ Do not work under suspended loads.
- ▶ Only detach the multi-coupling from the crane once it is securely attached to the customer structure.

⚠ WARNING

All parts that are subject to spring force spring out of position with momentum due to the preload of the spring when the respective retaining mechanism is removed.

Bruising and crushing of body parts is possible.

- ▶ It must be secured by hand.

⚠ WARNING

When coated components are heated, e.g. by welding or soldering, hazardous gases may be produced.

Personal injury and property damage, e.g. to seals.

- ▶ Use appropriate protective devices and personal protective equipment when performing this task.
- ▶ Avoid heating coated components.

1.4 Preparing for installation

- Check the assignment between the free half and the fixed half before removing the quick coupling system from the packaging.

  The following information is provided on WALTHER-PRÄZISION packaging:

  - **Order number**
  - **Ident number**

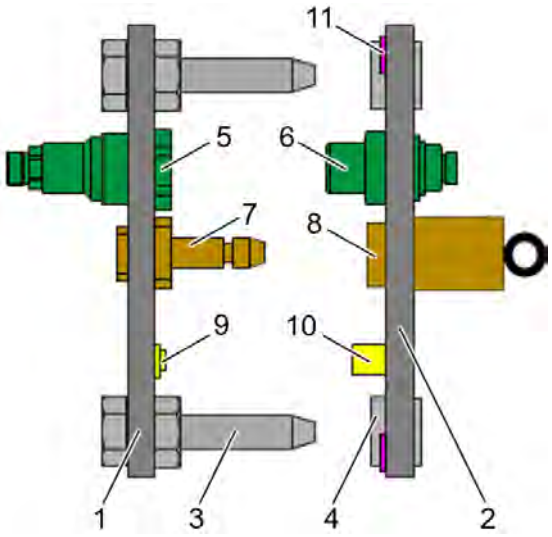
  When assigning the fixed and free halves, ensure that the halves match.
- Check the quick coupling system for transport damage.
- Ensure that the pipe network into which the quick coupling system is being installed has been adequately cleaned, flushed or blown out.
- Remove transport locks, such as transport lock bolts or pipe clamps, unless they are necessary during installation.

1.5 Installation in potentially explosive atmospheres

For a multi-coupling that complies with Directive 2014/34/EU (“EX” in the order number), the following also applies:

- The operator must take suitable measures to ensure that the quick coupling system cannot fall down during installation, operation, maintenance and repair and hit hard objects that could generate impact sparks.
- The quick coupling system must be protected against direct lightning strikes by suitable means, e.g. by a lightning protection system.
- The quick coupling system may only be connected to pipe or hose lines that have an electrostatically dissipative connection to earth potential.
- It must be ensured that the proper earthing of all relevant components of the multi-coupling is checked before installation, during operation and after maintenance or repair work in order to avoid the risk of static charging and sparking in the potentially explosive area.

1.6 Schematic overview of a multi-coupling in plate construction



1. Free half

   Moved towards the fixed half when coupling.

2. Fixed half

   Remains in its position during coupling.

3. Guide bolt
4. Guide bush
5. Coupling element
6. Adaptor element
7. Locking bolt
8. Locking bush
9. Proximity switch
10. Contactor (fixed stop)
11. Spacer for floating bearing

1.7 Remove floating bearing (create master half)

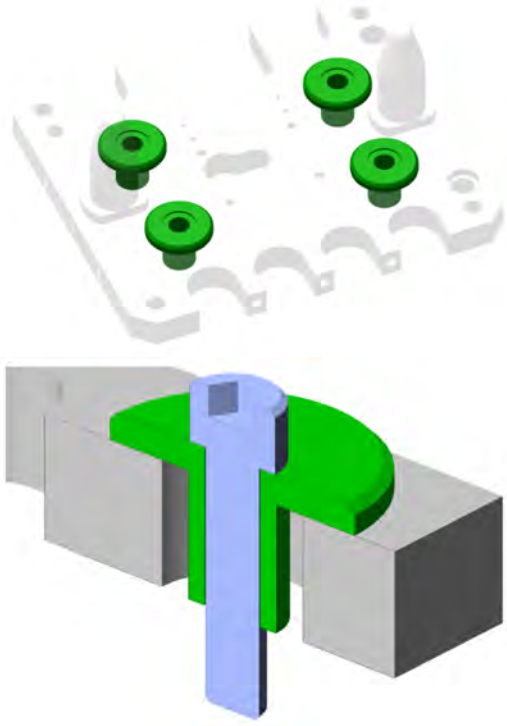
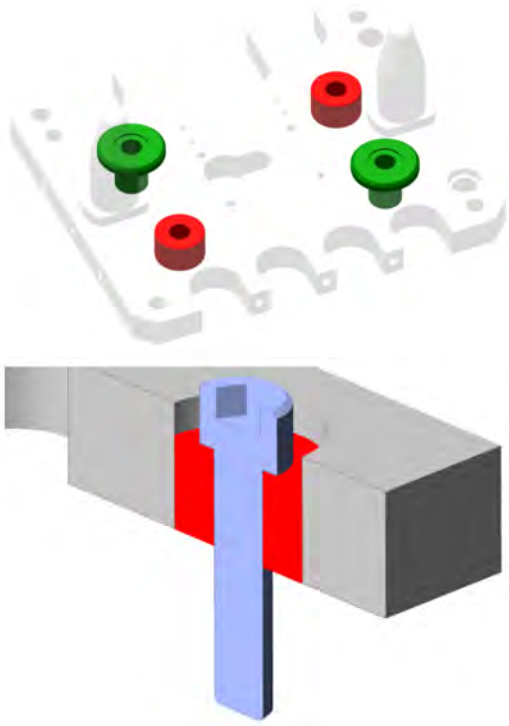
One of the two multi-coupling halves (fixed half or free half, depending on the design) has a **floating bearing** thanks to **spacer bushes**.

This allows the multi-coupling halves to be coupled easily and without wear during operation, while maintaining the permissible **centre deviation**.

The centre deviation is specified on the overview drawing as standard as a plus/minus millimetre value on the X and Y axes. In all other special cases, please contact our Technical Service.

For installation, the **floating bearing must be removed** from one of the multi-coupling halves: Replace two spacer bushes located diagonally opposite each other with **levelling bushes**.

This multi-coupling half serves as the **master half**, to which all opposite sides are aligned (see chapter “Fastening the multi-coupling to the customer structure”).

Floating bearing with **spacer bushes** (operating condition)	**Floating bearings eliminated by** **levelling bushes** (installation condition)
	

Cut view with fastening bolt

1.8 Fastening the multi-coupling to the customer structure

NOTE

If fasteners are supplied by WALTHER-PRÄZISION, these must be used.

If the multi-coupling has a bracket for fastening, larger distances between the bracket and the customer structure in the area of the fastening holes can be shimmed, e.g. by inserting shims.

Only a multi-coupling plate that has been mounted in its final position may be pinned to the customer structure if necessary. Pin holes must not be drilled into the customer structure in advance.

1.

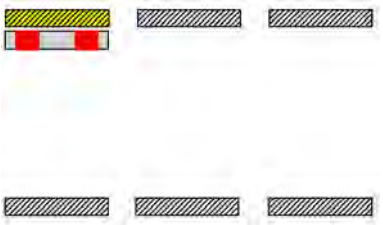
Fix the master half (floating bearing removed by levelling bushes; see chapter “Remove floating bearing (create master half)”) to the corresponding customer structure.

Please note: The master half

- must be able to be removed from the customer structure again so that it can be mounted with spacer bushes in step **4.**,
- must therefore already be in its final position on the customer structure,
- must not slip off the customer structure during the subsequent installation-related coupling processes.

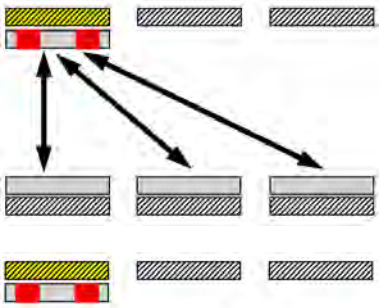
2.

The customer structure with the master half must be permanently marked by the customer / plant manufacturer / operator in case additional multi-coupling halves are installed at a later date. These must be aligned with the marked master half.

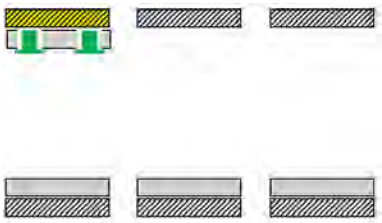
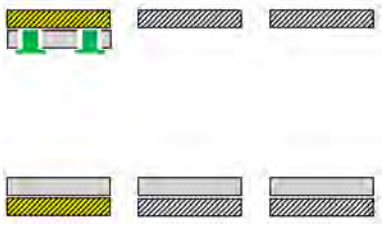
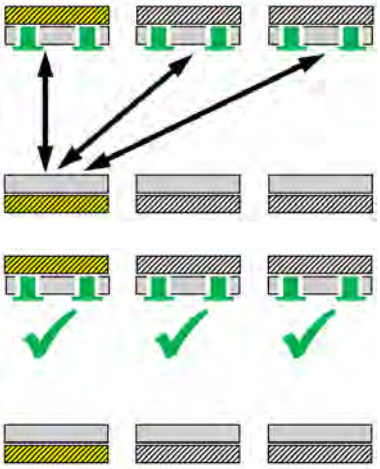
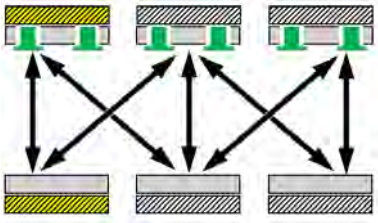


3.

Now connect all opposite sides with the master half, align them and mount them in their final position on the customer structures.



The opposite sides of the master half are now complete.

4. Restore the floating bearing in the master half: Replace the levelling bushes with spacer bushes.	
5. Select one of the halves completed in step **3.** as the master half for the opposite side. The customer structure with the master half must be permanently marked by the customer / plant manufacturer / operator in case further multi-coupling halves are installed at a later date. These must be aligned with the marked master half.	
6. Now use this master half to connect all opposite sides (with spacer bushes installed), align them and mount them in their final position on the customer structures. These multi-coupling halves are now also complete.	
7. Finally, connect each half of the multi-coupling to its opposite side once more. Connecting and disconnecting should be easy and wear-free.	

1.9 Coupling and uncoupling

1.9.1 Without locking

Coupling

- Use the drive to move the multi-coupling halves together until they stop.

  The valves of the media elements open automatically.

  Keep the drive pressurised until it is disconnected, i.e. throughout the entire working process.

Uncoupling

- Use the drive to separate the multi-coupling halves until they reach the end point.

  The valves of the media elements close automatically.

1.9.2 With locking

Coupling and locking

- Ensure that the locking mechanism is not pressurised.
- Use the drive to bring the multi-coupling halves together until they stop.

  The valves of the media elements open automatically during this process.

  The locking mechanism locks automatically and remains locked, so that the drive can be depressurised.

Unlocking and uncoupling

During operation, when coupled, the operating pressure also pushes the locking mechanism apart by up to 2 mm. This tension must first be released in order for unlocking to be possible. Therefore, the following sequence must be observed:

- Use the drive to hold the multi-coupling halves pressed together until they stop.
- Apply pressure to the locking mechanism so that it unlocks.
- Continue to hold the locking mechanism unlocked while moving the multi-coupling halves apart.
- Keep the release mechanism unlocked and move the multi-coupling halves apart.

  The valves of the media elements close automatically during this process.
- Release the pressure from the locking mechanism again.

  The locking mechanism will automatically return to its initial position, ready for coupling.

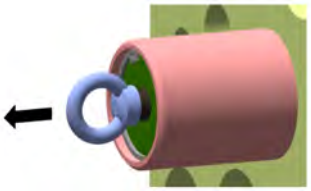
Emergency release

In the event of a malfunction, the multi-coupling halves can be manually unlocked using the emergency release so that they can be disconnected.

- Hold the multi-coupling plates mechanically, e.g. with screw clamps, pressed together as far as they will go.
- Pull out and hold the eye bolt of the locking bush, separating the multi-coupling halves from each other.

  The valves of the media elements close automatically during this process.

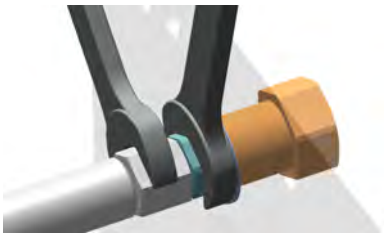
  When the eye bolt is released, the lock automatically returns to its initial position, ready for coupling.



1.10 Connecting built-in elements

- Any radial loads that occur as a result of long and heavy connecting hoses are to be cushioned by appropriate support equipment.
- Lay all connections of the quick coupling system (cables, hoses and pipes) in such a way that they do not create any hazards (tripping, falling).
- The screw connections on the customer connection side must be made in accordance with the state of the art.
- Only use sealants that are compatible with the media to be transported.
- Only use open-ended spanners of the appropriate size, not pipe wrenches or adjustable wrenches.
- For built-in elements with screw-in end plug:

  Only use the open-ended spanner on the end plug of the built-in element!



  Do not place the open-ended spanner on the housing of the built-in element!

  The built-in element could be disassembled unintentionally.

1.11 Change the switching distance of the proximity sensors

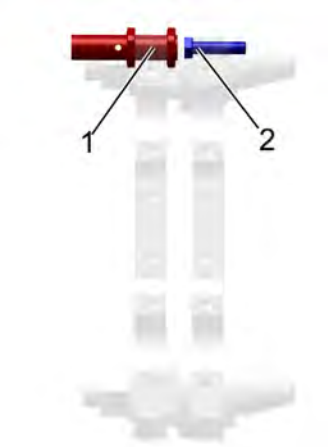
Proximity switches are preset to the correct switching distance at the factory by WALTHER-PRÄZISION.

To change the switching distance:

On the finally mounted multi-coupling, set the switching distance of any proximity switches in accordance with the currently valid overview drawing.

To do this, turn the lock nuts of the proximity switches (1) accordingly.

The fixed stop (2) as a contact switch must not be loosened or adjusted.



Identification “coupled”

1.12 Before starting operation

- Ensure that all floating multi-coupling plates are mounted to the customer structure with spacer bushes.
  Floating multi-coupling plates must not contain any levelling bushings during operation. These eliminate the floating bearing, which can lead to damage during coupling.
- Check that all screw connections are tight.
- Check media elements and connections for leaks.