

# General short instruction information

## Mono coupling

### Revision: D

Date: 13.07.2017 • Creator: nh • Approved by: Norbert Heinz


These operating instructions are not subject to change management.

german ident no 154126


english ident no 154127

## 1 Safety instructions mono coupling


### 1.1 General

	<b>⚠ ATTENTION</b>
	<p>This is a brief guide. This brief guide provides initial information about the quick coupling system. For the job-related operating instructions, refer to Walther-Präzision.</p>



### 1.2 Incorrect selection, improper handling

	<b>⚠ DANGER</b>
	<p><b>Incorrect selection or improper handling of quick coupling systems and accessories.</b></p> <p>The consequences are property damage, injuries or death. The following points must be prevented:</p> <ul style="list-style-type: none"><li>▶ Uncontrolled flying of the quick coupling systems or other components with high potential risk.</li><li>▶ Trapping of body parts caused by reaching between the coupling sides.</li><li>▶ Application of electrical voltage in decoupled state.</li><li>▶ Leaking of media under high pressure and at high speed.</li><li>▶ Impacting, dropping or falling of components caused by a failure of the power unit.</li><li>▶ Dangerous lashing out of the connection hose (whip effect).</li><li>▶ Explosion or taking fire of the employed media.</li><li>▶ Body contact with dangerous media.</li><li>▶ Leaking of media that is used in chemical processes.</li><li>▶ Technical specifications are not maintained.</li></ul>




### 1.3 Safety precautions

	<b>⚠ WARNING</b>
	<p><b>Quick coupling systems may fail unpredictably for many reasons.</b></p> <p>Personal injury and/or property damages.</p> <ul style="list-style-type: none"><li>▶ For this reason, design all systems and plants in such a way that a failure of the quick coupling system or the relevant supply line will not result in personal injury and/or property damages.</li></ul>


## 1.4 Load specifications, torques, framework conditions

	<b>⚠ ATTENTION</b>
	<p><b>Not observed load specifications, torques and other framework conditions.</b></p> <p>Failure of the quick coupling system.</p> <ul style="list-style-type: none"> <li>▶ The load specifications, torques and other framework conditions specified by WALTHER-PRÄZISION must be maintained.</li> </ul>
	<b>NOTE</b>
	<p><b>Inquire at WALTHER-PRÄZISION for these load specifications, torques and other framework conditions prior to installation.</b></p>

## 1.5 Pressure



	<b>⚠ DANGER</b>
	<p><b>The maximum operating pressure of the quick coupling system is exceeded.</b></p> <p>The consequences are serious injuries or death.</p> <ul style="list-style-type: none"> <li>▶ The correct selection of the quick coupling system in accordance with the existing operating pressure of the plant.</li> </ul>
	<b>⚠ ATTENTION</b>
	<p><b>The maximum operating pressure of the quick coupling system is exceeded.</b></p> <p>The consequences are property damages.</p> <ul style="list-style-type: none"> <li>▶ The correct selection of the quick coupling system in accordance with the existing operating pressure of the plant.</li> </ul>
	<b>NOTE</b>
	<p><b>Do not confuse bursting pressure with operating pressure.</b></p>

## 1.6 Compatibility of media


	<b>⚠ ATTENTION</b>
	<p><b>Compatibility between the media and the materials of the quick coupling system.</b></p> <p>Corrosion, leaks and failure of the quick coupling system</p> <ul style="list-style-type: none"> <li>▶ Ensure the compatibility between the materials of the components of the quick coupling system and the media used.</li> </ul>


	<p><b>NOTE</b></p> <p>More information regarding compatibility can be found in the seal and material table in your technical catalogue from WALTHER-PRÄZISION.</p>
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## 1.7 Temperature


<b>⚠ WARNING</b>	
	<p><b>Exceeding or undercutting the permitted temperature values at a standstill or in active operation.</b></p> <p>Burning or freezing.</p>
	<ul style="list-style-type: none"> <li>▶ For brief handling procedures, use protective gloves.</li> <li>▶ For longer-lasting contact, observe the appropriate current safety regulations.</li> </ul>


## 1.8 Mechanical loads

<b>⚠ WARNING</b>	
	<p><b>Unintentional opening or movement of the locking mechanism caused by external forces acting upon it. External forces may include: Pulling the hose over an obstacle, locking mechanism with coarse contours that can be easily moved, or vibrations.</b></p> <p>Personal injuries caused by failure of the quick coupling system.</p>
	<ul style="list-style-type: none"> <li>▶ Quick coupling systems should, for this reason, only be used in the above conditions if a safety lock is present and usage testing has been carried out.</li> </ul>


<b>⚠ ATTENTION</b>	
	<p><b>Unintentional opening or movement of the locking mechanism caused by external forces acting upon it. External forces may include: Pulling the hose over an obstacle, locking mechanism with coarse contours that can be easily moved, or vibrations.</b></p> <p>Property damages caused by failure of the quick coupling system.</p>
	<ul style="list-style-type: none"> <li>▶ Quick coupling systems should, for this reason, only be used in the above conditions if a safety lock is present and usage testing has been carried out.</li> </ul>

## 1.9 Radiation heat


<b>⚠ WARNING</b>	
	<p><b>Radiation heat acting on quick coupling systems may ruin the sealing material or even the body of the coupling.</b></p> <p>Personal injury</p>
	<ul style="list-style-type: none"> <li>▶ This risk must be taken into account by the user and suitable measures must be taken.</li> </ul>

	<b>⚠ ATTENTION</b>
	<p>Radiation heat acting on quick coupling systems may ruin the sealing material or even the body of the coupling.</p> <p>Property damage</p> <p>► This risk must be taken into account by the user and suitable measures must be taken.</p>


## 1.10 Quick coupling systems or (replacement) parts from other manufacturers

	<b>NOTE</b>
	<p>Use only WALTHER-PRÄZISION original (replacement) parts in order to ensure the operation and maintenance of your quick coupling system. We expressly remind you that we do not offer liability, warranty and service, when (replacement) parts from other manufacturers are used or when combinations are employed which use (replacement) parts from other manufacturers.</p>

## 1.11 Connecting quick coupling systems


	<b>NOTE</b>
	<p>When connecting quick coupling systems, use an appropriate sealant between the cylindrical threads or conical sealing threads. Make sure that the sealant is compatible with the material to be conveyed. Use the provided spanner flats during installation. Always use the correctly sized wrench. Never use pipe tongs or a variable wrench since this will ruin the thread seals in the quick coupling systems and other components of the quick coupling system. Too great a tightening torque may ruin the threads of the quick coupling systems or burst the thread block.</p>

## 1.12 Installation location

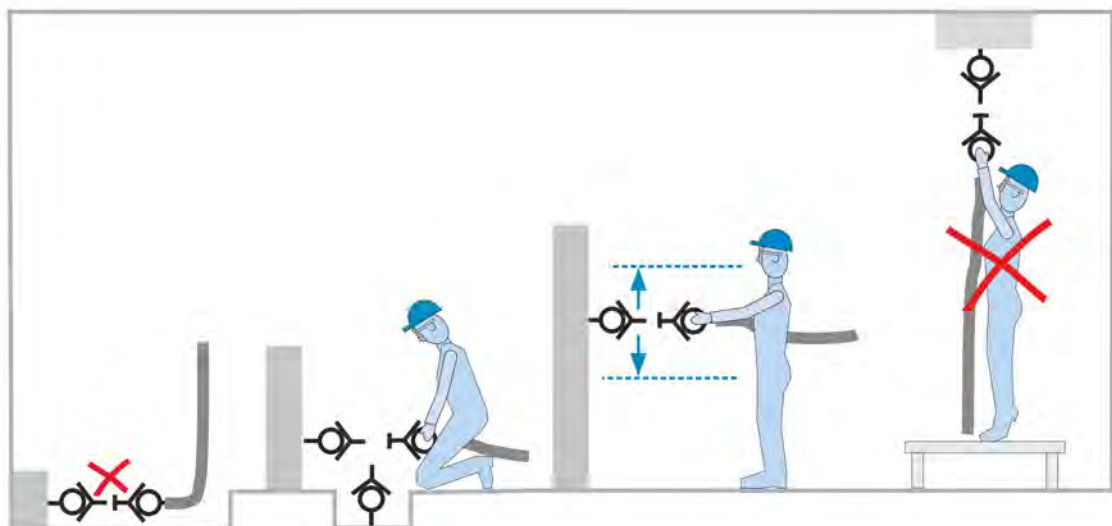
	<b>NOTE</b>
	<p>Install the quick coupling system in such a way that the user is not at risk of slipping, falling, being sprayed, or coming into contact with hot or moving parts.</p>

## 2 General

1. The technical specifications (e.g. pressure range / maximum operating pressure, Cv value, temperature limits) apply in accordance with our technical documentation: Our quotation, our serial brochure or type brochure, our technical catalogue.
2. With its components, the monocoupling is dimensioned for use in the industrial environment.
3. For further technical information, please contact your technical consultant: [http://www.walther-praezision.de/de/info\\_kontakt/index.html](http://www.walther-praezision.de/de/info_kontakt/index.html)
4. The operator of the monocoupling is responsible for the intended and proper use. He is responsible for following the relevant occupational health and safety / operational safety regulations as well as adequate training of the operating staff.
5. In a responsible manner, the customer's planners, coupling operators or purchasers must select a suitable coupling side for the operating conditions at hand.
6. Unless stated otherwise, the technical data refer to full coupled, universal quick coupling systems.
7. The maximum permissible operating pressure of the individual components of the quick coupling system must not be exceeded.

	<b>⚠ WARNING</b>
	<p>► The maximum permissible operating pressure (e.g. of a hose connection) may be lower than the maximum permissible operating pressure of the coupled monocoupling (consult your technical consultant).</p>

### 2.1 Preferred installation






Unsuitable coupling position

Suitable coupling position

Best coupling position

Unsuitable coupling position

## 2.2 Installation / First installation

1. Prior to initial installation, the pipe and hose system must be cleaned thoroughly. Otherwise, particles may enter the coupling system after commissioning. This can lead to leakage or damage.
2. The connecting of the coupling sides must be carried out by a technician in accordance with the relevant technical rules. The customer must select a suitable connecting counterpart for the medium and for the pressure range.
3.  Before initial commissioning, the connections between the coupling sides and the customer's connecting counterparts must be tested for sufficient tightness and compressive strength.
4.  The additional instructions contained in the product manual must be followed for use under ATEX conditions.
5.  **Correct assembly/disassembly:** In order to connect the coupling sides, only the key surface which is directly attached to the connection may be used when tightening (or loosening).

"Exemplary diagram showing correct assembly/disassembly"



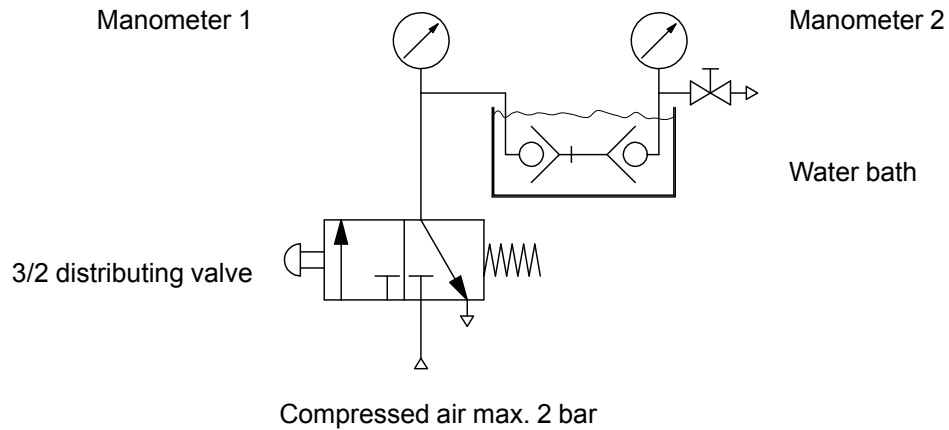
"Exemplary diagram showing incorrect assembly/disassembly"



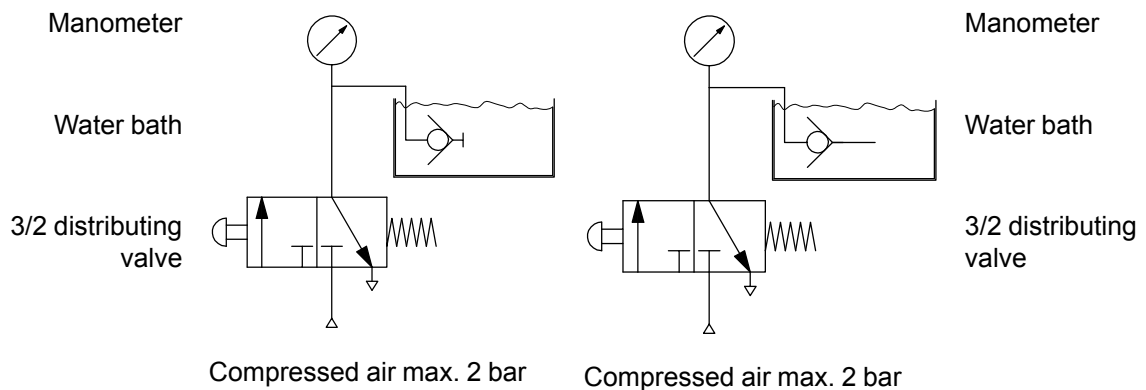
## 2.3 Test setup

### 2.3.1 Water bath bead test for applications up to 2 bar

- **coupled state** for detecting the leakage rate  $< 10^{-3}$  mbar $\cdot$ l/s



- **uncoupled state** for detecting the leakage rate  $< 10^{-3}$  mbar $\cdot$ l/s



- Compressed air 2 bar (absolute max.).  
There shouldn't be any formation of bubbles (target: bubble  $\varnothing < 4$  mm) during the holding time of 30 s.
- After the test, the fitting must be dried as quickly as possible in warm air (Recommended: 45 - 55 °C, approx. 30 min in the case of air flow, up to 2 h in the case of stationary air, depending on the device).

For the detection of lower leakage rates, we recommend helium leak detectors.

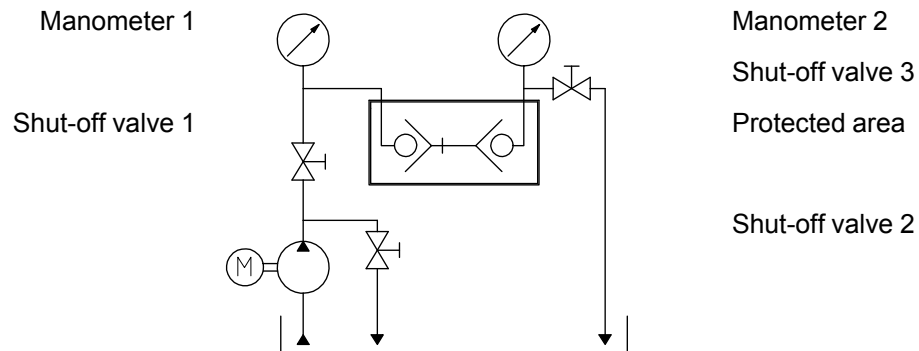
Tests must be documented with entries for the test pressure, test medium and name/date.



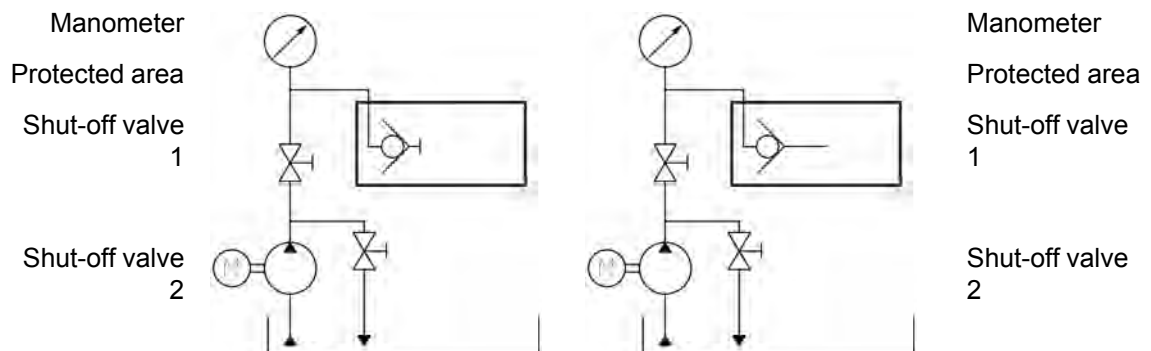
### 2.3.2 Pressure test for applications over 2 bar

Test medium: Oil for steel fittings, water for stainless steel fittings (do not test couplings with EPDM **seals** with oil),

#### - coupled state




#### - uncoupled state



- Test pressure = operating pressure x 1.3.
- After 5 minutes, either in a coupled or uncoupled state at 700 bar, the pressure drop should only be 5%.  
In the case of a test pressure over 700 bar there should only be a pressure drop of 3%. If the pressure drop is larger or if medium emerges, the valve can be considered as leaking and must not be used.  
Troubleshooting, rectification and a new test should take place.
- After the test, the fitting must be dried as quickly as possible in warm air (Recommended: 45 - 55 °C, approx. 30 min in the case of air flow, up to 2 h in the case of stationary air, depending on the device).

Tests must be documented with entries for the test pressure, test medium and name/date.

## 2.4 Connection process / Hazard warning notice

1. Unless explicitly stated otherwise, the monocouplings are designed for coupling or decoupling at room temperature by hand.
2. The coupling parts must always be cleaned before coupling. Following this, inspect the seal and mating area for any damage. Do not couple coupling parts with recognisable or known prior damage. There is a considerable risk of injury as a result of inadequate operational safety!
3.  For monocouplings with valves:  
**When coupling and uncoupling, the two lines must be free of pressure.** Otherwise, there is considerable risk of injury!  
**The installed coupling sides which are not fixed must always be securely fastened when coupling!**  
 (Exceptions: ask your technical consultant)
4. For monocouplings without valves:  
**The two lines must be free from medium when coupling and uncoupling.** Otherwise, there is a considerable hazard for the operator and the environment!  
**The installed coupling sides which are not fixed must always be securely fastened when coupling!**  
 (Exceptions: ask your technical consultant)
5. Always check for correct coupling after the coupling process! The locking element must be securely locked in the locked end position.  
 This means that the outer sliding sleeve must be in the advanced end position (light shaking or pulling test).  
 The bayonet and screw locks must be moved as far as they will go or until they snap into place.
6. In the coupled state, no tensile or transverse forces, bending moments, torsions or vibrations should be applied to the monocoupling.  
 Any electrical cables and hoses which are part of the scope of delivery must not be subjected to alternating bending stress during operation.  
 (Exceptions: ask your technical consultant)
7. Monocouplings, which are used to pass cold or hot media streams, must not be touched without personal safety equipment. Upper and lower temperature limits apply to the medium flowing through as well as the surrounding temperature (ask your technical consultant).
8. Please contact your technical consultant for further questions regarding the coupling process.

## 2.5 Operation, Care, Maintenance, Storage, Warranty

1. The media stream should be free of dirt. This can be build up inside the monocoupling and thus impair its function.
2. Careful handling of the coupling parts increases their service life. Depending on the medium/application, the operator uses a suitable, non-resin grease for regularly lubricating the seal and mating area.
3. Unused monocouplings must be stored in a dry place, protected from the light.  
 Warning: Seals lose their properties with environmental impact. Contact your technical consultant for further details.
4. The monocoupling must be checked regularly for tightness and functionality (coupled/ uncoupled). The test interval depends on the operating conditions and is determined by the customer/operator.

5. Seals, electrical contacts and spring elements are subject to wear and tear. They must be properly maintained. These parts which are subject to wear and tear are excluded from any warranty claims. This also applies to parts which are subject to unnatural wear and tear due to unusual environmental or media conditions.
6. Any repairs should be carried out professionally in our factory.  
(for this, please use our returns form which is available at [www.walther-praezision.de](http://www.walther-praezision.de)).
7. We expressly point out that we do not accept any guarantee or liability for the use of (spare) parts or combinations of quick coupling systems with (spare) parts from other manufacturers.
8. The monocoupling must be disposed of in an environmentally friendly manner in accordance with the legal requirements.
9. WALTHER-PRÄZISION assumes no liability whatsoever for damage to persons and property as well as other disturbances and impairments as a result of not following the operating instructions, incorrect product selection, improper use or lack of maintenance  
(in addition, see our General Terms and Conditions at [www.walther-praezision.de](http://www.walther-praezision.de)).

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