

EN

# Quick Connectors 3K

## Operating and Installation Instructions

# Contents

<b>1 General information</b>	<b>3</b>
1.1 Introduction	3
1.2 Warnings	3
1.3 Special Hazards	3
1.4 General Safety Instructions	3
1.5 Designated Use	3
1.6 Reasonably Foreseeable Misuse	3
<b>2 Manufacturer's Specification</b>	<b>4</b>
2.1 Description	4
2.2 Transport and Storage	4
<b>3 Technical Data</b>	<b>4</b>
3.1 Dimensions	4
3.2 Operating Medium	4
3.3 Pressure Guide	4
3.4 Types	4
<b>4 Assembly and Operation</b>	<b>5</b>
4.1 Assembly Instructions	5
4.2 Tools Required	5
4.3 Coupling the Quick Connector	5
4.4 Decoupling the Quick Connector	5
4.5 Fastening Options	5
<b>5 Commissioning</b>	<b>5</b>
5.1 Precondition for Commissioning	5
<b>6 Maintenance</b>	<b>5</b>
<b>7 Disposal</b>	<b>5</b>
<b>8 Return Delivery</b>	<b>5</b>
<b>9 Troubleshooting / Fault Rectification</b>	<b>6</b>
<b>10 Manufacturer's Declaration</b>	<b>6</b>
<b>11 Contact</b>	<b>6</b>






## 1. General information

### 1.1 Introduction

- These instructions apply to series 3K quick connectors, also referred to below as quick connectors.
- Read the instructions completely before using our products to prevent injuries, material damage and malfunctions!
- Save the instructions for later reference.
- All rights including copyright and industrial property rights are explicitly reserved.

### 1.2 Warnings

- Warnings are always identified by a signal word. The following signal words or hazard levels are used:

 Danger	<b>Danger:</b> Failure to follow instructions will lead to serious injuries or death. High risk level of endangerment.
 Warning	<b>Warning:</b> Failure to follow instructions may lead to serious injuries or death. Moderate risk level of endangerment.
 Caution	<b>Caution:</b> May lead to slight or moderate injuries. Low risk level of endangerment.
 Note	<b>Note:</b> Refers to an instruction that must absolutely be followed.
 Information	<b>Information:</b> Gives useful tips and recommendations..

### 1.3 Special Hazards

- It must be ensured that the connector is resistant for the media and temperatures that will be used. The resistance of the connector with aggressive media depends in individual cases on many variables (such as the temperature, concentration ratio of the medium, material, environment, tube material etc.). The person ordering the connector is responsible for checking for the specific application. In case of doubt install the connector on a trial basis.
- Always comply with the safety data sheets or the safety requirements for the media you are using!
- Before removing the connector it must be ensured that there is no more medium in the flexible tube system and the pressure has completely dissipated. Exercise caution for toxic, corrosive or hot media residue flowing out of the line or remaining in dead spaces.

### 1.4 General Safety Instructions

- The connector must be properly connected to the flexible tube system.
- Before installing the connector make certain that external mechanical effects such as thrust and bending forces are not acting on the flexible tube system.
- Installation, commissioning, operation, installation, maintenance, troubleshooting and disassembly must only be performed by qualified specialists with due consideration of accident prevention regulations. Personnel must be capable based on their technical training and experience of performing assembly tasks, following technical specifications and recognizing possible dangers.
- Personnel with deficient knowledge must be trained and instructed.
- Areas of responsibility and responsibilities must be precisely regulated and personnel must be monitored.

These safety instructions do not take into consideration any:

- Coincidences and events that could occur at the customer location during assembly, operation and maintenance.
- Local safety requirements, for which the operating company is responsible to ensure compliance, including assembly personnel who are used.

### 1.5 Designated Use

- The connector must only be operated within the permitted usage ranges for pressure and temperature.
- Only the operating media named in the documentation are permitted to flow through the connector.
- The connector must only be operated if it is in flawless technical condition.
- The connector must not be operated if it is in partially assembled condition.
- If other operating modes are not named in the documentation, they must be approved with the manufacturer.

### 1.6 Reasonably Foreseeable Misuse

- Any usage other than designated use.
- Do not make any modifications to the product by yourself!
- Components should only be retrofitted after consultation with the manufacturer.

## 2 Manufacturer's Specification

### 2.1 Description

- These instructions apply to series 3K quick connectors, hereinafter also referred to as quick connectors.
- Read the instructions completely before using our products to avoid injuries, material damage and malfunctions!
- File or save the instructions for future reference.
- All rights such as copyrights or industrial property rights are expressly reserved.

### 2.2 Transport and Storage

- The connector must be protected against mechanical damage, moisture, dirt and dust. The storage temperature range is 10 – 40°C.
- Avoid UV radiation and direct sunlight.
- Leave the connector in its original packaging to ensure the best possible protection.
- Dispose of the packaging material according to disposal requirements/environmental protection regulations.



Warning

## 3 Technical Data

### 3.1 Dimensions



The exact dimensions of the quick connector can be found on our homepage under the following link: [www.em-technik.com](http://www.em-technik.com)

Special sizes can be asked via [info@em-technik.com](mailto:info@em-technik.com)

### 3.2 Operating Medium

- Gaseous and liquid media that do not negatively affect the physical and chemical properties of the relevant housing and sealing material.
- If you have questions about resistance please contact **emtechnik**.
- For the maximum permitted operating pressure/temperature see the pressure guide.

### 3.3 Pressure Guide

As the temperature rises, the effectiveness of the connector falls, as shown by this table.

Material	PVDF	PFA
Pressure Stage	PN 8	PN 6
-40°C	75%	75%
-20°C	100%	100%
5°C	100%	100%
20°C	100%	100%
30°C	80%	90%
40°C	70%	85%
50°C	60%	80%
60°C	50%	70%
70°C	45%	60%
80°C	40%	50%
90°C	35%	45%
100°C	35%	40%
110°C	30%	35%
120°C	25%	30%
130°C	25%	30%
140°C	10%	25%
150°C		20%
160°C		15%
170°C		10%
180°C		10%

### 3.4 Types

Basic Art.-Numbers	Type
3K100...	Coupling with spring made of 1.4571
3K200...	Nipple with spring made of 1.4571
3K300...	Coupling with spring made of PEEK
3K400...	Nipple with spring made of PEEK
3K500...	Coupling with spring made of Hastelloy
3K600...	Nipple with spring made of Hastelloy
3K700...	PFA Coupling with spring made of TFM1600
3K800...	PFA Nipple with spring made of TFM1600

## 4 Assembly and Operation

### 4.1 Assembly Instructions



- It must be ensured that the nipple and coupling fit together. Possible combinations are:

Kupplung	Nippel
3K100	3K200
3K300	3K400
3K500	3K600
3K700	3K800

- Ensure the suitability of the quick coupling for the ensure the suitability of the quick coupling for the respective application. The quick coupling must be suitable for the operating conditions of the hose system (medium, concentration, temperature, pressure and hose material) as well as the respective ambient conditions.
- Check the quick connector for transport damage before installation. Do not install a damaged quick connector.
- The planner, the construction company or the operator are responsible for the positioning and installation of the quick coupling. Planning errors and installation errors may impair the safe function of the quick connector and represent a considerable potential hazard.
- After installation of the quick connector, carry out a tightness and function check.



### 4.2 Tools Required

The tools required for installation and assembly are not included with delivery.

### 4.3 Coupling the Quick Connector

- The coupling and nipple are connected by simply pressing the nipple into the coupling. Make sure that the nipple is pushed in to the defined stop.
- An audible „click“ will be heard.
- Pull on the nipple to check whether the locking mechanism has engaged correctly.

### 4.4 Decoupling the Quick Connector

- To disconnect the quick connector, the sleeve of the coupling must first be pushed back (push in the opposite direction to the nipple).
- When the sleeve is at the stop, the nipple can be pulled out of the coupling and the sleeve released.
- Make sure that there is a small volume (~1cm<sup>3</sup>) between the valves during decoupling, which escapes during the process.

### 4.5 Fastening Options

For the connectors are no fastening options intended.

## 5 Commissioning

### 5.1 Precondition for Commissioning

- Protect against leaks: Take protective measures against exceeding the maximum permitted pressure due to possible pressure surges.
- Check the tightness and function of the connector.
- In new systems and after repairs, flush the line system to remove foreign materials.



## 6 Maintenance

- When used as designated, the connector is practically wear-free and generally requires no maintenance.
- The operating company must perform regular visual inspections of the connector according to the operating conditions to prevent leaks and damage.

## 7 Disposal

- When disposing of the connector and packaging, comply with the relevant disposal requirements and environmental protection regulations.
- When disposing of connector, pay careful attention to any residues of toxic or corrosive media.



## 8 Return Delivery

Do not return before consulting with **emtechnik**.



1. Please consult with **emtechnik**.
2. Empty the connector properly.
3. Rinse and clean the connector thoroughly, especially if the media is being conveyed are harmful, explosive, hot, or hazardous in some other way.
4. For connectors that have been operated with aggressive, corrosive, combustible, toxic or water polluting media, a completely filled in clearance certificate must always be included.

## 9 Troubleshooting / Fault Rectification

Error	Possible Cause	Error Rectification
Connection between thread side and system leaking	Sealing surface is damaged	Use sealant, see 4.3
Flexible tube connection is leaking	Flexible tube is not correct mounted	Mount quick connector correctly, see 4.5
No flow	Connector is blocked	Clean the connector or replace it if necessary

## 10 Manufacturer's Declaration

- Our products do not fall under the scope of the Machinery Directive 2006/42/EC. However, they can be incorporated in an installation that is considered as machinery. In this case regard the following note: The products may not be put into operation until it is made sure that the final machinery into which our products are incorporated complies with the provisions of the Machinery Directive 2006/42/EC.
- Based on the fluid class, pressure and nominal diameter, our products fall under diagram 8 of the Pressure Equipment Directive PED 2014/68/EU. Because of the ratio of nominal diameter, pressure and volume, they fall only under article 4 paragraph 3 and are designed and manufactured according to applicable good engineering practice. They must not carry any CE marking.
- The warranty of armature expires in the following cases: Operating conditions which do not follow the intended use or do not follow technical specifications. Improper installation or assembly. Just as well as inappropriate use, dismantling or modification.
- Failure to observe information provided here may lead to injuries, material damage, malfunctions and impurities due to escaping medium.



Warning

## 11 Contact

If you have questions or suggestions please contact us at:

EM-Technik GmbH	
Industriestr. 2	Tel +49 6237 407-0
67133 Maxdorf	Fax +49 6237 407-77
Germany	info@em-technik.com