

Instructions for Use

Geopress gas flow monitor type R with SC-Contur



for shutting off the flow of gas when the gas flow volume exceeds a prescribed value due to an unintended release of gas

Model
9652.1

Year built (from)
02/2005

viega

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1 About these instructions for use

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1.1 Target groups

The information in this manual is directed at utility and pipeline construction companies and their technical professionals.

Only specialist companies which can prove they are qualified in accordance with the applicable directives may be engaged for the construction of gas and potable water house service connections, see ↗ *'Regulations from section: Target groups'* on page 5.

Individuals without the abovementioned training or qualification are not permitted to mount, install and, if required, maintain this product. This restriction does not extend to possible operating instructions.

The installation of Viega products must take place in accordance with the general rules of engineering and the Viega instructions for use.

1.2 Labelling of notes

Warning and advisory texts are set aside from the remainder of the text and are labelled with the relevant pictographs.



DANGER!

This symbol warns of possible life-threatening injury.



WARNING!

This symbol warns of possible serious injury.



CAUTION!

This symbol warns of possible injury.



NOTICE!

This symbol warns of possible damage to property.



This symbol gives additional information and hints.

1.3 About this translated version

This instruction for use contains important information about the choice of product or system, assembly and commissioning as well as intended use and, if required, maintenance measures. The information about the products, their properties and application technology are based on the current standards in Europe (e.g. EN) and/or in Germany (e.g. DIN/DVGW).

Some passages in the text may refer to technical codes in Europe/Germany. These should serve as recommendations in the absence of corresponding national regulations. The relevant national laws, standards, regulations, directives and other technical provisions take priority over the German/European directives specified in this manual: The information herein is not binding for other countries and regions; as said above, they should be understood as a recommendation.

2 Product information

2.1 Standards and regulations

The following standards and regulations apply to Germany / Europe and are provided as a support feature.

Regulations from section: Target groups

Scope / Notice	Regulations applicable in Germany
Qualification of specialist companies	DVGW-Arbeitsblatt GW 301

Regulations from section: Application areas

Scope / Notice	Regulations applicable in Germany
Planning, execution, modification and operation of gas house service connections	DVGW-Arbeitsblatt G 459-1
Planning, execution, modification and operation of gas house service connections	DVFG-Arbeitsblatt TRF 2021
Planning, execution, modification and operation of gas house service connections	DVGW-Arbeitsblatt G 472
Planning, execution, modification and operation of gas house service connections	DVGW-Arbeitsblatt G 469

Regulations from section: Media

Scope / Notice	Regulations applicable in Germany
Gas characteristics	DVGW-Arbeitsblatt G 260
Liquid gases in gaseous state	DVFG-Arbeitsblatt TRF

Regulations from section: Sealing elements

Scope / Notice	Regulations applicable in Germany
Area of use of the NBR sealing element ■ Gas, including liquid gas in the gaseous state	DVGW G 260

Regulations from section: Pipes

Scope / Notice	Regulations applicable in Germany
Permitted use with piping materials in gas installations (PE-HD)	DIN 8074/75
Permitted types of pipes (PE) – gas supply	DVGW-Arbeitsblatt GW 335-A2
Types of pipe (PE) – gas supply	DIN EN 1555
Permitted types of pipes (PE-X) – gas supply	DIN 16893
Types of pipes (PE-X) – gas supply	DVGW-Arbeitsblatt GW 335-A3

Regulations from section: Technical data

Scope / Notice	Regulations applicable in Germany
Basis for the technical inspection	DVGW G 5305-2 (P)

Regulations from section: Corrosion

Scope / Notice	Regulations applicable in Germany
(Subsequent) corrosion protection for underground installation	DIN 30672

Regulations from section: Notes on mounting

Scope / Notice	Regulations applicable in Germany
Threshold values for ovalities	DIN 12201-2, Table 1

Regulations from section: Leakage test

Scope / Notice	Regulations applicable in Germany
Leakage test of gas household connection installations	DVGW-Arbeitsblatt G 459-1
Leakage test of gas household connection installations	DVGW-Arbeitsblatt G 469

2.2 Intended use



Agree the use of the model for areas of application and media other than those described with Viega.

The Viega Geopress K system can be applied at outdoor temperatures from -10 °C to 60 °C. The component temperatures of the press connectors and the press machine must not be less than -5 °C.

2.2.1 Areas of application

The gas flow monitor is suitable for use in gas house service connections. As active protection, the gas flow monitor interrupts the gas supply of the house service connection in case of accident.

Gas installation

For planning, execution, modification and operation of gas house service connections, observe the applicable regulations, see ↗ *'Regulations from section: Application areas'* on page 5.

2.2.2 Media

The model is suitable for gases in accordance with applicable DVGW guidelines, as well as for liquefied gases, only in the gaseous state, according to DVFG regulations, see ↗ *'Regulations from section: Media'* on page 5.

The max. operating pressure depends on the type of pipe used and the specific application.

Gas

- Operating pressure $p_{\max} = 1.0 \text{ MPa}$ (10 bar)
(with open gas flow monitor)

The maximum load of the closed gas flow monitor is 0.6 MPa (6 bar).

2.3 Product description

2.3.1 Overview

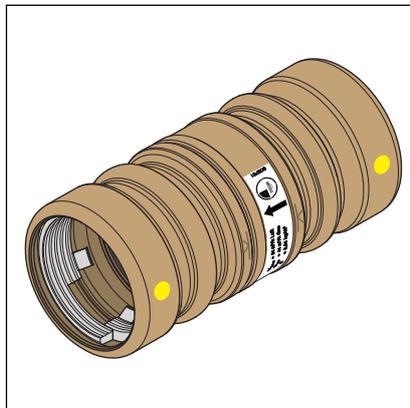


Fig. 1: 9652.1

The model is available in the following dimensions: d 32 / 40 / 50 / 63.

2.3.2 Pipes

Permitted types of pipes – gas supply

Type of pipe ²⁾	Pipe series SDR	MOP
PE 80	17.0 ¹⁾	0.1 MPa (1 bar)
PE 80	11.0	0.4 MPa (4 bar)
PE 100	17.0 ^{1) 2)}	0.4 MPa (4 bar)
PE 100	11.0	1.0 MPa (10 bar)
PE-X	11.0	0.8 MPa (8 bar)

¹⁾ PE-80/100/100RC pipelines of pipe series SDR 17 must only be used for a nominal width of ≥ 75 mm or greater.

²⁾ see ↗ 'Regulations from section: Pipes' on page 6



NOTICE!

When using protective jacket pipe, remove the protective jacket according to the manufacturer's instructions.

2.3.3 Press connectors

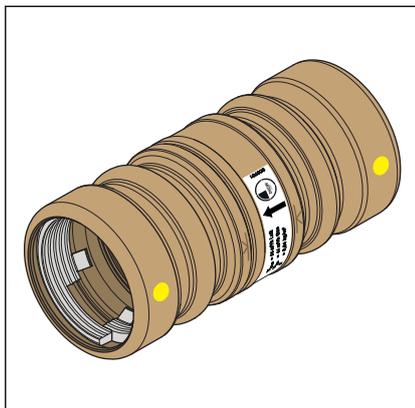


Fig. 2: 9652.1

The gas flow monitor is integrated into a Geopress press connector. The press connector can be directly pressed onto the pipe. Use is only permitted in conjunction with a gunmetal support sleeve, model 9605.

SC-Contur

Viega press connectors are equipped with the SC-Contur. The SC-Contur is a safety technology that is certified by the DVGW and ensures that the press connector is guaranteed to be leaky in an unpressed state. In this way, inadvertently unpressed connections are noticed during a leakage test.

Viega guarantees that unpressed connections become visible during a leakage test:

- with dry leakage test in the pressure range from 22 hPa–0.3 MPa (22 mbar–3.0 bar)

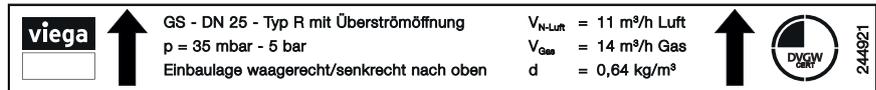
2.3.4 Sealing elements

The press connectors are factory-fitted with NBR sealing elements. These sealing elements are suitable for use in the supply of gas:

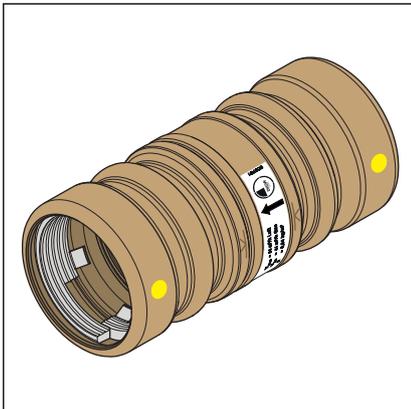
Area of application	Gas
Operating temperature [T_{max}]	—
Operating pressure [P_{max}]	1.0 MPa (10 bar)
Comments	in accordance with the applicable regulations incl. liquid gas in the gaseous phase ¹⁾ Only with use of the support sleeve made of gunmetal/silicon bronze (model 9605)

¹⁾ see ↗ 'Regulations from section: Sealing elements' on page 6

2.3.5 Markings on components



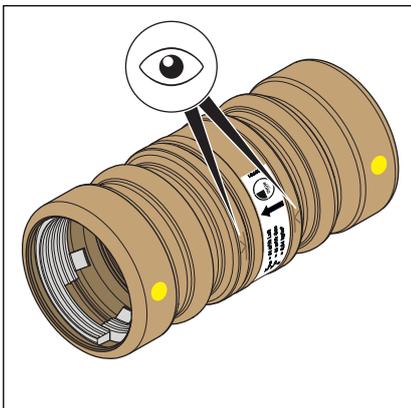
A sticker with the specifications is applied to the gas flow monitor. The installation direction is shown by an arrow. The installation direction must be observed to ensure the functionality of the gas flow monitor.



The yellow dot shows that the press connector is equipped with the SC-Contur and that the connector is suitable for gas.

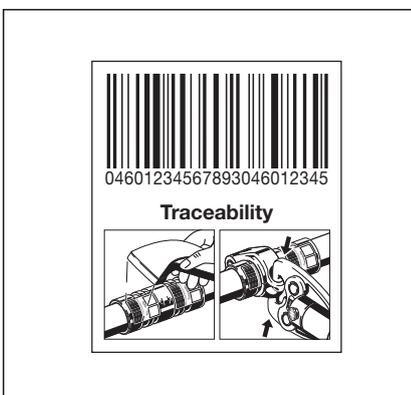
The model is marked with an arrow, which shows the direction of flow of the gas. This installation direction must be observed to ensure the functionality of the gas flow monitor.

Fig. 3: Marking



Geopress press connectors are marked with an indicator to determine the insertion depth.

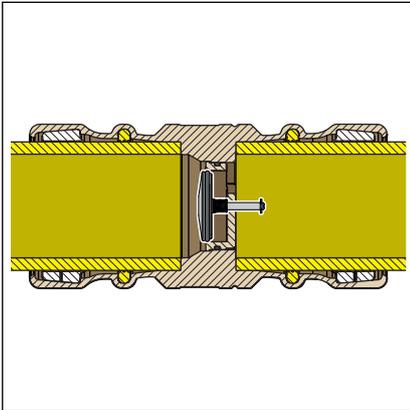
Fig. 4: Marking of the insertion depth



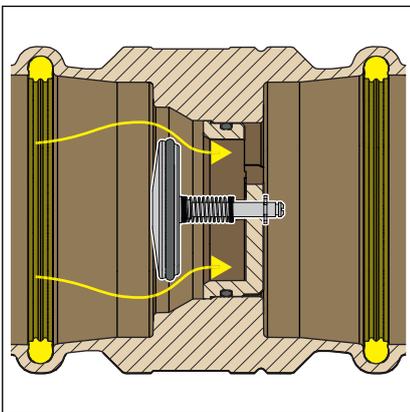
The position of newly laid pipes and connection lines, including detailed information about pipeline parts, must be documented and regularly updated. The traceability code on the press connector allows every press connector to be traced back and simplifies the documentation in as-completed drawings. The sticker with the traceability code is removed after pressing and shows the pressing has taken place.

2.3.6 Operating mode

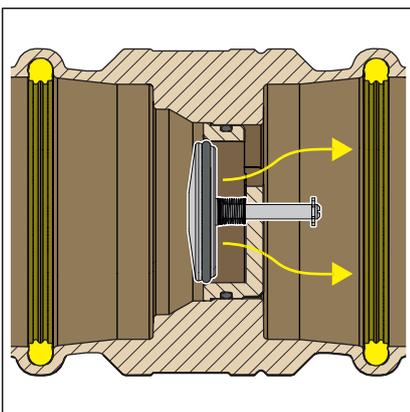
Gas flow monitor (GFM)



Geopress gas flow monitors are flow-activated fittings and serve as an active protective measure against the escape of gas in the case of a damaged gas house service connection.



- The gas flow monitor consists of a closing plate, which is held open during intended operation use by a spring force determined by type. The gas flow monitor therefore has a defined flow direction.
- In the case of a fault, the flow volume and the pressure behind the gas flow monitor change so that the spring force is no longer sufficient to hold the GFM open. The closing plate sits in its valve seat and closes the pipe. A further release of gas is prevented.
- The gas flow monitor is equipped with an overflow opening. It therefore opens automatically after a fault has been repaired. The opening process can be accelerated by the creation of counter pressure.



2.3.7 Technical data

GeopressGas flow monitors comply with the technical test regulation in accordance with the applicable regulations, see ↪ *Chapter 2.1 'Standards and regulations'* on page 5.

Operating pressure range GFM type R

Operating pressure range and building requirement	Place of installation	Construction size
0.0035–0.5 MPa (0.035–5 bar) DN related $\Delta p \leq 5.25$ hPa (5.25 mbar) Overflow volume \leq 30 dm ³ /h with 0.1 MPa (1 bar)	Beginning HSC	up to DN 50 [d _a 63]

In its delivery state, the gas flow monitor is preset for the operating pressure range of the respective type. On-site setting is not necessary.

Flow and pressure loss values GFM type R

Nominal width [DN]	Nominal volume flow [m ³ /h air]	Nominal volume flow [m ³ /h gas]	Δp
25 [d _a 32]	11	14	2.10 hPa (2.10 mbar)
32 [d _a 40]	16	21	2.10 hPa (2.10 mbar)
40 [d _a 50]	24	31	2.50 hPa (2.50 mbar)
50 [d _a 63]	34	44	2.50 hPa (2.50 mbar)

Guide values for the protectable pipe length

Pipe length which can be protected when a gas flow monitor pursuant to the applicable regulations is used, see [Chapter 2.1 'Standards and regulations'](#) on page 5.

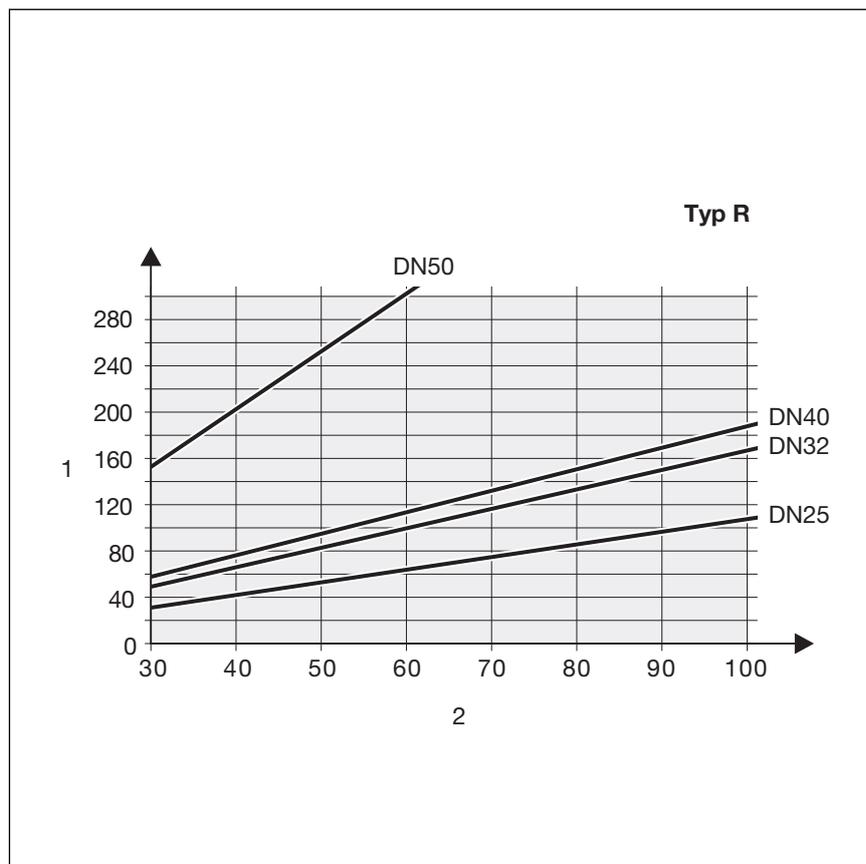


Fig. 5: Guide values for resistance coefficient $\zeta=10$ for the tapping valve and the main shut-off device

- 1 - Length (m)
- 2 - Mains system pressure (hPa)

2.4 Information for use

2.4.1 Corrosion

Due to a lower probability of corrosion in the case of laying in the ground and in contact with ground and surface waters with pH-values between 6 and 8, corrosion protection is not required. Soils containing ammoniac require corrosion protection in acc. with pertinent guidelines, see ↪ 'Regulations from section: Corrosion' on page 6.

3 Handling

3.1 Transport



Leave the gas flow monitor in the original packaging until use so that sensitive components do not become contaminated.

3.2 Storage



Leave the gas flow monitor in the original packaging until use so that sensitive components do not become contaminated.

3.3 Assembly information

3.3.1 Mounting instructions



NOTICE!

The press connector system can be processed at outside temperatures from -10 °C to 60°C. The component temperatures of the press connectors and the press machine must not be less than -5 °C.

Geopress G gas flow monitor:

- Install in the immediate vicinity of the tapping valve.
- Check that the gas flow monitor is suitably designed for the application before installing.
- Observe installation direction.
- Excessive use of lubricants can impair the function.

Checking system components

System components may, in some cases, have become damaged through transportation and storage.

- Check all parts.
- Replace damaged components.
- Do not repair damaged components.

Pipes must be visually inspected for the following damage before installation:

- Ovalities: threshold values must not be exceeded, see [↗ 'Regulations from section: Notes on mounting' on page 6.](#)
- Dents
- Cracks
- Grooves on the exterior (maximum depth 10 % of nominal wall thickness)
- damaged pipe ends

Only process the sections of the pipes, which do not exhibit these features.

Check scope of delivery

The following components must be included:

- Gas flow monitor
- Sticker "Specifications"
- Information sign "Main shut-off device"
- Cable tie

3.3.2 Required tools

The following tools are required for mounting the gas flow monitor:

- pipe cutter, pipe shear or saw
- deburrer and coloured pen for marking
- Battery-powered press machine
- hinged adapter jaw model 2296.2
 - Z2 with 32–63 mm diameter
- Press ring model 9696.1

Follow the care instructions for the pressing machine, see *Care instructions*.



Viega recommends the use of Viega system tools when installing the press fittings.

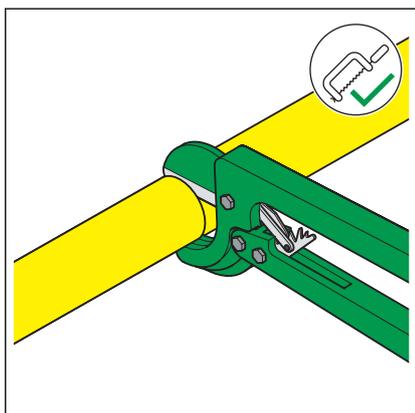
The Viega system press tools have been developed and tailored specifically for the installation of Viega press connector systems.

For information on how to combine Viega press machines with systems and accessories, refer to *Viega Tool Assistant*.

3.4 Assembly

3.4.1 Shortening the pipes

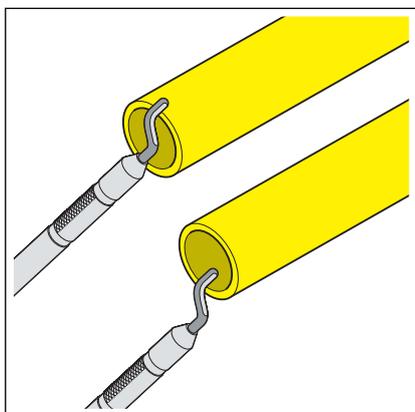
For information about tools, also see [Chapter 3.3.2 'Required tools'](#) on page 15.



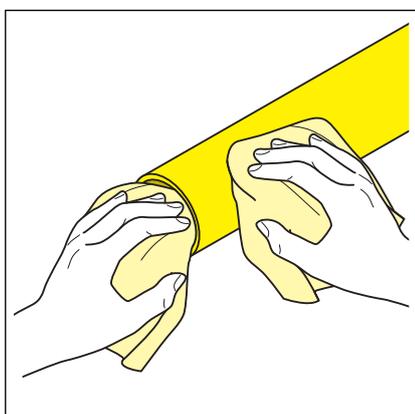
- Cut the pipe to length at right-angles using a pipe shear, pipe cutter or saw.

3.4.2 Deburring the pipes

The pipe ends must be thoroughly deburred internally and externally if shortened using a saw.



- Deburr the inside and outside of the pipe.
- When using protective jacket pipe, remove the protective jacket according to the manufacturer's instructions.

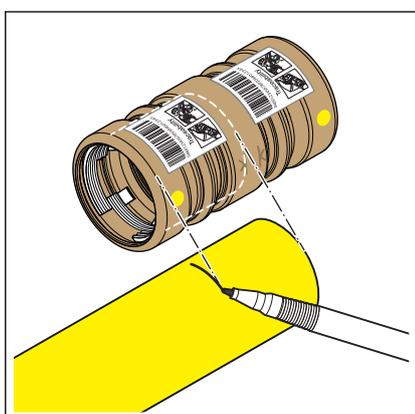
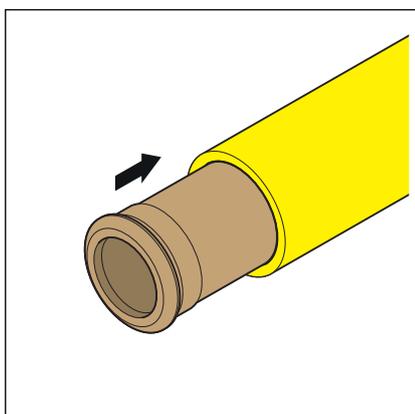


- Clean the pipe.

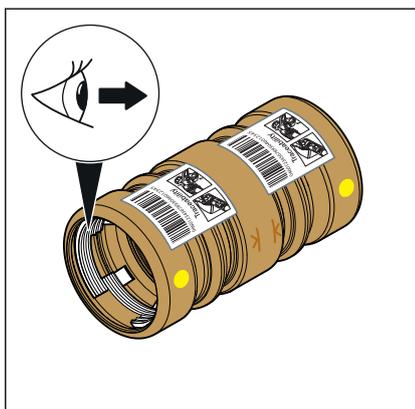
3.4.3 Pressing the connection

Requirements:

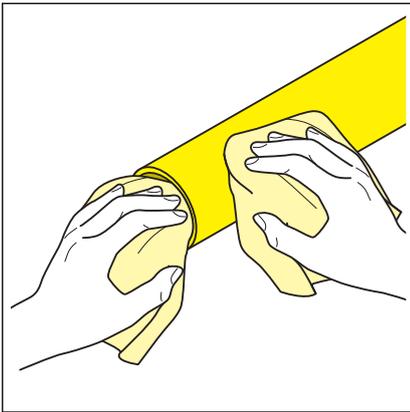
- The pipe end is not bent or damaged.
- The pipe is deburred.
- When using the protective coating tube, the protective coating is removed.
- The gas flow monitor is suitably rated for the project.
- The place of installation is close to the tapping valve.
- The sealing element and clamping ring are undamaged.
- Do not remove the press connector from the bag until immediately before mounting.
- Insert the support sleeve made of gunmetal/silicon bronze, model 9605.



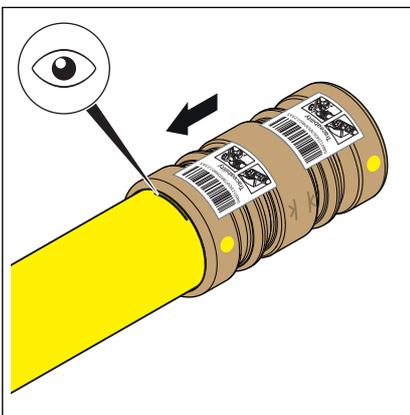
- Mark the insertion depth with the help of the marking on the press connector.



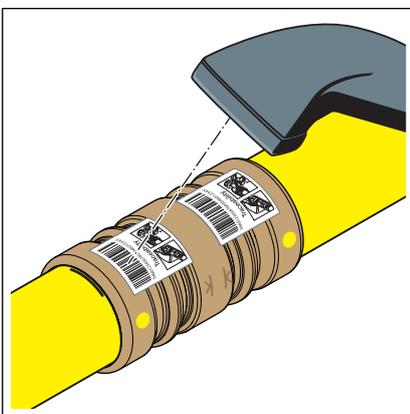
- Ensure that the sealing element is properly positioned.



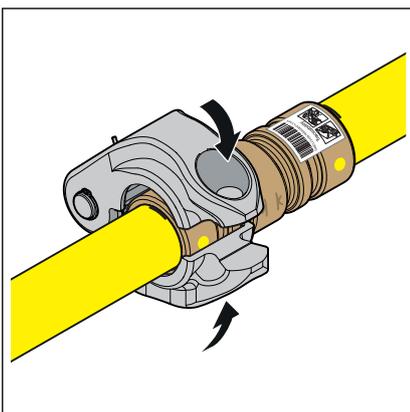
- Clean the pipe surface with a damp cloth.



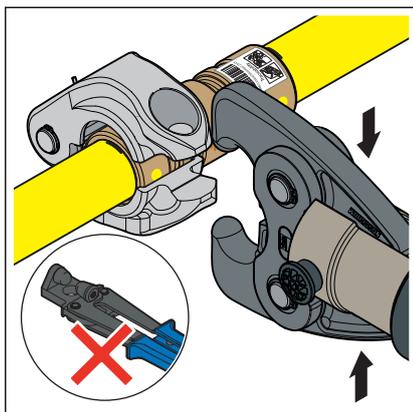
- Push the press connector up to the marked insertion depth on the pipe.
- Avoid contamination of the sealing element.



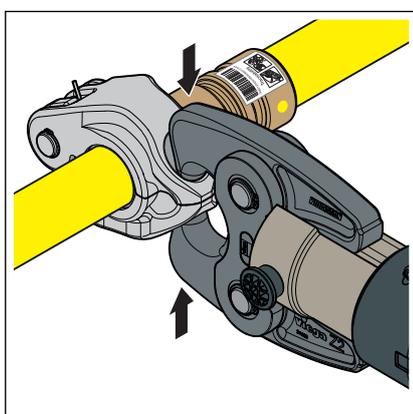
- Scan in the traceability code.



- Open the press ring and place it onto the press connector.



- Open the hinged adapter jaw and latch it into the holding fixture of the press ring.

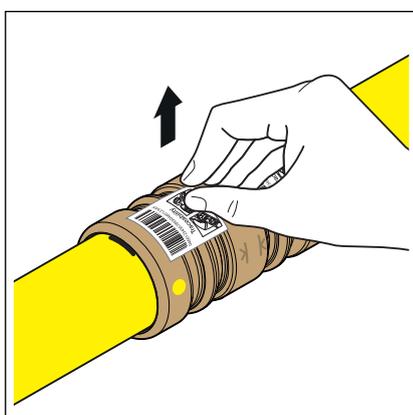


- Check the insertion depth.
- Carry out the pressing.

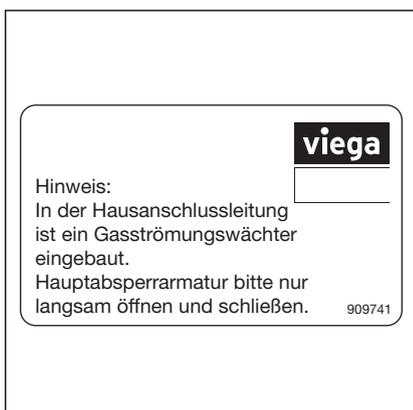
NOTICE!

The press ring must close completely during pressing.

- Make sure there is adequate space at the pressing point.
- Keep the press jaw contour and the area around the pressing point clean.



- Remove the traceability code.
 - The connection is marked as having been pressed.



- Attach the information sign to the main shut-off device.

3.4.4 Leakage test

Perform a leakage test according to the applicable regulations before commissioning the connection line, see ↗ *'Regulations from section: Leakage test'* on page 7.

Carry out the test on a house service connection that is finished but not yet covered. The result of the leakage test must be documented as proof of the safety of the pipeline.



- The testing air must flow in slowly upstream to the gas flow monitor so that it does not close.
- Testing opened gas flow monitors with air is permitted up to a maximum pressure of 1.0 MPa (10 bar).
- The closed gas flow monitor may only be subjected to pressures of a maximum of 0.6 MPa (6 bar).

3.5 Disposal

Separate the product and packaging materials (e. g. paper, metal, plastic or non-ferrous metals) and dispose of in accordance with valid national legal requirements.



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