Geopress gas flow monitor type A / D with SC-Contur without overflow opening

Instructions for Use

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

Model
9653.3

en_INT

Table of contents

1 About these instructions for use

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 acc. with DVGW Worksheet GW 301 "Qualification criteria for pipeline construction companies" may be engaged for the construction of gas and drinking water service connection pipelines.

It is not permitted for individuals without the abovementioned training or qualification to mount, install and, if required, service 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 against possible life-threatening injury.

WARNING!
This symbol warns against possible serious injury.

CAUTION!
This symbol warns against possible injury.

NOTICE!
This symbol warns against possible damage to property.

Notes give you additional helpful tips.

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 pertinent national laws, standards, regulations and guidelines, as well as other technical guidelines, have priority over German/European guidelines in this manual: The information is not binding for other countries and territories and should, as mentioned, be considered as support.

2 Product information

2.1 Intended use

The use of the model for areas of use and media other than those described must be approved by the Viega Service Center.

2.1.1 Areas of use

The gas flow monitor is suitable for use in gas house service connections. It takes the active step of interrupting the gas supply of the house service connection in the case of average.

Gas installation

The general rules of engineering must be observed for the planning, execution, alteration and operation of gas house service connection pipelines.

The following regulations apply:

- DVGW Worksheet G 459-1 *"Gas house service connections"*
- DVGW Worksheet G 459-1-B *"Supplementary sheet to DVGW Worksheet G 459-1 Gas house service connections"*
- DVGW Worksheet G 472 *"Polyethylene gas pipelines up to 10 bar"*
- DVGW Worksheet G 469 *"Pressure testing methods gas transmission/gas distribution"*

2.1.2 Media

The model is suitable for gases in acc. with DVGW Worksheet G 260 *"Gas quality"* (however not for liquid gas in the gaseous phase).

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

Gas

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

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

2.2 Product description

2.2.1 Overview

Fig. 1: 9653.3

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

*Delivery only from delivery inventory.

2.2.2 Pipes

The gas flow monitor can be used with the following pipes:

d [mm]	PE-HD DIN 8074, DIN 8075 SDR 7.4 / SDR 11	PE-X DIN 16893, DIN 16892 SDR 7.4 / SDR 11
32	✓	✓
63	✓	✓

2.2.3 Press connectors

Fig. 2: 9653.3

The gas flow monitor is integrated into a Geopress press connector. This can be directly pressed onto the pipe. Protective sleeves used must be suitable for the SDR class.

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 connection is guaranteed to be leaky in an unpressed state. In this way, inadvertently unpressed connections are noticed immediately during a leakage test.

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

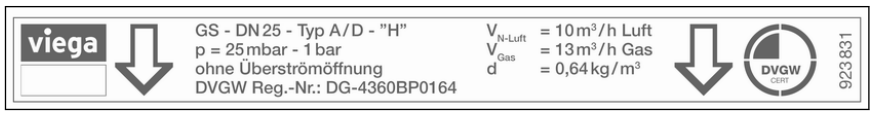
- with dry leakage test in the pressure range from 22 hPa–0.3 MPa (22 mbar–3.0 bar)

2.2.4 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 use	Gas
Operating temperature [$T_{max.}$]	—
Operating pressure [P_{max}]	1.0 MPa (10 bar)
Comments:	in acc. with DVGW G 260 incl. liquid gas in the gaseous phase only with use of the support sleeve made of gunmetal (model 9605)

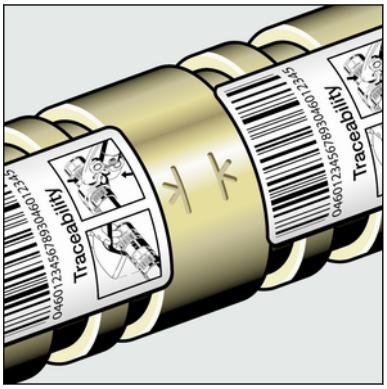
2.2.5 Markings on components



A sticker with the specifications is applied to the gas flow monitor. The installation direction is shown by an arrow. This 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 drinking 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.



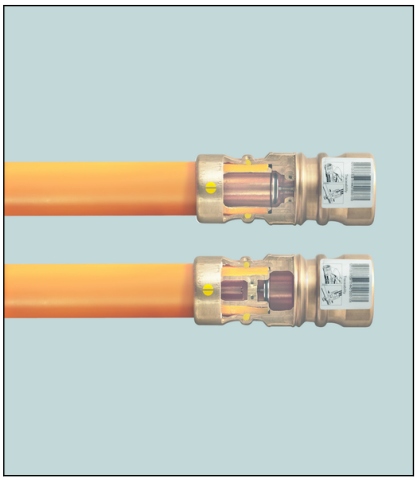
Geopress press connectors are marked with an indicator to determine the insertion depth.

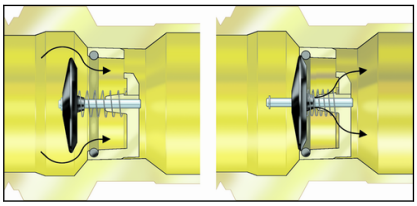
The position of newly laid pipes and connection pipelines, including detailed information about pipeline parts, must be documented and regularly updated. The traceability code on the connector allows every connector to be traced back and simplifies the documentation in as-completed drawings. The sticker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

2.2.6 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 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 does not have an overflow opening. It does not open automatically after a fault has been repaired. Opening occurs through the creation of counter pressure from the house side.

2.2.7 Technical data

Geopress gas flow monitors comply with the technical test regulation DVGW G 5305-2 (P).

Operating pressure range GFM type A/D

Operating pressure range and building requirement	Place of installation	Construction size
0.0025–0.1 MPa (0.025–1 bar) DN related $\Delta p \leq 2.5$ hPa (2.5 mbar)	Beginning HSC	up to DN 50 [d_a63]

Flow and pressure loss values GFM type A/D

Nominal width [DN]	V_n[m³/h air]	V_n[m³/h gas]	Δp
25 [d_a32]	10	13	2.00 hPa (2.00 mbar)
50 [d_a63]	31	40	2.40 hPa (2.40 mbar)

In its delivery condition, the gas flow monitor is pre-set for the operating pressure of the respective type. On-site setting is not necessary.

Guide values for the protectable pipe length

Protectable pipe length with use of a gas flow monitor in acc. with DVGW G 5305-2 (P) "Gas flow monitors for house service connections".

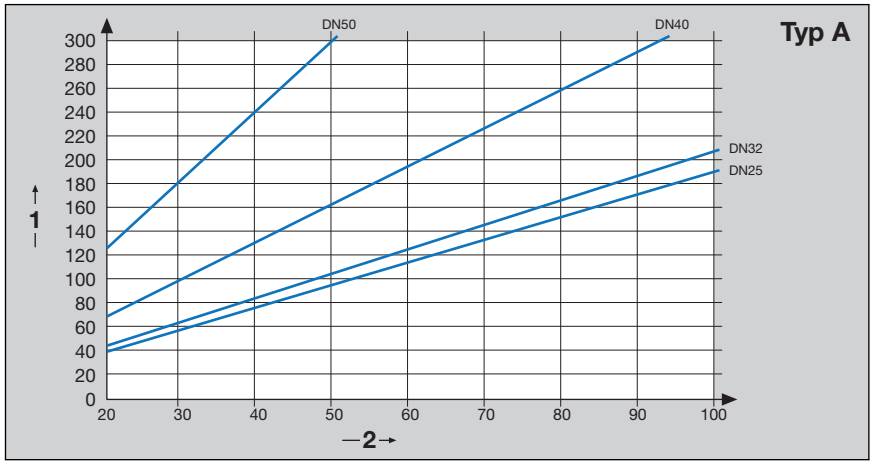


Fig. 3: Guide values for resistance coefficient ζ=10 for the tapping valve and the main shut-off system

1 - length (m)
2 - mains system pressure (hPa)

2.3 Information for use

2.3.1 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 measures are not required. Soils containing ammoniac require corrosion protection in acc. with DIN 30672.

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

Geopress gas flow monitor:

- Installation must take place in the immediate vicinity of the tapping valve.
- only horizontal installation position
- Check that the gas flow monitor is suitably designed for the application before installing.
- Observe installation direction.

check system components

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

- Ovalities (threshold values in acc. with Table 1 DIN 12201-2 must not be exceeded)
- Dents
- Cracks
- Grooves (maximum depth 10 % of nominal wall thickness)
- damaged pipe ends

Only process pipes in places where these features are not exhibited.

Check scope of delivery

The following components must be included:

- Gas flow monitor
- Sticker "Specifications"
- Information sign "Main shut-off equipment"
- cable tie

3.3.2 Required tools

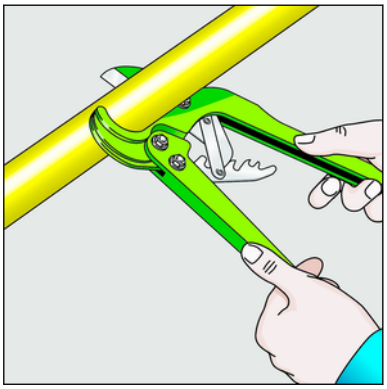
The following tools are required for mounting the gas flow monitor:

- 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

3.4 Assembly

3.4.1 Shortening the pipes

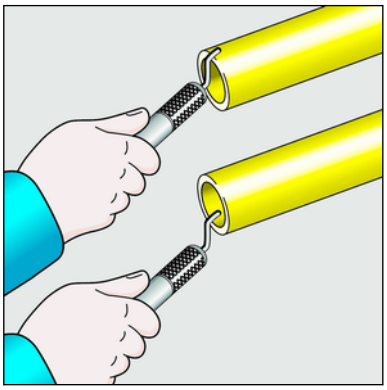
See *Chapter 3.3.2 „Required tools“ on page 13* for information about tools.



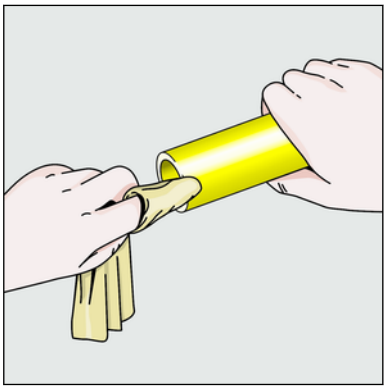
- Cut the pipe to length properly using a pipe shear, pipe cutter or saw.

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.

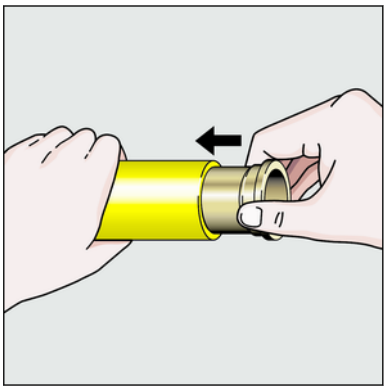


- Clean pipe

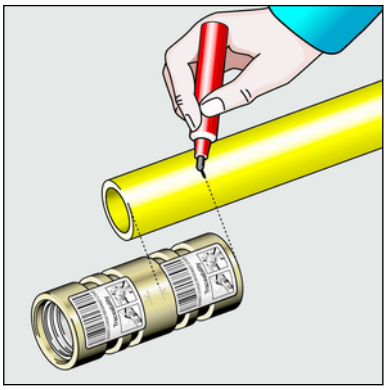
3.4.3 Pressing the connection

Requirements:

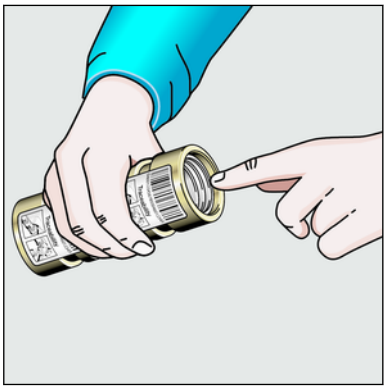
- The pipe end is not bent or damaged.
- The pipe is deburred.
- The gas flow monitor is suitably configured for the project.
- The place of installation is close to the tapping valve.
- Sealing element and clamping ring are undamaged.



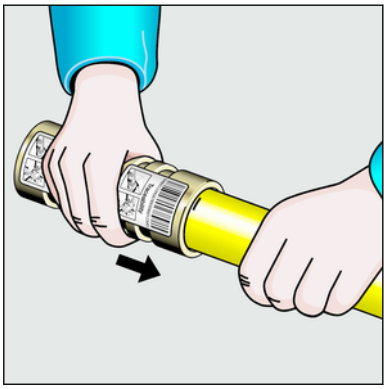
- Insert support sleeve made of gunmetal.



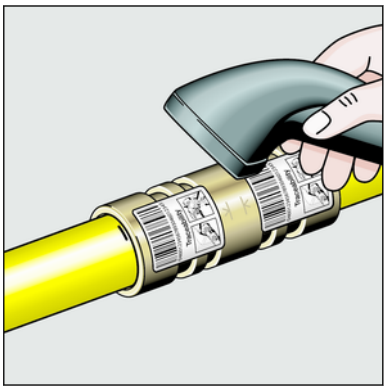
- Mark the insertion depth with the help of the marking on the press connector.



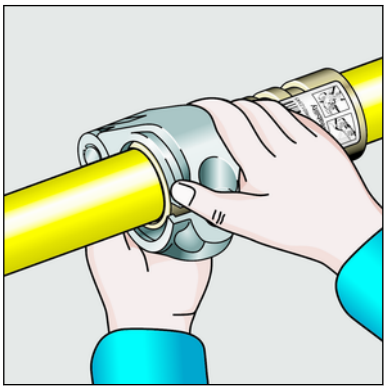
- Ensure that the sealing element is properly fitted.



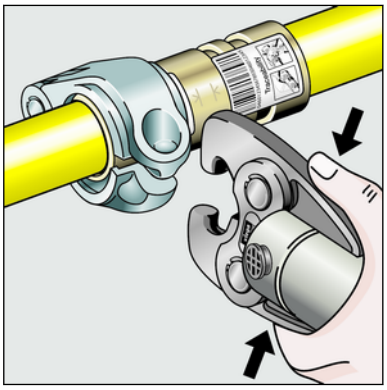
- Push the press connector up to the marked insertion depth on the pipe.



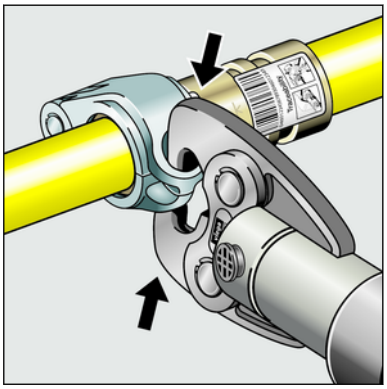
- Scan in traceability code.



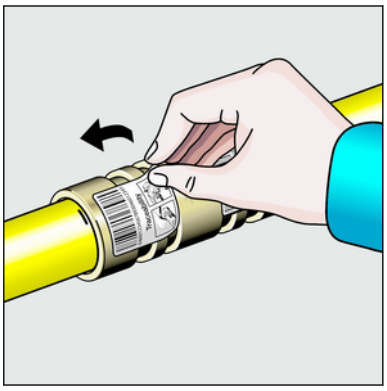
- Open press ring and place onto the press connector.



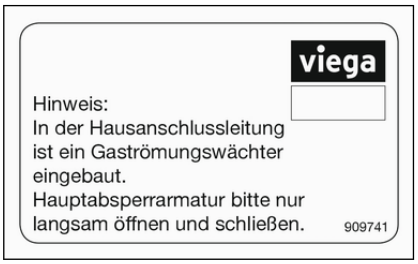
- Open the hinged adapter jaw and place in the recess of the press ring.



- Check insertion depth.
- Carry out pressing.



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



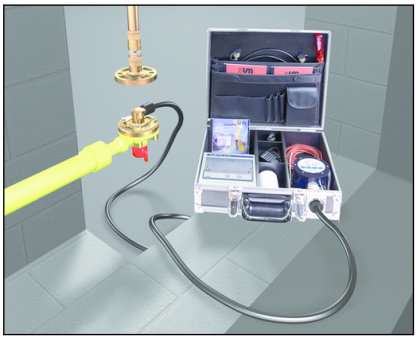
- Attach information sign "Main shut-off equipment" to the main shut-off equipment

3.4.4 Leakage test

A leakage test must be carried out in acc. with the following guidelines before commissioning of the connection pipeline takes place:

- DVGW Worksheet G 459-1
- DVGW Worksheet G 469

This test is carried out 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 downstream from the gas flow monitor so that it does not close.
- Testing open 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.