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Product Information

Pipelife Gas-Stop™

Enhanced safety in gas distribution

PIPELIFE

Product Information Pipelife Gas-Stop™ 5.2009/01,5
All technical information is subject to possible modifications to the products for the purpose of technical improvements. Our General Terms of Contract and Delivery apply to contracts.

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new

Content

Pipelife Gas-Stop™ for Gas Service Lines

Pipelife Gas-Stop™ for Gas Distribution Lines

Pipelife Gas-Stop™
Excess Flow Valve for Gas Service Lines

Enhanced Safety

One of the most frequent causes of gas leaks is damage to service lines during the course of excavation work. Manipulations or improper handling inside buildings – in the area up to the shut-off device or the pressure regulator – have also led to accidents. In addition to this natural events, such as e.g. earthquakes, can lead to the destruction of gas pipes.

The installation of Pipelife Gas-Stop™ Excess Flow Valves, developed in 1991 in close cooperation with gas supply companies, prevents these leaks and contributes towards avoiding accidents.

In the meantime the use of excess flow valves in gas service lines is regarded as the state of technology in many countries. Several million Pipelife Gas-Stop™ units ensure for enhanced safety in gas supply networks.

Function – Main Features

The function of the Pipelife Gas-Stop™ is characterized by two main features:

- In the event of damage to the pipe installation from the main line up to the pressure regulator – e.g. due to excavator work – **the Pipelife Gas-Stop™ units integrated in the system close** automatically and in fractions of a second, as soon as the defined limit for flow rate is exceeded.
- In contrast to this, in all cases the Pipelife Gas-Stop™ remains **secured in the open position** during normal operation, i.e. at the defined maximum nominal consumption of the gas customers. Faults in normal operation are excluded.

The protective function of Pipelife Gas-Stop™ extends from the distribution pipe up to the main shut-off mechanism or pressure regulator in the building

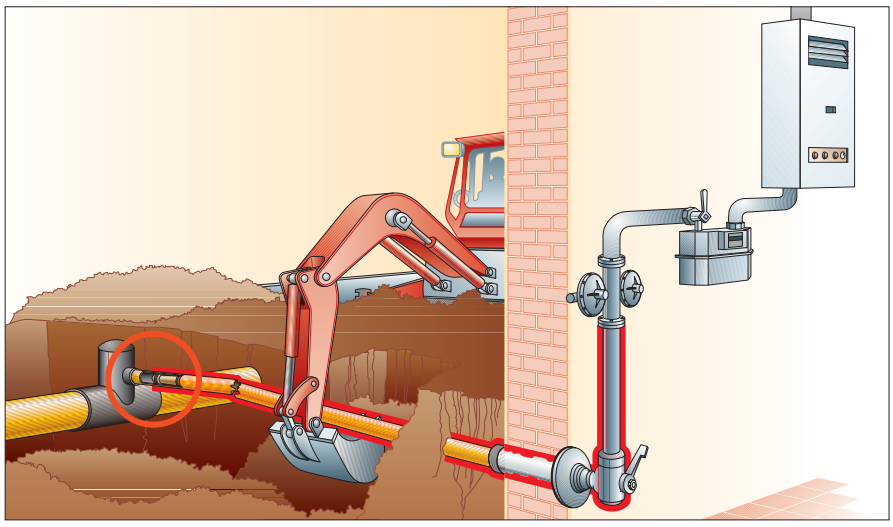


Fig. 1

Practical Experience

Pipelife Gas-Stop™ has been used by gas supply companies throughout the world since 1992. Gas leaks have been prevented in ten thousand cases after damage to service lines. The many years of practical experience underscores in particular three essential **benefits of the Pipelife Gas-Stop™ safety device:**

- A clear plus in safety through the prevention of gas leaks.
- No escape of gas immediately after the occurrence of damage until arrival of the service team and shut-off of the line. The risk of accident on-site is thereby eliminated.
- The elimination of gas leaks often requires spectacular operations in public. Damage to service lines secured with Pipelife Gas-Stop™ units requires no such operations.

Functional Description

Normal operating situation
Nominal flow (Vn)

Maximum gas flow at the respective operating pressure. The Pipelife Gas-Stop™ is in the open position at all times and is not influenced by pulses, such as e.g. the switching on of consumer appliances or by the upstream main distribution network.

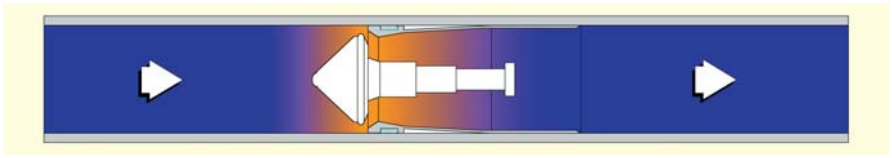


Fig. 2

Damage event
Shut-off flow (Vs)

If the limit for the flow rate is exceeded, the Pipelife Gas-Stop™ closes within fractions of a second (Fig. 3) and is held in the closed state by the network pressure (Fig. 4). Very minor damage, during which the shut-off flow is not reached, does not lead to the closure of the Pipelife Gas-Stop™.

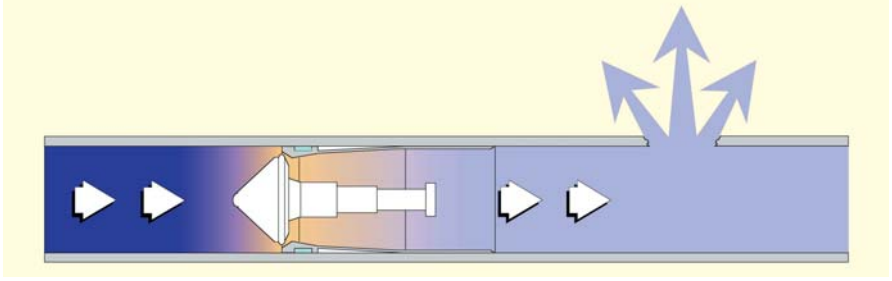


Fig. 3

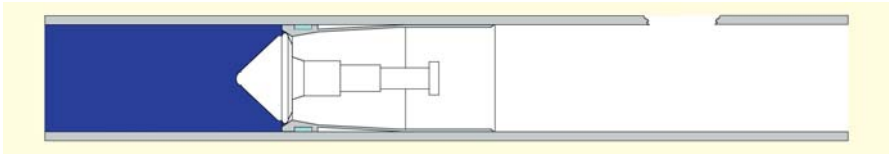


Fig. 4

Resumption of operation after pipeline repair

Pipelife Gas-Stop™ with overflow mechanism

When the Pipelife Gas-Stop™ is closed a small quantity of gas flows through. After elimination of the cause of the leak (repair of damage to the pipeline) the pressure balance is restored automatically by means of this overflow mechanism. (For guide values for reopening times, please refer to the corresponding table – see product data sheets).

↙ *Automatic pressure balance* ↘

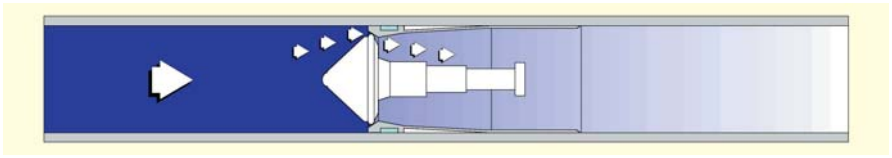


Fig. 5

Pipelife Gas-Stop™ without overflow mechanism

After elimination of the cause of the leak the pressure balance must be restored before and after the Pipelife Gas-Stop™ unit using a suitable source of pressure (e.g. natural gas or nitrogen bottle). The Pipelife Gas-Stop™ opens automatically.

↙ *Pressure balance through counterpressure* ↘

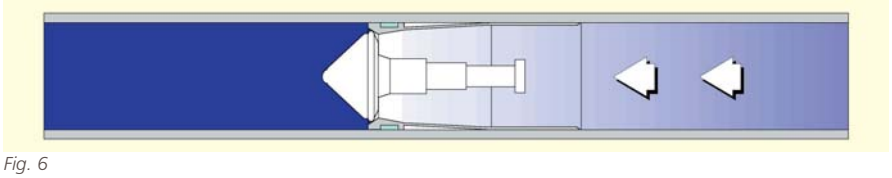


Fig. 6

Fig. 7

Pipelife Gas-Stop™ for Gas Service Lines
Product Range Overview
Article Type Designations

Operating pressure range	PE Pipeline Dimensions					
	Ø20/DN15	Ø25/DN20	Ø32/DN25	Ø50/DN40	Ø63/DN50	Ø110/DN100
0.015–0.1 bar 0.0015–0.01 MPa Colour code: green	–	–	–	GS50/15UE GSA50/15UE	GS63/15UE GSA63/15UE	–
0.025–1.0 bar 0.0025–0.1 MPa Colour code: blue	–	–	GS32/25UE GSA32/25UE	GS50/25UE GSA50/25UE	GS63/25UE GSA63/25UE	GSA110/30UE
0.2–5.0 bar 0.02–0.5 MPa Colour code: red	–	GS25/200 GSA25/200 GS25/200UE GSA25/200UE	GS32/200 GSA32/200 GS32/200UE GSA32/200UE	GS50/200 GSA50/200 GS50/200UE GSA50/200UE	GS63/200 GSA63/200 GS63/200UE GSA63/200UE	GSA110/200 GSA110/200UE
1.0–5.0 bar 0.1–0.5 MPa Colour code: yellow	GS20/1 GSA20/1 GS20/1UE GSA20/1UE	–	GS32/1 GSA32/1 GS32/1UE GSA32/1UE	–	–	–

Explanation of article type designation

Examples:

GS32/25UE

- Overflow mechanism
- Minimum operating pressure 0.025 bar
- Pipelife Gas-Stop™ for PE-pipe dimension Ø32

GSA20/1 . .

- Without overflow mechanism
- Minimum operating pressure 1.0 bar
- Pipelife Gas-Stop™ in adapter for PE-pipe dimension Ø20

Note: Pipelife Gas-Stop™ are suitable for all fuel gases, except fuel gases in the liquid phase, and for operating pressures up to 10 bar. Flow rate values for other fuel gases can be determined with the corresponding correction factor. For details, see page 8.

Installation Variants

For installation in the outgoing connecting branches of tapping stop valves or Electrofusion couplers with suitable (compatible) inside dimensions. We are happy to notify you of manufacturers of compatible tapping stop valves or Electrofusion couplers on request.

Type GS

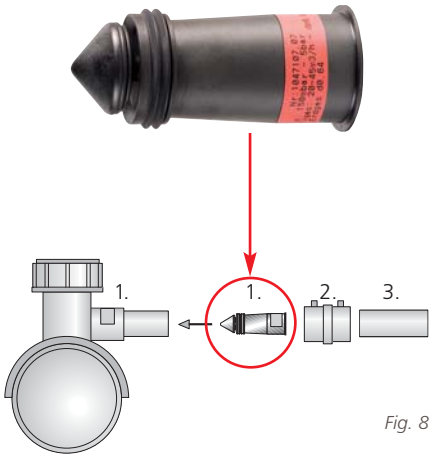


Fig. 8

1. Tapping saddle with integrated Pipelife Gas-Stop™ Type GS
2. Electrofusion coupler
3. PE service line

Integrated in a pipe section (adapter) made from PE100/SDR11

Type GSA

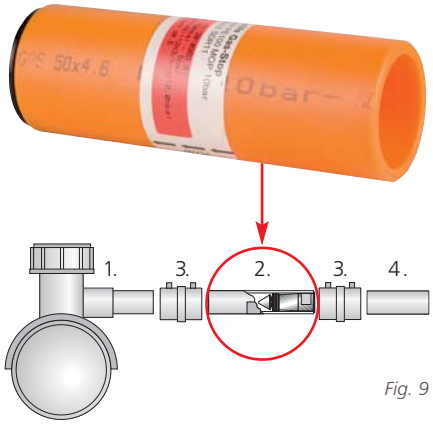


Fig. 9

1. Tapping saddle
2. Pipelife Gas-Stop™ Type GSA
3. Electrofusion couplers
4. PE domestic service line

Dimensions

Type	L1
GS20	42.5
GS25	50.0
GS32	63.5–64.5
GS50	72.0–73.0
GS63	93.0–95.5

Dimensions in mm

Type GS

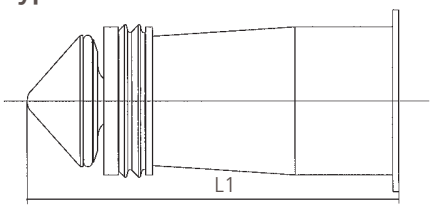


Fig. 10

Type	DN	da	L2
GSA20	15	20	150 ±1
GSA25	20	25	150 ±1
GSA32	25	32	150 ±1
GSA50	40	50	150 ±1
GSA63	50	63	150 ±1
GSA110	100	110	300 ±1

Dimensions in mm

Type GSA

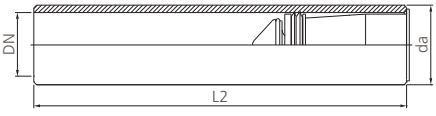


Fig. 11

Materials – Pipelife Gas-Stop™ for Service Lines

Selection of materials

The selection of the materials for the manufacture of the Pipelife Gas-Stop™ units for service lines was carried out according to the principles of
- Long-term resistance
- Freedom from maintenance

The materials used are resistant over the long-term against natural gas and regenerative gases and their escort substances and have a service life that corresponds at least to that of the PE-pipe network.

Material for Flow body/Shut-off element

Glass-fiber-reinforced polyphenylene sulfide (PPS) and polyoxymethylene (POM). The materials are creep-resistant, wear-resistant, non-corrosive and dimensionally stable up to temperatures of 100° C (POM) – 230° C (PPS).

Pipelife Gas-Stop™ d20/DN15–d63/DN50

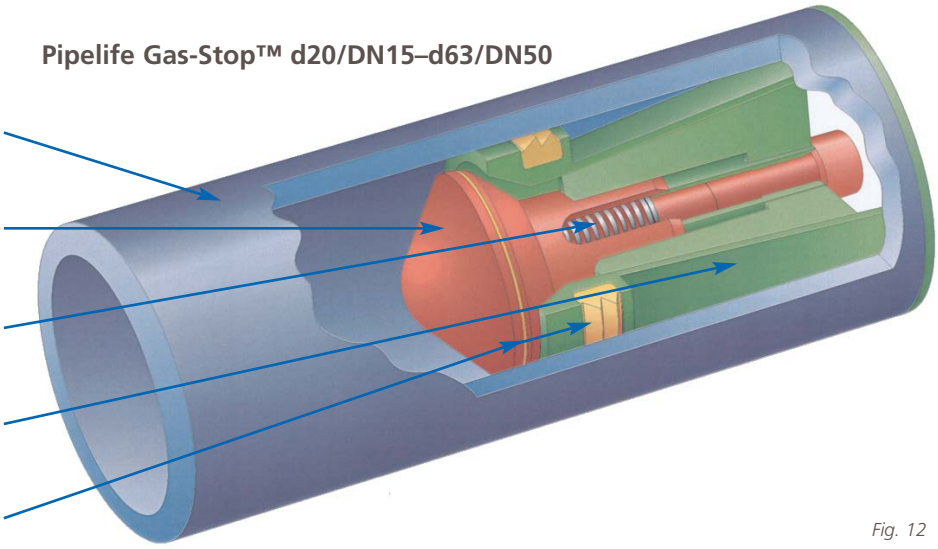


Fig. 12

Pipelife Gas-Stop™ d110/DN100

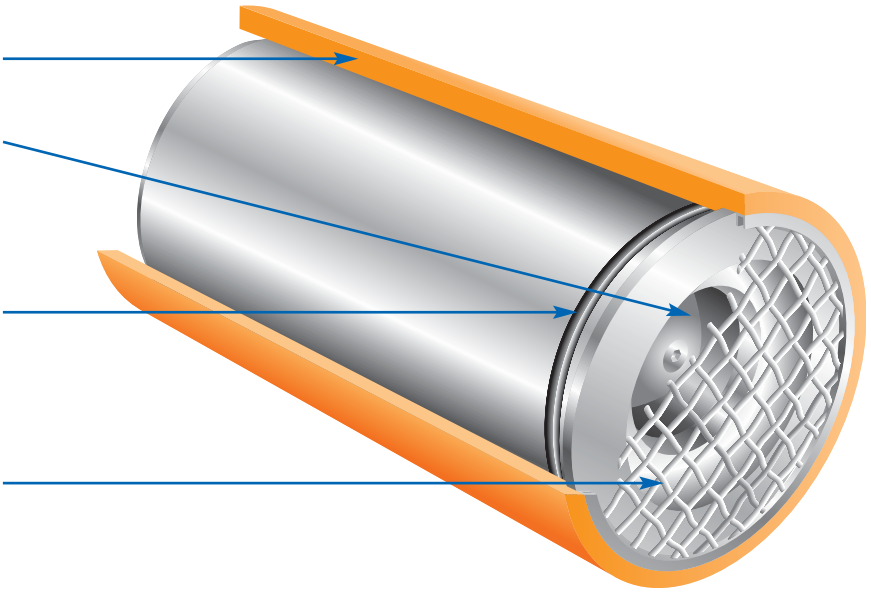


Fig. 13

Material for spring

The essential functioning element, the spring, was subjected to special investigations with regard to the service life by the Institute for Metallography of the University of Leoben/Austria. Through this the spring was certified an almost unlimited service life.

Manufacturer's Inspections
Quality Assurance

Principles

Pipelife Gas-Stop™ units are safety products on which the highest demands are placed with regard to service life and operational reliability. Accordingly these products are subjected to extensive quality tests. The testing programs concern both the individual components as well as the end products.

One of the most important testing steps is the verification of the function before shipment.

100% Test

On a computer-controlled test bench the shut-off flow and tightness of every individual Pipelife Gas-Stop™ unit are measured and recorded with the latest measuring equipment.

Fig. 14

The positive test result is documented on the product through the issue of a consecutive serial number. This serial number is also assigned to all test results of the individual components, so that continuous traceability is provided.

Practical Tests

In order to ensure the certainty of the function in normal operation as well as when closing in practical operating situations, Pipelife Gas-Stop™ units are also continuously tested on a natural gas test bench constructed specifically for this purpose. This test bench is also used to determine influences (e.g. pulses) from the regulating devices and consumer appliances situated upstream and/or downstream of the Pipelife Gas-Stop™ unit or also from pipe network sections and to take these into account accordingly in the product characteristics. Of course, practically relevant customer-specific tests can also be carried out.

Fig. 15

Certifications

There are different certifications in various countries in Europe and also overseas for the various product lines, according to the respective pipe network-specific requirements.

The existing certifications for Pipelife Gas-Stop™ include certifications for Austria, Germany, France and Italy. On request, we would be happy to send you corresponding documents or information about other certifications or certification possibilities.

Austria ÖVGW GEPRÜFT

Germany DVGW

France Gaz de France

Italy italgas

Switzerland SVGW SSIGE

Spain Gas Naturel

Technical Information to the Product Data Sheets

Nominal flow rate

The specifications for the nominal flow rate in the tables of the product data sheets are applicable for natural gas H ρ_n = 0.74 kg/m^3 under standard conditions (1013.25 mbar, 0° C). The nominal flow rate of Pipelife Gas-Stop™ units is dependent on the operating pressure in the pipe network. The selection of a Pipelife Gas-Stop™ unit is to be based on the minimum operating pressure in the pipe network.

Example

The minimum operating pressure in the pipe network is 1.0 bar. The connected load for the consumer is 40 m^3/h. For this case of application the Pipelife Gas-Stop™ GS32/200 is the suitable type, since it has a nominal flow rate of 46 m^3/h at an operating pressure of 1.0 bar (see product data sheet on page 12).

Nominal flow or shut-off values for other gases

Natural gas flow rate value according to the flow rate tables x correction factor = flow rate value for other type of gas.

Calculation of the correction factor (f)
Example natural gas H > L

$$f = \sqrt{\frac{0.74}{\rho_n}}$$

f = correction factor
ρ_n = standard density of another gas in kg/m^3 at 1013.25 mbar, 0° C

Example

V_n natural gas H = 10 m^3/h – ? natural gas flow rate L (ρ_n = 0.83 kg/m^3)

$$10 \cdot \sqrt{\frac{0.74}{0.83}} = 9.4 \text{ m}^3\text{/h natural gas L}$$

Shut-off flow rate

The shut-off flow rates of the Pipelife Gas-Stop™ units are Vn x 1.2 – Vn x 2.0, depending on installation position, type and operating pressure. All shut-off flow rates conform to the respective technical policies and regulations of the certification bodies in the respective countries.

Tightness
Overflow rate
Leak rate

The values specified in each of the data sheets refer to air under normal conditions (1013.25 mbar, 15° C).

Reopening time

The reopening times specified in the tables refer to 1 m pipe length between Pipelife Gas-Stop™ unit and a downstream manual shut-off valve.

Liquid gases

Pipelife Gas-Stop™ can be used for liquid gases in the gas phase. With regard to the possible uses in this respect, please request our advice.

Abbreviations

V_n	Nominal flow rate
m^3/h	Flow rate specification under standard conditions at a barometric pressure of 1013.25 mbar and gas temperature of 0° C
Δp	Differential pressure
p_e	Operating pressure or supply pressure Pipelife Gas-Stop™
UE	Overflow mechanism

Conversions

[Pressure] 1 bar = 0.1 MPa
[Volume] 1 m^3 = 35.31 cubic feet

Pipelife Gas-Stop™ GS50/15UE Service Lines d50/DN40

Fig. 16

Excess Flow Valve
Operating pressure range: 0.015 to 0.1 bar
Colour code: GREEN

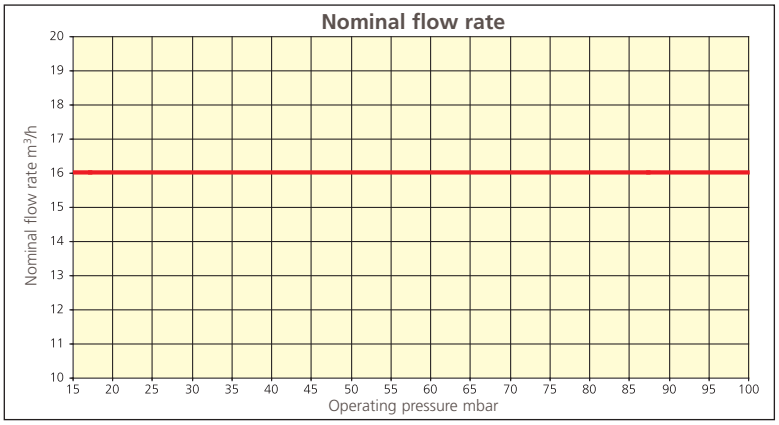
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m
0,015	16	4
0,050	16	9
0,075	16	13
0,10	16	16

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 1.0 mbar

Installation positions:
Installation positions from –30° to +30° allowed

Overflow rate:
GS50/15UE - 30 l/h at 0.1 bar



Pipelife Gas-Stop™ GS63/15UE Service Lines d63/DN50

Fig. 17

Excess Flow Valve
Operating pressure range: 0.015 to 0.1 bar
Colour code: GREEN

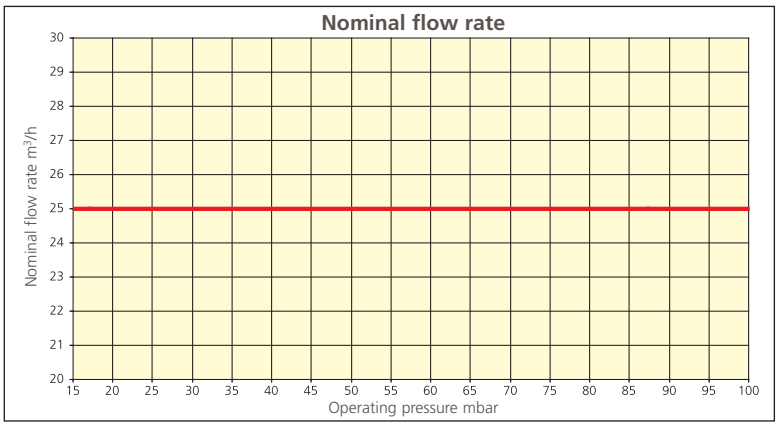
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m
0,015	25	2
0,050	25	15
0,075	25	20
0,10	25	25

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 1.0 mbar

Installation positions:
Installation positions from –30° to +30° allowed

Overflow rate:
GS63/15UE - 30 l/h at 0.1 bar



Pipelife Gas-Stop™ GS32/25UE Service Lines d32/DN25

Fig. 18

Excess Flow Valve
Operating pressure range: 0.025 to 1.0 bar
Colour code: BLUE

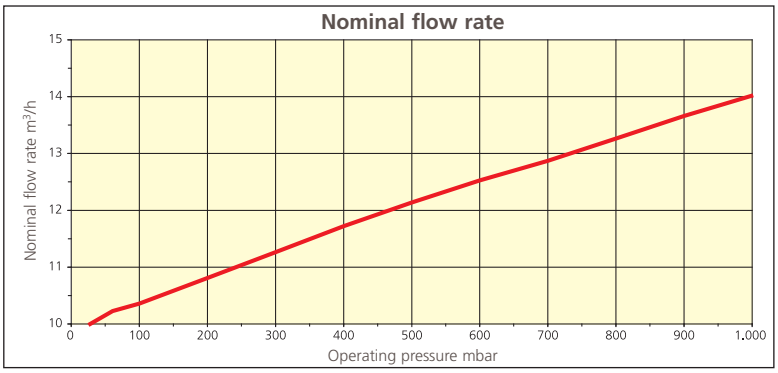
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m
0.025	10	2
0.050	10	4
0.1	10	6
0.3	11	16
0.5	12	21
1.0	14	27

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 2.5 mbar

Installation positions:
Installation positions from –30° to +90° allowed

Overflow rate:
GS32/25UE - 30 l/h at 0.1 bar



Pipelife Gas-Stop™ GS50/25UE Service Lines d50/DN40

Fig. 19

Excess Flow Valve
Operating pressure range: 0.025 to 1.0 bar
Colour code: BLUE

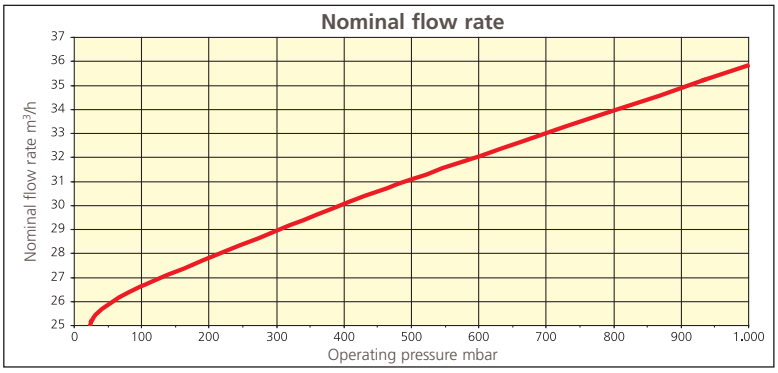
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m
0.025	25	4
0.050	25	9
0.1	25	16
0.3	29	38
0.5	31	50
1.0	36	70

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 2.5 mbar

Installation positions:
Installation positions from –30° to +90° allowed

Overflow rate:
GS50/25UE - 30 l/h at 0.1 bar



Pipelife Gas-Stop™ GS63/25UE Service Lines d63/DN50

Excess Flow Valve
Operating pressure range: 0.025 to 1.0 bar
Colour code: BLUE

Fig. 20

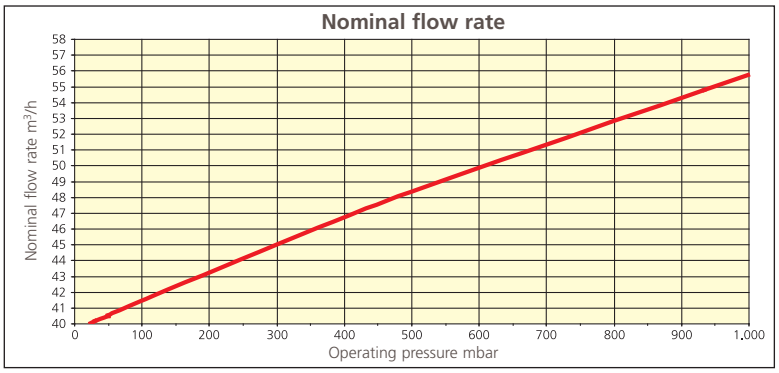
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m
0.025	40	5
0.050	40	15
0.1	40	25
0.3	45	60
0.5	48	80
1.0	55	110

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 2.5 mbar

Installation positions:
Installation positions from –30° to +90° allowed

Overflow rate:
GS63/25UE - 30 l/h at 0.1 bar



Pipelife Gas-Stop™ GS110/30UE Service Lines d110/DN100

(d90/DN80 and d160/DN150 with reduction)

Excess Flow Valve
Operating pressure range: 0.030 to 1.0 bar
Colour code: BLUE

Fig. 21

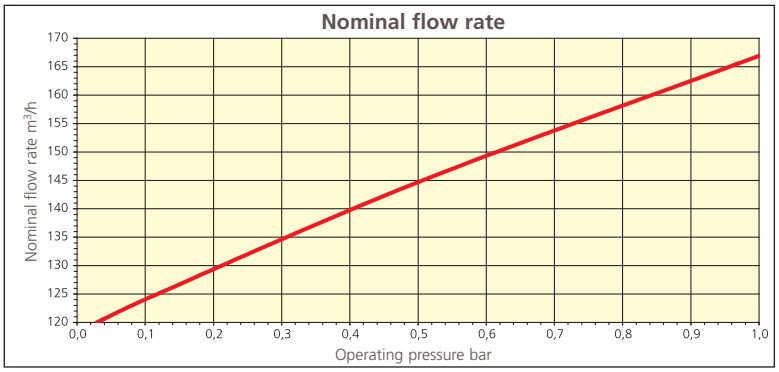
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m		
		da90	da110	da160
0.03	120	18	27	58
0.05	120	36	54	114
0.1	120	60	90	190
0.5	145	200	290	620
1.0	165	260	390	820

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 3.5 mbar

Installation positions:
Permissible deviation from horizontal installation position max. ±10°

Overflow rate:
GS110/30UE - 30 l/h at 0.1 bar



Pipelife Gas-Stop™ GS25/200 and GS25/200UE Service Lines d25/DN20

(d32/DN25 with reduction)

Fig. 22

Excess Flow Valve
Operating pressure range: 0.2 to 5.0 bar
Colour code: RED

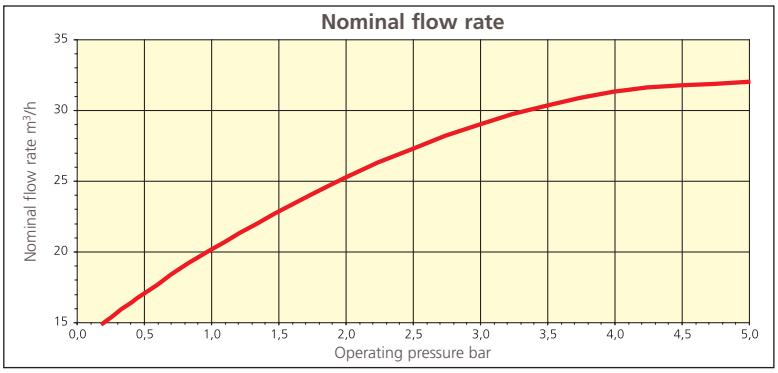
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m	
		da25	da32
0.2	15	20	37
0.5	17	30	55
1.0	20	37	70
2.0	25	44	85
3.0	29	48	91
4.0	31	51	91
5.0	32	54	101

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 15.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GS25/200 - ≤3.0 l/h
GS25/200UE - 30 l/h at 1.0 bar



Pipelife Gas-Stop™ GS32/200 and GS32/200UE Service Lines d32/DN25

(d40/DN32 with reduction)

Fig. 23

Excess Flow Valve
Operating pressure range: 0.2 to 5.0 bar
Colour code: RED

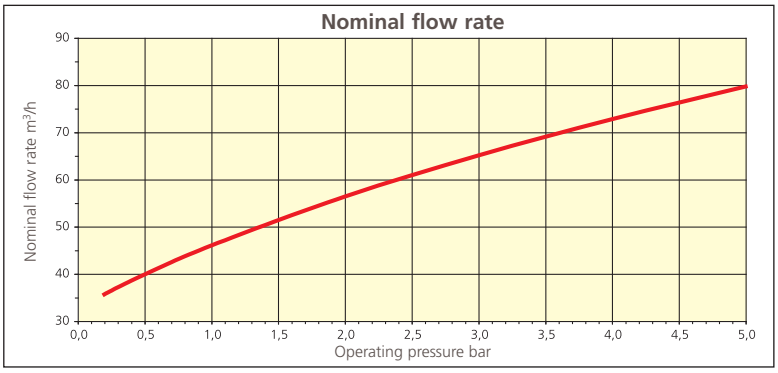
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m	
		da32	da40
0.2	36	37	58
0.5	40	55	86
1.0	46	70	107
2.0	56	85	129
3.0	65	91	141
4.0	73	97	150
5.0	80	101	157

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 10.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GS32/200 - ≤3.0 l/h
GS32/200UE - 30 l/h at 1.0 bar



Pipelife Gas-Stop™ GS50/200 and GS50/200UE Service Lines d50/DN40

(d40/DN32 with reduction)

Fig. 24

Excess Flow Valve
Operating pressure range: 0.2 to 5.0 bar
Colour code: RED

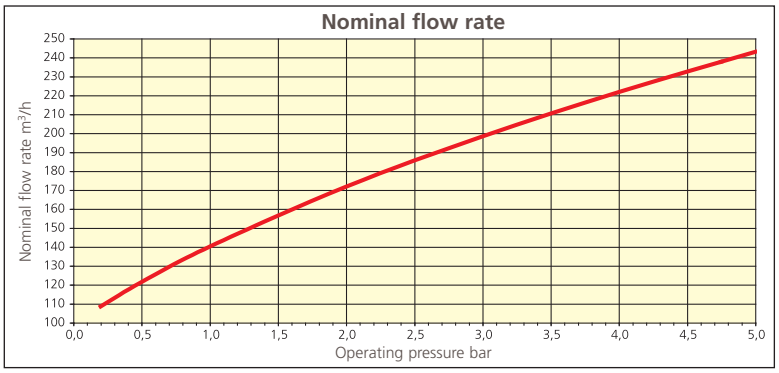
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m	
		da40	da50
0.2	110	58	90
0.5	120	86	140
1.0	140	107	170
2.0	170	129	200
3.0	200	141	220
4.0	220	150	240
5.0	240	157	250

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 15.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GS50/200 - ≤3.0 l/h
GS50/200UE - 30 l/h at 1.0 bar



Pipelife Gas-Stop™ GS63/200 and GS63/200UE Service Lines d63/DN50

(d50/DN40 and d90/DN80 with reduction)

Fig. 25

Excess Flow Valve
Operating pressure range: 0.2 to 5.0 bar
Colour code: RED

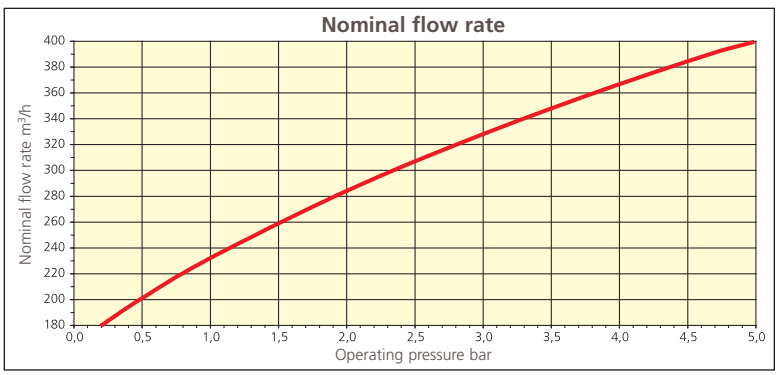
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time min/m		
		da50	da63	da90
0.2	180	2.0	2.5	6.0
0.5	200	2.5	3.5	9.0
1.0	230	3.0	4.5	11.0
2.0	283	3.5	5.5	12.0
3.0	327	4.0	6.0	14.0
4.0	366	4.5	6.5	15.0
5.0	400	5.0	7.0	16.0

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 15.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GS63/200 - ≤3.0 l/h
GS63/200UE - 30 l/h at 1.0 bar



Pipelife Gas-Stop™ GS110/200 and GS110/200UE

(d90/DN80 and da160/DN150 with reduction)

Excess Flow Valve
Operating pressure range: 0.2 to 5.0 bar
Colour code: RED

Fig. 26

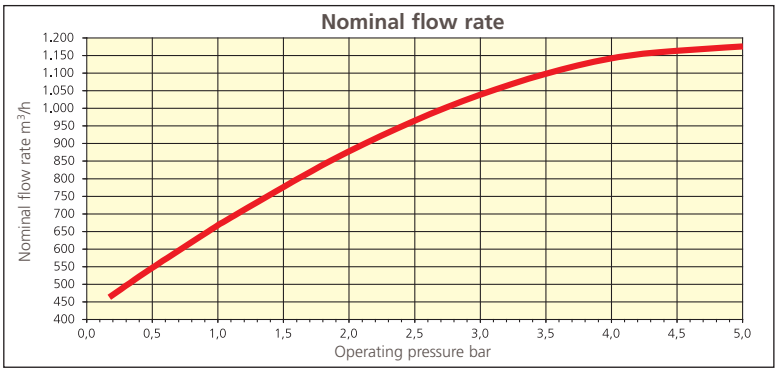
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time min/m		
		da90	da110	da160
0.2	460	6	9	19
0.5	540	9	13	27
1.0	660	11	16	34
2.0	870	13	20	41
3.0	1030	15	22	45
4.0	1140	16	23	48
5.0	1180	17	24	50

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 25.0 mbar

Installation position: Permissible deviation from horizontal installation position max. ±10°

Tightness or overflow rate:
GS110/200 - Leakage rate: ≤3.0 l/h
GS110/200UE - 30 l/h at 1.0 bar



Pipelife Gas-Stop™ GS20/1 and GS20/1UE Service Lines d20/DN15

(d25/DN20 with reduction)

Fig. 27

Excess Flow Valve
Operating pressure range: 1.0 to 5.0 bar
Colour code: YELLOW

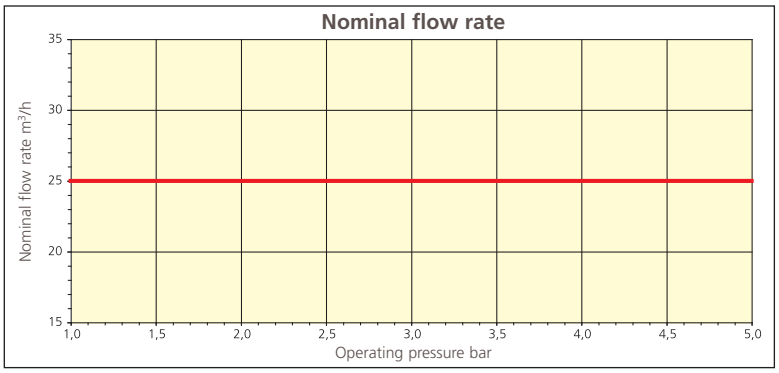
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m	
		da20	da25
1.0	25	21	37
2.0	25	25	44
3.0	25	27	48
4.0	25	29	51
5.0	25	31	54

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 60.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GS20/1 - ≤3.0 l/h
GS20/1UE - 30 l/h at 1.0 bar



Pipelife Gas-Stop™ GS32/1 and GS32/1UE Service Lines d32/DN25

(d40/DN32 with reduction)

Fig. 28

Excess Flow Valve
Operating pressure range: 1.0 to 5.0 bar
Colour code: YELLOW

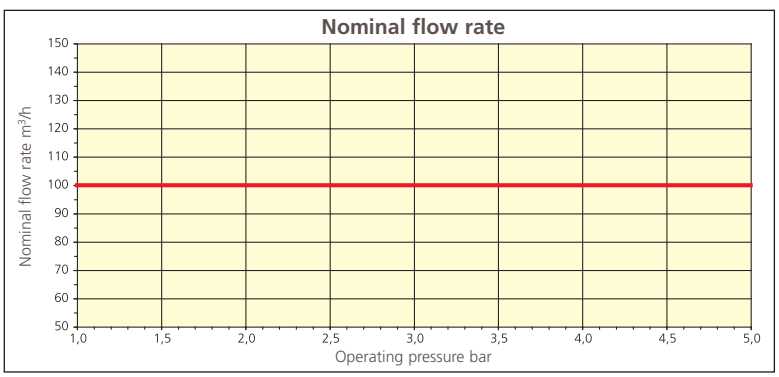
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Reopening time sec/m	
		da32	da40
1.0	100	70	107
2.0	100	83	130
3.0	100	90	140
4.0	100	97	150
5.0	100	102	160

Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 40.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GS32/1 - ≤3.0 l/h
GS32/1UE - 30 l/h at 1.0 bar



Installation and Operating Instructions Pipelife Gas-Stop™ for service pipes

Pipelife Gas-Stop™ Type series GS:

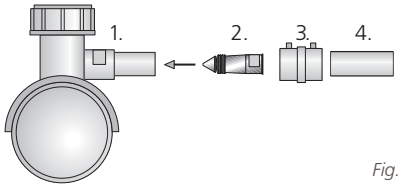


Fig. 29

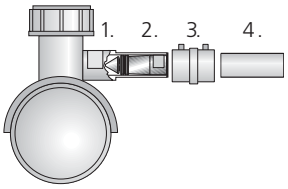


Fig. 30

Pipelife Gas-Stop™ Type series GSA:

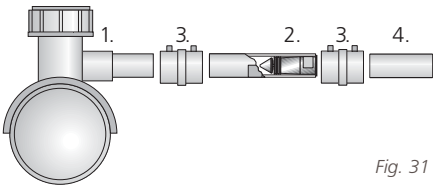


Fig. 31

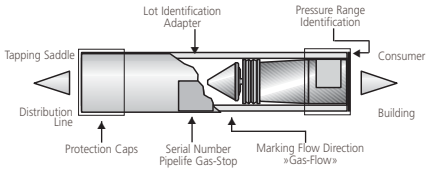


Fig. 32

Pipelife Gas-Stop™ Type series GSAE:

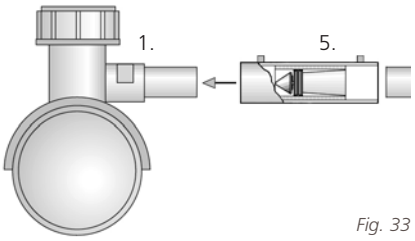


Fig. 33

1. Tapping stop valve
2. Pipelife Gas-Stop Type GS (Fig. 29 + 30) and GSA (Fig. 31)
3. Electrofusion coupler(s)
4. PE-service pipe
5. Electrofusion coupler with integrated Pipelife Gas-Stop™

Pressure range marking

General information

Pipelife Gas-Stop™ units of these types can be inserted into the outlet of compatible tapping saddles (Fig. 29+30). In doing so it is to be observed, that the insertion in must be carried out without twisting and without deviation from the horizontal position. The use of mechanical tools is not permitted without prior consultation with Pipelife. To simplify the insertion – up to the stop, the lip ring can be moistened with water.

An additional sticker is enclosed with every Pipelife Gas-Stop™ type GS. This sticker contains the serial number as well as other important information for the identification of the Pipelife Gas-Stop™ unit. To have this data available at all times until installation in the pipeline system, this sticker must be attached to a suitable place on the tapping saddle. We are happy to notify you of manufacturers of compatible tapping saddles on request.

The Pipelife Gas-Stop™ is integrated in a certified pipeline section (adapter made from PE 100/SDR11) (Fig. 31+32). The sticker with the serial number and other important information for the identification of the Pipelife Gas-Stop™ is located both on the adapter as well as on the integrated Pipelife Gas-Stop™ unit.

The Pipelife Gas-Stop™ unit is integrated in an electrofusion coupler (Fig. 33). The sticker with the serial number and other important information for the identification of the Pipelife Gas-Stop™ unit is located both on the electrofusion coupler as well as on the integrated Pipelife Gas-Stop™ unit.

Before Installation

Check whether the colour of the sticker with the serial number corresponds with the intended operating pressure range. The various operating pressure ranges of the Pipelife Gas-Stop™ units are identified with a colour code. The colour of the sticker with the serial number corresponds in each case with a particular operating pressure range. The nominal flow rates and Δp-values are visible either on the sticker or can be taken from the product data sheets – from page 9.

Colour code
Operating pressure ranges

GREEN	**= 15 – 100 mbar**	→ 0.015–0.1 bar
BLUE	**= 25 mbar – 1 bar**	→ 0.025–1.0 bar
RED	**= 200 mbar – 5 bar**	→ 0.2–5.0 bar
YELLOW	**= 1 – 5 bar**	→ 1.0–5.0 bar

Serial number
Batch number

In order to ensure in each case the exact identification of the Pipelife Gas-Stop™ unit installed in the pipe network, we recommend that you document the serial number or batch number of the Pipelife Gas-Stop™ unit in the installation report or on the installation diagram of the respective service line.

Installation

Pipelife Gas-Stop™ in tapping saddles

Normally the Pipelife Gas-Stop™ unit is already integrated in the outlet by the manufacturer of the tapping saddle. To avoid contamination the protective cap on the outlet of the tapping saddle should only be removed directly before beginning welding with the service line. For the rest of the steps, please follow the processing instructions of the respective tapping saddle manufacturer.

Pipelife Gas-Stop™ in adapter – Type GSA

The installation in the pipeline system is carried out – under observance of the gas-flow direction – using common electrofusion couplers. The welding ends of the adapter made from PE100 are to be machined. In doing so, make sure that no chips get into the inside of the Pipelife Gas-Stop™ unit. The rest of the processing takes place according to the common technical welding directives.

Pipelife Gas-Stop™ in electrofusion couplers

The installation in the pipeline system is carried out – under observance of the gas-flow direction – according to the installation instructions of the electrofusion coupler manufacturer.

Commissioning

Pipelife Gas-Stop™ with overflow mechanism (UE)

- Actuate main shut-off valve (MSV) for venting in a controlled manner, i.e. with small device opening. If necessary fit a venting hose to the MSV and conduct this to the open air for risk-free discharge of the gas.
- If the Pipelife Gas-Stop™ unit should close, the opening of the MSV to far was the cause. Close the MSV – the Pipelife Gas-Stop™ opens automatically dependent on the length and diameter of the service line. Details about the reopening times can be found in the product data sheets from page 9.
- With pressure measurement connected the operating state of the Pipelife Gas-Stop™ unit (open/closed) can be determined via the operating pressure. If the operating pressure is the same before and after the Pipelife Gas-Stop™, then this is/has open(ed).
- Repeat venting procedure with smaller MSV-opening.
- After completed venting – close MSV.

Pipelife Gas-Stop™ without overflow mechanism

- Actuate main shut-off device (MSV) for venting in a controlled manner, i.e. with small device opening. If necessary fit a venting hose to the MSV and conduct this to the open air for risk-free discharge of the gas.
- If the Pipelife Gas-Stop™ unit should close, the opening of the MSV to far was the cause. Close the MSV. Using a suitable source of pressure, e.g. nitrogen or natural gas bottle, counterpressure up to network pressure must now be applied in order to reopen the Pipelife Gas-Stop™.
- Repeat venting procedure with smaller MSV-opening.
- After completed venting – close MSV.

Recommissioning

After damage to a service line and corresponding leak size, the Pipelife Gas-Stop™ shuts off. Please note that the overflow rates or leak rates escape at the point of damage. The repair of the service line should be carried out under observance of the respective required safety regulations. After completion the commissioning can be performed according to the familiar work operations.

According to the details in the data sheets, Pipelife Gas-Stop™ units can also be used for the respective next smaller or next larger pipe dimension (Fig. 34 to 36).

Installation with reduction

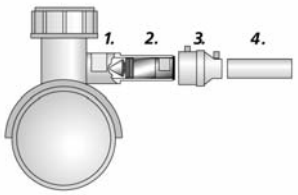


Fig. 34

1. Tapping saddle
2. Pipelife Gas-Stop™ Type GS
3. Electrofusion reduction
4. PE-service line

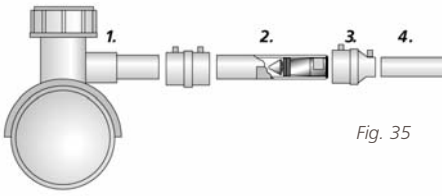


Fig. 35

1. Tapping saddle
2. Pipelife Gas-Stop™ Type GSA
3. Electrofusion reduction
4. PE-service line

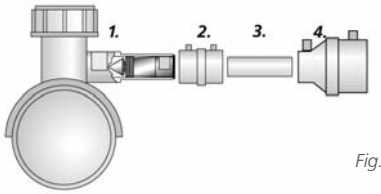


Fig. 36

1. Tapping saddle
2. Electrofusion coupler
3. Intermediate pipe section
4. Electrofusion reduction

When using Pipelife Gas-Stop™ units for pipelines of the next larger pipe dimension, an intermediate section must be used in order to exclude an axial offset of the Pipelife Gas-Stop™ unit (Fig. 36).
For reduction possibilities other than provided in the data sheets, we request inquiries.

Pipelife Gas-Stop™
Excess Flow Valve for Distribution Lines

Enhanced Safety

Regional transport- or distribution pipes are constructed with operating pressures of up to 10 bar. Since 1997 accordingly further developed Pipelife Gas-Stop™ units have been installed in these distribution systems of the dimension d63/DN50 to d160/DN150.

Why Pipelife Gas-Stop™ for main pipelines?

The main reasons for the development and the implementation of these Pipelife Gas-Stop™ types are the experiences of gas supply companies described in the following after damage to distribution systems:

Cases of practical experience

- At operating pressures of 4 or 5 bar very large quantities of gas escape. This leads, in particular in built-up areas, to a considerable risk of accidents.
- Due to the ever increasing volume of traffic, the journey times of the accident troop to the damage location can become longer or the journey times also become longer through the expansion of the regional gas supply.
- With the escape of large quantities of gas the pressure drop in the pipe network can reach a magnitude that leads to large-area supply failures or even destroys metering equipment in pressure regulation stations.

Pipelife Gas-Stop™ for Distribution Lines
Product Range Overview
Article Type Designations

Operating pressure range	PE Pipeline Dimensions			
	Ø63/DN50	Ø90/DN80	Ø110/DN100	Ø160/DN150
0.030–1.0 bar 0.0030–0.1 MPa Colour code: blue	–	GSA110/30UE	GSA110/30UE	GSA110/30UE
0.15–10.0 bar 0.015–1.0 MPa Colour code: red	–	–	GSA110/150UE	GSA110/150UE
0.30–10.0 bar 0.03–1.0 MPa Colour code: white	GSA63/300UE GSA63/300UE/S	GSA63/300UE GSA63/300UE/S	GSA110/300UE GSA110/300UE/S	GSA110/300UE GSA110/300UE/S

Example of article type designation

GSA63/300UE

- Overflow mechanism
- Minimum operating pressure 0.3 bar
- Pipelife Gas-Stop™ in adapter for PE-pipe dimension Ø63

Note: Pipelife Gas-Stop™ are suitable for all fuel gases, except fuel gases in the liquid phase, and for operating pressures up to 10 bar. Flow rate values for other fuel gases can be determined with the corresponding correction factor. For details, see page 8.

Special Product Characteristics

Pipelife Gas-Stop™ for Distribution Lines d63/DN50

Input-side Contamination protection

Particles of dirt ≤2 mm are transported through the Pipelife Gas-Stop™ without leaving any residue. The entry of dirt particles ≥2 mm is prevented by a screen made from stainless steel fitted at the input side with a corresponding mesh width.

Integrated overflow mechanism

In combination with a downstream shut-off valve, the integrated overflow opening ensures a fast and automatic reopening.

Pipelife Gas-Stop™ for Distribution Lines d110/DN100

Tubular flow

Permits high flow rates with the lowest possible pressure drop.

Input- and output-side contamination protection

Particles of dirt ≤9 mm are transported through the Pipelife Gas-Stop™ without leaving any residue. The entry of dirt particles ≥9 mm is prevented by a screen made from stainless steel fitted at the input and output side with a corresponding mesh width.

Integrated overflow opening

In combination with a downstream shut-off valve, the integrated overflow opening ensures a fast and automatic reopening.

Application-technical description

Determination of the installation point

At the intended installation point of the Pipelife Gas-Stop™ unit in the distribution network, the minimum operating pressure and the maximum required nominal flow rate must be known. With these values one selects the appropriate Pipelife Gas-Stop™ unit – see product data sheets from page 23.

Example:

PE-pipe dimension da110, SDR17.6
Minimum operating pressure at point of installation 3.0 bar
Maximum flow rate at the point of installation 950 m³/h

The suitable Pipelife Gas-Stop™ is the type GSA110/300UE, data sheet page 27.
The nominal flow rate for this type is 1010 m³/h at 3.0 bar.
The protectable pipe length at a leak size of approx. Ø 50 mm is 2.340 m.

Protectable pipe length

An important functional and application characteristic is the protectable pipe length. The protectable pipe length is the length after the Pipelife Gas-Stop™ unit, in which the Pipelife Gas-Stop™ unit closes at a particular magnitude of damage to the pipeline. The corresponding characteristic values are specified in the product data sheets from page 23.

The protectable pipe length is dependent on the following influencing variables:

- Dimension of the pipeline
- Operating pressure
- Leak size
- Escape value
- Pipe roughness

Note

Service lines or other distribution lines that branch off from the main distribution line within the protectable pipe length are not protected by the Pipelife Gas-Stop™ unit in the main distribution line.

Use in closed circular pipelines or intermeshed pipe networks

Pipelife Gas-Stop™ units for main distribution lines are designed so that they can also be installed in intermeshed pipe networks. The flow is possible in both flow directions with almost identical conditions.

Overflow mechanism
Reopening

All types are designed with an overflow mechanism. This affects the pressure balance between the pipe section upstream and the pipe section downstream of the Pipelife Gas-Stop™ unit. The Pipelife Gas-Stop™ unit opens independently after that. To avoid extremely long waiting times for reopening, the Pipelife Gas-Stop™ unit should always be installed in combination with a manually operable shut-off valve directly upstream or downstream. The reopening times for the individual types are listed in the corresponding product data sheets from page 23.

Escape value

The escape value is dependent on the condition of the damage site. Damages with relatively smooth edges have higher escape values, damages with deformation and rough edges have low escape values. The escape values have been determined based on statistical measurements on pipes damaged by excavators. 70% of the escape values were in the range of 0.5–0.7.
The protectable pipe lengths have therefore been calculated with an escape value of 0.6.

Damage sizes
Determination of protectable lengths

For the rating of the protectable lengths, as practical values damage sizes of

Ø 30 mm GSA63
Ø 50 mm GSA110

were taken as a basis.

That means, the Pipelife Gas-Stop™ unit for distribution lines closes, when damage of the aforementioned magnitude and escape value occurs at the **end point** of the protectable length. In addition the Pipelife Gas-Stop™ also closes

- if damages greater than 30 (50) mm Ø occur outside the protectable length and
- if damages less than 30 (50) mm Ø occur within the protectable length.

Pipe roughness

The calculations for the protectable lengths were performed with a pipe roughness of k = 0.3 mm.

Dimensions

Type	L1
GS63	93.0–95.5
GS110	200

Dimensions in mm

Type GS

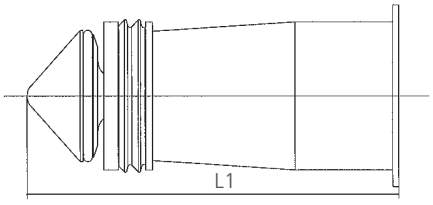


Fig. 10

Type	DN	da	L2
GSA63	50	63	150 ±1
GSA110	100	110	300 ±1

Dimensions in mm

Type GSA

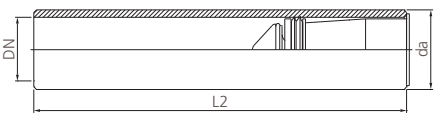


Fig. 11

Materials – Pipelife Gas-Stop™ for Distribution Lines

Pipelife Gas-Stop™ d63/DN50

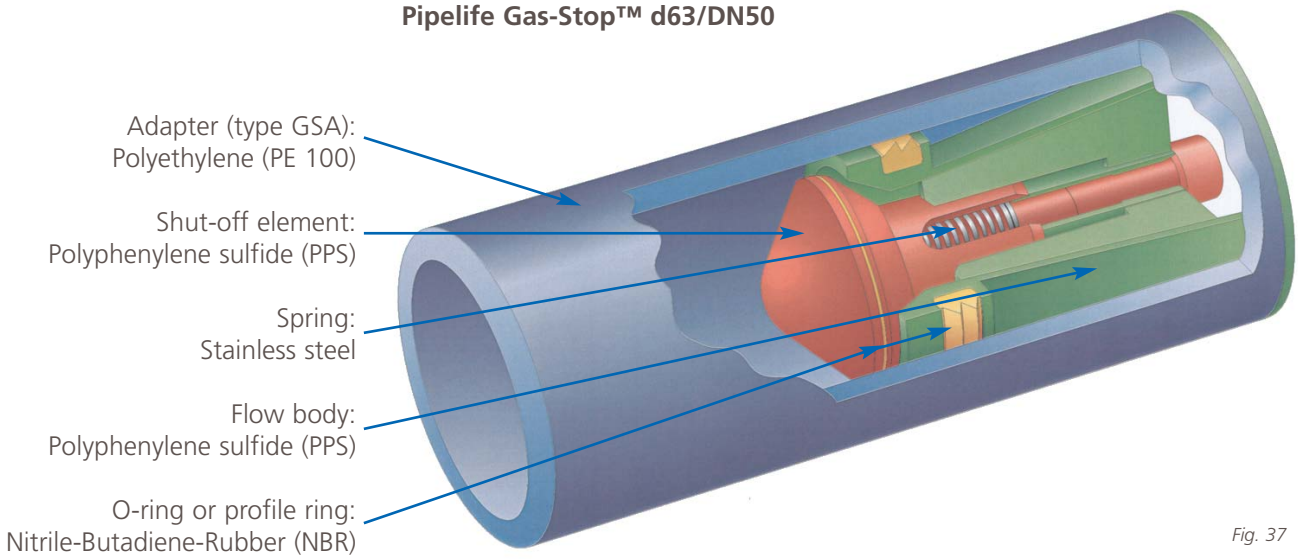


Fig. 37

Pipelife Gas-Stop™ d110/DN100

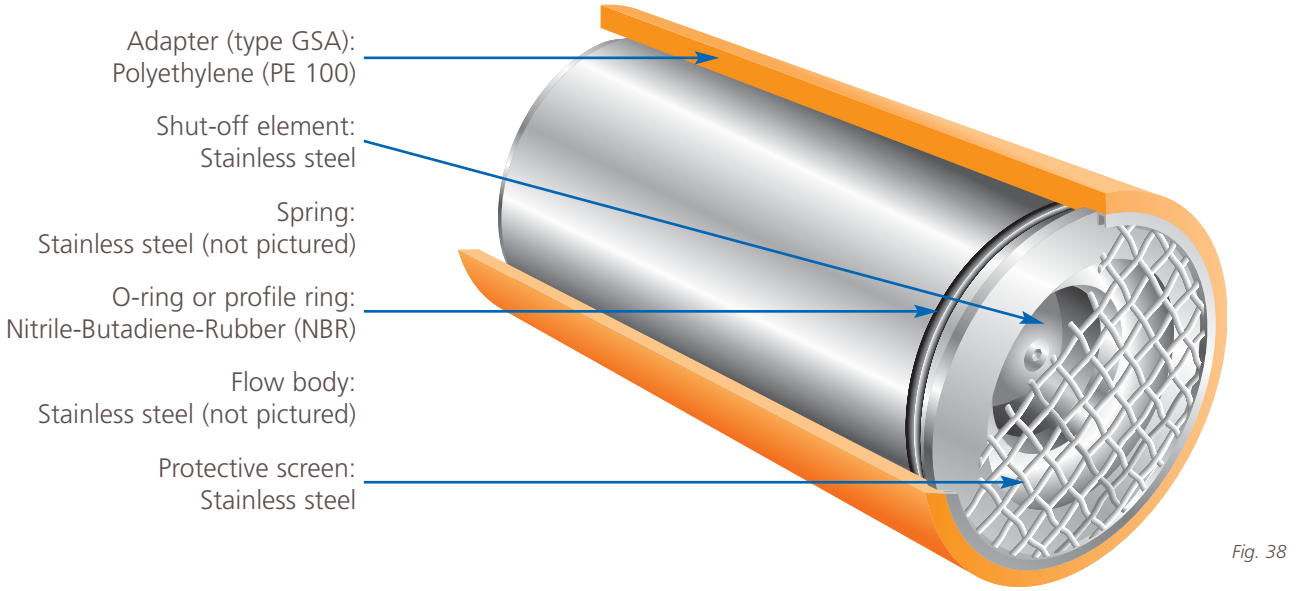


Fig. 38

Manufacturer's Inspections, Quality Assurance, Certifications

See page 7

Technical Information to the Product Data Sheets

See page 8

Pipelife Gas-Stop™ GSA110/30UE Distribution Lines d110/DN100

(d90/DN80 and d160/DN150 with reduction)

Excess Flow Valve
Operating Pressure Range: 0.030 to 1.0 bar
Colour code: BLUE

Fig. 39

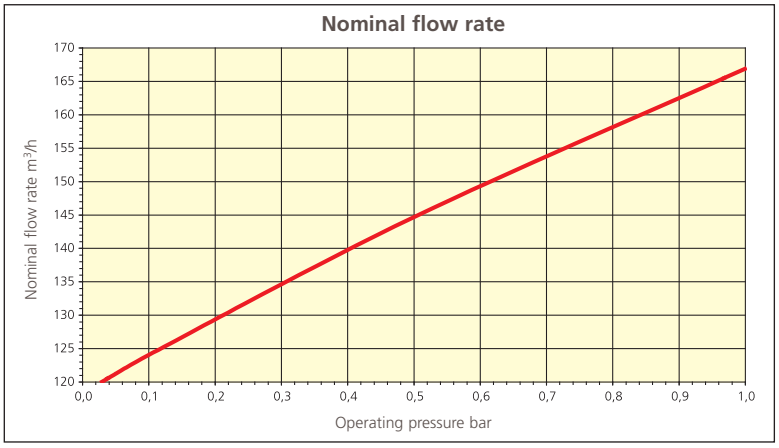
Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Protectable pipe length m			Reopening time min/m		
		da90 SDR 17.6	da110 SDR 17.6	da160 SDR 17.6	da90 SDR 17.6	da110 SDR 17.6	da160 SDR 17.6
0.03	120	58	210	>500	18	27	58
0.05	120	214	420	>500	36	54	114
0.1	120	>500	>500	>500	60	90	190
0.5	145	>500	>500	>500	200	290	620
1.0	165	>500	>500	>500	260	390	820

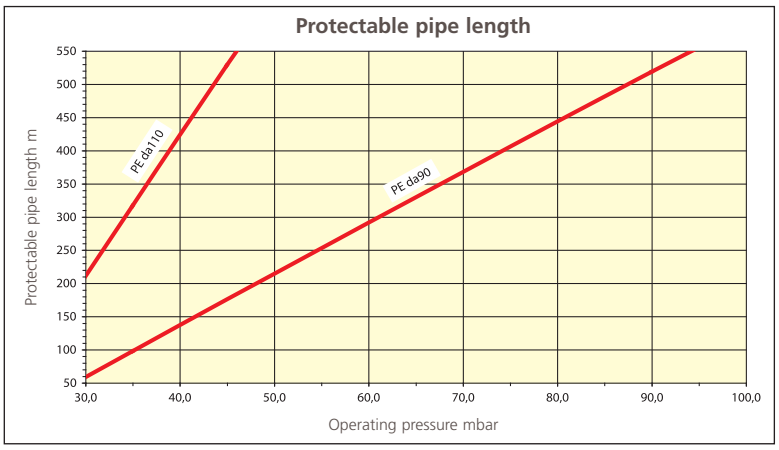
Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

Pressure drop at Vn:
max. 3.5 mbar

Installation positions:
Permissible deviation from horizontal installation position max. ±10°

Overflow rate:
GSA110/30UE - 30 l/h at 0.1 bar





For operating pressures > 100 mbar or da160 see table

Pipelife Gas-Stop™ GSA63/300UE Distribution Lines d63/DN50

(d90/DN80 with reduction)

Excess Flow Valve
Operating Pressure Range: 0.3 to 10.0 bar
Colour code: WHITE

Fig. 40

Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Protectable pipe length m			Reopening time min/m		
		da63 SDR 11	da90 SDR 11	da90 SDR 17.6	da63 SDR 11	da90 SDR 11	da90 SDR 17.6
0.3	200	60	390	600	0.5	1.0	1.3
0.5	215	120	790	1220	0.8	1.5	1.7
1.0	250	260	1670	2580	1.0	2.0	2.3
2.0	300	500	3220	>4000	1.2	2.5	2.9
3.0	350	720	>4000	>4000	1.3	2.8	3.3
4.0	390	930	>4000	>4000	1.4	3.0	3.6
5.0	430	1140	>4000	>4000	1.5	3.2	3.8
6.0	465	1350	>4000	>4000	1.6	3.4	4.0
7.0	500	1560	>4000	/	1.7	3.6	/
8.0	530	1760	>4000	/	1.8	3.8	/
9.0	560	1960	>4000	/	1.9	4.0	/
10.0	590	2160	>4000	/	2.0	4.2	/

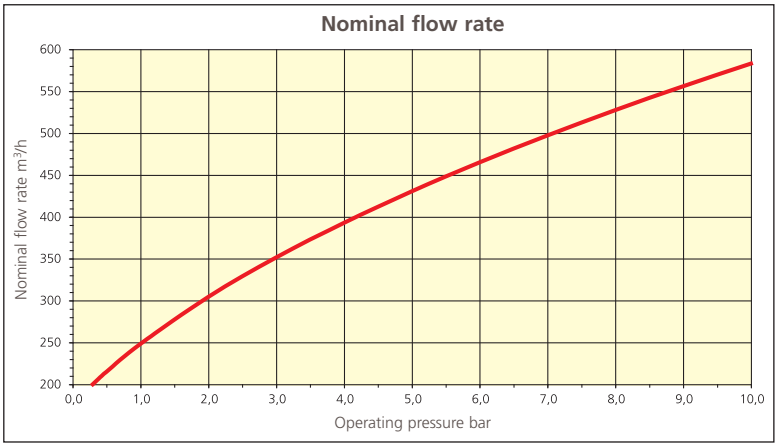
Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

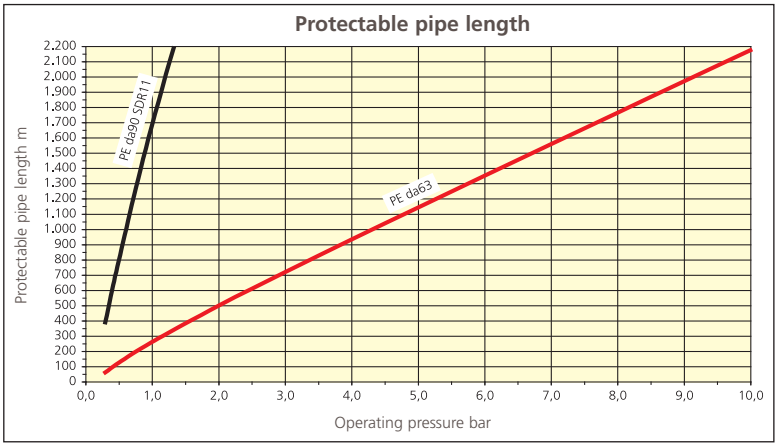
Pressure drop at Vn:
max. 20.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GSA63/300UE - 1.0 m³/h at 10.0 bar (Natural gas H)

Protectable pipe length:
Guide values acc. DVGW VP305-2, Annex B
da63 - damage size Ø 30 mm,
da90 - damage size Ø 50 mm,
k = 0.3 mm





da90 see also table

Pipelife Gas-Stop™ GSA63/300UE/S Distribution Lines d63/DN50

(d90/DN80 with reduction)

Excess Flow Valve
Operating Pressure Range: 0.3 to 10.0 bar
Colour code: WHITE

Fig. 41

Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Protectable pipe length m			Reopening time min/m		
		da63 SDR 11	da90 SDR 11	da90 SDR 17.6	da63 SDR 11	da90 SDR 11	da90 SDR 17.6
0.3	255	10	230	360	0.5	1.0	1.3
0.5	275	40	420	660	0.8	1.5	1.7
1.0	320	100	850	1310	1.0	2.0	2.3
2.0	390	220	1580	2450	1.2	2.5	2.9
3.0	450	320	2260	3500	1.3	2.8	3.3
4.0	500	420	2930	>4000	1.4	3.0	3.6
5.0	550	520	3580	>4000	1.5	3.2	3.8
6.0	600	620	>4000	>4000	1.6	3.4	4.0
7.0	640	720	>4000	/	1.7	3.6	/
8.0	670	820	>4000	/	1.8	3.8	/
9.0	710	910	>4000	/	1.9	4.0	/
10.0	750	1000	>4000	/	2.0	4.2	/

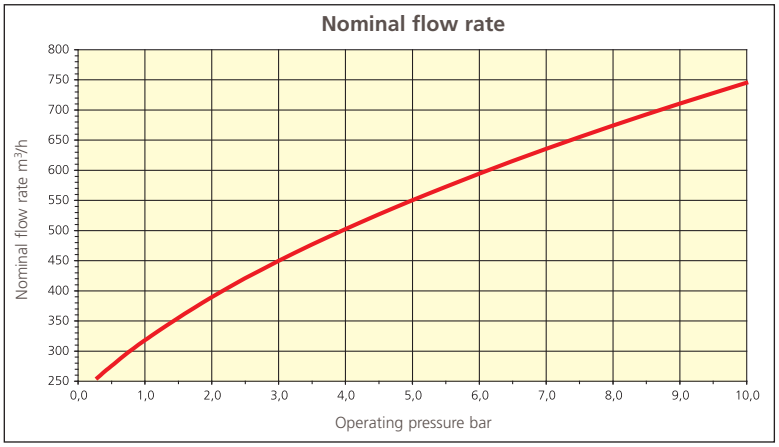
Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

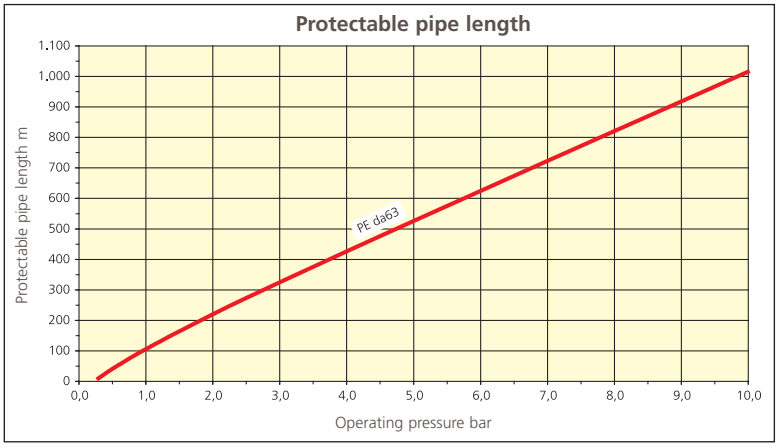
Pressure drop at Vn:
max. 25.0 mbar

Installation position:
All installation positions allowed

Tightness or overflow rate:
GSA63/300UE/S - 1.0 m³/h at 10.0 bar (Natural gas H)

Protectable pipe length:
Guide values acc. DVGW VP305-2, Annex B
da63 - damage size Ø 30 mm,
da90 - damage size Ø 50 mm,
k = 0.3 mm





da90 see table

Pipelife Gas-Stop™ GSA110/150UE Distribution Lines d110/DN100

(d160/DN150 with reduction)

Excess Flow Valve
Operating Pressure Range: 0.15 to 10.0 bar
Colour code: RED

Fig. 42

Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Protectable pipe length m				Reopening time min/m			
		da110 SDR11	da110 SDR17.6	da160 SDR11	da160 SDR17.6	da110 SDR11	da110 SDR17.6	da160 SDR11	da160 SDR17.6
0.15	410	53	85	380	595	0.9	1.0	2.0	2.5
0.3	440	225	350	1590	2480	1.6	2.0	3.5	4.0
0.5	470	430	670	>4500	>4500	2.2	2.6	4.6	5.5
1.0	540	890	1380	>4500	>4500	3.0	3.5	6.2	7.4
2.0	650	1670	2600	>4500	>4500	3.7	4.4	7.8	9.3
3.0	730	2410	3750	>4500	>4500	4.2	4.9	8.8	10.5
4.0	800	3120	>4500	>4500	>4500	4.7	5.3	9.5	11.2
5.0	850	3820	>4500	>4500	>4500	4.9	5.6	10.0	11.8
6.0	900	>4500	>4500	>4500	>4500	5.1	5.8	10.4	12.3
7.0	940	>4500	/	>4500	/	5.2	/	10.8	/
8.0	970	>4500	/	>4500	/	5.3	/	11.1	/
9.0	1000	>4500	/	>4500	/	5.4	/	11.4	/
10.0	1020	>4500	/	>4500	/	5.5	/	11.6	/

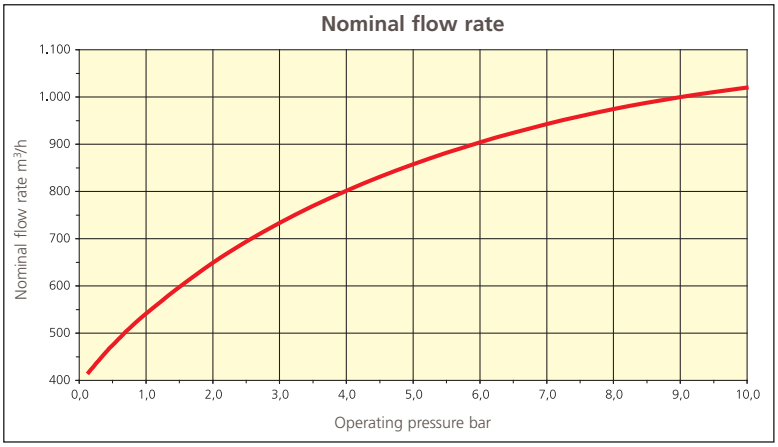
Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

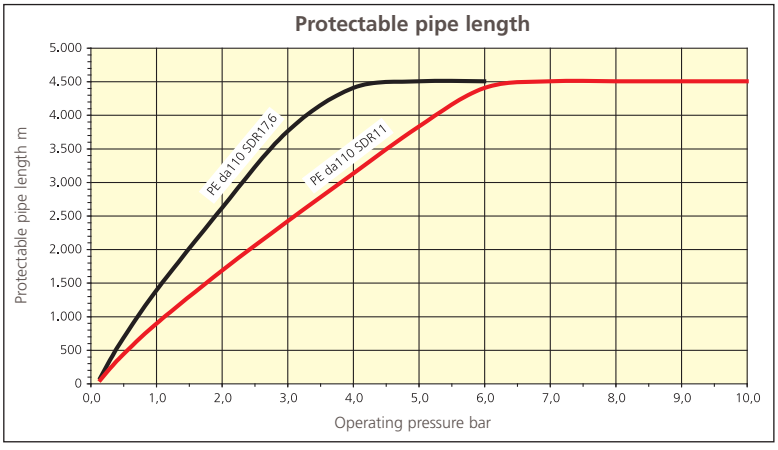
Pressure drop at Vn:
max. 25.0 mbar

Installation position:
Permissible deviation from the horizontal installation position max. ±5°

Tightness or overflow rate:
GSA110/150UE - 1.0 m³/h at 10.0 bar (Natural gas H)

Protectable pipe length:
Guide values acc. DVGW VP305-2, Annex B
Damage size Ø 50 mm and k = 0.3 mm





da160 see table

Pipelife Gas-Stop™ GSA110/300UE Distribution Lines d110/DN100

(d160/DN150 with reduction)

Excess Flow Valve
Operating Pressure Range: 0.3 to 10.0 bar
Colour code: WHITE

Fig. 43

Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Protectable pipe length m				Reopening time min/m			
		da110 SDR11	da110 SDR17.6	da160 SDR11	da160 SDR17.6	da110 SDR11	da110 SDR17.6	da160 SDR11	da160 SDR17.6
0.3	540	100	155	700	1090	1.6	2.0	3.5	4.0
0.5	590	235	365	1660	2580	2.2	2.6	4.6	5.5
1.0	690	530	820	3750	>4500	3.0	3.5	6.2	7.4
2.0	870	1040	1610	>4500	>4500	3.7	4.4	7.8	9.3
3.0	1010	1500	2340	>4500	>4500	4.2	4.9	8.8	10.5
4.0	1150	1960	3050	>4500	>4500	4.7	5.3	9.5	11.2
5.0	1270	2410	3750	>4500	>4500	4.9	5.6	10.0	11.8
6.0	1375	2850	4440	>4500	>4500	5.1	5.8	10.4	12.3
7.0	1480	3300	/	>4500	/	5.2	/	10.8	/
8.0	1575	3730	/	>4500	/	5.3	/	11.1	/
9.0	1670	4170	/	>4500	/	5.4	/	11.4	/
10.0	1750	4600	/	>4500	/	5.5	/	11.6	/

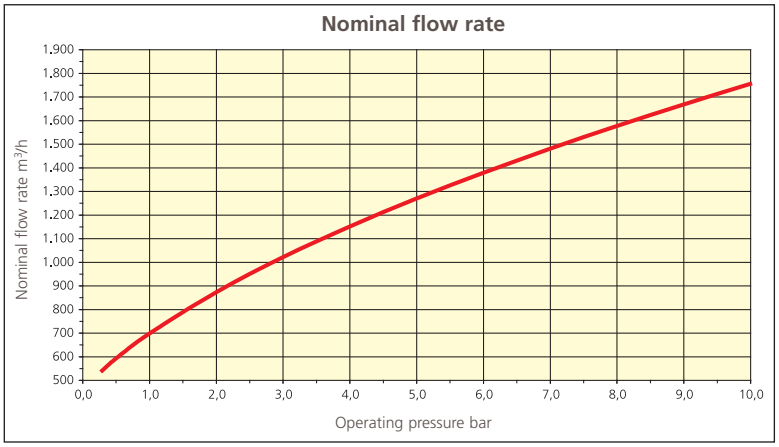
Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

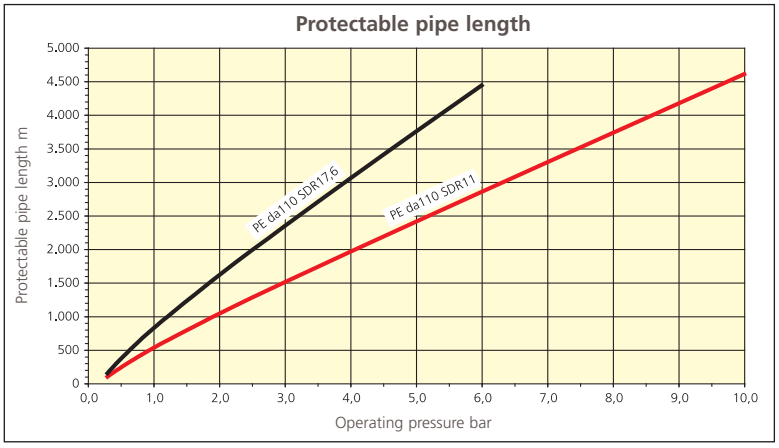
Pressure drop at Vn:
max. 30.0 mbar

Installation position:
Permissible deviation from the horizontal installation position max. ±5°

Tightness or overflow rate:
GSA110/300UE - 1.0 m³/h at 10.0 bar (Natural gas H)

Protectable pipe length:
Guide values acc. DVGW VP305-2, Annex B
Damage size Ø 50 mm and k = 0.3 mm





da160 see table

Pipelife Gas-Stop™ GSA110/300UE/S Distribution Lines d110/DN100

(d160/DN150 with reduction)

Excess Flow Valve
Operating Pressure Range: 0.3 to 10.0 bar
Colour code: WHITE

Fig. 44

Operating pressure pe bar	Nominal flow rate Vn max. m³/h	Protectable pipe length m				Reopening time min/m			
		da110 SDR11	da110 SDR17.6	da160 SDR11	da160 SDR17.6	da110 SDR11	da110 SDR17.6	da160 SDR11	da160 SDR17.6
0.3	650	70	105	480	750	1.6	2.0	3.5	4.0
0.5	700	185	280	1310	2050	2.2	2.6	4.6	5.5
1.0	840	440	680	3130	>4500	3.0	3.5	6.2	7.4
2.0	1060	880	1370	>4500	>4500	3.7	4.4	7.8	9.3
3.0	1240	1280	2000	>4500	>4500	4.2	4.9	8.8	10.5
4.0	1400	1680	2610	>4500	>4500	4.7	5.3	9.5	11.2
5.0	1550	2060	3210	>4500	>4500	4.9	5.6	10.0	11.8
6.0	1680	2450	3800	>4500	>4500	5.1	5.8	10.4	12.3
7.0	1810	2830	/	>4500	/	5.2	/	10.8	/
8.0	1920	3200	/	>4500	/	5.3	/	11.1	/
9.0	2040	3580	/	>4500	/	5.4	/	11.4	/
10.0	2140	3960	/	>4500	/	5.5	/	11.6	/

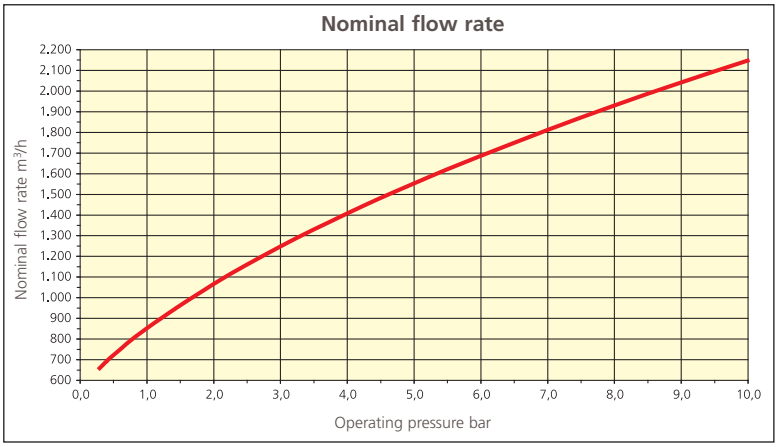
Nominal flow rate Vn:
Natural gas H ρ_n = 0.74 kg/m³ at 0° C, 1013.25 mbar

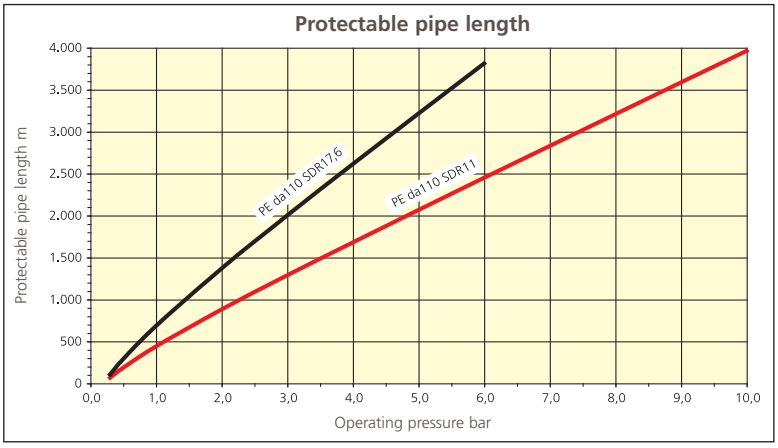
Pressure drop at Vn:
max. 45.0 mbar

Installation position:
Permissible deviation from the horizontal installation position max. ±5°

Tightness or overflow rate:
GSA110/300UE/S - 1.0 m³/h at 10.0 bar (Natural gas H)

Protectable pipe length:
Guide values acc. DVGW VP305-2, Annex B
Damage size Ø 50 mm and k = 0.3 mm





da160 see table

Installation and Operating Instructions Pipelife Gas-Stop™ for Distribution Lines

Before Installation

- Check whether the operating pressure range on the rating plate with the serial number corresponds with the intended operating pressure range.

Pressure range marking

- Check, whether the recommended manually operable shut-off valve is included downstream of the Pipelife Gas-Stop™ unit. Ensure, that this shut-off valve is installed as close as possible to the Pipelife Gas-Stop™ unit. This enables the shortest possible reopening times.

Assigned manual shut-off valve

- In order to ensure in each case exact identification of the Pipelife Gas-Stop™ unit installed in the pipe network, we recommend that you document the serial number of the Pipelife Gas-Stop™ unit in the installation report.

Serial number

- Scrape the welding ends of the adapter in accordance with the welding instructions. Then clean the welded ends with PE cleaning agent.

Preparation adapter

- The Pipelife Gas-Stop™ units for distribution lines may only be installed with electrofusion couplers. Pipes or pipe sections of the pipe series SDR 11 as well as SDR 17.6 (17) can be welded on. Due to the relatively heavy weight of the Pipelife Gas-Stop™ unit, a support device (support clamp) must be used during the welding procedure.

Attention!

Commissioning

- Close manual shut-off valve (sleeve-valve recommended) after the Pipelife Gas-Stop™ unit.
- By means of carefully controlled opening of the shut-off valve downstream of the Pipelife Gas-Stop™ unit, fill the pipeline conduit and/or the pipe network after the Pipelife Gas-Stop™ unit with gas. Opening the shut-off valve too quickly can lead to shut-off of the Pipelife Gas-Stop™ unit. If this should occur, perform a recommissioning procedure (see Recommissioning).
- **If a ball valve is used as downstream shut-off valve, this is to be opened particularly slowly and in a carefully controlled manner. In the start phase, open the ball valve max. 2–3°.**

Note

- After establishing the pressure balance, open the shut-off valve completely.

Recommissioning

Damage
- After damage to a distribution main line within the protectable pipe length the Pipelife Gas-Stop™ unit shuts-off. Before beginning the repair close the shut-off valve situated upstream or downstream of the Pipelife Gas-Stop™ unit.

Repair
- Carry out the repair under observation of the respective safety precautions required.

Reopening
- After the repair has been completed, carry out the recommissioning by opening the downstream shut-off valve in a controlled manner.

Example GSA110/150UE

On a pipe section da110 with a length of 2 m between the Pipelife Gas-Stop™ unit and the downstream shut-off device (operating pressure = 2 bar) the Pipelife Gas-Stop™ unit opens after approx. 4 min 30 sec.

Example GSA63/300UE

On a pipe section da63 with a length of 1 m between the Pipelife Gas-Stop™ unit and the downstream shut-off device (operating pressure = 2 bar) the Pipelife Gas-Stop™ unit opens after approx. 70 sec.

Installation with Reduction

When using Pipelife Gas-Stop™ units for pipelines of the next larger dimension an intermediate pipe section must be used in order to exclude any axial offset of the Pipelife Gas-Stop™ unit (Fig. 45).

Pipelife Gas-Stop™ Installation in pipeline of the next larger dimension

1. PE-pipe d110/DN100 or intermediate piece
2. Electrofusion coupler d110
3. Pipelife Gas-Stop™ GSA110
4. Electrofusion coupler d110/d160

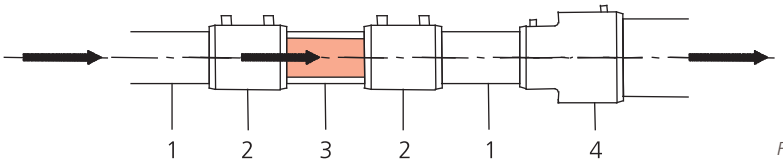


Fig. 45

Installation Examples in Pipelines

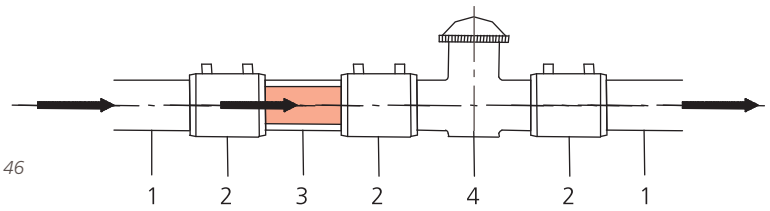


Fig. 46

Pipelife Gas-Stop™
Installation with shut-off valve

1. PE-pipe d110/DN100
2. Electrofusion coupler d110/DN100
3. Pipelife Gas-Stop™ GSA110
4. Shut-off valve DN100

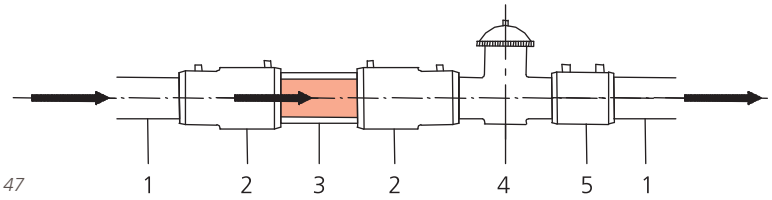


Fig. 47

Pipelife Gas-Stop™
Installation with reduction and shut-off valve

1. PE-pipe d90/DN80
2. Electrofusion coupler d90/d110
3. Pipelife Gas-Stop™ GSA110
4. Shut-off valve DN90
5. Electrofusion coupler d90

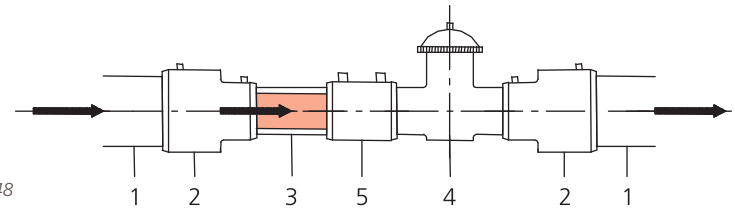


Fig. 48

Pipelife Gas-Stop™
Installation in pipeline d160/ DN150 with shut-off valve DN100

1. PE-pipe d160/DN150
2. Electrofusion coupler d160/d110
3. Pipelife Gas-Stop™ GSA110
4. Shut-off valve DN100
5. Electrofusion coupler d110

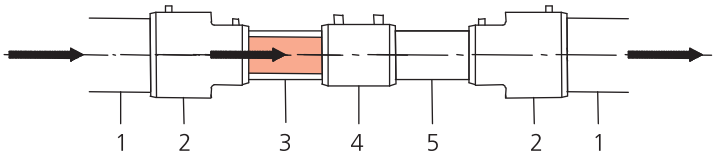


Fig. 49

Pipelife Gas-Stop™
Installation in pipeline d160/ DN150 without shut-off valve

1. PE-pipe d160/DN150
2. Electrofusion coupler d160/d110
3. Pipelife Gas-Stop™ GSA110
4. Electrofusion coupler d110
5. Intermediate pipe section d110/DN100

A shut-off device DN150 can be arranged at the output-side.

Installation examples in the distribution network
Protectable pipe lengths, examples:

Pipe PE d110/DN100, SDR 17.6
pe = 1 bar

1. PE-pipe d110/DN100
2. Pipelife Gas-Stop™ GSA110/150UE
3. Shut-off valve DN100

Fig. 50

GSA110/150UE l = 1,380 m

Pipe PE d160/DN150, SDR 1
pe = 3 bar

1. PE-pipe d110
2. Pipelife Gas-Stop™ GSA110/300UE
3. Shut-off valve DN100
4. Reduction 160/110

Fig. 51

GSA110/300UE l = >4,500 m

Closed circular pipe PE d110/DN100, SDR 11
pe = 6 bar

1. PE-pipe d110/DN100
2. Pipelife Gas-Stop™ GSA110/300UE/S
3. Shut-off valve DN100

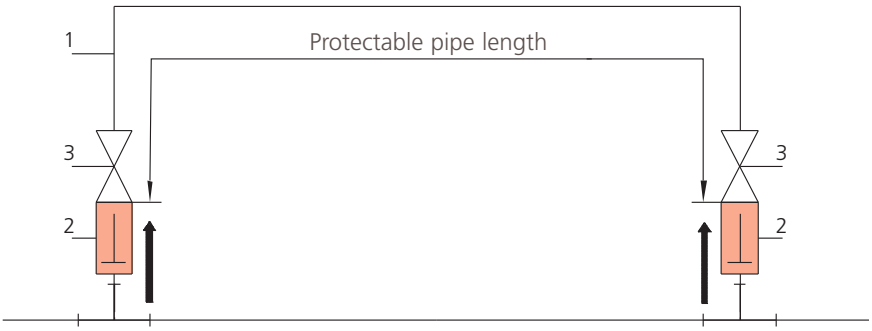


Fig. 52

GSA110/300UE/S l = 2,450 m

Branch PE da110/DN100, SDR 11
pe = 4 bar

1. PE-pipe d110/DN100
2. Pipelife Gas-Stop™ GSA110/150UE
3. Shut-off valve DN10

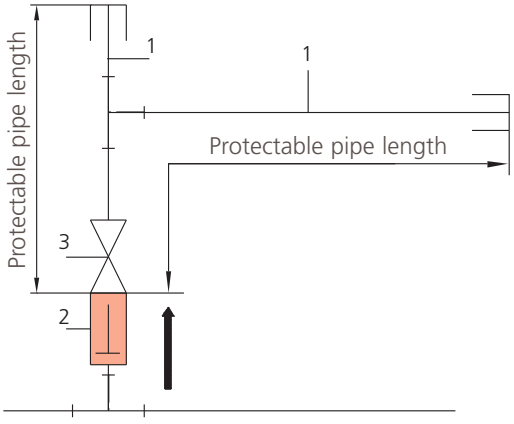


Fig. 53

GSA110/150UE l = 3,120 m

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