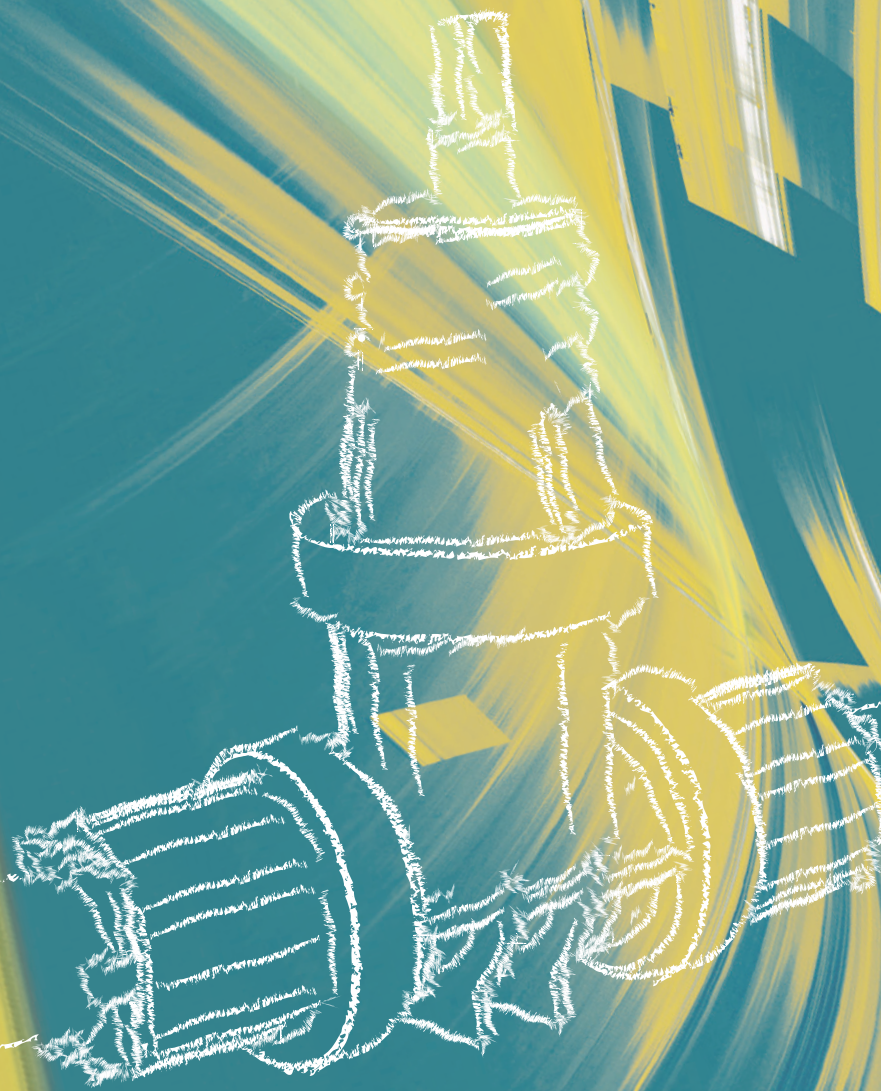




HAWLE-***GAS CATALOGUE***



HAWLE. **MADE FOR GENERATIONS.**



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A family company with a proud tradition and an eye on the future.

Hawle, a purely family-owned company founded in 1948 is the worldwide leader in the production of an extensive product range of valves and connecting pieces. Hawle is an innovation leader in the development of high-quality valve solutions. In compliance with European and additionally applicable standards, Hawle produces high-performance and durable quality fittings for the construction and the use of water pipelines, as well as the necessary accessories and the required equipment.

Our specialist area of water and wastewater systems also includes customised fittings for special applications and special conditions.

An excellent understanding of the manufacturing process and the production requirements, extensive knowledge in water supply, years of experience and a broad service program enables us to create the optimum product for pipeline connections in all areas of international water supply.

The unique **10 year quality guarantee** for Hawle products in the drinking water area confirms our leading position for innovation and quality.

The employees of our company, which has its registered office in Vöcklabruck (Austria), bring all their service and subject knowledge into the research, design, development as well as the production process.

HAWLE products are exclusively produced in Europe in the most up-to-date production facilities. More than 98% of the raw materials used in the products come from Europe. HAWLE products are manufactured by well-trained specialists, thus guaranteeing careful monitoring of the quality in each phase of the production process. The majority of the components are also produced by HAWLE. So the functionality and the quality is assured and guaranteed in each production step.

Hawle stands for high quality, efficiency and durability. Therefore international customers trust in our products and technologies - for generations.

For more details go to **www.hawle.at**

100% Hawle, 100% proven quality

We are constantly striving for improvements together with our partner companies all over the world. In order to achieve this we focus on the requirements of our customers, invest in the most up-to-date technology and offer professional service and technical support. HAWLE has an excellent network of partners, which ensures an efficient and competent distribution of all our products. Our central warehouse in Frankenmarkt, Austria, supplies this network with numerous finished products, which are stored in over 10,000 pallet spaces.

The pipe connections which our technicians develop today will be used tomorrow for your secured water supply.

Hawle offers a competent, round-the-clock service. As soon as we receive your call we immediately put all our efforts into finding a solution to your problem.

HAWLE. **MADE FOR GENERATIONS.**



SYSTEM CERTIFIED

ISO 9001:2015	No.00545/0
ISO 14001:2015	No.01873/0
ISO 50001:2011	No.00130/0



Vöcklabruck plant
Austria



Frankenmarkt plant
Austria



10-years quality guarantee

(Water for human consumption and natural gas)

E. Hawle Armaturenwerke GmbH (hereinafter referred to as "HAWLE") guarantees the functional capability of all valves and fittings manufactured by HAWLE with the original "HAWLE" inscription, which are used as intended for water for human consumption in accordance with Directive 98/83/EC or for natural gas in accordance with ÖVGW (Austrian Association for the Gas and Water Industry) G 31, for a period of 10 (ten) years from the date of delivery from our works. However, the maximum guarantee period afforded by HAWLE is 11 (eleven) years from the date of manufacture of the product. In the event of a guarantee claim, it is the responsibility of the customer to prove that the guarantee has not expired, e.g. by presenting the invoice or the original product label.

Should a valve or fitting lose its functional capability during the guarantee period, HAWLE shall either repair the product or deliver an equivalent replacement product to the place of performance agreed with HAWLE, at its discretion. HAWLE will not assume any additional costs or damages incurred by the customer or third parties within the scope of this guarantee, in particular no costs in connection with disassembly and installation, location or reinstallation. Purely optical flaws that in no way impair tightness, tensile safety or the operation of the valve or fitting do not constitute a guarantee claim.

The guarantee also excludes, but is not limited to, wear parts and damage caused by improper storage, transport and assembly, non-compliance with instructions for use, failure to perform pressure tests, utilisation outside the limits of standard applications and general operating parameters, inadequate maintenance, subsequent manipulation or utilisation with unsuitable liquids or gases. The guarantee does not extend to extraordinary environmental conditions, vibrations or residues from the medium or similar external influences, nor to actions by third parties, accidents and other events over which HAWLE has no control.

Please also note the exceptions and special regulations applicable to certain products in our catalogue and on our homepage www.hawle.at.

This guarantee is subject exclusively to Austrian law to the exclusion of international conflict of law rules. Any warranty claims arising from the purchase contract shall not be restricted by this guarantee.

This guarantee applies to all deliveries as of 01.01.2019 for valves and fittings manufactured by HAWLE which are used for water intended for human consumption in accordance with Directive 98/83/EC or for natural gas in accordance with ÖVGW (Austrian Association for the Gas and Water Industry) G 31. Any guarantees or warranties issued by HAWLE prior to this effective date shall not be valid for any deliveries made thereafter.



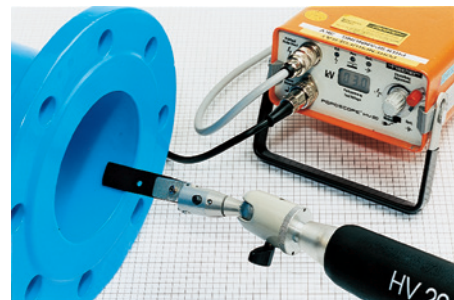
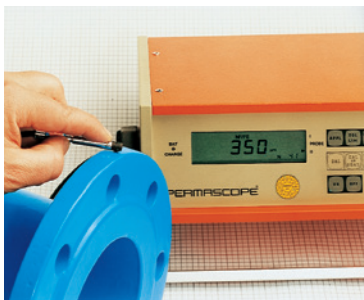
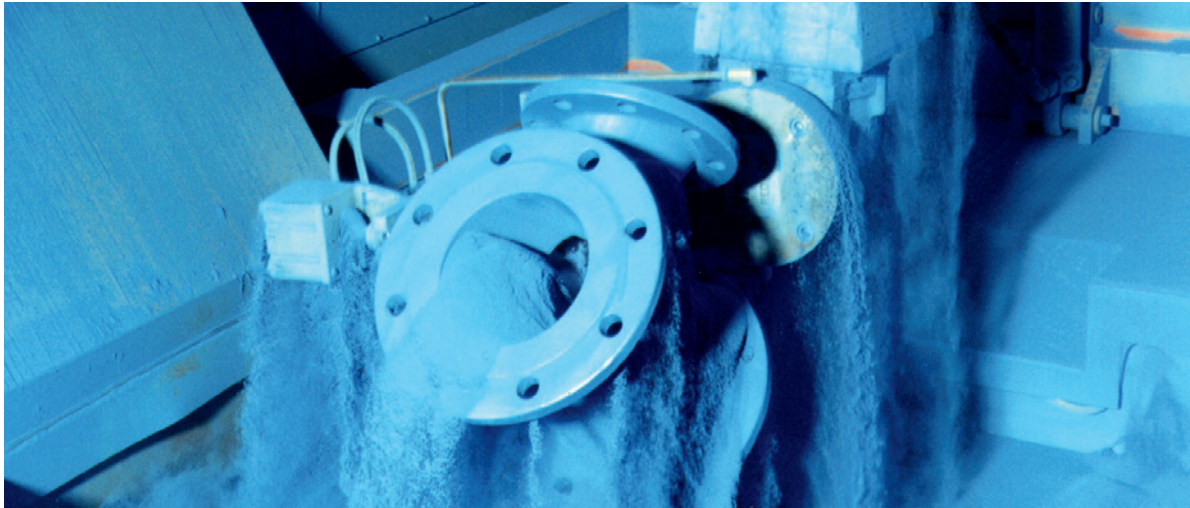
2-year warranty

In addition to our quality guarantees, Hawle warrants in accordance with Austrian law that our products correspond to the relevant contract at the time of delivery. In the event of incorrect storage, transport, assembly, usage regulations not being observed, failure to pressure-test, insufficient maintenance, subsequent manipulation or usage for non-suitable fluids or gases there is not entitlement to warranty claims. The warranty period runs for a maximum of two years ex-works delivery. Please see the Hawle delivery conditions for further details of the warranty.















High quality corrosion protection using the GSK fluidised bed Epoxy coating system.

The environmental friendly solvent and pollution free powder coating technology!



Epoxy Powder-Coated coating according to GSK:

-  Fulfills the requirements according to EN 14901 (pipes, fittings and accessories)
-  Minimum coated thickness 250 µm
-  Zero porosity
-  High adhesion to metal (min. 12 N/mm²)
-  High resilience (no cracking)
-  Smooth surface (makes incrustation more difficult)
-  Suitable for food use according to the guidelines for hygienic evaluation of organic coating in contact with drinking water (coating guideline) of the German Federal Health Office
-  High impact resistance
-  Bacteriological approval to DVGW recommendation W270
-  Regular quality tests according DIN 3476-1 - coating thickness, adhesion, spark-testing, impact resistance
-  Independent auditing of quality control systems by MPA Hannover in accordance with the test methods of **GSK** (Gütegemeinschaft Schwerer Korrosionsschutz - the association for high quality corrosion protection)
-  HAWLE standard colour RAL 5012, RAL 1023

STANDARD APPLICATIONS:

Our products are intended for localised installation in natural gas pipelines made from PE, PVC or steel pipes.

STANDARD MEDIUM:

- **Natural gas**
In compliance with the requirements of the ÖVGW G 31

GENERAL OPERATING PARAMETERS:

Natural gas:

Medium temperature: -10° C to max. 50° C

For the specific operating parameters of our products, please refer to the respective product pages of our catalogue and our homepage **www.hawle.at**.

SPECIAL APPLICATIONS:

In case of deviating conditions of use or ambient conditions, please inform us right on your first inquiry about the specific operating conditions. If you have any questions regarding the suitability of products for certain operating conditions, please contact our Application Engineering department (phone: +43 (0) 7672 72576-0).

If our valves and fittings are used for other than the standard applications and without the approval granted by our Application Engineering department regarding the conditions of use, we cannot assume any liability.

APPLICATION INSTRUCTIONS:

Valves and fittings should be stored in a cool, dry and low-dust environment protected from weather. Avoid exposure to direct sunlight or UV light, unless the valves and fittings are designed for use above ground. For the correct installation and maintenance of our valves and fittings, please observe our instructions as well as the pertinent European standards (EN), as well as the directives of the ÖVGW (the Austrian Association for Gas and Water) and/or comparable national technical standards.

All Hawle shut-off valves (valves and house connection valves) are tested according to EN 12266-1 (DIN 3230-T5) (Fig. 1 and 2)

Tests performed during the production process:

1. Body and spindle connection leakage test:

Test pressure: 0.5 bar and 6 bar

Medium: air

2. Body mechanical strength:

Test pressure: 1,5 x times the operating pressure rating

Medium: water

3. Closed wedge leakage test:

Test pressure: 0,5 bar und 6 bar

Medium: air

Rotation welded ISO pipe fittings made from POM are tested for weld leak tightness (Fig.3)

Test pressure: 6 bar

Medium: air



Fig. 1



Fig. 2

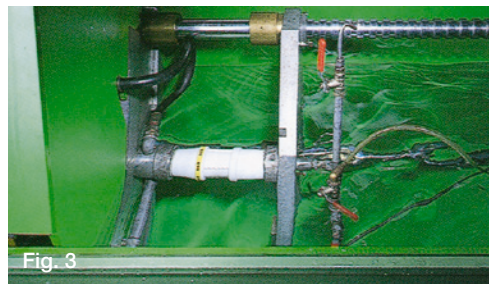


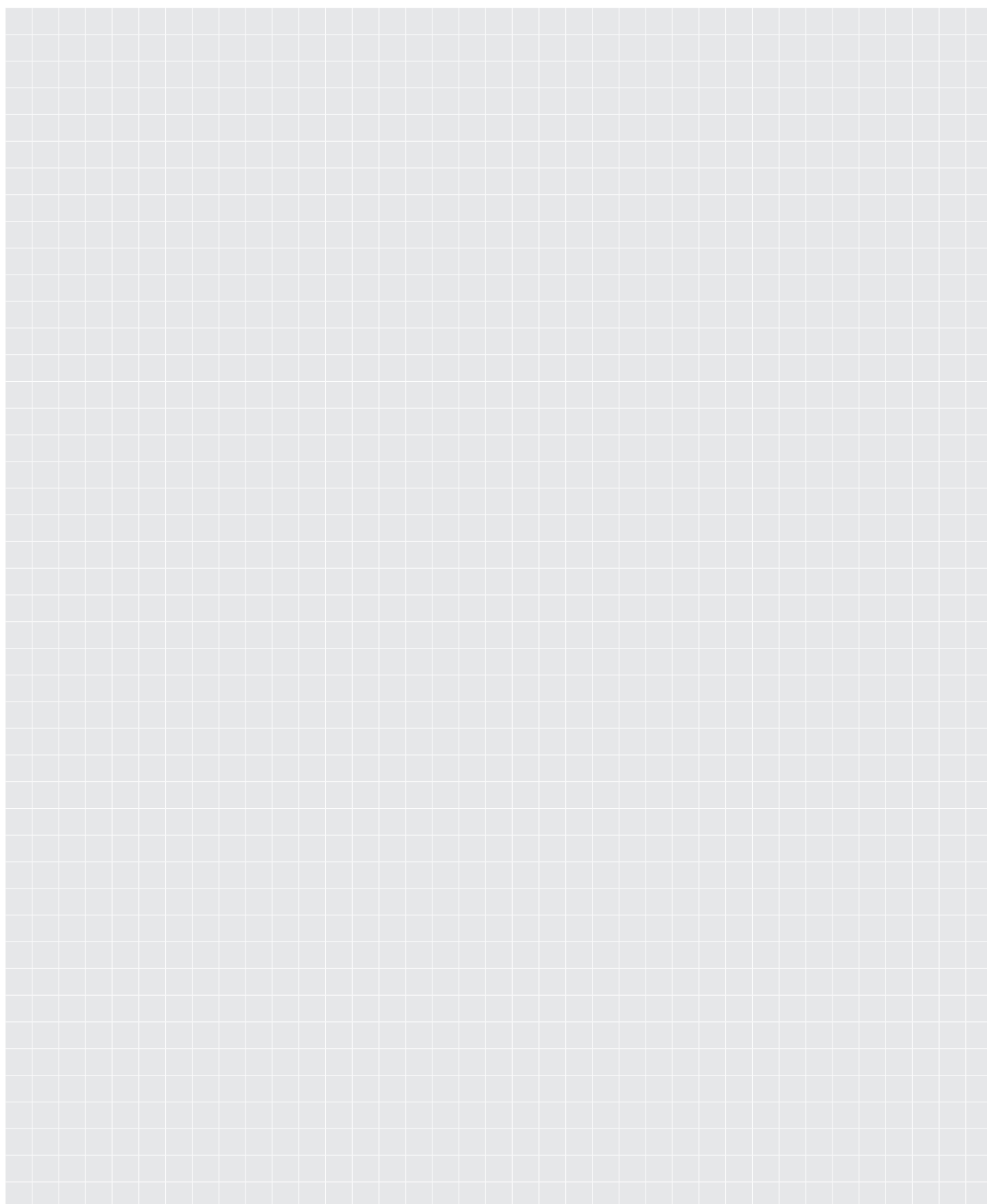
Fig. 3

Required ordering specifications:

- | | |
|----------------------------|---|
| 1. Operating pressure: | Depending on the valve type PN 1, PN 5, PN 10 or PN 16 |
| 2. Flange bore: | PN 10 (standard) or PN 16 |
| 3. Installation situation: | PG-1 (underground installation) or PG-3 (installation in plant) |

When an installation situation (operating pressure) is not specified for an order, the tests are carried out to PG-1/DIN 3230-T 5 for max. 5 bar operating pressure.

Manipulation of products (changes, repairs, component replacements, loosening of joints made in the works, etc.) are not permitted and render the guarantee, warranty obligation and product liability invalid.



E2 VALVE

With flange DN 50-200, PN 10 | PN 16



Design features

- Resilient seated gate valve with smooth straight-through bore in compliance with EN 13774 (EN 1074-1 and 2)
- Flanges sized in accordance with EN 1092-2, drilled according to
EN 1092-2 | PN 10 standard (4005E2, 4705E2);
EN 1092-2 | PN 16 from DN 200 (4005E2, 4705E2)
Please specify on order - other standards on request
- **Wedge guide** with high glide characteristics; load-optimised design guarantees lowest wear and minimum closing torques
- **Wedge nut** allows high torque load through large dimensioning of the required thread length
- **O-rings, lip seals** mounted in rust-proof material on all sides
- **Edge protection** protects during transport and storage
- **Friction washers** (DN 50 to DN 200) guarantee low friction mounting of the spindle
- One extension spindle for several dimensions
- **100%** suitable for underground installation

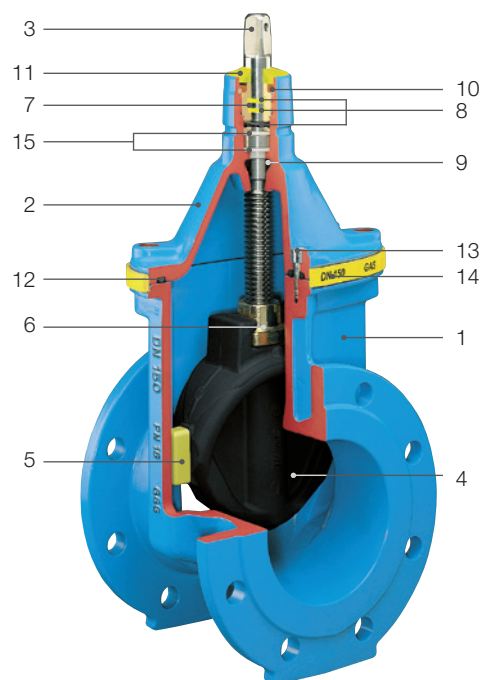
Standard version: without handwheel and extension spindle

Design versions: with position indicator: No. 4005STE2

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

No. 4005E2

No. 4705E2



Material | technical features

- Body** (1) and **Bonnet** (2) made of ductile iron, inside and outside epoxy powder coated, ring groove on head part for a pinless force-fitting connection of the extension spindles
- Stainless steel spindle** with rolled thread and flat-rolled sealed sliding surface
- Wedge** made of ductile iron, inside and out with vulcanized elastomer
- Wedge guide** made of wear-resistant plastic
- Wedge nut** made of dezincification-resistant brass
- O-ring bush** made of brass
- O-rings** made of elastomer
- Back seal** made of elastomer
- Retaining ring** made of POM
- Wiper ring** made of elastomer
- Bonnet gasket** made of elastomer
- Allen screws** encased into the body with an enclosing gasket and wax, ensuring full corrosion protection
- Edge protection** made of PE
- Friction washers** made of POM

Order no.	Version	MOP (PN)	Dimensions/DN						
			50	65	80	100	125	150	200
4005E2	short EN 558-1 GR 14	16							
4705E2	long EN 558-1 GR 15	16							

Suitable accessories

Suitable accessories:

Handwheel:	No. 7800
Extension spindles:	rigid No. 9000E2 telescopic No. 9500E2
Surface boxes:	rigid No. 1755
Base plate:	No. 3481, No. 3490

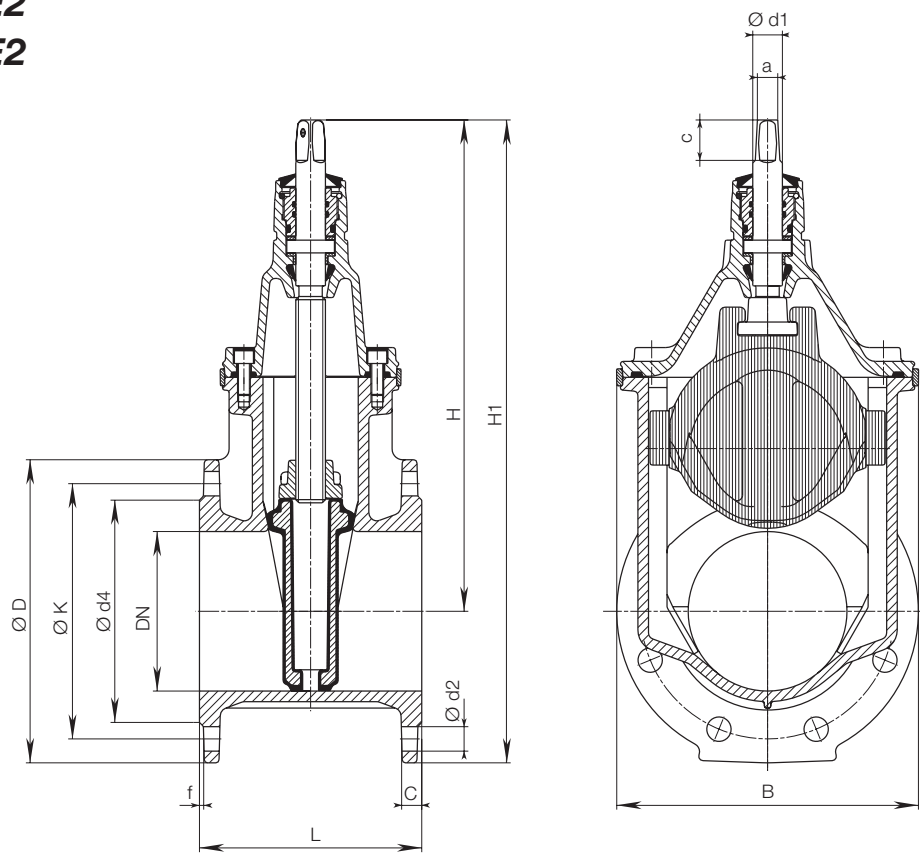
E2 VALVE

With flange DN 50-200, PN 10 | PN 16



No. 4005E2

No. 4705E2



DN	MOP (PN)	Flange					Bolts			Spindle			Valve					Weight	
		ØD	C	ØK	Ød4	f	Qty.	Thread	Ød2	a	c	Ød1	H	H1	L short	L long	B	short	long
50	10 16	165	19	125	98	3	4	M 16	19	14,8	30	22	260	342	150	250	143	11,0	12,0
65	10 16	185	19	145	118	3	4	M 16	19	17,3	35	25	328	420	170	270	180	17,0	18,0
80	10 16	200	19	160	133	3	8	M 16	19	17,3	35	25	336	436	180	280	180	18,5	20,5
100	10 16	220	19	180	153	3	8	M 16	19	19,3	38	25	373	483	190	300	213	24,5	27,5
125	10 16	250	19	210	183	3	8	M 16	19	19,3	38	28	450	575	200	325	285	35,5	38,0
150	10 16	285	19	240	209	3	8	M 20	23	19,3	38	28	462	605	210	350	285	40,5	46,0
200	10	340	20	295	264	3	8	M 20	23	24,3	48	32	563	733	230	400	357	64,0	72,0
	16						12												



The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.



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Tel.: +43 (0) 7672 72576 0 - Fax: +43 (0) 7672 78464 - E-Mail: hawle@hawle.at - www.hawle.com

E2 VALVE

With flange DN 250-500, PN 10 | PN 16



Design features

- Resilient seated gate valve with smooth straight-through bore in compliance with EN 13774 (EN 1074-1 and 2)
- Flanges sized in accordance with EN 1092-2, drilled according to
EN 1092-2 | PN 10 standard (4005E2, 4705E2);
EN 1092-2 | PN 16 from DN 200 (4005E2, 4705E2)
Please specify on order - other standards on request
- **Wedge guide** with high glide characteristics; load-optimised design guarantees lowest wear and minimum closing torques
- **Wedge nut** allows high torque load through large dimensioning of the required thread length
- **O-rings, lip seals** mounted in rust-proof material on all sides
- **Edge protection** protects during transport and storage
- **Ball bearings** (DN 250 to DN 500) in the spindle seating minimizes closing forces
- Easy to actuate without bypass and without power boost - even for 16 bar differential pressure
- For the assembling of a position indicator it is necessary to remove the centering flange and mount the adapter for position indicator
- **100%** suitable for underground installation

Standard version: without handwheel and extension spindle

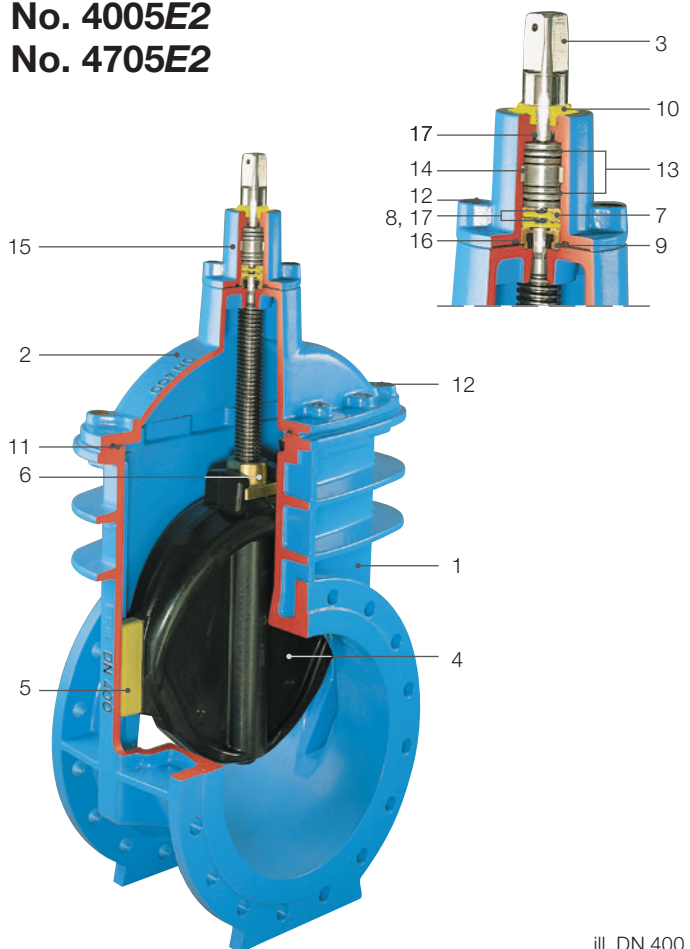
Design versions: with position indicator: No. 4005STE2

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

- 1, 2, **Body (1), bonnet (2), centering flange (15)**
15 made of ductile iron, epoxy powder coated inside and out
- 3 **Stainless steel spindle** with rolled thread and flat-rolled sealed sliding surface
- 4 **Wedge** made of ductile iron, inside and out with vulcanized elastomer
- 5 **Wedge guide** made of wear-resistant plasti
- 6 **Wedge nut** made of dezincification-resistant brass
- 7 **O-ring bush** made of brass
- 8,17 **O-rings (8), lip seals (17)** made of elastomer
- 9 **Back seal** made of elastomer
- 10 **Wiper ring** made of elastomer
- 11 **Bonnet gasket** made of elastomer
- 12 **Allen screws** encased into the body with an enclosing gasket and wax, ensuring full corrosion protection
- 13 **Ball bearing** made of DN 250, permanently lubricated
- 14 **Centering ring** made of POM
- 16 **Centering flange gasket** made of elastomer

No. 4005E2 No. 4705E2



ill. DN 400

Order no.	Version	MOP (PN)	Dimensions/DN				
			250	300	350	400	500*
4005E2	short	16					
	EN 558-1 GR 14						
4705E2	long	16					
	EN 558-1 GR 15						

* Body: DN 400 - flange connection: DN 500

Suitable accessories

Suitable accessories:

Handwheel:	No. 7800
Extension spindles:	rigid No. 9000E2 telescopic No. 9500E2
Surface boxes:	rigid No. 1755
Base plate:	No. 3481, No. 3490

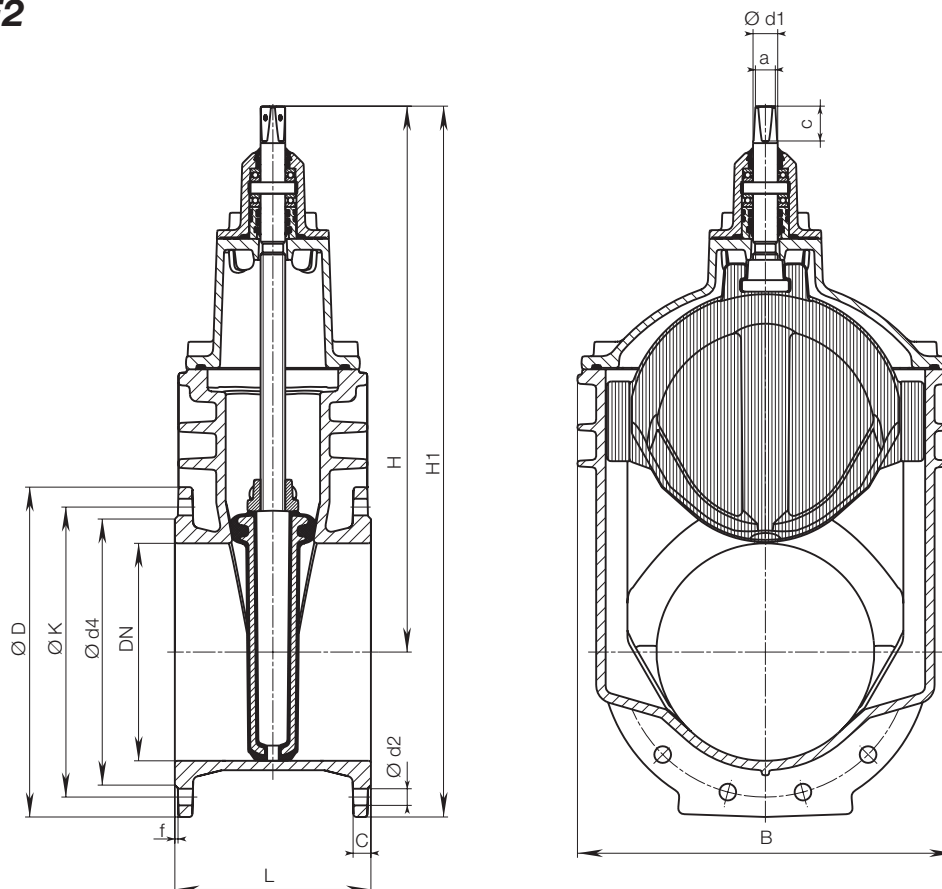
E2 VALVE

With flange DN 250-500, PN 10 | PN 16



No. 4005E2

No. 4705E2



DN	MOP (PN)	Flange					Bolts			Spindle			Valve					Weight	
		Ø D	C	Ø K	Ø d4	f	Qty.	Thread	Ø d2	a	c	Ø d1	H	H1	L short	L long	B	short	long
250	10	400	22	350	319	3	12	M 20	23	27,3	48	34	670	870	250		432	100,0	
	16			355				M 24	28										
300	10	455	24,5	400	367	4	12	M 20	23	27,3	48	34	753	981	270	500	518	147,0	170,0
	16			410				M 24	28										
350	10	520	26,5	460	427	4	16	M 20	23	27,3	48	34	838	1098	290		604	205,0	
	16			470				M 24	28										
400	10	580	28	515	477	4	16	M 24	28	32,3	55	44	974	1264	310		687	261,0	
	16			525				M 27	31										
500*	10	715	31,5	620	582	4	20	M 24	28	32,3	55	44	974	1345		700	687		371,0
	16			650				M 30	34										

* Body: DN 400 - flange connection: DN 500



The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.



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13

E2 VALVE FOR PE FUSION

DN 50-200, PN 6 | PN 10

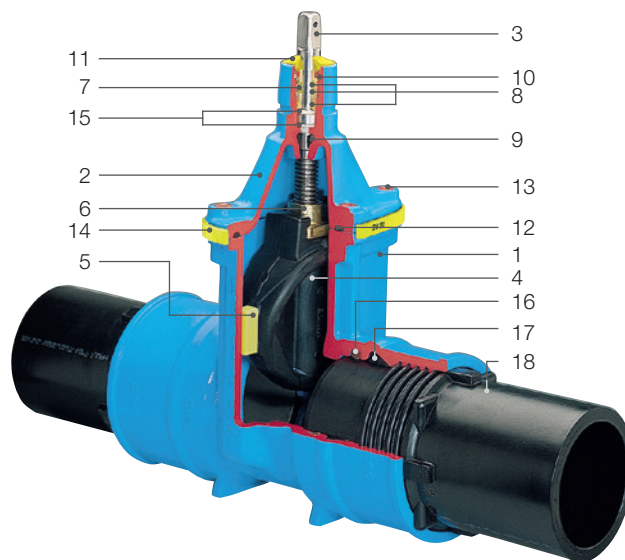


Design features

- Resilient seated gate valve with PE fusion tails in combination with PE pipes according to EN 1555-2, DIN 8074
- This resilient seated valve has PE tails screwed and sealed into the sockets
- High performance sealing of the PE tails within the sockets is assured by two separate seals and a support liner
- The valve can be connected to the PE pipeline by either butt fusion or electrofusion
- **Wedge guide** with high glide characteristics; load-optimised design guarantees lowest wear and minimum closing torques
- **Wedge nut** allows high torque load through large dimensioning of the required thread length
- **O-rings** mounted in rust-proof material on all sides
- **Edge protection** protects during transport and storage
- **Friction washers** guarantee low friction mounting of the spindle
- One extension spindle for several dimensions
- **100%** suitable for underground installation

No. 4055E2

No. 4056E2



Standard version: without handwheel and extension spindle

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

- Body** (1) and **Bonnet** (2) made of ductile iron, inside and outside epoxy powder coated, ring groove on head part for a pinless force-fitting connection of the extension spindles
- Stainless steel** spindle with rolled thread and flat-rolled sealed sliding surface
- Wedge** made of ductile iron, inside and out with vulcanized elastomer
- Wedge guide** made of wear-resistant plastic
- Wedge nut** made of dezincification-resistant brass
- O-ring bush** made of brass
- O-rings** made of elastomer
- Back seal** made of elastomer
- Retaining ring** made of POM
- Wiper ring** made of elastomer
- Bonnet gasket** made of elastomer
- Allen screws** encased into the body with an enclosing gasket and wax, ensuring full corrosion protection
- Edge protection** made of PE
- Friction washers** made of POM
- Socket sealing** made of elastomer
- PE-fusion tail** Standard version PE 100 injection moulded, Support liner of stainless steel assembled in PE-fusion tail

Order no.	MOP (PN)	Dimensions/DN Pipe Ø									
		50	65	80	100	100	150	150	200	200	
		63	75	90	110	125	160	180	200	225	
4055E2	10										
4056E2	6										

PE-fusion tail: No. 4055E2 PN 10 / SDR 11
No. 4056E2 PN 6 / SDR 17.6

Suitable accessories

Suitable accessories:

Handwheel:	No. 7800
Extension spindles:	rigid No. 9000E2 telescopic No. 9500E2
Surface boxes:	rigid No. 1755
Base plate:	No. 3481, No. 3490

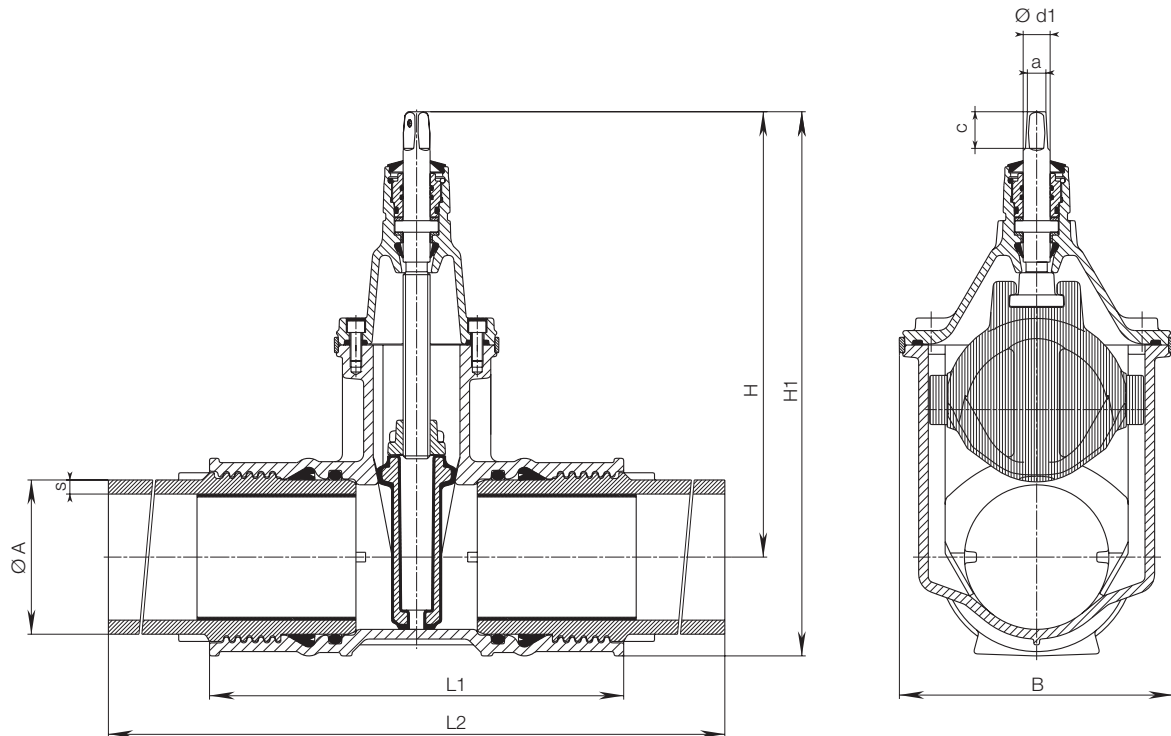
E2 VALVE FOR PE FUSION

DN 50-200, PN 6 | PN 10



No. 4055E2

No. 4056E2



PE-fusion tail: No. 4055E2 PN 10 / SDR 11
No. 4056E2 PN 6 / SDR 17.6

DN	ØA	Valve with PE tails							Spindle			Weight
		s (SDR 17.6)	s (SDR 11)	H	H1	L1	L2	B	a	c	Ød1	
50	63	3,6	5,8	260	309	280	648	143	14,8	30	22	10,5
65	75		6,9	328	384	295	657	180	17,3	35	25	17,0
80	90	5,1	8,2	336	400	310	668	180	17,3	35	25	20,0
100	110	6,3	10,0	373	449	340	710	213	19,3	38	25	28,0
100	125	7,1	11,4	373	458	395	761	213	19,3	38	25	30,0
150	160	9,1	14,6	462	565	430	796	285	19,3	38	28	50,5
150	180	10,4	16,4	462	577	458	814	285	19,3	38	28	57,5
200	200		18,2	563	701	514	900	357	24,3	48	32	76,0
200	225	12,8	20,5	563	701	514	900	357	24,3	48	32	81,0



The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.



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E2 VALVE FLANGE | PE TAIL

DN 50-200, PN 6 | PN 10



Design features

- Resilient seated gate valve with flange and PE fusion tail in combination with PE pipes according to EN 1555-2, DIN 8074
- This resilient seated valve has one flange and one PE tail screwed and sealed into the sockets
- High performance sealing of the PE tails within the sockets is assured by two separate seals and a support liner
- The valve can be connected to the PE pipeline by either butt fusion or electrofusion
- **Wedge guide** with high glide characteristics; load-optimised design guarantees lowest wear and minimum closing torques
- **Wedge nut** allows high torque load through large dimensioning of the required thread length
- **O-rings, lip seals** mounted in rust-proof material on all sides
- **Edge protection** protects during transport and storage
- **Friction washers** guarantee low friction mounting of the spindle
- Flanges sized in accordance with EN 1092-2, drilled according to EN 1092-2 | PN 10 standard
- One extension spindle for several dimensions
- **100%** suitable for underground installation

Standard version: without handwheel and extension spindle

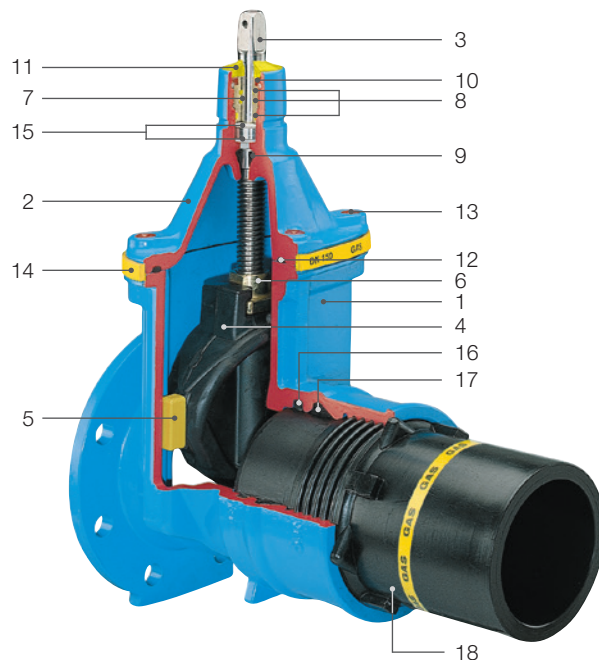
Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

- Body** (1) and **Bonnet** (2) made of ductile iron, inside and outside epoxy powder coated, ring groove on head part for a pinless force-fitting connection of the extension spindles
- Stainless steel** spindle with rolled thread and flat-rolled sealed sliding surface
- Wedge** made of ductile iron, inside and out with vulcanized elastomer
- Wedge guide** made of wear-resistant plasti
- Wedge nut** made of dezincification-resistant brass
- O-ring bush** made of brass
- O-rings** made of elastomer
- Back seal** made of elastomer
- Retaining ring** made of POM
- Wiper ring** made of elastomer
- Bonnet gasket** made of elastomer
- Allen screws** encased into the body with an enclosing gasket and wax, ensuring full corrosion protection
- Edge protection** made of PE
- Friction washers** made of POM
- Socket sealing** made of elastomer
- PE-fusion tail** Standard version PE 100 injection moulded, Support liner of stainless steel assembled in PE-fusion tail

No. 4095E2

No. 4096E2



Order no.	MOP (PN)	Dimensions/DN Pipe Ø						
		50	80	100	100	150	150	200
		63	90	110	125	160	180	225
4095E2	10							
4096E2	6							

PE-fusion tail: No. 4095E2 PN 10 / SDR 11
No. 4096E2 PN 6 / SDR 17.6

Suitable accessories

Suitable accessories:

Handwheel:	No. 7800
Extension spindles:	rigid No. 9000E2 telescopic No. 9500E2
Surface boxes:	rigid No. 1755
Base plate:	No. 3481, No. 3490

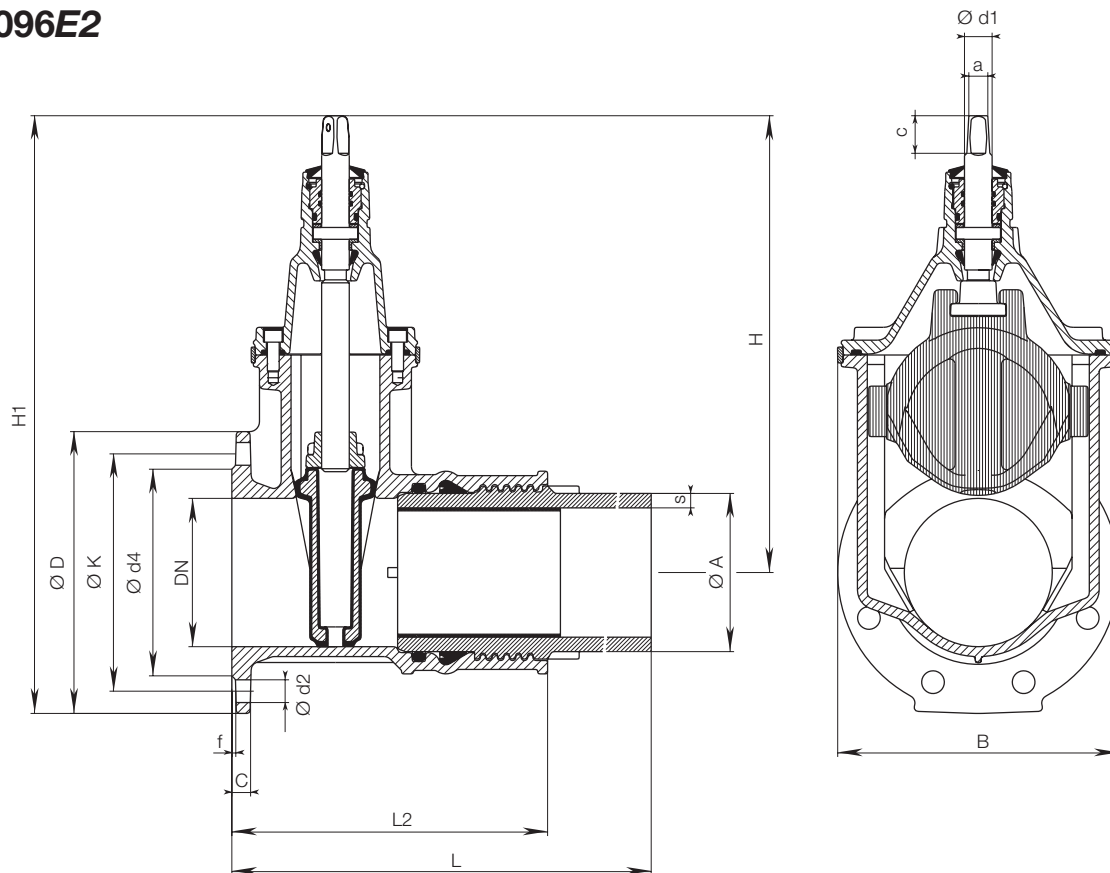
E2 VALVE FLANGE | PE TAIL

DN 50-200, PN 6 | PN 10



No. 4095E2

No. 4096E2



PE-fusion tail: No. 4095E2 PN 10 / SDR 11
No. 4096E2 PN 6 / SDR 17.6

DN	Ø Pipe	Flange					Bolts			Valve with PE tail							Spindle			Weight
		ØD	C	ØK	Ød4	f	Qty.	Thread	Ød2	s (SDR 17.6)	s (SDR 11)	H	H1	L	L2	B	a	c	Ød1	
50	63	165	19	125	98	3	4	M 16	19		5,8	260	342	399	215	143	14,8	30	22	11,5
80	90	200	19	160	133	3	8	M 16	19	5,1	8,2	336	436	425	245	180	17,3	35	25	19,5
100	110	220	19	180	153	3	8	M 16	19	6,3	10,0	373	483	450	265	213	19,3	38	25	25,5
100	125	220	19	180	153	3	8	M 16	19	7,1	11,4	373	483	476	293	213	19,3	38	25	28,0
150	160	285	19	240	209	3	8	M 20	23	9,1	14,6	462	605	503	320	285	19,3	38	28	45,5
150	180	285	19	240	209	3	8	M 20	23		16,4	462	605	512	334	285	19,3	38	28	49,5
200	225	340	20	295	264	3	8	M 20	23	12,8	20,5	563	733	565	372	357	24,3	48	32	78,0



The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.



reliant on dimension external monitored



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E2 VALVE - BAIO SOCKET-SOCKET

PN 16



Design features

- Resilient seated gate valve with smooth straight-through bore
- Resilient seated gate valve with BAIO sockets on both sides for positive connection with BAIO spigot ends and for the connection of PE pipes
- **Wedge guide** with high glide characteristics; load-optimised design guarantees lowest wear and minimum closing torques
- **Wedge nut** allows high torque load through large dimensioning of the required thread length
- **O-rings, lip seals** mounted in rust-proof material on all sides
- **Edge protection** protects during transport and storage
- **Roller bearings** guarantee low friction mounting of the spindle
- One extension spindle for several dimensions
- **100%** suitable for underground installation

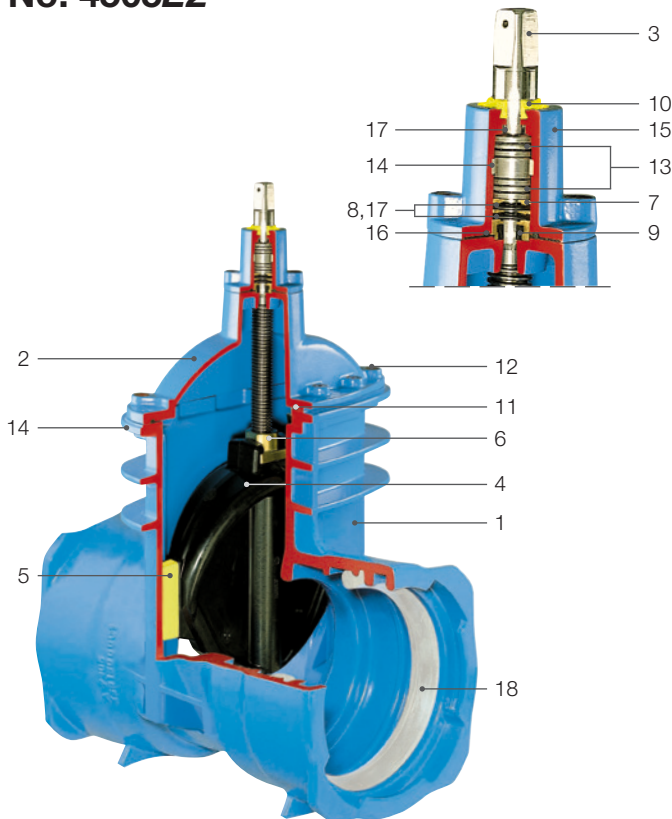
Standard version: without handwheel and extension spindle

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

- 1, 2, **Body (1), bonnet (2), centering flange (15)**
15 made of ductile iron, epoxy powder coated inside and out
- 3 **Stainless steel spindle** with rolled thread and flat-rolled sealed sliding surface
- 4 **Wedge** made of ductile iron, inside and out with vulcanized elastomer
- 5 **Wedge guide** made of wear-resistant plastic
- 6 **Wedge nut** made of dezincification-resistant brass
- 7 **O-ring bush** made of brass
- 8,17 **O-rings (8), lip seals (17)** made of elastomer
- 9 **Back seal** made of elastomer
- 10 **Wiper ring** made of elastomer
- 11 **Bonnet gasket** made of elastomer
- 12 **Allen screws** encased into the body with an enclosing gasket and wax, ensuring full corrosion protection
- 13 **Roller bearings**
- 14 **Centering ring** made of POM
- 16 **Centering flange gasket** made of elastomer
- 18 **Socket sealing** made of elastomer

No. 4505E2



Order no.	MOP (PN)	Dimensions/DN	
		250	300
4505E2	16		

Suitable accessories

Suitable accessories:

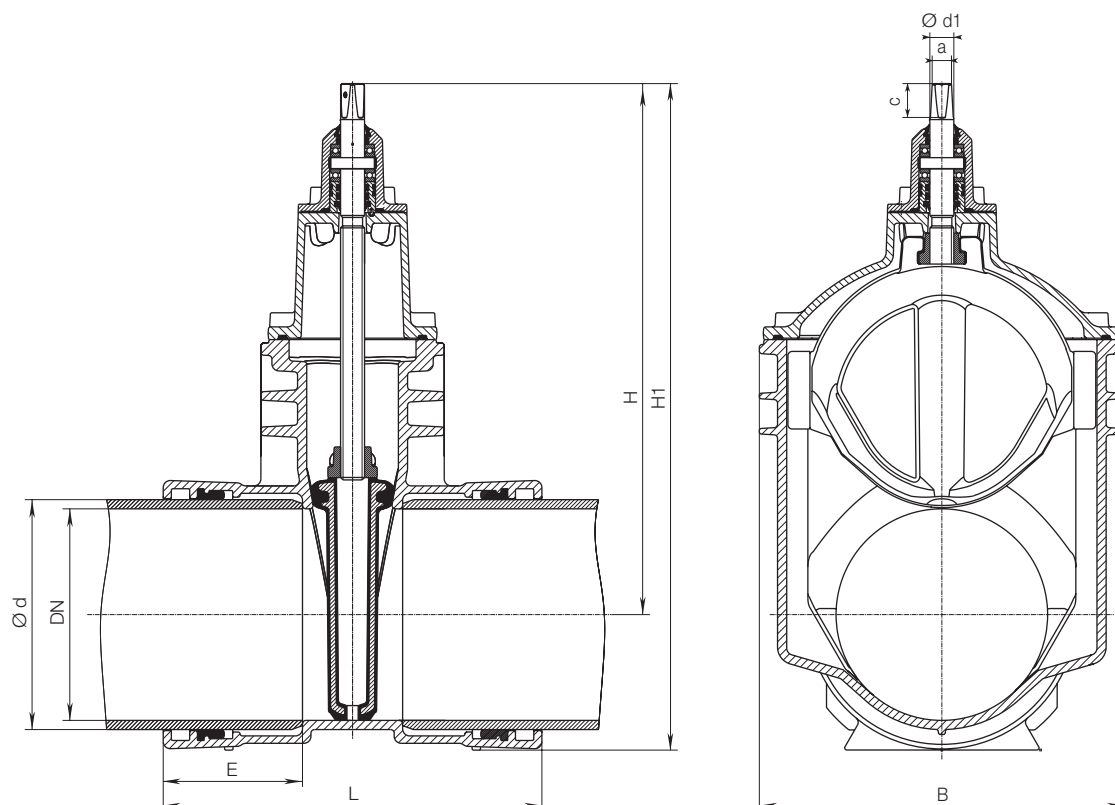
Handwheel:		No. 7800
Extension spindles:	rigid	No. 9000E2
	telescopic	No. 9500E2
Surface boxes:	rigid	No. 1755
Base plate:		No. 3481, No. 3490
PE-fusion tail:		No. NL87

E2 VALVE - BAIO SOCKET-SOCKET

PN 16



No. 4505E2



DN	Pipe Ød	Valve						Spindle		
		E	H	H1	L	B	Weight	a	c	Ød1
250	274	174	670	895	470	432	105,0	27,3	48	36
300	326	198	755	1008	537	518	162,0	27,3	48	36



REG. NR. NG-4313BL0256

The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.



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19

PE-FUSION TAIL - BAIO

with lock ring



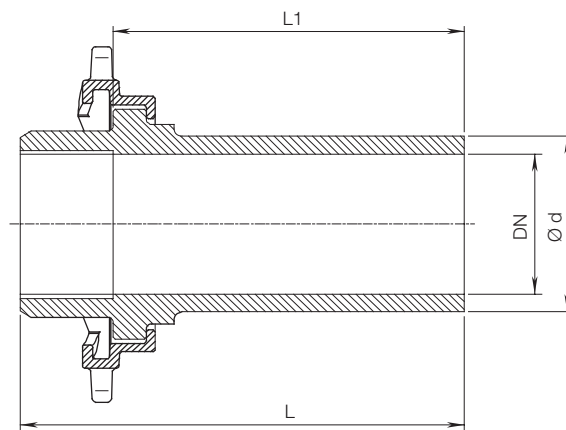
Design features

- The PE fusion tail with integrated support liner and lock ring serves as a junction from BAIO sockets to PE pipes in accordance with DIN 8074 for SDR 11 pipe wall thicknesses
- Note: PE fusion tail with cast-iron external pipe diameter, suitable for BAIO socket with cast-iron pipe seal

Material | technical features

- **Fusion tail** PE 100 SDR 11 with integrated support liner made of stainless steel
- **Lock ring** made of ductile iron, inside and outside epoxy powder coated

No. NL87



Order no.	DN	Ø d	L	L1	SDR Class	Weight
NL87	250	250	433	317	11	21,50
	300	315	469	347	11	31,00
	300	355	469	347	11	33,00

FLANGE CONNECTIONS

For PE pipes, restraint, PN 10



Design features

- For PE pipes according to EN 1555-2, DIN 8074
- Flange sized in accordance with EN 1092-2, drilled in accordance with EN 1092-2 | PN 10
- Flange adapter with PE fusion tail
- In a flange with a combined push-screw socket, a PE fusion socket is inserted from factory
- High performance sealing of the PE tail is assured by two separate seals and a stainless steel support liner within the tail
- The fusion of the valve in the PE line can take place through butt fusion or electrofusion socket; twisting is not permissible after fusion of the valve

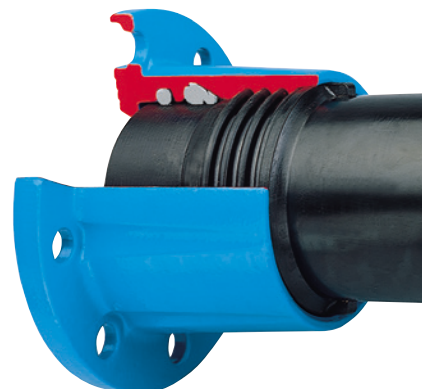
Material | technical features

- **Flange** made of ductile iron, epoxy powder coated
- **Fusion tail** made of PE 100
- **Support liners** made of stainless steel
- **Seals** made of elastomer
- **Grip ring** made of POM

Flange adapter with PE fusion tail

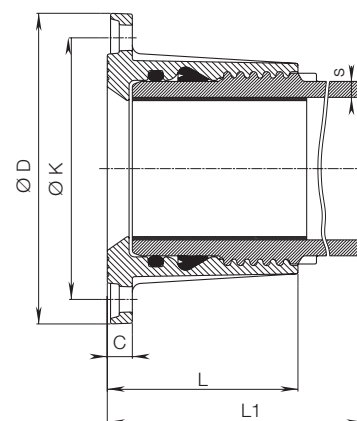
No. 0315

No. 0316



Order no.	MOP (PN)	Flange DN / Ø Pipe							
		50 63	80 90	100 110	100 125	150 160	150 180	200 200	200 225
0315	10								
0316	6								

PE-fusion tail: No. 0315 PN 10 / SDR 11
No. 0316 PN 6 / SDR 17



Flange DN	Ø Pipe	Ø D	Ø K	C	L	L1	s		Bolts		Weight
							SDR 17	SDR 11	Qty.	Thread	
50	63	165	125	19	106	291		5,8	4	M 16	4,0
80	90	200	160	20	125	305	5,4	8,2	8	M 16	6,7
100	110	220	180	21	142	327	6,6	10,0	8	M 16	9,3
100	125	220	180	19	190	373		11,4	8	M 16	12,4
150	160	285	240	23	175	358	9,5	14,6	8	M 20	16,0
150	180	285	240	20	260	437		16,4	8	M 20	23,0
200	200	340	295	20	210	403		18,3	8	M 20	28,0
200	225	340	295	20	210	403	13,4	20,5	8	M 20	28,0



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21

UNIVERSAL PIPE SADDLE

For steel and ductile iron pipes



Design features

- Compact saddle body
- Favorable angle of contact
- Flexible padded wrap around strap for easy installation
- Optimum force transfer of the strap screw connection through strap and cylinder disks as bolt contact area
- The saddle seal is moulded to fit the pipe diameter and is prefixed in the saddle body
- All internal threads are fitted with a corrosion protection ring to prevent corrosion and incrustations

Material | technical features

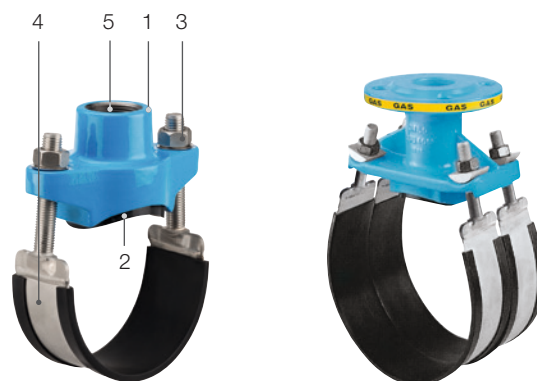
- Saddle body** made of ductile iron, epoxy powder-coated
- Saddle seal** made of elastomer
- Nuts** free lying, (Molybdenum-coated)
No. 3505: made of stainless steel spherical bearings
No. 3515: on stainless steel cylinder disk
screws M 16 - stainless steel
- Strap** made of passivated stainless steel, strength 1,5 with insulating elastomer rubber padding
- Corrosion protection ring** made of elastomer

Suitable accessories

Drilling machine: No. 5800

No. 3505 Pipe saddle / internal thread

No. 3515 Pipe saddle / flange



Order no.	Internal thread / DN	MOP (PN)	Dimensions/DN															
			50	80	100	125	150	175	200	250	300	350	400	450	500	600		
3505	1"	5																
	1¼"																	
	1½"																	
	2"																	
3515	50	5																
	80																	
	100																	
	150																	

Please specify pipe material on order

UNIVERSAL PIPE SADDLE

For steel and ductile iron pipes

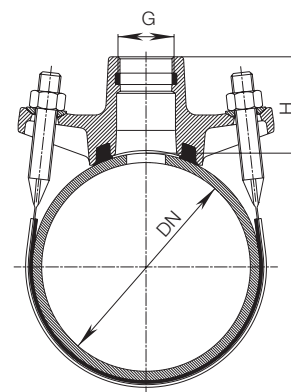


No. 3505 saddle clamp

With internal threaded outlet ISO 228

Thread outlet G		Dimensions/DN											
		50	80	100	125	150	175	200	250	300	350	400	
1"	Weight	2,30	2,40	2,50					4,60				
	H	64	61	61					89				
1¼"	Weight	2,30											
	H	64											
1½"	Weight		2,40	2,50	3,60	3,60		4,20	4,80	4,90			
	H		57	57	78	78		86	89	89			
2"	Weight		2,45	2,50	3,80	3,90	4,40	4,40	5,00	5,10	7,30	7,60	
	H		57	57	78	78	86	86	89	89	74*	74*	

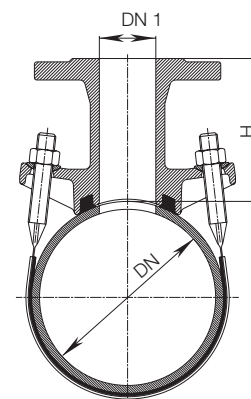
*Version with double strap



No. 3515 saddle clamp

With flanged outlet - EN 1092-2; all models have a double strap, flange drilling to EN 1092-2 | PN 10

Flange outlet DN 1		Dimensions/DN											
		80	100	125	150	200	250	300	350	400	450	500	600
50	Weight	6,60	6,60			7,70	7,90	8,00					
	H	114	114			145	153	153					
80	Weight				9,50	10,30	11,50						17,30
	H				135	150	147						146
100	Weight				11,10	11,80	12,50	12,70		16,00		17,60	18,30
	H				140	155	158	158		165		165	165
150	Weight									24,00		30,50	
	H									186		186	



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23

UNIVERSAL-H SHUT-OFF SADDLE

For steel, and ductile iron pipes



Design features

- Universal Shut-off saddle with internal thread outlet in accordance with DIN ISO 228-1 are to be used for assembly on cast-iron and steel pipes of DN 65 - DN 500.
- Adjustment to the main pipe is carried out via the Hawle strap and saddle seal (order No. 3113) in the corresponding nominal diameter.
- In combination with a drilling machine, the shut-off system allows simple, problem-free tapping of the main line, even in operating condition. During the tapping process, the passage is provisionally shut-off with a saddle blade after the withdrawal of the drilling spindle. The saddle blade is available as an accessory. Fittings can be connected after the drilling

Material | technical features

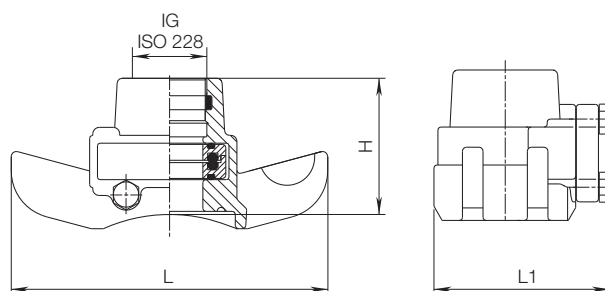
- **Saddle body** and **cover** made of ductile iron, epoxy powder-coated
- **Seals** made of elastomer
- **O-ring carrier** made of POM
- **Bolts** made of stainless steel

Suitable accessories

Drilling machine: No. 5800
Saddle blade: No. 8401

No. 3815 Complete

No. 3815G Without strap and saddle seal



Order no.	MOP (PN)	Internal thread ISO 228 G	Dimensions/DN
			DN 65 - DN 500
3815G	5	1 1/4"	
		1 1/2"	
		2"	

DN	ISO 228	H	L	L1	Weight
65-500	1 1/4"	90	200	105	2,80
	1 1/2"				2,80
	2"				3,00

When ordering, please state DN, pipe Ø and pipe type; weight without strap | strap see page 24

Design features

- Includes holding pieces, washers, nuts
- Tightening torque: min. 60 Nm / max. 80 Nm
- Made of passivated stainless steel
- DN 65 to 500

Pipe Ø	Control dimension „L“	e.g.: for main pipe - DN		Weight
		Steel	Cast iron	
75 - 83	365	65	65	0,73
88 - 97	395	80		0,76
93 - 102	400		80	0,76
112 - 122	450	100	100	0,82
166 - 177	595	150	150	0,95
216 - 227	735	200	200	1,07
268 - 280	880	250	250	1,21
323 - 330	1055	300	300	1,39

Strap with saddle seal

No. 3113



When ordering, please state DN, pipe Ø and pipe type

HAKU PIPE SADDLE

For PE pipes | Ø 40-315



Design features

- For **PE pipes** according to EN 1555-2 and DIN 8074
- The HAKU sealing system is the optimal sealing solution for borings on plastic pipes
- The HAKU seal is in full contact with the entire diameter of the PE pipe and is glued onto the saddle for ease of assembly
- Several concentric seals with increasing diameter surround the outlet, relieving pressure exerted upon the drill hole and protects it from deformation
- The protective layer on PE pipes should be removed prior to mounting the saddle

Material | technical features

- 1, 2 **Saddle body** made of ductile iron, epoxy powder coated
- 3 **Seals** made of elastomer
- 4 **Bolts** (Molybdenum-coated) and **washers** made of stainless steel
- 5 **Corrosion protection ring** made of elastomer

Suitable accessories

Drilling machine: No. 5800

No. 5255



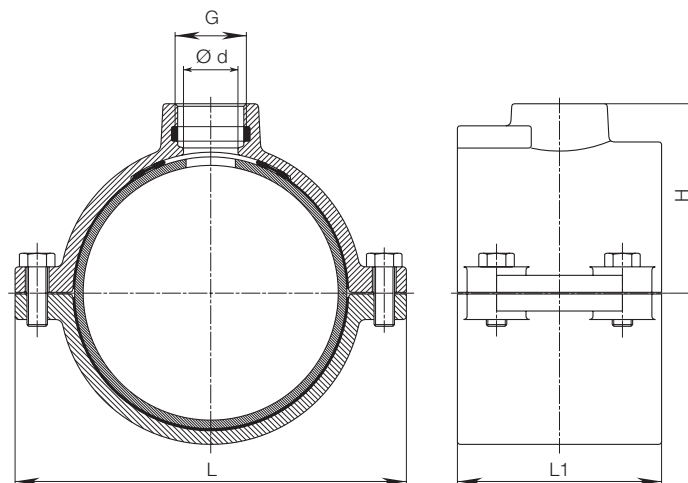
Order no.	Pipe Ø	MOP (PN)	Internal thread outlet ISO 228			
			1"	1¼"	1½"	2"
5255	40	5				
	50					
	63					
	90					
	110					
	125					
	160					
	200					
	225					
	250					
	280					
	315					

Tightening torques HAKU shut-off saddle assembly

Pipe Ø	Bolt dimensions	Tightening torque	
		Nm min.	Nm max.
50 - 110	M 10	50	60
125 - 160	M 12	60	70
180 - 225	M 14	70	80
250 - 315	M 16	80	90

Pipe Ø	G ISO 228	Ød	H	L	L 1	Weight
40	1"	27	42	98	70	0,95
50	1"	27	56	110	80	1,20
63	1"	27	57	124	100	1,80
	2"	40+	68			2,10
90	2"	50	80	150	110	2,70
	1"	27	81			3,60
110	1¼"	33	85	170	120	3,60
	1½"	40	85			3,80
	2"	50	90			3,60
	2"	50	98			4,10
125	2"	50	98	192	120	4,10
	1"	27	106			5,90
160	1½"	40	111	230	120	6,30
	2"	50	116			6,20
200	1"	27	132	282	120	8,10
	2"	50	137			8,10
225	1½"	40	145	310	120	9,70
	2"	50	150			9,60
250	1"	27	156	347	180	11,00
	1¼"	33	156			11,30
	1½"	40	163			11,50
	2"	50	163			12,00
280	2"	51	178	377	180	14,20
315	2"	51	196	408	180	16,70

+ Drilling max. 35



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HAKU PIPE SADDLE

For bag positioning devices | Ø 90-280



Design features

- For **PE pipes** according to EN 1555-2 and DIN 8074
- The HAKU sealing system is the optimal sealing solution for borings on plastic pipes
- The HAKU seal is in full contact with the entire diameter of the PE pipe and is glued onto the saddle for ease of assembly
- Several concentric seals with increasing diameter surround the outlet, relieving pressure exerted upon the drill hole and protects it from deformation
- With cylindrical internal thread and external thread for bag positioning device – with stopper and cap

Material | technical features

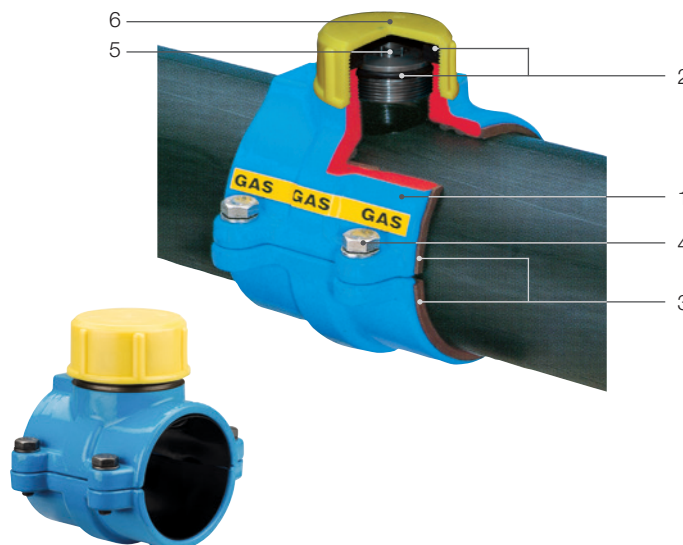
- Saddle body** made of ductile iron, epoxy powder coated
- Seals** made of elastomer
- Rubber seals** of elastomer
- Bolts** (Molybdenum-coated) and **washers** made of stainless steel
- Stopper** - mounting square quadratic 22 mm
- Cap** - for covering the external thread

Suitable accessories

Drilling machine: No. 5800

Pipe Ø	Ød	H	L	L 1	Weight
90	57	82	150	110	3,70
110		92	170	120	4,60
140		108	208	120	5,30
160		118	230	120	7,70
200		137	282	120	6,30
225		150	310	120	9,50
250		163	347	180	12,50
280		178	377	180	12,60

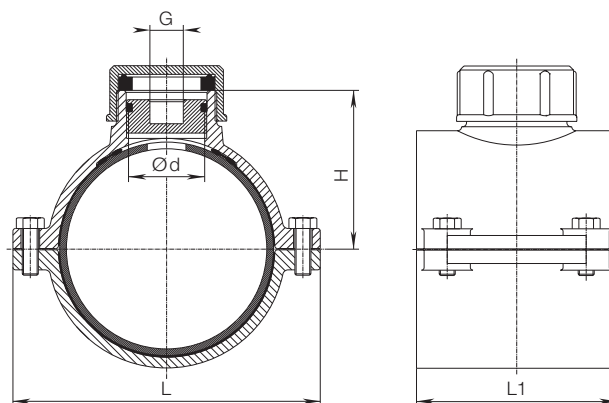
No. 5265

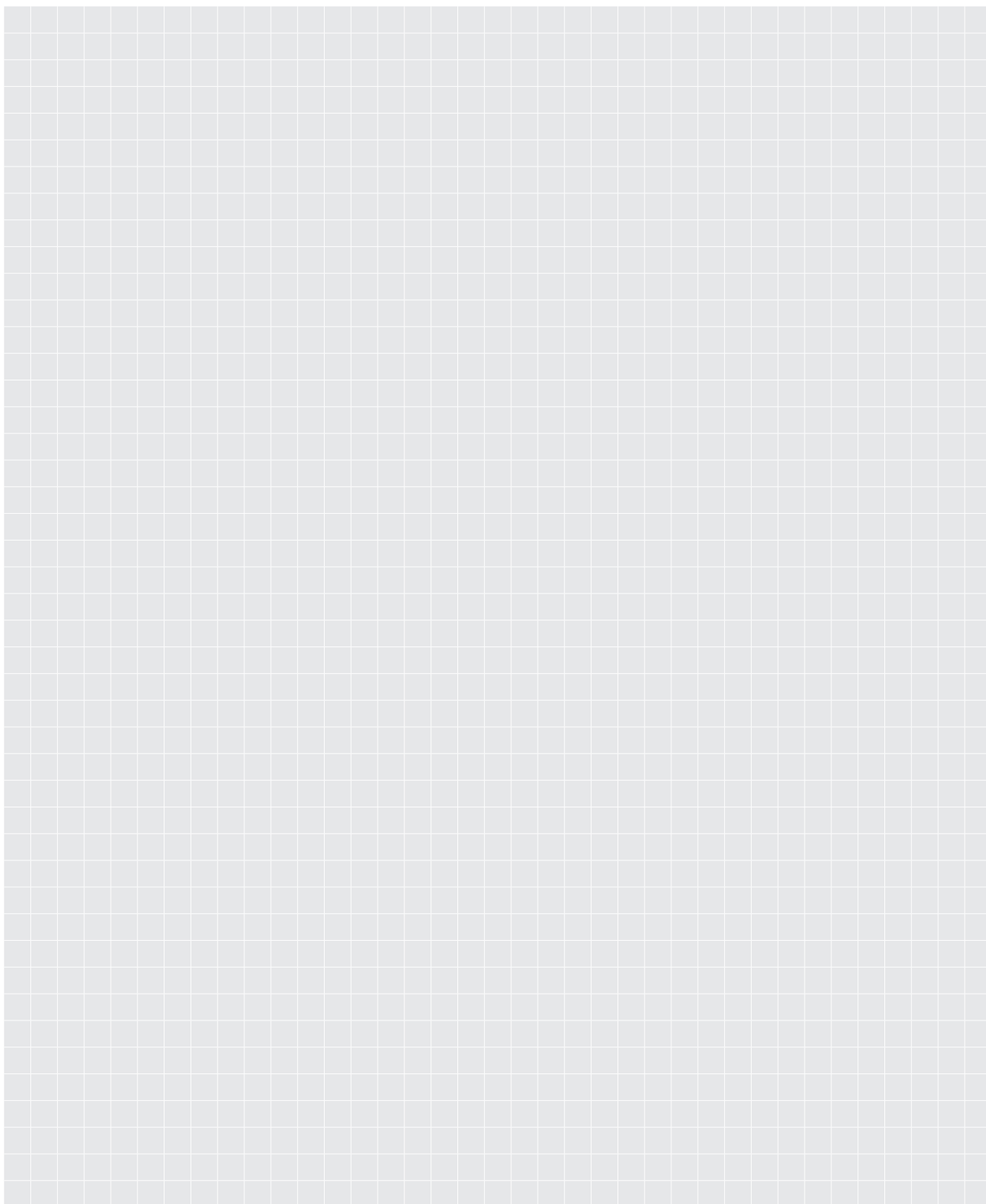


Order no.	Pipe Ø	MOP (PN)	Internal thread outlet	External thread
			ISO 228	
			2"	2½"
5265	90	5		
	110			
	140			
	160			
	200			
	225			
	250			
	280			

Tightening torques HAKU shut-off saddle assembly

Pipe Ø	Bolt dimensions	Tightening torque	
		Nm min.	Nm max.
50 - 110	M 10	50	60
125 - 160	M 12	60	70
180 - 225	M 14	70	80
250 - 315	M 16	80	90





E-VALVE

With flange, DN 25-40



Design features

- Resilient seated gate valve with smooth and straight-through bore in compliance with EN 13774 (EN 1074-1 and 2)
- A clear structure limited to only a few components
- Sealing system: the large elastomer surface in contact with the valve body ensure a tight valve with no leakage. Body and wedge designed to give minimal friction during opening and closing
- Flange sized and drilled according to EN 1092-2 | PN 10 standard
- One extension spindle for several dimensions
- **100%** suitable for underground installation

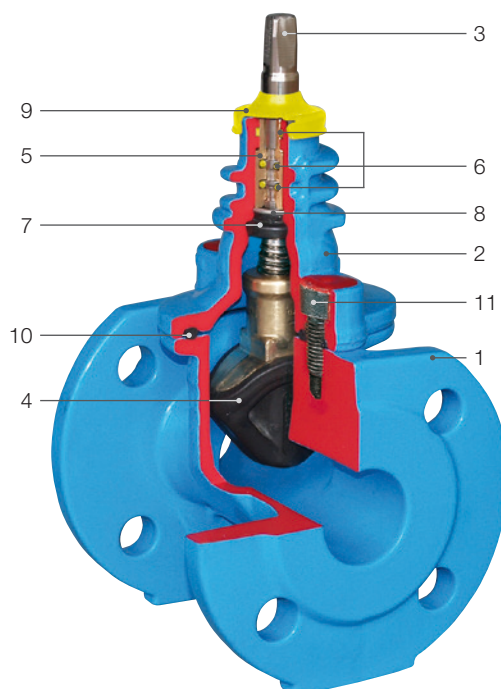
Standard version: without handwheel and extension spindle

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

- Body** (1) and **Bonnet** (2) made of ductile iron, inside and outside epoxy powder coated, round thread on head part for a pinless force-fitting connection of the extension spindles
- Stainless steel spindle** with rolled thread and flat-rolled sealed sliding surface
- Wedge** made of brass, with vulcanised elastomer
- Spindle bearing** (O-ring carrier) made of brass
- O-rings** made of elastomer
- Back seal** made of elastomer
- Retaining ring** made of stainless steel
- Wiper ring** made of elastomer
- Bonnet gasket** made of elastomer
- Allen screws** encased into the body with an enclosing gasket and wax, ensuring full corrosion protection

No. 4005



Order no.	Version	MOP (PN)	Dimensions/DN		
			25	32	40
4005	short	5			

Suitable accessories

Suitable accessories:

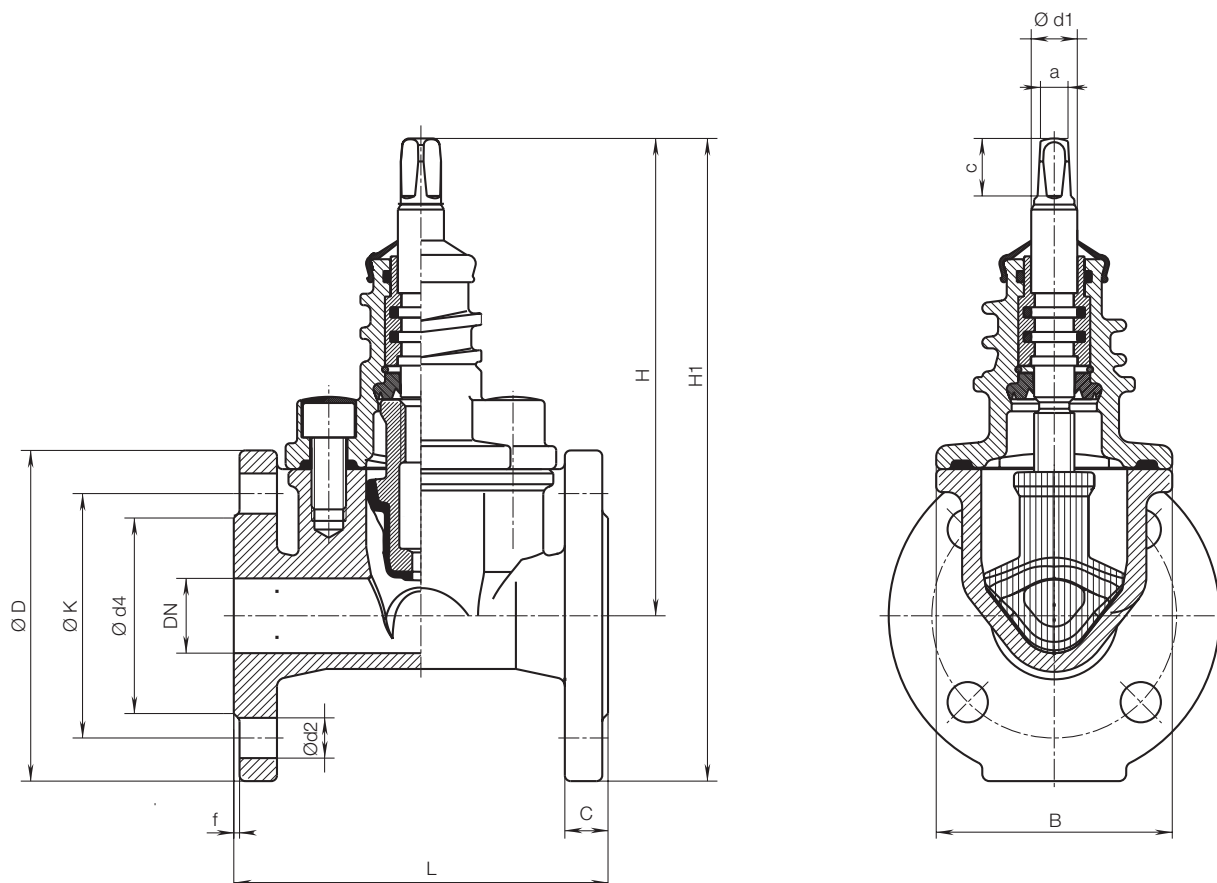
Handwheel:		No. 7800
Extension spindles:	rigid	No. 9101
	telescopic	No. 9601
Surface boxes:	rigid	No. 1755
Base plate:		No. 3490, No. 3481

E-VALVE

With flange, DN 25-40



No. 4005



DN	MOP (PN)	Flange					Bolts			Spindle			Valve				Weight
		Ø D	C	Ø K	Ø d4	f	Qty.	Thread	Ø d2	a	c	Ø d1	H	H1	L	B	
25	5	115	16	85	68	2	4	M 12	14	10,3	20	16	164	223	130	80	4,0
32		150	18	100	78	2	4	M 16	19				200	275	140	103	6,6
40		150	18	110	88	2	4	M 16	19				200	275	140	103	6,7



The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.



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SERVICE VALVE FOR PE FUSION

Made of ductile iron, DN 25-40



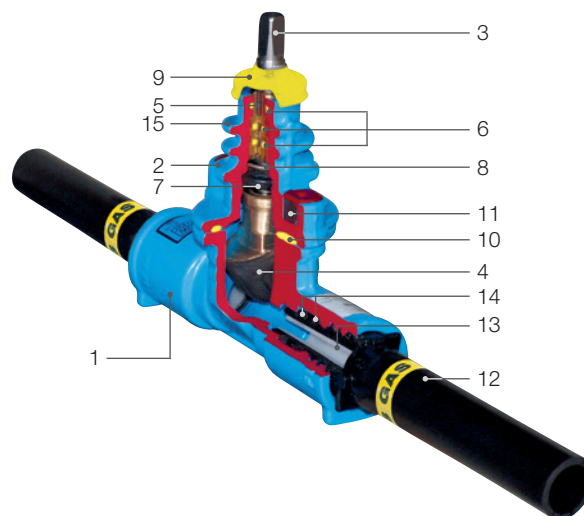
Design features

- Resilient seated gate valve with PE-fusion tails in combination with PE pipes according to EN 1555-2, DIN 8074
- This resilient seated valve has PE-fusion tails screwed into and sealed in the sockets
- The seal of the welding socket is guaranteed by two independent O-ring seals as well as a POM support liner in the welding socket
- The valve can be connected to the PE pipeline by either butt fusion or electrofusion
- One extension spindle for several dimensions
- **100%** suitable for underground installation

Standard version: without handwheel and extension spindle

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

No. 4055



Material | technical features

- 1,2 **Body** (1) and **Bonnet** (2) made of ductile iron, inside and outside epoxy powder coated
- 3 **Stainless steel spindle** with rolled thread and flat-rolled sealed sliding surface
- 4 **Wedge** made of brass, with vulcanised elastomer
- 5 **Spindle bearing** (O-ring carrier) made of brass
- 6 **O-rings** made of elastomer
- 7 **Back seal** made of elastomer
- 8 **Retaining ring** made of stainless steel
- 9 **Wiper ring** made of elastomer
- 10 **Bonnet gasket** made of elastomer
- 11 **Allen screws** encased into the body with an enclosing gasket and wax, ensuring full corrosion protection
- 12 **PE-fusion tails** Standard version PE 100 injection moulded, **Support liner** made of POM for PE tails
- 13 **Support liner** made of POM
- 14 **Double O-ring seal** to the PE-fusion tail
- 15 **Screw fittings** for the extension spindles

Suitable accessories

Suitable accessories:

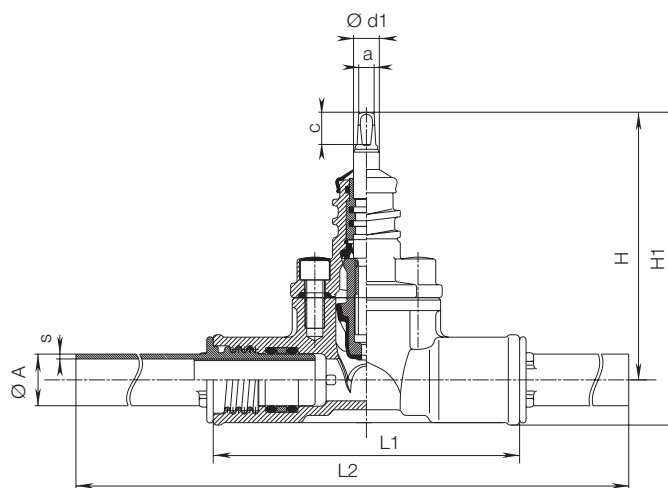
Handwheel:		No. 7800
Extension spindles:	rigid	No. 9101
	telescopic	No. 9601
Surface boxes:	rigid	No. 1755
Base plate:		No. 3490, No. 3481



REG. No. G 1.475

The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.

Order no.	PE-fusion tail	MOP (PN)	Dimensions / DN		
			1" / d 32	1¼" / d 40	1½" / d 50
4055	PE 100 / SDR 11	10			



DN	Ø A	Valve with PE-fusion tail					Spindle			Weight
		s	H	H1	L1	L2	a	c	Ø d1	
1"	32	3,0	164	192	196	518			14	3,07
1¼"	40	3,7	199	234	230	556	10,3	20	16	4,54
1½"	50	4,6	199	242	240	576			16	5,52

SERVICE VALVE FOR PE FUSION

Made of POM, DN 1" - 2"



Design features

- Resilient POM seated gate valve with PE-fusion tails in combination with PE pipes according to EN 1555-2, DIN 8074
- Sealing system: the contact between wedge and body is friction free. Therefore no scuffing or abrasion of the wedge
- Bonnet with body homogeneously connected through rotational welding, max. permissible actuation torque: 70 Nm
- Installation instruction: Tension-free underground installation – observe the installation directives ÖVGW G 52/2 or DVGW G 472
- One extension spindle for several dimensions
- **100%** suitable for underground installation

Standard version: with over-winding security (break-off equipped) without handwheel and extension spindle

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

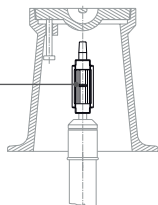
- Body** made of POM
- Stainless steel spindle** with rolled thread and flat-rolled sealed sliding surface
- Wedge** made of brass, with vulcanised elastomer
- Multiple O-ring spindle seal**
- PE-fusion tails** Standard version PE 100 injection moulded, **Support liner** made of POM for PE tails
- Double O-ring seal** to the PE-fusion tail
- Screw fittings** for the extension spindles
- Spindle bearing**
- Spindle bundle** made of brass
- Back seal** made of elastomer

Suitable accessories

Suitable accessories:

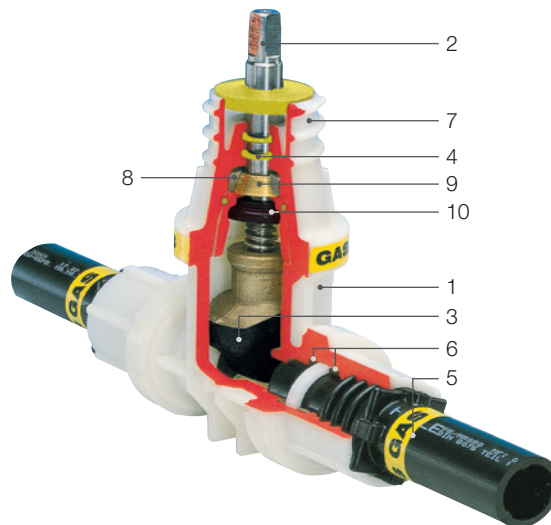
Handwheel:		No. 7800
Extension spindles:	rigid	No. 9101
	telescopic	No. 9601
Surface boxes:	rigid	No. 1755
Base plate:		No. 3490, No. 3481

Over-winding security for extension spindles (break-off equipped) Order no. 7839 (included in standard Service Valve version)

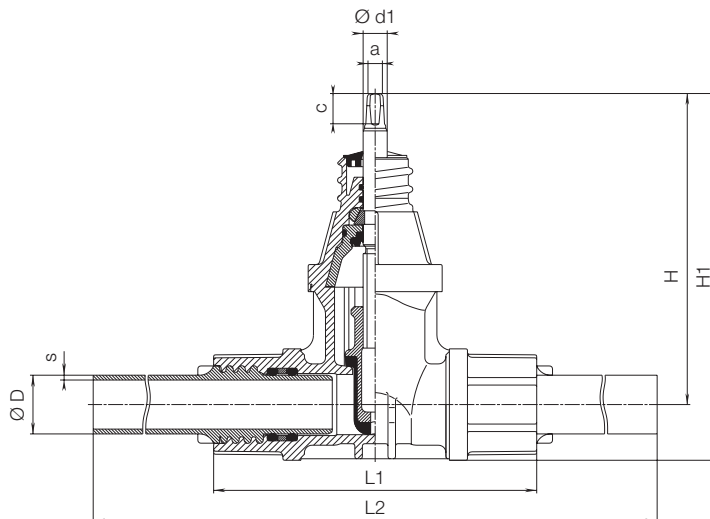


The specified pressure test for gas-valves is certified by an acceptance test certificate to EN 10204 -3.1.

No. 2675



Order no.	PE-fusion tail	MOP (PN)	Dimensions / DN		
			1" / d 32	1½" / d 50	2" / d 63
2675	PE 100 / SDR 11	10			



DN	Ø D	Valve with PE-fusion tail					Spindle			Weight
		s	H	H1	L1	L2	a	c	Ø d1	
1"	32	3,0	177	212	180	502			14	1,25
1½"	50	4,6	205	247	251	587	10,3	20	16	2,30
2"	63	5,8	221	271	271	639			16	3,10



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SERVICE VALVE

With ISO-fitting for PE pipe both ends, DN 3/4" - 2"



Design features

- Resilient POM seated gate valve with ISO connection at both ends for push in connection with PE pipes according to EN 1555-2, DIN 8074
- Sealing system: the contact between wedge and body is friction free. Therefore no scuffing or abrasion of the
- Bonnet with body homogeneously connected through rotational welding, max. permissible actuation torque: 70 Nm
- Support liners are required
- Installation instruction: Tension-free underground installation – observe the installation directives ÖVGW G 52/2 or DVGW G 472
- One extension spindle for several dimensions
- **100%** suitable for underground installation

Standard version: with over-winding security (break-off equipped) without handwheel and extension spindle

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

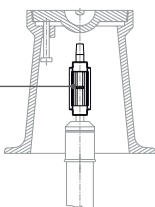
- 1 Body and grip ring** made of POM
- 2 Stainless steel spindle** with rolled thread and flat-rolled sealed sliding surface
- 3 Wedge** made of brass, with vulcanised elastomer
- 4 Multiple O-ring spindle seal**
- 5 O-rings** made of elastomer
- 6 Dust cap** of elastomer
- 7 Threaded connection** for extension spindles
- 8 Spindle bearing**
- 9 Spindle bundle** made of brass
- 10 Back seal** made of elastomer

Suitable accessories

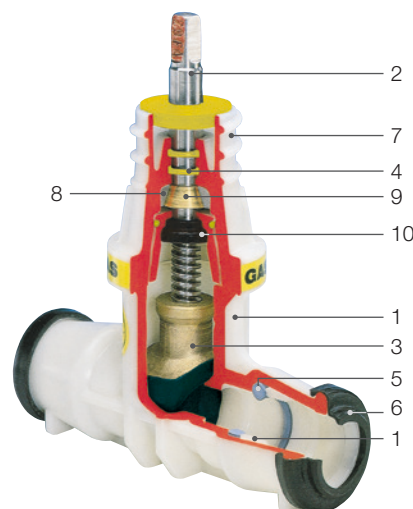
Suitable accessories:

Handwheel: No. 7800
Extension spindles: rigid No. 9101
telescopic No. 9601
Surface boxes: rigid No. 1755
Base plate: No. 3490, No. 3481

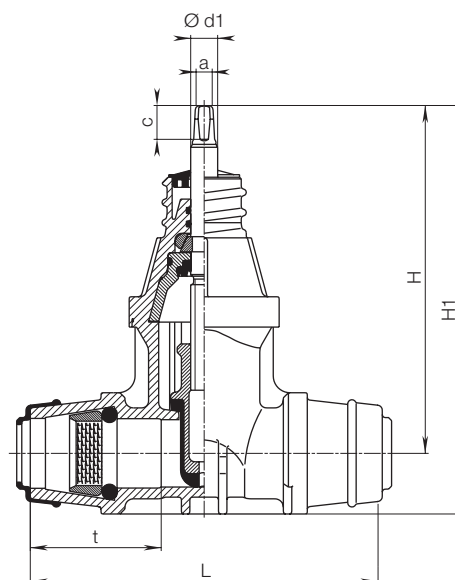
Over-winding security for extension spindles (break-off equipped) Order no. 7839 (included in standard Service Valve version)



No. 2635



Order no.	Version	MOP (PN)	Dimensions/DN				
			3/4"	1"	1 1/4"	1 1/2"	2"
2635	made of POM, with ISO-fitting for PE pipe both ends	4					



DN	Ø pipe ext.	Valve				Spindle			Weight
		t	L	H	H1	a	c	Ø d1	
3/4"	25	52	152	177	205				0,85
1"	32	63	174	177	205				0,95
1 1/4"	40	78	208	205	241	10,3	20	16	1,50
1 1/2"	50	92	246	205	247				1,65
2"	63	100	261	221	271				2,10

HAKU-HAWLINGER PIPE DRILLING SADDLE

With vertical internal thread outlet



Design features

- HAKU-Hawlinger are to be used for assembly on PE pipes in accordance with DIN 8074 and PVC pipes in accordance with DIN 8062. The two half shells are precisely calibrated to the respective external diameters. Deformation of the pipe is prevented by the connection of the half shells and their metallic stops
- The vertical internal thread outlet in accordance with DIN ISO 228-1 serves in combination with fittings for the service connection
- For all Hawlinger Shut-off Pipe Saddles occurs via a knife gate made from stainless steel. The knife gate is moved horizontally against fixed metal stops in a low wear housing
- Only a half-turn (180°) is required to open or close the passage. In combination with a drilling machine, the Shut-off system allows simple, problem-free tapping of the main line, even in operating condition

No. 2311



Material | technical features

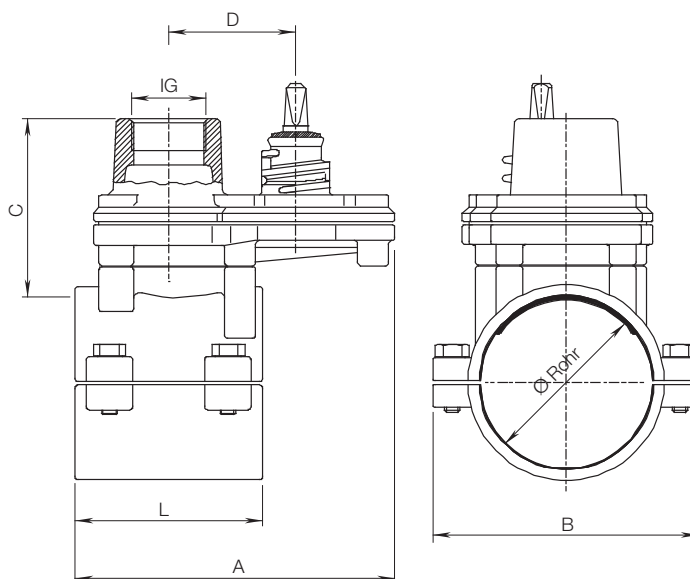
- **Body** and **Saddle piece** made of ductile iron, inside and outside epoxy powder coated
- **Spindle, excentric disc** and **knife plate** made of stainless steel
- **Seals** made of elastomer

Suitable accessories

Suitable accessories:

Handwheel:		No. 7800
Extension spindles:	rigid	No. 9101
	telescopic	No. 9601
Surface boxes:	rigid	No. 1755
Base plate:	No. 3490, No. 3481	
Drilling machine:	No. 5800	

Order no.	Version	MOP (PN)	Internal thread ISO 228	Pipe Ø				
				90	110	140	160	225
2311	HAKU-Hawlinger PE and PVC pipes	16	1½"					



DN Internal thread ISO 228	Pipe Ø	A	B	C	D	L	Weight
1½"	90	205	155	115	82	120	7,00
	110		170				7,40
	140		205				8,30
	160		230				9,00
	225		305				11,40



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ISO-ROHR-FITTING

Fittings for PE pipes, DN 1/2" - 2"



Design features

- For PE pipes according to EN 1555-2 (DIN 8074 / 8075)
- The HAWLE ISO pipe fitting is the easiest way joining polyethylene pipes
- The function of the ISO pipe fitting is clear and simple; the O-ring is made of elastomer and seals well even when the pressure is nil, because it is compressed onto the pipe
- The joint is flexible and the fitting can be turned on the pipe without affecting the grip or seal. Assembly the fitting is quick and simple and can be dismantled if required
- The protective elastomer cap prevents penetration of sand and dirt into the ISO pipe fitting
- **Always** use support liner for PE pipes!
- Do not use the fitting again after dismantling!

Temperature range: operation: -10° C to 50° C
storage: -25° C to 70° C

Material | technical features

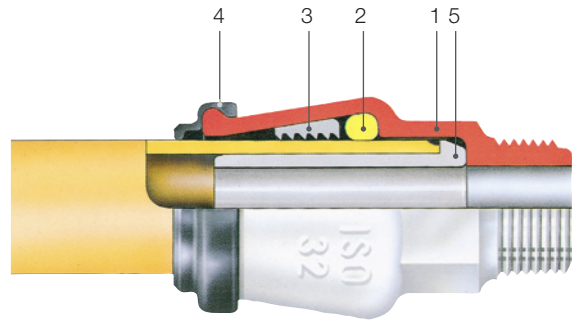
- 1 **Body** made of POM
- 2 **O-ring gasket** made of elastomer
- 3 **Clamp ring** made of POM
- 4 **Protective cap** made of elastomer
- 5 **Support liner** made of POM

Suitable accessories

Suitable accessories:

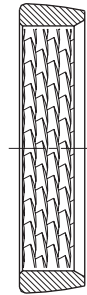
Extractors: No. 6010
Support liner: No. 6031

Made of POM



Grip ring

Interlocking teeth, made of POM



INSTRUCTION

ISO pipe fitting instruction for assembly and dismantling



ASSEMBLY - for gas always use **new fittings**

1

The sealing surface of the pipe must be smooth, clean and scratch-free!

2

Pipe cutter No. 6050

3

Always use support liner No. 6031

4

5

6

Moisten with water or lubricants (see page 41)

7

8

9

10 PRESSURE TEST on installed line and exposed, unfilled connections

DISMANTLING

1

Extractors No. 6010

2

Pull out the pipe with a slight turn

3

Disassembled fittings should be recycled!

Max. torque for tightening the threads (observe pipe fitter rules acc. to national standards):

1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
20 Nm	25 Nm	40 Nm	42 Nm	42 Nm	45 Nm



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ISO PIPE FITTING

Fittings for PE pipes, DN 1/2" - 2"



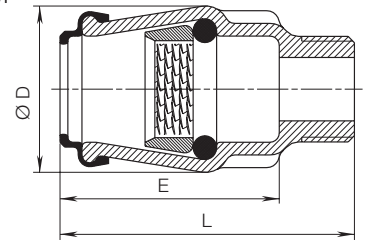
Design feature

- With external thread according to EN 10226-1
- For PE pipes according to EN 1555-2 (DIN 8074/8075)

Order no.	Ø Pipe	Thread	MOP (PN)	L	E	ØD	Weight	
6125	20	1/2"	4	68	48	39	0,04	
	25	3/4"		82	58	43	0,06	
	32	1"		95	70	53	0,10	
	40	1 1/4"		110	82	72	0,24	
	50	1 1/2"		126	99	83	0,27	
	63	2"		144	110	99	0,44	

External thread

No. 6125 Made of POM



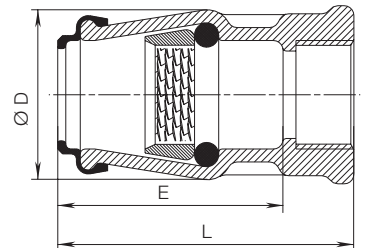
Design feature

- With internal thread according to ISO 228
- For PE pipes according to EN 1555-2 (DIN 8074/8075)

Order no.	Ø Pipe	Thread	MOP (PN)	L	E	ØD	Weight	
6225	20	1/2"	4	66	47	39	0,06	
	25	3/4"		76	58	44	0,08	
	32	1"		91	70	53	0,12	
	40	1 1/4"		109	82	72	0,23	
	50	1 1/2"		127	99	83	0,34	
	63	2"		135	108	103	0,47	

Internal thread

No. 6225 Made of POM



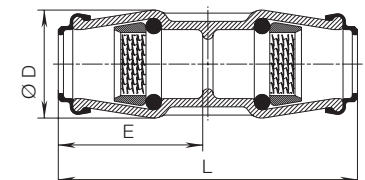
Design feature

- For PE pipes according to EN 1555-2 (DIN 8074/8075)

Order no.	Ø Pipe	MOP (PN)	L	E	ØD	Weight	
6325	20	4	99	48	39	0,07	
	25		121	58	43	0,10	
	32		145	70	53	0,15	
	40		164	82	72	0,35	
	50		200	99	83	0,57	
	63		224	110	99	0,71	

Connector

No. 6325 Made of POM



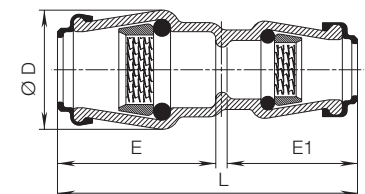
Design feature

- For PE pipes according to EN 1555-2 (DIN 8074/8075)

Order no.	Ø Pipe 1	Ø Pipe 2	MOP (PN)	L	E	E1	ØD	Weight	
6335	25	20	4	111	58	48	43	0,08	
	32	25		134	70	58	53	0,13	
	40	25		145	82	58	72	0,20	
	40	32		156	82	70	72	0,25	
	50	32		172	99	70	83	0,32	
	50	40		182	99	84	83	0,42	
	63	40		204	110	84	99	0,53	
	63	50		213	110	99	99	0,60	

Connector reduced

No. 6335 Made of POM



ISO PIPE FITTING

Fittings for PE pipes, DN ½" - 2"



Design feature

- For PE pipes according to EN 1555-2 (DIN 8074/8075)

Order no.	Ø Pipe	MOP (PN)	L	E	ØD	Weight
6425	20	4	58	48	39	0,07
	25		73	58	43	0,10
	32		87	70	53	0,18
	40		104	82	72	0,37
	50		125	99	83	0,52
	63		144	110	99	0,80

Order no.	Ø Pipe 1	Ø Pipe 2	MOP (PN)	L	E	E1	ØD	Weight
6491	32	25	4	87/71	70	58	53	0,16
	40	32		102/87	84	70	72	0,27

Design feature

- With internal thread according to ISO 228
- For PE pipes according to EN 1555-2 (DIN 8074/8075)

Order no.	Ø Pipe	Thread	MOP (PN)	L	E	ØD	Weight
6435	20	½"	4	60	48	39	0,07
	25	¾"		71	58	43	0,10
	32	1"		87	70	53	0,14
	40	1¼"		103	82	72	0,28
	50	1½"		137	99	83	0,42
	63	2"		145	110	99	0,67

Design feature

- With internal thread according to ISO 228
- For PE pipes according to EN 1555-2 (DIN 8074/8075)

Order no.	Ø Pipe	Thread	MOP (PN)	L	E	Weight
6525	20	½"	4	110	48	0,10
	25	¾"		134	58	0,13
	32	1"		163	70	0,24
	40	1¼"		193	82	0,43
	50	1½"		235	99	0,60
	63	1½"		267	110	0,90
	63	2"		267	110	0,90

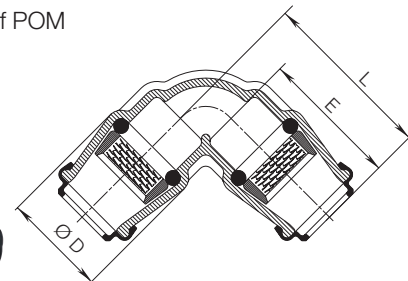
Order No.	Ø Pipe	MOP (PN)	L	E	ØD	Weight
6223	20	16	54,5	48,5	39	0,04
	25		65,5	58,5	43	0,06
	32		75,0	70,0	53	0,09
	40		92,5	82,5	72	0,20
	50		107	101	83	0,28
	63		117	111	99	0,40

Elbow 90°

No. 6425 Made of POM

Elbow 90° reduced

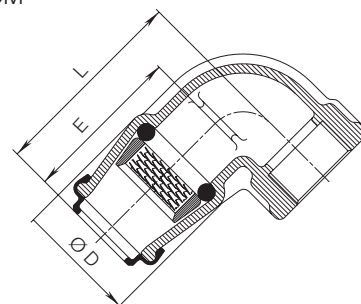
No. 6491 Made of POM



Elbow 90°

With internal thread

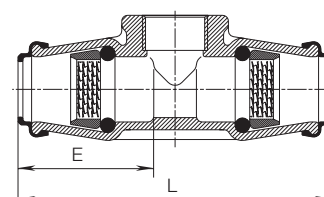
No. 6435 Made of POM



T-piece

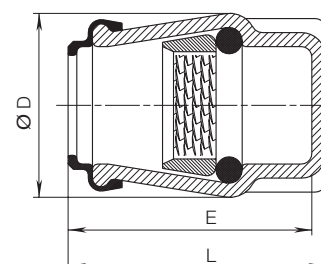
with threaded outlet

No. 6525 Made of POM



End stop

No. 6226 Made of POM



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EXTENSION SPINDLE

Rigid or telescopic



Design features

- One extension spindle for several dimensions
- Protective cover with integrated locking mechanism
- No additional fixing (bolt/pin) necessary
- DN 50 to 200

Order no.	Version	Pipe cover (RD)	Dimensions/DN		
			50/65/80/100	125/150	200
9000E2	rigid	1,00 m			
		1,25 m			
		1,50 m			
		2,00 m			
		2,50 m			
9500E2	telescopic	1,30 - 1,80 m			
		1,35 - 1,80 m			
		1,80 - 2,50 m			
		2,50 - 3,50 m			

Suitable accessories

- **Extender for rigid spindle**
Order no. 7830 price for first meter
Order no. 7831 price for each additional half meter
- Please specify dimensions and length when ordering

Design features

- Attachment of the extension spindle to the valve spindle takes place with a stainless steel splint
- DN 250 to 500

Order no.	Version	Pipe cover (RD)	Dimensions/DN				
			250	300	350	400	500*
9000E2	rigid	1,00 m					
		1,25 m					
		1,50 m					
		1,90 m					
		2,00 m					
		2,40 m					
		2,50 m					
9500E2	telescopic	1,40 - 1,80 m					
		1,50 - 1,80 m					
		1,90 - 2,20 m					
		2,00 - 2,50 m					
		2,50 - 3,50 m					
		2,60 - 3,50 m					

* Body DN 400, with flange connection DN 450 or 500

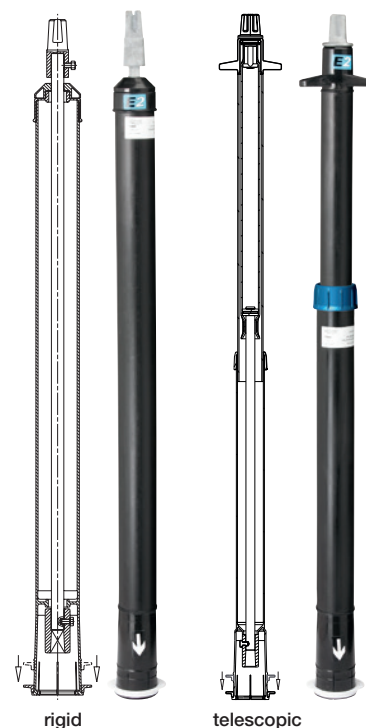
For E2 valve DN 50-200

No. 9000E2

Rigid

No. 9500E2

Telescopic



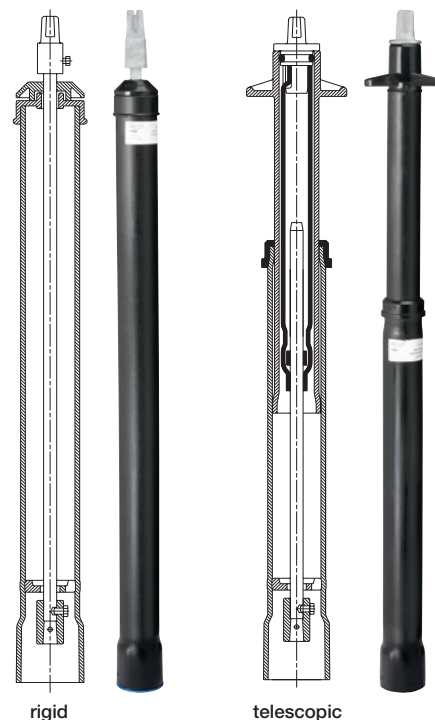
For E2 valve DN 250-500

No. 9000E2

Rigid

No. 9500E2

Telescopic

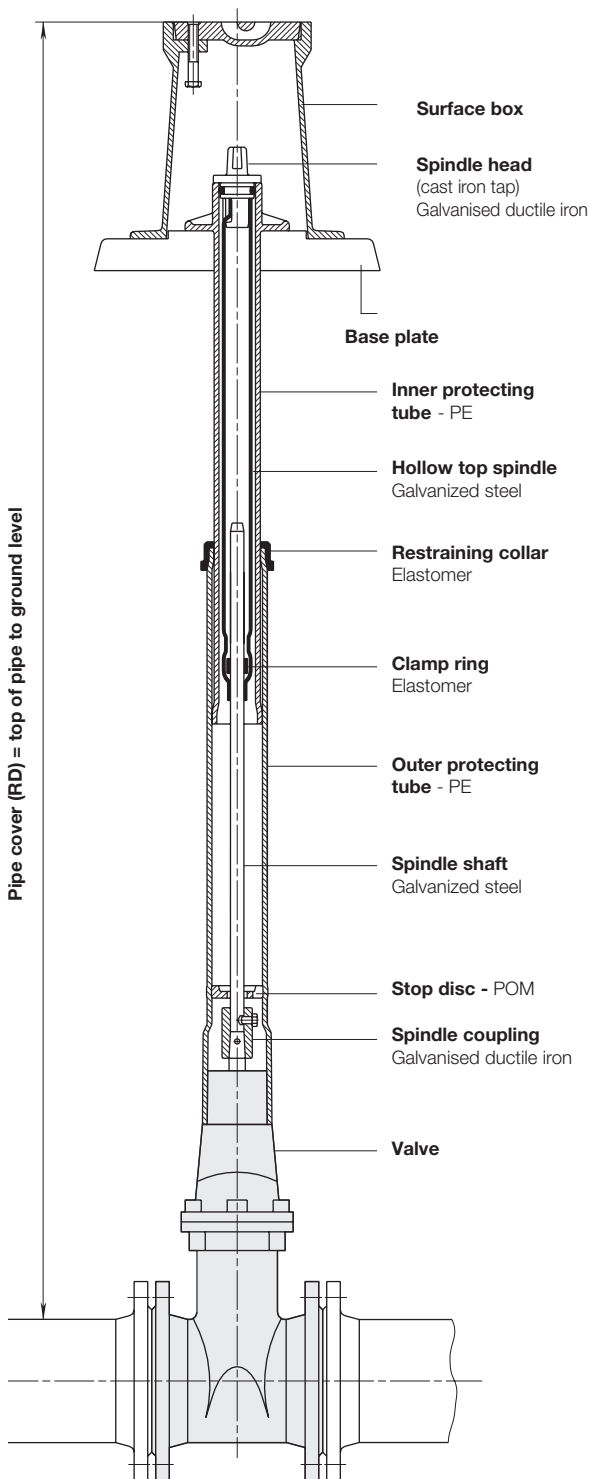


EXTENSION SPINDLE

Rigid or telescopic



No. 9000E2 / 9500E2

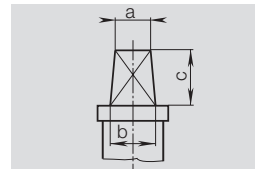


III. 9500E2 DN 250-500

All extension spindles (rigid or telescopic) of all types and dimensions are protected against dirt and surface water.

The telescopic extension spindle can be progressively adjusted to ground level. This is done by pushing or pulling the tube and the spindle shaft. The telescopic effect protects the pipe and fitting from surface impact.

Spindle head | square



For service valves

a 13 mm

b 15 mm

c 24 mm

For valve

a 27 mm

b 32 mm

c 48 mm

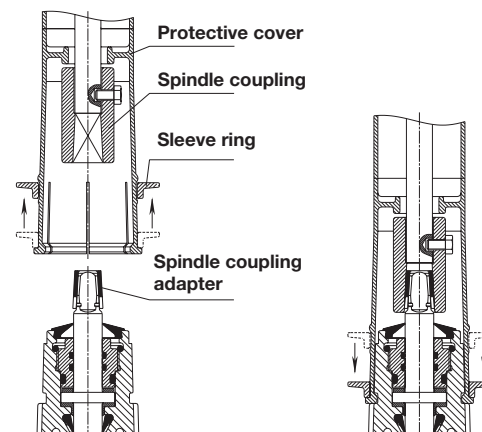
9000E2	Weights extension spindles, rigid – DN						
Pipe cover (RD)	50/65/80/100	125/150	200	250	300	350	400-500*
1,00 m	3,50	2,80	2,70	3,10	3,00		
1,25 m	4,50	3,70	3,50	4,70	4,30	4,20	3,55
1,50 m	5,50	4,80	4,50	6,00	5,80	5,40	5,00
2,00 m	7,45	6,60	6,50	9,00	8,70	8,45	7,80
2,50 m	9,40	8,60	8,50	12,20	12,00		9,67

9500E2	Weights extension spindles, telescopic – DN						
Pipe cover (RD)	50/65/80/100	125/150	200	250	300	350	400-500*
1,30 - 1,80 m	6,60	6,25					
1,35 - 1,80 m			6,10				
1,40 - 1,80 m				7,30			
1,50 - 1,80 m					6,90	6,70	6,30
1,80 - 2,50 m	9,50	8,90	8,60				
2,00 - 2,50 m				11,00	10,50	10,20	9,70
2,50 - 3,50 m	12,80	12,00	11,90	15,30	14,90	14,50	14,20

* Body DN 400, with flange connection DN 450 or 500

Assembly instructions

Fig.: Assembly E2 extension spindle DN 50-200



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EXTENSION SPINDLES

Rigid or telescopic



Design features

- One extension spindle for several dimensions
- Threaded connection for attachment to the service valve
- No additional fixing (bolt/pin) necessary

Order no.	Version	Pipe cover (RD)	¾" - 2"
9101	rigid	0,75 m	
		1,00 m	
		1,25 m	
		1,50 m	
		2,00 m	
		2,50 m	
9601	telescopic	0,60 - 0,80 m	
		0,80 - 1,20 m	
		1,00 - 1,60 m	
		1,30 - 1,80 m	
		1,80 - 2,50 m	
		2,50 - 3,50 m	

Suitable accessories

- **Extender for rigid spindle**
Order no. 7830 price for first meter
Order no. 7831 price for each additional half meter
- Please specify dimensions and length when ordering

Overwind protection for extension spindles

Intentional break system (break-off equipped)

Order no. 7839 (included in standard Service Valve version)

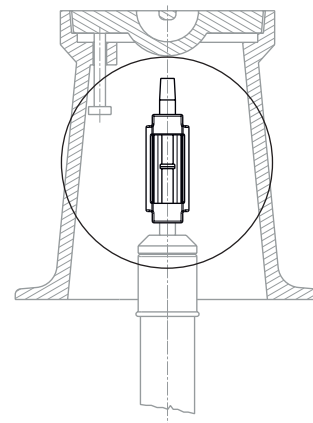
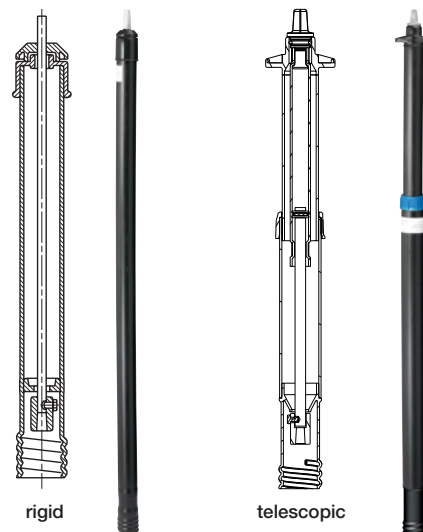
Extension spindle for service valves with threaded connection for spindle DN ¾" - 2"

No. 9101

Rigid

No. 9601

Telescopic



SUPPORT LINER

For PE pipes



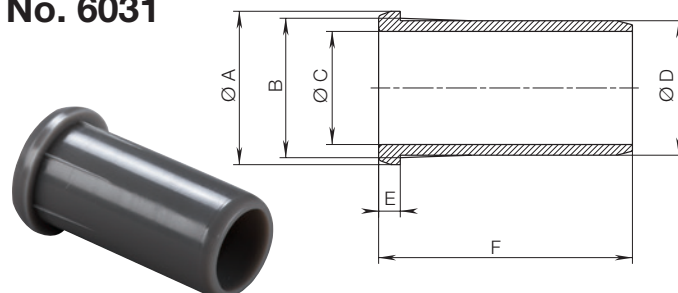
Design feature

- Specified for PE pipeline connections with ISO pipe fitting and house connection valve No. 2635

Class SDR 11 (PE 100 | PN 4)

Pipe out. Ø	ØD	ØC	ØA	F	E	B	
20	15,4	10,3	19,5	42	4	16,5	
25	19,8	14,3	24,5	52	5	20,9	
32	25,2	19,3	31,5	62	6	26,5	
40	31,6	25,3	39,5	72	7	33,2	
50	39,6	32,7	49,5	82	7	41,5	
63	50	42,1	62,5	91	8	52,2	

Support liners made of POM for PE pipes No. 6031



Design features

- Non-decaying locating and warning tape with the message „BEWARE GAS PIPE“
- without metal insert

Roller to 250 meters

Warning tape No. 0840



Design features

- For an easy installation
- Made of pure silicon (with a special solvent)
- Suitable for potable water
- Content: 400 ml
- Attention:** observe the safety-instruction label on the can

Mounting spray For PE and PVC pipes No. 3443



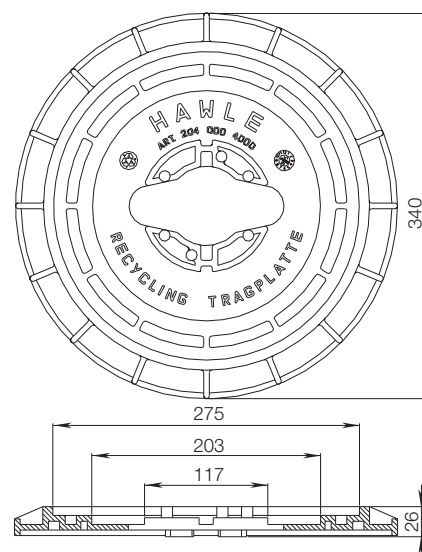
Design features

For surface boxes according to:

- DIN 4056 (gate valves)

Safe fixture of HAWLE telescopic extension spindles for gate valves

Universal base plate No. 3481



E. Hawle Armaturenwerke GmbH 4840 Vöcklabruck - Austria - Wagrainstraße 13
Tel.: +43 (0) 7672 72576 0 - Fax: +43 (0) 7672 78464 - E-Mail: hawle@hawle.at - www.hawle.com

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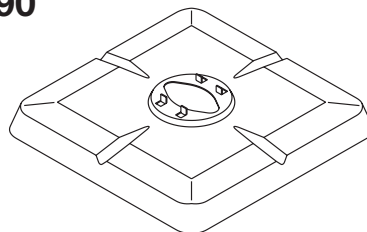
Design features

- of stamped, galvanized sheet steel
Measurement: 360 mm x 360 mm

Order no.	For surface box	Weight	
3490	No. 1755	1,70	

Base plate

No. 3490



Design features

- For valve DN 20 - 500
- Surface box made of bitumen coated cast grey iron
- Square cover labelled "GAS"
- Withstands traffic according to DIN 3580

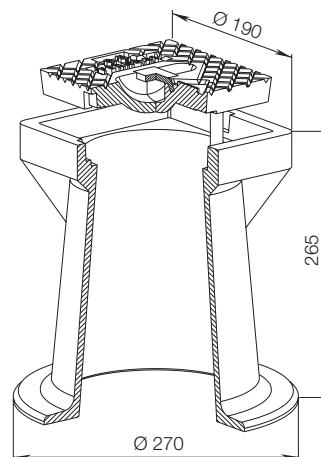
Material | technical features

- **Bolts** and **bridge** made of stainless steel

Order no.	Version	Weight	
1755	rigid	16,0	

Surface box

No. 1755



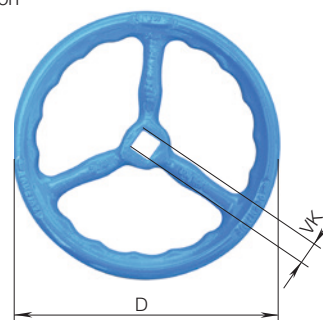
Order no.	DN	D	VK slider spindle	Weight	
7800	¾" - 2"	140	10,3	0,60	
	50	160	14,8	0,69	
	65-80	190	17,3	0,95	
	100	240	19,3	1,50	
	125 - 150	320	19,3	2,30	
	200	360	24,3	2,80	
	250 - 350*	486	27,3	4,80	
	400-500**	600	32,3	21,00	

Handwheel

No. 7800

- **For service valves, gate valves and combi valves**
Made of ductile iron, epoxy powder coated

- * DN 250 - 350 made of steel, epoxy powder coated handwheel made of steel 2" up to DN 200 on request!
- ** DN 400 made of grey ductile iron



Design features

- Cut pipes square and straight
- The lever design minimises the force required

Order no.		For Ø Pipe	Weight	
6050	Type I:	up to 1¼" or Ø 40	0,30	
	Type II:	up to 2" or Ø 63	1,10	

Pipe cutter

Cuts PE- and PVC pipes

No. 6050



Design features

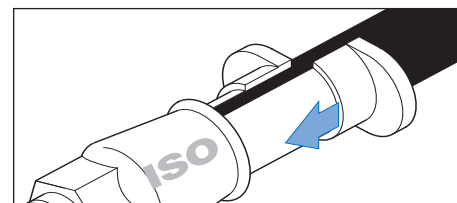
- First ensure that the grip ring is not under tension. When pushed in, the extractors separate the grip ring from the pipe, which can then be pulled out
- **Application:** for all Hawle products with ISO push-fit fittings

Order no.	Ø Pipe	DN	Qty. Extractors	Weight	
6010	20	1½"	2	0,04	
	25	¾"	2	0,07	
	32	1"	2	0,09	
	40	1¼"	2	0,14	
	50	1½"	2	0,19	
	63	2"	2	0,36	

Extractors

For dismantling ISO push-fit fittings

No. 6010



Design features

- For shut-off saddles and shut-off adapters
- For under pressure drilling

Order no.		Size	Weight	
8401	Model I:	For saddle 1" - 1¼"	0,20	
	Model II:	For saddle 1½" - 2"	0,25	

Saddle blade

No. 8401



DRILLING MACHINE

For drilling under pressure



Design features

- Can be used for drilling pipes of **steel, ductile iron, PE and PVC**
- Rotated by ratchet handle and fed by feed wing nut
- The ratchet is connected to the drill shaft with a simple locking device
- Pipe saddle adapters and reducers are sealed with captivated rubber rings

Drilling machine

No. 5800



Content case		
Order no.	Description	Dimensions
5820	Drilling machine	
5810	Case	
5830	Ratchet	
5840	Shaft	
5850	Twist drill for steel and ductile iron	1" - Ø 24
		1¼" - Ø 29
		1½" - Ø 35
		2" - Ø 40
5860	Cup drill for PE and PVC-pipes	1" - Ø 24
		1¼" - Ø 29
		1½" - Ø 35
		2" - Ø 40
5890	Reducing adapter with rubber seals	2" - 1"
		2" - 1¼"
		2" - 1½"
5900	Equal adapter with rubber seals	2" - 2"
5910	1 pc. Allen key size 5	SW 5
5920	2 pc. C spanner for adapter	
8401	Saddle blade for shut-off	1" - 1¼"
		1½" - 2"
5800	Complete in case (weight 17,5)	

Suitable accessories

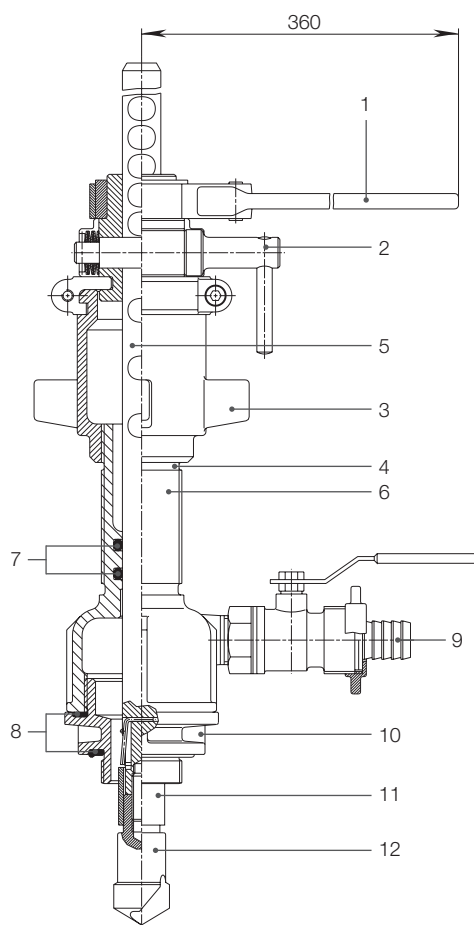
- Cup drill for steel and ductil iron pipes: No. 5870
- Reducing adapter with rubber seals (2" - 2½"): No. 5890
- Adapter for ISO-combination tapping valve (2" - 1½"): No. 5940
- Adapter for thread-cutting machine REMS AMIGO 2: No. 5008555



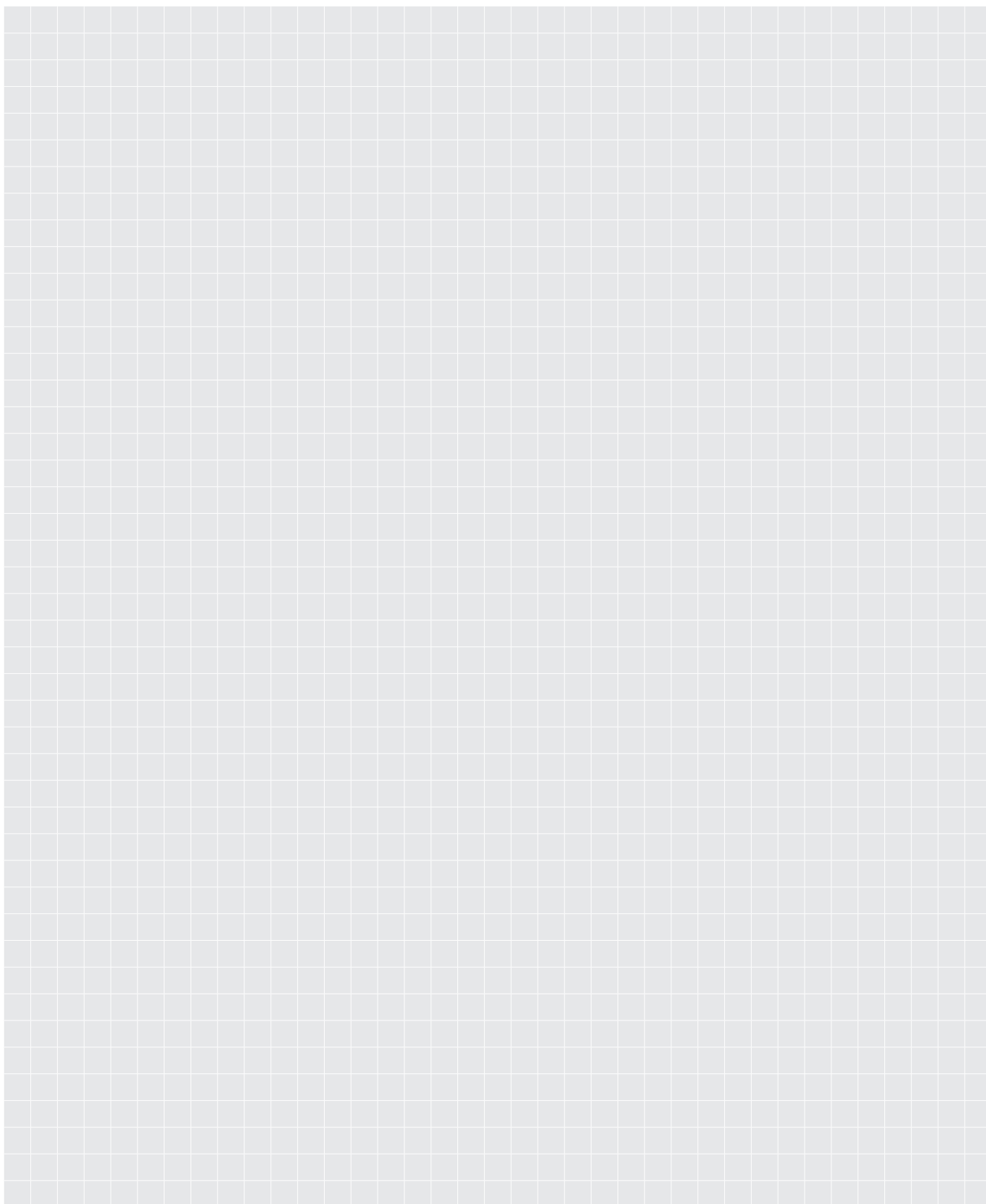
No. 5860
Cup drill
For PE- and PVC-pipes



No. 5850
Twist drill
For steel and ductile iron



- | | |
|-----------------------------|--------------------------------------|
| 1 Ratchet | 7 O-ring |
| 2 Shaft locking bolt | 8 Rubber seal |
| 3 Feed wing nut | 9 Ball valve outlet (carrier) |
| 4 Red marking | 10 Adapter or reducer |
| 5 Drill shaft | 11 Hexagonal socket |
| 6 Body | 12 Twist drill |

A large rectangular area filled with a light gray grid pattern, intended for technical drawings or notes.

CONDITIONS OF SALE 2019

Last updated January 2019 / valid as of 01.01.2019



1 General

1.1 All offers, sales transactions, deliveries and other services provided by E. Hawle Armaturenwerke GmbH (henceforth referred to as „Hawle“) to our customers as of 01.01.2019 are subject exclusively to the following Conditions of Sale.

1.2 Hawle shall not recognise any conflicting or deviating terms and conditions of the customer unless Hawle has expressly agreed to their validity in writing.

1.3 Supplements and amendments to these Conditions of Sale as well as ancillary agreements must be made in writing in order to be effective. This also applies to the waiver of the written form requirement.

1.4 In the event that individual provisions of these Conditions of Sale are or become invalid, the remaining provisions shall remain effective. Ineffective provisions shall automatically be replaced by legally effective provisions which come as close as possible to the economic intent of the contracting parties.

1.5 It is the responsibility of the customer to assess the technical and legal suitability of the goods offered by Hawle for the use intended by the customer or his buyers. The customer is also required to observe export and import restrictions.

1.6 Any administrative authorisations required for the import of goods into their country of destination or for the use intended by the customer or his buyers must be obtained by the customer in good time. In the event that such authorisations are not obtained in good time, delivery dates and periods shall be extended accordingly.

1.7 Hawle reserves the property rights and copyrights to the product catalogue sheets, drawings, product photos, cost estimates and other documents prepared by Hawle. These documents may not be disclosed to third parties without the prior permission of Hawle.

2 Conclusion of contract

2.1 All offers and price lists issued by Hawle are subject to change and non-binding, unless expressly agreed otherwise, and only become binding once Hawle has confirmed the order in writing or performed an action set by Hawle in fulfilment of the contract (e.g. delivery/shipment of the goods).

2.2 Following the confirmation of the order or the performance of an action in fulfilment of the contract by Hawle, the customer may withdraw from the contract only with the prior written consent of Hawle. Unilateral withdrawal from the contract on the part of the customer is not permitted.

3 Prices and terms of payment

3.1 All documents pertaining to an offer such as drawings, illustrations and weight specifications shall only be regarded as approximate unless they are expressly designated as being binding. This reservation applies in particular to obvious errors, typographical errors, printing errors and miscalculations.

3.2 Unless otherwise agreed, the prices quoted by Hawle are in EURO Ex Works Frankenmarkt (EXW, Incoterms 2010), excluding in particular packaging, transport costs, transport insurance, sales tax and export and import duties. Packaging, loading, transport costs and transport insurance as well as potential taxes and duties shall be invoiced separately by Hawle.

3.3 Any changes in wage costs due to collective or statutory regulations or internal agreements as well as changes in other costs relevant to the calculation of costs necessary for the provision of the service, such as the costs incurred for materials, energy, transport, third-party work, financing, etc., shall entitle Hawle to increase the prices accordingly. For this reason, the customer shall have neither the right to withdraw from the contract nor the right to assert that the basis of the transaction has ceased to exist. Orders confirmed by Hawle are exempt from potential price changes.

3.4 Unless otherwise agreed, net payment must be made by the customer within 30 days from the date of invoice. Payments will be offset against the oldest claim due in each respective case.

3.5 The possibility of offsetting payments against claims made by Hawle is excluded.

3.6 In the event that the customer defaults on payment, Hawle shall be released from all further service and delivery obligations and be entitled to withhold any outstanding deliveries or services or to demand advance payments or guarantees.

3.7 In the event that, upon conclusion of the contract, a significant deterioration in the financial circumstances of the customer occurs, or if circumstances become known which from Hawle's point of view are likely to reduce the creditworthiness of the customer, Hawle shall have the right to change due dates for outstanding claims, withhold deliveries to the customer and adjust conditions for future legal transactions with immediate effect.

4 Delivery

4.1 Orders confirmed by Hawle shall be fulfilled by Hawle as swiftly and diligently as possible. The delivery dates and periods announced by Hawle are merely intended to serve as a guideline and are always non-binding unless the stated delivery dates and periods have been expressly designated as binding by Hawle.

4.2 In the event of force majeure or any unforeseeable obstacle for which Hawle is not responsible, delivery dates and deadlines shall be reasonably extended by the duration of the impediment. This shall also apply if Hawle's sub-suppliers encounter such impediments. These include, in particular, official measures, strikes and lock-outs, natural disasters, market-related problems with material procurement as well as import and export restrictions.

4.3 Hawle deliveries may always be divided into sub-deliveries. Hawle is at liberty to make partial deliveries or provide partial services and to issue partial invoices to the customer.

4.4 National and international goods traffic is subject to the terms of delivery FCA, 4890 Frankenmarkt, Hawle dispatch warehouse (Incoterms 2010), unless another delivery clause has been explicitly agreed.

4.5 In the case of a sales shipment, the transfer of risk takes place once the purchased item has been handed over to the first carrier. Where acceptance of a service is required, Hawle's notification of readiness for acceptance shall be decisive for the transfer of risk.

4.6 The customer is obliged to accept the deliveries and services provided by Hawle as per contract. In the event of default of acceptance or a culpable breach of other obligations to cooperate on the part of the customer, Hawle is entitled to demand compensation from the customer for any damage incurred as a result, including any additional expenses.

4.7 Hawle is entitled to make changes to the technical design of the goods ordered, provided that these do not result in significant functional changes and the customer does not demonstrate the unreasonable nature of such changes. Unreasonableness is to be ruled out if the change constitutes a technical improvement or is caused by the further development of the state of the art or by legal or official measures.

4.8 In principle, the customer is not entitled to refunds or replacements. Refunds and replacements are only possible in exceptional cases and require the prior written consent of Hawle.

4.9 The goods delivered by Hawle to the customer are intended for use or resale in the customer's country of residence or in the country of the place of delivery.

5 Reservation of title

5.1 All goods delivered by Hawle remain the property of Hawle until payment has been made in full.

5.2 The customer is authorised to resell the goods in the regular course of business, even during the period in which the goods are subject to reservation of title. If, however, the customer is in default of payment to Hawle, Hawle may prohibit the resale of the goods subject to reservation of title.

5.3 The customer herewith cedes to Hawle all purchase price claims, including all ancillary rights, arising from a resale of the goods to his customers. Hawle accepts this assignment. These purchase price claims serve as security for the goods subject to retention of title.

6 Warranty

6.1 The customer must inspect the received goods with respect to quantity and quality immediately upon receipt. Written notices of defects must be submitted by the customer immediately after receipt of the delivery, but at the latest within 10 days from the date of delivery and prior to any handling or processing, otherwise excluding any warranty claims and/or claims for damages and/or avoidance on account of mistake, but do not entitle the customer to retain the invoiced amounts or portions thereof.

6.2 The warranty period for defects which were not detected during the inspection of the shipment is six months from the date of delivery and is neither extended nor interrupted by attempts at improvement; it also applies to partial deliveries. Notification of any such defects must be given in writing within 10 days from the date the defect was discovered, otherwise excluding warranty claims and/or claims for damages and/or avoidance on account of mistake, but do not entitle the customer to retain the invoiced amounts or portions thereof.

6.3 It has been agreed between Hawle and the customer that a hydrostatic pressure test in accordance with EN 805 is to be performed after laying a pipeline but prior to the main backfilling of the pipe trench or further constructional measures in shafts, plants or buildings which restrict accessibility to the valves and pipe fittings. If such a test is not performed, the customer or his customers shall be charged with contributory negligence of at least 50% in the event of damage. The customer agrees to inform his customers accordingly and to pass on this obligation to perform the described hydrostatic pressure test to his customers.

6.4 Possible warranty obligations generally cover the defective goods, but not the expenses otherwise associated with correcting the defect such as excavation costs, working hours and travel expenses.

6.5 The customer always bears the burden of proving that the delivered goods were defective at the time of delivery.

6.6 The place of performance for warranty obligations is always the place of delivery agreed for the original delivery.

6.7 Hawle shall be free to decide whether to fulfil possible warranty claims by means of replacements, improvement measures, price reductions or conversions.

7 Damages and liability

7.1 Any consulting provided by Hawle, whether verbal or in writing, is non-binding and does not release the customer from his obligation to examine the goods with respect to their suitability and the intended purpose. This applies above all, but not exclusively, to the suitability of the goods for the use intended by the customer or his customers, in particular to their suitability for the substances (gases and/or liquids) to be conveyed.

7.2 Hawle shall be liable for damages caused to the customer in the course of processing the business transaction in an amount not exceeding the value of the order placed with Hawle, and only in the event of gross negligence on the part of Hawle or gross negligence on the part of the executors working for Hawle, with the exception of personal injuries in which case Hawle shall be liable even in the event of minor negligence. The burden of proving gross negligence always lies with the injured party.

7.3 IN NO EVENT SHALL HAWLE BE HELD LIABLE, WHETHER IN TORT OR CONTRACT, FOR INDIRECT DAMAGES, CONSEQUENTIAL DAMAGES, PURELY PECUNIARY LOSSES, FOREGONE PROFITS OR DAMAGES ARISING FROM DELAYS OR OUT OF THIRD PARTY CLAIMS.

7.4 The time limit for asserting claims for damages is one year from the date on which the customer gains knowledge of, or is subject to, negligent ignorance of the damage and the injuring party.

7.5 In the event that the customer himself is held liable under product liability law, he undertakes to immediately notify Hawle thereof by telephone or in writing and to immediately inform Hawle of the address of the claimant, failing which the customer's right of recourse against Hawle arising from product liability will cease to apply. Negotiations of claims arising from product liability with respect to Hawle products shall be conducted exclusively by Hawle.

8 Place of performance, court of jurisdiction, applicable law

8.1 The place of performance for both delivery and payment is always 4840 Vöcklabruck/Austria, even if a different place of delivery has been agreed individually.

8.2 The exclusive court of jurisdiction for all disputes arising from legal transactions between the customer and Hawle is the competent court in 4840 Vöcklabruck/Austria. Moreover, Hawle is also entitled to sue at the customer's registered office.

8.3 All legal transactions between the customer and Hawle are subject exclusively to Austrian substantive law, excluding international conflict of law rules. The application of the UN Convention on Contracts for the International Sale of Goods (CISG) is explicitly excluded.



hawle



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