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**Valves,
Shut-off devices**



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Extension spindles, Head stocks



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Operating material



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HAWLE - **Welcome**

... to the world of HAWLE

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.com

HAWLE - *The best Solution*

a reliable partner

100% Hawle 100% tested 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.**



Vöcklabruck plant



Frankenmarkt plant

HAWLE - **High Level of Safety**

technically and economically

Definition of wastewater:

The products listed in the catalogue are intended for stationary installation in wastewater pipelines made from PE, PVC, DCI, steel or AC pipes.

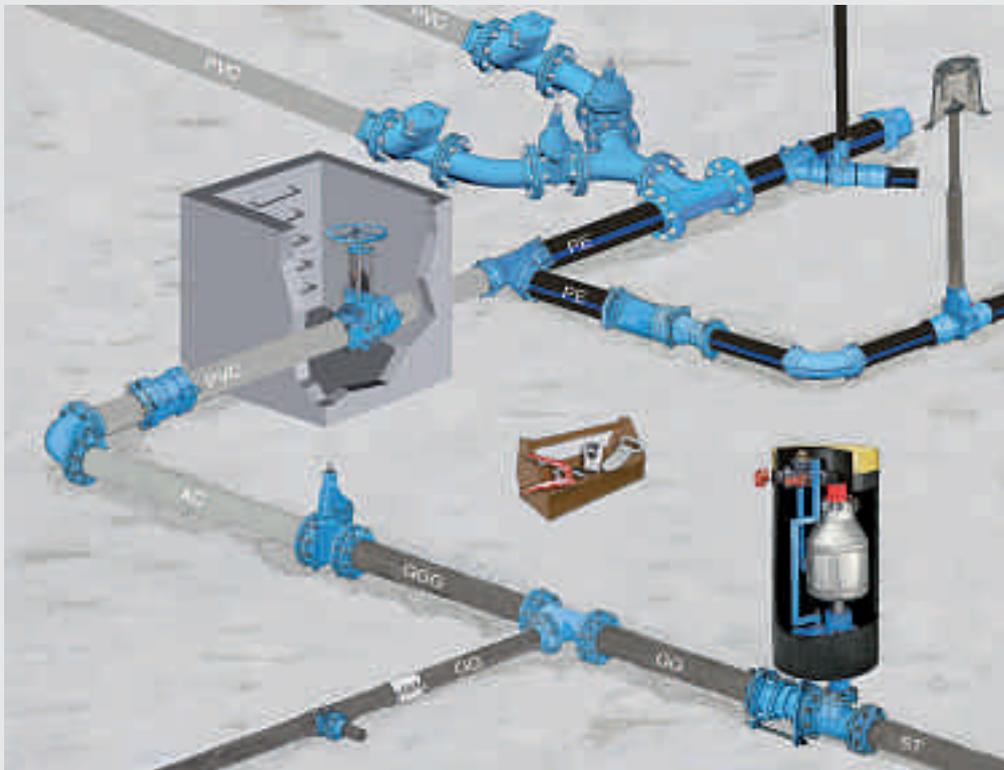
Municipal wastewater is defined according to EN 1085.

Limit values for wastewater: min. 8.0°dH total hardness, pH value of at least 5 to max. 9.5.

In case of other usage or environmental conditions please let us know about the specific operating conditions with your first query. Our application engineering department will gladly support you with questions about the suitability of products for certain operating conditions.

If our fittings are used outside of the standard applications and without approval of the specific operating conditions by our application technology team we cannot accept any liability.

In such a sensitive area, particular care is naturally given to the **product quality**, the **durability** and the **functional safety** of the products.



HAWLE-**Quality-Guarantee**



5 year quality warranty (wastewater)

For all original HAWLE valves with the HAWLE inscription, HAWLE guarantees the perfect functionality for a duration of 5 (five) years from time of delivery ex works. This guarantee applies to all valves which are deployed as intended for municipal wastewater in accordance with EN 1085.

Should a valve lose its functionality during the guarantee period, HAWLE will, at its own choice, ensure the repair of the valve or will deliver an equivalent replacement valve.

Exceptions to this guarantee are expendable parts and any damage caused by incorrect storage, transport, assembly, failure to follow instructions for use, failure to carry out pressure testing, inadequate service and maintenance, subsequent product manipulation or the use of unsuitable fluids or gases. This guarantee does not apply in the case of unusual environmental conditions, vibrations or where there are remnant quantities of a medium left or similar external effects, nor in the case of actions carried out by third parties, accidents or other events over which HAWLE has no influence.

Please observe the exceptions and special rules applicable for specific products as given in the catalogue on our homepage www.hawle.at

As of: March 2012

HAWLE - **Standard and Special Applications**

STANDARD APPLICATIONS:

Our products are intended for stationary installation in wastewater pipelines made of PE, PVC, DCi, steel or AC pipes.

STANDARD MEDIUM: Municipal wastewater
according to EN 1085

GENERAL OPERATING PARAMETERS:

Municipal wastewater:

Medium temperature: 0°C to max. 40°C
max. 250 mg/l Chloride, max. 0.3 mg/l free chlorine
min. 8.0°dH total hardness
pH value of min. 5 to max. 9.5

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: +43 664 / 605 76 - 223).

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 OVGW (the Austrian Association for Gas and Water) and/or comparable national technical standards.

HAWLE - *Epoxy Powder-Coating*

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

The environmentally friendly solvent- and pollution free powder coating technology!



EWS coating according to GSK:

- ⦿ Fulfils 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 30 677 T2 - coating thickness, adhesion, spark-testing, impact resistance
- ⦿ Independant 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

Wastewater - Knife Gate Valve with loose flanges



No. 4806

Product description

- The ideal gate valve for the replacement of existing valves and new construction of pressure lines
- Spindle lies outside the flow medium
- Reliable and leak-proof shut-off function by knife gate and O-ring seal
- Can be used for installation in plants and underground installation
- Restraint connection
- Bonnet can be replaced "under pressure"
- Flat gaskets are already contained in the conical seals
- Patent pending

Technical features

All cast iron parts: GJS-400, epoxy powder-coated

Spindle, knife gate: stainless steel

Face-to-face length according to EN 558 - 1 GR14

Max. operating pressure: 10 bar

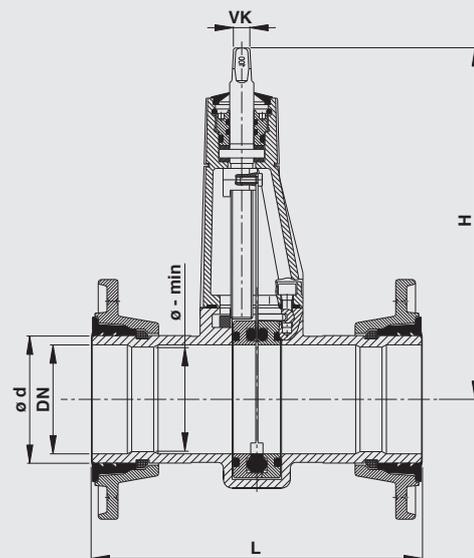
Note: actuation by means of electric actuator on request

Flange measured and drilled in accordance with EN 1092-2-PN 10 (standard); EN 1092-2-PN 16 from DN 200 mm please specify when ordering - other standards on request

Suitable accessories

Extension spindles and hand wheels see chapters B + C (observe spindle square head VK)

Application example



DN	H	L	Ø d	Ø - min	VK	Weight kg
80	295	180	97,0	76	14,8*	14,00
100	320	190	117,0	96	14,8*	17,00
125	424	200	143,0	121	17,3**	27,00
150	410	210	169,5	145	17,3**	32,00
200	530	230	222,0	173	19,3	45,90

* When using an E2 extension spindle (9000E2 / 9500E2) use spindle adapter JA100030000070.

** When using an E2 extension spindle (9000E2 / 9500E2) use spindle adapter JA100039000070.



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Wastewater - Knife Gate Valve with loose flanges



Application example

Gate valve with rigid flange

New conventional gate valve will be built into the free space

Problem:
Pushing in the seal (spreading of the flange required)

Conventional flange gate valve should be replaced

High-tensile loose flange with conical seal and ring for restraint connection

Gate valve with loose flange

New gate valve with loose flanges will be built into the free space

Easy installation due to loose flange

This knife gate valve was specially built for the replacement of existing valves in wastewater pressure lines. Previously it was extremely time-consuming to replace such a gate valve (see application example above)!

This sewage gate valve is provided with loose flanges and can easily be installed in the free space created

Recommended approach:

1. Disassembly of the existing gate valve
2. Check the sealing surfaces of the counterflanges, clean if necessary
3. Reset loose flange and adapt the replacement gate valve to the free space
4. Set-up the loose flange and mount on counterflange

Benefits

- no spreading apart of the flange required
- highly time-saving compared to the installation of conventional gate valves
- easier installation due to moving loose flange
- integrated conical seal with sealing lips and flat gasket
- restraint connection
- single-handed tightening of the screws due to hexagonal recess

A 1/2



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Universal Pipe Saddle with integrated flange knife gate valve



No. 4807

Product description

- For lateral drilling of wastewater lines made from cast iron, steel (AC pipes) under pressure (DN 150-500)
- Spindle lies outside the flow medium
- Reliable and leak-proof shut-off function by knife gate and O-ring seal
- Suitable for underground installation
- Bonnet can be replaced "under pressure"
- **Two straps** and an additional saddle seal are always required!

Technical features

All cast iron parts: GJS-400, epoxy powder-coated

Spindle, knife gate: stainless steel

One side with double strap connection, the other side with flange in accordance with EN 1092-2

Max. operating pressure: 10 bar

Note: operation by means of electric actuator on request

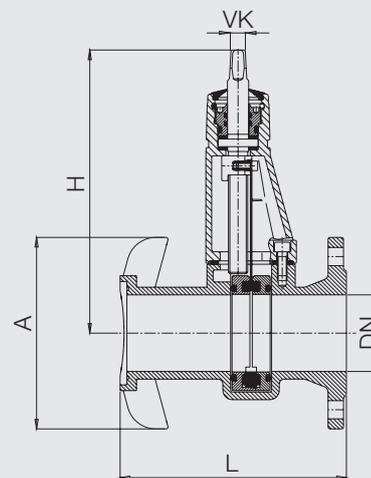
Flange measured and drilled in accordance with EN 1092-2-PN 10 (standard) - other standards on request

Suitable accessories

Extension spindles and hand wheels see chapters B + C (observe spindle square head VK)

Hawle - strap see page H 4/2

Saddle seal see page H 4/2



DN	A	H	L	Drill Ø max.	VK	Weight kg
80	200	590	245	75	14,8*	17,4

* When using an E2 extension spindle (9000E2 / 9500E2) use spindle adapter JA100030000070.



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A 2/1

Auxiliary Shut-off Flange



Product description

- Shut-off adapter for combination with air release valves

Technical features

Housing and dirt cover: steel, epoxy powder-coated

Seals: integrated O-ring seals

Threaded bolts: stainless steel

Max. operating pressure: 16 bar

Flange drilled in accordance with EN 1092-1-PN16 (standard)
- other standards on request

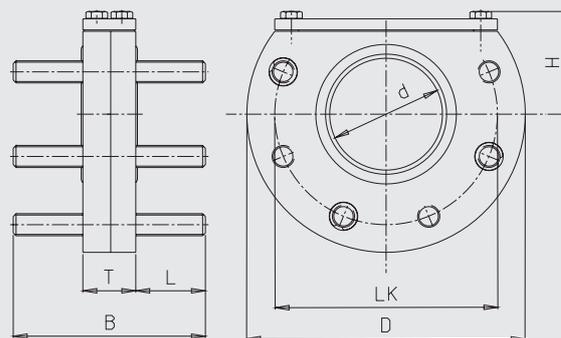
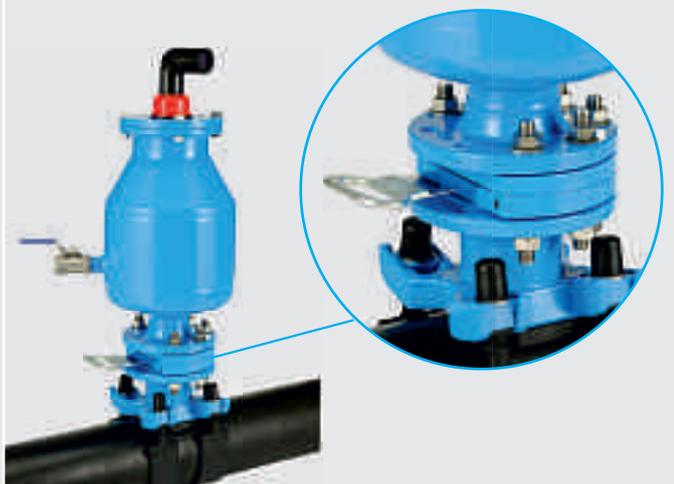
Suitable accessories

Saddle blade see page K 2/1

No. 3735



Application example



DN	D	d	LK	H	B	L	T	Weight kg
80	200	80	160	75	138	50	38	6,90

A 2/2



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Knife Gate Valve with non-rising spindle



Product description

- Resilient seated gate valve for various application areas
- Robust construction, long-term corrosion protection
- Actuation by handwheel or electric actuator
- One-piece housing from DN 50 to DN 200

Technical features

All cast parts: GJL-250 EN 1561, epoxy powder-coated

Bearing block: (DN 50–200): GJS-400
(DN 250–400): GJL-250

Plate: stainless steel

Spindle and columns: stainless steel

Screws: stainless steel

Spindle nut: gunmetal

Cross sealing and U-sealing: elastomer

Friction washer: POM

Face-to-face dimension according to EN 558 - 1, basic series 20

Max. operating pressure: 10 bar or 6 bar*
(see table)

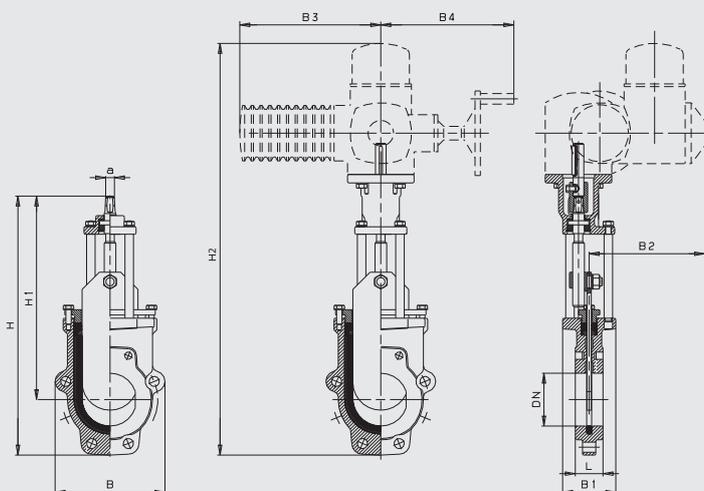
Suitable accessories

Actuation by means of electric actuator
see page C1/2

Hand wheels see page C1/1

Order no. 7820 spindle extension - on request

No. 3600



Order no.	Design	PN	Nominal diameter DN												
			50	65	80	100	125	150	200	250	300	350	400		
3600	Standard	10													
		6													
3600EL	with flange connection for electric actuator	10													
		6													

DN	H	H 1	H 2	B	B 1	B 2	B 3	B 4	L	Spindle square a	Weight kg	suitable hand wheel*** No. 7800 DN
50	349	284		125	88				43	10,3	6,30	2"
65	381	309		139	88				46	10,3	7,00	2"
80	450	355	779	188	100	273	265	250	46	14,8 (19,3**)	11,00	100
100	490	385	819	206	100	273	265	250	52	14,8 (19,3**)	14,00	100
125	559	439	892	234	100	273	265	250	56	19,3	17,00	125-150
150	619	483	952	268	100	273	265	250	56	19,3	22,00	125-150
200	753	591	1088	319	127	287	282	256	60	19,3	33,00	125-150
250*	957	788	1296	347	160	279	282	256	68	24,3	73,00	200
300*	1081	888	1420	399	160	279	282	256	78	24,3	99,00	200
350*	1242	1016	1610	462	180	318	385	325	78	27,3	140,00	250-350
400*	1353	1103	1721	512	180	318	385	325	102	27,3	180,00	250-350

* Flange drilling PN 10 / operating pressure PN 6

** with spindle adapter

*** not included in scope of delivery!



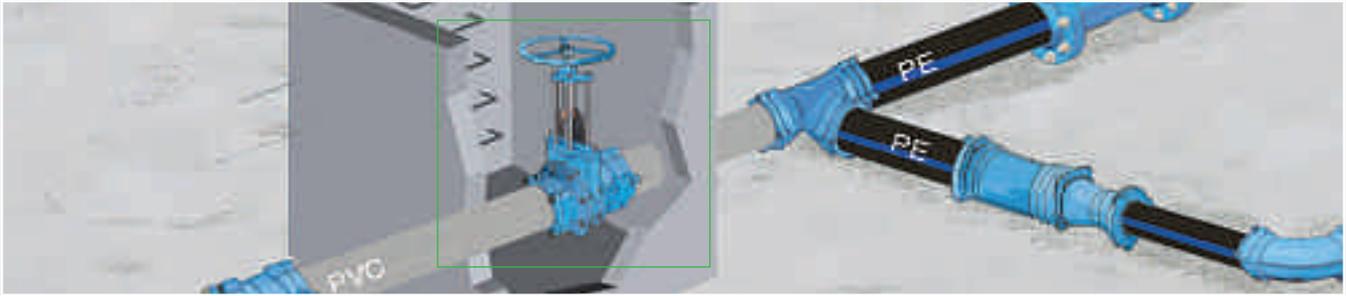
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A 3/1

Knife Gate Valve with non-rising spindle



Application example



Resilient seated gate valve for highly fluid and dry media in plant construction e.g.: wastewater treatment plants, the paper or extractive industry, mining, chemical and animal feed industry.

A 3/2



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Extension Spindles

rigid or telescopic



Product description

- All extension spindles (rigid and telescopic) all types and dimensions are protected against ingress of dirt and surface water.
- The telescopic extension spindles allows a continuous alignment to the street level by extending or pushing together the telescopic pipes and the key rod.
- All vertically acting forces are absorbed by the telescope effect, preventing damage to the pipe and the fixture.

Suitable accessories

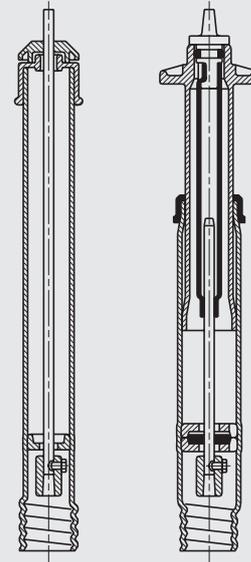
Extension for extension spindles "rigid"
order no. 7830 fixed price: 0 - 1,0 metres
order no. 7831 price for each extra half metre
 specify nominal diameter and length when ordering
Baseplate no. 3481 for secure locking see page M 1/2

for service valves

with threaded connection DN ¾" – 2"

no. 9101 rigid

no. 9601 telescopic



rigid

telescopic

Spindle head	a	b	c
<p>for service valves rigid / telescopic</p>	13	15	24
<p>for gate valves rigid / telescopic</p>	27	32	48

Order no.	Version	Pipe cover depth	Weight kg
9101	rigid	0,75 m	1,20
		1,00 m	1,70
		1,25 m	2,20
		1,50 m	2,70
		2,00 m	3,70
		2,50 m	4,70
9601	telescopic	0,60 - 0,80 m	3,50
		0,80 - 1,20 m	4,90
		1,00 - 1,60 m	3,20
		1,30 - 1,80 m	2,40
		2,00 - 2,50 m	1,60
		2,50 - 3,50 m	6,90



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B 1/1

E2 Extension Spindles

rigid or telescopic



Product description

- One extension spindle for multiple dimensions
- Protective cover with integrated locking mechanism
- NO additional fastening (screw/pin) necessary

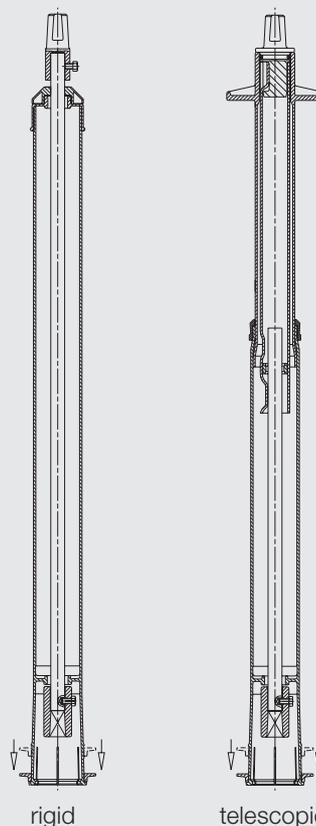
for gate valves no. 4806, 4807 DN 80 - 200
no. 9000E2 rigid
no. 9500E2 telescopic

Order no.	Version	Pipe cover depth	Nominal diameter/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			
		2,00 - 2,50 m			
		2,50 - 3,50 m			

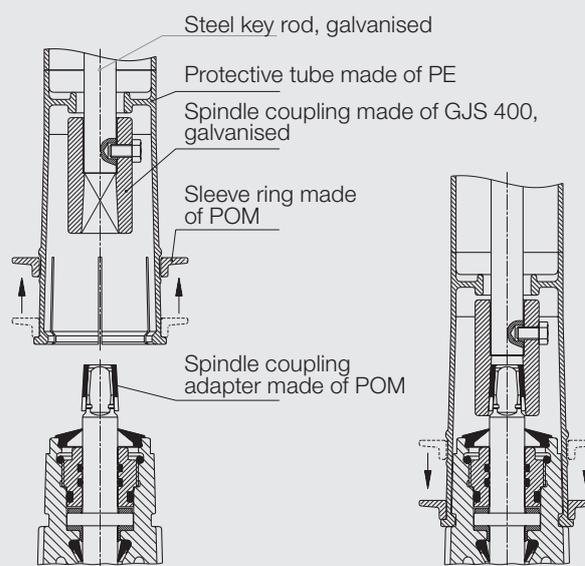
9000E2	Weight kg extension spindles, rigid – for DN		
RD*	50/65/80/100	125/150	200
1,00 m	3,45	2,90	2,70
1,25 m	4,45	3,90	3,70
1,50 m	5,45	4,90	4,70
2,00 m	7,45	6,90	6,70
2,50 m	9,50	8,90	8,70

9500E2	Weight kg extension spindles, telescopic – for DN		
RD*	50/65/80/100	125/150	200
1,30 - 1,80 m	6,75	6,25	
1,35 - 1,80 m			6,10
2,00 - 2,50 m	9,40	8,90	8,60
2,50 - 3,50 m	12,80	12,00	11,90

RD* = pipe cover depth



Assembly E2 installation kit DN 50 - 200



B 1/2



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Product description

- Pillar for the ergonomic above-ground operation of shut-off valves buried in the ground or installed in manholes and valve chambers
- Quick and simple exchange of all interior parts
- Extended inner pipe of galvanized steel permits the quick and easy connection of the HAWAK pillar by means of square bar, spindle extension or extension spindle

Technical features

Housing made of polished stainless steel

Interior pipe made of galvanised steel

Flange DN 65 made of stainless steel, drilled in accordance with EN 1092-1 PN 10

Height 910 mm (for all nominal diameters)

All components are protected against corrosion or made of corrosion-protected materials

In models with hand wheel - spindle made of stainless steel secured with elastomer wiper ring, cover made of steel, epoxy powder-coated, spindle slide bearings made of POM

Electric actuator see page C1/2

No. 9894 manual drive

No. 9895 with mounting of the electric actuator and the display of the closing or opening position



Order no.	Version	Nominal diameter of the gate valve to be actuated DN
9894	Headstock with hand wheel	50–400
9895	Headstock for the mounting of an electric actuator	50–400

Technical features

Material: steel 0037 galvanised
no. 7820 fixed price: 0 - 1.0 metre
no. 7821 price for each extra half metre

Material: stainless steel
no. 7825 price for first metre
no. 7826 price for each extra half metre

Specify overall length "L" when ordering !

Installation on gate valves under Hawak headstock

No. 7820



Order no.	Version	DN
7820 7821	Steel 0037 galvanised	¾"-2", 50-400
7825 7826	stainless steel	50-400

Product description

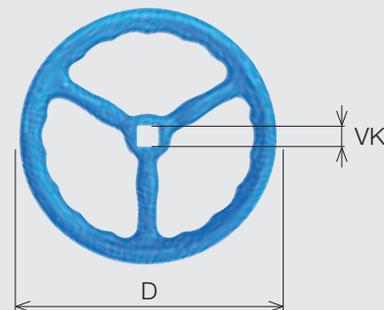
- No. 7800 Hand wheel for house connection valves and gate valves

Technical features

DN 2" - 200 made of GJS 400, epoxy powder coated

DN 250/300/400 made of GJL 200, epoxy powder coated

Handwheel No. 7800



Order no.	DN	D	VK slider spindle	Weight kg
7800	¾"-2"	140	10,3	0,28
	50	160	14,8	0,39
	65-80	190	17,3	0,80
	100	240	19,3	0,97
	125-150	320	19,3	1,88
	200	360	24,3	2,69
	250-350	486	27,3	4,82
	400	600	32,3	6,50

Product description

- Made of aluminium
- Including cap and direction indicator

Technical features

No. 2157 "clockwise closing"

No. 2158 "anti-clockwise closing"

No. 2156 made of ductil iron, galvanised

Operating cap



No. 2157



No. 2158



No. 2156

Order no.	DN
2157	20-350
2158	20-350
2156	50-400

Product description

- In standard version 400 V, 50 Hz
- Three phase motor
- Easily adjustable limit switch for both end positions (on / off)
- Dual torque switch
- Signal output to control flasher
- Heating for switchgear area and thermo-switch
- Handwheel for emergency use

Technical features

Connection type: EN 5210 F10/F14
 Shaft coupling: DIN 3210 E - EN ISO 5210
 Enclosure of the drive: IP 68
 Enclosure of the switch: IP 66
 Deviations from the standard edition available on request

Suitable accessories

Actuator control unit AUMA MATIC on request

Type	Length	Width	Height
SA 07.6	514	299	288
SA 10.2	536	312	290
SA 14.2	713	375	316

Electric actuator No. 9920



Symbolic photo

DN	Electric actuator	
	Type	Weight kg
80-200	SA 07.6	20,0
200-400	SA 10.2	22,0
400	SA 14.2	48,0

DN	Electric actuator rpm	Closing time
80	16	30 sec
100-250	16	1,0 min
300-400	16	1,5 min

Other closing times and models available on request

Please observe when ordering:

For the use of HAWLE knife gate valves with built-in electric actuator, the following data must be made known when ordering:

1. operating pressure
2. installation location of the valve
3. number of on/off control communications per 24 hours

Automatic Air Valve

for wastewater, operating pressure of 0 - 16 bar



Product description

- Direct automatic air inflow and release valve for wastewater
- Operates automatically
- Max. air release capacity: 230 m³/h
- Max. size of the opening: 480 mm²
- Sealing face is not in contact with the wastewater
- The two joints facilitate easy and excellent flushing at maintenance.
The flushing water is introduced via the upper exhaust opening.
Solids are flushed out via the ball valve connector
- All mechanical parts of corrosion resistant materials
- Flange measured and drilled in accordance with EN 1092-2-PN 10 (standard); EN 1092-2-PN 16 from DN 200 mm please specify when ordering - other standards on request
- Due to the direct operation the release of lots of air is possible, even under full working pressure
- Please take the direction and maintenance instructions into consideration

Valve maintenance

See page D2/2

Suitable accessories

Air release stop for automatic air valves
see D 1/3

No. 9864
No. 9863



Application example



Order no.	Version	Medium	Operating pressure bar	Nominal diameter/DN					
				2"	50	80	100	150	200
9864	stainless steel with flange connection	Wastewater	PN 0 - PN 16						
9864	stainless steel with 2" internal thread connection ISO 228								
9863	Steel, epoxy powder-coated with flange connection								
9863	Steel, epoxy power-coated with 2" internal thread connection								



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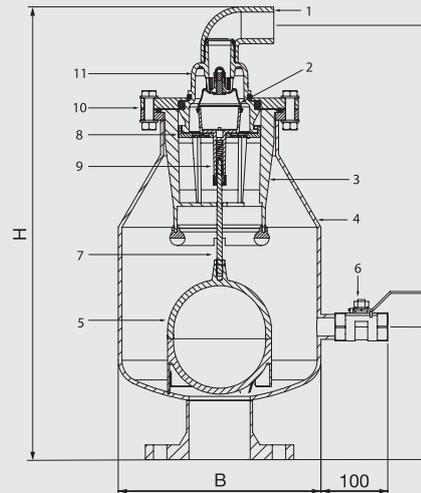
D 1/1

Automatic Air Valve

for wastewater, operating pressure of 0 - 16 bar

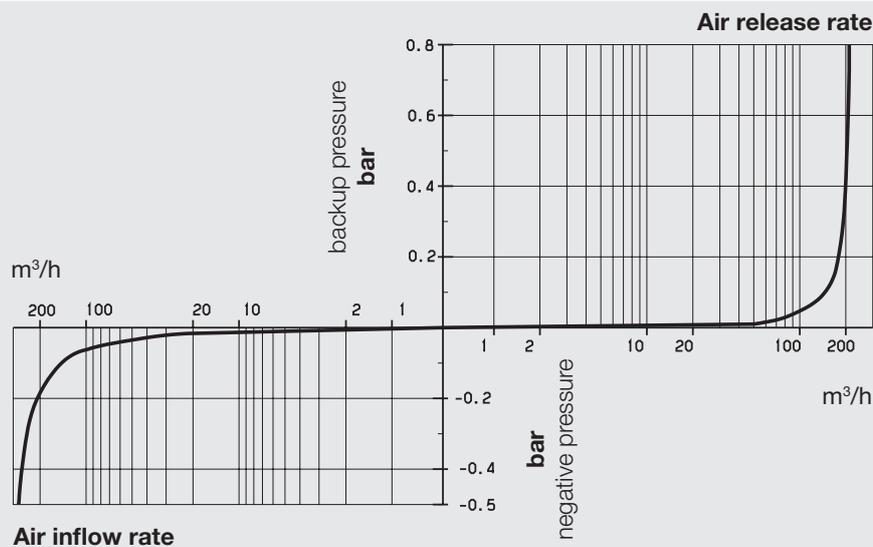


Flange / ID DN	B	H	Weight kg
2"	270	615	23,0
50	270	615	23,5
80	270	615	25,0
100	270	615	26,0
150	270	615	28,0
200	270	615	33,0



Part	No. 9864 version stainless steel	No. 9863 version steel-coated
1 outlet elbow with dirt sieve	PE 100 / stainless steel 1.4301	PE 100 / stainless steel 1.4301
2 diaphragm with retaining ring	(POM) Elastomer	(POM) Elastomer
3 protector	PE	PE
4 body	stainless steel 1.4301	Steel, epoxy powder-coated
5 float	POM	POM
6 ball valve outlet 1"	stainless steel	stainless steel
7 rod	stainless steel 1.4571	stainless steel 1.4571
8 body nut with sieve	POM / stainless steel 1.4301	POM / stainless steel 1.4301
9 diaphragm holder	POM	POM
10 fix flange	1.4571	Steel, epoxy powder-coated
11 Valve body-bonnet	POM	POM
bolts, nuts and springs	stainless steel A4	stainless steel A4

Flow performance diagramm



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Automatic Air Valve with air release stop



Product description

- An escape of the flushing air via the automatic air valve is not desired during compressed air flushing. For this reason Hawle has developed an air release which can be subsequently mounted on each valve or can be built into each set
- When a certain air release capacity is reached (continuously adjustable via the adjustment nut), the air release closes and the flushing air remains in the pipe, only a small amount of air escapes through the overflow hole. After the flushing process has finished, the pressure builds up via this overflow hole, the exhaust stop opens and the automatic air valve returns to normal operation. Through a damping element the taper closes with a time delay, i.e. the valve is not immediately triggered for each short-term air release process with large air release performance and closes
- The air release quantity through the overflow hole is infinitely adjustable by means of a perforated adjusting screw

Technical features

Medium: drinking water, wastewater

Max. operating pressure: 16 bar

Material:

Body and sealing cone: POM

Axis, spring and adjusting nut: stainless steel

Sealing elements: NBR

Prevents the escape of flushing air during the compressed air flushing

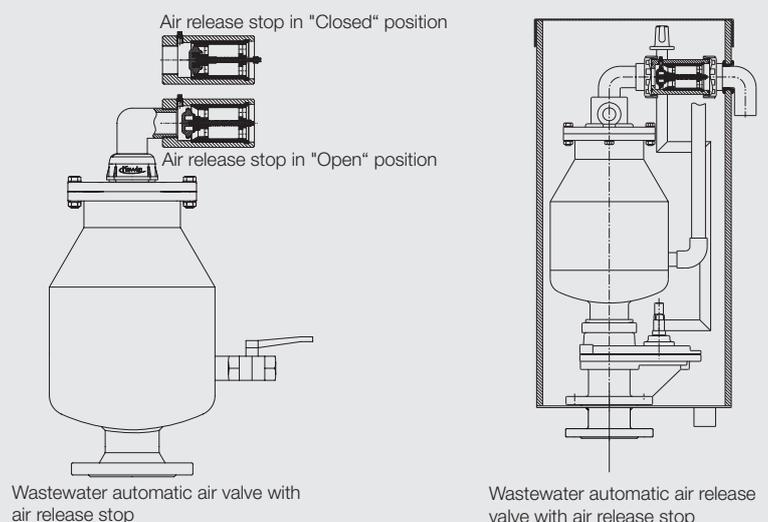
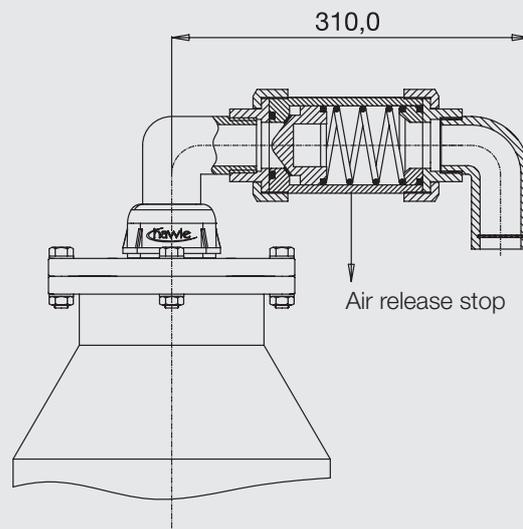
Can be mounted before installation or subsequently on Hawle automatic air valves

Infinitely variable adjustment of the air flow for the closing process

If no compressed air flushing is carried out, the valve works in the normal operating condition

Air Release Stop

No. 9862



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Automatic Air Valve for Wastewater for operating pressure 0 - 16 bar



Product description

- Waterproof PE-chamber with shut-off valve, air valve and fitting for connection of a PE drainage line
- Self - actuating
- Seal seat is not in contact with the wastewater (air cushion)
- Two connectors for efficient flushing during maintenance work (upper connector = flushing water inlet)
- All mechanical parts made of corrosion-resistant materials, body made of steel, epoxy powder-coated
- When using with compressed air flushing an additional air release stop is required

Technical features

Body: steel, epoxy powder-coated (alternatively in stainless steel version)

Max. air release capacity: 230 m³/h

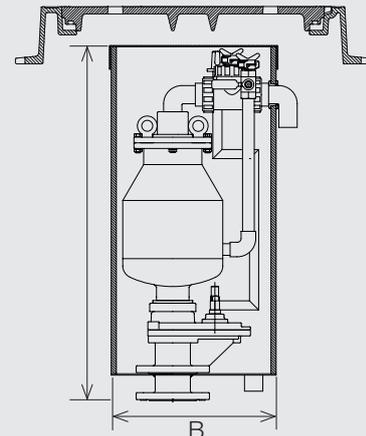
Flange measured and drilled in accordance with EN 1092-2-PN 10

Operating pressure: 0 - 16 bar

No. 9828 with flange



Flange



Application example



Order no.	Flange DN	pipe cover m	H	B	Weight kg
9828	80	1,25	975	455	62,00
		1,50	1225		80,00



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D 2/1

Operating and maintenance Instructions for automatic air valves (from build year 04/2007)*



1. Intended usage

The Hawle automatic air valve order no. 9828 used for air release and intake of pressure lines for a pressure range of 0 -16 bar. Medium: household water (industrial water, wastewater with a high proportion of acid or alkaline only after consultation), drinking water.

Please note that the valves corresponding to DVGW W 392 must be maintained at least 1 x year and may possibly need to be maintained more often in particular in sewage pressure pipes with high degree of contamination or tendency to saponification. Please also observe the valid standards and sets of rules, accident prevention regulations and the rules of the professional associations.

An advantage of the automatic air valve is that the hazards normally associated with shafts disappear with this product, as the required maintenance work can usually take place from the street level.

As the automatic air valve contains compressed air, before maintenance work the valve must be depressurised via the ball valve!

2. Product description

The Hawle automatic air valve order no. 9828 is a combination of shaft and automatic air valve, that both ventilates lines and can exhaust the air found in the pipeline. The valve is self-actuated and has a shock-reducing effect due to its design. The sealing seat in this automatic air valve is not in contact with the medium. Ventilation and exhaust valve is designed for a maximum operating pressure PFA = 16 bar

3. Assembly

The automatic air valve order no. 9828 must be mounted on a vertical outlet of the pressure pipeline. The assembly should be carried out as close to the pipeline as possible, so that the risk of freezing is reduced. Note: the lateral arrangement of automatic air valves can significantly alter the regulation behaviour of the valve. In the case of heavy contamination, potential problems in the pipeline area up to the automatic air valve must also be expected. The laterally protracted arrangement of automatic air valves is to be avoided.

In the case of large pipeline dimensions, it should be noted that the air must be led to the air valve (also see DVGW W 334). For this reason it is recommended to select as large a connection to the pipeline as possible and to subsequently reduce with a reducing piece, which can simultaneously serve a automatic air dome for accepting larger amounts of air, to reduce the valve with its nominal diameter (example: pipeline DN 200, the outlet to the pipeline has the nominal diameter DN 150 or DN 200, the FFR piece reduces to a nominal diameter DN 80, the automatic air valve is DN 80).

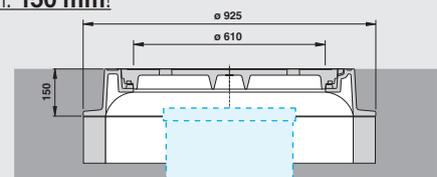
The automatic air valve is fitted with a shut-off device, which can be opened or closed with a half turn. An additional shut-off valve is therefore not required.

The Hawle automatic air valve has the possibility of connecting a pipeline to the ventilation outlet. Please note that the connection of a longer and smaller dimensioned exhaust line can under some circumstances alter the regulation behaviour of the automatic air valve. The same possibly applies for use of the upcoming charcoal filter. Here it is essential to ensure that correspondingly large dimensioned components are used, which cannot lead to a backlog in the valve.

The automatic air valve is closed from above by a shaft ring and shaft cover. During installation of the air valve, please take into account that from the street level to the pipeline a sufficiently large dimensioned seepage pack, e.g. from gravel, is necessary, so that incidental rainwater can be drained off. A drainage fitting is also found on the automatic air valve, which can either be connected with a PE pipe (discharge, e.g. in a watercourse or seepage pack) or connected with an end fitting ('sump pit solution').

Construction recommendation: Shaft frames and cover, bituminised, with inscription "Abwasser" see page L 1/2

The automatic air valve should be built so that the gap between street level and automatic air valve upper edge of air valve assembly is a min. **150 mm!**



* (Operating instructions for older edition - on request)

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ZAK - ISO-Fittings for PE pipes



Technical features

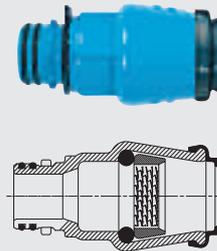
Made of GJS 400, epoxy powder-coated
O-rings: Elastomer
Grip ring: POM
Dirt cap: Elastomer
Max. operating pressure: 16 bar

Pipe o. d. Ø	Connection	Weight kg
32	ZAK 46	0,58
40	ZAK 46	0,80
50	ZAK 46	1,20
50	ZAK 69	1,44
63	ZAK 46	1,60
63	ZAK 69	1,80

ZAK - Adaptor

ZAK 46, ZAK 69

No. 6160

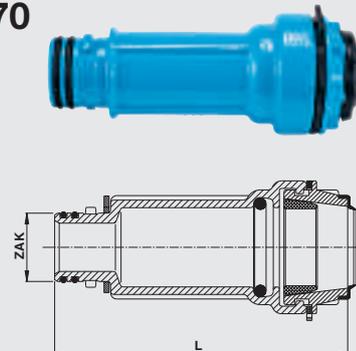


Pipe o. d. Ø	Connection	L	Weight kg
40	ZAK 46	190	1,50
50		193	1,75
63		251	2,70

ZAK - Adaptor

sliceable with detachable socket

No. 6170

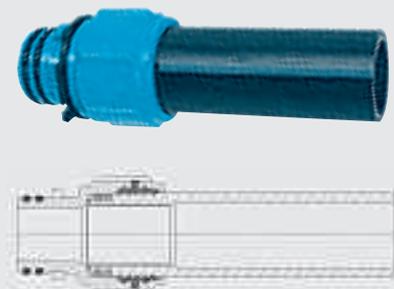


Pipe o. d. Ø	Connection	Weight kg
32	ZAK 46	0,60
40		0,60
50		0,90
63		1,20

ZAK - PE tail

with ZAK connection ZAK 46 straight edition

No. 6180



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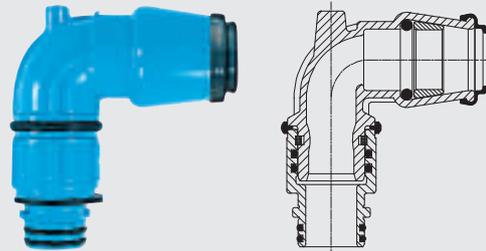
J 1/1

ZAK - ISO-Fittings for PE pipes



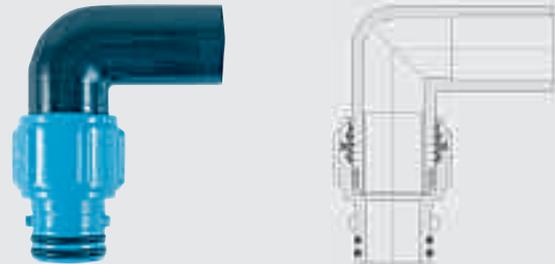
Pipe o. d. Ø	Connection	Weight kg
32	ZAK 46	1,70
40		1,90
50		2,30
63		2,80

ZAK - Bend 90°, 360° swivel type with ZAK connection ZAK 46 No. 6465



Pipe o. d. Ø	Connection	Weight kg
32	ZAK 46	0,50
40		0,65
50		0,85
63		1,00

ZAK - PE-Bend 90° with ZAK connection ZAK 46 straight edition No. 6479



Pipe o. d. Ø	Connection	Weight kg
32	ZAK 46	0,90
40		1,20
50		1,65
63		2,10

ZAK - Bend 90° with ZAK connection ZAK 46 No. 6480



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ZAK - ISO-Fittings for PE pipes



Technical features

Made of GJS 400, epoxy powder-coated

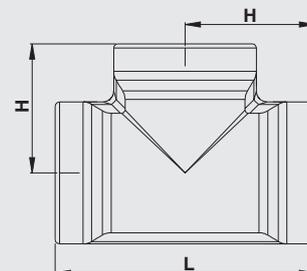
O-rings: Elastomer

Clamp: POM

Max. operating pressure: 16 bar

Connection	L	H		Weight kg
ZAK 46	120	60		1,40

ZAK - T piece with all-round ZAK socket ZAK 46 No. 6540



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J 1/3

Technical features

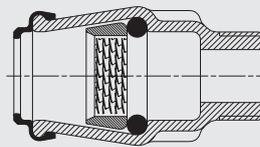
Made of GJS 400, epoxy powder-coated
O-rings: Elastomer
Grip ring: POM
Dirt cap: Elastomer
Max. operating pressure: 16 bar

Pipe Ø	Thread EN 10226-1	Order no. 6100	
			Weight kg
32	1"		0,35
40	1¼"		0,63
50	1½"		0,93
63	2"		1,45

Pipe Ø	Thread EN 10226-1	Order no. 6110	
			Weight kg
32	1¼"		0,39
32	2"		0,67
40	1"		0,64
40	1½"		0,66
40	2"		0,72
50	1¼"		0,90
50	2"		0,95
63	1¼"		1,30
63	1½"		1,45
75	2"		2,50

Adaptor with external thread No. 6100

Special dimensions
No. 6110

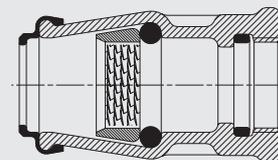


Pipe Ø	Thread ISO 228	Order no. 6200	
			Weight kg
32	1"		0,42
40	1¼"		0,70
50	1½"		1,00
63	2"		1,70
75	2½"		3,20
90	3"		3,60

Pipe Ø	Thread ISO 228	Order no. 6210	
			Weight kg
32	1¼"		0,57
50	1¼"		1,10
90	2"		4,00

Adaptor with Internal thread No. 6200

Special dimensions
No. 6210

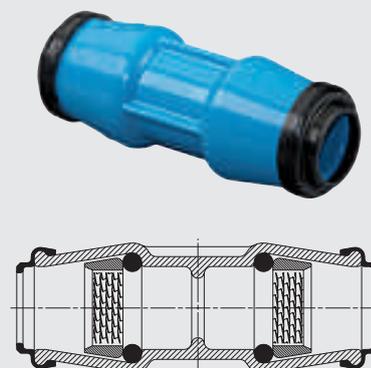


Technical features

- Made of GJS 400, epoxy powder-coated
- O-rings: Elastomer
- Grip ring: POM
- Dirt cap: Elastomer
- Max. operating pressure: 16 bar

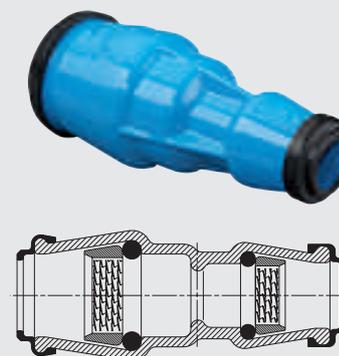
Pipe Ø	Weight kg
32	0,65
40	0,97
50	1,40
63	2,30
75	3,20
90	3,15

Connector No. 6300



Pipe Ø 1	Pipe Ø 2	Weight kg
40	32	0,80
50	32	1,70
50	40	1,40
63	50	1,70
75	63	2,65
90	75	3,30

Connector reduced No. 6310



Pipe Ø	Weight kg
32	1,10
40	1,90
50	2,10
63	3,20

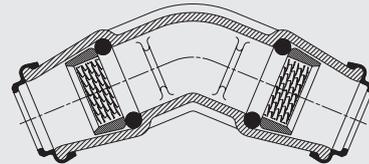
Connector with detachable ends for subsequent assembly No. 6301



when using as "coupling sleeve" - beware: no end stop!

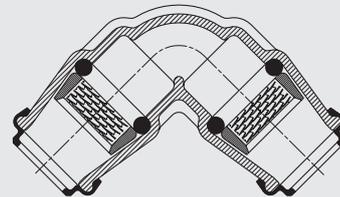
Pipe Ø	Weight kg
40	1,20
50	1,80
63	2,60
90	5,00

**Bend 45°
No. 6440**



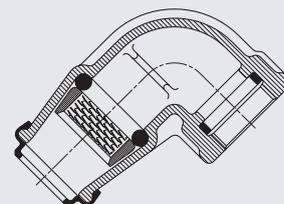
Pipe Ø	Weight kg
32	0,80
40	1,20
50	1,90
63	3,00

**Bend 90°
No. 6400**



Pipe Ø	Thread ISO 228	Weight kg
32	1"	0,65
40	1¼"	0,98
50	1½"	1,50
63	2"	2,20

**Bend 90° with internal thread
No. 6410**



Technical features

- Made of GJS 400, epoxy powder-coated
- O-rings: Elastomer
- Grip ring: POM
- Dirt cap: Elastomer
- Max. operating pressure: 16 bar

Pipe Ø	Thread EN 10226-1	Order no. 6460	
		Weight kg	
32	1"		0,65
40	1¼"		1,10
50	1½"		1,70
63	2"		2,25

Pipe Ø	Thread EN 10226-1	Order no. 6470	
		Weight kg	
32	1¼"		0,85
32	1½"		2,50
40	1½"		1,10

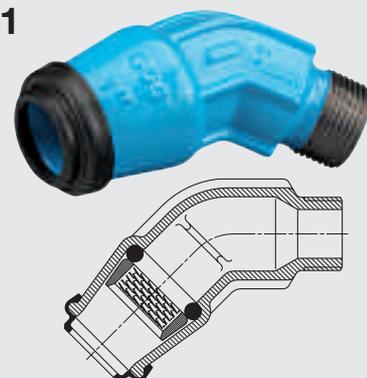
Bend 90° with external thread No. 6460

special dimensions No. 6470



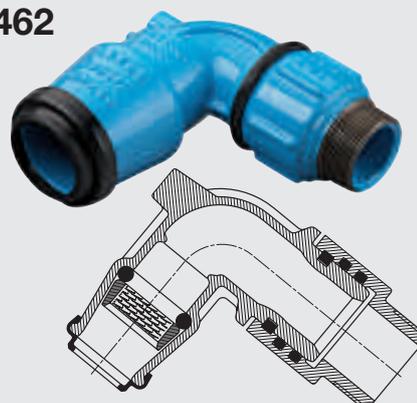
Pipe Ø	Thread EN 10226-1	Order no. 6411	
		Weight kg	
32	1"		0,60

Bend 45° with external thread No. 6411



Pipe Ø	Thread EN 10226-1	Weight kg
63	1½"	2,65

Bend 90° swivelling fitting, with external thread No. 6462

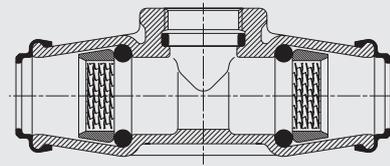


Pipe Ø	Thread ISO 228	Order no. 6500	
			Weight kg
32	1"		0,83
40	1¼"		1,45
50	1½"		2,20
63	2"		3,70

Pipe Ø	Thread ISO 228	Order no. 6510	
			Weight kg
50	2"		2,40
75	1"		5,20
75	2"		4,60

T-piece with internal thread outlet No. 6500

Special dimensions No. 6510



Pipe Ø	Thread ISO 228		Weight kg
32	1"		1,50
40	1¼"		2,40
50	1½"		2,70
63	2"		4,10

T-piece with internal thread outlet, with detachable ends for subsequent assembly No. 6501

when using as "coupling sleeve" - beware: no end stop!



Technical features

made of GJS 400, epoxy powder-coated
 O-rings: Elastomer
 Grip ring: POM
 Dirt cap: Elastomer
 Max. operating pressure: 16 bar

T-piece with 3 sockets

No. 6530

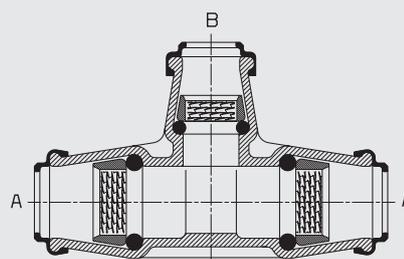
special dimensions

No. 6531

Pipe Ø A	Pipe Ø B	Order no. 6530	
			Weight kg
32	32		0,95
40	40		1,55
50	50		3,00
63	63		4,45

*Passage reduced!

Pipe Ø A	Pipe Ø B	Order no. 6531	
			Weight kg
50	32		2,00
50	40		2,70
63	32		2,60
63	40		3,20
63	50		3,45



4. Start-up and pressure testing

During pressure testing of the pipeline air valves should be generally put out of service. To this end the shut-off facility below the valve shall be closed. There is always some residual air enclosed even in a properly vented pipeline. If the air valve is placed correctly, this residual air is carried to the valve possibly causing it to blow off during pressure testing. As a consequence the pipeline and/or the air valve is wrongly assumed to be leaking.

Air valves are tested by the manufacturer so that they need not be included in the pressure testing. After completion of pressure testing of the pipeline the shut-off facility is opened slowly and the air valve and its flange connections are visually inspected under operating pressure.

For filling the pipelines please make sure not to exceed the maximum filling rates. Before filling the pipelines it should be checked if the vent holes of the air shafts concerned are actually free. If necessary, the covers should be opened.

Note: Before scavenging with compressed air the valve should be put out of service.

5. Service – maintenance of air valve 986

The reliability of the valve of the Hawle air valve assembly can be considerably increased by checking it for possible contamination at regular intervals. Please make sure to isolate the air valve from the pipeline system before starting any maintenance work by closing the shut-off facility and to reduce any overpressure possibly existing in the valve via the ball valve of the flushing line.

When entering shaft constructions the general safety precautions must always be observed. When working in shafts we recommend to provide for forced ventilation of the construction and to perform maintenance only with the pumps switched off.

Due to its coating the Hawle air valve is well protected against deposits. Nevertheless, depending on the properties of the medium, the operability of the valve should be checked at regular intervals and possible contamination should be removed, especially in case of larger bodies of dirt that cannot be flushed out via the lateral flushing connections.

All work at Hawle air valves should be performed by trained personnel only!

We recommend the first maintenance to be done after a period of approx. 4 – 8 weeks and to define further maintenance intervals on the basis of the result of this first maintenance. To this end open the valve according to the below description.

In the course of maintenance, please check also the ball valve and all other components for leakage and contamination.

5.1. Maintenance „light“

The Hawle air valve is equipped with a lateral flushing opening and a flushing connection on the 3/2-way ball valve making maintenance very easy. For maintenance clear water is pressed into the air valve via the flushing connection at the 3/2-way ball valve, and any bodies of dirt are flushed out via the lower flushing opening.

Procedure:

1. Close the shut-off valve via the offset operating tube by a half turn (clockwise) – to this end the operating tube must before be shifted by 180°!
2. Note: After closing the shut-off facility the air valve is still under pressure. Therefore open the ball valve at the valve at the lateral flushing pipe carefully and only after mounting a hose at the flushing connection provided for this purpose, and safely drain off any emerging medium.
3. If the emerging medium is relatively clean then further maintenance steps may possibly be omitted.
4. Connect the flushing connection of the 3/2-way ball valve to a flushing line and open the ball valve by a quarter turn towards the shaft bottom (red operating lever pointing vertically downward).
5. Continue flushing until only clear water emerges. (Flushing is usually done with „clear“ water, adding some purifying agent if necessary, pressure not higher than 2 bar).
6. Dismantle the flushing lines and close the two ball valves. (Note: The 3/2-way ball valve must be turned in such a way that the handle points horizontally to the shaft outside wall – observe marking at the handle!)
7. Close the ball valve of the lower flushing opening.
8. Slowly open the shut-off facility below the air valve (counterclockwise). After opening shift the operating tube again by 180° (locking against self-releasing of air valve)!
9. Visual check of all connections and flushing openings.

Operating and maintenance Instructions for automatic air valves (from build year 04/2007)*



5.2. „Full“ maintenance

If there are foreign bodies in the valve that are too large to be flushed out via the lower flushing opening, the valve should be dismantled and the foreign body be removed. To this end please proceed as follows:

1. Close the shut-off facility via the offset operating tube by a half turn (clockwise) – to this end the operating tube must before be shifted by 180°!
2. Note: After closing the shut-off facility the air valve is still under pressure. Therefore open the ball valve at the lateral flushing pipe carefully and only after mounting a hose at the flushing connection provided for this purpose, and safely drain off any emerging medium.
3. Dismantle the 3/2-way ball valve. To this end loosen the screw connections.
4. Pull the operating tube upward and out of the air valve assembly.
5. Turn the valve counterclockwise until the bayonet coupling is released.
6. Pull the valve upward and out of the air valve assembly at the two eye bolts by means of a suitable lifting tool.
7. Open the screws of the body.
8. Pull the flange together with the complete valve mechanism upward and out and put it upright on a solid base.
Remove cap nut SW 13 at the air exit by means of socket spanner (valve must be in „closed position“).
9. Pull the flange upward and screw off the retaining nut at the flange bottom side. Take the mechanism apart and pull the valve block out of the flange.
10. Clean the slots of the valve cage and rinse them. If necessary (heavy contamination or damage) the valve cage can be dismantled from the valve block after opening the threaded ring by means of a pin spanner.
11. Turn the cup seal at the screw inside out of the valve case and check it for deposits and mechanical damage. Wipe deposits off by means of a damp rag.



If the cup seal must be exchanged, then the plastic retaining ring must be taken out first. For easier dismantling of the plastic ring put the whole mechanism for 3 minutes headfirst into hot water of about 50°C. Then pull the ring upward and off, remove the cup seal and insert the plastic screw from the old cup seal into the new one.



12. Turn the cup seal over completely.
13. Pull the cup seal over the cup.
14. Push on the preheated ring (3 minutes in hot water of approx. 50°C).
15. Centre the cup seal by pulling it back to the moulded bead and slip it into the valve case.
16. Screw the valve bonnet back on again. Check the correct fit of the toroidal sealing ring.
17. Before installation of the air valve clean all sealing surfaces.
18. Put the valve from above onto the bayonet locking, engaging it clockwise.
19. Put the 3/2-way ball valve back in place and tighten the screw connections manually until the connections are tight.
20. Put on the operating tube.
21. Close the ball valve of the lower flushing opening.
22. Slowly open the shut-off facility below the air valve (counterclockwise). After opening shift the operating tube again by 180° (locking against self-releasing of air valve)!
23. Visual check of all connections and flushing openings.

D 3/2



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Fittings SYSTEM 2000

restraint



Product description

- The pipe restraining system is separate from the sealing system
- By tightening the screws the lock ring presses the grip ring against the pipe and a restraint connection is produced
- Inserting the pipe end in the sealing chamber is possible without a lot of effort
- For PE and PVC pipes (DIN 8074, EN 1452-2)

Technical features

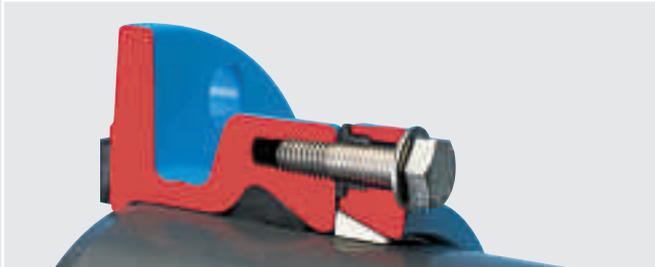
Body: GJS-400, epoxy powder-coated

For thin-walled PE pipes up to a wall thickness of 3 mm a support liner must be used

Max. operating pressure: 16 bar

Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard); EN 1092-2-PN 16 for DN 200 mm please specify when ordering - other standards on request!

Application example



Flange duckfoot bend (N piece) No. 5045

DN 80, DN 100



Flange (E piece) No. 0400

identical and reduced with integrated flange gasket

DN 50–600



Connector (U piece) No. 0430

DN 50–300



MMA piece No. 8525

identical and reduced

DN 50–200



MMB piece No. 8515

identical and reduced

DN 50–200



Bend No. 8535 90° (Q) No. 8545 45° No. 8555 30° No. 8557 11°

DN 50–300



End cap (X piece, XG piece) No. 8075

DN 50–300

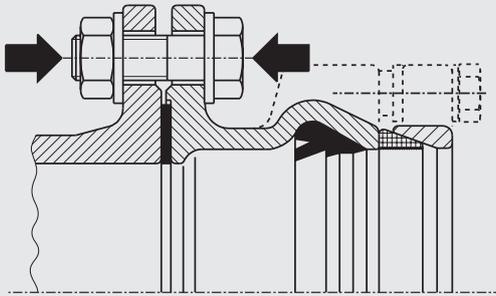


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Assembly instructions for "System 2000"

1



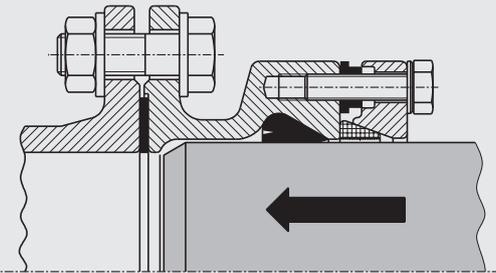
For flange adaptors: bolt the flange to the mating flange first.!

2



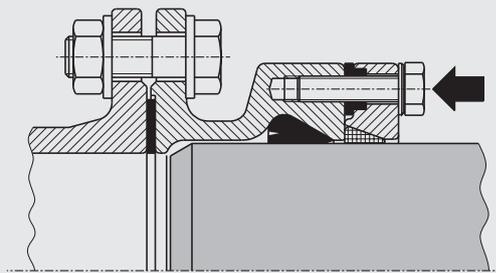
Chamfer the pipe use lubricant (see page L 1/1)
Do not use oil !

3



Push the pipe to the end of the socket. For thinwalled PE-pipes (up to 3 mm wall thickness) and low internal pressure we recommend using a support liner

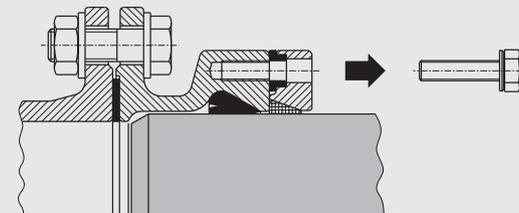
4



Tighten the lock ring bolts crosswise until lock ring is tight on bushes.

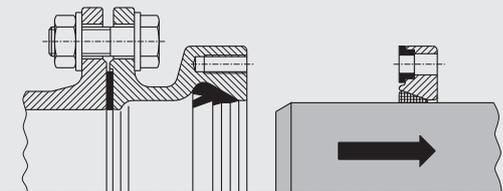
Dismantling instructions for "System 2000"

1



Undo and remove lock ring bolts.

2



Twist and withdraw the pipe.

Flanged Connections restraint



Product description

- For PE pipes, restraint

Technical features

No. 0310: PE 100 / SDR 11 - PN 16

No. 0311: PE 100 / SDR 17.6 - PN 10

Elastomer seals

All cast parts: GJS-400, epoxy powder-coated

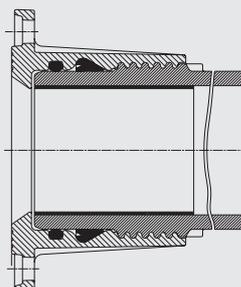
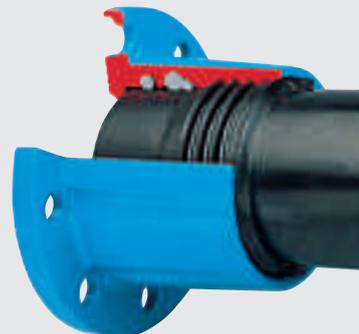
Max. operating pressure: 16 bar

Flange measured and drilled in accordance with EN 1092-2-PN 10

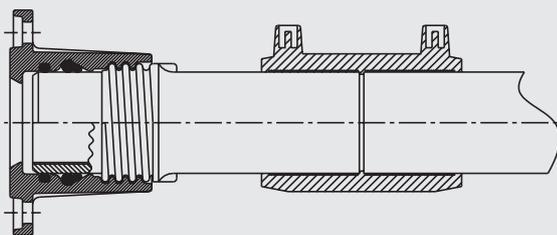
DN

50–200

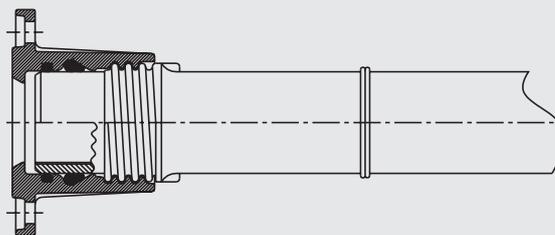
Flange with PE shrink-wrapped No. 0310 Nr. 0311



Application example



Electro-fusion welding



Electro-fusion butt-welding

Product description

- For PE pipes, restraint
- Version for PVC pipes, restraint (with corundum grip ring) on request

Technical features

POM grip ring

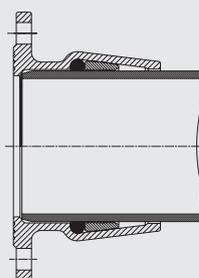
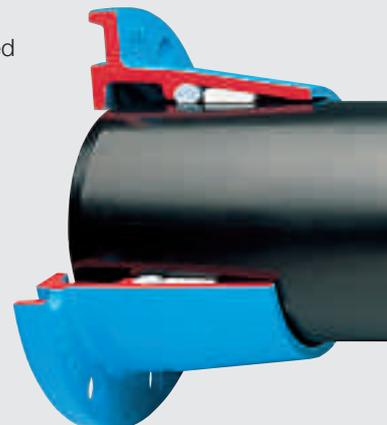
All cast parts: GJS-400, epoxy powder-coated

Max. operating pressure: 16 bar

DN

40–100

ISO pipe flange No. 5500 equal No. 5530 reduced



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E 2/1

Flange non restraint



Product description

- For PVC pipes

Technical features

Elastomer seals

All cast parts: GJS-400, epoxy powder-coated

Max. operating pressure: 16 bar

Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard); EN 1092-2-PN 16 for DN 200 mm please specify when ordering - other standards on request

DN

50-400

Double chamber flange adaptor No. 5600



E 2/2



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HAWLE-VARIO

the innovative flexible fitting



Product description

- HAWLE-VARIO is a flanged telescopic fitting with integral ball-and-socket joint, permitting bending to all sides up to 10 degrees.

Technical features

all cast parts: GJS-400, epoxy powder-coated

Retaining ring, bolts and washers made of stainless steel

O-rings made of elastomer

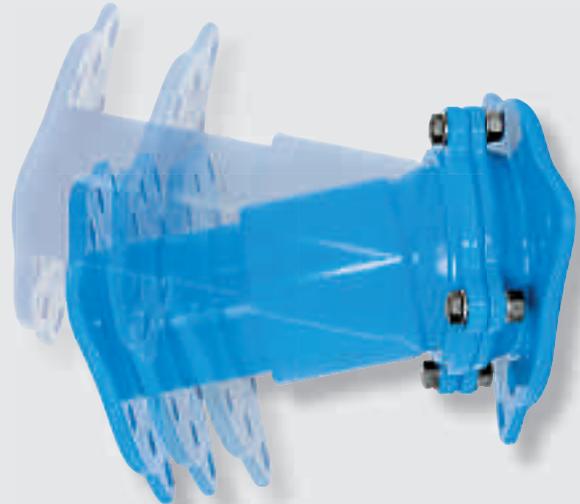
Tension locks made of stainless steel

Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard); EN 1092-2-PN 16 for DN 200 mm please specify when ordering - other standards on request

Adjustment ranges see reverse

No. 8010S short version, with tension lock

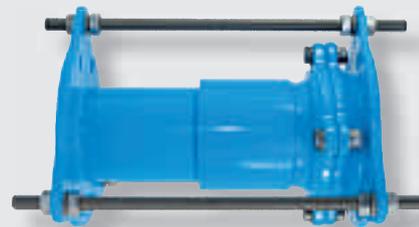
No. 8011S long version, with tension lock



Order no.	Set version	PN	DN
8010S	short	16	50-200
8011S	long		

Tension lock

With the tension lock assembly the HAWLE-VARIO must be fixed in the installed position.



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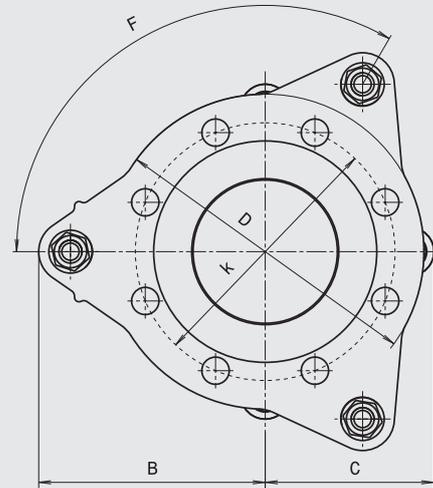
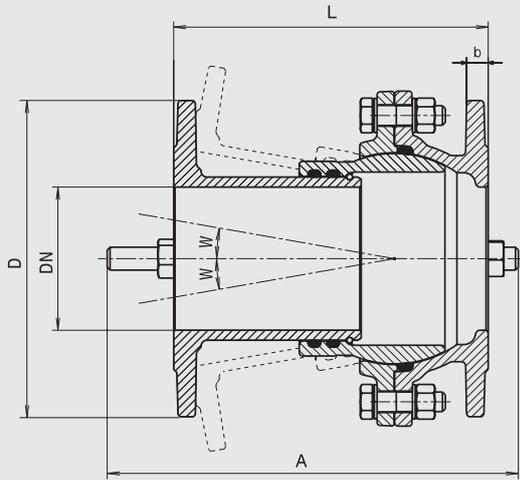
HAWLE-VARIO

the innovative flexible fitting



No. 8010S short version, with tension lock

No. 8011S long version, with tension lock



DN	PN	Version	Adjusting range L	A	B	C	D	F	b	k	Angle W	Weight kg
50	16	kurz	150–207	285	130	87	165	3x120°	16	125	0–10°	8,90
		lang	207–323	415								10,20
80	16	kurz	150–214	285	147	107	200	3x120°	16	160	0–10°	14,30
		lang	214–344	415								16,85
100	16	kurz	150–216	285	157	117	220	3x120°	16	180	0–10°	16,20
		lang	216–350	415								18,90
150	16	kurz	175–250	330	190	190	285	4x90°	18	240	0–10°	25,40
		lang	250–408	480								29,30
200	10/16	kurz	195–292	360	229	229	340	4x90°	20	297	0–8°	48,00
		lang	280–462	530								52,00

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Technical features

Max. operating pressure: 16 bar

Made of GJS 400, epoxy powder-coated

Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard); EN 1092-2-PN 16 for DN 200 mm please specify when ordering - other standards on request

DN
50-200

**Double Flanged Pipe
FF pieces
No. 8500**



DN
50-200

**Double Flanged Taper
FFR pieces
No. 8550**



DN

50–200

**Flanged bend 45°
FFK pieces
No. 8540**



DN

50–200

**Flanged bend 90°
(Q pieces)
No. 8530**



DN

50–200

**All flanged tee
T pieces
No. 8510**



Technical features

Made of GJS 400, epoxy powder-coated

Nr. 8740 without vertical connector
On request: **No. 8741** with vertical connector DN 100

Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard); EN 1092-2-PN 16 for DN 200 mm please specify when ordering - other standards on request

DN

200–250

All flanged short T pieces

No. 8740

No. 8741



DN

50–200

All flanged crosses

TT pieces

No. 8520



Technical features

Made of GJS 400, epoxy powder-coated

Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard); EN 1092-2-PN 16 for DN 200 mm please specify when ordering - other standards on request

Special versions

On request: **No. 8751** with vertical outlet DN 100

DN

200–500

All flanged short cross

TT pieces

No. 8750

No. 8751

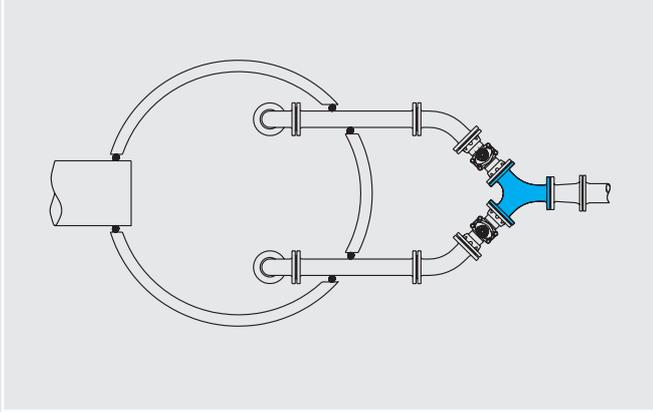


DN

80-150

**Flanged Y piece
No. 8754**

Application example



Product description

- Prevents return flow through ball check principle
- Simple assembly and disassembly through single-sided loose flange with integrated flange gasket
- Drain opening in body
- Hinged lid with joint function for easy maintenance
- 100 % corrosion protection
- Free passage
- Patent pending

Technical features

Body: GJS-400, epoxy powder-coated

Bolts and washers:
made of stainless steel

Ball: made of elastomer with metal core

Face-to-face length according to EN 558-1, GR 48

Flange measured and drilled in accordance with EN 1092-2-PN 10 (standard); EN 1092-2-PN 16 from DN 200 mm please specify when ordering - other standards on request

max. operating pressure: 16 bar (specify when ordering)

Special versions

Optional drainage opening also in cover



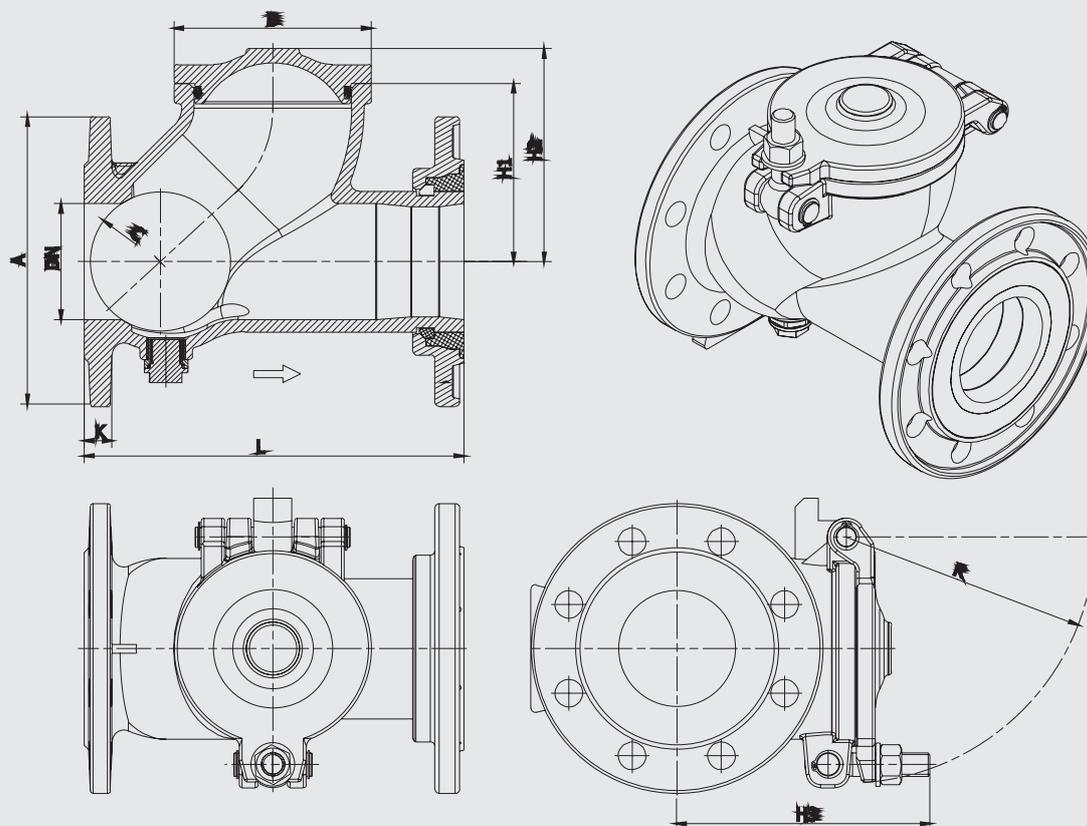
Application example



Ball Check Valve



No. 9841



DN	A	B	Ø C	H1	H2	H3	K	L	R	Weight kg
50*	165	100	62	*	*	*	19	200	*	*
80	200	135	96	123	147	165	19	260	169	15
100	220	165	122	155	186	205	19	300	205	21
150	285	231	178	225	272	300	19	400	272	47
200	340	306	247	315	371	395	20	500	343	87
250*	400	370	307	380	450	450	22	600	423	145
300*	455	390	362	435	530	505	25	700	465	215

* in preparation

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No. 9831

Product description

- Low weight
- Corrosion-proof damper bearing
- Optimised flow characteristics
- Simple maintenance

Technical features

Body: GJS-400, epoxy powder-coated

Min. opening pressure 0.03 bar

Min. closing pressure 0.5 bar (impermeability)

Face-to-face length according to EN 558-1, GR 48

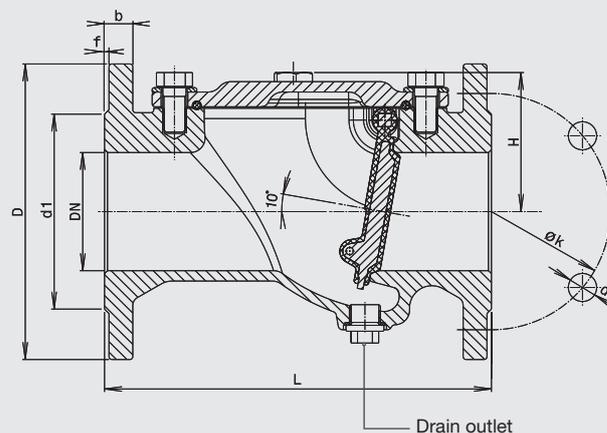
Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard)

Max. operating pressure: 16 bar (specify when ordering)

Installation instruction:

Ball check valves are designed for building into horizontal pipelines. Installation in slanting and vertical pipelines is permitted if the medium flows from the bottom to the top.

It must be ensured that the flow direction agrees with the arrow direction on the housing and the rotation axis of the cover lies horizontally.



DN	PN	L	H	D	d1	Ø k	d2	f	b	Weight kg
50	10/16	200	120	165	102	125	18	3	20	9,50
80	10/16	260	168	200	138	160	18	3	22	14,70
100	10/16	300	175	220	158	180	18	3	24	22,60
150	10/16	400	217	285	212	240	22	3	26	45,00
200	10/16	500	277	340	268	295	22	3	30	82,00

HAKU - Saddle

with 45° ZAK 69 connector, for PE and PVC pipes



No. 5262

Product description

- For drilling of PE/PVC pipelines
- Half shells are calibrated to the external pipe diameter
- Reliable sealing by double O-ring profile seal

Technical features

Body: GJS-400, epoxy powder-coated

Elastomer seal

max. operating pressure: 10 bar

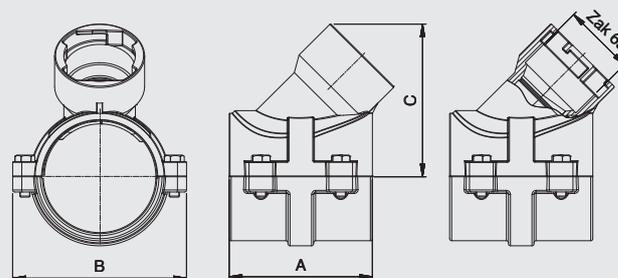
Suitable accessories

Service valve ZAK 69 no. 2616 see page I 1/2

Fitting ZAK 69 see chapter J

ZAK adapter for drilling machine no. 5895 see page K 3/2

Drilling machine see chapter K



Pipe o. d. Ø	Max. drill Ø	Connection	A	B	C	Weight kg
63	40	ZAK 69	100	125	140	3.40
75	40		130	135	150	3.70
90	50		140	150	150	4.10
110	50		140	170	150	4.20
160	50		140	230	190	4.20



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HAKU - Saddle

with flange outlet, for PE and PVC pipes



No. 5230

Product description

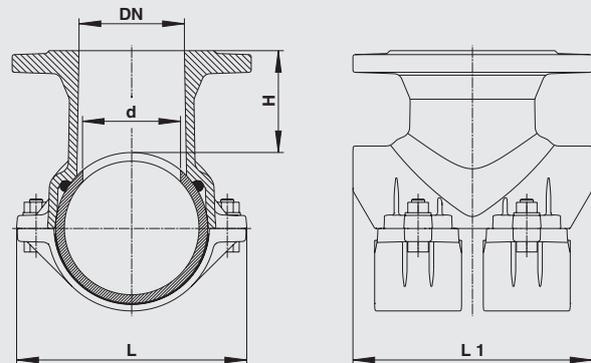
- For drilling of PE/PVC pipelines
- Simple and secure assembly
- Reliable sealing by double O-ring profile seal
- Compactly packaged for transport and storage
- No deformation of the pipe by calibration during the production process

Technical features

Body: GJS-400, epoxy powder-coated
 Rubber coating base section: Elastomer
 O-ring seal upper section: Elastomer
 Flange measured and drilled in accordance with EN 1092-2-PN 10 (Standard)
 Max. operating pressure: 16 bar

Suitable accessories

Drilling devices see chapter K



Pipe o. d. Ø	Flange DN	H	L	L1	d	Weight kg
110	80	150	182	180	75	8.30
140	80	166	212	220	75	10.20
140	100	166	212	220	95	10.90
160	80	176	234	220	75	10.70
160	100	176	234	220	95	11.40
180	80	186	254	220	75	11.30
180	100	186	254	220	95	12.20
200	80	191	270	220	75	11.80
200	100	191	270	220	95	13.80
225	80	206	301	220	75	14.00
225	100	206	301	220	95	16.00
250	80	221	347	220	75	14.70
280	150	239	374	285	140	21.00
315	80	255	410	285	75	20,00
315	150	257	409	285	140	24.50
630	150	435	649	320	140	55.00

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HAKU - Saddle

with ZAK 46 connector for PE and PVC pipes



No. 5260

Product description

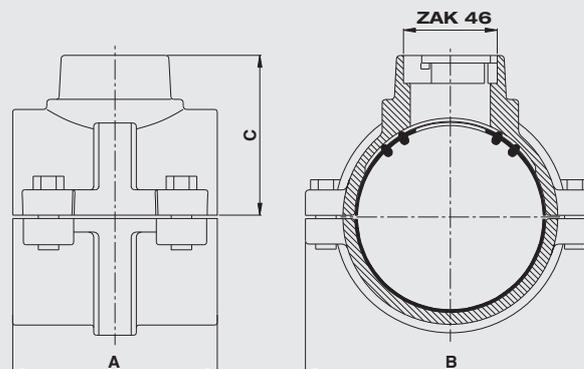
- For drilling of PE/PVC pipelines
- Half shells are calibrated to the external pipe diameter
- Reliable sealing by double O-ring profile seal
- Max. drilling diameter: 35 mm

Technical features

Body: GJS-400, epoxy powder-coated
 Seal: Elastomer
 ZAK outlet ZAK 46
 Max. operating pressure: 16 bar

Suitable accessories

Fittings see chapter J
 Drilling machine see chapter K



Pipe o. d. Ø	Connection	A	B	C	Weight kg
63	ZAK 46	100	125	70	2.10
90		120	150	90	2.70
110		120	170	95	3.10
125		120	190	105	4.10
140		130	210	110	4.60
160		150	230	120	6.30
225		180	310	152	9.70



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HAKU - Shut-off Saddle

with ZAK 46 connection for PE and PVC pipes



No. 5320

Product description

- for drilling of PE/PVC pipelines under pressure
- half shells are calibrated to the external pipe diameter
- reliable sealing by double O-ring profile seal
- shut-off through saddle blade
- max. drilling diameter: 35 mm

Technical features

Body: GJS-400, epoxy powder-coated

Seal: Elastomer

ZAK outlet: ZAK 46

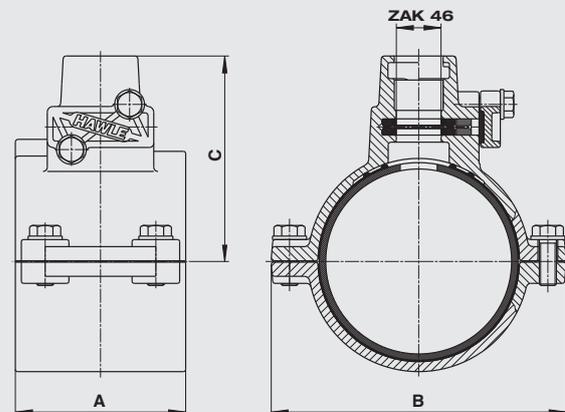
max. operating pressure: 16 bar

Suitable accessories

Fittings see chapter J

saddle blade no. 8401 see page K 2/1

Drilling devices see chapter K



Pipe o. d. Ø	Connection	A	B	C	Weight kg
90	ZAK 46	110	150	118	3.35
110		120	170	130	3.75
140		120	208	150	5.00
160		120	230	155	5.85
225		120	310	200	7.65

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HAKU - Saddle

with internal thread for PE and PVC pipes



No. 5250

Product description

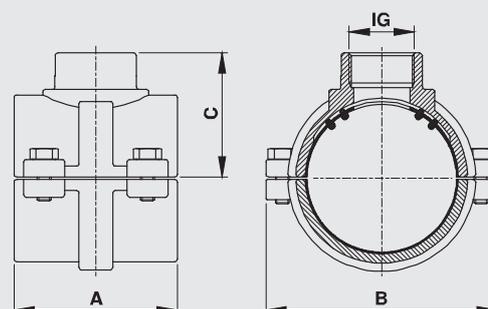
- For drilling of PE/PVC pipelines
- Half shells are calibrated to the external pipe diameter
- Reliable sealing by double O-ring profile seal
- Max. drilling diameter: 1½" 35 mm
2" 40 mm

Technical features

Body: GJS-400, epoxy powder-coated
 Seal: Elastomer
 Internal thread outlet: 1½" or 2" ISO 228
 Max. operating pressure: 16 bar

Suitable accessories

Fittings see chapter J
 Drilling machine see chapter K



Pipe o. d. Ø	Connection IG ISO 228	A	B	C	Weight kg
63	1½"	100	125	60	1.90
63	2"	100	125	70	2.15
75	1½"	110	135	70	2.10
75	2"	110	135	75	2.50
90	1½"	120	150	80	3.00
90	2"	120	150	80	3.20
110	1½"	120	170	85	3.10
110	2"	120	170	90	3.60
125	1½"	120	190	95	3.80
125	2"	120	190	100	3.80
140	1½"	120	210	110	4.80
140	2"	120	210	110	4.80
160	1½"	120	230	120	5.50
160	2"	120	230	120	5.50
180	1½"	120	260	125	7.90
180	2"	120	260	125	7.70
200	1½"	120	280	135	9.30
200	2"	120	280	135	9.20
225	1½"	120	310	150	9.50
225	2"	120	310	150	9.50
280	2"	180	377	175	13.20
315	2"	180	408	195	15.50



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HAKU - Shut-Off saddle

with internal thread, for PE and PVC pipes



Product description

- For drilling of PE/PVC pipelines under pressure
- Half shells are calibrated to the external pipe diameter
- Reliable sealing by double O-ring profile seal
- Auxiliary shut-off through saddle blade
- Max. drilling diameter: 1½" 35 mm
2" 40 mm

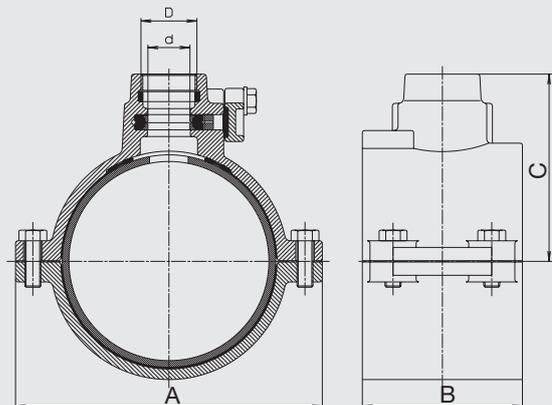
Technical features

Body: GJS-400, epoxy powder-coated
 Seal: Elastomer
 Internal thread: ISO 228
 max. operating pressure: 16 bar

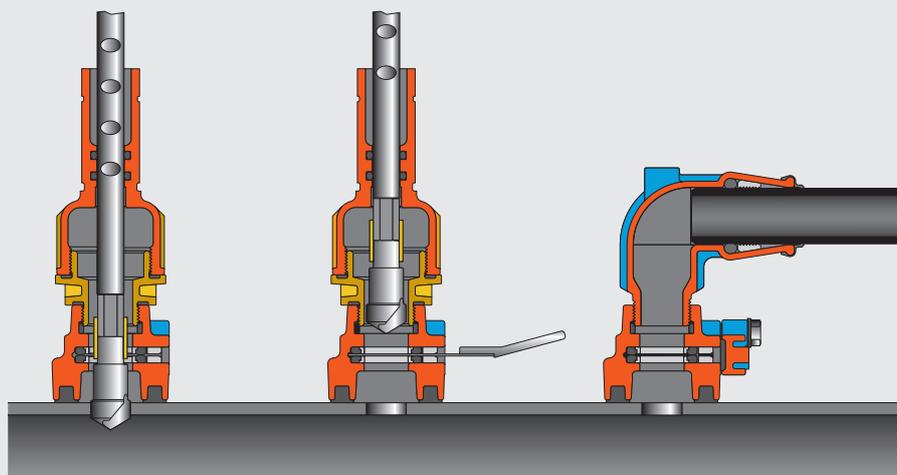
Suitable accessories

Fittings see chapter J
 Saddle blade no. 8401 see page K 2/1
 Drilling machine see chapter K

No. 5310



Pipe o. d. Ø	D Connection ISO 228	A	B	C	Weight kg
75	1½"	110	135	91	3,00
75	2"	110	135	91	3,10
90	1½"	110	150	101	3,20
90	2"	110	150	105	3,40
110	1½"	120	170	113	3,90
110	2"	120	170	117	4,50
160	1½"	120	230	140	5,70
160	2"	120	230	145	5,90



H 3/2



E. Hawle Armaturenwerke GmbH Wagrainer Straße 13 - 4840 Vöcklabruck - Austria
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Universal Shut-Off Saddle with flanged outlet



No. 3820

Product description

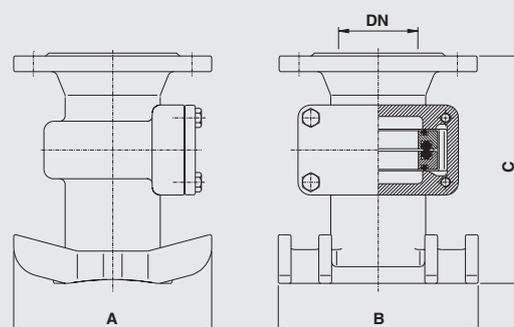
- For drilling of cast, steel and AZ pipes under pressure (nominal diameter DN 150-500)
- Shut-off through saddle blade
- Two straps and an additional saddle seal are always required!
- Max. drilling diameter: 75 mm

Technical features

Body: GJS-400, epoxy powder-coated
 Seal: Elastomer
 Flange outlet: DN 80-EN 1092-2
 Max. operating pressure: 16 bar

Suitable accessories

Hawle - strap No. 3112 see reverse
 Saddle seal see reverse
 Saddle blade No. 8401 see page K 2/1
 Drilling machine see chapter K

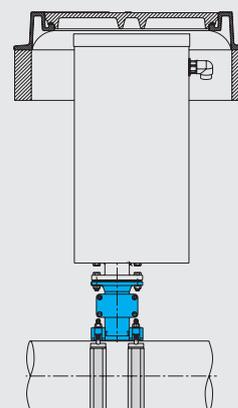


Flange DN	A	B	C	Weight kg
80	200	185	245	14.00

Application example



With drilling device and X flange



The illustration shows the Universal shut-off saddle, mounted on a pipeline with two straps and attached automatic air valve assembly.



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H 4/1

Product description

- Strap for universal shut-off saddle no. 3820 and universal pipe saddle with integrated flanged knife gate valve no. 4807
- For the nominal diameter DN 65 to DN 500 (max. dia. 535 mm) - Special lengths on request!
- Particularly wide version of 65 mm, thereby lowest surface pressure on pipe - standard version for all pipe types

Technical features

Threaded bolts: stainless steel

Nuts: stainless steel

Clamping jaws: glass fibre reinforced polyamide

Bracket plate: stainless steel incl. rubber strap insulation

Pipe exterior Ø	e. g.: For main pipe - DN			Weight kg
	Steel	Cast	AZ	
75-83	65	65		0.62
93-102	80	80	80	0.69
98-105			80	0.71
112-122	100	100		0.76
123-137			100	0.77
129-139	125			0.80
139-149		125		0.82
147-160	150		125	0.84
166-177	150	150		0.89
175-185			150	0.91
216-227	200	200		0.98
268-280	250	250		1.21
323-330	300	300		1.39

Strap No. 3112



Product description

- Strap for universal shut-off saddle no. 3820 and universal pipe saddle with integrated flanged knife gate valve no. 4807
- For cast, steel and AZ pipes
- Two straps are always required
- Max. drilling diameter: 70 mm
- The saddle seal is equivalent to the corresponding pipe diameter of the pipe saddle and ensures error-free sealing function

Technical features

Material: Elastomer

Pipe DN	Weight kg
150	0.12
200	0.12
250	0.10
300	0.10
350	0.10
400	0.10
450-500	0.10

Saddle seal No. ND82



Wastewater - Service Valve

with knife gate and ISO-fitting for PE pipes



No. 2615

Product description

- The ideal gate valve for wastewater house connection lines
- Spindle lies outside the flow medium
- Reliable and leak-proof shut-off function by knife gate and O-ring seal
- Suitable for underground installation
- Double-sided restraint ISO-fitting connection for PE pipes
- Bonnet can be replaced "under pressure"

Technical features

Body and bonnet: GJS-400, epoxy powder-coated

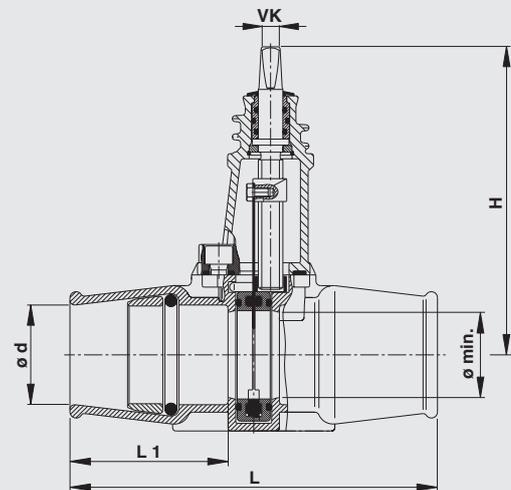
Spindle, knife gate: stainless steel

Grip ring PE pipe: POM (Standard)
PVC pipe: corundum PVC (on request)

Max. operating pressure: 10 bar

Suitable accessories

Extension spindles and hand wheels see chapter B + C



Pipe o. d. \varnothing d	\varnothing min	H	L	L 1	VK	Weight kg
50	40	202	226	91	10,3	5,10
63	56	202	240	103	10,3	5,10

Application example

Installation as wastewater house connection service valve



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Wastewater - Service Valve

with knife gate and ZAK 69 socket and spigot



No. 2616

Product description

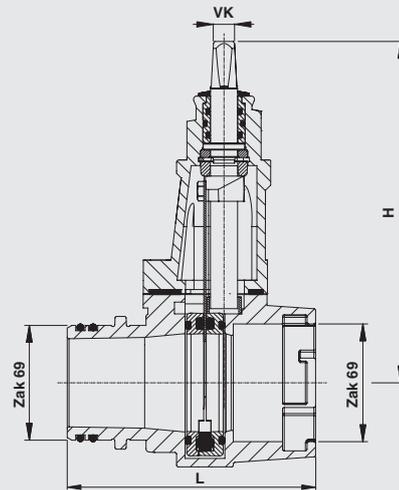
- Service valve for house connection lines with ZAK system
- Spindle lies outside the flow medium
- Reliable and leak-proof shut-off function by knife gate and O-ring seal
- Suitable for underground installation
- Bonnet can be replaced "under pressure"
- 100 % corrosion protection
- Max. drilling diameter: 50 mm

Technical features

Body and bonnet: GJS-400 (GGG-40), epoxy powder-coated
 Spindle, knife gate: stainless steel
 Sleeve/spigot: ZAK 69
 Max. operating pressure: 10 bar

Suitable accessories

Extension spindles and hand wheels see chapter B + C
 Drilling set ZAK 69 and cup drill see chapter K



Spigot Socket	H	L	VK	Weight kg
ZAK 69	203	146,5	10,3	4,40

Application example



I 1/2



E. Hawle Armaturenwerke GmbH Wagrainstraße 13 - 4840 Vöcklabruck - Austria
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Product description

- Lockable flushing valve for easy flushing of culvert or offset canals
- No complex chamber construction necessary, thus no high running costs for the maintenance of the chambers
- No hazards due to traversing the chambers
- Simple flushing due to free passage
- Upper outlet with closable storz C outlet
- Lower outlet: flange, straight
- Optionally with 2" external thread
- Compact construction, low build costs as no chamber construction
- Special lengths and other versions on request

Technical features

Valve body: GJS-400, epoxy powder-coated

Seal: Elastomer

Spindle and knife gate: stainless steel

When open, knife gate is completely outside the medium (free passage)

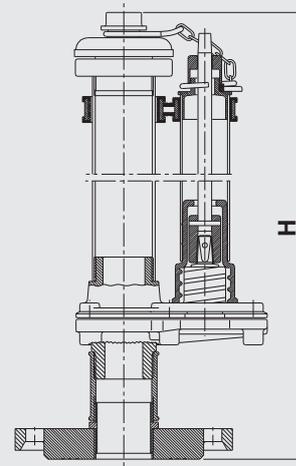
Flushing connection storz: C coupling (aluminium)

With discharge on request

Suitable accessories

Valve key no. 3420 see page K 2/2

Flushing valve with straight flange outlet No. 9858



Connection flange	H	RD	Weight kg
DN 50	800	1,00	13,70
	1050	1,25	14,90
	1300	1,50	16,10
	1800	2,00	17,90
DN 80	800	1,00	14,50
	1050	1,25	16,50
	1300	1,50	17,90
	1800	2,00	20,90

Product description

- Special standpipe for fitting on flushing valves as an extension

Technical features

Standpipe and angle: galvanised steel 2"

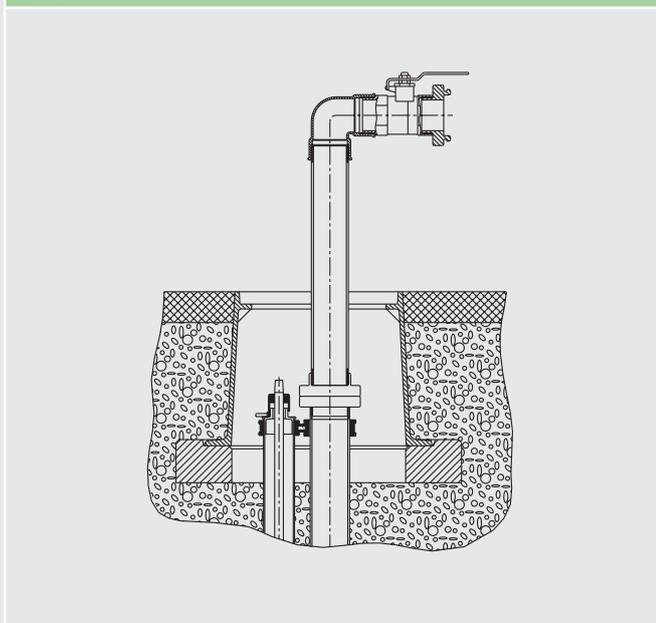
Storz C coupling: Aluminium

Ball valve: nickel-plated brass 2"

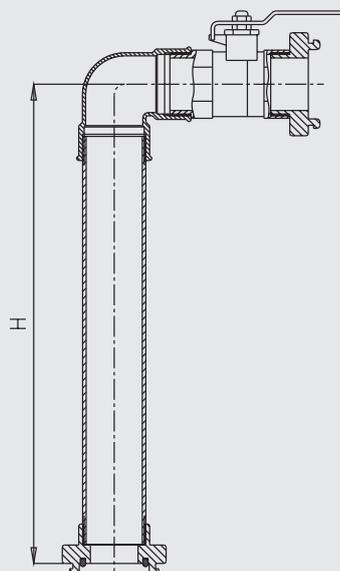
Max. operating pressure: 16 bar

H	Weight kg
660	5,30

Application example



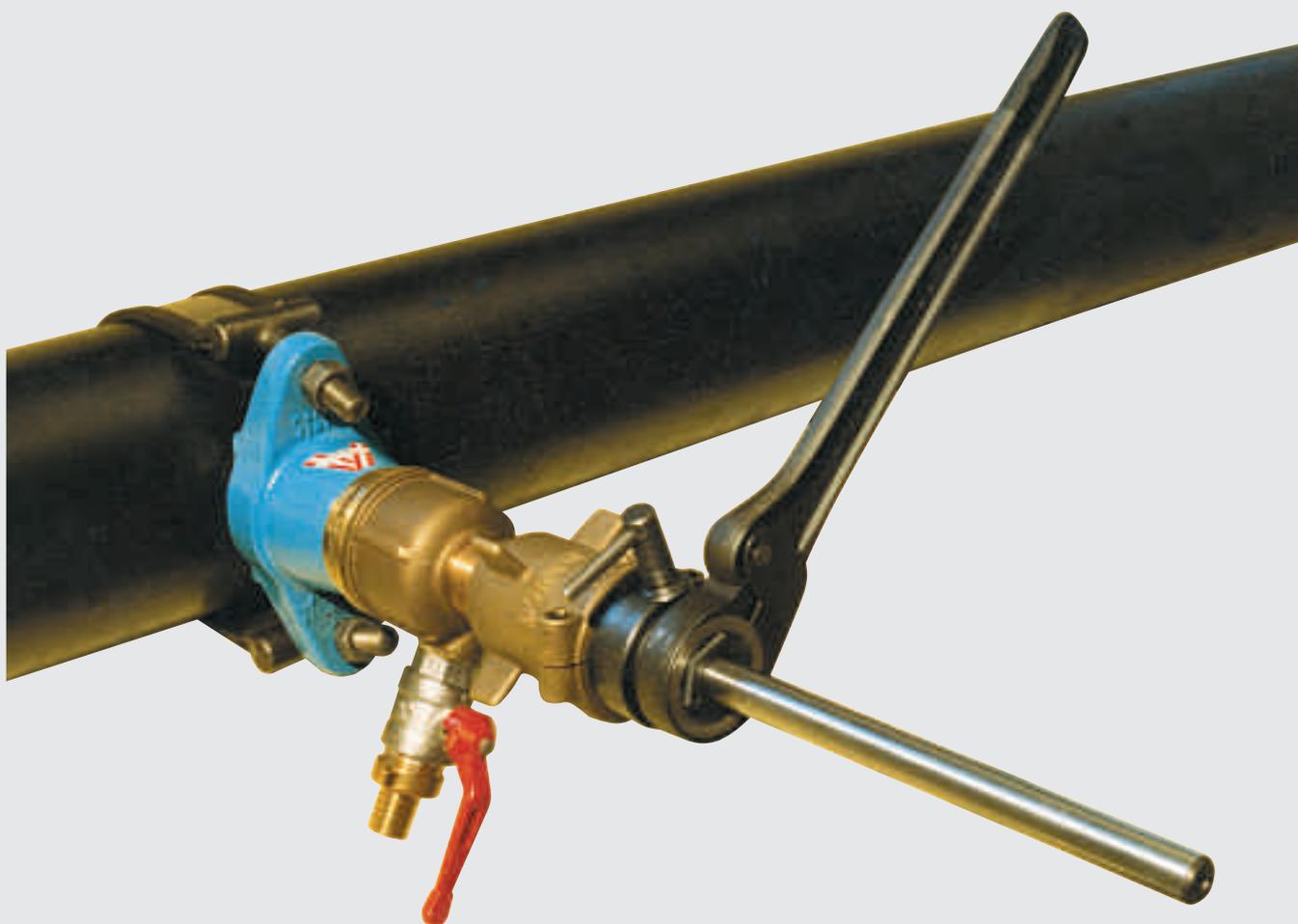
Standpipe for wastewater flushing valve No. 9857



Product description

- Usable for drilling of pipelines made from steel, cast, AZ, PE or PVC
- The swarf will be flushed out during the drilling under pressure through the purpose-designed outlet.
- Manual drive and feed by means of a ratchet or a feed wing nut
- The connection of drill shaft to ratchet is produced by simple locking device
- With embedded rubber rings the double or reduction nipple will be sealed
- Max. drilling diameter 40 mm

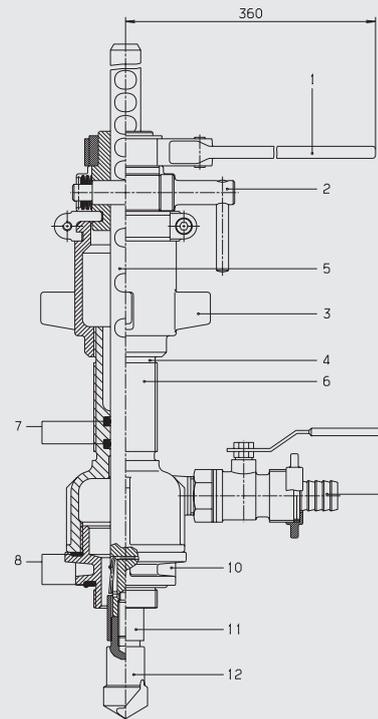
Drilling device for drilling under pressure No. 5800



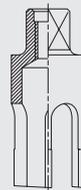
Range	
No. 5820	Drilling machine
No. 5810	Case
No. 5830	Ratchet
No. 5840	Shaft
	Twist drill for steel, CI and AC pipes
No. 5850	Twist drill 1" - 24 Ø
	Twist drill 1¼" - 29 Ø
	Twist drill 1½" - 35 Ø
	Twist drill 2" - 40 Ø
	Cup drill for PVC pipes
No. 5860	Cup drill 1" - 24 Ø
	Cup drill 1¼" - 29 Ø
	Cup drill 1½" - 35 Ø
	Cup drill 2" - 40 Ø
	Reducing adaptor with rubber seals
No. 5890	2" - 1"
	2" - 1¼"
	2" - 1½"
	2" - 2½"
No. 5900	Equal adaptor with rubber seals 2" - 2"
No. 5910	1 pc. Allen key size 5
No. 5920	2 pcs. C spanner for adaptor
	Saddle blade for shut-off
No. 8401	1" - 1¼"
	1½" - 2"
No. 5800	Complete in case weight 17.5 kg

Alternative to drill bit No. 5850	
	Drill milling cutter for steel and cast pipes
	Drill milling cutter 1" - dia. 24
No. 5870	Drill milling cutter 1¼" - dia. 29
	Drill milling cutter 1½" - dia. 35
	Drill milling cutter 2" - dia. 40
No. 5940	reducing nipple 2" - 1½" for combination ISO hammer drill

Product description (please request brochure!)
• Tonisco drill machines are suitable for drilling up to a diameter of 90 mm
• Hazard advice: 220 V - observe corresponding safety regulations
• Larger drill diameters on request!



- | | |
|-----------------------|-----------------------|
| 1 Ratchet | 7 O-ring |
| 2 Shaft locking bolts | 8 Rubber seal |
| 3 Feed wing nut | 9 Washout |
| 4 Red marking | 10 Adaptor or reducer |
| 5 Drill shank | 11 Hexagonal socket |
| 6 Body | 12 Twist drill |



No. 5860
Cup drill
for PVC pipes



No. 5870
Cup drill
for steel and CI pipes

TONISCO drilling machine No. 5807



Product description

- Cuts PE and PVC pipes
- Cuts pipes square and straight
- The lever design minimises the force required

Pipe cutter No. 6050

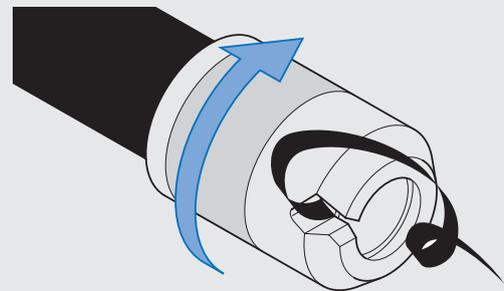


Order no.		for pipe Ø	Weight kg
6050	Type I:	up to 1¼" or 40 Ø mm	0,30
	Type II:	up to 2" or 63 Ø mm	1,10

Product description

- For bevelling PE pipes
- For easy assembly of ISO push fit fittings the pipe should be beveled.
We recommend our precision-made steel chamfering tool. This provides the correct chamfer when turned clockwise a few times on the pipe end.

Chamfering Tool No. 6000



Order no.	Pipe Ø	DN	Weight kg
6000	32	1"	0,10
	40	1¼"	0,17
	50	1½"	0,22
	63	2"	0,62

Product description

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

Saddle Blade No. 8401



Order no.		Size	Weight kg
8401	Type I:	for 1" - 1¼" clamp	0,20
	Type II:	for 1½" - 2" clamp	0,25
		DN 80	0,50

Product description

- For dismantling ISO push fit fittings
- 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
- Usage: for all Hawle products with ISO push fit fittings

Extractors No. 6010



Order no.	Pipe Ø	DN	Qty. Extractors	Weight kg
6010	32	1"	2	0,05
	40	1¼"	2	0,07
	50	1½"	2	0,10
	63	2"	2	0,17
	75		3	0,26
	90		3	0,32
	110		3	0,40

Order no.	for	length	Weight kg
3410	Service Valves	830	2,00
3420	Gate Valves	1227	4,10

Shut-off key No. 3410 No. 3420



Nr. 3410/3420

Product description

- Drill set required for drilling of PE pipe in connection with HAKU saddles ZAK 69 and 45° outlet
- Suitable for drilling machine no. 5800 (K 1/2)

Technical features

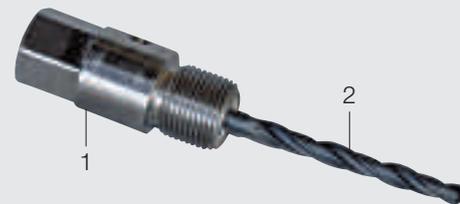
- 1 Drill shaft adapter stainless steel
- 2 Drill bit high speed steel (HSS)

Suitable accessories

Cup drill for PE / PVC additional part for drill set

Drill set ZAK 69

No. 5897 IA430030



Product description

- Special cup drill for drilling of PE and PVC pipes in connection with ZAK 69 drill set

Technical features

Material: HSS

for pipe Ø	Drill length	Drill Ø
63 - 75	60	40
90 - 225	70	50

Cup drill - ZAK 69

No. 5863 IAA 10027 dia. 40
IAA10030 dia 50



Illustration: drill set with assembled cup drill

Product description

- For Hawle drilling machines

ZAK	Weight kg
46	1,10
69	2,20

ZAK adapter No. 5895



Product description

- Synthetic resin coating in Hawle blue
- For repair of small, mechanically caused damage during transport and/or installation.
- UV-resistant
- Beware: no drinking water certification!
Only use on locations without direct media contact
- Repair paint with drinking water approval on request

Colour repairs No. 3441



Order no.	Box content
3441	1 kg

Product description

- For repair of small, mechanically caused damage during transport and/or installation.
- Cartridge with plunger (without cartridge gun)
- Exact 1:1 proportional dosing of resin and hardener
- Good mixing required!
- For large area repair painting we recommend No. 3441 (see above).

Repair cartridge No. 3442



Order no.	Cartridge content
3442	32 cm ³

Product description

- Made of POM
- No pipe bevelling required

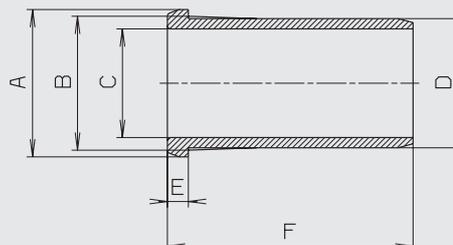
SDR 11 class

Pipe o. d. Ø	D	C	A	F	E	B
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

SDR 17.6 class

Pipe o. d. Ø	D	C	A	F	E	B
32	27,4	22,2	31,5	67	6	28,5
40	34,8	28,5	39,5	84	7	36
50	43,4	36,5	49,5	82	7	44,9
63	54,8	46,9	62,5	92	8	56,6

Support liner for PE pipes, when using ISO fittings No. 6031



Pipe o. d. Ø

L

Weight kg

63	170	0,10
75	170	0,25
90	170	0,33
110	170	0,39
125	170	0,48
140	170	0,55
160	200	0,67
180	220	0,86
200	220	1,50
225	220	1,62
250	220	1,85
280	220	2,15
315	220	2,55

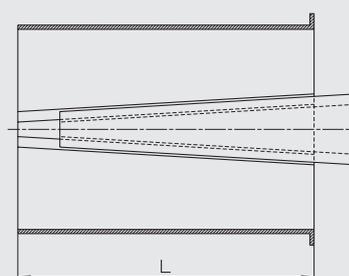
Support liner for PE pipes made of stainless steel

No. 6035

SDR 17,6 class

No. 6036

SDR 11 class



Product description

- Stable and unbreakable base plate from rot-proof plastic
- Centring of the surface box on the support plate
- Secure fixing of the Hawle tele extension spindle
- Round shape: this means it can also be used in very tight installation situations

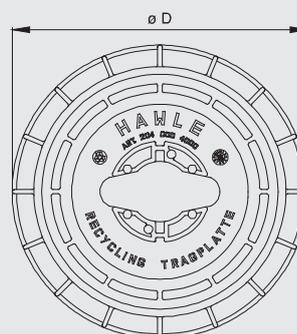
Technical features

Material: Polyamide, glass fibre reinforced

D	Weight kg
340	0,85

Base plate for surface boxes, service and gate valve according to DIN 4056 and 4057

No. 3481



Product description

- Manhole cover and ring with opening for automatic air valve assembly, order no. 9828
- Cover inscription "Abwasser" and "Be- und Entlüftung"

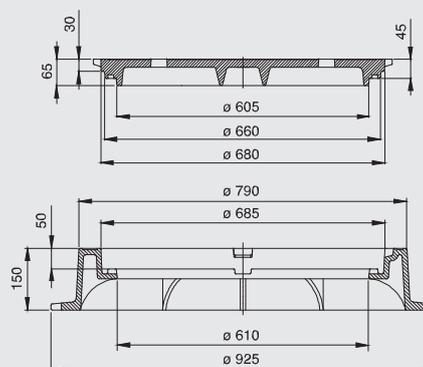
Technical features

Shaft cover: GJS-500, bituminised

Shaft ring: GJL-250, bituminised

Manhole cover and ring
for automatic air valve assembly

No. 2069



Product description

- The restraint clamp for PVC pipes and flexible moulded pieces
- This two-part clamp can be retrofitted, can be disassembled if necessary and is re-usable
- Clamping ring self-actuated in cone retensioning
- Special teeth prevent continuous groove in pipe
- Lowest notch effect on the PVC pipe at highest retaining force
- Wedge fastening on both sides
- Hammer the wedges until the clamp is tightly closed

Technical features

Made from GJS 400, epoxy powder-coated
Clamping ring as measuring ring

Restraint Clamp (socket to pipe) No. 1254



Clamping ring

Article description	Order no.	PN	Nominal diameter/DN PVC pipe Ø											
			50	65	80	100	125	150	200	250	300			
			63	75	90	110	140	160	225	280	315			
Restraint clamp	1254	PN 10	*	*	*									
	1255	PN 16												

*PN 10 and PN 16

Product description No. 3470

- Made of elastomer
- Max. operating pressure: 10 bar

Product description No. 3390

- Dimensionally stable steel core, thus simpler to install
- Made of elastomer
- Max. operating pressure: 16 bar

Flat gasket with fabric linen

No. 3470

Flat gasket with steel reinforced

No. 3390

DN	b		Weight kg	
	No. 3470	No. 3390	No. 3470	No. 3390
50	3	4	0,02	0,04
65	3	4	0,03	0,06
80	3	4	0,04	0,07
100	3	5	0,04	0,07
125	3	5	0,05	0,12
150	4	5	0,06	0,13
200	4	6	0,10	0,18
250	4	6	0,13	0,23
300	4	6	0,17	0,60
350	4	7	0,21	0,70
400	4	7	0,23	0,77

No. 3470



No. 3390



Product description

- Substantially simplifies the pipe assembly
- Content: 400 ml
- Note: observe safety regulations (see can inscription)

Mounting-spray for plastic pipes No. 3443



Product description

- Special lubricating grease
- Suitable for valve spindles and O-rings made of elastomers
- Fulfills the DIN EN 200 requirements
- Content: 90 g
- Application: e.g. for gate valves on page A3/1

Fitting grease No. 3444

