General Information Isolation Valves

Product Categories

2.1 E2 Gate Valves, E3 Gate Valve and Gate Valves for sewage

In 1957, Hawle invented the resilient-seated gate valve with O-ring sealing of the valve spindle and had it patented. Today, this type of gate valve has become the standard equipment in the field of potable water and gas supply.

By and by, further innovations have been developed on the basis of this patent, among them, for example, the exchange gate valve, the Combi valve, the gate valve with PE tail, the push-fit socket valve, etc. Hawle gate valves are characterized by smooth operation, a long service life, and a great diversity of variants.

Gate valves in the field of potable water and gas

The Hawle gate valves for potable water are provided with a resilient-seated wedge of cast iron (GJS-400) with EPDM vulcanization for the shut-off function. The sealing system also consists of an EPDM rubber gasket. If provided with the appropriate sealing material, most of the resilient-seated Hawle gate valves can also be used for gas applications.

Design of gate valve for potable water

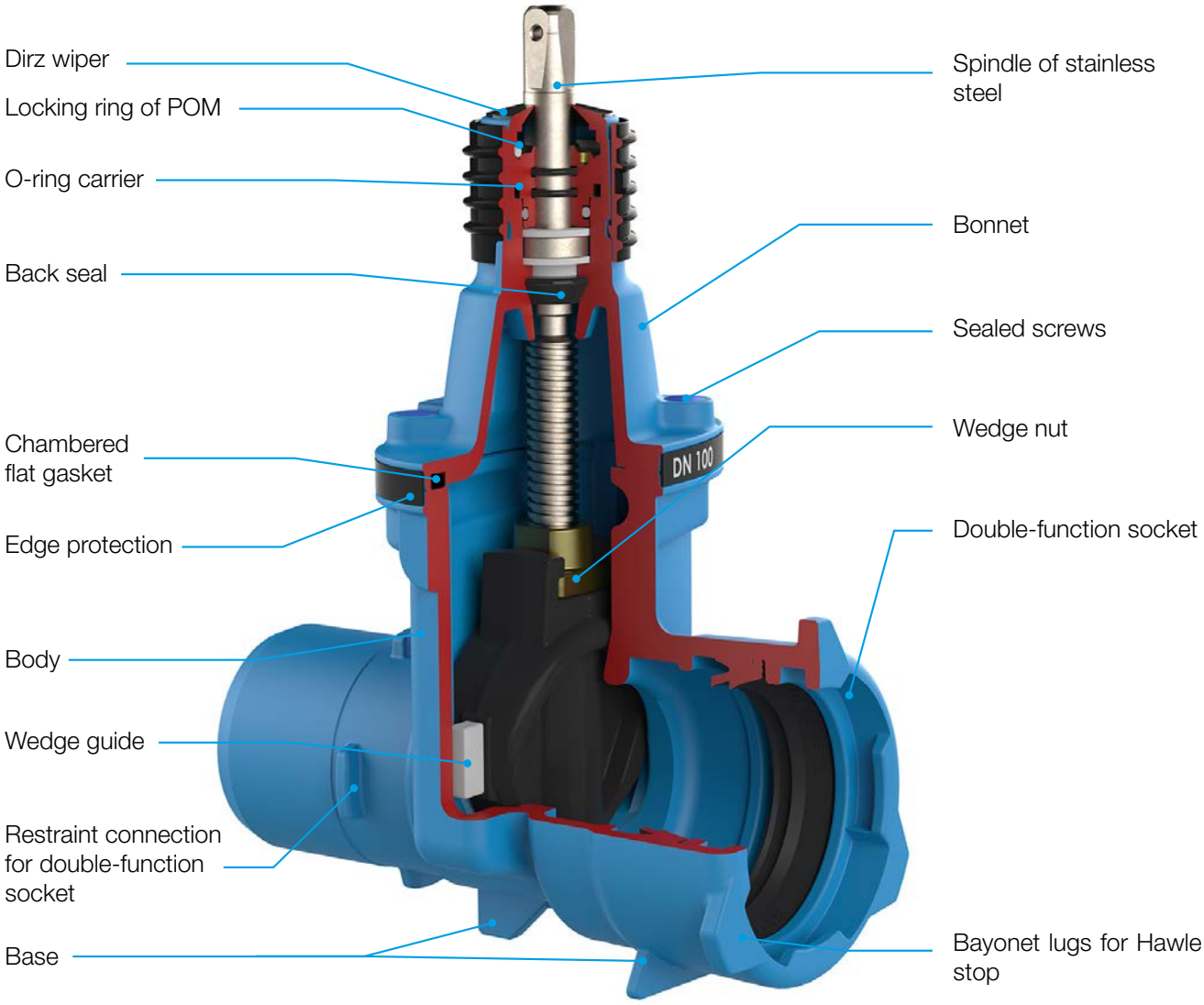


Figure: BAIO® spigot/socket valve “E2“, type 451

General Information - Isolation Valves
2.1 Gate Valves

Resilient-seated gate valve “E2”

Technical features

- Resilient-seated gate valve with rubberized wedge
- Free-moving due to central wedge guide and POM sliding blocks
- Long service life due to Hawle epoxy powder coating
- Designed acc. to DIN EN 1074, DIN EN 13774:2003-07, and ISO 7259
- Pinless fixing of extension spindle via round thread up to DN 200

Technical data

Body:	GJS-400
Bonnet:	GJS-400, with countersunk screws sealed with stearin
Corrosion protection:	Hawle epoxy powder coating
Wedge / gaskets:	GJS-400, lined inside and outside with EPDM acc. to DVGW W 270 for potable water and/or NBR for gas
Spindle:	collar of stainless steel with rolled and burnished thread
Spindle sealing:	exchangeable O-ring carrier of brass acc. to ISO 7259 – 1998
Edge protection:	PE
Round thread adaptor:	PE, for pinless fixing of extension spindle
Medium:	potable water, natural gas (acc. to DIN EN 437)
Max. operating pressure:	10 bar* / 16 bar* / 25 bar * (water) 5 bar* / 10 bar * / 16 bar * (gas)

* depending on nominal width and order number

Spindle revolutions and maximum closing torque required

DN	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Revolutions	5	7	8	10	10	13	16	20	25	30	34	42	50	59	58	58	63	75
Stroke (mm)	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	400	500	600
Max. closing torque at 16 bar (Nm)	5	5	15	15	30	35	35	40	50	50	70	90	120	140	160	160	250	250
Spindel square (mm)	12.3	12.3	12.3	12.3	14.3	17.3	17.3	19.3	19.3	19.3	24.3	27.3	27.3	27.3	32.3	32.3	36.3	36.3

Design variants “E2” gate valve

Exchange gate valve

Socket combi tee

BAIO® Combi IV gate valve

Reducing gate valve

Design of the “E3” Gate Valve for Potable Water

In 1957, Hawle invented the resilient-seated gate valve with O-ring sealing of the gate valve spindle, and applied for a patent. Today, this type of gate valve has become the standard in potable water and gas supply.

Numerous design variants were gradually developed on the basis of this patent. Examples of these include exchange gate valves, combi gate valves, gate valves with PE fusion and service valves with push-fit sockets, etc. Hawle gate valves are characterised by their smooth operation, long service life and wide range of variants.

Gate valves for Potable Water

The Hawle gate valves for potable water are provided with a resilient-seated wedge of cast iron (GJS-400) with EPDM vulcanization for the shut-off function. The sealing system also consists of an EPDM rubber gasket.

Design of the “E3” Gate Valve for Potable Water

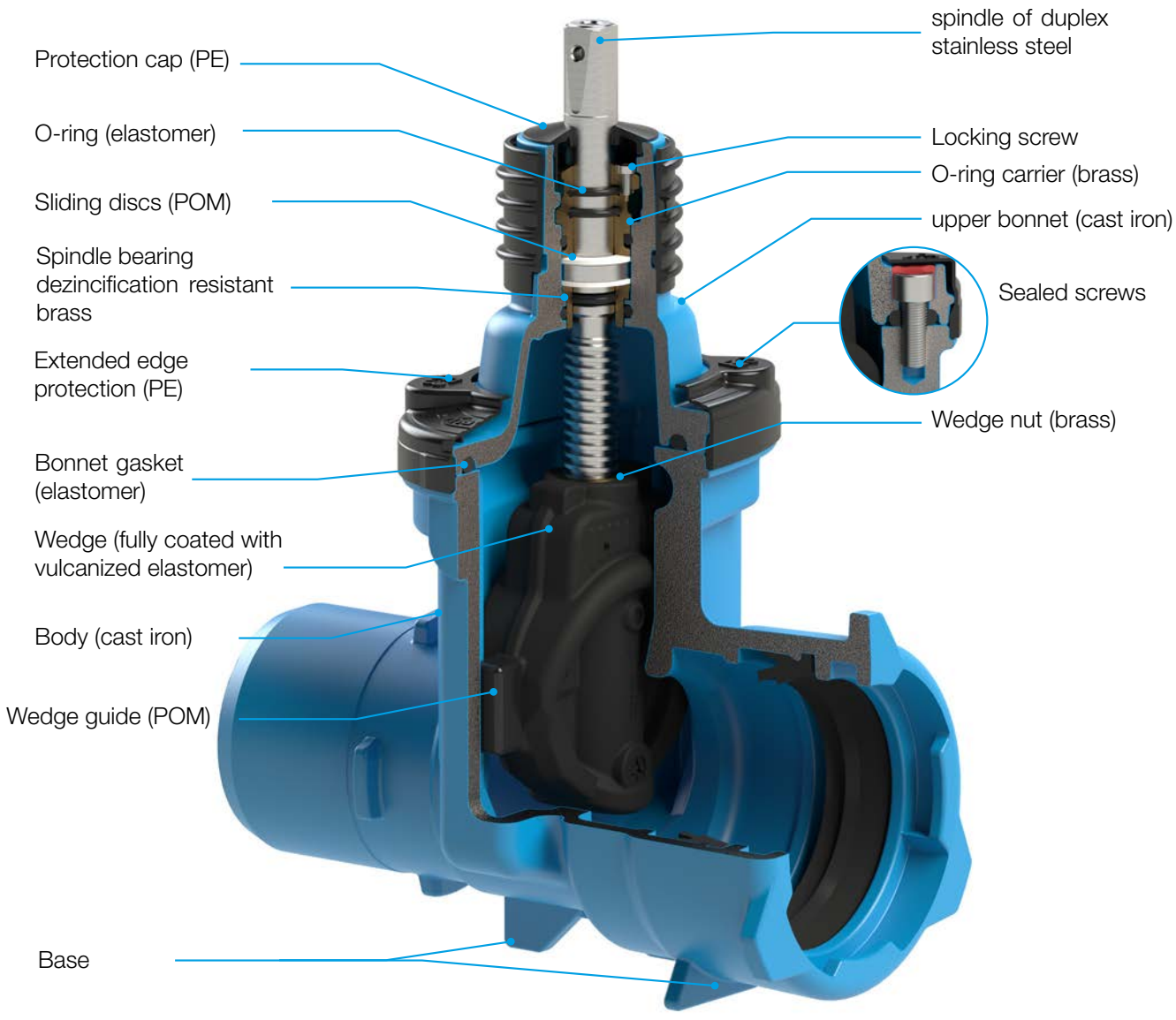
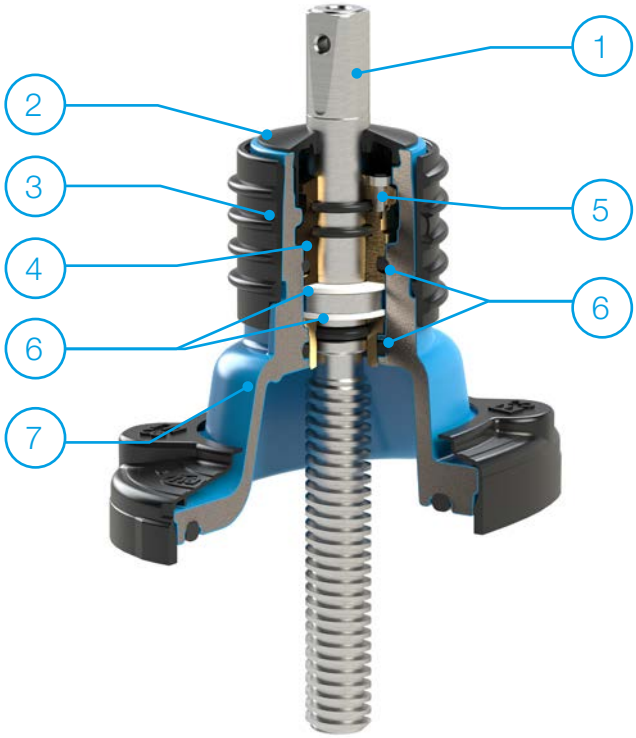


Image: Hawle Spigot end gate valve “E3”, Order No. 451-00

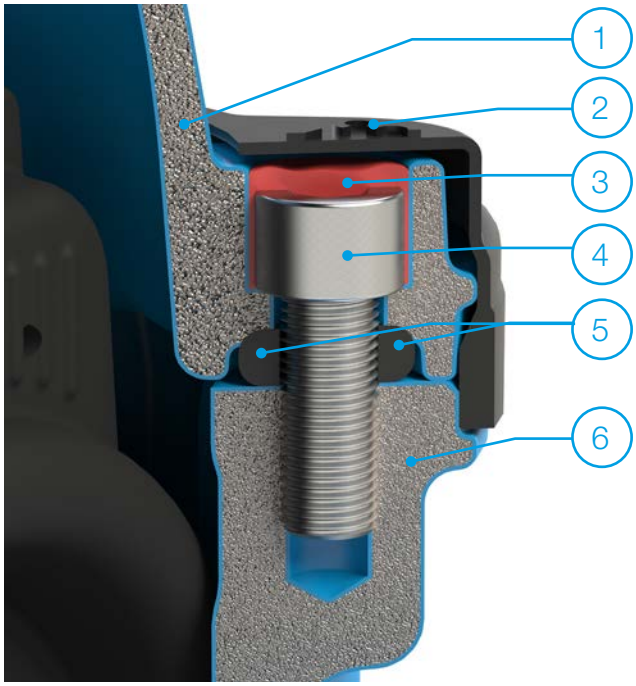
Design of the “E3” Gate Valve for Potable Water

Upper Section of the “E3” Gate Valve for Potable Water



1	Spindle with large collar for minimum surface load	Duplex Stainless steel
2	Protection cap	PE
3	Round thread adapter	PE
4	O-ring carrier with double bayonet connection	Brass
5	Locking screw	Stainless steel
6	Generously dimensioned spindle seal	
7	Sliding discs	POM

Screw Connection of the Upper Bonnet and Body



1	Upper Bonnet	Cast iron
2	Extended edge protection ring	PE
3	Sealing compound	
4	Sealed screw	Stainless steel
5	bonnet gasket	Elastomer
6	Body	Cast iron

Design of the “E3” Gate Valve for Potable Water

Wedge of the “E3” Gate Valve for Potable Water

- Wedge nut stop in the upper bonnet
  Brass on brass,
  No pressure marks on the Hawle epoxy powder coating
- Wedge guides constructed of wear-resistant POM,
  Load-optimised design guarantees minimum wear and minimal closing torques
- Hexagon screws of corrosion-resistant steel enclosed by upper seal
- Entire wedge surface 100% vulcanized without any exposed areas for maximum corrosion protection
- Restraint connection of wedge and wedge nut
- Elastomeric embedding of wedge nut with shock-absorbing elastomeric layer between wedge and wedge nut:
  - Flexible
  - Vibration damping
  - Free of play
- Wedge nut long thread length: allows high torques
  1.2 x diameter
- Extensive wedge nut support for minimum surface load

Additional Advantages of the E3 Gate Valve

- Can be installed on existing E2 bodies
- Full compatibility with:
  E2 electric drives
  Extension spindles
  Hand wheels, etc.
- Availability of spare parts guaranteed for decades!

General Information on the “E3” Gate Valve for Potable Water

Technical Features

- Resilient-seated gate valve with fully vulcanized wedge
- O-ring carrier with double bayonet connection (till DN 200)
- O-ring can be replaced under pressure
- Stainless steel spindle
- Wedge and wedge nut fully vulcanized
- Piggable due to bore conforming to nominal diameter
- Extended edge protection
- Designed according to DIN EN 1074- 1 and -2
- Smooth operation due to centrally located wedge guide made of durable plastic
- Restraint connection and elastomeric embedding allow the wedge nut to be flexible, vibration-damping and connected to the wedge without play
- 100% corrosion protection
- E3 gate valve upper components are fully compatible with all E2 bodies and accessories
- Pinless fastening of the extension spindle by means of a round-thread connection up to DN 200

Technical Data

Body:	GJS-400
Upper bonnet:	GJS-400, with countersunk and sealed screws
Corrosion protection:	Hawle epoxy powder coating
Wedge/Sealings:	GJS-400, interior and exterior of EPDM acc. to the German Association for Gas and Water (DVGW) Worksheet 270 in the potable water sector
Spindle:	Collar spindle made of duplex stainless steel with rolled, thread and flat-rolled anti-friction surface
Spindle sealing:	Replaceable brass O-ring carrier
Extended edge protection:	PE
Round thread adaptor:	PE (for pinless fastening of the extension spindle)
Medium:	Potable water
Maximum operating pressure of water:	10 bar* / 16 bar* / 25 bar*

Spindle Revolutions and Maximum Required Closing Torque of the “E3 Gate Valve”

DN	**50**	**65**	**80**	**100**	**125**	**150**	**200**
Revolutions	10	13	16	20	25	30	34
Lift (mm)	50	65	80	100	125	150	200
Max. closing torque at 16 bar (Nm)	30	35	35	40	50	50	70
Spindle square (mm)	14,3	17,3	17,3	19,3	19,3	19,3	24,3

Ausführungsvarianten “E3” Schieber

Exchange gate valve

Combi-T gate valve

BAIO®-Combi IV gate valve

Reducing gate valve

Resilient-seated gate valve “K3®“

Technical features

- The shut-off blade of stainless steel seals against a minimized elastomer sealing surface in the body
- Spindle bearing free from non-ferrous metal
- Reliable, free-moving, thus effort-saving
- Complete protection against corrosion

Technical Data

Body:	GJS-400
Bonnet:	GJS-400
Corrosion protection:	Hawle epoxy powder coating
Shut-off blade:	stainless steel
Gaskets:	EPDM acc. to DVGW W 270
Spindle:	collar of stainless steel with rolled and burnished thread
Spindle sealing:	spindle sealing via inserted O-rings and POM sliding rings
Spindle bearing:	spindle bearing via POM friction washers with engaged plastic part
Edge protection:	plastic
Retaining elements:	stainless steel
Medium:	potable water
Max. operating pressure:	10 bar* / 16 bar*

* depending on nominal width and order number

Max. closing torques

DN	DN 80	DN 100	DN 125	DN 150	DN 200
Revolutions	23	23	33	33	33
Stroke (mm)	80	100	125	150	200
Max. closing torque at 16 bar (Nm)	20	20	25	25	40
Spindle square (mm)	17,3	19,3	19,3	19,3	19,3*

* with adaptor cap of plastic for spindle square 24.3

Design variants „K3®“ gate valve

Spigot socket valve
“K3®“ system BAIO®
DN 80 - DN 200

Ord. No. 451-01

Exchange gate valve “K3®“,
face-to-face dimension
standard series 14 acc. to
DIN EN 558-1
DN 80 - DN 200

Ord. No. 412-01

Exchange gate valve “K3®“,
face-to-face dimension
standard series 15 acc. to
DIN EN 558-1
DN 80 - DN 200

Ord. No. 411-01

Gate valve for sewage

Technical features

- Ideal for sewage pressure pipes
- Suitable for buried installation
- Spindle not in contact with the medium
- Reliable shut-off function due to shut-off blade of stainless steel and O-ring profile gasket
- Bonnet exchangeable “under pressure“
- Pinless fixing of extension spindle via round thread adaptor
- Long service life due to Hawle epoxy powder coating

Technical data

Body:	GJS-400
Bonnet:	GJS-400
Corrosion protection:	Hawle epoxy powder coating
Shut-off element:	hard-rolled, stainless steel
Spindle sealing:	O-ring adaptor of brass (exchangeable for DN 80 and higher)
Gaskets:	sewage-resistant elastomer
Medium:	municipal sewage (acc. to EN 1085:2007)
Max. operating pressure:	10 bar

DN	PN	Max. closing torque at 10 bar [Nm]	Spindle revolutions opening/closing	Stroke [mm]	Spindle square
50	10	15	8	63	12.3
63	10	15	8	63	12.3
80	10	20	11,5	80	14.3
100	10	20	13,5	100	14.3
125	10	30	31	150	17.3
150	10	30	31	150	17.3
200	10	50	47	200	19.3
250	10	70	52	300	27.3
300	10	70	52	300	27.3

Design variants sewage water valve

Gate valve with loose flanges, standard series 15 DN 80 - DN 300

Ord. No. 481

Gate valve with loose flanges, standard series 14 DN 80 - DN 300

Ord. No. 482

Gate valve with BAIO® sockets, DN 80 - DN 150

Ord. No. 480

Gate valve with BAIO® socket and/or BAIO® spigot end, DN 80 - DN 150

Ord. No. 483

Gate valve for sewage water

Pressure drainage systems in sewage water plants require gate valves that are suitable for buried installation, on the one hand, and that are equipped with a shut-off element resistant to sewage water and durably functioning, on the other hand.

The Hawle gate valves for sewage water are provided with a shut-off blade of hard-rolled stainless steel and an O-ring package for shutting off. The sealing system prevents solids from sticking to the spindle and permits the exchange of the valve bonnet without taking the pressure line out of order.

Design of sewage water valve

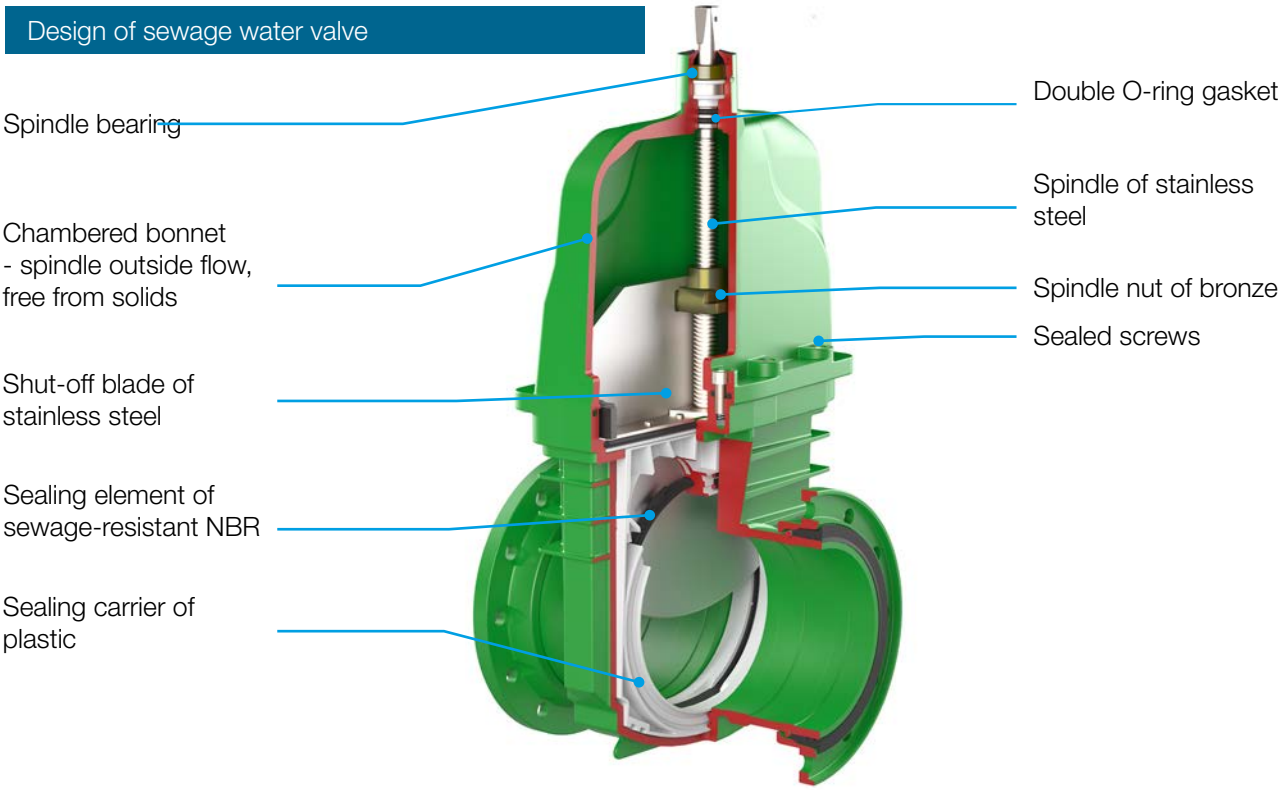
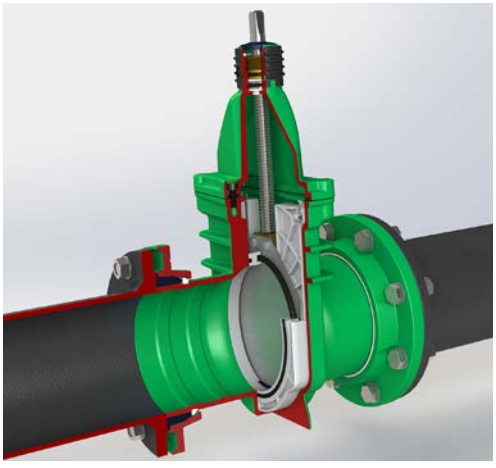
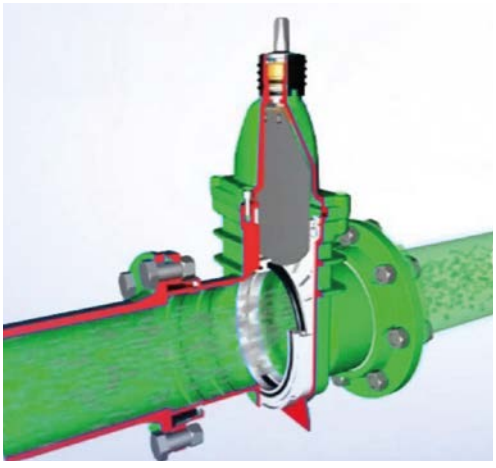


Figure: Sewage water gate valve DN 250 with loose flanges

Example of application



Sewage water gate valve closed (DN 200)



Sewage water gate valve opened (DN 200)

Possible connectiond

BAIO® System (Section 1.1)

The form-locked connection of gate valves in the BAIO® system is established via a bayonet connection requiring only little force. This enables the time-saving connection of gate valves and pipe fittings without the need of threaded connections.
Due to the BAIO® socket, the system can be used for CI pipes with BAIO® lip seal (BLD®), on the one hand, and CI-plastic gasket (GKS) for PVC and PE pipes, on the other hand. When connecting PE pipes, a support liner (Ord. No. 590) must be used.

Medium: potable water, sewage, gas

For more information on the Hawle BAIO® system please refer to the General Information “Threadless Connection Technology” in the first section of the catalogue.

System 2000 (Section 2.1.2)

“System 2000” is suitable for PE and PVC pipes. When used with PE pipes, “System 2000” is an easy-to-install and economical alternative to welding.

By pushing the plastic pipe into the “System 2000” socket and tightening the lock ring, a tight and restraint connection withstanding pressures up to 16 bar can be established.

For thin-walled PE pipes (up to 3 mm wall thickness) as well as for low-pressure pipelines, the use of a support liner is mandatory.

Medium: potable water

Welding technology (Section 2.1.3)

By welding gate valves with PE pipes, a permanent and force-locked connection is established. The gate valve with PE fusion tail is suitable for welding into PE pipelines via resistance welding or hot plate welding. The quality of welded joints depends on the qualification of the welders, the suitability of the machines used. Please observe the operating and maintenance instructions of the applied products all the time.
Hawle also offers a variant with a steel welding fitting to integrate the gate valve in a steel pipe.

Medium: potable water, gas

Fixed flange (Section 2.1.1)

The use of flanges is a method to connect pipe sections in a way that they are both tight and detachable. By tightening the screws in the bores of the flange faces the flat gasket is pressed against the circular sealing surface of the pipe fittings. Thus, a tight connection is established. The drill pattern of the flange faces is manufactured acc. to standard EN 1092-2.
In plant engineering, the flange connection is the most common method to connect valves and pipe fittings with each other. In buried installation, however, alternative connections are increasingly preferred as they are better able to meet the higher requirements on buried valves and pipe fittings.

Medium: potable water, gas

Loose flange system (Section 2.1.1)

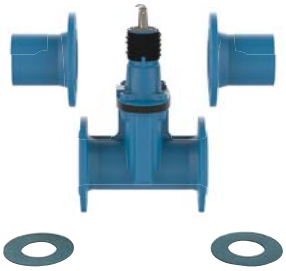
Beside the fixed flanges, Hawle also offers the variant of restraint loose flanges for its gate valves. Apart from being used in new constructions, this connection variant is mainly intended for the exchange of existing valves. The flat gaskets (barrel gaskets) are already integrated in the exchange flange. Thus, the time-consuming keying between the flanges is avoided.

Medium: potable water, sewage

Example of application of an exchange gat

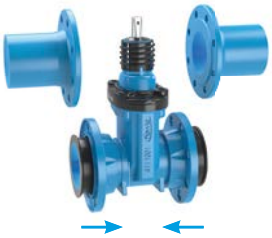
Gate valve with fixed flanges

Gate valve with loose flanges

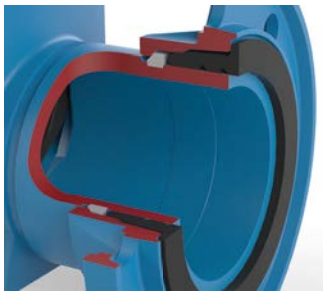


New conventional gate valve is installed in the free space

Conventional gate valve is to be exchanged



New gate valve is installed in the free space



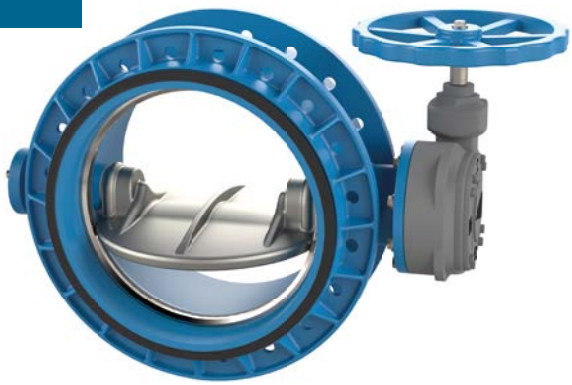
Restraint loose flange with barrel gasket and ring for restraint connection (detail view on 02-10)

Problem
Pushing in the gasket (keying of flanges required)

Effortless installation due to loose flanges

2.2 Butterfly Valves

Hawle PRO® butterfly valve



The Hawle PRO® butterfly valve is provided with a proportional action sealing system for shutting off. The sealing is integrated in the body of the butterfly valve. When open, the same pressure is admitted to the butterfly valve from all sides, thus reliably preventing unintended deformations of the gasket. As soon as the Hawle PRO® butterfly valve is moved to closed position, the valve gasket is pressed against the valve disc, depending on the direction of flow. The contact pressure depends on the water pressure.

The proportional action sealing system ensures reliable sealing, on the one hand,
and a long service life of the gasket, on the other hand.

The Hawle PRO® butterfly valve is provided with the proven restraint loose flange system that is also used for the Hawle exchange gate valves. This is especially favourable when valves have to be exchanged. Due to the integral loose flange system a dismantling piece is not required for new constructions.

Technical features

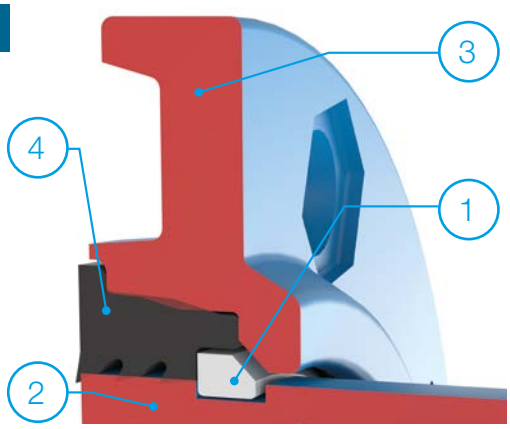
- Proportional action sealing system
- Easy installation due to loose flange system
- Advantages for storage due to exchangeability of loose flanges e.g. from PN 10 to PN 16
- Flat gaskets already included in the barrel gaskets
- Self-locking worm gear, with position indicator for installation in plants
- Blow-off resistant fixing of shafts and sleeves (EN 593)

Technical data

Body / flange:	GJS-400, Hawle epoxy powder coating
Valve disc and shaft:	stainless steel
Seat gasket:	EPDM / reinforced with a ring of stainless steel
Retaining ring for seat gasket:	POM for DN 150 - DN 300 / stainless steel for DN 400
Barrel gasket for loose flange:	EPDM
Medium:	potable water
Max. operating pressure:	16 bar

Loose flange system

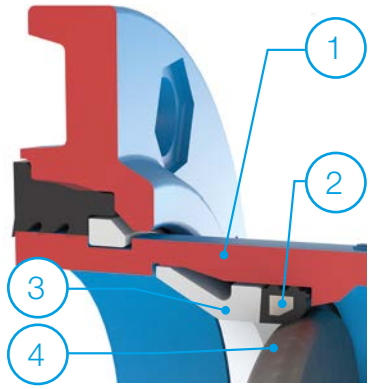
- Two restraint loose flanges (PN 10 or PN 16)
- Flat gaskets already included in the barrel gaskets (lip seals) -> therefore, no keying is required between the flanges when installing the valve in the gap.



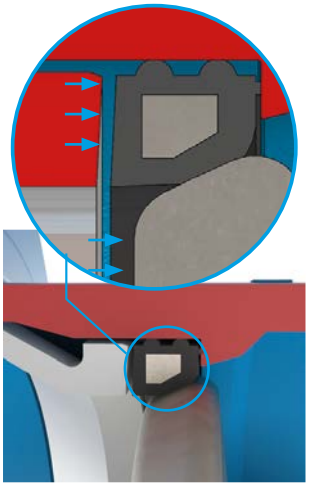
1. Retaining ring
2. Body
3. Loose flange
4. Barrel gasket with lip seal

Proportional action sealing system (Hawle PRO® butterfly valve)

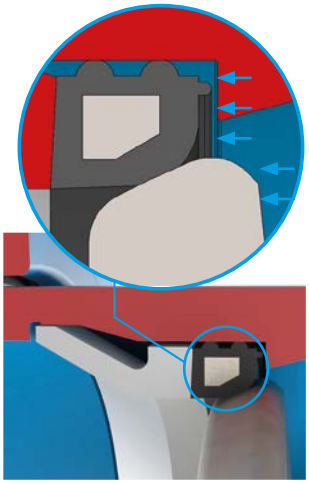
- Innovative proportional action sealing system in the valve body
- Stress-relieved bearing of seat gasket in open position
- Low operating torques
- Maintenance-free



Section view of sealing system
1. Body
2. Steel-reinforced seat gasket
3. Retaining ring
4. Valve discs

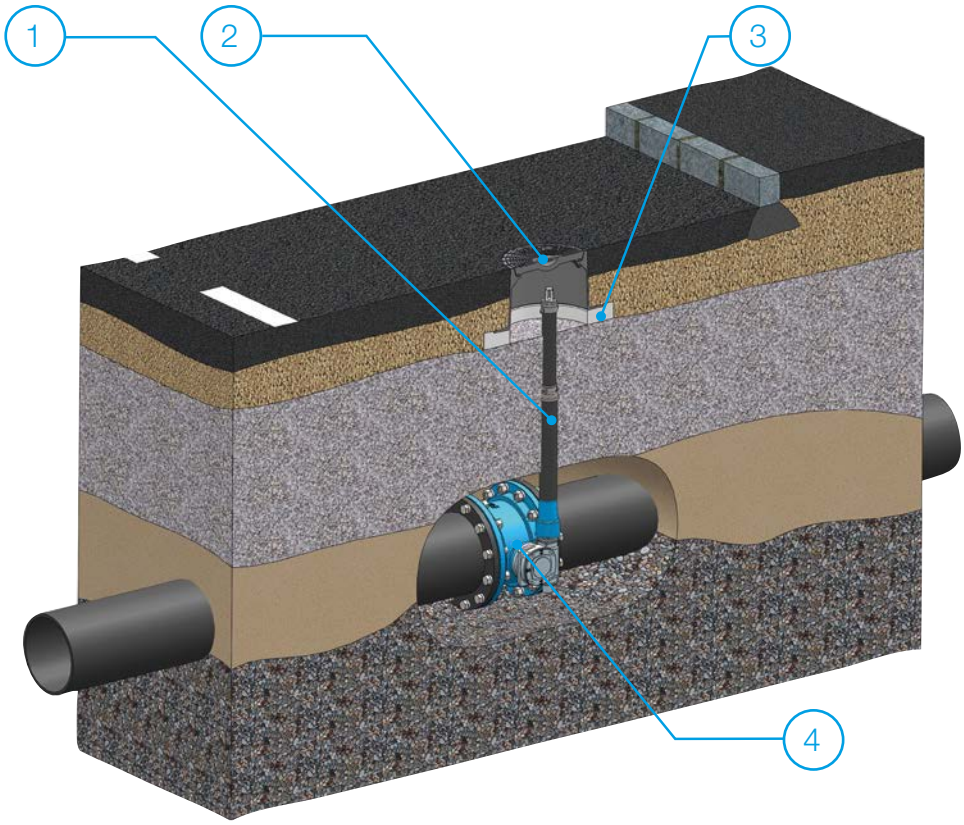


Functional principle 1
Operating pressure presses seat gasket against valve disc



Functional principle 2
Operating pressure presses valve disc against seat gasket

Einbaubeispiel Erdeinbau



1. Extension spindle
2. Surface box
3. Base plates for surface box
4. Hawle PRO® butterfly valve

2.3 Pipe Drilling Saddles

Pipe Drilling Saddles

Hawle pipe drilling saddles and tapping sleeves for CI, steel, and AC pipes are provided with the “universal strap system”. Due to this universal strap system the same type of pipe drilling saddle / tapping sleeve can be used for pipe diameters DN 65 to DN 500. Adaptation to the respective pipe is effected via the holding strap and the saddle seal supplied with this strap. This universal strap system allows considerable economies in terms of storage.

For AC pipes, DIN 3543-2 specifies holding straps with a width of 75 - 90 mm (depending on the drilling diameter) to ensure the protection of the pipe. Therefore, the width of Hawle straps for AC pipes is generally 90 mm for all nominal widths. If the pipe outside diameter is unknown, a special universal holding strap can be used, which is adapted on site. (Only for potable water and sewage pipes.)

For plastic pipes (PE/PVC), pipe drilling saddles and sleeves featuring the HAKU system are to be used. This system consists of two metal saddle halves provided with Hawle epoxy powder coating and connected via four screws. The width of HAKU saddle halves clearly exceeds the requirements specified in DIN 3543-2-1984. We calibrate the saddle halves to the outside diameter of the plastic pipe. When connecting the saddle halves, an inadmissible deformation of the pipe is prevented by metal stops. Sealing to the pipe is effected via inserted gaskets in the upper and lower shells.

The saddle halves shall be installed by tightening the screws all the way to the stop at the torques specified in the respective operating instructions, depending on the pipe outside diameter.

Some versions of the HAKU system may be installed and connected by establishing a form-locked connection through a wedge lock instead of screws.

Apart from numerous tapping sleeves without shut-off function, there are mainly four different pipe drilling saddle systems available which allow a permanent shut-off.

Design variants of pipe drilling saddles

Pipe drilling saddle type Hawlinger®: drilling from above, shutting off via shut-off blade of stainless steel (see figure next page)

Milling saddle: drilling via integral milling cutter

Valve saddle: lateral drilling, shutting off via resilient-seated wedge

Tapping sleeve with auxiliary shut-off device: auxiliary shutting off by means of a shut-off blade of stainless steel, lateral drilling or drilling from top possible

Hawlinger® Pipe drilling saddle

Pipe drilling saddles type Hawlinger® consist of the connecting element for the respective main pipe (e.g. universal strap system for CI, steel, and AC pipes, and/or HAKU system for PE, PVC pipes), the shut-off mechanism consisting of a shut-off blade of hard-rolled stainless steel, and the Hawlinger bonnet with the three main versions:

- One upper outlet (“A“)
- One upper outlet and one outlet 90° to pipe direction (“U“)
- One upper outlet and one outlet in pipe direction (“S“)

The outlets are either designed as ZAK® sockets or with female thread. For more information on the ZAK® system please refer to Section 2.

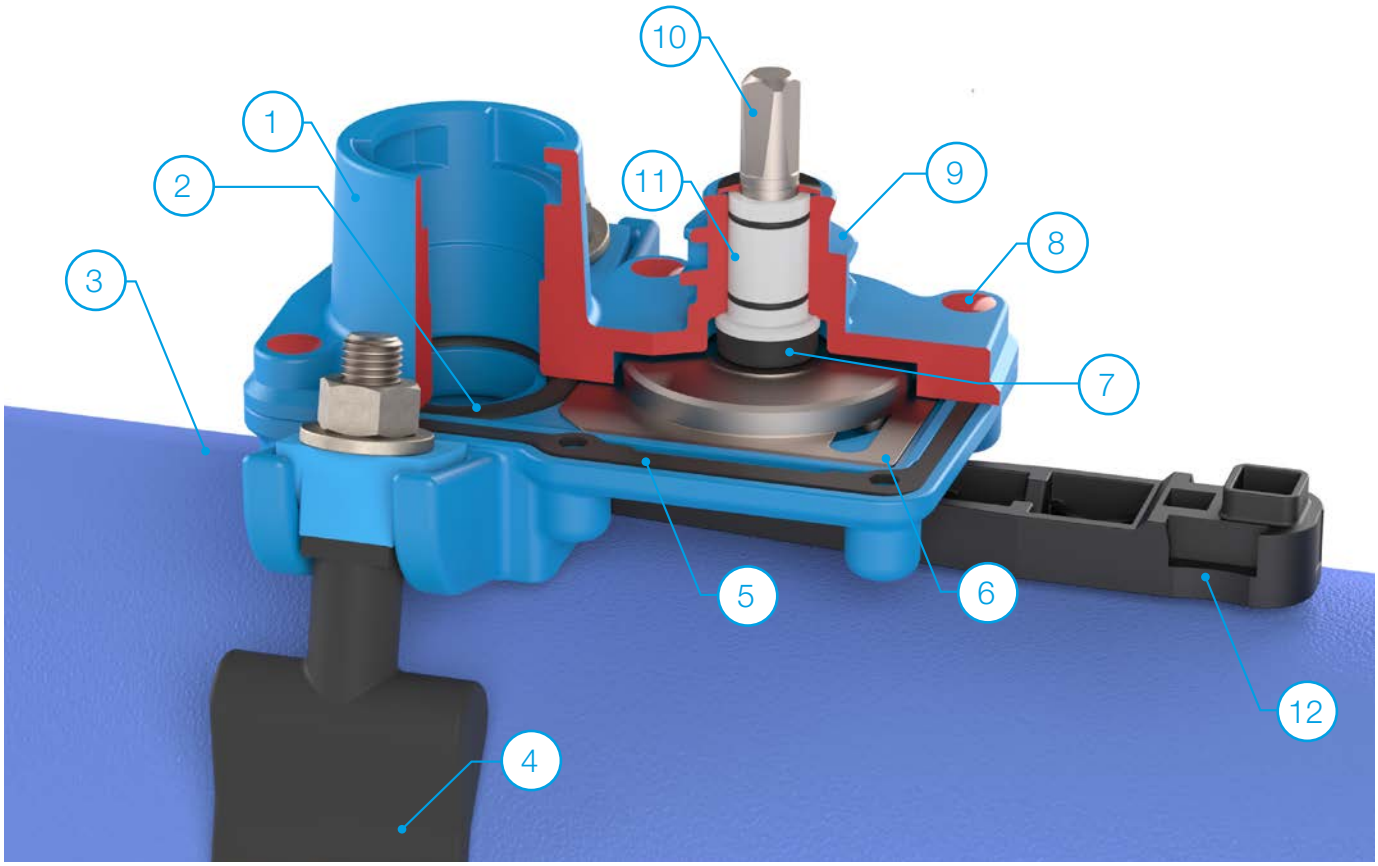


Figure: Pipe drilling saddle type Hawlinger® for CI, steel, and AC pipes with upper ZAK® outlet. (Alternatively also available with threaded outlet.)

1. Body: GSS 400 epoxy coated
2. O-ring
3. CI, steel, or AC pipe
4. Strap: fully rubberized or 100% stainless steel
5. Chambered flat gasket
6. Shut-off blade of stainless steel
7. Back seal
8. Allen screw recessed and sealed with stearin
9. Round thread for receiving the CI cover of the Hawle extension spindle
10. Spindle (square 12.3) and shut-off blade driving mechanism of stainless steel
11. Delrin bushing
12. UNI wedge key for Hawlinger®

Technical features

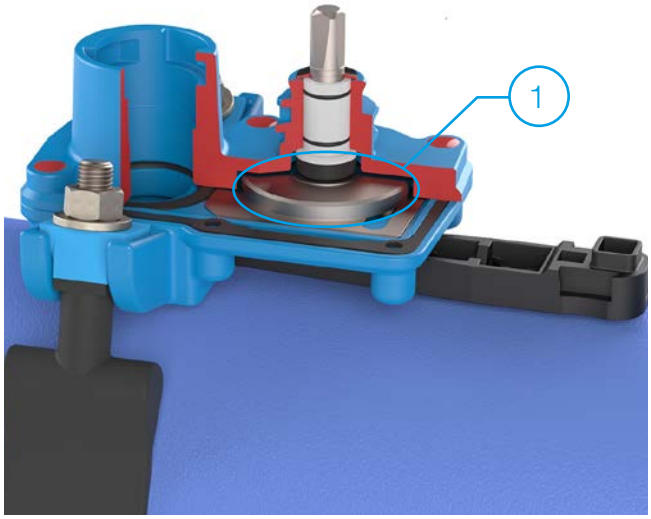
- Reliable shut-off function due to crank-driven shut-off blade with fixed stops
- Easy and quick installation due to flexible strap or saddle halve system
- Pinless fixing of extension spindle through round thread
- Many coupling and outlet variants
- Long service life due to Hawle epoxy powder coating and robust shut-off blade technology
- Spindle O-rings fully embedded in corrosion resistant material
- Back seal to relieve double spindle sealing
- Completely protected body – Allen screws (sealed with stearin)

Technical data

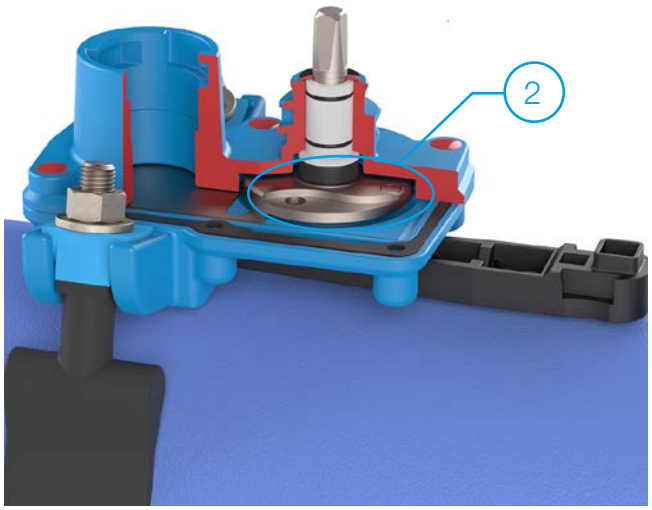
Body:	GJS 400
Corrosion protection:	Hawle epoxy powder coating
Shut-off blade:	stainless steel
Spindle:	stainless steel
Medium:	potable water, gas
Closing procedure:	clockwise, revolution 180°
Max. operating pressure:	water: 16 bar, gas: 5 or 10 bar (depending on version)
Outlet types:	ZAK®, thread

Automatic drainage

When used for potable water applications, all pipe drilling saddles type Hawlinger® are available with an additional drainage mechanism (type “E“), which can be used, for example, if the shut-off pipe section shall be drained after closing the valve (e.g. underneath of air release valves, holiday homes, etc.). Please note that there must be a sufficiently rated drainage element in the area of the drain hole.



1. Opened position with closed drainage mechanism (shut-off blade outside the flow)

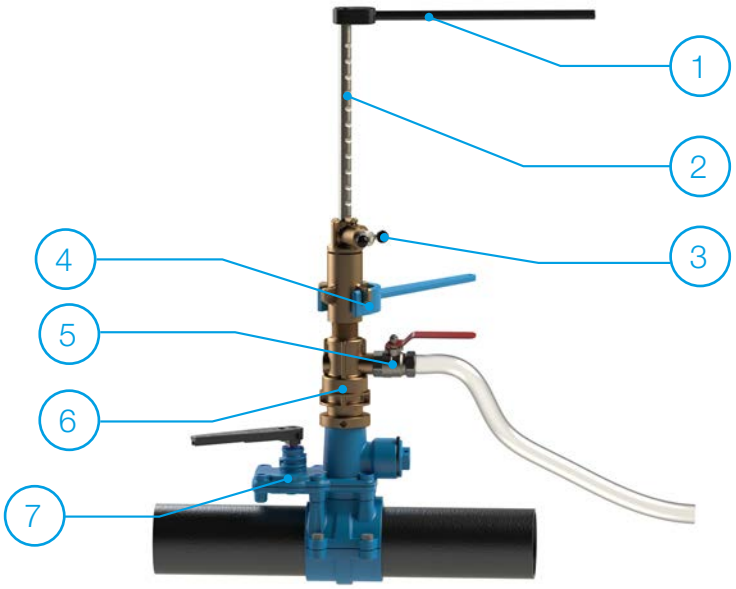


2. Closed position with opened drainage mechanism

Drilling of a service line

Via the Hawle pipe drilling saddle, in-service drilling of the line is possible up to a maximum operating pressure of 16 bar.

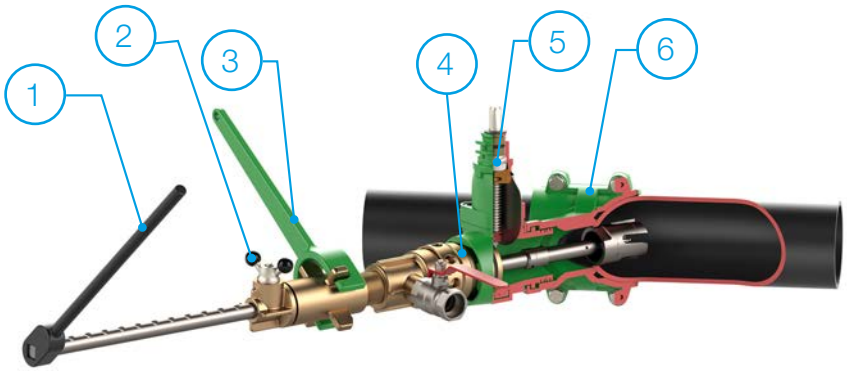
By means of the Hawle drilling device “Hawlomat” (see Section 7) you can drill CI, steel, PVC, PE, and AC pipes via a pipe drilling saddle. Both potable water and sewage water lines can be drilled. For the field of sewage water, the ZAK 69 system has been developed specifically. The drilling of a Hawle free-flow underground hydrant installed later is also possible. To this end, an extra-long drill spindle with claw adapter has to be used.



Example of application in the field of potable water

Drilling of an existing PE supply line by means of HAKU Hawlinger ZAK 46.

1. Ratchet
2. Drill spindle
3. Locking screw
4. Feed forward key
5. Flushing valve
6. Drilling adaptor
7. Hawlinger



Example of application in the field of sewage

Drilling of an existing sewage water pipe-line by means of sewage water service valve ZAK 69 with HAKU pipe saddle

1. Ratchet
2. Locking screw
3. Feed forward key
4. Drilling adaptor
5. Service valve for sewage water ZAK 69
6. HAKU tapping sleeve 45° ZAK 69

Milling saddle

For plastic pipes (PE/PVC), so-called milling saddles are available. Other than the Hawlinger® system, these milling saddles have the milling cutter/punch already integrated.

Hawle milling saddles for PE/PVC pipes are provided with an integral drilling tool (milling cutter/punch) and an operational shut-off facility. Therefore, no additional drilling device is required.

The Hawle milling saddle is characterized by a robust O-ring shut-off mechanism and the two-stage feed mechanism (high feed rate before milling, low feed rate during milling).

The service line can be drilled and taken into service immediately when water is needed (later drilling).

Technical features

- Two-stage feed mechanism
- Connection to main pipe via HAKU-System, HA-WELD® electrofusion saddles, or with PE-X stub for welding into electrofusion welding saddles (e.g. +GF+ type ELGEF® Plus)

Technical data

Body:	GJS 400 / red brass
Corrosion protection:	Hawle epoxy powder coating
Milling cutter, punch:	brass
Max. drilling diameter:	25 mm (punch for PE) and/or 35 mm (milling cutter for PE/PVC)
Outside diameter:	PE, SDR 11: d 63 to d 225 PE, SDR 17: d 63 to d 315 PVC, PN 10: d 63 to d 280 PVC, PN 16: d 63 to d 160
Medium:	Potable water
Max. operating pressure:	16 bar
Upper outlet:	ZAK 46 socket, female thread 1 1/2“ or PE tail d 40 / d 50

Ausführungsvarianten

HAKU milling saddle with horizontal ZAK® socket (Ord. No. 313-00, 313-01)

HAKU milling saddle with horizontal PE outlet (Ord. No. 313-03, 313-04)

Milling cutter with upper horizontal ZAK® outlet and lower PE-X fusion end (Ord. No. 313-02)

Service valve with milling device and electrofusion saddle with horizontal PE fusion end (Ord. No. 313-05)

Tapping sleeves / pipe saddles with auxiliary shut-off facility

Tapping sleeves with auxiliary shut-off facility are used wherever a line has to be shut off temporarily, e.g. after drilling, but where no permanent shut-off valve is required.

Shutting off is effected by means of a shut-off blade of stainless steel. After pulling the shut-off blade, the seat of the shut-off blade is sealed by mounting a sealing cover.

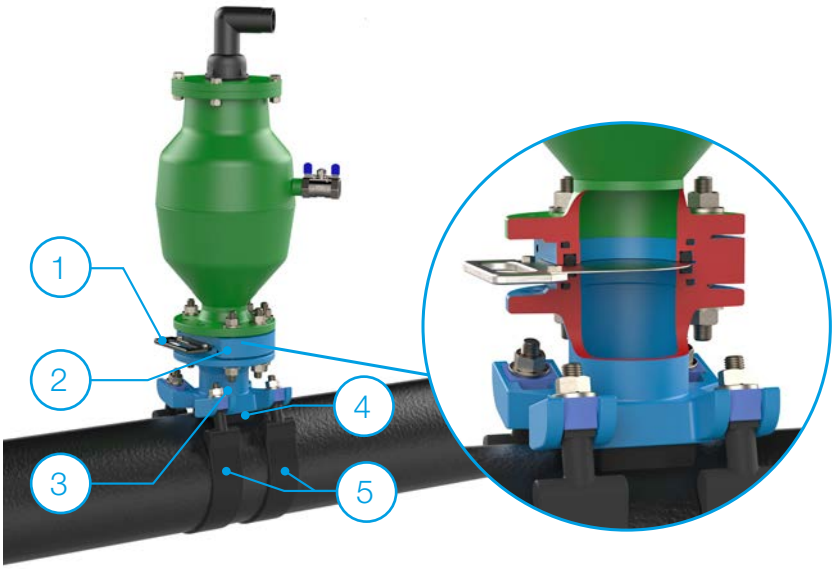
Technical features

- Tapping sleeve/pipe saddle and auxiliary shut-off facility in one component

Technical data

Body:	GJS 400
Corrosion protection:	Hawle epoxy powder coating
Medium:	potable water
Max. operating pressure	16 bar
Outlet types:	ZAK® socket, female thread, flange

Application in the field of sewage water



Double strap saddle with
flange outlet (Ord. No. 359F)

1. Shut-off blade (saddle blade)
2. Auxiliary shut-off facility
3. Double-strap pipe saddle
4. Saddle seal
5. Strap

Valve saddle

Hawle valve saddles are a combination of tapping sleeves and service valves. They can be installed sideways on CI, steel, and AC pipes DN 65 - DN 500 via a holding strap and saddle seal. Due to the integral shut-off facility, the valve saddle allows an easy and trouble-free in-service drilling of the main line.

Technical features

- Valve and saddle in one saves one connection
- No loss of pipe cover depth due to lateral drilling

Valve saddle for potable water

Technical data	
Body:	GJS 400
Corrosion protection:	Hawle epoxy powder coating
Medium:	potable water, gas
Max. operating pressure:	water: 16 bar, gas: 5 bar
Wedge / gaskets:	GJS-400, EPDM inside and outside acc. to DVGW W 270 and/or NBR for gas
Outlet types:	ZAK® 46 socket, female thread, male thread

Valve saddle for sewage water

Technical data	
Body:	GJS 400
Corrosion protection:	Hawle epoxy powder coating
Medium:	sewage water
max. Betriebsdruck:	sewage water: 10 bar
Shut-off blade:	stainless steel
Outlet types:	flange DN 80

Example of application of a valve saddle in the field of sewage water:

2.4 Service Valves

Design varaints

Service valve for potable water

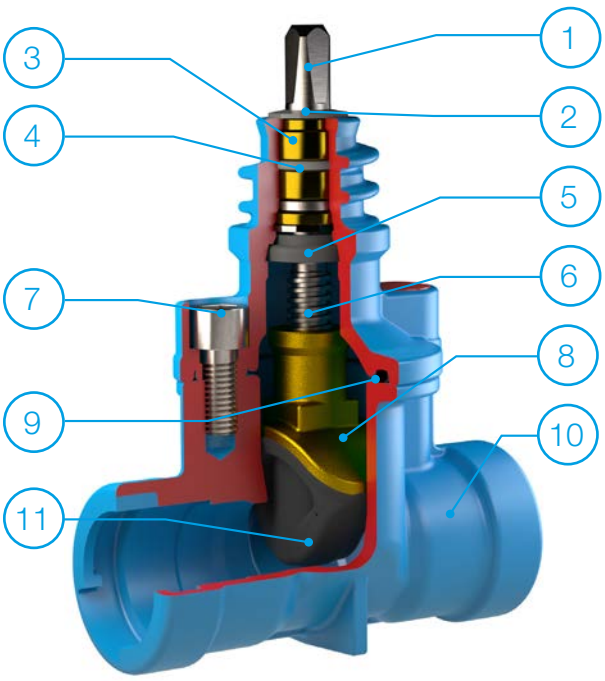
Service valve for sewage water with push-fit fitting

Service valve of POM (for potable water)

Service valves

The Hawle service valves for potable water are provided with a resilient-seated wedge of cast iron (GJS-400) with EPDM vulcanization for the shut-off function. The spindle is sealed via an O-ring carrier. There are various options for installing service valves - thread, ZAK® system (see Section 1.2), welding technology or push-fit sockets (see Section 5.2). When provided with the appropriate sealing material, some of the resilient-seated service valves can also be used for gas applications.

Design of service valves for potable water



1. Spindle square
2. Dirt gasket
3. O-ring carrier
4. O-ring
5. Back seal
6. Collar
7. Allen screw
8. Wedge nut
9. Cover gasket
10. Body
11. Wedge

Service valve for potable water

Technical features

- Resilient-seated
- Long service life due to Hawle epoxy powder coating
- Pinless fixing of extension spindle through round thread
- Multiple O-ring spindle sealing
- Smooth bore
- Wedge rubberized with elastomer
- Allen screws countersunk and absolutely corrosion protected due to sealing compound and bonnet flat gasket
- Sealing system: frictionless contact between rubber sections of wedge and body during closing

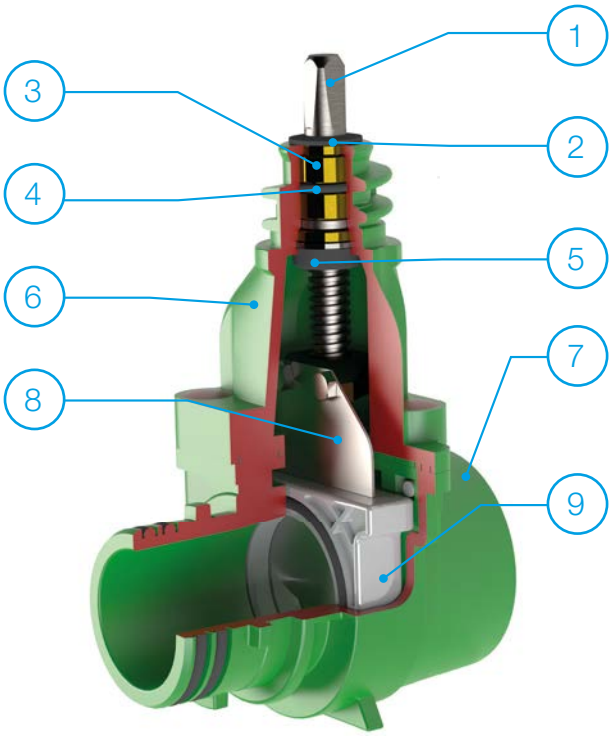
Technical data

Body:	GJS-400
Bonnet:	GJS-400, with countersunk screws sealed with stearin
Corrosion protection:	Hawle epoxy powder coating
Wedge / gaskets:	GJS-400, EPDM inside and outside acc. to DVGW W 270 for potable water and/or NBR for gas
Spindle:	stainless steel with rolled and burnished thread
Round thread:	for pinless fixing of extension spindle
Medium:	potable water gas (acc. to EN 437), depending on type of connection
Max. operating pressure:	16 bar (water), 5 bar (gas)

Service valves for sewage water

The Hawle service valves for sewage water are provided with a shut-off blade of hard-rolled stainless steel and an O-ring package for the shut-off function. The sealing system prevents solids from sticking to the spindle and permits the exchange of the valve bonnet without taking the pressure line out of order. The Hawle service valves for sewage water can be connected via push-fit sockets, threaded connection, or ZAK® system (see Section “Threaless Connection Systems”).

Design of service valves for sewage water



1. Spindle
2. Dirt gasket
3. O-ring carrier
4. O-ring
5. Friction washer
6. Upper part of body
7. Lower part of body
8. Shut-off blade of stainless steel
9. Sealing carrier of plastic

Service valves for waste water

Technical features

- Ideal for sewage pressure pipes
- Suitable for buried installation
- Spindle not in contact with the medium
- Reliable shut-off function due to shut-off blade of stainless steel and O-ring profile gasket
- Allen screws countersunk and absolutely corrosion protected due to sealing compound and bonnet flat gasket
- Bonnet exchangeable „under pressure“
- Pinless fixing of extension spindle through round thread
- Long service life due to Hawle epoxy powder coating

Technical data

Body:	GJS-400
Bonnet:	GJS-400, with countersunk screws sealed with stearin
Corrosion protection:	Hawle epoxy powder coating
Gasket:	sewage-resistant elastomer
Shut-off blade:	stainless steel
Spindel:	stainless steel with rolled and burnished thread, Teflon coated
Round thread:	for pinless fixing of extension spindle
Medium:	municipal sewage (acc. to EN 1085:2007)
Max. operating pressure:	10 bar

Service valves of POM

Technical features

- Bonnet spin-welded to body
- Operating torque: max. 80 Nm
- Corrosion-resistant due to POM
- No deposits
- Suitable for aggressive soils

Technical data

Body:	POM
Bonnet:	POM - spn-welded to body
Wwedge / gasket:	GJS-400, EPDM inside and outside acc. to DVGW W 270 for potable water and/or NBR for gas
Spindle:	stainless steel with rolled and burnished thread
Round thread:	for pinless fixing of extension spindle
Medium:	potable water
Max. operating pressure:	16 bar

2.5 Accessories for Isolation Valves

Extension spindles

Extension spindles serve the purpose of operating shut-off valves in the field of buried pipeline construction. In case of Hawle gate valves up to DN 200, all service valves, pipe drilling saddles and Hawle PRO® butterfly valves, the extension spindle is screwed onto the round thread of the valve via a round threaded cover.

This has the benefit of perfect torque transmission between the coupling box and the spindle square preventing skewing on compacting. Additional pinning of the coupling box of the extension spindle and the spindle of the shut-off valve is not required. Extension spindles have to be installed vertically. They must not be crushed or buckled on filling the trench. Especially in case of cohesive soils care shall be taken that the valve and the extension spindle are properly back-filled with sand to ensure frost resistance. For operation, operating keys acc. to DIN 3223 are suitable.

Handwheels

Handwheels serve the purpose of operating shut-off valves (gate valves, butterfly valves) in manholes and plants. Hawle handwheels are available in plastic (DN 25 - DN 40) and/or Hawle epoxy powder coated cast iron (GJL-250) (DN 50 - DN 600).

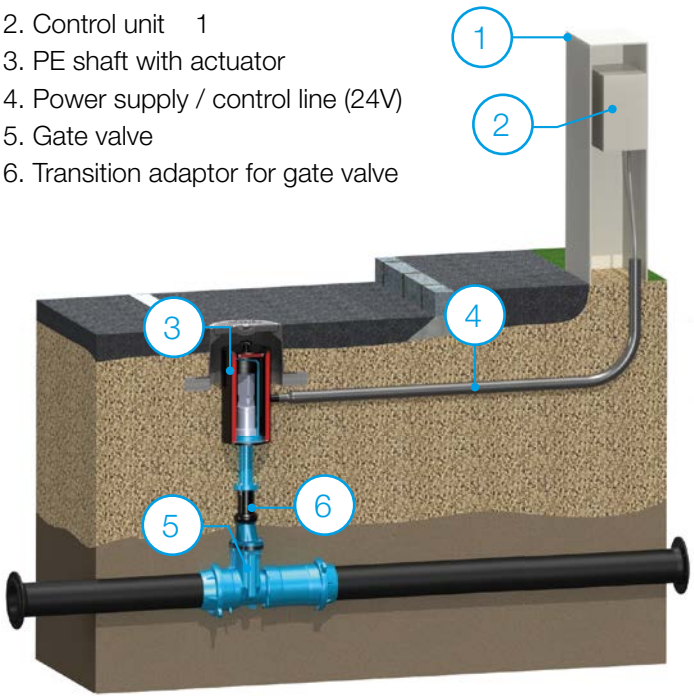
Actuator set with control for buried installation and plant installation

The actuator set consists of a water-tight PE shaft with a multiturn actuator installed inside. It is conceived for buried installation and fixedly connected with the desired valve. The related Hawle control unit is preferably accommodated externally in a meter connection column or in a nearby building.

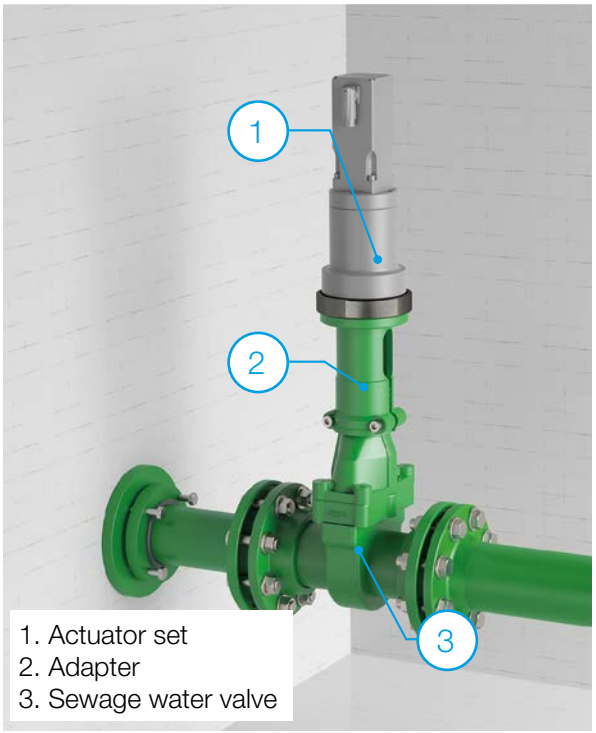
The set replaces complex manhole constructions and avoids high running costs as well as the danger associated with entering the manholes. The valve actuator set can be installed on each Hawle gate valve and each Hawle PRO® butterfly valve. For repair and maintenance work, the actuator can be removed from the PE shaft by unlocking without much effort. Minor maintenance work can be performed right from the road surface.

Installation example buried installation

1. Meter connection column
2. Control unit 1
3. PE shaft with actuator
4. Power supply / control line (24V)
5. Gate valve
6. Transition adaptor for gate valve



Installation example plant installation



1. Actuator set
2. Adapter
3. Sewage water valve