



E3 - Gate Valve

# Explanations

The scope of medium can be restricted within the product data sheets. In case of any inquiry or order point out the medium of each project. In case of any questions, don't hesitate to contact our application engineers.



potable water products



In general our products are subject to the statutory warranty period of two years from the day of delivery by Hawle. Due to the high quality of Hawle products we are able to offer you an extended warranty period of 5 years for our products. Further information for potable water products: [www.hawle.de/en/warranty-extension](http://www.hawle.de/en/warranty-extension)



further information of „10 years quality warranty“ for potable water products : [www.hawle.de/en/10-years-quality-warranty/](http://www.hawle.de/en/10-years-quality-warranty/)

# 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

In the case of Hawle potable water gate valves, shut-off is achieved by means of a resilient- seated wedge made of cast iron (GJS-400) with EDPM vulcanisation. The sealing system is likewise composed of an EPDM rubber seal.

## Design of the “E3” Gate Valve for Potable Water

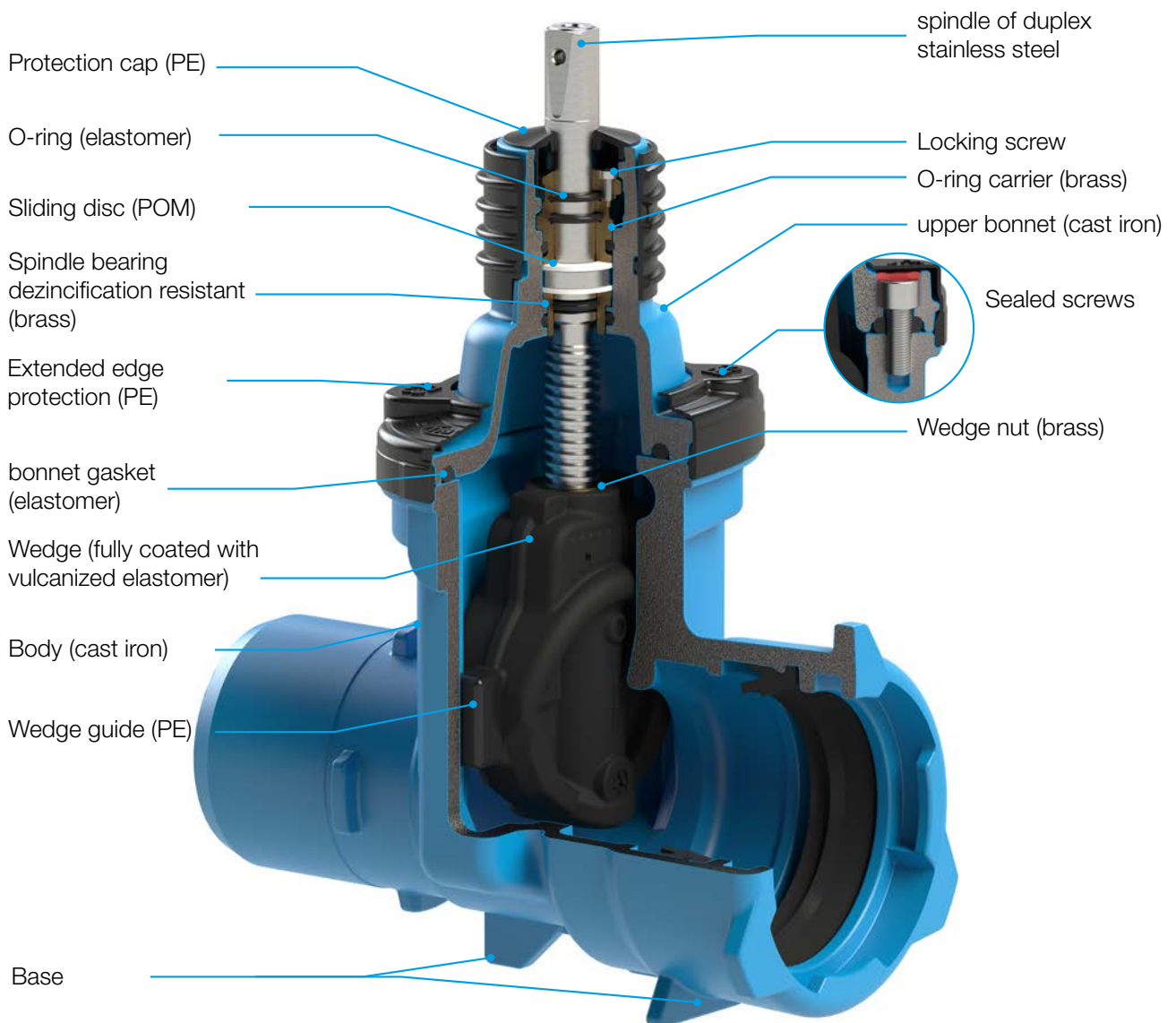
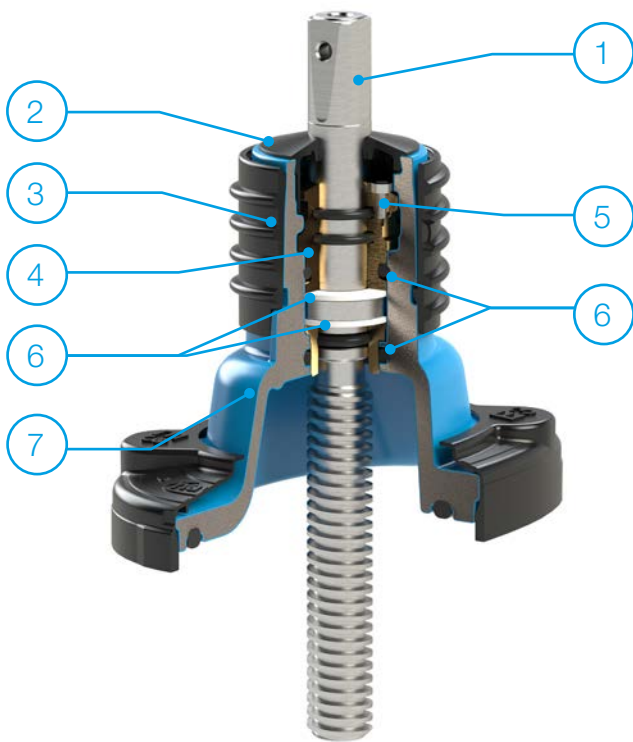


Image: Hawle Spigot end gate valve “E3”, Order No. 451-00

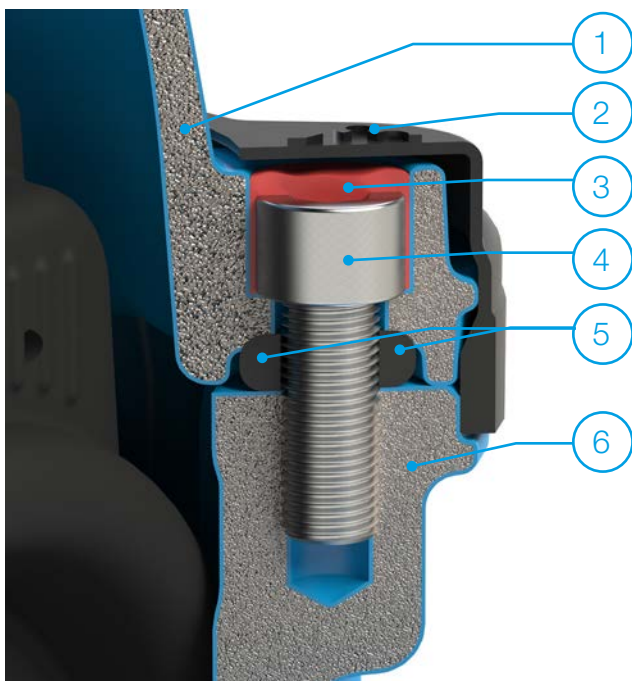
# Design of the “E3” Gate Valve for Potable Water

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



1	Spindle with large collar for minimum surface load	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 („spindle extension“ not possible)	
7	Sliding discs	POM

## Screw Connection of the Upper Bonnet and Body



1	Upper Bonnet	Cast iron
2	Extended edge protection ring	PE
3	Wax	
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 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 with shock-absorbing elastomeric layer between wedge and wedge nut:

- Flexible
- Vibration damping
- Free of play

Wedge nut thread length:  
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 made of durable plastic
- O-ring carrier with double bayonet connection
- 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, DIN EN 13774:2003-07 and ISO 7259
- Smooth operation due to centrally located wedge guide
- 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 stearin 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 stainless steel with rolled, burnished thread
Spindle sealing:	Replaceable brass O-ring carrier acc. to ISO 7259 - 1998
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*

\* Depending on nominal diameter and order number

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

DN	50	65	80	100	125	150	200	250	300
Revolutions	10	13	16	20	25	30	34	42	50
Lift (mm)	50	65	80	100	125	150	200	250	300
Max. closing torque at 16 bar (Nm)	30	35	35	40	50	50	70	90	120
Spindle square (mm)	14,3	17,3	17,3	19,3	19,3	19,3	24,3	27,3	27,3



# BAIO® System: E3 - Gate Valve for Potable Water



437-00  
Combi-T gate valve „E3“ - BAIO® system



438-00  
Combi III gate valve „E3“ - BAIO® system



439-00  
Combi IV gate valve „E3“ - BAIO® system




450-00  
Gate valve „E3“ with sockets - BAIO® system



451-00  
Gate valve „E3“ with spigot/socket - BAIO® system

## max. operating pressure

No.:	description		dimension
437-00	Combi-T gate valve „E3“	16 bar	DN 80 - DN 200
438-00	Combi III gate valve „E3“	16 bar	DN 100 - DN 200; *2 x ZAK 46; *2 x female thread 1 1/2"; **BAIO® DN 80; **Flange DN 100 (*vertical outlet, **upper outlet)
439-00	Combi IV gate valve	16 bar	DN 100 - DN 200 vertical outlet: BAIO® DN 80 or Flange DN 100
450-00	Gate valve „E3“ with sockets	16 bar	DN 80 - DN 300
451-00	Gate valve „E3“ with spigot/socket	16 bar	DN 80 - DN 300

# Flange System: E3 - Gate Valve for Potable Water



400-00  
Flanged gate valve „E3“, short



401-00  
Flanged gate valve „E3“ PN 25,  
short



411-00  
Exchange gate valve with loose  
flanges, long



412-00  
Exchange gate valve „E3“ with  
loose flanges, short




413-00  
Exchange gate valve „E3“,  
face-to-face dimension 600 mm



415-00  
Reducing gate valve „E3“

## max. operating pressure

No.:	description		dimension
400-00	Flanged gate valve „E3“, short	16 bar	DN 20 - DN 600
401-00	Flanged gate valve „E3“ PN 25, short	25 bar	DN 50 - DN 200
411-00	Exchange gate valve with loose flanges, long	16 bar	DN 40 - DN 400
412-00	Exchange gate valve „E3“ with loose flanges, short	16 bar	DN 80 - DN 200
413-00	Exchange gate valve „E3“, face-to-face dimension 600 mm	16 bar	DN 80 - DN 200
415-00	Reducing gate valve „E3“	16 bar	DN 65 - DN 300



# Flange System: E3 - Gate Valve for Potable Water



434-00  
Combi-T gate valve „E3“,  
flanged ends



442-01  
Combi-IV gate valve „WS“ with  
vertical reducing flange



442-02  
Combi-IV gate valve „WS/T“ with  
double flanged taper



445-00  
Combi-III gate valve with flanges




447-00  
Combi-III gate valve „WS“ with  
vertical reducing flange



447-01  
Combi-III gate valve „WS/T“ with  
double flanged taper

## max. operating pressure

No.:	description		dimension
434-00	Combi-T gate valve „E3“, flanged ends	16 bar	DN 80 - DN 200
442-01	Combi-IV gate valve „WS“ with vertical reducing flange	16 bar	DN 65 - DN 200
442-02	Combi-IV gate valve „WS/T“ with double flanged taper	16 bar	DN 65 - DN 200
445-00	Combi-III gate valve with flanges	16 bar	DN 80 - DN 200
447-00	Combi-III gate valve „WS“ with vertical reducing flange	16 bar	DN 65 - DN 200
447-01	Combi-III gate valve „WS/T“ with double flanged taper	16 bar	DN 65 - DN 200

# Flange System: E3 - Gate Valve for Potable Water



**448-00**  
Combi-II gate valve „WS“ with vertical reducing flange



**448-01**  
Combi-II gate valve „WS/T“ with double flanged taper




**470-00**  
Flanged gate valve „E3“, long



**471-00**  
Gate valve „E3“ PN 25, long

## max. operating pressure

No.:	description		dimension
448-00	Combi-II gate valve „WS“ with vertical reducing flange	16 bar	DN 65 - DN 200
448-01	Combi-II gate valve „WS/T“ with double flanged taper	16 bar	DN 65 - DN 200
470-00	Flanged gate valve „E3“, long	16 bar	DN 50 - DN 300
471-00	Gate valve „E3“ PN 25, long	25 bar	DN 150 - DN 300

# PE Fusion End Gate Valve: E3 - Gate Valve for Potable Water



405-00  
Gate valve „E3“ with PE fusion ends



409-00  
Gate valve „E3“ flange/PE fusion end




453-00  
Gate valve „E3“ type D with PE fusion ends



454-00  
Gate valve „E3“ with steel welding ends

## max. operating pressure

No.:	description		dimension
405-00	Gate valve „E3“ with PE fusion ends	16 bar	DN 50 - DN 200
409-00	Gate valve „E3“ flange/PE fusion end	16 bar	DN 50 - DN 200
453-00	Gate valve „E3“ type D with PE fusion ends	16 bar	DN 80 - DN 200
454-00	Gate valve „E3“ with steel welding ends	16 bar	DN 80 - DN 200



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