Engineering for a better world.

GEA.com

GEA FLOWVENT

Hygienic Seat Valves

Legal notice
Publication date: July 2025

GEA Tuchenhagen GmbH
Am Industriepark 2–10, 21514 Büchen, Germany

CONTENTS

LET IT FLOW.

GEA FLOWVENT valve unit

GEA FLOWVENT Valve Family

GEA FLOWVENT – a high-performance valve family to make your process flow
GEA FLOWVENT is a valve family designed by GEA to provide dependable performance with unprecedented accessibility and ease for processing systems in the food, dairy, brewing and beverage industries. Plant operators benefit from enhanced planning flexibility and a secure flow of their processes and products.

Easy to procure, set up, operate and maintain
The GEA FLOWVENT valve family has been developed from the core of experience and competence at GEA in Germany. A sophisticated local production and service concept adds the speedy delivery options and expert service offers at close range. This supports plant operators in planning, procuring and operating high-performance systems without losing time in fast-acting markets.

Designing and setting up stable processing systems is easy with GEA FLOWVENT. Four valve models include a full selection of shut-off, divert, mixproof and double-seal valve units for all important applications. Valve setup, operation and maintenance can be done with minimum preparation and training and without special tools.

GEA-engineered in Germany, expertly produced in China and India
90 years of flow component experience at GEA have gone into the GEA FLOWVENT valve design, ensuring high performance and reliability of each valve model. Every GEA FLOWVENT valve represents GEA's extensive hygienic valve expertise, from the proven sealing concept to the easy-to-clean design of flow paths and surfaces.

GEA experts have established facilities for local manufacturing, service and support that fulfill global and regional standards in the APAC region. This global-local concept offers the best of both worlds: peak engineering and lowest costs for procurement, setup and service.

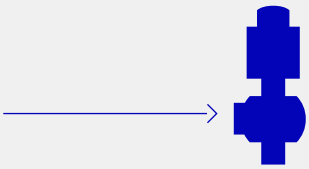
The GEA FLOWVENT valve unit
Proven valve technology comes together with advanced digital control functions. All mechanical and digital components together form a coordinated valve unit, optimized to increase the functionality, safety and cost efficiency of valve operation and to provide the entry gate to automation of a process plant.

Easy project handling for plant suppliers
The GEA FLOWVENT range for all important functions provides fast-working solution builders with planning flexibility, fast and easy installation and a trouble-free start-up phase (automatic setup). In case of special requirements, these valve units work efficiently together with the GEA VARIVENT valve family.

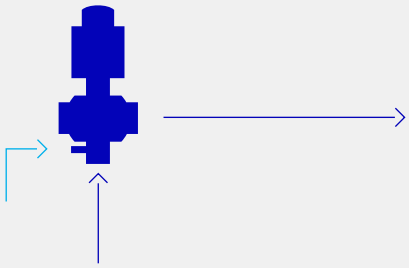
GEA FLOWVENT valve units follow the strict GEA hygienic design guidelines and hold all relevant certificates for the APAC markets. The valve series meets local requirements as well as local price and delivery time standards – with no compromise regarding quality and reliability. Thanks to fast delivery and effective support logistics, time-to-market of new projects is significantly reduced.

Four powerful valve types for all important applications
The four GEA FLOWVENT valve models are characterized by their ease of operation. These valves cover all important applications and can be serviced with minimum effort and storage requirements. Their modular construction concept means fewer, easier-to-store spare parts.

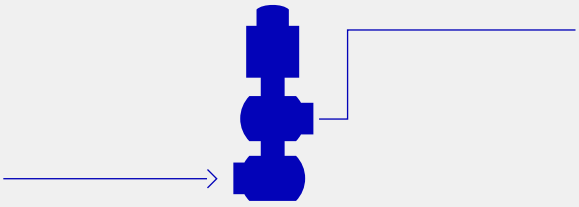
GEA FLOWVENT Shut-off Valve
The key to guiding your process flow: GEA FLOWVENT Shut-off Valves are used for easy shut-off solutions in hygienic applications.



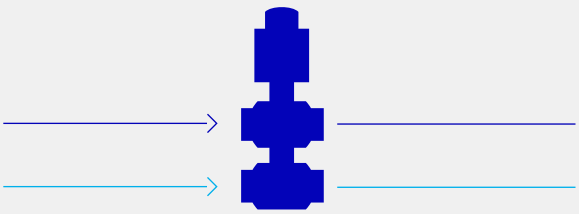
GEA FLOWVENT Double-seal Valve
The easy solution for CIP feeds: GEA FLOWVENT Double-seal Valves can be applied as efficient alternatives for secure separation of incompatible products within CIP systems or gas blocks.



GEA FLOWVENT Divert Valve
The master tool for all changeover functions: GEA FLOWVENT Divert Valves are used for easy changeover solutions in hygienic applications.



GEA FLOWVENT Mixproof Valve
The key state-of-the-art for your secure applications: GEA FLOWVENT Mixproof Valves are used for the hygienically safe shut-off of incompatible media at pipe intersections.



GEA FLOWVENT Design Single-seat Valves

- GEA FLOWVENT Shut-off Valve
- GEA FLOWVENT Divert Valve
- GEA FLOWVENT Double-Seal Valve

1 GEA FLOWVENT Control Top
- With connections for receiving control air and electric signals

2 Actuator
- Pneumatic actuator with compressed air chamber and springs in order to fulfill the main stroke of the valve disc
- Different air & product pressure setups available
- Using external air guidance for receiving air pressure from control top
- External air connection guides air from the control top to the actuator
- Non-actuated position (NC/NO) for divert valves can be easily changed by simply turning around the actuator
- Robust, maintenance-free design, based on GEA standards

3 Lantern
- For visual inspection of the valve function and stem gasket
- Preventing heat transfer from “product area” (housing) to “non-product area” (actuator) of the valve
- Design focused on preventing injuries

4 Valve disc
- “Axial sealed” valve disc, equipped with shaped seat gasket Y-ring
- Defined compression of gasket leads to reduced contamination risk since there is no rolling effect of the gasket (like for O-rings) as well as higher stability of the gasket in case of water hammers
- Easy installation since no special gasket insertion tool is required

5 Housing
- Robust design for connecting the valve to the pipeline without dead ends
- Suitable for pressure rating PN10
- Divert valve: Clamped housing connection for ensuring easy serviceability
- Hygienic design enabling easy & efficient cleaning

GEA FLOWVENT Design Double-seat Valves

- GEA FLOWVENT Mixproof Valve

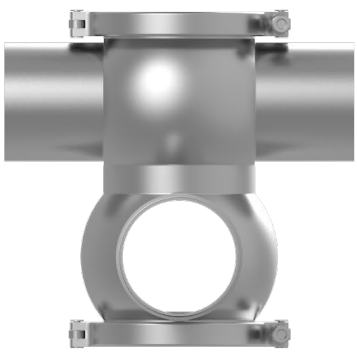
1

2

3

4

5



1 GEA FLOWVENT Control Top
- With connections for receiving control air and electric signals

2 Actuator
- Combined main and lifting actuator with compressed air chamber and springs in order to fulfill the main stroke as well as lifting of the valve discs
- Different air & product pressure setups available
- Robust, maintenance-free design of main actuator
- Integrated, maintainable lifting actuator for realizing lifting function to ensure proper cleaning of the seat gasket area

3 Lantern
- For visual inspection of the valve function and stem gasket
- Preventing heat transfer from “product area” (housing) to “non-product area” (actuator) of the valve
- Design focused on preventing injuries
- integrated within actuator to reduce interfaces

4 Valve insert
- Consisting of double-balanced valve disc for opening and closing the valve whilst ensuring high water hammer safety
- Upper ‚axial sealed‘ valve disc, equipped with shaped gasket Y-Ring
- Lower ‚radial sealed‘ valve disc, equipped with shaped gasket
- Defined compression of gasket leads to reduced contamination risk since there is no rolling effect of the gasket (like for O-rings)
- No switching leakage because of ‚radial sealed‘ design
- Easy installation since there is no special gasket insertion tool required
- Balancer offering possibility to realize reverse flow (from top to bottom)

5 Housing
- Suitable for pressure rating PN10
- Robust design for connecting the valve to the pipeline without dead ends
- Hygienic design enabling easy & efficient cleaning

Valve Automation Overview

Valve automation for increased process reliability, efficiency and flexibility

GEA's hygienic valve technology sets the standards for reliable, safe and permanently efficient liquid processes. The perfect addition to this are leading-edge control and automation options that enable operators to achieve optimum control and monitoring of the valve and realize state-of-the-art, highly flexible operating concepts.

Safely & exactly executed process with state-of-the art control tops

The degree of automation in production systems in the food, dairy, pharma and beverage industries is ever on the rise. The digital GEA FLOWVENT Control Top on every GEA FLOWVENT valve is a key component to achieve successful automation concepts. Via the control top and the plant's Process Logic Controller (PLC), all valve functions in the process line are monitored and optimized to ensure exact processing operations and results.

The GEA FLOWVENT Control Top concept

The state-of-the-art GEA FLOWVENT Control Top receives and processes digital electronic signals from the PLC for opening and closing the valve. Up to 3 integrated solenoid valves control the valve actuators using efficiently managed control air by the shortest route to avoid switching delays and reduce air consumption.

A self-adjusting contactless path measuring system provides two feedback signals at any time. GEA FLOWVENT Control Tops are available with 24VDC & AS-interface communication. Apart from the single digital communication line to the PLC for control and feedback, the control tops require only one electrical supply line and one standard pneumatical supply line. Standardized M12 plugs provide for easy and secure electrical connections (optional with cable gland and spring-loaded-terminals).

The control tops offer resistance against strong vibration and shock conditions (10 g). High protection against water and dust enables operation even under more difficult environmental conditions.

Faster and simpler valve commissioning
GEA's state-of-the-art control top technology means you can set-up each installed GEA FLOWVENT valve unit automatically within seconds. No special training and no additional tools are required!

For easiest flow: air – power – go!
After installing power and air connections, the electronic circuit automatically detects the opened & closed valve positions.

GEA FLOWVENT Control Top at a glance

Perfect fit
- Proven valve technology together with advanced digital control functions
- Only one manufacturer for valve technology and control top
- Only one service contact

GEA performance standards
- Proven operational safety, functionality and reliability
- Minimized electrical and air consumption
- **Easy installation**
- Only one electrical and pneumatic supply line per valve unit
- Only one central cable to PLC (24VDC)

Easy SETUP
- Self-learning of opened & closed valve position and fixed tolerance ranges
- No manipulation possible
- Visualization on site

Reduced air piping
- Fast reaction time (short air hose between solenoid valves and actuator)
- Central air supply
- Saving air consumption

GEA FLOWVENT Technical Characteristics

GEA FLOWVENT valve units follow the strict GEA hygienic design guidelines and therefore comply with all relevant certificates in this regard. Every detail, from the proven sealing concept to the easy-to-clean design of flow paths and surfaces, represents the best in GEA hygienic valve technology.

Available sizes for valve series

Nominal width	DN	25	40	50	65	80	100	125
	OD	1"	1 ½"	2"	2 ½"	3"	4"	
Valve type								
GEA FLOWVENT Shut-off Valve		•	•	•	•	•	•	
GEA FLOWVENT Divert Valve		•	•	•	•	•	•	
GEA FLOWVENT Mixproof Valve			•	•	•	•	•	•
GEA FLOWVENT Double-seal Valve		•	•	•	•	•	•	

Pipe classes

Standard GEA FLOWVENT valve housings are supplied with welding ends. The dimensions of the welding ends comply with the following standards:

Metric		Inch	
DIN	Outside diamter acc. to DIN 11866, series A	OD	Outside diameter based on ASME-BPE-a-2004, DIN 11866, series C
25	29.0 × 1.50	1”	25.4 × 1.65
40	41.0 × 1.50	1 ½”	38.1 × 1.65
50	53.0 × 1.50	2”	50.8 × 1.65
65	70.0 × 2.00	2 ½”	63.5 × 1.65
80	85.0 × 2.00	3”	76.2 × 1.65
100	104.0 × 2.00	4”	101.6 × 2.11
125	129.0 × 2.00		

Materials

The hygienic quality materials conform to all local and international standards and certifications. They ensure maximum hygienic safety, long service life and minimum maintenance effort.

Components in contact with the product are produced from AISI 316L, while those not in contact with the product are made from AISI 304.

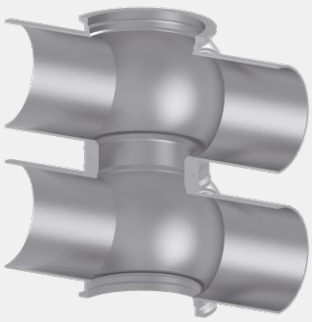
For detailed information about the properties of the materials, refer to the material properties table.

Surfaces

GEA uses advanced manufacturing technologies to ensures-mooth, perfectly cleanable surfaces according to the strictest hygienic standards.

The standard for surfaces in contact with the product is:
$R_a \leq 0.8$ µm

Surfaces not in contact with the product (housing) are matt blasted as standard.



Solid housing connection

Housing combinations

For FLOWVENT Mixproof Valves, solid housing connections are available.

The advantage of the solid housing connection is that no seals at the seat ring are needed. As a result, the service work during maintenance of the valves is reduced.

Sealing according to the GEA FLOWVENT principle

GEA FLOWVENT is characterized by a special sealing technology. A metallic stop results in defined seal deformation, ensuring long seal life. This allows for more time to pass between required maintenance services with the process system, thereby allowing for continuous production and shorter downtimes. The special groove shape in the valve disc makes sure the seal has a secure hold at all times up to a pressure differential of 10 bar during switching. The seal geometry was optimized using FEM calculations.

Seals
Long operating time
Water content
Only one manufacturer for valve technology and control top
2 gasket materials available, both FDA conform • EPDM • FKM

Seal materials

Seals in contact with the product are EPDM (standard) and FKM. NBR material is used for seals not in contact with the product. EPDM will be supplied if no seal material is specified in the orders.

The sealings are in accordance with FOOD and DRUG (FDA) guidelines 21 CFR Part 177.2600 or 21 CFR 177.1550: “Rubber articles intended for repeated use”.

The resistance of the seal material depends on the nature and temperature of the product being transported. The contact time with certain products can negatively affect the service life of seals.

For detailed information about the properties of the seal materials, refer to the seal material properties table.

Test report and inspection certificate

Optionally, the valve housings and internal components can be supplied with a test report 2.2 or an inspection certificate 3.1 acc. to EN 10204.

If 3.1 inspection certificates are required, it has to be specified when placing the order.

GEA FLOWVENT Technical Characteristics

Ambient conditions

Whether hot or cold, low or high pressure: GEA FLOWVENT is made for all common processes and applications.

Ambient temperatures	
GEA FLOWVENT without control top	0 °C to 45 °C
	32 °F to 113 °F

The valves can also be used outdoors. However, in these application areas they must be protected against icing, or else de-iced before switching or lifting. In addition, the particular requirements on the control and feedback system must be taken into account in this case.

The product or operating temperature depends on the seal material and can be seen in the seal material properties table.

Air supply

The valve actuators are configured for operation with min. 5 bar and max. 8 bar air pressure. The standard actuator sizes are configured for an air supply pressure of min. 6 bar (with a product pressure of 5 bar). The quality of the air supply must meet the requirements of ISO 8573-1:2010.

For detailed information regarding available pressure setups, please refer to the actuator selection tables within chapter 6.

ISO 8573-1:2010	
Solid content	Quality class 6
	Particle size max. 5 µm
	Particle density max. 5 mg/m³
Water content	Quality class 4
	Max. dew point 3 °C
	A correspondingly different dew point is required for applications at high altitude or with low ambient temperatures
Oil content	Quality class 3
	Max. 1 mg oil per 1 m³ air, preferably oil-free

Actuator

GEA FLOWVENT valves are supplied with a pneumatic actuator with spring return.

The pneumatic actuators are configured for long-term operation, and are maintenance-free.

Operating pressure

The valves can be operated down to a negative pressure of –0.95 bar. As standard, the valves are configured for a product pressure up to max. 5 bar (all-round). The maximum product pressure for which the standard valves can be configured is 10 bar.

Installation

GEA FLOWVENT valves must be installed without stresses. Lateral forces such as expansion of the pipelines due to heat cannot be compensated in the valve, as a result valve damages are possible. In such cases, we recommend taking measures to compensate for the expansion, such as by using the VARICOMP® expansion compensator.

The required clearance for installing and removing a GEA FLOWVENT valve is specified in the particular technical data and dimensional sheet.

Recommended flow direction

It is recommended to close the valves against the flow direction to avoid water hammers.

Material properties

					Main alloy elements in % by mass			
Material number	Short name			PREN***	Cr (Chrome)	Ni (Nickel)	Mo (Molybdenum)	C max. (Carbon)
AISI 304*	X5CrNi18-10	BS 304S15	SS2332	18	17.5–19.5	8.0–10.5	–	0.07
316L**	X2 CrNiMo 17-12-2	BS 316S11	SS2348	25	16.5–18.5	10.0–13.0	2.0–2.5	0.03

* Standard material for components not in contact with the product
** Standard material for components in contact with the product
*** Pitting Resistance Equivalent Number = % Cr + 3.3 × (% Mo + 0.5 W) + 20 N

Seal material properties

Seal material			**EPDM**	**FKM**
General application temperature*			−40 to 135 °C −40 to 275 °F	−10 to 200 °C 14 to 392 °F
Medium	Concentration	At permitted operating temperature		
Alkali	≤ 3 %	up to 80 °C	+	o
	≤ 5 %	up to 40 °C	+	o
	≤ 5 %	up to 80 °C	+	–
	> 5 %		o	–
Inorganic acid**	≤ 3 %	up to 80 °C	+	+
	≤ 5 %	up to 80 °C	o	+
	> 5 %	up to 100 °C	–	+
Water		up to 100 °C	+	+
Steam		up to 135 °C	+	o
Steam, approx. 30 min		up to 150 °C	+	o
Hydrocarbons / fuels			–	+
Products containing grease	≤ 35 %		+	+
	> 35 %		–	+
Oils			–	+

+ = Good resistance
o = Reduced service life
– = Not resistant

Other applications on request
* Depending on the installation situation
** Inorganic acids are, for example, hydrochloric acid, nitric acid, sulphuric acid

GEA VARIVENT
Hygienic
seat valves

GEA FLOWVENT
Hygienic
seat valves

GEA
Hygienic
butterfly valves

GEA VARICOMP
Hygienic expansion
compensators

GEA VARITOP
Hygienic tank
safety systems

GEA VARINLINE
Hygienic process
connections

GEA VARIVENT®
Hygienic special application valves

GEA VARICOVER®
Hygienic product recovery systems

GEA VARIVENT®
Hygienic valves for the U.S. dairy market

More Hygienic Valve Technology

In addition to GEA FLOWVENT we offer a wide range of hygienic valves meeting the full demands of our users, regardless of the application or production requirements.

Efficiency delivering perfect results
Hygienic valves from GEA form the core component of matrix-piped process plants. Thanks to a pioneering valve concept that sets standards for its flexibility, as well as the latest control and automation functions, our valves offer manufacturers maximum product safety and process reliability.

All GEA hygienic valves are designed to be efficient and cost-effective for their particular applications, leading to sustainable operation and considerable savings potential.

GEA valve technology controls flow processes
Our hygienic valve technology ensures safe, efficient processes wherever sensitive liquid products are manufactured. In food production, the classic application areas range from milk processing (milk, yogurt, cheese ...) to liquid foods (sauces and pastes, instant products, baby food ...) and on to the brewing of beer and production of beverages. Further significant areas are biotechnology and pharmaceuticals, as well as care products and cleaning agents / detergents.

Regardless of the sector, the application or production specifications: Our hygienic valve technology is sure to meet the demands of our users.

Hygienic solutions for every task
Additional components in our portfolio are available to optimize the design of any process plant – from pigging systems for the recovery of valuable products, process connections, and expansion compensators for offsetting thermal stress, to tank safety systems for securing and cleaning tanks and containers.

Supported by our Research and Development Department we regularly launch new, technologically mature products on the markets. Our customers have high standards, which we continuously and systematically meet.

Valve Selection Matrix

Catalogs Hygienic Valve Technology	**GEA FLOWVENT** seat valves
Catalogs Hygienic Pump Technology	GEA VARIVENT® seat valves
Catalogs Aseptic Valve Technology	GEA Butterfly valves
Catalogs Cleaning Technology	GEA VARIVENT® special application valves
	GEA VARITOP® tank safety systems
	GEA VARINLINE® / GEA VARICOMP® process connections and expansion compensators
	GEA VARICOVER® product recovery systems
	GEA Valve automation – control and feedback systems


Shut-off Valve
1
Divert Valve
2
Mixproof Valve
3
Double-seal Valve
4
Valve Automation
5
Options
6
Service
7

1 SHUT-OFF VALVE

GEA FLOWVENT

Overview

The key to guiding your process flow: GEA FLOWVENT Shut-off Valves are used for easy shut-off solutions in hygienic applications.

Function
A single seal separates the pipelines from one another.

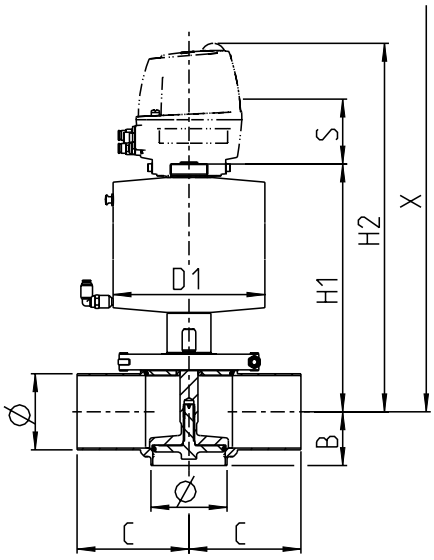
Application
Shut-off valves are ideal for use e.g. as drain valves or to shut off a bypass line. Often these valve types are also used as dosing valves.

GEA FLOWVENT
Shut-off Valve Type SO

Housing combinations

L

T



Technical data of the standard version

Recommended flow direction	Against the closing direction
Material in contact with the product	AISI 316L
Material not in contact with the product	AISI 304
Seal material in contact with the product	EPDM, FKM
Ambient temperature	0 to 45 °C
Air supply pressure	6 bar (87 psi)
Product pressure	5 bar (73 psi)
Surface in contact with the product	R_a ≤ 0.8 µm
External housing surface	Matt
Control and feedback system	GEA FLOWVENT Control Top
Actuator type	Pneumatic actuator air / spring
Connection fittings	Welding end
Identification	Adhesive ID tag
Marking / Certificates	CE* FDA GB

*If ATEX is required.

	Pipe	Housing		Actuator	Dimensions				Valve
Nominal width	Ø [mm]	B [mm]	C [mm]	D1 [mm]	H1 [mm]	H2 [mm]	Clearance X [mm]	Stroke S [mm]	Weight [kg]
DN 25	29.0 × 1.50	31.0	90	89	245	350	423	14.0	6
DN 40	41.0 × 1.50	39.0	90	89	237	356	427	28.0	6
DN 50	53.0 × 1.50	41.0	90	109	243	362	445	28.0	7
DN 65	70.0 × 2.00	52.0	125	135	251	370	472	28.0	10
DN 80	85.0 × 2.00	60.0	125	170	294	414	530	28.0	15
DN 100	104.0 × 2.00	70.0	125	170	354	473	609	28.0	18
OD 1"	25.4 × 1.65	29.0	90	89	247	348	421	10.0	6
OD 1 ½"	38.1 × 1.65	39.0	90	89	238	355	425	25.0	6
OD 2"	50.8 × 1.65	42.0	90	109	244	361	444	25.0	7
OD 2 ½"	63.5 × 1.65	54.0	125	135	254	367	469	22.0	10
OD 3"	76.2 × 1.65	55.5	125	170	298	410	526	20.0	15
OD 4"	101.6 × 2.11	69.0	125	170	355	472	608	25.5	19

Position	Description of the order code for the standard version	
	Valve	
1	Valve type	
	SO	GEA FLOWVENT Shut-off Valve
2	Housing combinations	
	L T	
3	Nominal width (upper housing / lower housing)	
	DN 25	OD 1"
	DN 40	OD 1 ½"
	DN 50	OD 2"
	DN 65	OD 2 ½"
	DN 80	OD 3"
	DN 100	OD 4"
4	Non-actuated position	
	NC	Normally closed
	NO	Normally open
5	Actuator type (Please state your air supply and product pressure)*	
		Air supply pressure (5–8 bar selectable) / Product pressure (4–10 bar selectable)
		Default setting: 6 / 5 bar
6	Air connection	
	M	Metric air connection
	I	Inch air connection
7	Gasket material	
	E	EPDM
	F	FKM
+		
	Automation (If not specified differently, control top will be recommended by default)	
1	Automation type	
	CT	GEA FLOWVENT Control Top
	–	Without GEA FLOWVENT Control Top**
2	Communication type	
	24V	24VDC (PNP) communication (max. 200 mA)
	ASi	AS-interface BUS communication (max. 150 mA)
3	Solenoid valves	
	0	Without solenoid valve
	1	1 solenoid valve (NC)
	2	1 NC and 1 NO solenoid valve (only relevant when air support is needed)
4	Air connection	
	M	Metric air connection
	I	Inch air connection
5	Electrical connection	
	C	Connector M12 (24VDC = 5-pin M12 connector / AS-i = 5-pin M12 connector)
	T	Terminal (M20×1.5 cable gland and internal spring loaded terminals; only available for 24V version)
/		
	Options (multiple selection possible)	
6	A	ASi-connection box, with cable (1 m) and M12 connection socket
	S	Supply air throttle; regulates the activation performance of the valve
	E	Exhaust air throttle; regulates the deactivation performance of the valve
	5	5-pin connection socket

The code is composed as following, depending on the chosen configuration:

Position	1		2		3		4		5		6		7		1		2		3		4		5		6		
Code	SO	-		-		-		-		-		-		+	CT	-		-		-		-		/			

For order codes differing from the standard version, please refer to section 6.

* The corresponding actuator will be selected by GEA and shown in the final order code specification. See Options section for more information.
** If no control top is chosen, please refer to the chapter option for specifying the positions 2 to 4.

2 DIVERT VALVE

GEA FLOWVENT

Overview

The master tool for all changeover functions: GEA FLOWVENT Divert Valves are used for easy changeover solutions in hygienic applications.

Function
A single seal separates the pipelines from one another.

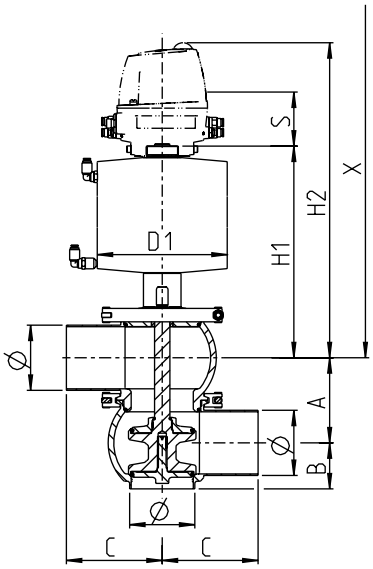
Application
Divert valves are ideal for use in CIP supply and return lines. A typical application can also be found at the end of a valve block where the valves are installed as changeover valves between the process line and the drainage (e.g. during pushing out).

GEA FLOWVENT Divert Valve Type DI Single-seat Valve

Housing combinations

P

K



Technical data of the standard version	
Recommended flow direction	Against the closing direction
Material in contact with the product	AISI 316L
Material not in contact with the product	AISI 304
Seal material in contact with the product	EPDM, FKM
Ambient temperature	0 to 45 °C
Air supply pressure	6 bar (87 psi)
Product pressure	5 bar (73 psi)
Surface in contact with the product	R_a ≤ 0.8 µm
External housing surface	Matt
Control and feedback system	GEA FLOWVENT Control Top
Actuator type	Pneumatic actuator air / spring
Connection fittings	Welding end
Identification	Adhesive ID tag
Valve seat version	Clamped seat ring
Marking / Certificates	CE* FDA GB

*If ATEX is required.

	Pipe			Housing	Actuator			Dimensions		Valve
Nominal width	Ø [mm]	A [mm]	B [mm]	C [mm]	D1 [mm]	H1 [mm]	H2 [mm]	Clearance X [mm]	Stroke S [mm]	Weight [kg]
DN 25	29.0 × 1.50	50	31.0	90	89	243	350	421	13	7
DN 40	41.0 × 1.50	62	39.0	90	109	237	356	427	25	8
DN 50	53.0 × 1.50	74	41.0	90	135	243	362	445	25	10
DN 65	70.0 × 2.00	96	52.0	125	170	251	370	472	25	17
DN 80	85.0 × 2.00	111	60.0	125	170	294	414	530	25	19
DN 100	104.0 × 2.00	130	70.0	125	170	354	473	609	25	26
OD 1"	25.4 × 1.65	46	29.0	90	89	245	348	419	9	6
OD 1 ½"	38.1 × 1.65	59	39.0	90	109	238	355	425	22	8
OD 2"	50.8 × 1.65	72	42.0	90	135	242	361	441	25	10
OD 2 ½"	63.5 × 1.65	90	54.0	125	170	248	367	463	25	17
OD 3"	76.2 × 1.65	103	55.5	125	170	290	410	518	25	19
OD 4"	101.6 × 2.11	128	69.0	125	210	353	472	605	25	25

Position	Description of the order code for the standard version	
	Valve	
1	Valve type	
	DI	GEA FLOWVENT Divert Valve
2	Housing combinations	
	P K	
3	Nominal width (upper housing / lower housing)	
	DN 25	OD 1"
	DN 40	OD 1 ½"
	DN 50	OD 2"
	DN 65	OD 2 ½"
	DN 80	OD 3"
	DN 100	OD 4"
4	Non-actuated position	
	NC	Normally closed
	NO	Normally open
5	Actuator type (Please state your air supply and product pressure)*	
	... / ...	Air supply pressure (5–8 bar selectable) / Product pressure (4–10 bar selectable)
		Default setting: 6 / 5 bar
6	External air connection	
	M	Metric air connection
	I	Inch air connection
7	Gasket material	
	E	EPDM
	F	FKM
+		
	Automation (If not specified differently, control top will be recommended by default)	
1	Automation type	
	CT	GEA FLOWVENT Control Top
	–	Without GEA FLOWVENT Control Top**
2	Communication type	
	24V	24VDC (PNP) communication (max. 200 mA)
	ASi	AS-interface BUS communication (max. 150 mA)
3	Solenoid valves	
	0	Without solenoid valve
	1	1 solenoid valve (NC)
	2	1 NC and 1 NO solenoid valve (only relevant when air support is needed)
4	Air connection	
	M	Metric air connection
	I	Inch air connection
5	Electrical connection	
	C	Connector M12 (24VDC = 5-pin M12 connector / AS-i = 5-pin M12 connector)
	T	Terminal (M20×1.5 cable gland and internal spring loaded terminals; only available for 24V version)
/		
	Options (multiple selection possible)	
6	A	ASi-connection box, with cable (1 m) and M12 connection socket
	S	Supply air throttle; regulates the activation performance of the valve
	E	Exhaust air throttle; regulates the deactivation performance of the valve
	5	5-pin connection socket

The code is composed as following, depending on the chosen configuration:

Position	1		2		3		4		5		6		7		1		2		3		4		5		6			
Code	DI	-		-		-		-		-		-		+	CT	-		-		-		-		/				

For order codes differing from the standard version, please refer to section 6.

* The corresponding actuator will be selected by GEA and shown in the final order code specification. See Options section for more information.
** If no control top is chosen, please refer to the chapter option for specifying the positions 2 to 4.

3 MIXPROOF VALVE

GEA FLOWVENT

Overview

State-of-the-art for your secure applications: GEA FLOWVENT Mixproof Valves are used for the hygienically safe shut-off of incompatible media at pipe intersections.

Function
In the closed state of the valve (non-actuated position) there are always two seals between the separate pipelines. If one seal should become defective, the resulting leakage can drain from the leakage outlet to the periphery in a targeted manner without mixing with the product in the second pipeline. Thanks to this, no mixing occurs between the media in two pipelines.

Application
Hygienic applications in dairy before heat-treatment or e.g. in fermentation and storage tank farms in the brewing and beverage industries.

GEA FLOWVENT
Mixproof Valve Type MP

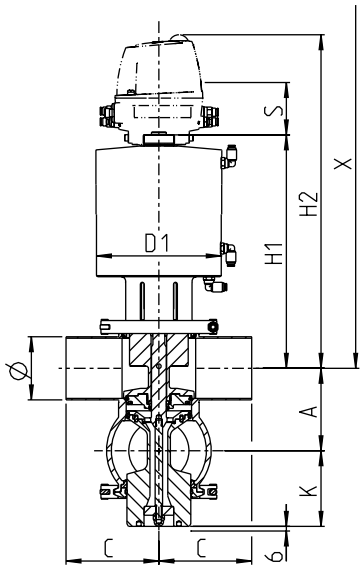
Housing combinations

A

B

C

E



Technical data of the standard version	
Recommended flow direction	Against the closing direction
Material in contact with the product	AISI 316L
Material not in contact with the product	AISI 304
Seal material in contact with the product	EPDM, FKM
Ambient temperature	0 to 45 °C
Air supply pressure	6 bar (87 psi)
Product pressure	5 bar (73 psi)
Surface in contact with the product	$R_a \leq 0.8$ µm
External housing surface	Matt
Control and feedback system	GEA FLOWVENT Control Top
Actuator type	Pneumatic actuator air / spring
Connection fittings	Welding end
Identification	Adhesive ID tag
Valve seat version	Welded seat ring
Marking / Certificates	CE* FDA GB

*If ATEX is required.

	Pipe			Housing	Actuator			Dimensions		Valve
Nominal width	Ø [mm]	A [mm]	K [mm]	C [mm]	D1 [mm]	H1 [mm]	H2 [mm]	Clearance X [mm]	Stroke S [mm]	Weight [kg]
DN 40	41.0 × 1.50	62	67	90	135	308	427	592	26	13
DN 50	53.0 × 1.50	74	79	90	135	314	433	628	33	13
DN 65	70.0 × 2.00	96	88	125	135	323	442	679	41	18
DN 80	85.0 × 2.00	111	102	125	170	333	452	726	41	24
DN 100	104.0 × 2.00	130	111	125	170	343	462	773	41	32
DN 125	129.0 × 2.00	155	124	150	170	355	474	836	41	36
OD 1 ½"	38.1 × 1.65	59	66	90	135	307	426	586	25	13
OD 2"	50.8 × 1.65	72	80	90	135	313	432	625	32	13
OD 2 ½"	63.5 × 1.65	90	93	125	135	320	439	672	35	17
OD 3"	76.2 × 1.65	103	99	125	170	329	448	713	41	23
OD 4"	101.6 × 2.11	128	112	125	170	342	461	770	41	31

Position	Description of the order code for the standard version					
	Valve					
1	Valve type					
	MP	GEA FLOWVENT Mixproof Valve				
2	Housing combinations					
	A B	C E				
3	Nominal width (upper housing / lower housing)					
	DN 40	OD 1 ½"				
	DN 50	OD 2"				
	DN 65	OD 2 ½"				
	DN 80	OD 3"				
	DN 100	OD 4"				
	DN 125	–				
4	Port orientation		Housing combination			
			A	B	C	E
	90°	Welded seat, port orientation 90°	•	•	•	•
	180°	Welded seat, port orientation 180°		•		
	270°	Welded seat, port orientation 270°		•		
5	Non-actuated position					
	NC	Normally closed				
6	Actuator type (Please state your air supply and product pressure)*					
	... / ...	Air supply pressure (5–8 bar selectable) / Product pressure (4–10 bar selectable)				
		Default setting: 6 / 5 bar				
7	External air connection					
	M	Metric air connection				
	I	Inch air connection				
	Gasket material					
	E	EPDM				
	F	FKM				
+						
	Automation (If not specified differently, control top will be recommended by default)					
1	Automation type					
	CT	GEA FLOWVENT Control Top				
	–	Without GEA FLOWVENT Control Top**				
2	Communication type					
	24V	24VDC (PNP) communication (max. 200 mA)				
	ASi	AS-interface BUS communication (max. 150 mA)				
3	Solenoid valves					
	3	3 solenoid valve (NC)				
4	Air connection					
	M	Metric air connection				
	I	Inch air connection				
5	Electrical connection					
	C	Connector M12 (24V DC = 8-pin M-12 connector / AS-i = 5-pin M12 connector)				
	T	Terminal (M20×1.5 cable gland and internal spring loaded terminals; only available for 24V version)				
/						
	Options (multiple selection possible)					
6	A	ASi-connection box, with cable (1 m) and M12 connection socket				
	5	5-pin connection socket (only available for AS-Interface)				
	S	Supply air throttle; regulates the activation performance of the valve				
	E	Exhaust air throttle; regulates the deactivation performance of the valve				
	8	8-pin connection socket				

The code is composed as following, depending on the chosen configuration:

Position	1		2		3		4		5		6		7		8		1		2		3		4		5		6		
Code	MP	-		-		-	–	-	NC	-		-		-		+	CT	-		-	3	-		-		/			

For order codes differing from the standard version, please refer to section 6.

* The corresponding actuator will be selected by GEA and shown in the final order code specification. See Options section for more information.
** If no control top is chosen, please refer to the chapter option for specifying the positions 2 to 4.

4 DOUBLE-SEAL VALVE

GEA FLOWVENT

Overview

The easy solution for CIP feeds: GEA FLOWVENT Double-seal Valves can be applied as efficient alternatives for secure separation of incompatible products within CIP systems or gas blocks.

Function
The Double-seal valve separates media in two pipelines. The two seals are both located in one valve disc. Hence, they cannot be moved apart separately as in double-seat valves. Therefore, this valve type is recommend for CIP systems and gas blocks.

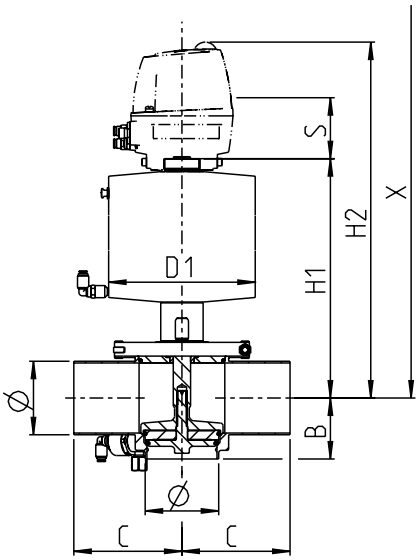
Application
Double-seal valves are predominantly used in areas where hygienic safety is not critical, e.g. CIP systems and gas blocks (brewery).

GEA FLOWVENT
Double-seal Valve Type DS

Housing combinations

L-F

T-F



Technical data of the standard version	
Recommended flow direction	Against the closing direction
Material in contact with the product	AISI 316L
Material not in contact with the product	AISI 304
Seal material in contact with the product	EPDM, FKM
Ambient temperature	0 to 45 °C
Air supply pressure	6 bar (87 psi)
Product pressure	5 bar (73 psi)
Surface in contact with the product	$R_a \leq 0.8$ µm
External housing surface	Matt
Control and feedback system	GEA FLOWVENT Control Top
Actuator type	Pneumatic actuator air / spring
Connection fittings	Welding end
Identification	Adhesive ID tag
Marking / Certificates	CE* FDA GB

*If ATEX is required.

	Pipe		Housing	Actuator			Dimensions		Valve
Nominal width	Ø [mm]	A [mm]	C [mm]	D1 [mm]	H1 [mm]	H2 [mm]	Clearance X [mm]	Stroke S [mm]	Weight [kg]
DN 25	29.0 × 1.50	41.0	90	89	245	350	434	14.0	6
DN 40	41.0 × 1.50	47.0	90	89	237	356	438	28.0	6
DN 50	53.0 × 1.50	53.0	90	135	243	362	456	28.0	9
DN 65	70.0 × 2.00	63.0	125	170	287	406	519	28.0	15
DN 80	85.0 × 2.00	71.0	125	170	294	414	541	28.0	16
DN 100	104.0 × 2.00	80.0	125	210	354	473	620	28.0	24
OD 1"	25.4 × 1.65	39.0	90	89	247	348	432	10.0	6
OD 1 ½"	38.1 × 1.65	45.5	90	89	238	355	436	25.0	6
OD 2"	50.8 × 1.65	52.0	90	135	244	361	455	25.5	9
OD 2 ½"	63.5 × 1.65	60.0	125	170	290	403	516	22.0	15
OD 3"	76.2 × 1.65	60.5	125	170	298	410	537	20.0	16
OD 4"	101.6 × 2.11	79.0	125	210	355	472	619	25.5	24

Position	Description of the order code for the standard version	
	Valve	
1	Valve type	
	DS	GEA FLOWVENT Double-seal Valve
2	Housing combinations	
	L-F T-F	
3	Nominal width (upper housing / lower housing)	
	DN 25	OD 1"
	DN 40	OD 1 ½"
	DN 50	OD 2"
	DN 65	OD 2 ½"
	DN 80	OD 3"
	DN 100	OD 4"
4	Non-actuated position	
	NC	Normally closed
5	Actuator type (Please state your air supply and product pressure)*	
	... / ...	Air supply pressure (5–8 bar selectable) / Product pressure (4–10 bar selectable)
		Default setting: 6 / 5 bar
6	External air connection	
	M	Metric air connection
	I	Inch air connection
7	Gasket material	
	E	EPDM
	F	FKM
+		
	Automation (If not specified differently, control top will be recommended by default)	
1	Automation type	
	CT	GEA FLOWVENT Control Top
	–	Without GEA FLOWVENT Control Top**
2	Communication type	
	24V	24VDC (PNP) communication (max. 200 mA)
	ASi	AS-interface BUS communication (max. 150 mA)
3	Solenoid valves	
	0	Without solenoid valve
	1	1 solenoid valve (NC)
4	Air connection	
	M	Metric air connection
	I	Inch air connection
5	Electrical connection	
	C	Connector M12 (24VDC = 5-pin M12 connector / AS-i = 5-pin M12 connector)
	T	Terminal (M20×1.5 cable gland and internal spring loaded terminals; only available for 24V version)
/		
	Options (multiple selection possible)	
6	A	ASi-connection box, with cable (1 m) and M12 connection socket
	S	Supply air throttle; regulates the activation performance of the valve
	E	Exhaust air throttle; regulates the deactivation performance of the valve
	5	5-pin connection socket

The code is composed as following, depending on the chosen configuration:

Position	1		2		3		4		5		6		7		1		2		3		4		5		6			
Code	MP	-		-		-	NC	-		-		-		+	CT	-		-	3	-		-		/			

For order codes differing from the standard version, please refer to section 6.

* The corresponding actuator will be selected by GEA and shown in the final order code specification. See Options section for more information.
** If no control top is chosen, please refer to the chapter option for specifying the positions 2 to 4.

5 VALVE AUTOMATION

GEA FLOWVENT

Overview

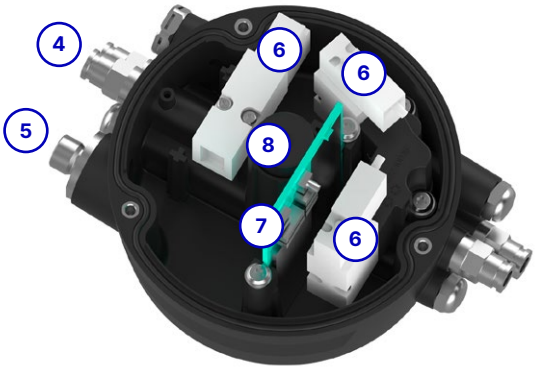
GEA FLOWVENT Control Top
The GEA FLOWVENT Control Top is equipped with a contact-less high-precision path measuring system. This automatic open/close position recognition is especially designed for GEA FLOWVENT valves.

- GEA FLOWVENT Shut-off Valve
- GEA FLOWVENT Divert Valve
- GEA FLOWVENT Double-seal Valve
- GEA FLOWVENT Mixproof Valve

Valve Automation
Control and Feedback Systems
GEA FLOWVENT Control Top

Design

1 Cap
2 Status visualization
3 Base
4 Air connections
5 Electrical connections
6 Solenoid valves (up to three, depending on valve type)
7 Printed Circuit Board for both controlling and measuring
8 Switch bar



Available communication types

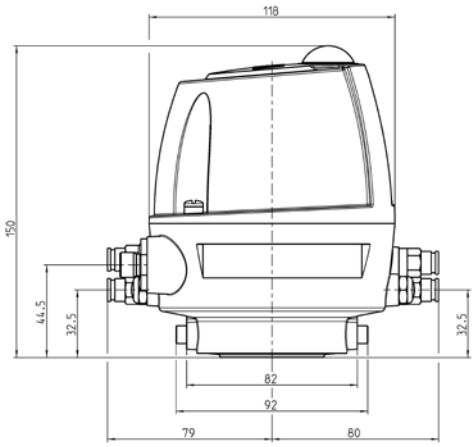
24 VDC (PNP)

In 24 V parallel wiring digital signals are exchanged between a terminal unit and generally the corresponding input and output modules of a PLC. In this case, it is necessary to have a separate wire for each signal, usually in the form of a multi-core cable.

- **PNP (current-supplying) indicates signal transfer against reference potential L–.**

AS-Interface

AS-Interface (Actuator-Sensor Interface) is a standard in fieldbus communication that was developed for connecting actuators and sensors. This is to replace parallel wiring used in the past. The AS-Interface has been an international standard acc. to EN 50295 and IEC 62026-2 since 1999. AS-i products are certified by the AS International Association, thereby, ensuring that equipment from different manufacturers will work together in the same system. The transmission medium is an unshielded, two-core yellow cable which also carries the electrical power supply (24 – 30 V direct current voltage) for the communication electronics and the slaves. A maximum of 62 slaves can be used per AS-i master. The slaves are addressed manually using a manual addressing unit or automatically by the master. The maximum length of the AS-i cable is 100 m, although by using repeaters it is possible to extend the entire length up to 400 m.



Technical data of the standard version		
Position detection		Path measuring system
Housing material		PA 12
Ambient temperature		−20 to +55 °C
Air supply	Pressure range	2 to 8 bar
	Standard	acc. to ISO 8573-1:2010
	Solid content	Quality class 6
	Water content	Quality class 4
	Oil content	Quality class 3
Dimensions of air connections		Metric 6/4 mm
Protection class		IP66/67
Sound pressure level via exhaust air throttle		Max. 72 dB
Visualization		LED (green, yellow, red)

Type of interface	AS-Interface bus	24 V DC, 3-wire, PNP
Supply		
Operating voltage	23 – 31.6 V DC	24 V DC (+/−25 %)
No-load current	30 mA	30 mA
Maximum current consumption	150 mA	200 mA
Polarity reversal protection	Yes	Yes
Specification	AS-i V3.0	
Additional Information	IO.ID.ID2-code: 7.A.E	
Certificate	AS-i Association	
Inputs		
Connection type		24 V DC
Maximum current carrying capacity per feedback output		100 mA
Short-circuit protection		Yes
Voltage drop on the outputs		≤ 1.8 V
Feedback “start position”	Data bit DI 0	Electronic output
Feedback “end position”	Data bit DI 1	Electronic output
Outputs		
Activation voltage		21 – 28.8 V DC
Current consumption per input		35 mA
Activation “PV Y1”	Data bit DO 0	Electronic input
Activation “PV Y2”	Data bit DO 1	Electronic input
Activation “PV Y3”	Data bit DO 2	Electronic input

6 OPTIONS

GEA FLOWVENT

Overview

Focusing on the most important applications, not many options can be chosen for FLOWVENT valves – keeping it simple & easy to configure.
Still a few choices can be made, which will be further described in this chapter.

ATEX

The ATEX standard of the European Union actually includes two guidelines on the explosion protection subject, the ATEX Product Directive 2014/34/EU and 1999/92/ EG. The abbreviation ATEX come from the French term ATmosphères EXplosibles.
FLOWVENT valves have been subjected to an ignition hazard assessment and do not have a potential source of ignition in the interior. Thus, the directive 2014/34/EU (ATEX) is not applicable for the internal space of the valve. A risk of ignition or explosion very rarely may occur from the actuator unit in case of an error so that the actuator comes within the scope of Directive 2014/34/EU and is labeled accordingly.
The suitability is confirmed by the type-specific Declaration of Conformity of the manufacturer.

Ordering process

When ordering FLOWVENT for ATEX applications, the EX zone of the pipeline as well as the surroundings needs to be specified. Please note that the FLOWVENT control top is not suitable for ATEX applications. Thus, if requiring a control and feedback system, the proximity switch holder must be chosen.

Technical data			
0	Gases, zone 0		
1	Gases, zone 1	1	Gases, zone 1
2	Gases, zone 2	2	Gases, zone 2
20	Gases, zone 20		
21	Gases, zone 21	21	Gases, zone 21
22	Gases, zone 22	22	Gases, zone 22

Incorporation of the option in the order code and example

Position	Description of the order code for options
9	Explosion proof*
	EX ATEX

Position	1		2		3		4		5		6		7		8		9		1		2		3		4		5		6			
Code	SO	-	L	-	DN 50	-	–	-	NC	-	6/5	-	E	-	M	+	EX	+	P	-	2	-	B	-		-		+			

\+ separate specification of required EX zones
* Additionally, please specify in accordance to the above stated table the EX zone of the pipeline as well as the surroundings separately when placing your order.

Options – Actuators
Proximity switch holder on the actuator

The proximity switch holder enables the use of proximity switches above the actuator to monitor the valve status. The holder has adjustment sliders which allow optimal mounting and adjustment of sensors using M12x1 threads. A direct connection to the programmable logic controller (PLC) provides the feedback of the valve position.

Technical data	
Material	1.4301 (AISI 304)
Outside surface	Turned, $R_a \leq 1.6$ µm

Incorporation of the option in the order code and example

Position		**Description of the order code for the standard version**
1		Control and feedback system
	P	Proximity switch holder
2		Number of feedbacks
	1	1 proximity switch
	2	2 proximity switches
3		Type of proximity switch
	B	Proximity switch 24VDC 3-wire PNP M-12

Position	1		2		3		4		5		6		7		8		1		2		3		4		5		6			
Code	SO	-	L	-	DN 50	-	–	-	NC	-	6/5	-	E	-	M	+	P	-	2	-	B	-	–	-	–	+	–	–	–

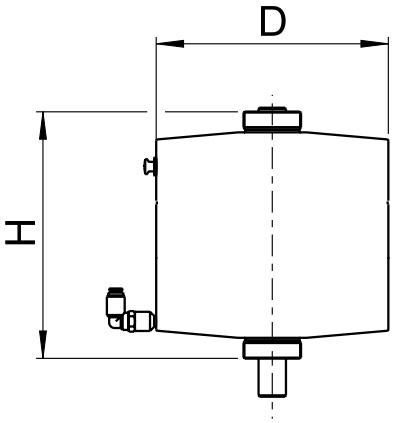
Options – Actuators
GEA FLOWVENT Actuator Air/Spring

Typical application and description

The air supply is connected to the particular control and feedback system and led via the external air channel under the piston surface of the actuator. Simply by reversing the actuator, it is possible to convert the fail-safe position of the valve (in single-seat valves) from spring-to-close (NC) to spring-to-open (NO). In these cases, or if the product or air supply pressure differs from the standard, check the definition of the actuator size based on the order code and the selection sheets onwards.

Technical data	
Material	1.4301 (AISI 304)
Outside surface	Turned, $R_a \leq 1.6$ µm

Type	Dimensions		
No. 6 in the order code	D1 [mm]	H [mm]	Weight [kg]
A12	89	144	3
B12	109	144	4
B21	109	144	4
C21	135	144	5
C30	133	188	5
C36	135	144	5
D21	170	180	8
D30	168	191	7
D33	170	180	9



Incorporation of the option in the order code and example

Position	Description of the order code for options
6	Actuator type (Please select the required pressure setup by defining the needed air and product pressure)
	.../... Air supply pressure (from 5 to 8 bar, 6 bar by default) / Product pressure (from 4 to 10 bar, 5 bar by default)

Position	1		2		3		4		5		6		7		8		1		2		3		4		5		6		
Code	SO	-	L	-	DN 50	-	–	-	NC	-	6/5	-	E	-	M	-	CT	-	24V	-	1	-	C	-		+			

Options – Actuator Selection – Sample Selection Method
GEA FLOWVENT Actuator Air/Spring

Procedure for GEA FLOWVENT Shut-off Valves type SO (1)

1. Depending on the valve type, select the required table on one of the following pages.
2. The available air supply pressure indicates which rows to refer to for the actuator size.
3. Select the prevailing product pressure in order to define the required row.
4. Select a double column based on the nominal width of the valve.
5. The fail-safe position of the valve defines the precise column.
6. Select the necessary actuator size at the intersection between the row and the column.

				Nominal widths											
				DN 25 OD 1"		**DN 40 OD 1 ½"**		**DN 50 OD 2"**		**DN 65 OD 2 ½"** (4)		**DN 80 OD 3"**		**DN 100 OD 4"**	
Air supply pressure [min.]		Product pressure [max.]		Spring-to-close actuators (NC) and spring-to-open actuators (NO)											
											(5)				
bar	PSI	bar	PSI	NC	NO	NC	NO	NC	NO	NC	**NO**	NC	NO	NC	NO
8	116	4	58	A12	A12	A12	A12	B21	B12	C36	**C21**	C36	C36	D51	D51
		5	72	A12	A12	A12	A12	B21	B12	C36	**C21**	D51	D33	D51+Air	D51
		6	87	A12	A12	A12	A12	B21	B12	C36	**C21**	D51	D33	D51+Air	D51
		7	101	A12	A12	B21	A12	B21	B12	C36	**C21**	D51	D33	D51+Air	D21+Air
		8	116	A12	A12	B21	A12	C36	C21	D51	**D33**	D51+Air	D51	D51+Air	D21+Air
		9	130	A12	A12	B21	A12	C36	C21	D51	**D33**	D51+Air	D51	D51+Air	D21+Air
		10	145	A12	A12	B21	A12	C36	C21	D51	**D33**	D51+Air	D51	D33+Air	D21+Air
7	101	4	58	A12	A12	A12	A12	B21	B12	C36	**C21**	C36	D33	D51	D51
		5	72	A12	A12	A12	A12	B21	B12	C36	**C21**	D51	D33	D51+Air	D21+Air
		6	87	A12	A12	A12	B12	B21	B12	C36	**C21**	D51	D33	D51+Air	D21+Air
		7	101	A12	A12	B21	B12	B21	B12	C36	**C21**	D51	D33	D51+Air	D21+Air
		8	116	A12	A12	B21	B12	C36	C21	D51	**D33**	D51+Air	D21+Air	D33+Air	D21+Air
		9	130	A12	A12	B21	B12	C36	C21	D51	**D33**	D51+Air	D21+Air	D33+Air	D21+Air
		10	145	A12	A12	B21	B12	C36	C21	D51	**D33**	D51+Air	D21+Air	-	-
6	**87**	4	58	A12	A12	A12	B12	B21	B12	C36	**C21**	D33	D33	D51	D21+Air
(2)	(3)	**5**	**72**	**A12**	**A12**	**A12**	**B12**	**B21**	**B12**	**C36**	C21 (6)	**D51**	**D33**	**D51+Air**	**D21+Air**
		6	87	A12	A12	A12	B12	B21	B12	D33	**C21**	D51	D33	D33+Air	D21+Air
		7	101	A12	B12	B21	B12	C21	B12	D51	**C21**	D51	D33	D33+Air	-
		8	116	A12	B12	B21	B12	C36	C21	D51	**D33**	D33+Air	D21+Air	D21+Air	-
		9	130	A12	B12	B21	B12	C36	C21	D51	**D33**	D33+Air	D21+Air	D21+Air	-
		10	145	A12	B12	B21	B12	D33	C21	D51	**D33**	D33+Air	D21+Air	-	-
5	72	4	58	A12	B12	B12	B12	C21	B12	D33	**C21**	D33	D33	D33+Air	D21+Air
		5	72	A12	B12	B12	B12	C21	C21	D33	**D33**	D33+Air	D33	D33+Air	D21+Air
		6	87	A12	B12	B12	B12	C21	C21	D33	**D33**	D33+Air	D21+Air	D21+Air	-
		7	101	A12	B12	C21	B12	C21	C21	D33+Air	**D33**	D33+Air	D21+Air	D21+Air	-
		8	116	A12	B12	C21	B12	D33	D33	D33+Air	**D33**	D33+Air	D21+Air	-	-
		9	130	A12	B12	C21	C21	D33	D33	D33+Air	**D21+Air**	D21+Air	-	-	-
		10	145	A12	B12	C21	C21	D33	D33	D33+Air	**D21+Air**	D21+Air	-	-	-

+Air = actuator incl. extra air support

Example:

1	Valve type	**GEA FLOWVENT Shut-off Valve type SO**
2	Air supply pressure	**6 bar**
3	Product pressure	**5 bar**
4	Nominal width	**OD 2 ½"**
5	Fail-safe position of the valve	**Spring-to-open (NO)**
→ **6**	Result	Actuator C21

Options – Actuator Selection
GEA FLOWVENT Actuator Air/Spring
For GEA FLOWVENT Shut-off Valves type SO

The standard configuration has 6 bar air supply pressure for 5 bar product pressure (see blue mark in the table). The particular product and air supply pressure must be specified when ordering. If you do not provide any further information about the pressures when ordering, we will supply the standard configuration.

				Nominal widths											
				DN 25 OD 1"		**DN 40 OD 1 ½"**		**DN 50 OD 2"**		**DN 65 OD 2 ½"**		**DN 80 OD 3"**		**DN 100 OD 4"**	
Air supply pressure [min.]		Product pressure [max.]		Spring-to-close actuators (NC) and spring-to-open actuators (NO)											
bar	PSI	bar	PSI	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
8	116	4	58	A12	A12	A12	A12	B21	B12	C36	C21	C36	C36	D51	D51
		5	72	A12	A12	A12	A12	B21	B12	C36	C21	D51	D33	D51+Air	D51
		6	87	A12	A12	A12	A12	B21	B12	C36	C21	D51	D33	D51+Air	D51
		7	101	A12	A12	B21	A12	B21	B12	C36	C21	D51	D33	D51+Air	D21+Air
		8	116	A12	A12	B21	A12	C36	C21	D51	D33	D51+Air	D51	D51+Air	D21+Air
		9	130	A12	A12	B21	A12	C36	C21	D51	D33	D51+Air	D51	D51+Air	D21+Air
		10	145	A12	A12	B21	A12	C36	C21	D51	D33	D51+Air	D51	D33+Air	D21+Air
7	101	4	58	A12	A12	A12	A12	B21	B12	C36	C21	C36	D33	D51	D51
		5	72	A12	A12	A12	A12	B21	B12	C36	C21	D51	D33	D51+Air	D21+Air
		6	87	A12	A12	A12	B12	B21	B12	C36	C21	D51	D33	D51+Air	D21+Air
		7	101	A12	A12	B21	B12	B21	B12	C36	C21	D51	D33	D51+Air	D21+Air
		8	116	A12	A12	B21	B12	C36	C21	D51	D33	D51+Air	D21+Air	D33+Air	D21+Air
		9	130	A12	A12	B21	B12	C36	C21	D51	D33	D51+Air	D21+Air	D33+Air	D21+Air
		10	145	A12	A12	B21	B12	C36	C21	D51	D33	D51+Air	D21+Air	-	-
6	**87**	4	58	A12	A12	A12	B12	B21	B12	C36	C21	D33	D33	D51	D21+Air
		5	**72**	**A12**	**A12**	**A12**	**B12**	**B21**	**B12**	**C36**	**C21**	**D51**	**D33**	**D51+Air**	**D21+Air**
		6	87	A12	A12	A12	B12	B21	B12	D33	C21	D51	D33	D33+Air	D21+Air
		7	101	A12	B12	B21	B12	C21	B12	D51	C21	D51	D33	D33+Air	-
		8	116	A12	B12	B21	B12	C36	C21	D51	D33	D33+Air	D21+Air	D21+Air	-
		9	130	A12	B12	B21	B12	C36	C21	D51	D33	D33+Air	D21+Air	D21+Air	-
		10	145	A12	B12	B21	B12	D33	C21	D51	D33	D33+Air	D21+Air	-	-
5	72	4	58	A12	B12	B12	B12	C21	B12	D33	C21	D33	D33	D33+Air	D21+Air
		5	72	A12	B12	B12	B12	C21	C21	D33	D33	D33+Air	D33	D33+Air	D21+Air
		6	87	A12	B12	B12	B12	C21	C21	D33	D33	D33+Air	D21+Air	D21+Air	-
		7	101	A12	B12	C21	B12	C21	C21	D33+Air	D33	D33+Air	D21+Air	D21+Air	-
		8	116	A12	B12	C21	B12	D33	D33	D33+Air	D33	D33+Air	D21+Air	-	-
		9	130	A12	B12	C21	C21	D33	D33	D33+Air	D21+Air	D21+Air	-	-	-
		10	145	A12	B12	C21	C21	D33	D33	D33+Air	D21+Air	D21+Air	-	-	-

+Air = actuator incl. extra air support

Options – Actuator Selection
GEA FLOWVENT Actuator Air/Spring
For GEA FLOWVENT Shut-off Valves type DI

The standard configuration has 6 bar air supply pressure for 5 bar product pressure (see blue mark in the table). The particular product and air supply pressure must be specified when ordering. If you do not provide any further information about the pressures when ordering, we will supply the standard configuration.

				Nominal widths											
				DN 25 OD 1"		**DN 40 OD 1 ½"**		**DN 50 OD 2"**		**DN 65 OD 2 ½"**		**DN 80 OD 3"**		**DN 100 OD 4"**	
Air supply pressure [min.]		Product pressure [max.]		Spring-to-close actuators (NC) and spring-to-open actuators (NO)											
bar	PSI	bar	PSI	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
8	116	4	58	A12	A12	A12	A12	B21	B21	C36	C36	C36	C36	D51	D51
		5	72	A12	A12	A12	A12	B21	B21	C36	C36	D51	D51	D51+Air	D51+Air
		6	87	A12	A12	A12	A12	B21	B21	C36	C36	D51	D51	D51+Air	D51+Air
		7	101	A12	A12	B21	B21	B21	B21	C36	C36	D51	D51	D33+Air	D33+Air
		8	116	A12	A12	B21	B21	C36	C36	D51	D51	D33+Air	D33+Air	D33+Air	D33+Air
		9	130	A12	A12	B21	B21	C36	C36	D51	D51	D33+Air	D33+Air	D33+Air	D33+Air
		10	145	A12	A12	B21	B21	C36	C36	D51	D51	D33+Air	D33+Air	D21+Air	D21+Air
7	101	4	58	A12	A12	B12	B12	B21	B21	C36	C36	D33	D33	D51	D51
		5	72	A12	A12	B12	B12	B21	B21	D33	D33	D51	D51	D33+Air	D33+Air
		6	87	A12	A12	B12	B12	C21	C21	D33	D33	D51	D51	D33+Air	D33+Air
		7	101	A12	A12	B21	B21	C21	C21	D51	D51	D51	D51	D33+Air	D33+Air
		8	116	A12	A12	B21	B21	C36	C36	D51	D51	D33+Air	D33+Air	-	-
		9	130	A12	A12	B21	B21	D33	D33	D51	D51	D33+Air	D33+Air	-	-
		10	145	A12	A12	B21	B21	D33	D33	D51	D51	D33+Air	D33+Air	-	-
6	**87**	4	58	A12	A12	B12	B12	C21	C21	D33	D33	D33	D33	D33+Air	D33+Air
		5	**72**	**A12**	**A12**	**B12**	**B12**	**C21**	**C21**	**D33**	**D33**	**D33+Air**	**D33+Air**	**D33+Air**	**D33+Air**
		6	87	A12	A12	B12	B12	C21	C21	D33	D33	D33+Air	D33+Air	D21+Air	D21+Air
		7	101	A12	A12	C21	C21	C21	C21	D33+Air	D33+Air	D33+Air	D33+Air	D21+Air	D21+Air
		8	116	A12	A12	C21	C21	D33	D33	D33+Air	D33+Air	D33+Air	D33+Air	-	-
		9	130	B12	B12	C21	C21	D33	D33	D33+Air	D33+Air	D33+Air	D33+Air	-	-
		10	145	B12	B12	C21	C21	D33	D33	D33+Air	D33+Air	D21+Air	D21+Air	-	-
5	72	4	58	B12	B12	B12	B12	C21	C21	D33	D33	D33	D33	D21+Air	D21+Air
		5	72	B12	B12	B12	B12	C21	C21	D33	D33	D33+Air	D33+Air	D21+Air	D21+Air
		6	87	B12	B12	B12	B12	C21	C21	D33	D33	D33+Air	D33+Air	-	-
		7	101	B12	B12	C21	C21	C21	C21	D33+Air	D33+Air	D21+Air	D21+Air	-	-
		8	116	B12	B12	C21	C21	D33	D33	D33+Air	D33+Air	D21+Air	D21+Air	-	-
		9	130	B12	B12	C21	C21	D33	D33	D33+Air	D33+Air	-	-	-	-
		10	145	B12	B12	C21	C21	D33	D33	D21+Air	D21+Air	-	-	-	

+Air = actuator incl. extra air support

Options – Actuator Selection
GEA FLOWVENT Actuator Air/Spring
For GEA FLOWVENT Double-seal Valves type DS

The standard configuration has 6 bar air supply pressure for 5 bar product pressure (see blue mark in the table). The particular product and air supply pressure must be specified when ordering. If you do not provide any further information about the pressures when ordering, we will supply the standard configuration.

				Nominal widths					
				DN 25 OD 1"	**DN 40 OD 1 ½"**	**DN 50 OD 2"**	**DN 65 OD 2 ½"**	**DN 80 OD 3"**	**DN 100 OD 4"**
Air supply pressure [min.]		Product pressure [max.]		Spring-to-close actuators (NC)					
bar	PSI	bar	PSI	NC	NC	NC	NC	NC	NC
8	116	4	58	A12	A12	B21	C36	C36	D51
		5	72	A12	A12	B21	C36	D51	D73
		6	87	A12	A12	B21	C36	D51	E73
		7	101	A12	B21	B21	C36	D51	E73
		8	116	A12	B21	C36	D51	E73	E107
		9	130	A12	B21	C36	D51	E73	E107
		10	145	A12	B21	C36	D51	E73	D107+D
7	101	4	58	A12	A12	B21	C36	C36	D51
		5	72	A12	A12	B21	C36	D51	E73
		6	87	A12	A12	B21	C36	D51	E73
		7	101	A12	B21	B21	D51	D51	E73
		8	116	A12	B21	C36	D51	E73	D107+D
		9	130	A12	B21	C36	D51	E73	D107+D
		10	145	A12	B21	C36	D51	E73	D107+D
6	**87**	4	58	A12	A12	B21	C36	D33	D51
		5	**72**	**A12**	**A12**	**C21**	**D33**	**D51**	**E73**
		6	87	A12	B12	C21	D33	D51	E73
		7	101	A12	B21	C21	D51	E51	E73
		8	116	A12	C21	D33	D51	E73	D107+D
		9	130	A12	C21	D33	D51	E73	E107+D
		10	145	A12	C21	D33	D51	E73	E107+D
5	72	4	58	A12	B12	C21	D33	D33	D51
		5	72	A12	B12	C21	D33	E51	E73
		6	87	B12	B12	C21	D33	E51	D73+D
		7	101	B12	C21	C21	E51	E51	D73+D
		8	116	B12	C21	D33	E51	D73+D	E107+D
		9	130	B12	C21	D33	E51	D73+D	E107+E
		10	145	B12	C21	D33	E51	D73+D	E107+E

+D / +E = actuator incl. booster D or E

Options – Actuator Selection
GEA FLOWVENT Actuator Air/Spring
For GEA FLOWVENT Mixproof Valves type MP

The standard configuration has 6 bar air supply pressure for 5 bar product pressure (see blue mark in the table). The particular product and air supply pressure must be specified when ordering. If you do not provide any further information about the pressures when ordering, we will supply the standard configuration.

				Nominal widths			
				DN 40 / DN 50 OD 1½" / OD 2"	**DN 65 OD 2 ½"**	**DN 80 OD 3"**	**DN 100 / DN 125 OD 4"**
Air supply pressure [min.]		Product pressure [max.]		Spring-to-close actuators (NC)			
bar	PSI	bar	PSI	NC	NC	NC	NC
8	116	4	58	C30	C30	D40	D40
		5	72	C30	C30	D40	D40
		6	87	C30	D34	D40	D40
		7	101	C30	D34	D40	E52
		8	116	C30	D34	D40	E52
		9	130	C30	D34	D40	E52
		10	145	C30	D34	D40	E52
7	101	4	58	C30	C30	D40	D40
		5	72	C30	C30	D40	D40
		6	87	C30	D34	D40	D40
		7	101	C30	D34	D40	E52
		8	116	C30	D34	D40	E52
		9	130	C30	D34	D40	E52
		10	145	C30	D34	D40	E52
6	**87**	4	58	C30	C30	D40	D40
		5	**72**	**C30**	**C30**	**D40**	**D40**
		6	87	C30	D34	D40	D40
		7	101	C30	D34	D40	E52
		8	116	C30	D34	D40	E52
		9	130	C30	D34	D40	E52
		10	145	C30	D34	D40	E52
5	72	4	58	D30	D34	D40	E52
		5	72	D30	D34	D40	E52
		6	87	D30	D34	D40	E52
		7	101	D30	D34	D40	E52
		8	116	D30	D34	D40	E52
		9	130	D30	D34	D40	E52
		10	145	D30	D34	D40	E52

+Air = actuator incl. extra air support

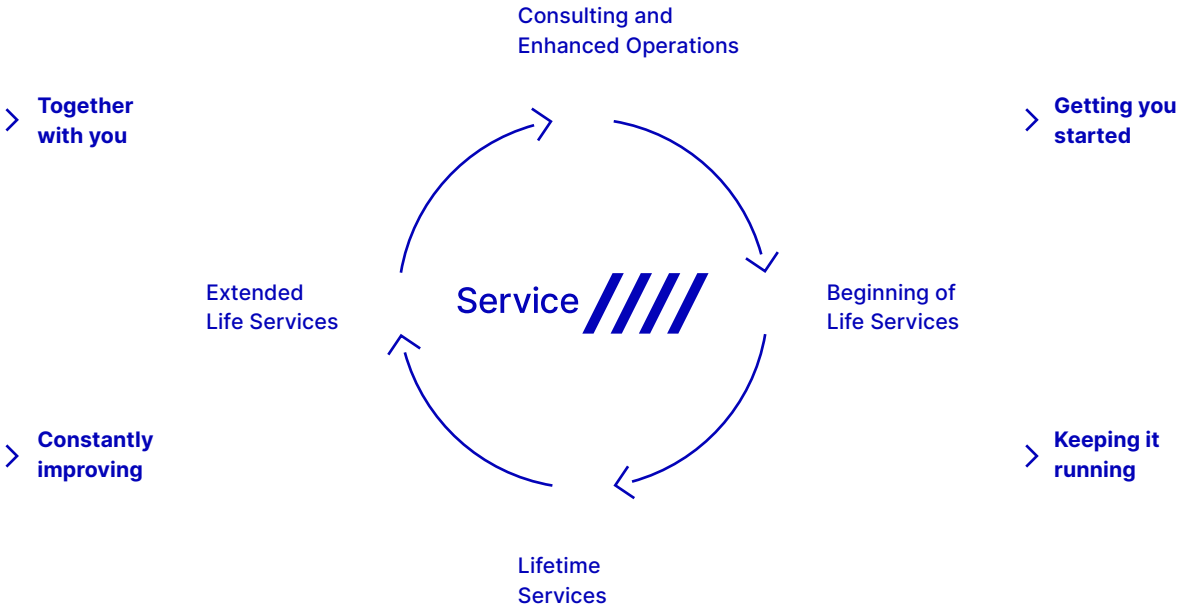
7 SERVICE

GEA FLOWVENT

Our service package for dependable valve technology

With a tailored service concept, you can extend the service life of your hygienic valve technology. Professional services and original spare parts from GEA help to ensure maximum system availability and security, smooth operation and precise process execution.

Our service specialists are here to help you in every phase of system utilization – from the initial process concept and throughout the entire performance period to advising on your best strategies for the future.



Beginning of life services
We draw on our decades of experience to support you in configuring your system and providing extensive employee training. Our consultations and training sessions take place in our Competence Centre in Büchen or, upon request, at your premises.

Lifetime services
We optimize your spare parts logistics by using our modular component system and our extensive service network. Preventive maintenance programmes based on comprehensive data, routine troubleshooting and efficient repair logistics keep downtimes to a minimum.

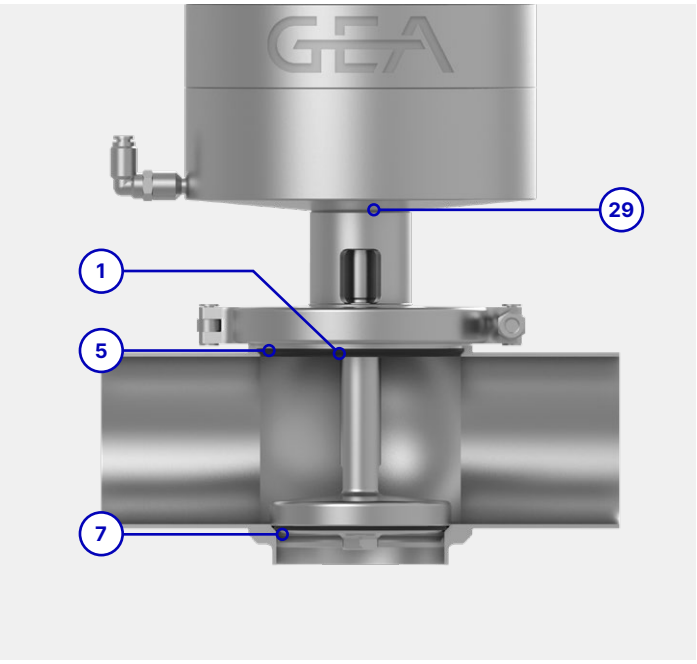
Extended life services
When upgrades are available to enhance your system, you benefit from our continuing advances in hygienic valve technology. We offer extensive advice and consultation.

Consulting and enhanced operations
Working in partnership with you, we support your enduring success and develop service strategies and Service Level Agreements for a profitable future operation.

Seal Sets
Shut-off Valve

The illustration of the GEA FLOWVENT Shut-off Valve shown here represents an example of a seal set for the this valve type.

Mainly, a seal set consists of all seals which are in contact with the product. The precise components of all seal sets and information about maintenance can be found in the associated operating instruction.



Components of a seal set, taking the example of the GEA FLOWVENT type SO

1 Seal ring
5 O-ring
7 Y-ring
29 O-ring

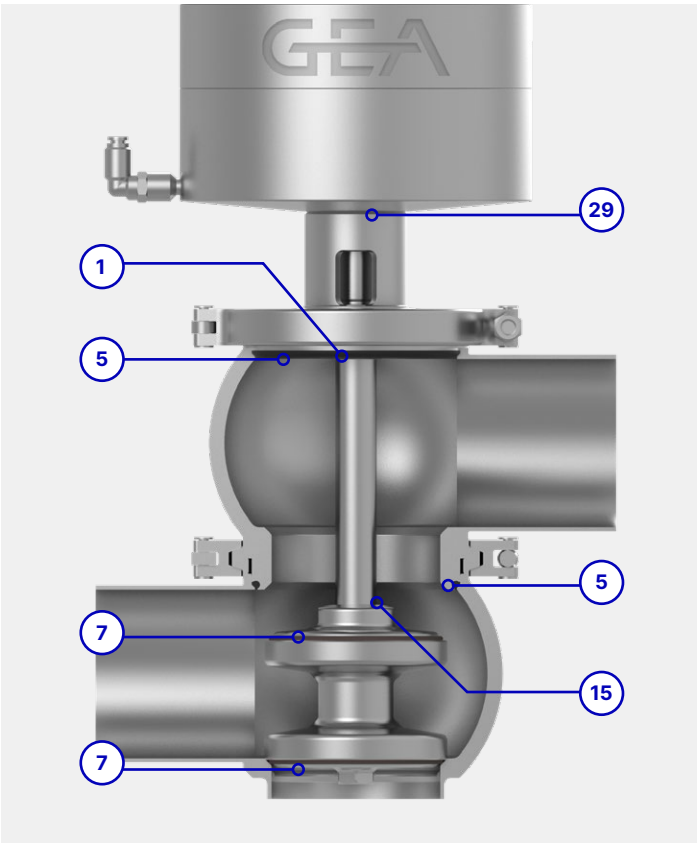
Seal set for GEA FLOWVENT Shut-off Valve

Nominal width		EPDM	FKM
DN	OD	Article number	Article number
25	1"	821-000069	821-000075
40	1 ½"	821-000070	821-000076
50	2"	821-000071	821-000077
65	2 ½"	821-000072	821-000078
80	3"	821-000073	821-000079
100	4"	821-000074	821-000080

Seal Sets
Divert Valve

The illustration of the GEA FLOWVENT Divert valve shown here represents the configuration of a seal set for the divert valve.

Mainly, a seal set consists of all seals which are in contact with the product. The precise components of all seal sets and information about maintenance can be found in the associated operating instruction.



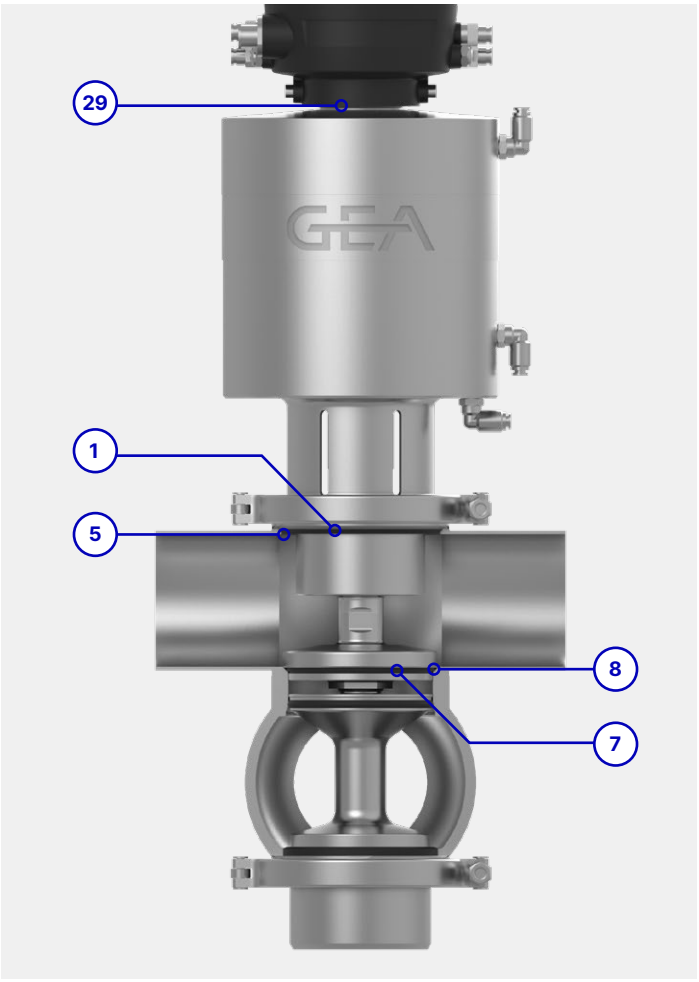
Components of a seal set, taking the example of the GEA FLOWVENT type DI

1 Seal ring
5 O-ring
7 Y-ring
15 O-ring
29 O-ring

Seal set for GEA FLOWVENT Divert Valve

Nominal width		EPDM	FKM
DN	OD	Article number	Article number
25	1"	821-000081	821-000087
40	1 ½"	821-000082	821-000088
50	2"	821-000083	821-000089
65	2 ½"	821-000084	821-000090
80	3"	821-000085	821-000091
100	4"	821-000086	821-000092

Seal Sets
Mixproof Valve



The illustration of the GEA FLOWVENT Mixproof Valve shown here represents the configuration of a seal set for the mixproof valve.

Mainly, a seal set consists of all seals of the valve which are in contact with the product. The precise components of all seal sets and information about maintenance can be found in the associated operating instruction.

Components of a seal set, taking the example of the GEA FLOWVENT type MP

1 Seal ring
5 O-ring
7 O-ring
8 Y-ring
29 O-ring

Seal set for FLOWVENT Mixproof Valve (product-wetted gaskets)

Nominal width		EPDM	FKM
DN	OD	Article number	Article number
40	1 ½"	821-000128	821-000132
50	2"	821-000128	821-000132
65	2 ½"	821-000129	821-000133
80	3"	821-000130	821-000134
100	4"	821-000131	821-000135
125	–	821-000131	821-000135

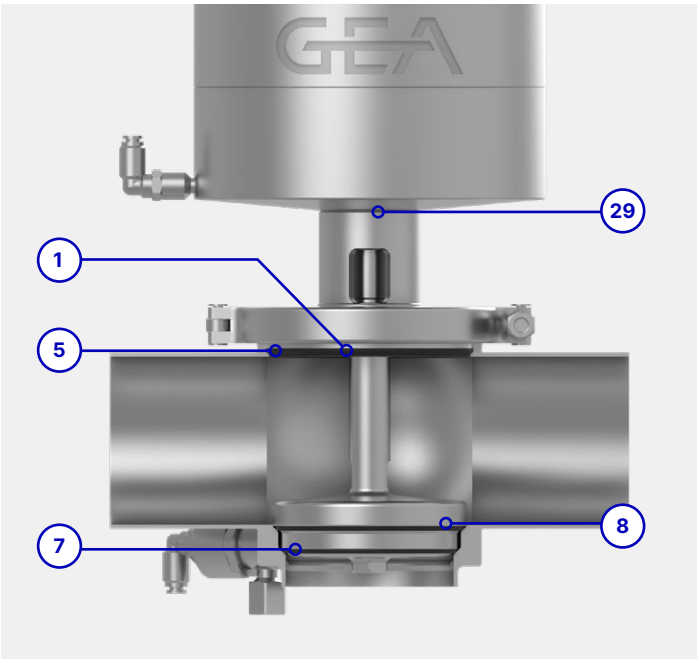
Seal set for FLOWVENT Mixproof Valve (lifting actuator)

Nominal width		Actuator type	Article number
DN	OD		
40	1 ½"	C30	821-000136
40	1 ½"	D30	821-000137
50	2"	C30	821-000136
50	2"	D30	821-000137
65	2 ½"	C30	821-000136
65	2 ½"	D34	821-000137
80	3"	D40	821-000137
100	4"	D40	821-000137
125	–	D40	821-000137

Seal Sets
Double-seal Valve

The illustration of the GEA FLOWVENT Double-seal valve shown here represents the configuration of a seal set for this valve type.

Mainly, a seal set consists of all seals of the valve which are in contact with the product. The precise components of all seal sets and information about maintenance can be found in the associated operating instruction.



Components of a seal set, taking the example of the GEA FLOWVENT type DS

1 Seal ring
5 O-ring
7 Y-ring
8 Y-ring
29 O-ring

Seal set for FLOWVENT Double-seal Valve

Nominal width		EPDM	FKM
DN	OD	Article number	Article number
25	1"	821-000093	821-000099
40	1 ½"	821-000094	821-000100
50	2"	821-000095	821-000101
65	2 ½"	821-000096	821-000102
80	3"	821-000097	821-000103
100	4"	821-000098	821-000104

Tools
General

Lubricant	
Tool	**Article number**
Rivolta F.L.G. MD-2 (1,000 g)	413-071
Rivolta F.L.G. MD-2 (100 g)	413-136

Basic tools	
Tool	**Article number**
Assembly tool pickset	221-007248
Hose cutter	407-065
Strap wrench	408-142
Eyebolt T.VIS M14	221-104.98

Tools
Shut-off Valve

Shut-off Valve

Tool	Article number
Open-end wrench 13×17 mm*	408-036
Open-end wrench 36×41 mm	408-042
Socket for wrench 3/8" 17 mm	408-444
Socket for wrench 1/4" 13 mm	408-425
Plug-in ratchet reversible 2–1/2"	408-427
Sickle spanner 45/50 mm	408-442
Torque wrench reversible 25 Nm	408-424
Torque wrench reversible 120 Nm	408-426
Sickle spanner 45–90 mm	408-441
Open-end wrench plug-in head 2–17 mm	408-445
T-handle 1/2" 295 mm	408-438
Hexagon screwdriver 1/2"	408-439
Increaser piece 1/4"–3/8"	408-443

* 2 pc. Only for ≥DN50

Tools
Divert Valve

FLOWVENT Divert Valve	
Tool	**Article number**
Open-end wrench 13×17 mm	408-036
Open-end wrench 36×41 mm	408-042
Socket for wrench 3/8" 17 mm	408-444
Socket for wrench 1/4"13 mm	408-425
Sickle spanner 45/50 mm	408-442
Torque wrench reversible 25 Nm	408-424
Torque wrench reversible 120 Nm	408-426
Sickle spanner 45–90 mm	408-441
Open-end wrench plug-in head 1–13 mm	
Open-end wrench plug-in head 2–36 mm	
Open-end wrench plug-in head 2–17 mm	
T-handle 1/2" 295 mm	408-438
Hexagon screwdriver 1/2"	408-439
Increaser piece 1/4"–3/8"	408-443

Tools
Double-seat Valve

FLOWVENT Mixproof Valve

Tool	Article number
Open-end wrench 13×17 mm	408-036
Open-end wrench 21×23 mm	408-046
Open-end wrench 22×24 mm	408-039
Open-end wrench 24×27 mm	408-040
Socket for wrench 1/2" 24 mm	408-170
Socket for wrench 1/4" 13 mm	408-425
Socket for wrench 3/8" 17 mm	408-444
Plug-in ratchet reversible 2–1/2"	408-427
Adjustable head face spanner 80/6, 3/4"	408-440
Adjustable head face spanner 80/6	408-437
Torque wrench reversible 25 Nm	408-424
Torque wrench reversible 120 Nm	408-426
Plug in head 2–3/4"	408-436
Open-end wrench plug-in head 1–13 mm	
Open-end wrench plug-in head 2–24 mm	
Open-end wrench plug-in head 2–27 mm	
T-handle 1/2" 295 mm	408-438
Hexagon screwdriver 1/2"	408-439
Pin punch with handle 5 mm	408-434
Screwdriver 2,3×75	406-102
Screwdriver 4,5×150	406-108
Installation mandrel MP Valve	821-000124
Assembly tool VT SV/MP DN50/40	821-000141
Assembly tool VT SV/MP DN65	821-000142
Assembly tool VT SV/MP DN80	821-000143
Assembly tool VT SV/MP DN100/125	821-000144

Tools
Double-seal Valve

FLOWVENT Double-seal Valve	
Tool	**Article number**
Open-end wrench 13×17 mm	408-036
Open-end wrench 36×41 mm	408-042
Socket for wrench 3/8" 17 mm	408-444
Socket for wrench 1/4"13 mm	408-425
Plug-in ratchet reversible 2–1/2"	408-427
Sickle spanner 45/50 mm	408-442
Torque wrench reversible 25 Nm	408-424
Torque wrench reversible 120 Nm	408-426
Sickle spanner 45–90 mm	408-441
Open-end wrench plug-in head 2–17 mm	408-445
T-handle 1/2" 295 mm	408-438
Hexagon screwdriver 1/2"	408-439
Increaser piece 1/4"–3/8"	408-443
Open-end wrench 30×32 mm	408-041

Tools
Control Top

FLOWVENT Control Top

Tool	Article number
Torque wrench for square connect 2.5–25 Nm	408-424
Open jaw plug-in head 2–24 mm	408-433
Socket for wrench with square connect 3/8" SW17 mm	408-444
Adjustable head face spanner 80/5 for torque wrench	408-448
Torque wrench for hexagon connect 1/4" 1–5 Nm	408-449
Torque wrench for pluggable connect 2.5–25 Nm	408-450
Plug in head with square connect 1–1/2"	408-451
Open jaw plug-in head 1–13 mm	408-452
Increaser piece with square connect 1/2–3/4"	408-453
Connection shaft with hexagon 1/4" and square 3/8"	408-454
Torque wrench for hexagon connect 1/4" 0.4–2 Nm	408-455
Increaser piece with pluggable connect type 1–2	408-456
Tool with hexagon connection 1/4" with multi-tooth	408-457
Socket for wrench with square connect 1/4" SW12 mm	408-458
Tool with hexagon connection 1/4" with Phillips screwdriver size 2	408-459
Tool with hexagon connection 1/4" with 10IP TORX Plus	408-460
Tool with hexagon connection 1/4" with 20IP TORX Plus	408-461
Tool with hexagon connection 1/4" with 8IP TORX Plus	408-462
Tool with hexagon connection 1/4" with hexagon size 4	408-463

Abbreviations and Terms

Abbreviation	Explanation
°C	Degrees Celsius, unit of measurement for temperature
3D	Three-dimensional
A	Ampere, unit of measurement of current intensity or output, term used in automation
AC	Alternating Current
ADI free	All elastomer compounds are free of animal-derived ingredients
AISI	American Iron and Steel Institute, association of the American steel industry
ANSI	American National Standards Institute, American body for standardizing industrial processes
approx.	approximately
AS-i	Actuator Sensor interface, standard for fieldbus communication
ATEX	Atmosphères Explosibles, synonymous with the directives of the European Union for potentially explosive areas
bar	Unit of measurement for pressure. All pressure values [barg/psig] refer to positive pressure [barg/psig], unless specifically stated otherwise.
barg	Unit of measurement for pressure relative to atmospheric pressure
CE	Conformité Européenne, administrative symbol for the free movement of industrial products
CIP	Cleaning In Place, designates a process for cleaning technical process systems.
Cv	The Cv value corresponds to the water flow rate through a valve (in US gal / min) at a pressure differential of 1 PSI and a water temperature of 5 °C to 30 °C. kv = 14,28 Cv (USA).
Cvs	The Cv values of a valve at nominal stroke (100 % opening) is designated the Cvs value.
dB	Decibel, one tenth of a bel, named after Alexander Graham Bell and used for identifying levels and dimensions
DC	Direct Current
DIN	Deutsches Institut für Normung e. V. Standardization organization in the Federal Republic of Germany, DIN = synonym for standards issued by the organization
DIP	Dual Inline Package, design of a switch
DN	Diameter Nominal, DIN nominal width
E	Input, term used in automation
EAC	Certification of technical confirmity from the customs union of Russia/Balarus/Kazakhstan
Pressure Equipment Directive 2014/68/EU	Directive of the European Parliament and the Council Directive for layout and conformity evaluation for pressure equipment and assemblies with a maximim pressure (PS) of more than 0.5 bars.
EG No. 1935/2004	Regulation of the European Parliament which lays down common rules for materials which come, or may come, into contact with food, either directly or indirectly.
EHEDG	European Hygienic Engineering and Design Group. Consortium of equipment manufacturers, food industries, research institutes as well as public health authorities
EN	European standard, rules of the European Committee for Standardization
EPDM	Ethylene propylene diene rubber, acronym acc. to DIN/ISO 1629
Ex	Synonym for ATEX
FDA	Food and Drug Administration, official foodstuffs monitoring in the United States
FEM calculation	Finite Element Method; calculation process for simulating solids
FKM	Fluorinated rubber, acronym acc. to DIN/ISO 1629
H	Henry, unit of measurement for inductance
Hz	Hertz, unit of frequency named after Heinrich Hertz
I	Formula symbol for electrical current

Abbreviation	Explanation
IEC	International Electrotechnical Commission, international standardization organization for electrical and electronic engineering
IP	Ingress Protection / International Protection, index of protection class acc. to IEC 60529
ISO	International Organization for Standardization, international organization that produced international standards, ISO = synonym for standards from the organization
kg	Kilogram, unit of measurement for weight
L	Conductive
LED	Light-Emitting Diode
mm	Millimeter, unit of measurement for length
M	Metric, system of units based on the meter or Mega, one million times a unit
m3/h	Cubic meters per hour, unit of measurement for volumetric flow
max.	Maximum
NC	Normally Closed; valve or solenoid valve control which is closed in idle status
NO	Normally Open; valve or solenoid valve control which is open in idle status
NPT	National Pipe Thread, US thread standard for self-sealing pipe fittings
OD	Outside Diameter, pipe dimension
PA 12/L	Polyamide
Pg	Armoured thread
PLC	Programmable Logic Controller, device for controlling a machine or system on a digital basis
PLC	Programmable Logic Controller, device for controlling a machine or system on a digital basis
PN	Nominal pressure for pipeline systems according to EN 1333, rated pressure in bar at room temperature (20 °C)
PNP	Signal transmission against reference potential, current-supplying
PPO	Polyphenylene oxide, thermoplastic material
PS	Maximum permitted operating pressure at which the components can operate safely at maximum allowable temperature (TS)
psi	Unit of measurement for pressure, pound-force per square inch, 1 psi = 6894.75 Pa. All pressure values [bar/psi] refer to positive pressure [barg / psig], unless specifically stated otherwise.
psig	Unit of measurement for pressure relative to atmospheric pressure
PV	Solenoid valve
Ra in µm	Average roughness value, describes the roughness of a technical surface
International Protection-Code IP67, IP66, IP69K	Classifies and rates the degree of protection provided against intrusion dust, accidental contact, and water
SET-UP	Self-learning installation, the SET-UP procedure carries out all necessary settings for generating messages during commissioning and maintenance.
SIP	Sterilization in Place, refers to a process for cleaning technical process systems
SW	Indicates the size of a tool spanner, “Schlüsselweite”
TA-Luft VDI 2440	If a product is certified according to TA Luft it meets the requirements for proof of high grade performance according to TA Luft of 1.0× 10-4 mbar x l / (s x m) at service conditions under the VDI guideline 2440. The product will hence be tested for tightness.
TS	Maximum permitted operating temperature
UV	Ultraviolet, ultraviolet radiation is a wavelength of light
V	Volt, unit of measurement for voltage
W	Watt, unit of measurement for power
Y	Control air connection for the working cylinder, designation from pneumatic systems
µ	Micro, one millionth of a unit

CAD Files

Typical application and description
You can receive two-dimensional and/or three-dimensional drawing files of our components for making your piping planning. For this purpose, please send us your specific request, stating the particular order code and the required drawing format. The required files will then be individually prepared for you.

Available drawing formats:

	FLOWVENT Control Top	FLOWVENT Control Top
2D formats	drw	Native Pro/E
	igs (2D)	IGS file
	dxf	AutoCAD drawing exchange
	pdf (2D)	Adobe Acrobat document
	tif	TIFF (plot)
3D formats	asm	Native Pro/E
	igs (3D)	IGS file
	pdf (3D)	Adobe Acrobat document
	stp	STP file
	bmp (3D)	Bitmap image
	jpg (3D)	JPEG image
	tif (3D)	TIFF image
	sat	Standard ACIS

General Sales Terms and Condition of Delivery

Please note
All our sales and/or services are exclusively subject to our valid terms and conditions of sale and/or service applicable in the respective country of business, which can be found on our internet platform: www.gea.com.

If not available or if you otherwise wish to receive such terms and conditions directly from us, please contact us and we of course will send you the applicable version of our terms and conditions for the envisaged business.

Shut-off Valve
GEA FLOWVENT

Divert Valve
GEA FLOWVENT

Double-seal Valve
GEA FLOWVENT

Mixproof Valve
GEA FLOWVENT

gea.com/flowcomponents