

Relaxed under pressure

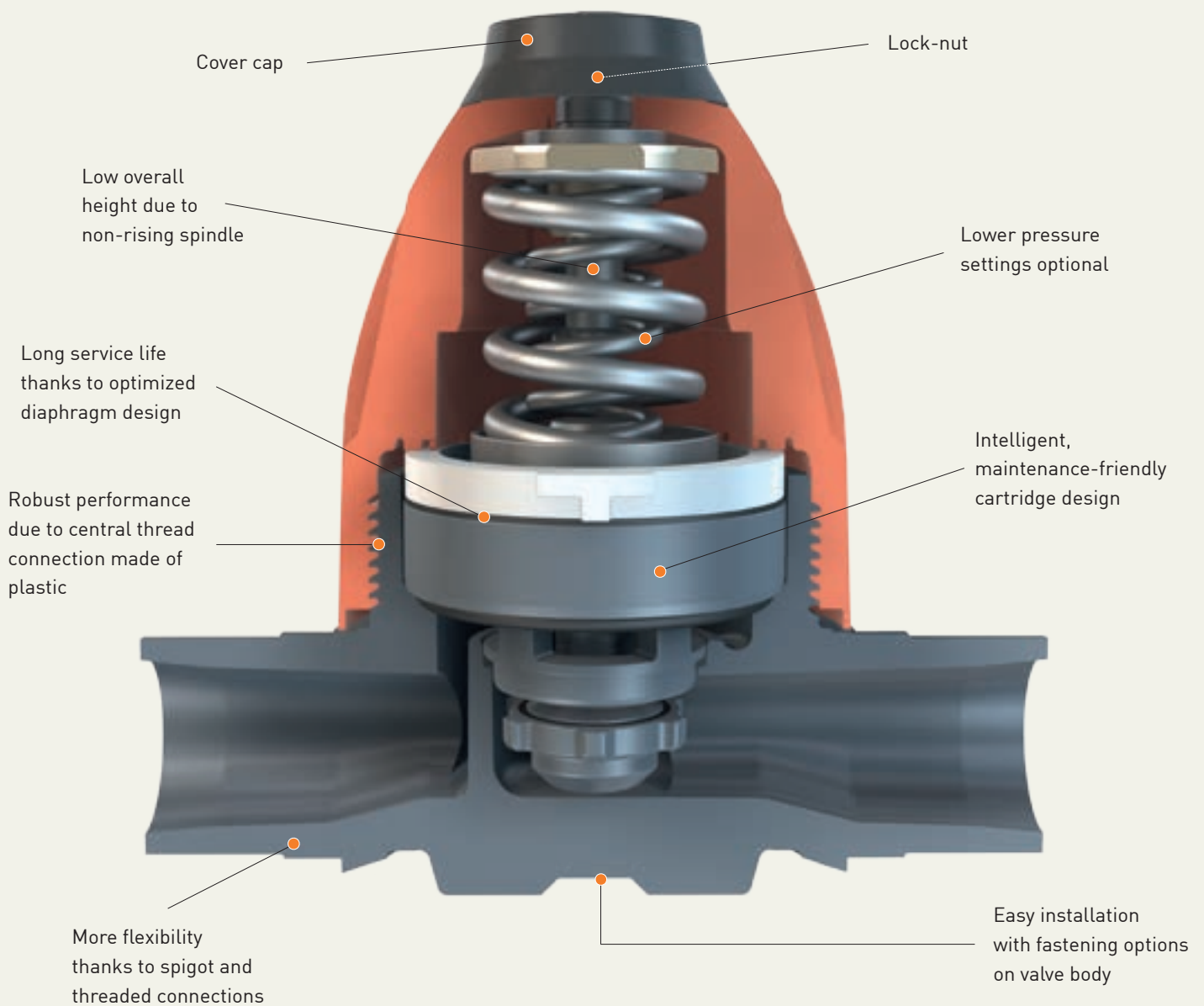
Pressure Reducing Valve Type 582
Pressure Retaining Valve Type 586



Your added value is our first priority

We listen to our customers' needs and we understand what the process requirements are - and in developing our new valves, we took both into consideration. A compelling feature of our innovative pressure regulating valves is their completely reengineered design. By reducing the outer geometry, we have accommodated a key customer request for compactness - without restricting performance in any way.

+ Strong on details



Our compact pressure regulating valves for precise regulation in your applications.

No matter whether the application requires system pressure to be reduced or retained. Maximum performance with minimal space requirement is what we promise.

+ Easy, reliable and flexible



Safer operation with less maintenance

- More precise and reliable pressure control over long periods of time
- No retightening metal screws thanks to central screw connection, in addition to homogenous thermal expansion behavior
- Corrosion-free plastic union with no exposed metal parts
- For use in high-purity applications, elastomer-free piston design, produced in a class 1000 clean room



Intelligent and modular design

- Replaceable cartridge for easy maintenance
- Pressure reducing and retaining valves available with or without manometer
- Pressure gauges on both sides of valve possible (installation in any position)
- Maximum space-saving due to non-rising spindle



Intuitive and easy operation

- Easily adjusted actuation unit (set screw)
- Injection-molded flow arrow to indicate direction of flow
- Injection-molded direction arrow on valve housing to indicate pressure increase/decrease adjustment
- Simple manometer installation; brass manometer as standard or for highly aggressive media complete with gauge guard for media separation

It's your choice

A modular system that provides you with maximum flexibility. With unions available, our pressure regulating valves are adaptable to any standard or material. Easily replaceable cartridges facilitate maintenance and spare parts inventory.

+ Simply more options

PVC-U



PVC-C





Optional manometer with adapter for media separation.



Snap elements to indicate valve type and sealing material.



Integrated fastening bush for safer valve fastening.

PP



PVDF



Constant outlet pressure

Pressure reducing valves, often referred to as pressure control valves, ensure that the pressure at the valve outlet remains constant. They are used wherever a higher system pressure needs to be reduced to a pre-defined value. Depending on the application, fluctuating pressures are evened out or devices branching out from the main pipeline are protected against excessive pressure. For use in high-purity systems, a special version of the valve is available with an elastomer-free piston.

+ Pressure reducing valve type 582



You want to control your processes easily and reliably.

Which is why we have developed a pressure reducing valve which you can depend on and which is easy to handle.

+ Exactly controlled pressure

Dimensions	DN 10-50 (3/8" - 2")
Materials	PVC-U, PVC-C, PP-H, PVDF
Diaphragms	EPDM/PTFE
Seals	EPDM, FPM
Connections	Unions, spigots
Pressure rating (nominal pressure)	PN 10
Pressure setting range	0.5 - 9 bar, 0.3 - 3 bar (7 - 130 psi, 4 - 44 psi)
Hysteresis	max. 0.5 bar (max. 6 psi)



Function

The pressure on the valve outlet side acts via the diaphragm on the adjusting spring. By means of the spring preload, which is adjusted via the set screw on the valve, an equilibrium of forces is established.

If the outlet pressure rises above the set value, the piston is lifted against the spring force. The valve closes and the outlet pressure is reduced. If the outlet pressure falls below the set value, the piston is pressed down by the spring force. The valve begins to open until a state of equilibrium is reestablished. Irrespective of a rising or falling inlet pressure, the outlet pressure remains largely constant because it is not directly correlated to the inlet pressure.

Constant inlet pressure

Pressure retaining valves, also known as overflow valves, ensure that the pressure at the valve inlet remains constant. They are used wherever the system pressure needs to remain constant or a defined counterpressure needs to be generated against feed pumps. It balances out pressure pulsation and reduces pressure peaks. If the valve is installed on the branch of a T-fitting, it can be used as an overflow or relief valve.

+ Pressure retaining valve type 586



You want to control your processes efficiently.

+ Maintain pressure reliably

Function

By means of adjustable spring force, the desired pressure is set in the valve inlet. If the inlet pressure rises above the set value, e.g. due to excessive delivery rate of the pump, the valve piston is lifted against the spring force. As a result, the valve opens and the pressure in the outlet pipe is reduced.

If the pressure in the inlet pipe falls, the spring force presses the piston down toward the valve seat and closes the valve as soon as the inlet pressure sinks below the preset spring tension. In this way, a constant pressure in the inlet pipe is maintained.



This is why we have developed a new pressure retaining valve that contributes to the energy and cost efficiency of your processes.

Dimensions	DN 10-50 (3/8" - 2")
Materials	PVC-U, PVC-C, PP-H, PVDF
Diaphragms	EPDM/PTFE
Seals	EPDM, FPM
Connections	Unions, spigots
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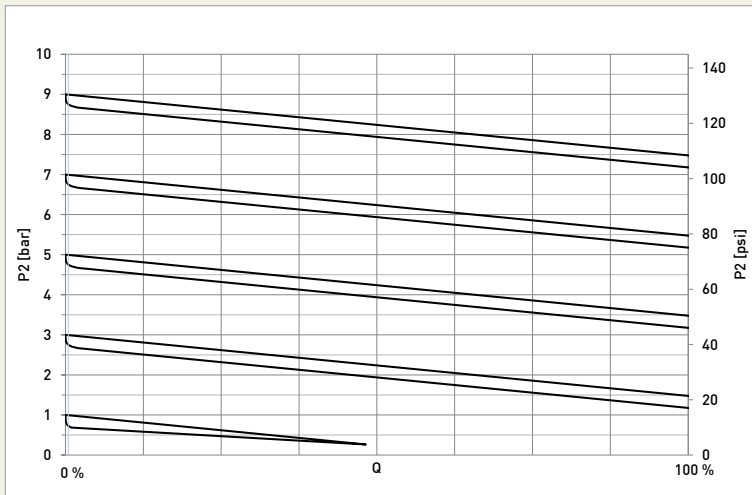
Produced in the clean room

Special, elastomer-free piston design
for your high-purity applications.

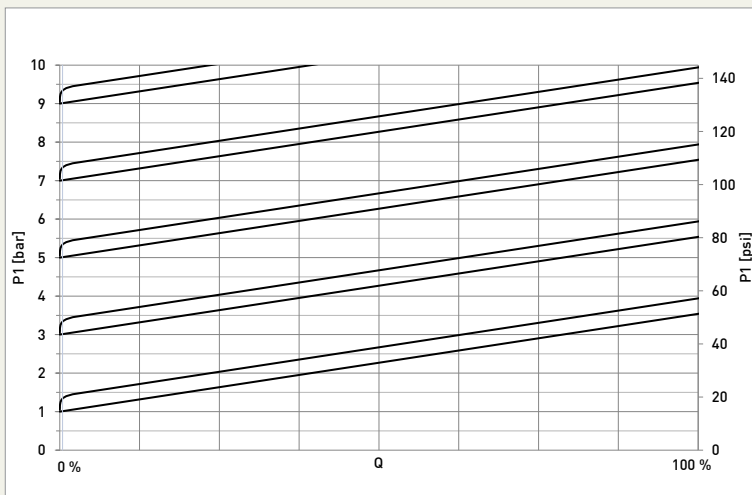




Specifications



Hysteresis curve
Pressure reducing valve type 582
100 % corresponds to a flow velocity of 2 m/s (66 ft/s).



Hysteresis curve
Pressure retaining valve type 586
100 % corresponds to a flow velocity of 2 m/s (66 ft/s).

Type 582

Size	100 %	
16DN10 (3/8")	1000 l/h	4.4 gpm
20DN15 (1/2")	1600 l/h	7.0 gpm
25DN20 (3/4")	2500 l/h	11.0 gpm
32DN25 (1")	4000 l/h	17.6 gpm
40DN32 (1 1/4")	6000 l/h	26.4 gpm
50DN40 (1 1/2")	10000 l/h	44.0 gpm
63DN50 (2")	16000 l/h	70.4 gpm

On the left, you see the schematic diagram of the hysteresis curve. The corresponding table shows the maximum values at 100 % in the diagram.

Type 586

Size	100 %	
16DN10 (3/8")	1000 l/h	4.4 gpm
20DN15 (1/2")	1600 l/h	7.0 gpm
25DN20 (3/4")	2500 l/h	11.0 gpm
32DN25 (1")	4000 l/h	17.6 gpm
40DN32 (1 1/4")	6000 l/h	26.4 gpm
50DN40 (1 1/2")	10000 l/h	44.0 gpm
63DN50 (2")	16000 l/h	70.4 gpm

On the left, you see the schematic diagram of the hysteresis curve. The corresponding table shows the maximum values at 100 % in the diagram.



Take advantage of our new online calculation tool to get the best dimensioning of your valve.

+ Flow characteristics and technical details

Hysteresis curve

The hysteresis curves illustrated to the left result from opening and closing the valve. They show the setting range of 0.5 - 9.0 bar (7-130 psi).

The values apply to water at 20 °C (68 °F) and a flow velocity of 2 m/s (66 ft/s).

Pressure-temperature diagram

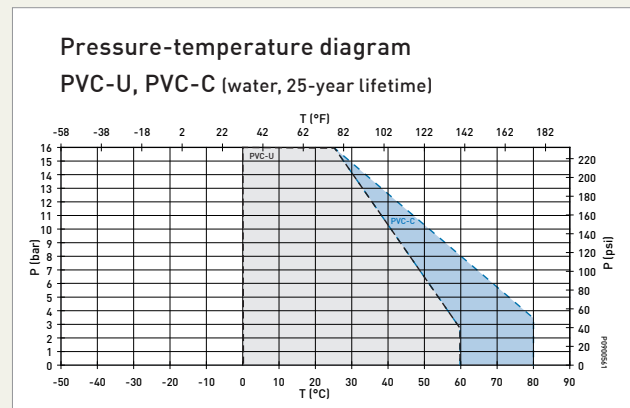
The pressure/temperature curves are valid for applications with water or aqueous media, working temperature 20 °C (68 °F), service life 25 years and a design factor C = 2.

P permissible pressure in bar, psi

T temperature in °C (Celsius), °F (Fahrenheit)

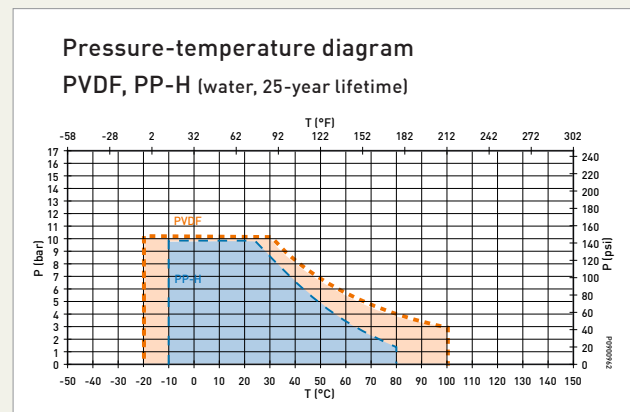
582 Pressure reducing valve

DN (mm)	inch	d (mm)	Kv 100		Cv100 (gpm)
			(L/min)	(L/h)	
10	3/8	16	45	2700	3.1
15	1/2	20	48	2850	3.3
20	3/4	25	112	6700	7.7
25	1	32	129	7730	8.9
32	1 1/4	40	254	15240	17.5
40	1 1/2	50	293	17590	20.2
50	2	63	319	19170	22.0



586 Pressure retaining valve

DN (mm)	inch	d (mm)	Kv 100		Cv100 (gpm)
			(L/min)	(L/h)	
10	3/8	16	50	3020	3.5
15	1/2	20	53	3150	3.6
20	3/4	25	114	6840	7.9
25	1	32	125	7500	8.6
32	1 1/4	40	263	15760	18.1
40	1 1/2	50	286	17140	19.7
50	2	63	293	17610	20.2



Kv100 at pressure differential p = 1 bar
Cv100 at pressure differential p = 1 psi

As individual as your applications, as diverse as your requirements.

We have been engineering application-oriented system solutions successfully in plastic for over 50 years. We offer individual, comprehensive systems and single components for a variety of applications and media. The further development of our portfolio is a crucial success factor for us and our customers. Our new pressure regulating valves have impressed users in the most diverse applications, thanks to their innovative outer geometry and specific material properties.

+ Versatile in use



1

- Water distribution lines
- House connections and service lines
- Waste water piping

2

- Industrial applications
- Mining applications

3

- Recreational facilities
- Golf courses
- Campsites

4

- Agriculture
- Hot-houses
- Irrigation systems

Water Treatment

Drinking water, industrial water, waste water: Depending on the area of application, our customers face diverse challenges in water treatment. These range from ensuring a specific water quality to the precise dosing of chemicals. The fact that our **pressure regulating valves** are corrosion-free and exhibit good flow characteristics make them ideal for water treatment applications.

Microelectronics

Since the processes and products in the microelectronic industry are highly sensitive, they require highly specialized systems and controlled clean room conditions. Stringent demands are made on the purity of the water used and how this ultrapure water is transported.

Our **pressure reducing valves** with special, elastomer-free pistons are resistant to abrasion and ideally suited for regulating high-purity media.

Chemical Process Industry

Aggressive media and harsh application conditions are a reality in many of the processes in the chemical industry. The piping systems and components implemented must therefore comply with the highest requirements in terms of safety and durability. Manufactured of highly chemical-resistant plastics, our **pressure regulating valves** are the right choice in demanding chemical applications as well.

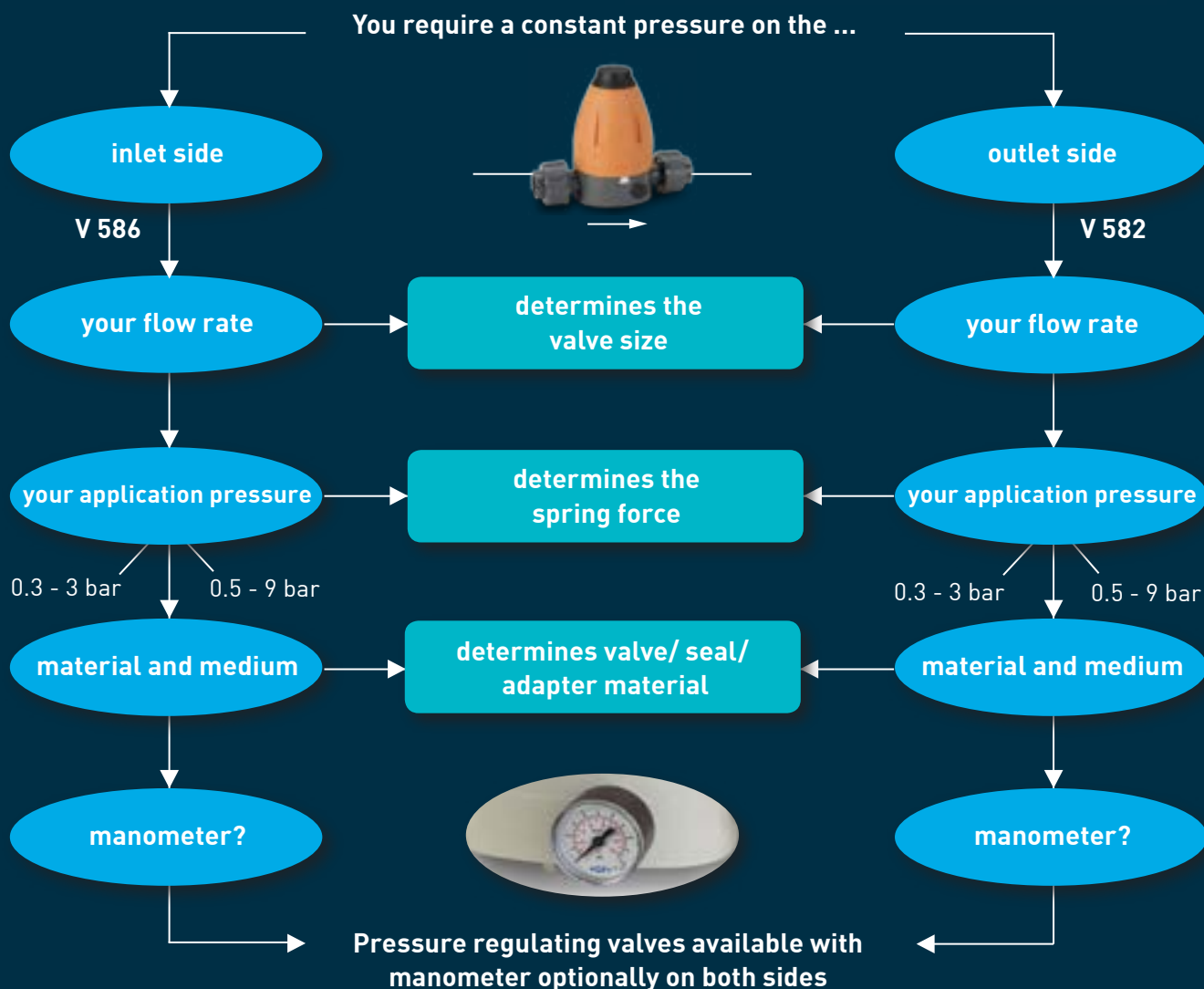
Your decision

We make selecting the right products as simple as possible

We offer you an ideal combination of personal support and technical planning tools. With our online tools you have an overview of all the decisive criteria for optimal valve selection: e.g. chemical resistance tables to determine the right material for your application or calculation tools for layout and dimensioning.



With our practical online tool, you can find the right product for your application quickly and easily. For more information: www.gfps.com/prv



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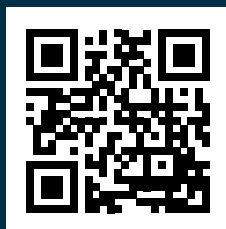
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A class of their own

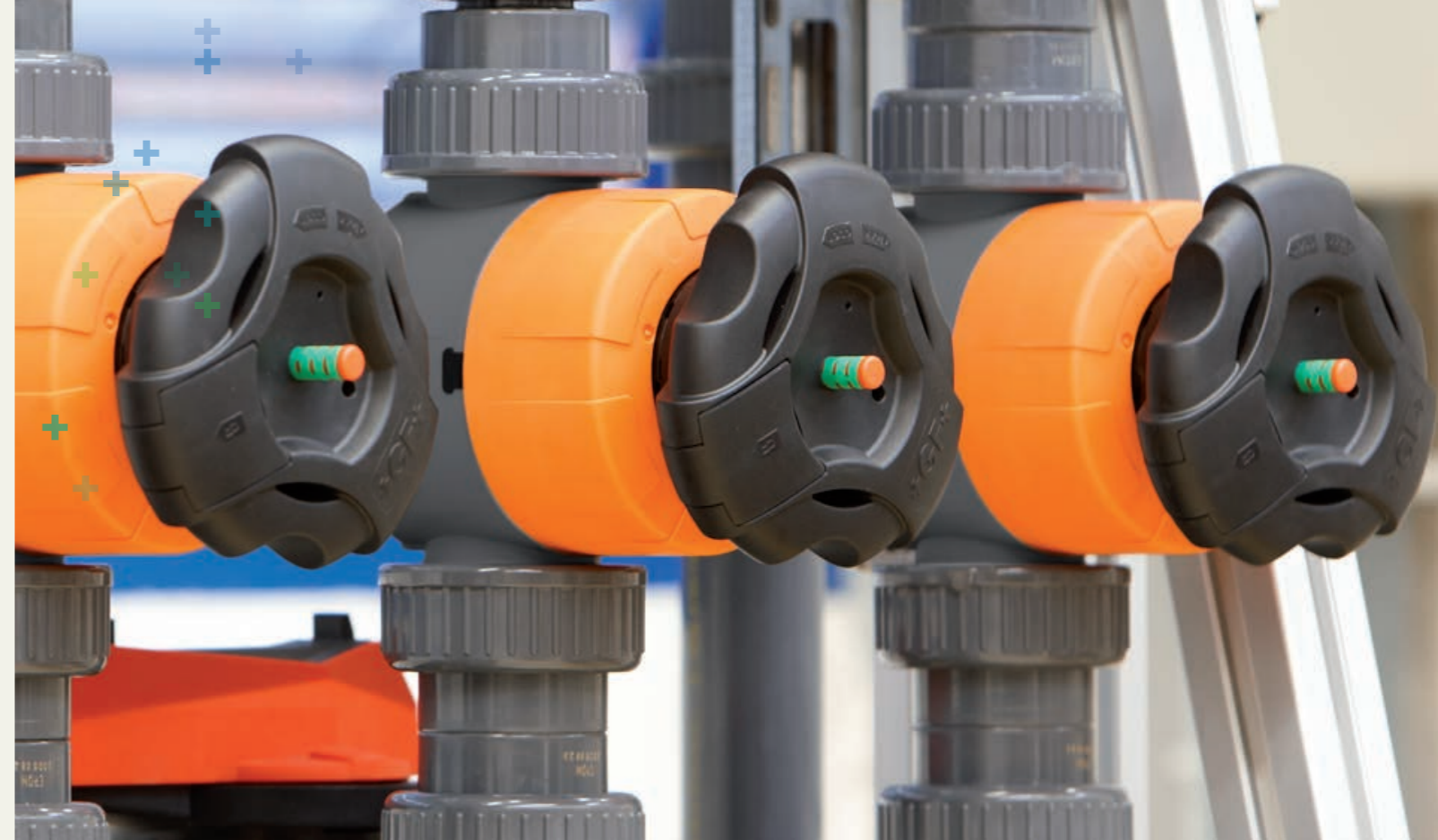
Diaphragm valves



System overview

A solution for every situation

GF Piping Systems offers a wide range of diaphragm valves to cover the individual demands of our customers. No matter which pressure level, media temperature, dimension or actuator – we provide every kind of diaphragm valves to meet your expectations perfectly.



+ Manual diaphragm valves



Type 514, 515, 517
Manual 2-way diaphragm valve

- Full plastic valve with optimized body design for improved flow profile
- Lockable handwheel
- Optical position indicator

Dimension range:
d20/DN15 to d65/DN50

Pressure range:
0 to 16 bar



Type 519
3-way zero-static

- Full plastic valve with optimized body design for improved flow profile
- No dead space
- Different outlet sizes available

Dimension range:
d16/DN15 to d110/DN50

Pressure range:
0 to 16 bar



Type 317
Big dimensions

- Proven screw design for big dimension
- Optical position indicator

Dimension range:
d75/DN65 to d160/DN150

Pressure range:
0 to 10 bar

+ Pneumatic diaphragm valves



Type 604/605

- Full plastic valve with optimized body design for improved flow profile
- Control mode: FC, FO, DA
- Optical position indicator

Dimension:
d20/DN15

Pressure range:
0 to 6 bar



DIASTAR range

- Full plastic valve with optimized body design for improved flow profile
- Control mode: FC, FO, DA
- Wide selection of accessories

Dimension range:
d20/DN15 to d65/DN50

Pressure range:
0 to 16 bar



Type 025
big dimensions

- Proven screw design for big dimensions
- Optical position indicator

Dimension range:
d75/DN65 to d160/DN150

Pressure range:
0 to 10 bar

Configurator

A valve with hundreds of options

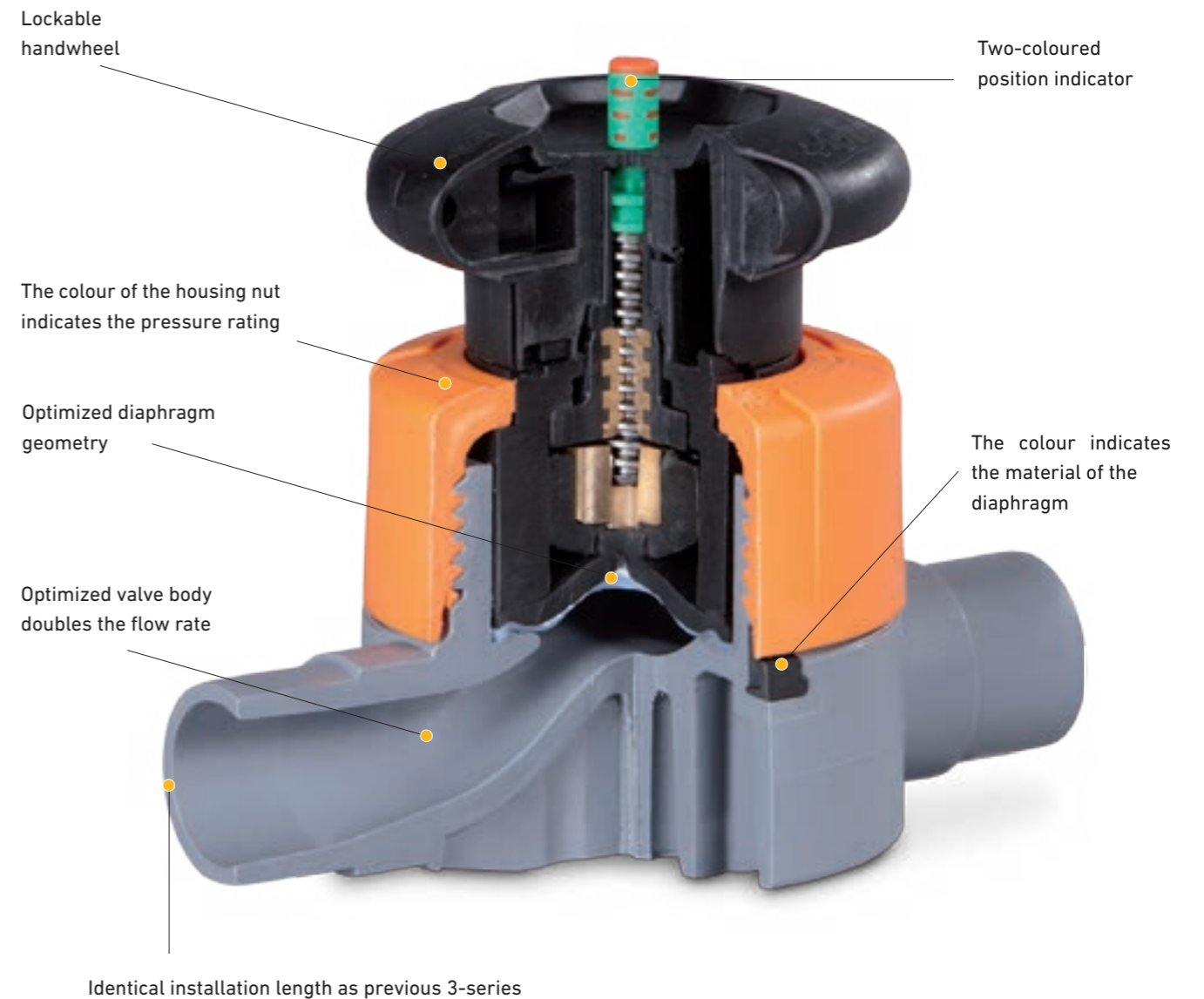
Due to the modularity of the GF diaphragm valves, there are many different options to choose from. You can easily adjust your valve to your process conditions to get the most out of it.



Features of the manual diaphragm valve

Manual mode in every detail

Optimized valve body, higher flow rate, straightforward installation and a central housing, the strength of this full plastic diaphragm valve is located in every detail. Have a closer look and find out many other features.

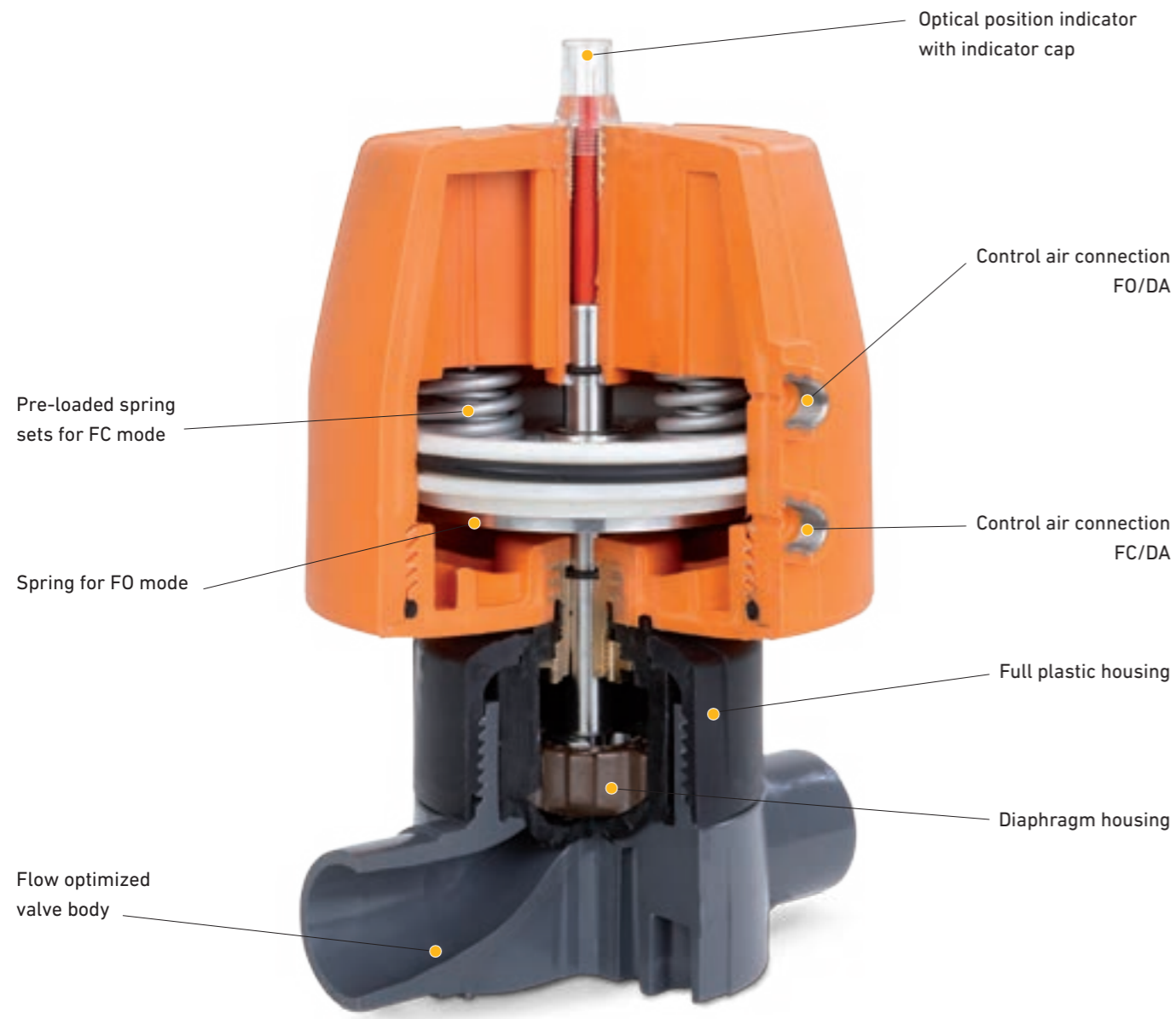


Functions and configurations can differ from the illustration, depending on the type.

Features of the pneumatic diaphragm valve

Perfect teamwork

Same advantages and features, different technology. The perfect interaction of the pneumatic actuator and the high-tech body makes GF diaphragm valves a leading technology in this field.



Features

The DIASTAR system

Different pressure levels require different handling. Therefore, GF Piping Systems offers the optimal actuator configuration for your individual needs.



+ Differentiation DIASTAR



DIASTAR Six
For low pressure applications

- DN15 to DN50
- FC-function
- Cost effective



DIASTAR Ten
All-rounder for standard applications

- DN15 to DN50
- FC-, FO and DA-function



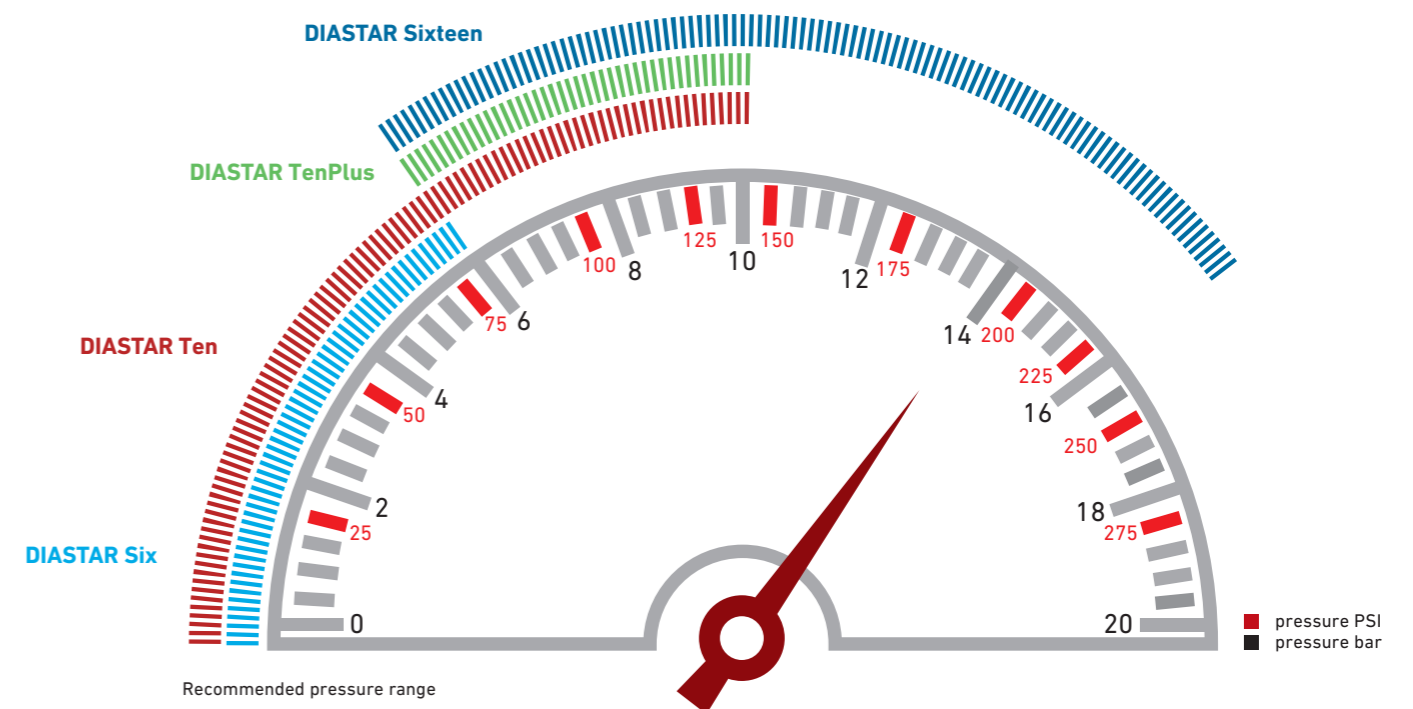
DIASTAR TenPlus
Use only when pressure is applied from both sides

- DN15 to DN50
- FC-function



DIASTAR Sixteen
For water applications with high pressure

- DN15 to DN50
- FC-, FO-, DA-function



Diaphragm valves 5-series

Full plastic solution brings safety

The full plastic design of GF diaphragm valves is a revolution and has a lot of advantages against the metal versions. The benefits of the design simplify your daily business and optimize your plant to make the best of your applications.

+ No corrosion & maintenance

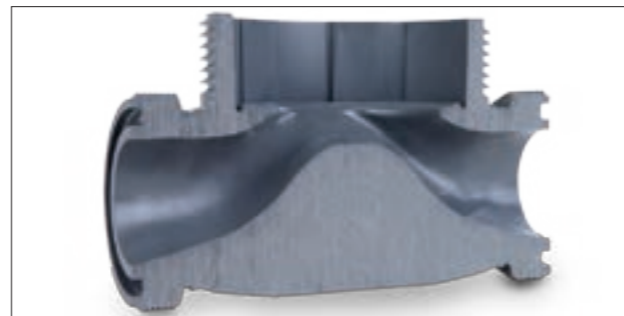
Instead of four metal screws the full plastic diaphragm valve has only one central housing nut. The result is a homogeneous expansion during temperature changes. This results in zero maintenance and no leakages during temperature cycles.



+ 100% more flow

The development aimed to increase the flow and provide a valve for a stable process. Through the optimization of the patented valve body you benefit from:

- Double flow rate
- Linear flow characteristics
- Minimized dead space for maximal hygiene



+ Absolute reliability

All diaphragm valves are 100% leak-tested. Even by exceeding ISO 9393-2, after passing this test the QR code and quality check sticker is put on the valve. By scanning the QR code you will find the service site online (www.gfps.com/dv) with information regarding the latest developments.

- Product catalog
- Technical specification
- Service manuals
- Service videos
- Tips and Tricks



Diaphragm valve type 604/605

Packs a punch for dosing applications

The full-plastic diaphragm valve 604 / 605 with integrated pneumatic actuator from GF Piping Systems ensures best flow performance in compact design. With this corrosion free valve we offer an additional product with the most economic price-performance ratio which is suitable for many applications.

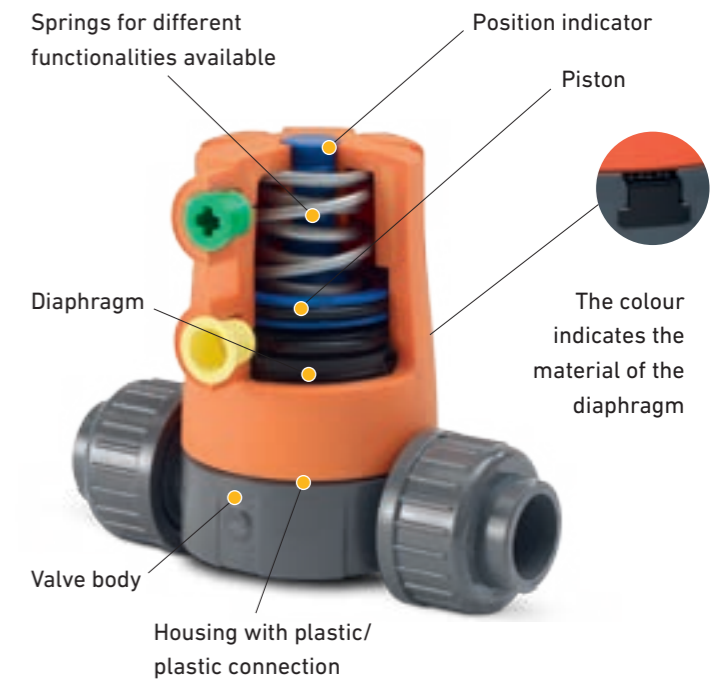
Easy installation and operation

- The compact design enables installation in limited spaces
- No re-torqueing needed due to full plastic design without metal parts and screws
- Radially dismantable due to true unions
- Maintenance free
- Same installation length as all GF diaphragm valves and market standard valves
- Integrated optical position feedback
- QR code on valve leads to online available product documents

High safety

- Uniform temperature expansion of plastic/plastic connection prevents leakages
- High chemical resistance due to large material range
- Best quality and reliability for high number of cycles






+ Features



System overview – it's your choice








GF Piping Systems offers you a wide variety of valves to meet your needs in every situation. The following valve overview should simplify your decision by offering every detail of the valves. Have a closer look to find the perfect valve.

Manual operated

General					
Type	514	515	517	519	317
					
Description	True union	Spigot ends	Flange version	3-way	Big dimension
Dimension	DN15-DN50			DN65-DN150	
Pressure level	PN10/PN16 *			PN10 (PN6*)	
Materials					
PVC-U	✓	✓	✓		✓
PVC-C	✓	✓	✓		✓
ABS	✓	✓			✓
PP-H	✓	✓	✓	✓	✓
PP-n		✓			
PVDF	✓	✓	✓	✓	✓
PVDF-HP	✓	✓	✓	✓	✓
Diaphragm materials					
EPDM	✓	✓	✓	✓	✓
PTFE/EPDM	✓	✓	✓	✓	✓
PTFE/FKM	✓	✓	✓	✓	
FKM	✓	✓	✓		✓
NBR	✓	✓	✓		✓
Accessories					
Feedback electric	✓	✓	✓	✓	

*See pressure-temperature diagram in the respective data sheet

Pneumatically operated

General							
Type	604	605	DIASTAR Six	DIASTAR Ten	DIASTAR TenPlus	DIASTAR Sixteen	025
							
Dimension	DN15		DN15-DN50			DN65-DN150	
Pressure level	PN6		PN6	PN10	PN10 on both sides	PN16	PN10 (PN6*)
Functions							
FC	✓	✓	✓	✓	✓	✓	✓
FO	✓	✓		✓		✓	✓
DA	✓	✓		✓		✓	✓
Pneumatic connections							
Size	G¼	G¼	G½	to DN40: G¼" from DN40: G¼"	to DN32: G¼" from DN32: G¼"	to DN32: G¼" from DN32: G¼"	G ¼"
PVC-U	✓	✓	✓	✓	✓		✓
PVC-C	✓	✓	✓	✓	✓		✓
ABS	✓	✓	✓	✓	✓		✓
PP-H	✓	✓	✓	✓	✓		✓
PP-n				✓			
PVDF	✓	✓		✓	✓	✓	✓
PVDF-HP				✓	✓	✓	✓
Connection							
Sockets	✓		✓	✓	✓	✓	
Spigot		✓	✓	✓	✓	✓	
Flange			✓	✓	✓	✓	✓
Threaded socket			✓	✓	✓	✓	
Diaphragm							
EPDM	✓	✓	✓	✓	✓	✓	✓
PTFE/EPDM	✓	✓		✓	✓	✓	✓
PTFE/FKM	✓	✓		✓	✓	✓	
FKM	✓	✓	✓	✓	✓	✓	✓
NBR			✓	✓	✓	✓	✓
Accessories							
Feedback electric				✓	✓	✓	✓
Emergency manual override				✓	✓	✓	✓
Stroke limiter	✓	✓		✓	✓	✓	✓
Positioner				✓	✓	✓	✓
Bus connection				✓	✓	✓	✓

Technical data

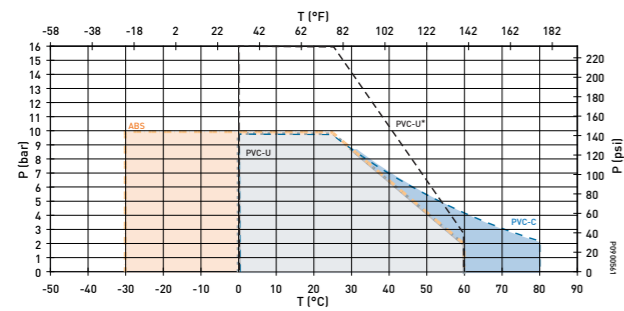
Specifications

The most important data at a glance.

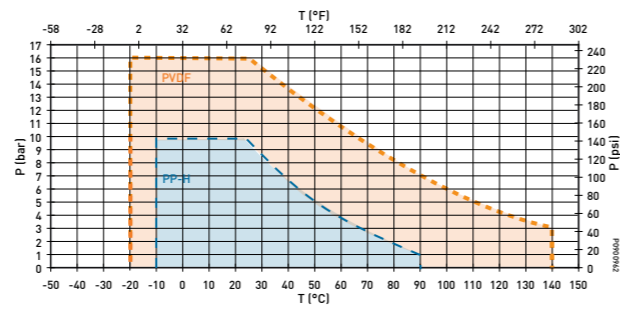


+ Pressure-temperature diagram

Pressure temperature diagram ABS, PVC-U, PVC-C (water, 25 years)

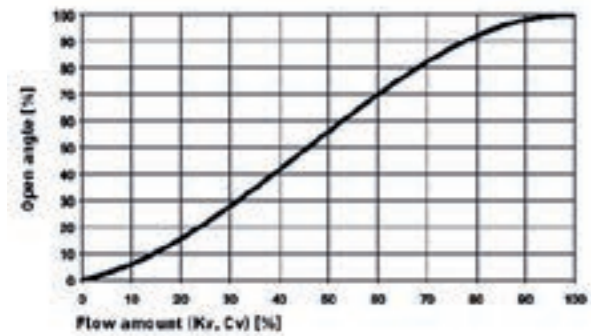


Pressure-temperature diagram PVDF, PP-H (water, 25 years)

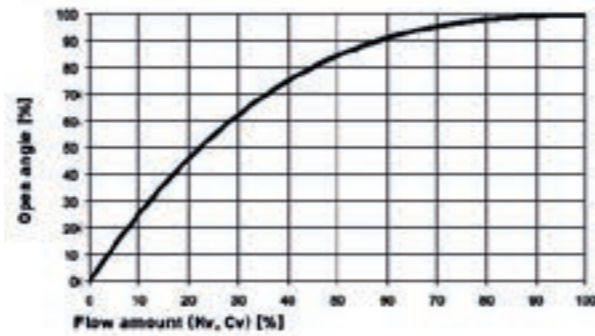


+ Flow characteristics

2-Way diaphragm valve type 514-517/DIASTAR



3-way diaphragm valve type 519/DIASTAR



KV 100 values

d [mm]	DN	Inch	Kv 100 (l/min)	Cv 100 (gal/min)	Increased flow to comparable valve ¹
20	15	1/2	125	9	74%
25	20	3/4	271	19	98%
32	25	1	481	33	132%
40	32	1 1/4	759	52	114%
50	40	1 1/2	1263	87	144%
63	50	2	1728	119	142%

¹ Compared with the precursor type 317 in the correlation dimension.

+ Accessories and special valves



Solenoid pilot valve 3/2-ways type PV94

- 230 V, 50-60 Hz
- 115 V, 50-60 Hz
- 24 V, 50-60 Hz
- 24 V DC
- G¹/₈, G¹/₄, G6mm
- DN1.2



Solenoid pilot valve 3/2-ways type PV95

- 230 V, 50-60 Hz
- 115 V, 50-60 Hz
- 24 V, 50-60 Hz
- 24 V DC
- G¹/₈, G¹/₄
- DN1.5-DN2



Height compensation and mounting plate

- 5 different sizes to reach the required height
- Mounting plate for easy fixation
- Suitable for all 5-series diaphragm valves



Solenoid pilot valve type MNL 532

- Version for 3/2-way and 5/2-way
- Namur connection
- Material of body: Aluminum
- 24 V AC, 24 V DC, 48 V AC, 110 V AC, 230 V AC



Electric position feedback type ER 52-1/ER53-1

- For pneumatic stroke actuators
- For DIASTAR Ten, TenPLUS, Sixteen, 025
- Mechanical switches (AgNi or Au)
- NPN/PNP, Namur connection
- With visual position indication



Diaphragm Valve type 517 (317)

- PVC-U, PVC-C, PP-H, PVDF, PVDF-HP
- EPDM, PTFE/EPDM, FPM, PTFE/FPM
- DN15-DN50 (type 317: DN65-DN150)
- Up to PN16
- Lockable handwheel
- Electrical feedback module



Stroke limiter/ manual override

- For DIASTAR types



Digital electro-pneumatic positioner type DSR 500

- Mounted on pneumatic control valves
- Linear and rotary actuators
- Nominal stroke 3-28 mm
- Self-learning
- Control signal 4-20 mA
- 24 V DC

High purity

Clean room production



Our quality aspirations are binding throughout the entire process chain and have been verified with numerous certificates and awards.

Our clean room, one of the largest clean-room production facilities in Europe, is equipped with everything that is required for the perfect manufacturing of high-purity products consisting of synthetic materials.

Verified and monitored incoming and outgoing process, clean-room quality up to ISO Class 5 and a thoroughgoing double-door system ensure maximum purity.



+GF+

Reference case

Full-plastic diaphragm valves in ion-exchange systems

Water treatment and environmental protection are becoming increasingly important in today's society. It is also a big cost-driver for companies. In many applications of metal processing companies, deionised water (DI-Water) with very low conductivity values is required. With an ion-exchange system, the water can be treated economically for the processes. The company Gross Wassertechnik GmbH, based in Pforzheim, Germany, is a specialist in the plant construction industry. The company specializes in industrial water treatment plants and wastewater treatment.

Ion-exchange systems

In an ion-exchange system, water is passed through various resins. The resins absorb ions and organic substances from the water. The result is "DI-water", which can be used for various processes. As soon as the resins' capacity is reached, they are regenerated with hydrogen chloride (HCL) or sodium hydroxide (NaOH). Due to the use of chemicals, it is expedient to use plastics for this process for their excellent chemical and corrosion resistance. The application conditions and chemical resistance require the use of two different plastics in this ion-exchange system. 80% of the plant are built of PVC-U and the remaining 20% of PP-h. In addition, high quality standards are required, so that the process remains constant at a high level. In order to meet these customer requirements, GF Piping Systems develops and supplies the entire system of the pipes, valves and connection technology over the entire dimension range of the materials.

Valves used in this ion-exchange system

- Manual diaphragm valve type 514 (d20 mm – d32 mm)
- Pneumatic diaphragm valve DIASTAR Six (d25 mm – d32 mm)
- Pneumatic diaphragm DIASTAR Ten (d32 mm – d63 mm)
- Manual butterfly valve type 567 (d63 mm – d90 mm)
- Manual ball valve type 546 (d20 mm – d63 mm)

Reasons for GF Piping Systems

- Flow characteristics of the diaphragm valves
- Increase flow rate and improved flow control characteristics, lead to reduced dimensions and costs
- Corrosion free full plastic solution
- Excellent controllability and simple signal input of the diaphragm valves



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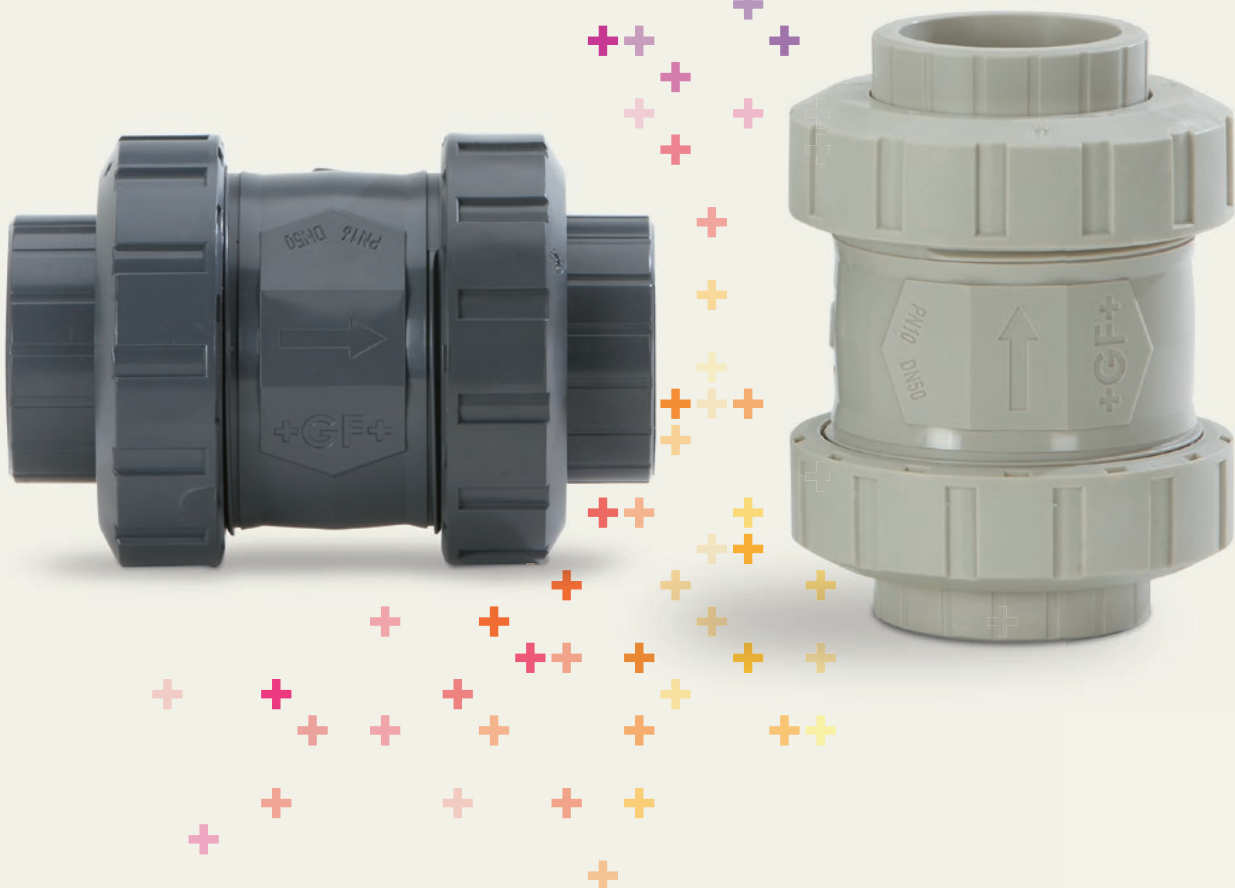
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CH-8201 Schaffhausen/Switzerland, 2017

Economical, safe and efficient

Check valves Type 561 and Type 562



Benefits

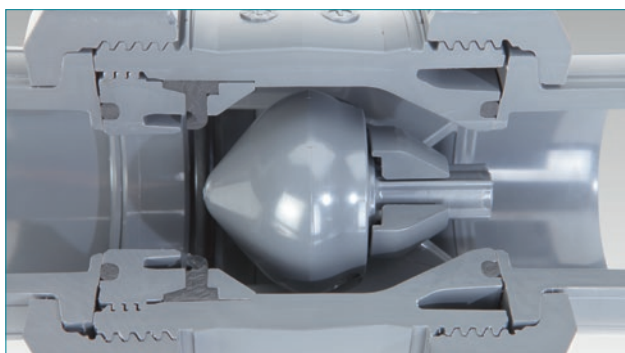
Reliable, efficient, durable – for your benefit, for your profit

The check valve types 561 and 562 are a new generation of valves, featuring more safety, simplicity and efficiency. They represent a milestone in valve technology and exemplify an outstanding engineering achievement, which combines what the market wants with what is technologically feasible. The focus is on efficiency, user friendliness and compatibility. The two check valves type 561 and type 562 easily fit in all piping systems worldwide thanks to our comprehensive product range.



Safety

The new check valve type 562 (horizontal) closes absolutely leak-tight with the built-in spring, even in the de-energized state – without water column as well as in a horizontal position. The spring in standard versions is made of stainless steel (SS304). A higher quality steel or plastic-coated steel spring is also available. The risk of corrosion is minimal. If no spring is desired, we recommend using the check valve type 561 (vertical), which is 100 percent leak-proof, at a water column of two meters.



Simplicity

The self-closing mechanism operates autonomously, without any other energy source, i.e. water column or flow (type 562) or with a minimal line pressure (type 561). The wide range of connecting possibilities in all conventional standards and versions from GF Piping Systems guarantees easy integration of the valves in all piping systems.



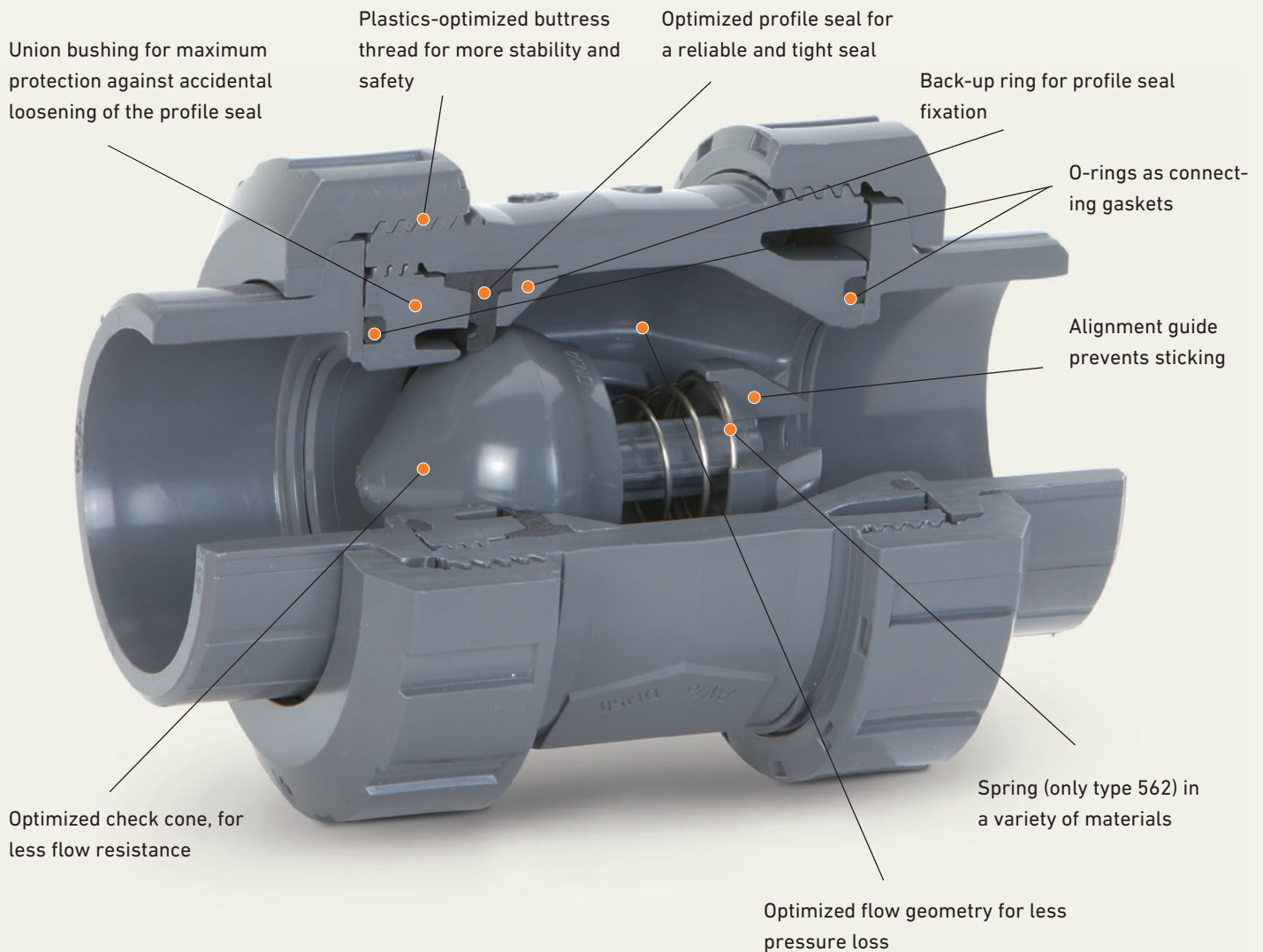
Efficiency

The new streamlined check cone and the refined geometry in every detail provide for a significantly improved flow compared to valves with a check ball, without compromising functionality or leak-tightness. The effort involved in cleaning and servicing the valve has been reduced to a minimum thanks to the cone design, which offers the least possible contamination surface.

Features

Spirit of innovation and customer needs united in an optimal way – check valves from GF Piping Systems

Our engineers focused primarily on two areas in the development of the new check valve: How can we make an established product type even more reliable? And how can we reduce the wear and tear on moving parts and consequently keep maintenance to a minimum? The solution was to completely redesign the inner workings of the valve. GF Piping Systems examined every function and optimized every detail to achieve a dramatically improved valve performance.



Systemdetails

The flow-optimized check cones provide improved maintenance and reliability

The unique check cone element design is at the heart of the new valve generation. A further benefit: The optimized flow geometry minimizes flow resistance and pressure loss. This allows saving valuable energy. Thanks to the new sealing zone and the specially developed profile seal, the valve is absolutely leak-proof, even with very fast closing and improved maintenance and reliability.

100 percent leak-proof

Two special design factors make sure the valve closes tightly. The check cone has the contour of a spherical surface in the sealing zone. Also, the double bearing of the cone prevents it from tilting, even with rapid closing. Malfunctions are therefore eliminated.

Optimized flow contour

An optimal flow contour with smooth transitions and radii enables a higher flow rate than conventional check valves. The benefits are obvious: less wear and tear, less pressure loss and better maintenance cycles.

Any installation position is possible thanks to the spring

The 562 check valve is equipped with a spring mechanism and closes tightly even without a water column. Thanks to this new design feature, the valve can be built in either vertically or horizontally.

Dimensioning and materials

The dimension range of the valves from DN10–DN100 takes the continually increasing volumes conveyed in industrial piping systems into account. Similarly, the diversity of materials covers all industrial applications: PVC-U, PVC-C, ABS, PP-H and PVDF.

Easy maintenance

The valve can be easily dismantled and removed in just a few steps. This saves time and effort during maintenance work or when retro-fitting the valve with a spring. A special disassembly tool is available as an accessory.

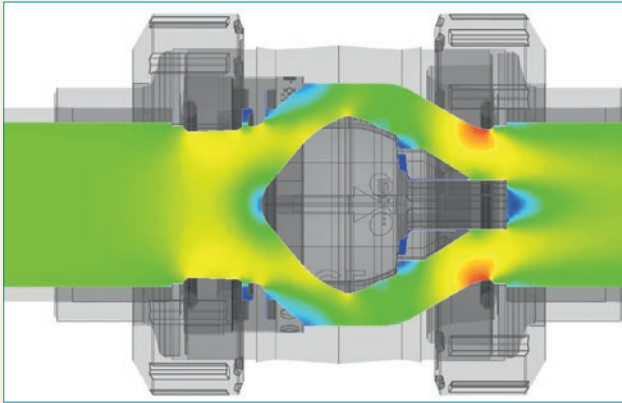
Use as foot valve

Together with the strainer, available as an accessory, the check valve can be used as a foot valve. The combination of check valve type 561 or type 562 and strainer is an effective way of protecting a pump from contamination and consequently from damage, while at the same time, preventing the pump from unwanted emptying.





Product range



Flow geometry

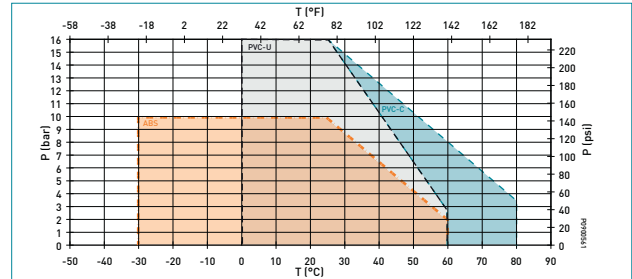


Foot valve

Technical Data

The following pressure-temperature diagrams are based on a service life of 25 years and apply to water or water-like media. See our Planning Fundamentals for more details.

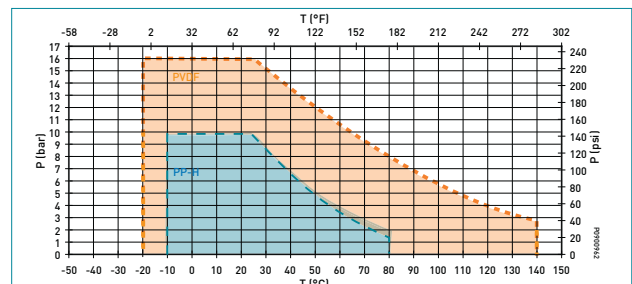
Pressure-Temperature Diagram ABS, PVC-U, PVC-C (water, 25 years)



kv-100 value

DN (mm)	inch	DN (mm)	kv 100 l/min (Delta p = 1 bar)
10	3/4	16	190
15	1/2	20	190
20	3/8	25	380
25	1	32	460
32	1 1/4	40	850
40	1 1/2	50	1080
50	2	63	1670
65	2 1/2	75	2950
80	3	90	3600
100	4	110	4150

Pressure-Temperature Diagram PVDF, PP-H (water, 25 years)



Opening and closing conditions, type 561, 562

Open (vertical installation, type 561)

Close*

DN	Differential pressure to lift the cone (bar)	Difference for full-lift of cone (bar)	Flow for full-lift of cone (l/min)	min. flow velocity for full-lift (m/s)	561	562
10	0.003	0.01	8	0.7	0.2	0.1
15	0.003	0.01	9	0.7	0.2	0.1
20	0.003	0.01	13	0.7	0.2	0.1
25	0.005	0.01	18	0.8	0.2	0.1
32	0.005	0.01	35	0.8	0.2	0.1
40	0.01	0.01	70	0.8	0.2	0.1
50	0.02	0.01	100	0.8	0.2	0.1
65	0.025	0.01	120	0.9	0.2	0.1
80	0.03	0.01	170	0.9	0.2	0.1
100	0.03	0.08	250	1	0.2	0.1

* vertical and horizontal installation

Product Range

The right valve for all requirements and applications

As the number of application possibilities grows, so does the demand for more versatile valves. This is why GF Piping Systems carries different types of non-return valves for pipelines in its product line. Besides the cone check valves type 561 and type 562, the wafer check valve type 369 and the angle-seat check valve type 303 stand out with their individual strengths.



Type	Cone check valve		Angle-seat check valve	Wafer check valve	
	561	562	303	369	
General	Description	union nut mounted	union nut mounted	spigot cemented	wafer-type valve
	Dimension range (DN)	10–100		15–50; 80	32–300
	Pressure rating	PN16/ PN10*		PN10	PN6
	FSpring-assisted (V2A/V4A)**		x		x
Materials	PVC-U	x	x	x	x
	PVC-C	x	x		
	ABS	x	x		
	PP-H	x	x		x
	PVDF	x	x		x
Seal material***	EPDM	x	x	x	x
	FPM	x	x	x	x
Connection type	Socket	x	x	x	
	Spigot	x	x	x	
	Flange	x	x	x	x
	Threaded socket	x	x		
Standards	ISO	x	x	x	x
	ANSI	x	x		x
	BS	x	x		
	JIS	x	x	x	
Options	FSpring Nimonic 90/ Hastelloy-C		x		x
	Spring Halar/ECTFE coated		x		

* see pressure-temperature diagram
 ** other spring materials available
 *** other seal materials on request



Product Selection

The right valve for your application

Choosing the right valve for your application depends largely on the medium conveyed and the functional requirements. Pressure and temperature are key criterias for material selection. Which valve is suitable in relation to these two parameters can be seen in the technical data of the respective valve.

Check valve selection guide

Type		Cone check valve		Angle-seat check valve	Wafer check valve
		561	562	303	369
Medium conveyed	Free of foreign bodies	+	+	+	+
	Containing solids / crystallizing	o/-	o/-	o	+/o
	Viscous	+	+	+/o	+/o
	Gaseous	+	+	o	+
Functional properties	Controllable	x	x	x	x
	Position indicator	x	x	x	x
	Piggable	-	-	-	-
	Tight under vacuum	o/-	o/-	o	+/o
	Can cause pressure surge	o	o	o	o
	Horizontal installation	o	+	+	+
	Spring-assisted	-	+	x	+
	Water hammer resistant	+	+	o/-	o/-
Dimension range (DN)		10-100	10-100	15-50; 80	32-300

+ = recommended
o = conditional use

- = not recommended
x = not possible

Applications

Whether in water treatment, in the chemical process industry or in cooling applications, check valves from Georg Fischer are found wherever reliable performance is required. Due to the wide range of available materials and the high pressure rating of 16 bar (10 bar for PP, ABS), the check valves type 561 and type 562 fulfil the diverse specifications of numerous applications. The valve's self-closing function and quiet operation contribute to your safety and comfort on a daily basis.



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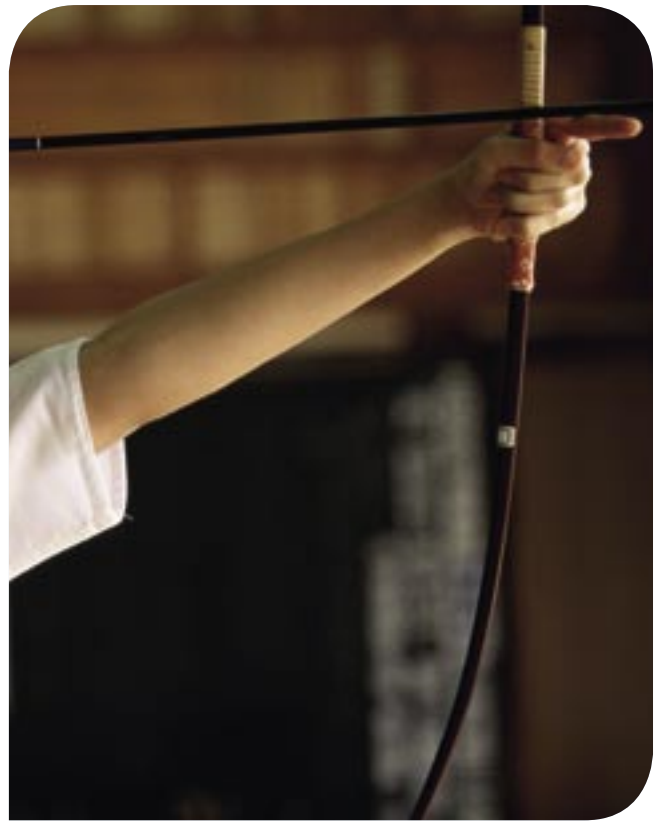
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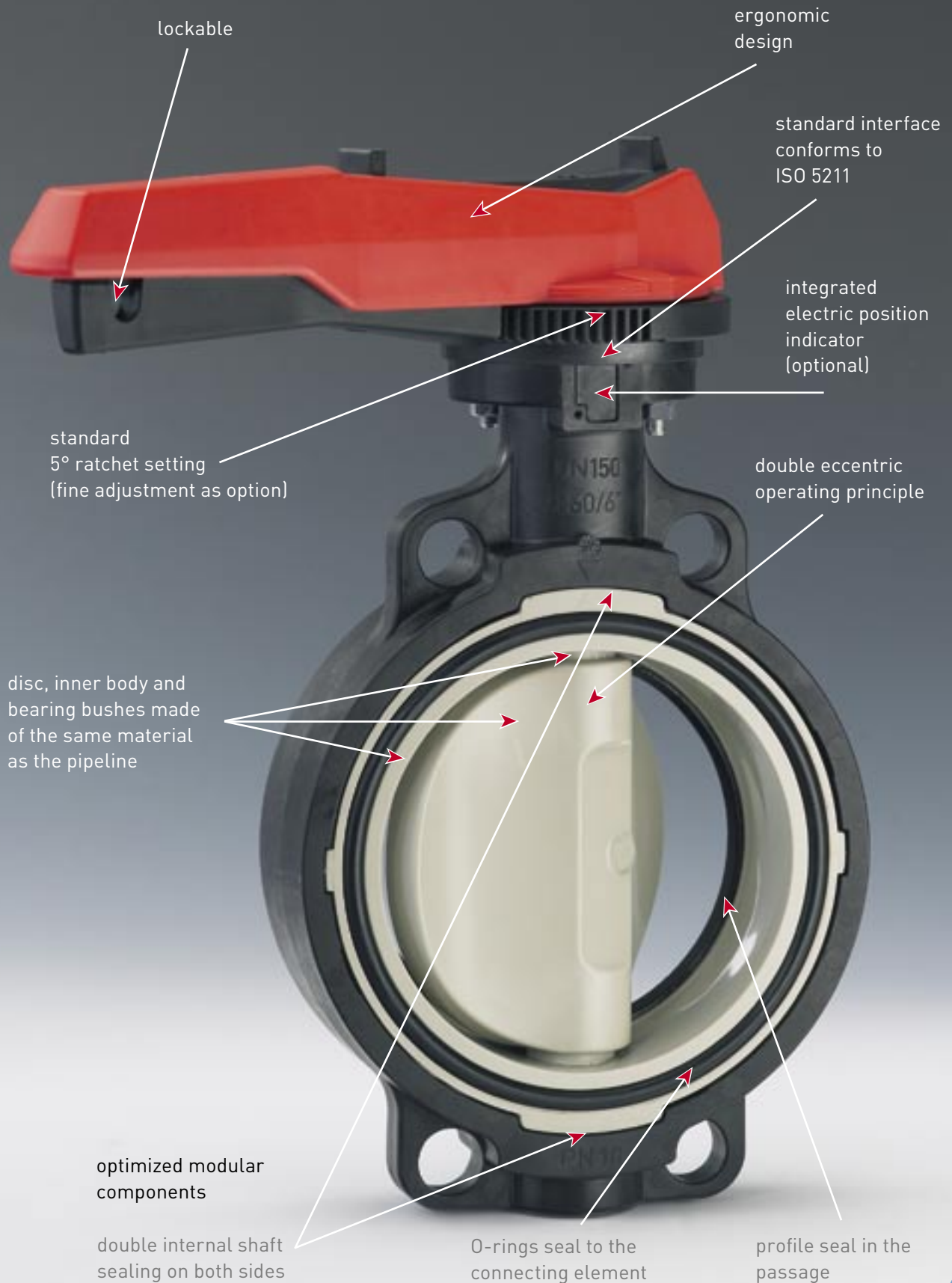




Targeted ►
technology
and know-how

The new
butterfly valves
type 567 and 568

➤ A winner in every detail



One system - many options

Georg Fischer presents the new 567/568 type series of butterfly valves with a comprehensive range of products and a multitude of interesting combination possibilities. We can offer you, for example, manual valves with hand lever or reduction gear. The program also includes pneumatically or electrically actuated valves from DN50 to DN200.

Our system's modular design principle allows you to exchange individual system components – fast, easily and at very little expense. You also have a choice of materials: PVC-U, PVC-C, ABS, or β -PP-H and PVDF. Our standard sealing materials are EPDM and FPM, but other materials are available on request.

All the customary installation pipe standards are supplied:

- metric: DIN, EN, ISO
- inch: BS, ASTM
- JIS (only wafer-type valves)

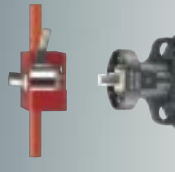
With this wide range of products to choose from you can always be sure of having the best possible solution for your application. The new butterfly valves type 567/568 from Georg Fischer Piping Systems conform to the following international standards:

prEN ISO 16136
Industrial valves – butterfly valves in thermoplastic materials

ISO 9393
Thermoplastic valves – pressure test methods and requirements

EN 558
Face-to-face length of butterfly valves corresponds to EN 558

Approvals pending:
DIBt, NSF61, TA Luft



Butterfly valve with electric actuator; optional manual override and electric position indicator



Butterfly valve with pneumatic actuator – double acting; optional manual override



Butterfly valve with pneumatic actuator – single acting



Butterfly valve with reduction gear



Butterfly valve with fine adjustment



Standard Wafer-type butterfly valve
Type 567



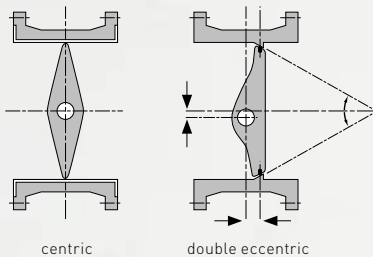
Standard Lug-type butterfly valve/end installation
Type 568

The new butterfly valves type 567/568 from

The name Georg Fischer stands for reliability and longevity and has done so for over 200 years. Our products guarantee quality, innovation and functionality. These qualities have also been incorporated in the design of our new butterfly valves type 567/568. You will find innovative ideas in every detail and all designed to meet your specific needs and requirements – from a safety, technical and business point of view.

Double eccentric operating principle

Making a statement is important. Especially when you do it with innovative details – like our new type 567/568 butterfly valves. Double eccentricity is the answer.



Most butterfly valves are built according to a centric operating principle, ours have a double eccentric design. This means the disc doesn't touch the seal in the open position, thus ensuring good frictional behavior and less wear and tear. In addition, the double eccentric design protects our butterfly valves even better against pressure surges. So they have a longer service life and require less maintenance.

Integrated electric position indicator

Now, you have a clear overview of your system at all times. Thanks to our integrated electric position indicator, you always know which valves are open and which are closed and this contributes greatly to your and your operators' safety. The electric position indicator integrated in the mounting flange is a totally new feature for butterfly valves. Our feedback concept includes a choice of five different types of limit switches perfectly suited to your needs.

Lower actuation torque

Our new butterfly valves have an actuation torque which is up to 50% lower than that of our previous model or that of our competitors. They are therefore easier to operate and you can use smaller, more economical actuators. Since the actuation torque largely depends on the internal pressure – usually between 3 and 6 bar – our new butterfly valves are ideal for precisely this pressure range. The maximum allowable nominal pressure at 20°C is 10 bar.

Optimized modular components

We practice quality. That's why we look at each sealing function separately, optimizing each seal according to its particular function.



from GF Piping Systems



The new butterfly valves in the dimensions DN 50 to DN 200 have a modular design, offering you a wide range of products to choose from. Our attention to detail sets new standards in regard to economic efficiency, safety and long service life.

We have used three separate sealing elements here:

- ▶ exterior seal: double, internal shaft seal on both sides of disc to protect against external leakage
- ▶ connecting element seal: standard O-rings
- ▶ disc seal: specially engineered profile seal

Reduced permeation

All the butterfly valve components that come into contact with the medium, such as disc, inner bodies and bearing bushes, are manufactured of the corresponding pipe material. Your benefit: excellent corrosion and chemical resistance.

New design of functional hand lever

The type 567/568 butterfly valves have been designed taking every detail into consideration, even the hand lever. The following features guarantee even more safety:

- ▶ On standard versions, the indexing is in increments of 5 degrees. There are always six teeth engaged between the ratchet and the index plate.
- ▶ This ensures accurate and safe positioning of the lever.
- ▶ With the fine adjustment option, the disc can be opened at any angle between 0° and 90°.
- ▶ The opening angle is clearly indicated in degrees on the index plate.
- ▶ The hand lever is lockable to prevent it from being moved.
- ▶ The hand lever is made of high strength PPGF (polypropylene, fiberglass reinforced).



The profile seal has been specially engineered for the double eccentric operating principle.

The use of standard O-rings for sealing the pipeline makes installation easy. No displacement, falling out or folding over – as is often the case with other sealing systems.



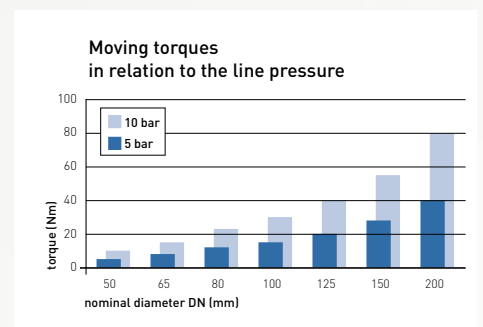
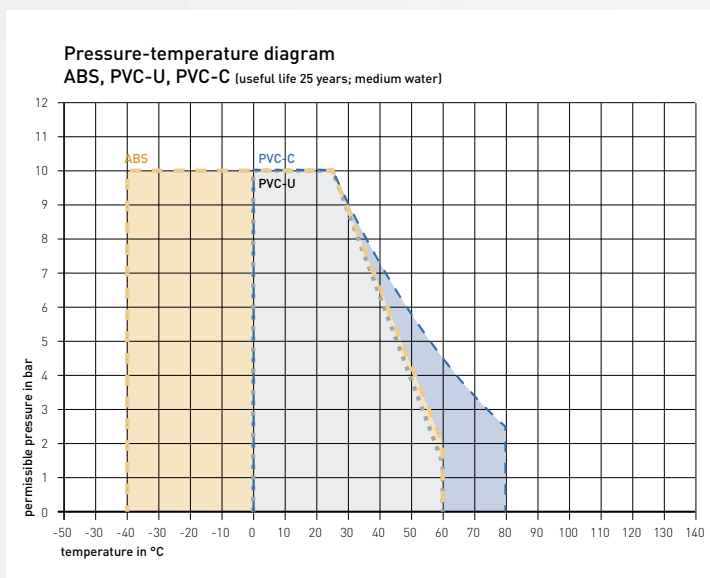
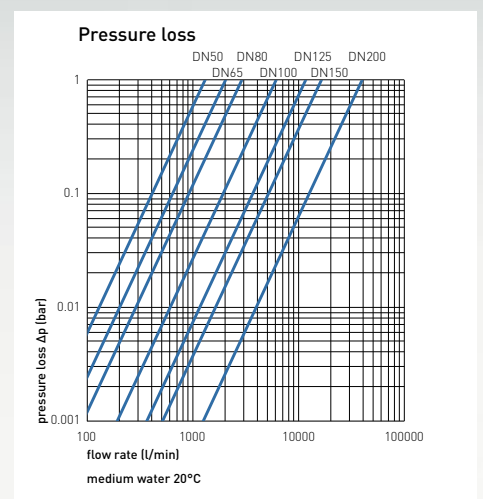
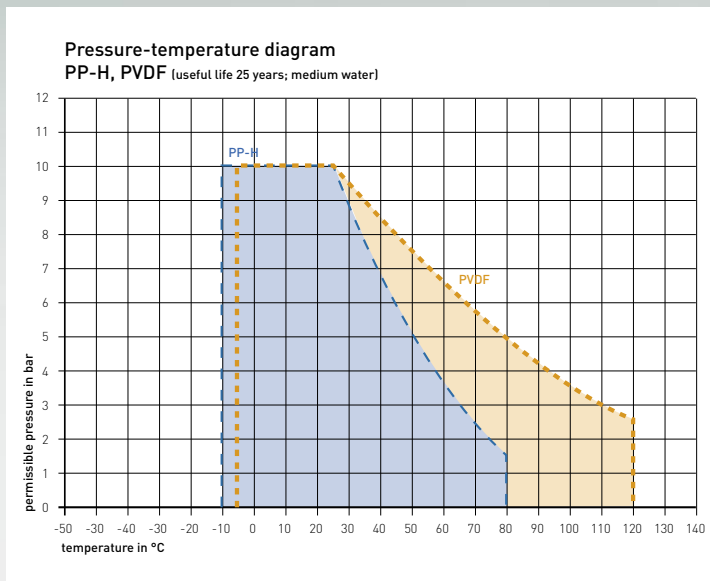
By integrating the position indicator in the mounting flange, the valve design was kept small and compact.

The ergonomic and practical design, compactness, and robust material of the hand lever makes it very operator friendly.



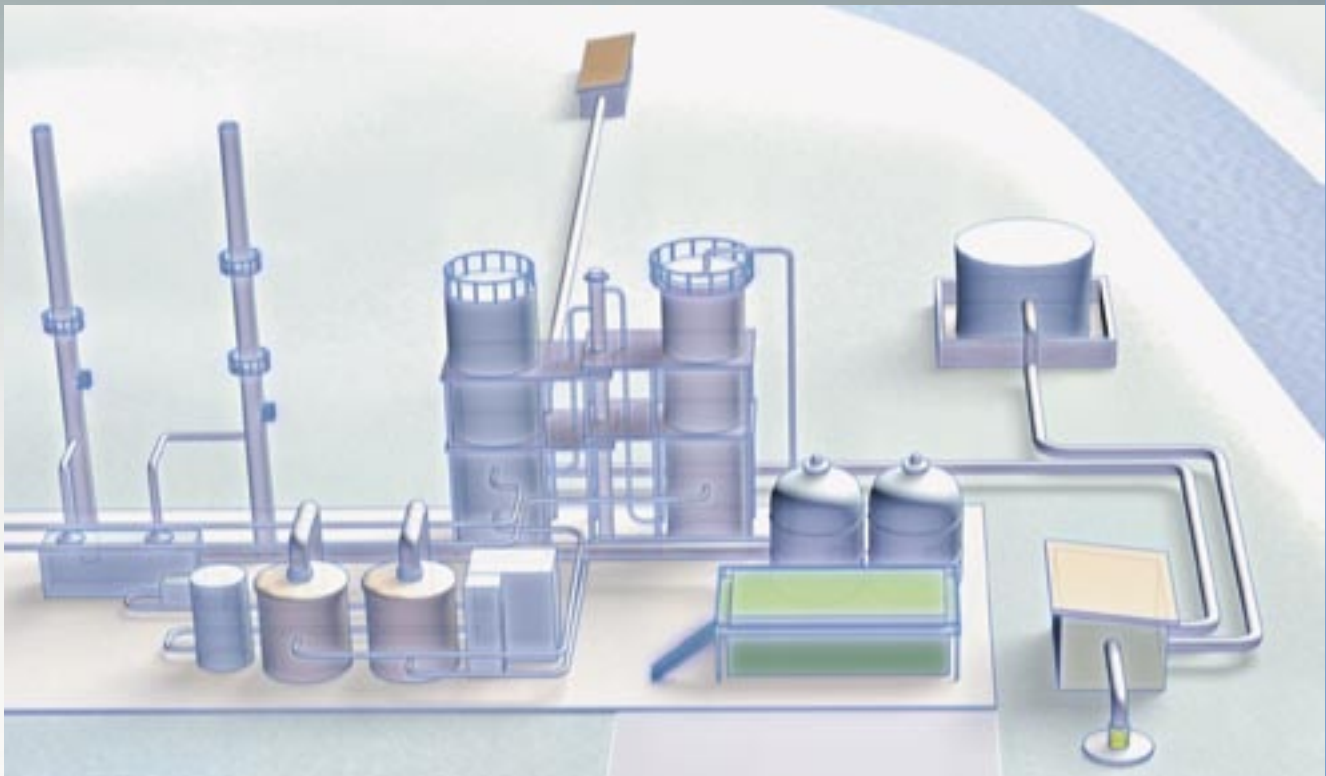
The proven concept of double, bi-directional sealing against leakage has been implemented which provides maximum reliability and safety. Due to the use of O-rings in standard dimensions, an economical solution with high-quality elastomers has been realized.

Application data for butterfly valves type 567/568



For non-GF actuators, breakaway torques 2.5 to 4 times the value of the moving torque must be taken into consideration, depending on the application conditions (e.g. control time, medium, temperature, etc.).

Application areas for our butterfly valves



Industrial water treatment, potable water treatment, swimming pools, aquariums, water parks and waste water technology are typical areas of application for butterfly valves from Georg Fischer Piping Systems. Extremely aggressive media needs to be transported in most applications in the chemical industry, chemical distribution, electroplating and in power plants. The combination of aggressive chemicals and conveyed solids often leads to abrasion and corrosion problems, especially for butterfly valves.

Georg Fischer Piping Systems offers its innovative butterfly valves in PVC-U, PVC-C, ABS, β -PP-H and PVDF; the sealing materials EPDM and FPM are standard. In this way, you have the right material for your respective application and medium.

Plastics have the following advantages over metals:

- high resistance to abrasion and corrosion
- lightweight
- very smooth surfaces

The excellent corrosion resistance to aggressive media and external influences prolongs the service life of our butterfly valves.

The extremely smooth surfaces of plastics also have a positive effect on service life because there is less deposit on the surfaces. This means you may also benefit from lower maintenance costs. Plastics also offer easy handling, especially with the time-tested jointing methods developed by Georg Fischer, so assembly is fast and your installation costs are kept low.

From development to manufacturing – highest quality guaranteed



The materials and valves are continuously subjected to testing, thus complying with the stringent quality standards of Georg Fischer Piping Systems.



Regular quality inspections are done with state-of-the-art equipment in Georg Fischer's EN ISO IEC 17025 accredited test lab.



A 100% leakproof and function test ensures maximum safety and reliability.

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+GF+

GEORG FISCHER
PIPING SYSTEMS

Overview

Ball Valves



System overview

Meeting Every Challenge

Ball valves from GF Piping Systems

The GF Piping Systems range of ball valves provides solutions for every application. From simple shut-off valves to fully automated valves, GF Piping Systems has it all. Even for very demanding processes, you will find the perfect valve for your requirements. User-friendly, precise, reliable, flexible and safe – these features come first for our products.

Type 546 // The original

The 546 ball valve takes on every challenge. Whether in PVC-U, PVC-C, ABS, PP-H or PVDF – it is the ideal valve for use in any application from simple water applications to highly exacting chemical processes. Its modular design and material diversity guarantees easy operation, flexibility, universal automation options and maximum process reliability.



Type 546 linear // Perfection in control

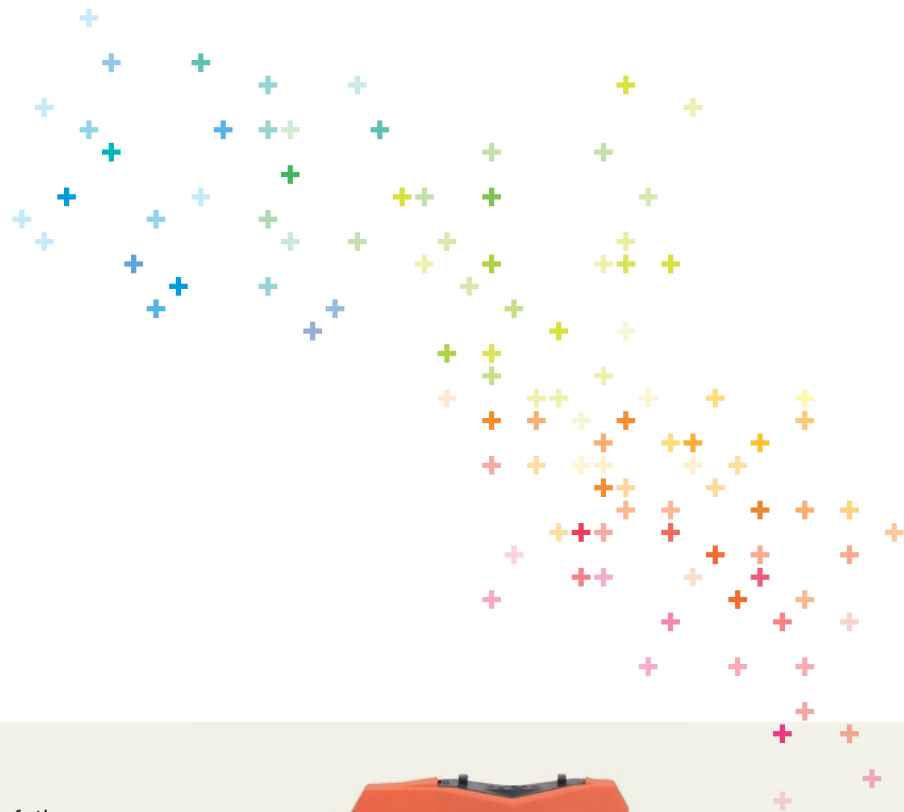
The linear ball valve type 546 enables, thanks to its linear flow characteristics, uncomplicated control, even in demanding chemical processes. The time-tested design of the 546 ball valve guarantees optimal safety. Add the material diversity to the equation and the range of applications is unlimited.



Type 543 // Mix and distribute the easy way

The 543 ball valve is the perfect valve for all mixing and distribution processes. Horizontal versions with L or T port as well as vertical versions with L port or 3-way ball allow realizing any number of application options. Redirecting, mixing, distributing or even shutting off a medium are just some of the possibilities.





Type 523 // Incredibly precise

Exact dosing of small quantities is the strength of the 523 metering ball valve. With its new circular scale and specially shaped ball, media can be dosed with high precision.



Type 375 // The affordable valve for simple applications

The PVC-U ball valve type 375 is a cost-effective manual valve, specially developed for use in water applications or with non-critical chemicals. Its design ensures easy maintenance and therefore a long service life. Its compactness also means easy installation and removal in piping systems.



Type 353-355 Coloro // Compact and versatile

The Coloro ball valve is a compact valve for water applications. It features a monoblock construction, making it a low-maintenance valve for non-critical applications. By using standard union nuts and union ends, maximum flexibility and availability of spare parts has been achieved.



The industrial ball valve

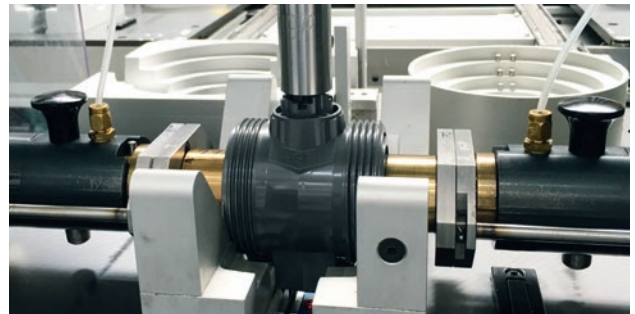
For Applications in Industry

Easy, efficient and reliable

The technical features of this product series have been proven in innumerable fields of application. The ball valve types 546, 546 linear, 543 and 523 enable fast and easy integration in the piping system thanks to a large choice of connection options. Integrated threaded mounting ports ensure secure valve fastening with ease. Precision engineering and high quality standards guarantee maximum operational safety and a long service life.

Absolute reliability

Every ball valve is leak-tested in production. These tests are a major factor in guaranteeing absolute process reliability. We continually invest in state-of-the-art production equipment and test facilities in order to ensure that only the highest quality valves are delivered to our customers.



Trust is good – Control is better

Electrical feedback allows for continuous system monitoring with accuracy and simplicity.



Assembly – fast and safe

It's not just the compatibility with all piping components that makes GF Piping Systems valves easy to install in your system. Quick and efficient fastening with two integrated threaded bushings also saves time.



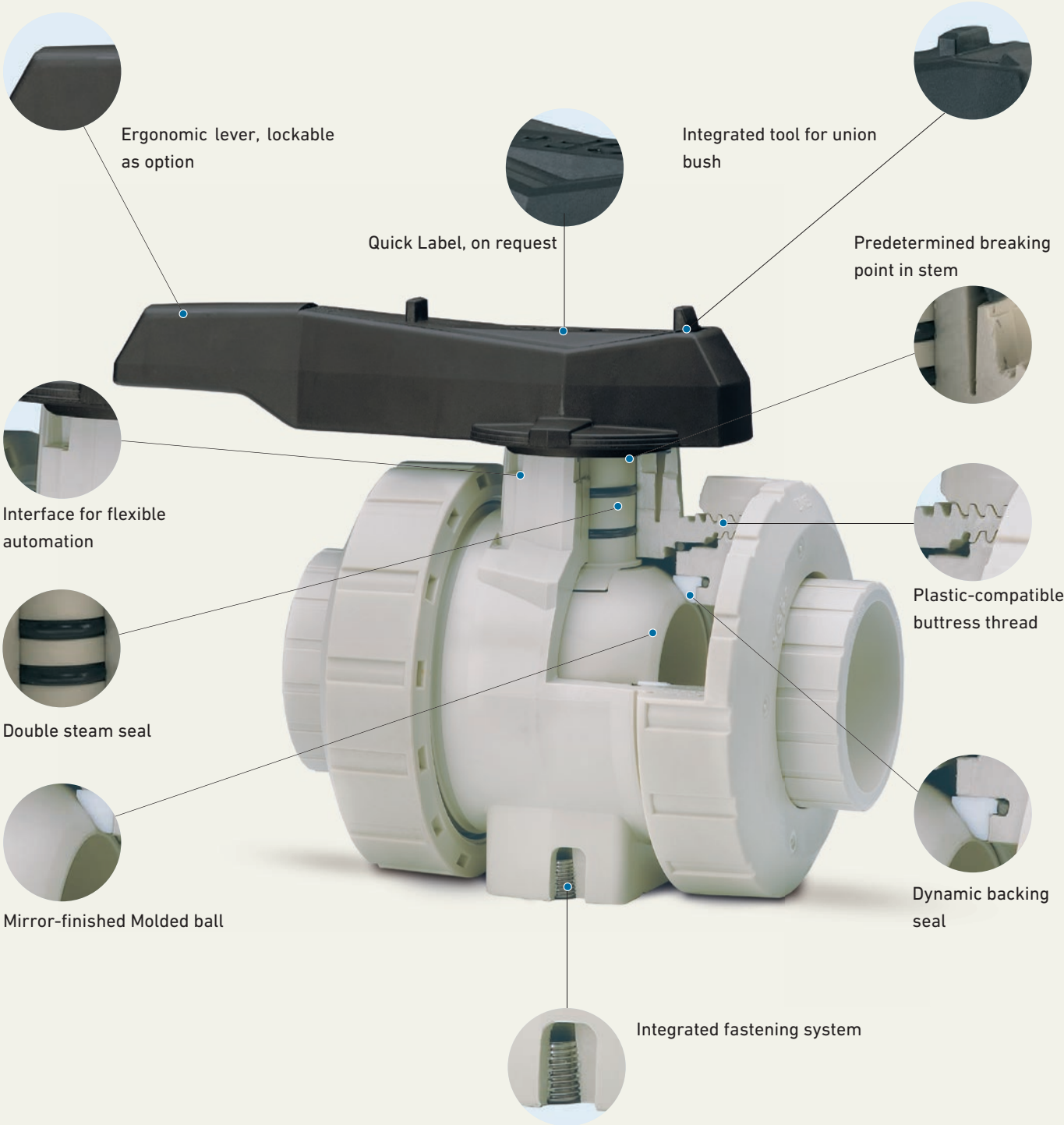
Ball Valve Labeling System

Identification of ball valves according to the function, valve number and fluid conveyed. Water-, corrosion and UV-resistant.



Swiss Precision and Attention to Detail – a Guarantee of Maximum Safety

This industrial ball valve offers you unconditional safety. Special design features ensure high reliability and durability. For instance, there are no metal components that are vulnerable to medium exposure, which could corrode during use. A designed stem break point prevents catastrophic failure in the case of wear or over torquing. Two stem seals provide multiple fail safe points, providing maximum protection against valve leakage.



Type 546

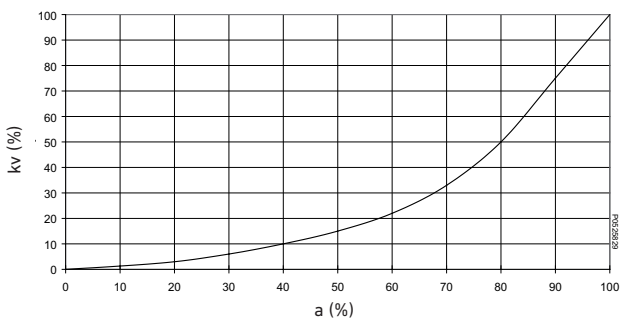
The Original

A ball valve for every occasion

GF Piping Systems offers you a ball valve that has stood the test of time in countless applications, and is the result of extensive industry experience and technological know-how in piping system construction. The 546 ball valve offers quality, flexibility, reliability and most notably modularity. This ball valve meets the ecological and economic industry standards while offering unmatched operational safety and engineered design features.

The 546 ball valve is particularly suitable for use as an open/close valve. However, this ball valve can be used in a variety of applications where control is critical. Excellent flow values are achieved with this design.

Flow diagram



Application areas

- Chemical process industry
- Life science industry
- Microelectronics
- Measurement and control technology
- Water treatment
- Food and beverage industry
- Shipbuilding

Specifications

- Dimensions DN10 to DN100 (3/8" - 4")
- Handle extension for hard-to-reach installations
- Injection-molded ball requires no machine finishing and guarantees a smooth surface and long service life
- Spacers maintain a constant level in the piping-system and simplify installation
- Individual online configuration is available
- Oil-free and silicone-free versions available
- Impressive flow capacity
- Universal interface facilitate use with most
- AS interface
- Automation



Type 546

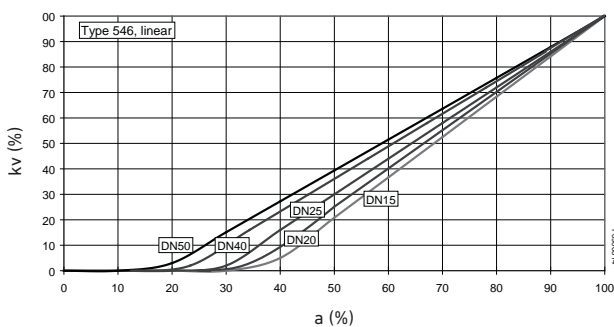
The Linear Ball Valve

Control made easy – even in complex applications

With the linear ball valve type 546, GF Piping Systems offers a valve that significantly facilitates control of your applications. This ball valve features all the familiar details of the 546 series, but has a specially shaped ball. The carefully engineered ball enables a linear flow, even when minimal flow rates are desired. The flow characteristic is linear for the entire opening angle and because it can be combined with an electric actuator, it is the perfect valve for use in demanding control loops.

The 546 linear ball valve is particularly suitable for use as a control valve. Processes are configured and controlled more easily with its linearly increasing flow rate.

Flow diagram



Application areas

- Chemical process industry
- Life science industry
- Microelectronics
- Measurement and control technology
- Water treatment
- Food and beverage industry
- Shipbuilding

Specifications

- Ideal control valve
- Dimension range DN15 to DN50 (½" - 2")
- Tool integrated in the lever
- Minimal maintenance required
- Spacer maintains a constant level in the piping-system and makes for easier installation
- Special ball design enables high flow values with linearly increasing flow performance
- Opening angle in percent imprinted on multi-functional module
- Minimal dead spaces
- Automation with electric or pneumatic actuator possible

Type 543

The 3-Way Ball Valve

The ideal ball valve for any application

The 3-way ball valve from GF Piping Systems is the ideal valve for all mixing and distribution processes in your application. The 543 ball valve is available in a horizontal and a vertical version. The horizontal option features a ball with an L-shaped bore or a ball with a T-shaped bore. The vertical valve has a ball with an L-shaped bore or a 3-way ball.



L-port



Distribution function in the starting position



Mixing function with reduced flow



Distribution function

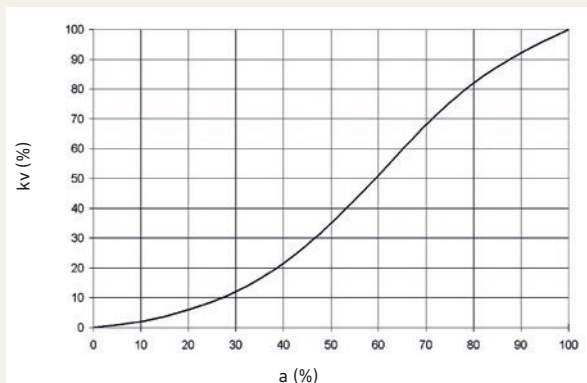
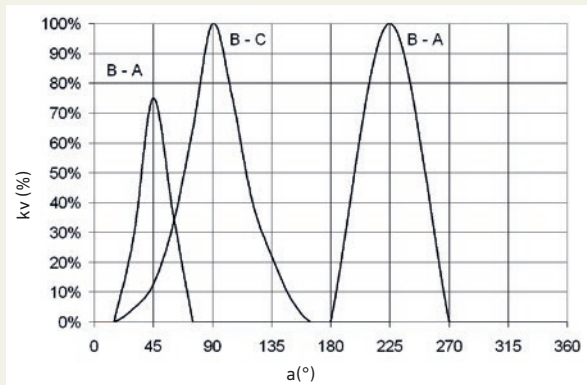


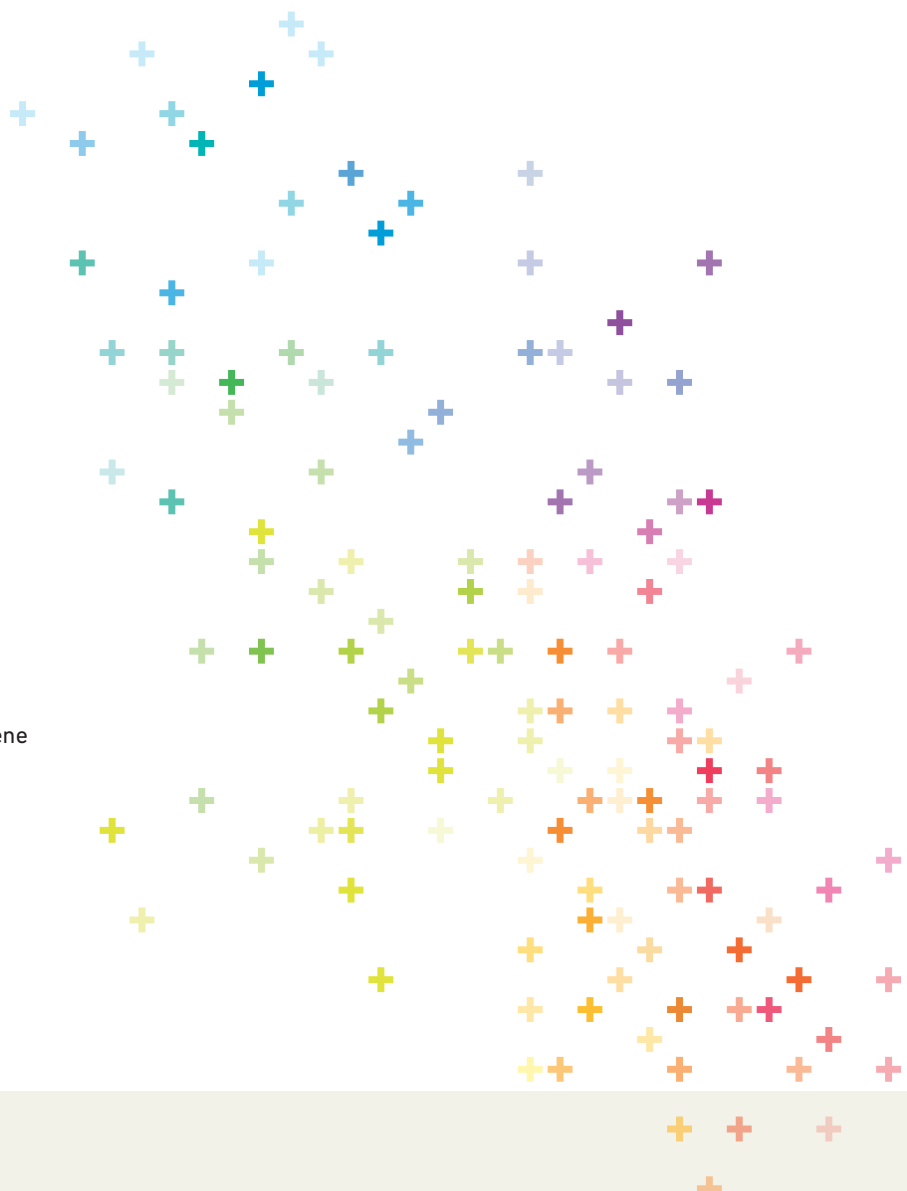
Outlet closed, passage open with reduced flow



Shut-off function

Flow diagrams





Application areas

- Chemical process industry
- Desalination plants
- Life science industry
- Microelectronics
- Measurement and control technology
- Water treatment
- Distribution in shipbuilding

Specifications

- Deal distribution and mixing valve
- Ball with L-port or T-port
- Dimension range DN10 to DN50 (3/8" – 2")
- Lever made of fiberglass-reinforced polypropylene (PPGF)
- Tool integrated in lever
- Very good flow characteristics
- Durable
- Automation possible with electric or pneumatic actuator

T-port



Distribution function in the starting position



Distribution function



Outlet closed, passage open

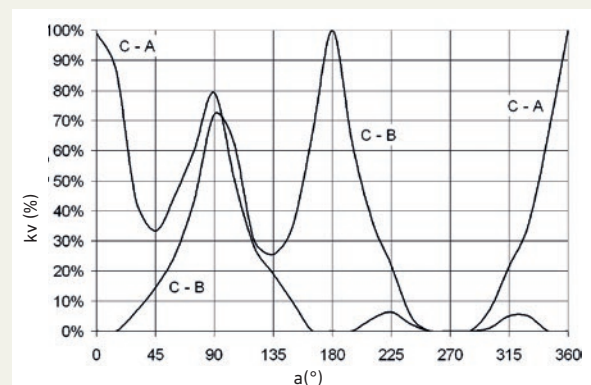
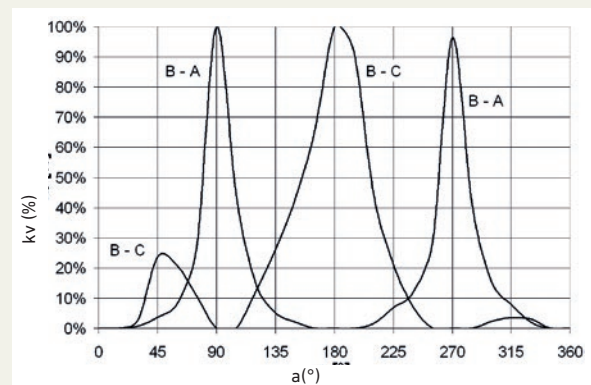


Distribution function



Shut-off function

Flow diagrams



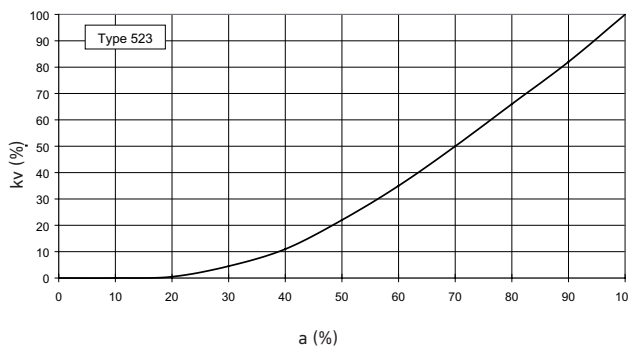
Type 523

The Metering Ball Valve

Unbeatable for metering small quantities

Based on a proven design, the ball valve type 523 from GF Piping Systems is the perfect valve for all metering applications. Due to the specially shaped ball, a nearly linear flow is achieved. Sudden increases in the flow rate are not an issue with this design, rendering this ball valve unbeatable in terms of precise metering of small volumes.

Flow diagram



Application areas

- Chemical process
- Life science
- Microelectronics
- Measurement and control technology
- Water treatment
- Shipbuilding
- Food and beverage

Specifications

- Ideal metering valve
- Precise setting of flow rate
- Flow characteristics permit sampling small amounts with great accuracy
- Dimension range DN10 and DN15 ($\frac{3}{8}$ " and $\frac{1}{2}$ ")
- Circular scale facilitates exact dosing
- Low maintenance
- Length same as all 5xx ball valves
- Spacers ensure the right level in the piping system and make for easy installation
- Tool integrated in lever
- Virtually linear flow thanks to the specially shaped ball
- Sudden increases in flow, as with conventional ball shapes, are almost precluded
- Can be used with nearly any media



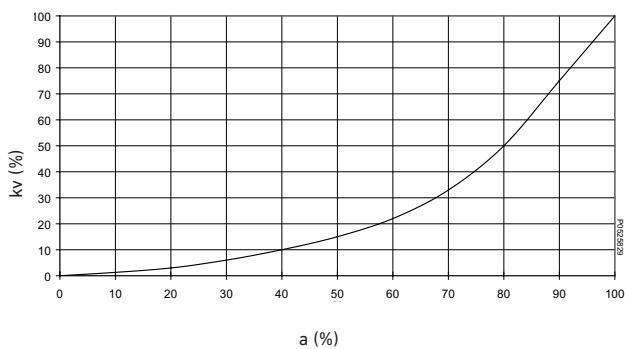
Type 375

The Practical One

Guaranteed easy handling in water applications

The 375 ball valve is the perfect addition to GF Piping Systems' line of ball valves. The range of uses include basic applications in water treatment as well as in simple water applications. The type 375 is available in PVC-U and PVC-C. The 375 ball valve has been designed for easy maintenance and a long service life. And because it is so compact, it is easy to install and remove from the piping system.

Flow diagram



Application areas

- Irrigation
- Swimming pools
- Water treatment
- Non-critical chemicals

Specifications

- DN10 - DN100 (½" - 4") with solvent cement and threaded sockets
- Low maintenance
- Tool integrated in lever
- Ball seal in PTFE
- Durable



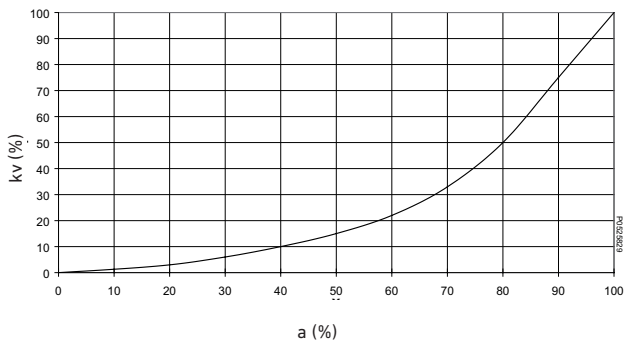
Type 353 - 355

Coloro

Clarity in the piping system

The ball valve type 353 – 355 (Coloro) is a compact valve for water applications. Its distinguishing feature is the monoblock construction, which makes it a low-maintenance valve ideal for non-critical application areas. For the sealing material, HD-PE is used in combination with an EPDM O-ring. By implementing standard union nuts and union ends, maximum flexibility and availability of spare parts are guaranteed.

Flow diagram



Application areas

- Irrigation
- Greenhouses
- Feeding installations
- Fish Farming
- Swimming pools

Specifications

- Dimensions DN15 – DN50 (½" – 2")
- Manual valve for non-critical applications
- All standards
- Low maintenance
- Radial mounting and dismounting



Automation options

Dependable, Precise and Efficient

Automatic plant operation and monitoring

The ball valve series 546, 543 and 546 linear allow GF Piping Systems to provide innovative products that offer customers quality, flexibility, reliability and modularity. Whether it be manual or automated valve, we can supply a comprehensive line of accessories. With an position switch integrated into the multifunctional module, electrical feedback on valve positions "open/closed" is available. Along with multiple other monitoring and control options available to provide further automation advantages.

The GF electrically automated ball valves utilize three different actuators. The EA11 is designed for open/close operation up to dimension d63 DN50 (2"), while the electric actuator EA25 with the corresponding accessories is perfect for all automation and expansion requirements. The EA45 series is designed for dimensions d75 DN65 (2½"), EA120 for dimension d90 DN80 to d110 DN100 (4").

The pneumatically valves are equipped with our pneumatic actuators PA11, PA21, PA30. All pneumatic valves are available in FC, FO or DA functions and have an accessory interface that makes it easy to adapt the valve to the automation requirements.

Application areas

- Chemical process industry
- Microelectronics
- Water treatment systems
- Factory automation
- Measurement & control technology

Specifications

- Flexible assembly thanks to modular construction
- Actuator series for every situation
- Long service life thanks to robust design
- Extensive line of accessories, suitable for every-automation task
- Optional emergency manual override
- Universal use thanks to wide range power supply and standard interfaces
- Globally certified: CE, UL CSA



System overview

The System at a Glance

The right product for every application



Manual operation

General

Title	Coloro	Ball valve	Metering ball valve	Industrial ball valve	3-way ball valve
Type	353-355	375	523	546	543
Basic type					
Actuator type					
Dimension DN	10-50 (3/8" – 2")	10-100 (3/8" – 4")	10-100 (3/8" – 4")	10-50 (3/8" – 2")	10-50
Nominal pressure PN	Socket: 16 Thread: 10	DN10-50: 16 DN65-100 (2½"-4")10	10	ABS/PP-H: 10 PVC/PVDF: 16	10

Materials

PVC-U	✓	✓	✓	✓	✓
PVC-C		✓	✓	✓	✓
ABS			✓	✓	✓
PP-H			✓	✓	✓
PP-N					
PE	✓	✓	✓	✓	✓
PVDF			✓	✓	

Types

Socket	✓	✓	✓	✓	✓
Spigot	✓	✓		✓	✓
Flange				✓	✓
Threaded	✓	✓		✓	✓

Seal

EPDM	✓	✓	✓	✓	✓
PTFE					
PTFE/FPM					
FPM		✓	✓	✓	✓
FFPM			✓	✓	✓
NBR			✓	✓	✓
Other					

Accessories

- Lever extension
- Extra limit switch
- Mounting panel
- Multifunctional lever
- Linear flow line
- 90° and 180° stop
- Mounting panel
- Multifunctional lever



Automatic

	Electric ball valves		Pneumatic ball valves	
107	179-184	167-170	230-235	285-288
546	546	543	546	543
EA11 (soon EA15)	EA 25/45/120	EA25	PA11-45	PA11/21
10-50	10-100	10-50	10-100	10-50
10	10	10	10	10
10	10	10	10	10

✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
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✓	✓	✓	✓	✓

- Heating element
- Limit switch
- Module for AS-i
- Fail-safe return unit
- Monitoring board
- Positioner
- Profibus
- Manual operation
- Limit switch box
- Solenoid pilot valve
- Module for AS-i

Key Information at a Glance

You have the choice – the right ball valve for your application

+ Pneumatic ball valves

Ball valve type	2-way	Type 230 to 235			
	3-way	Type 280 to 285			
Dimension	DN	DN10 to DN25 ($\frac{3}{8}$ " – 1")	DN32 to DN50 ($1\frac{1}{4}$ " – 2")	DN65 (2½")	DN80 to DN100 (3" – 4")
Actuator type		PA11	PA21	PA30	PA40
Peak torque	Mdn	10Nm	20Nm		
Mode of operation		FC, FO, DA	FC, FO, DA	FC, FO, DA	FC, FO, DA
Actuator principle		Rack & pinion		Scotch yoke	
Actuator interface	ISO5211	F04	F05	F03/F05	F05/F07
Control port		G 1/8	G 1/8	Namur R 1/8	Namur R 1/8
Housing material		PP GF30		Anodized aluminum	
Response time	24 V	1-2s, with throttle valve up to 5s		0.5-4s	
Accessory interface		VDI / VDE 3845			
Accessory		Manual override -10° to 50°C			
		Limit switch box for electric feedback			
		3-/2- way pilot valve PV94/PV95 for electric feedback			
		5-/2- way pilot valve MNL532			
		Namur mounting plate			
		Valve Valve terminal PV2000			
		Digital positioner DSR500			
		AS-interface			



The many versions of plastic ball valves from GF Piping Systems combine the unique properties of plastic in design, application and performance. Such features as the significantly lower net weight compared to other materials, corrosion resistance, and the excellent chemical resistance ensure the highest degree of efficiency and reliability. The ball valves ensure consistently high economic efficiency over the entire lifetime of the system.

+ Electric ball valves

Ball valve type	2-way to DN50 (2")	Type 107	Type 179 - 184	
	3-way to DN50 (2")	x	Type 167 - 170	x
	2-way to DN65 - DN100 (2½" - 4")	x	Type 179 - 184	Type 179 - 184
Actuator type		EA 11 (soon EA15)	EA25/45	EA 120
Rated torque	Mdn	10Nm	10/20Nm	60Nm
Peak torque	Mdn	20Nm	25/45Nm	120Nm
Response time		5s @ 90°	~5s @ 90°	15s @ 90°
Actuating angle		Max 180°	Max 180°	Max 180°
Dimension actuator	L/B/H	129/122/138	150/122/167	150/122/190
Actuating cycle	at 20°C and Mdn	150.000	250.000 / 100.000	100.000
Flange type		F05	F05	F07
Nominal voltage	AC AC/DC		100 - 230 V, 50/60 Hz ± 10% 24 V, 56/60 Hz ± 10%	
Input impedance	230 V 24 V	100 kΩ 4.7 kΩ		
Rated output	230 V 24 V	40 VA 22 VA	35/55 VA 40/60 VA	50 VA 55 VA
Duty cycle	at 25°C/15 min	40%	100%	50%
Protection class			IP 65 (IP67) ²⁾ per EN 60529 UL/USA: interior use	
Ambient temperature	-10° to 50°C	-10° to 50°C	-10° to 50°C	-10° to 50°C
Heating element		✓	✓	✓
Position feedback open / close		✓	✓	✓
Position feedback middle			✓	✓
Accessory	Fail-safe unit, battery	✓	✓	✓
	Monitoring board		✓	✓
	Positioner		✓	✓
	Profibus		✓	✓

²⁾ when used with cable glands and vertical installation

Application areas

Your Processes – our Safety and Efficiency

Application-oriented solutions for the highest demands

The diversity of exigent applications and media demands a consistently high level of safety, efficiency, quality and profitability for plants, systems and individual components. Equally diverse as our customers, their process environments and their requirements are our diversified and individually tailored products – and successfully so for over 50 years. In alignment with the realities of customers and markets, GF Piping Systems offers a variety of systems – in terms of valves as well. These integrate optimally in the process structure of the complete system and comply uncompromisingly with the required performance and quality standards.



Chemical process industry

The aggressive environment in chemical processing plants calls for piping systems in production and transport processes that provide the highest possible degree of safety and quality. When dosing, mixing and batching chemicals, accurate flow and linear control characteristics, even under difficult conditions, are essential for efficient and safe processes. Contamination must be avoided at all costs in all process stages; this is particularly true in surface finish. The industrial ball valves in the 546, 543 and 523 series, specially developed by GF Piping Systems for the stringent requirements and regulations of this demanding industry, guarantee excellent flow performance, reliable process control and flexible installation options.

Microelectronics

The majority of all processes in microelectronics take place under rigorously controlled clean room conditions. Particular exigency is placed on the consistent purity of the process water and the transport of ultrapure water. Moreover, aggressive chemicals are necessary for the manufacture of semiconductor products and these must be conveyed safely for the various processes. Therefore, the highest purity criteria and maximum chemical resistance are required of the products used to convey the media. The wide range of products in our 546, 543 and 523 industrial ball valve lines offers the optimal, high-quality solution for nearly every chemical and requirement. For special purity requirements, the ball valves can be obtained silicone-free cleaned as an option.

Applications

Universal in Character

A modern system that serves all applications

The convincing features offered in these systems and materials enable a multitude of application options in the chemical process industry, microelectronics and water treatment. Not only the outstanding abrasion and corrosion resistance to external influences and aggressive media, as indicated in the direct comparison with metal, but also the smooth surface and the low weight of plastics provide added value in terms of system lifetime, maintenance and handling. "Total Plastic Solutions" from GF Piping Systems guarantee safety and quality, in addition to efficiency and profitability.

Water treatment

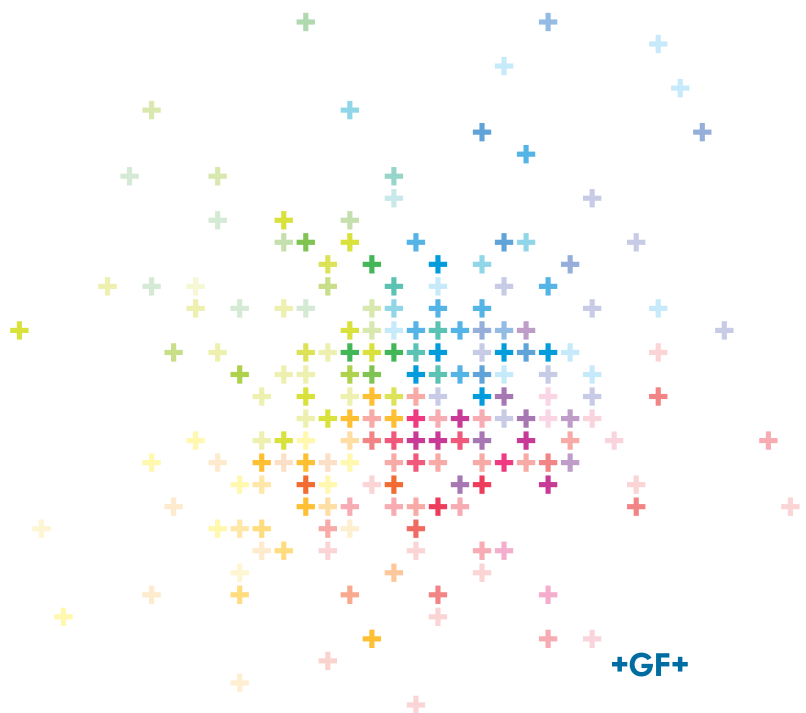
The importance of an economical and sustainable means of treating water is growing rapidly against the backdrop of resource scarcity. The ball valves from GF Piping Systems offer technical features and functionalities in keeping with global requirements. In the business of water treatment, these are especially pertinent when transporting water or when handling chemicals.

The type 353/355 is frequently implemented in simple water applications due to its compact dimensions and design. The type 375 is also suitable for simple applications with chemicals and is easily maintained thanks to its design. The 546, 543, 523 series will take on any challenge. They cover the largest spectrum of dimensions and functions, are available in all conventional piping materials and standards and offer the widest selection of connecting elements. They are designed for maximum security and longevity and can be actuated with the help of interfaces manually, electrically or pneumatically. The flexibility offered by the industrial ball valves in the series 546, 543, 523 make them the first choice in safely transporting media in water treatment applications.

Water distribution

Besides industrial applications, ball valves are found in many other areas, whether in swimming pool applications, greenhouses, feeding installations, zoos, fish farming or irrigation. GF Piping Systems has the right valve in any situation.

A simple and compact design is a key criteria in these applications. The type 353/355, a monoblock ball valve, features compact dimensions and low maintenance. By using standard union nuts and union ends, maximum flexibility and spare parts availability are guaranteed. The type 375 is also ideal for simple applications with chemicals. The special design of the 375 ball valve allows for easy maintenance, thus ensuring a long service life. The compact design makes it easy to install and remove this valve in piping systems.



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