GF Piping Systems

A class of their own

Diaphragm valves

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

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.

Manual option:
- Electric feedback

Pneumatic Option:
- Electric feedback
- Manual override
- Stroke limiter
- Positioner
- Bus connection

EPDM | FKM | PTFE/EPDM | PTFE/FKM | Other

ISO
ANSI
BS
JIS

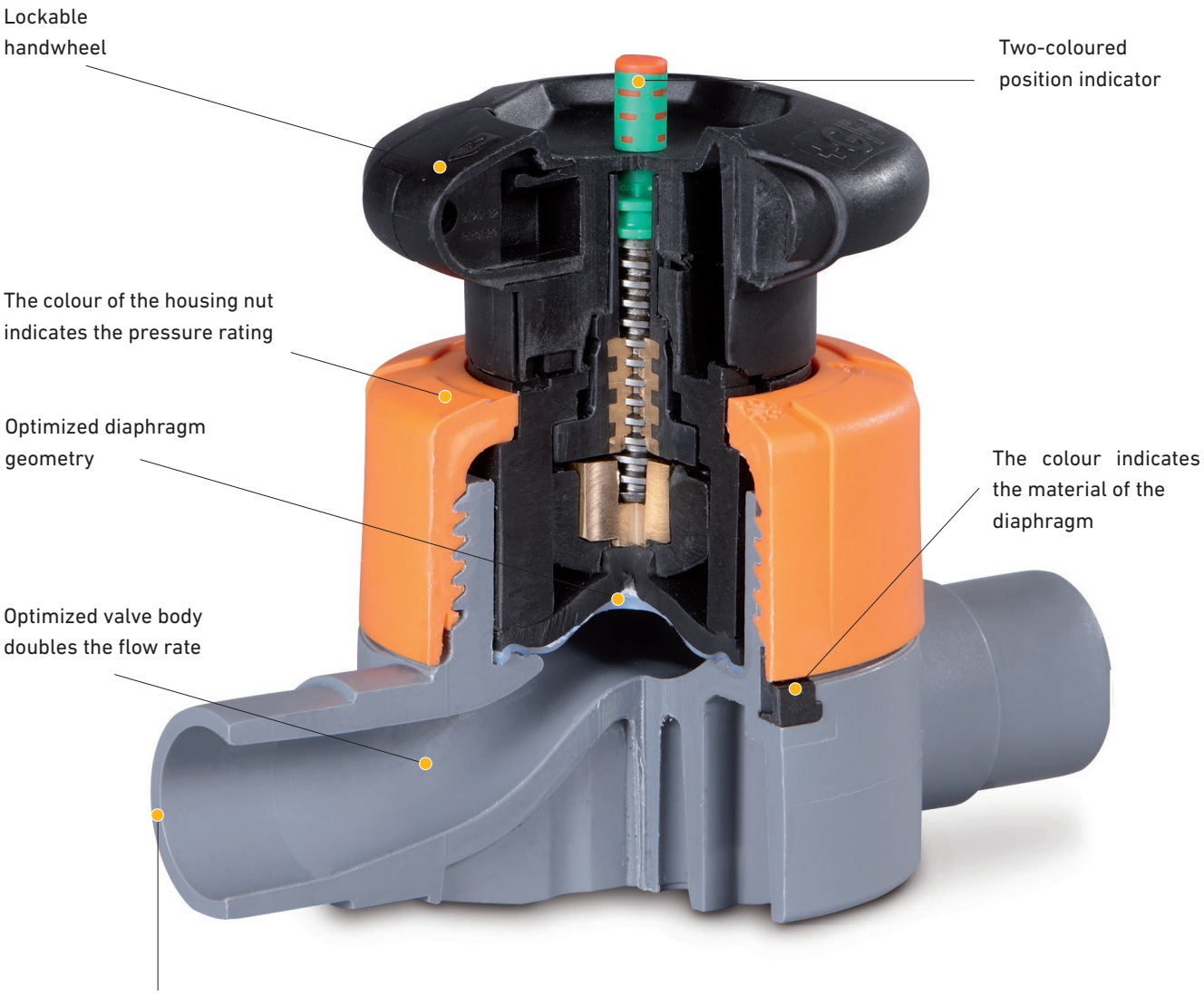
Socket 514
Spigot 515
Flange 517
3-way 519

PVC-U | PVC-C | PP-H | PP-n | ABS | PVDF | PVDF-HP

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.

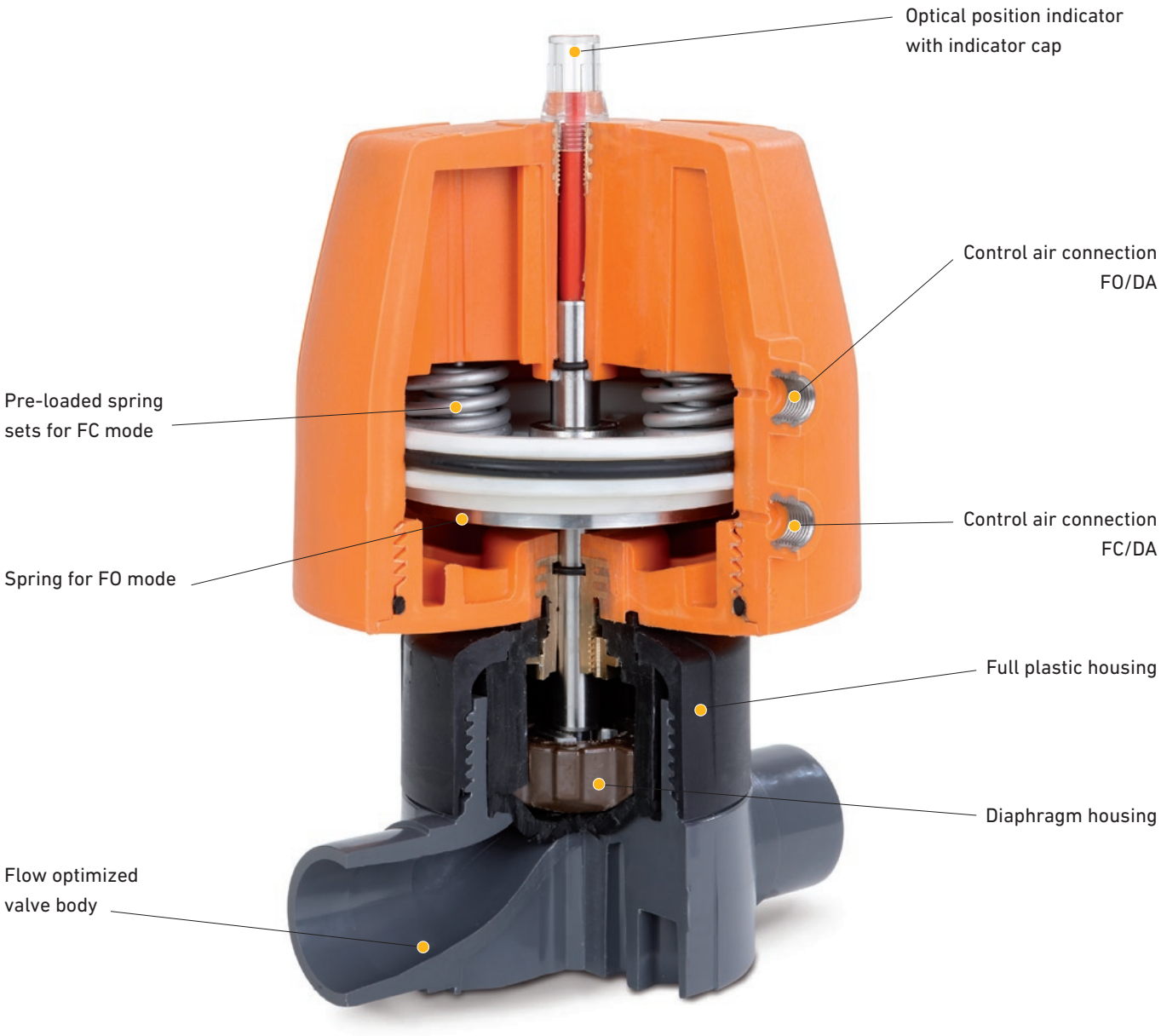


Functions and configurations can differ from the illustration, depending on the type.

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.

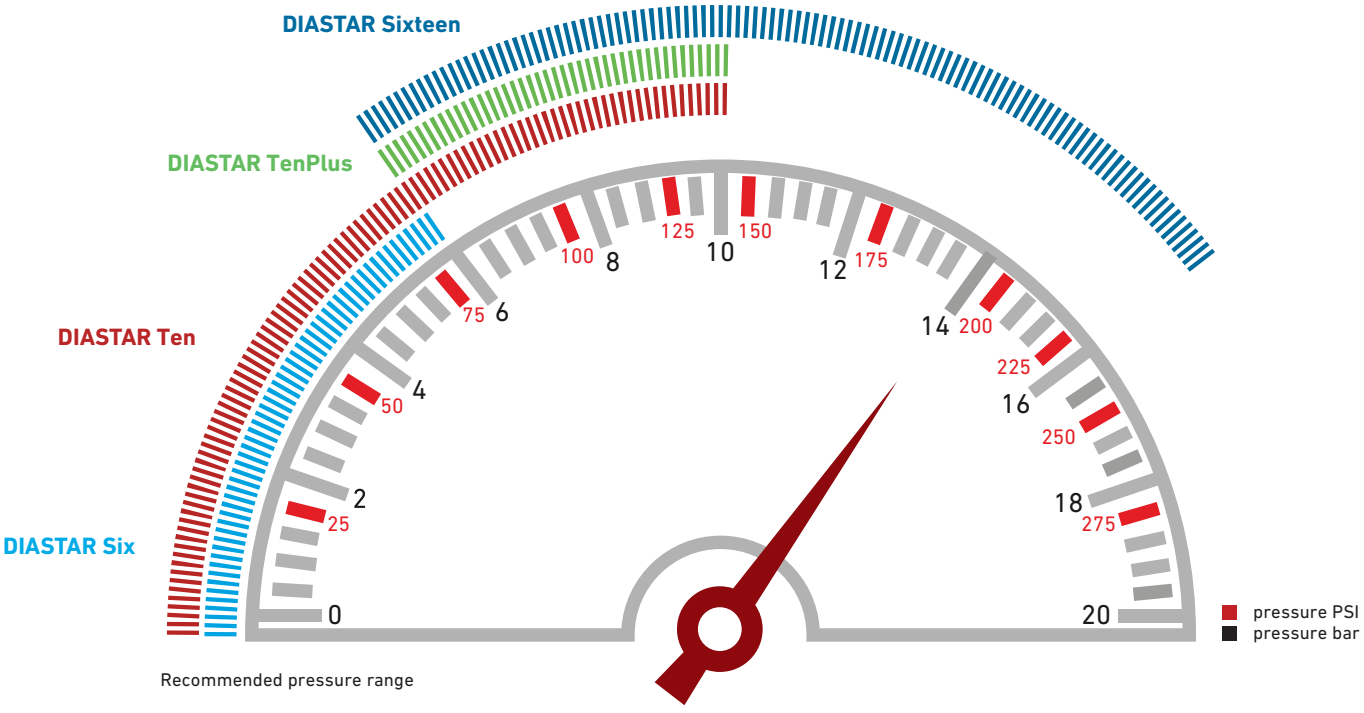
Differentation DIASTAR

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



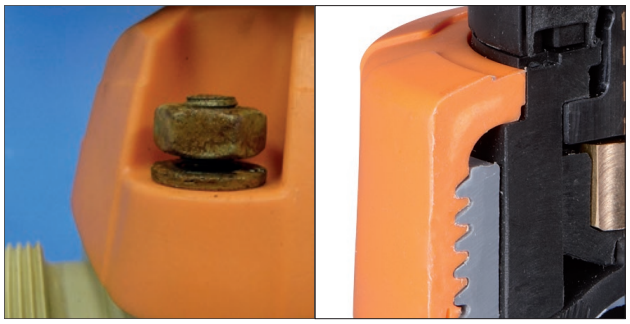
+GF+

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

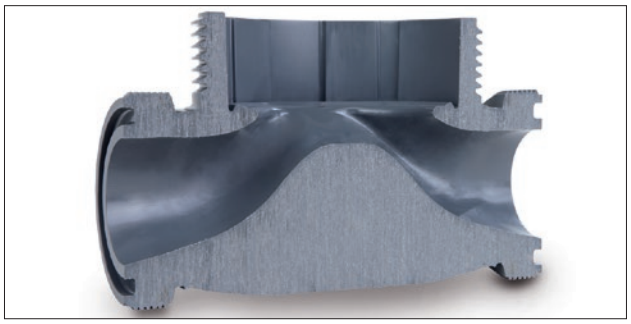
Instead of four metal screws the full plastic diaphragm valve has only one central housing nut. The result is a homogeneous expansion during temperature changes. This results in zero maintenance and no leakages during temperature cycles.



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:

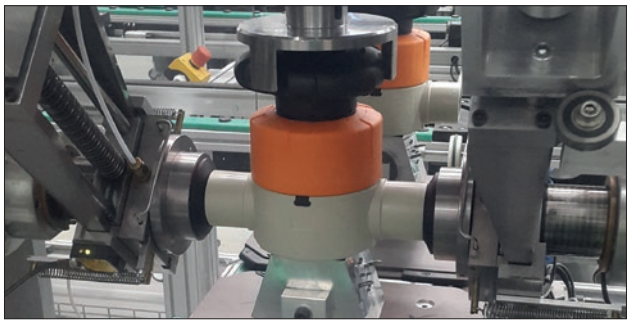
- Double flow rate
- Linear flow characteristics
- Minimized dead space for maximal hygiene



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.

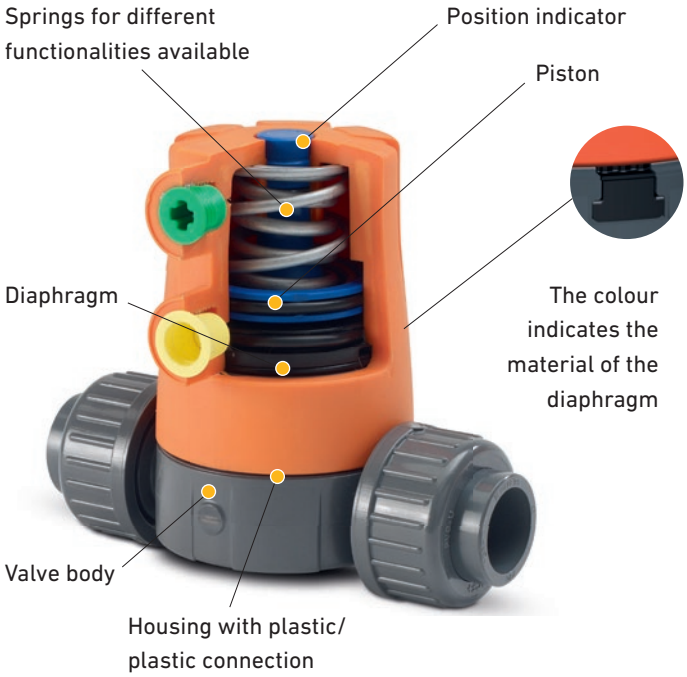
Easy installation and operation

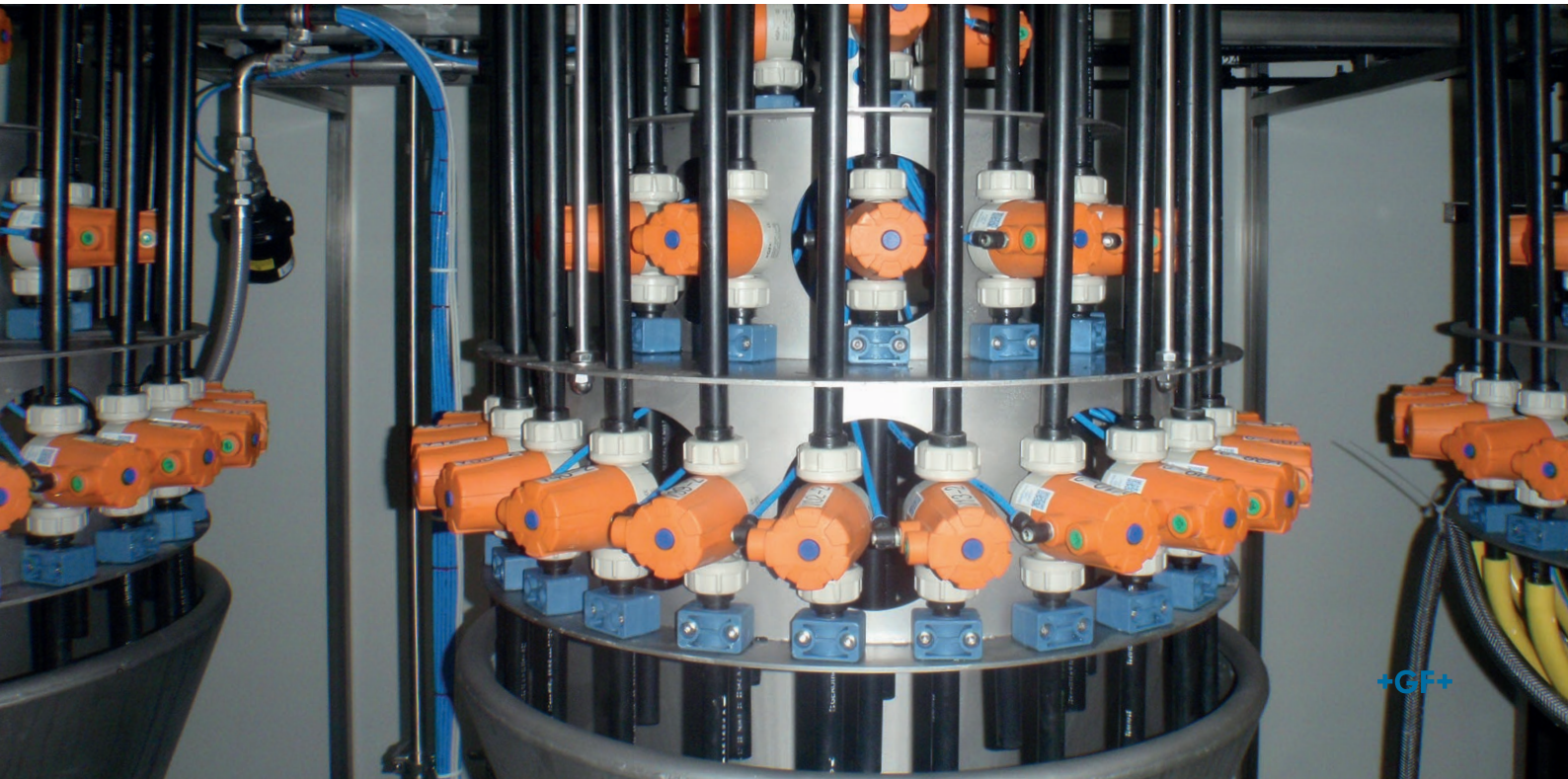
- The compact design enables installation in limited spaces
- No re-torqueing needed due to full plastic design without metal parts and screws
- Radially dismountable due to true unions
- Maintenance free
- Same installation length as all GF diaphragm valves and market standard valves
- Integrated optical 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	G⅛	to DN40: G⅛“ from DN40: G¼“	to DN32: G⅛“ from DN32: G¼“	to DN32: G⅛“ 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				✓	✓	✓	✓

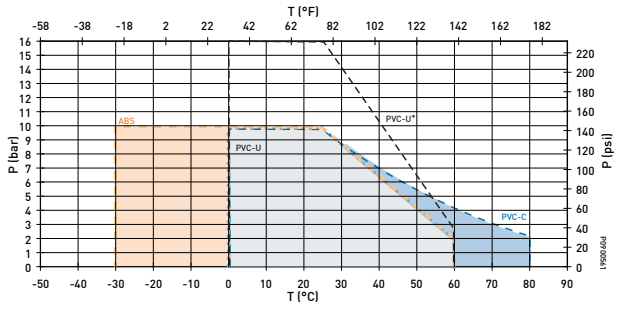
Technical data

Specifications

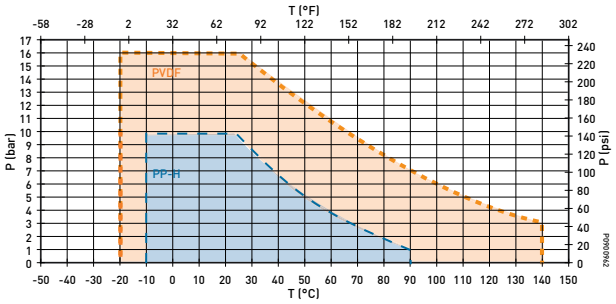
The most important data at a glance.

Pressure-temperature diagram

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

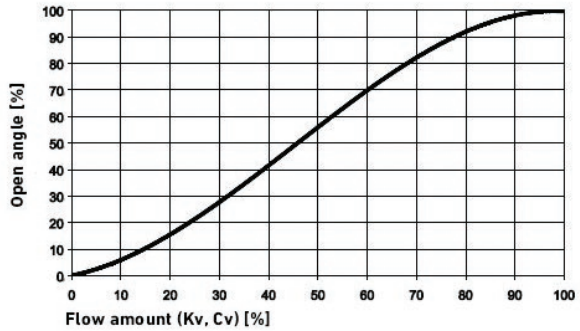


Pressure-temperature diagram PVDF, PP-H (water, 25 years)

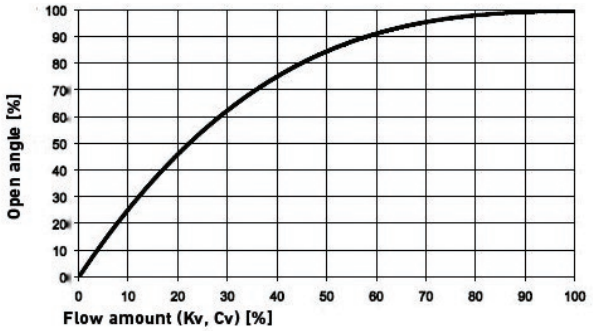


Flow characteristics

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	½	125	9	**74%**
25	20	¾	271	19	**98%**
32	25	1	481	33	**132%**
40	32	1 ¼	759	52	**114%**
50	40	1 ½	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
- G⅛, G¼, 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
- G⅛, G¼
- 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.

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.

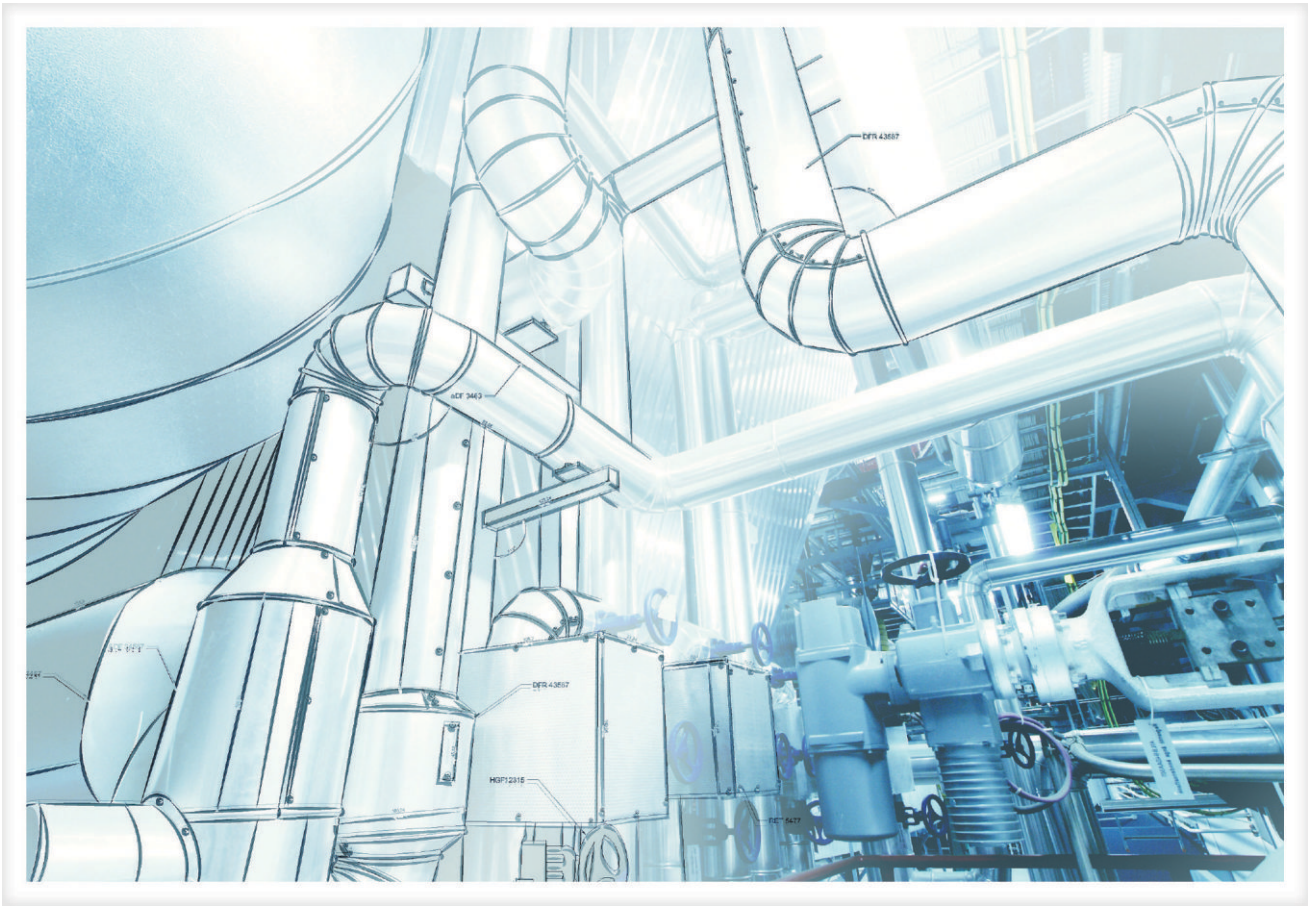
Valves used in this ion-exchange system

- 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

GF Africa



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