

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.



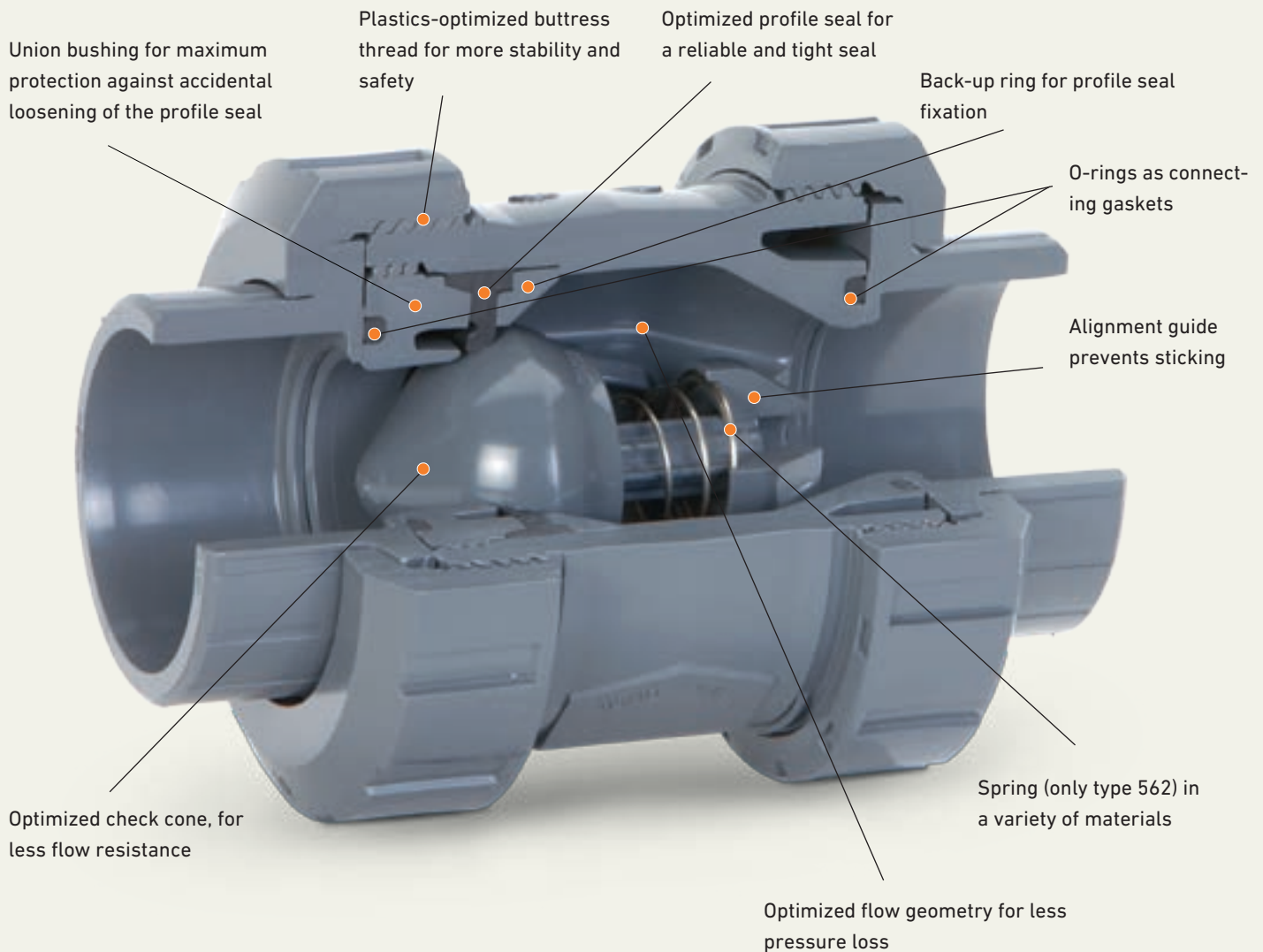
### Efficiency

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.

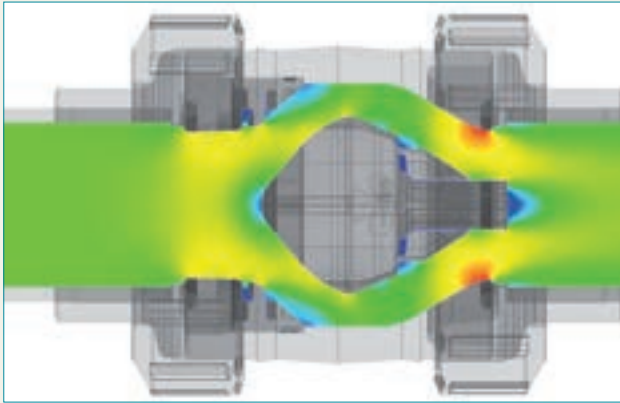
### Use as foot valve

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

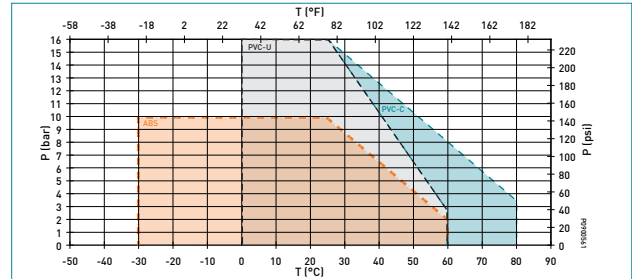


Foot valve

# 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.

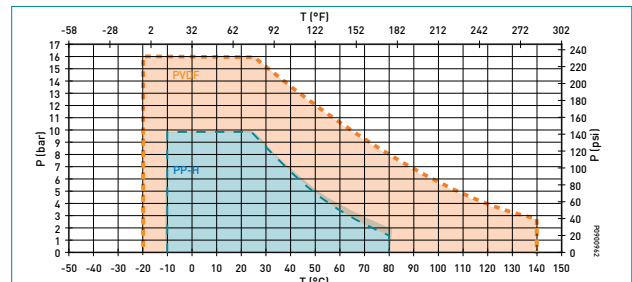
## Pressure-Temperature Diagram ABS, PVC-U, PVC-C (water, 25 years)



## 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	
<b>General</b>	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
<b>Materials</b>	PVC-U	x	x	x	x
	PVC-C	x	x		
	ABS	x	x		
	PP-H	x	x		x
	PVDF	x	x		x
<b>Seal material***</b>	EPDM	x	x	x	x
	FKM	x	x	x	x
<b>Connection type</b>	Socket	x	x	x	
	Spigot	x	x	x	
	Flange	x	x	x	x
	Threaded socket	x	x		
<b>Standards</b>	ISO	x	x	x	x
	ANSI	x	x		x
	BS	x	x		
	JIS	x	x	x	
<b>Options</b>	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
<b>Medium conveyed</b>	Free of foreign bodies	+	+	+	+
	Containing solids / crystallizing	o/-	o/-	o	+/o
	Viscous	+	+	+/o	+/o
	Gaseous	+	+	o	+
<b>Functional properties</b>	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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[www.gfps.com](http://www.gfps.com)

## Argentina / Southern South America

Georg Fischer Central Plastics  
Sudamérica S.R.L.  
Buenos Aires, Argentina  
Phone +54 11 4512 02 90  
gfcentral.ps.ar@georgfischer.com  
www.gfps.com/ar

## Australia

George Fischer Pty Ltd  
Riverwood NSW 2210 Australia  
Phone +61 (0) 2 9502 8000  
australia.ps@georgfischer.com  
www.gfps.com/au

## Austria

Georg Fischer  
Rohrleitungssysteme GmbH  
3130 Herzogenburg  
Phone +43 (0) 2782 856 43-0  
austria.ps@georgfischer.com  
www.gfps.com/at

## Belgium / Luxembourg

Georg Fischer NV/SA  
1070 Bruxelles/Brüssel  
Phone +32 (0) 2 556 40 20  
be.ps@georgfischer.com  
www.gfps.com/be

## Brazil

Georg Fischer Sist. de Tub. Ltda.  
04795-100 São Paulo  
Phone +55 (0) 11 5525 1311  
br.ps@georgfischer.com  
www.gfps.com/br

## Canada

Georg Fischer Piping Systems Ltd  
Mississauga, ON L5T 2B2  
Phone +1 (905) 670 8005  
Fax +1 (905) 670 8513  
ca.ps@georgfischer.com  
www.gfps.com/ca

## China

Georg Fischer Piping Systems Ltd  
Shanghai 201319  
Phone +86 21 3899 3899  
china.ps@georgfischer.com  
www.gfps.com/cn

## Denmark / Iceland

Georg Fischer A/S  
2630 Taastrup  
Phone +45 (0) 70 22 19 75  
info.dk.ps@georgfischer.com  
www.gfps.com/dk

## Finland

Georg Fischer AB  
01510 VANTAA  
Phone +358 (0) 9 586 58 25  
Fax +358 (0) 9 586 58 29  
info.fi.ps@georgfischer.com  
www.gfps.com/fi

## France

Georg Fischer SAS  
95932 Roissy Charles de Gaulle Cedex  
Phone +33 (0) 1 41 84 68 84  
fr.ps@georgfischer.com  
www.gfps.com/fr

## Germany

Georg Fischer GmbH  
73095 Albershausen  
Phone +49 (0) 7161 302-0  
info.de.ps@georgfischer.com  
www.gfps.com/de

## India

Georg Fischer Piping Systems Ltd  
400 076 Mumbai  
Phone +91 224007 2001  
branchoffice@georgfischer.com  
www.gfps.com/in

## Indonesia

George Fischer Pte Ltd –  
Representative Office  
Phone +62 21 2900 8564  
Fax +62 21 2900 8566  
sgp.ps@georgfischer.com  
www.gfps.com/sg

## Italy

Georg Fischer S.p.A.  
20063 Cernusco S/N (MI)  
Phone +39 02 921 861  
it.ps@georgfischer.com  
www.gfps.com/it

## Japan

Georg Fischer Ltd  
556-0011 Osaka,  
Phone +81 (0) 6 6635 2691  
jp.ps@georgfischer.com  
www.gfps.com/jp

## Korea

GF Piping Systems  
Georg Fischer Korea Co., Ltd.  
Unit 2501, U-Tower  
120 HeungdeokJungang-ro (Yeongdeok-dong)  
Giheung-gu, Yongin-si, Gyeonggi-do, Korea  
Phone: +82 31 8017 1450  
Fax: +82 31 217 1454  
kor.ps@georgfischer.com  
www.gfps.com/kr

## Malaysia

Georg Fischer (M) Sdn. Bhd.  
40460 Shah Alam, Selangor Darul Ehsan  
Phone +60 (0) 3 5122 5585  
Fax +603 5122 5575  
my.ps@georgfischer.com  
www.gfps.com/my

## Mexico / Northern Latin America

Georg Fischer S.A. de C.V.  
Apodaca, Nuevo Leon  
CP66636 Mexico  
Phone +52 (81) 1340 8586  
Fax +52 (81) 1522 8906  
mx.ps@georgfischer.com  
www.gfps.com/mx

## Middle East

Georg Fischer  
Piping Systems (Switzerland) Ltd  
Dubai, United Arab Emirates  
Phone +971 4 289 49 60  
gcc.ps@georgfischer.com  
www.gfps.com/int

## Netherlands

Georg Fischer N.V.  
8161 PA Epe  
Phone +31 (0) 578 678 222  
nl.ps@georgfischer.com  
www.gfps.com/nl

## Norway

Georg Fischer AS  
1351 Rud  
Phone +47 67 18 29 00  
no.ps@georgfischer.com  
www.gfps.com/no

## Philippines

Georg Fischer Pte Ltd  
Representative Office  
Phone +632 571 2365  
Fax +632 571 2368  
sgp.ps@georgfischer.com  
www.gfps.com/sg

## Poland

Georg Fischer Sp. z o.o.  
05-090 Sekocin Nowy  
Phone +48 (0) 22 31 31 0 50  
poland.ps@georgfischer.com  
www.gfps.com/pl

## Romania

Georg Fischer  
Piping Systems (Switzerland) Ltd  
020257 Bucharest - Sector 2  
Phone +40 (0) 21 230 53 80  
ro.ps@georgfischer.com  
www.gfps.com/int

## Russia

Georg Fischer  
Piping Systems (Switzerland) Ltd  
Moscow 125047  
Phone +7 495 258 60 80  
ru.ps@georgfischer.com  
www.gfps.com/ru

## Singapore

George Fischer Pte Ltd  
11 Tampines Street 92, #04-01/07  
528 872 Singapore  
Phone +65 6747 0611  
Fax +65 6747 0577  
sgp.ps@georgfischer.com  
www.gfps.com/sg

## Spain / Portugal

Georg Fischer S.A.  
28046 Madrid  
Phone +34 (0) 91 781 98 90  
es.ps@georgfischer.com  
www.gfps.com/es

## Sweden

Georg Fischer AB  
117 43 Stockholm  
Phone +46 (0) 8 506 775 00  
info.se.ps@georgfischer.com  
www.gfps.com/se

## Switzerland

Georg Fischer  
Rohrleitungssysteme (Schweiz) AG  
8201 Schaffhausen  
Phone +41 (0) 52 631 30 26  
ch.ps@georgfischer.com  
www.gfps.com/ch

## Taiwan

Georg Fischer Co., Ltd  
San Chung Dist., New Taipei City  
Phone +886 2 8512 2822  
Fax +886 2 8512 2823  
www.gfps.com/tw

## United Kingdom / Ireland

Georg Fischer Sales Limited  
Coventry, CV2 2ST  
Phone +44 (0) 2476 535 535  
uk.ps@georgfischer.com  
www.gfps.com/uk

## USA / Caribbean

Georg Fischer LLC  
9271 Jeronimo Road  
92618 Irvine, CA  
Phone +1 714 731 88 00  
Fax +1 714 731 62 01  
us.ps@georgfischer.com  
www.gfps.com/us

## International

Georg Fischer  
Piping Systems (Switzerland) Ltd  
8201 Schaffhausen/Switzerland  
Phone +41 (0) 52 631 30 03  
Fax +41 (0) 52 631 28 93  
info.export@georgfischer.com  
www.gfps.com/int

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