

Type 543 3-Way Ball Valve

Standard Features

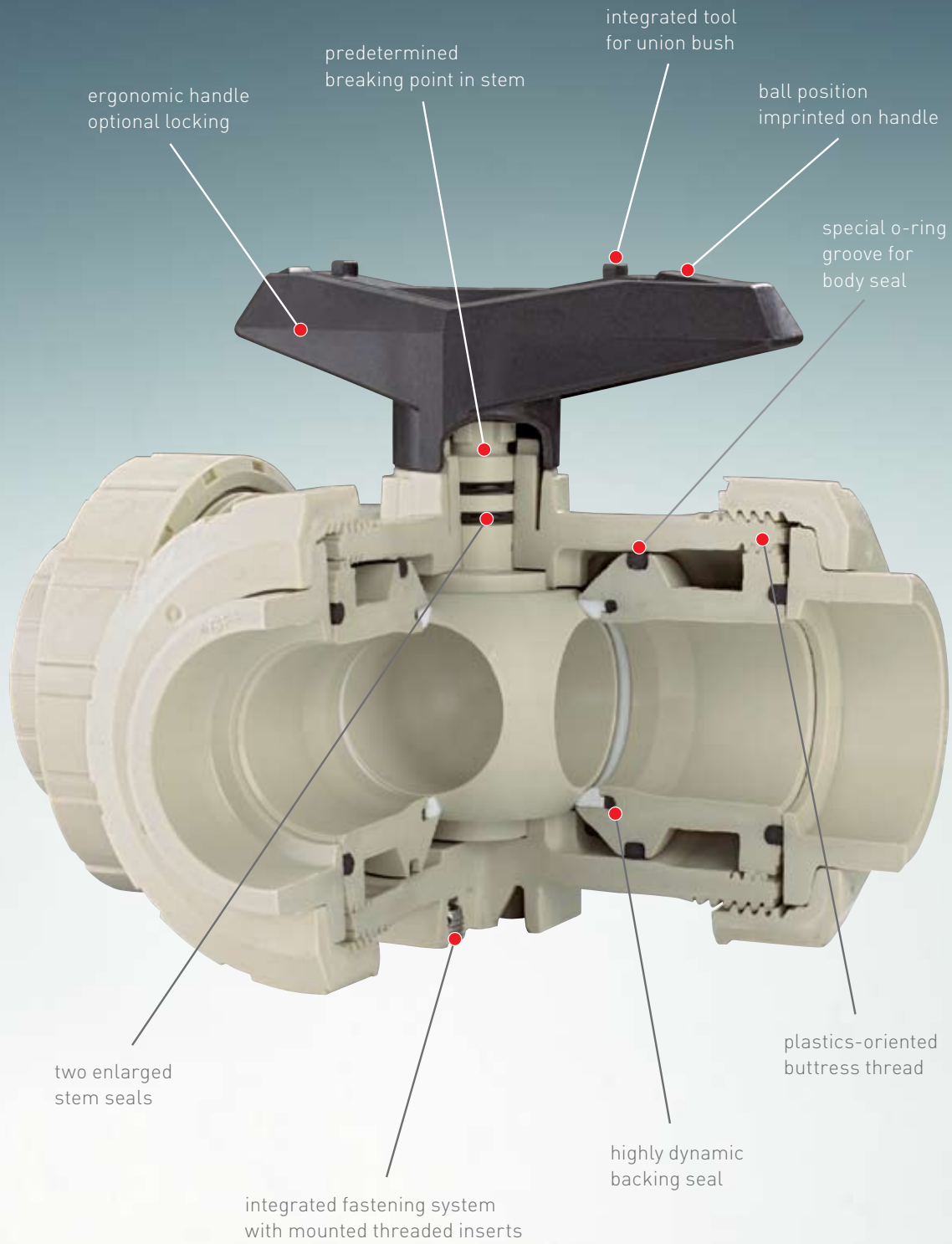
- **Size**
3/8" - 2"
- **Material**
PVC, CPVC, PROGEF® Standard Polypropylene, SYGEF® PVDF
- **Available**
Socket
Threaded
Spigot (PVDF and PP only)
- **Seat**
PTFE
- **Seals**
EPDM or FPM
- **Mounting**
Stainless steel threaded inserts for easy and secure mounting (horizontal)
- **Optional**
Electric actuation
Pneumatic actuation



General

With its modular design, the Type 543 ball valve is ideal for virtually any application. The valve is available in PVC, CPVC, Polypropylene, and PVDF materials. The different materials allow for a variety of chemical applications, and in many cases are an ideal fit for extreme temperatures. Easy installation is achieved with options such as threaded, spigot, or socket end connectors. The Type 543 ball valve is also available in pneumatic and electrically actuated versions. Modularity allows for changes in the field such as retrofitting on actuator to a manual valve. The 543 was designed to meet the high demand world of industrial valves.

● Convincing design



Perfection in detail

Easy installation

The ball valve type 543 features integrated threaded inserts. It can be installed directly and rapidly. There is no need to attach complicated fixtures to the valve. The mounting plate from the ball valve type 546 can be used for installation.

Modular solution

With the assembly kit, you can transform the manual three-way ball valve into an actuated valve with a variety of functions. The module can be used as a standard mechanical interface thanks to the all-plastic housing, the sturdy design and secure fastening on the ball valve. It also enables direct connection of electric and pneumatic actuators.

Lockable handle

Comfort and safety are the outstanding features of the multifunctional handle:

- indexing in 45° increments
- exact, safe positioning of the ball
- lockable and therefore protected against unauthorized access
- made of robust PPGF (polypropylene fiberglass-reinforced)

Defined handle operation

The new 90° stop enables using the lever in defined positions of 90°. The specially designed housing of the ball valve enables placing it in diverse positions by means of a clip-on ring. The handle stop is made of robust PPGF and can be used for all materials. It is covered by the handle and therefore not visible from the outside.



Fast mounting

The preassembled threaded inserts made of stainless steel permit direct installation



Optimal connection

The assembly kit as interface for actuators



Perfect placement

The 90° stop can be placed in four positions as a clip-on ring

The system at a glance

The new three-way ball valve type 543 from GF Piping Systems offers a universal model series with a wide range of options for all versions – from the manual valve to the actuated. The ball valve is the perfect valve for demanding mixing and diverting processes. It follows the design of the ball valve type 546 and is available in the dimensions DN10 to DN50.

Horizontal or vertical: the perfect ball valve

The new 543 three-way ball valve provides quality, flexibility and reliability – in both the horizontal and the vertical versions. The horizontal version comes with an L or T bore and is available in PVC-U, PVC-C, ABS, PP-H and PVDF. So you have the right valve for all your applications. The vertical version of the 543 ball valve is available in the materials PVC-U and ABS.

For the vertical model, the third outlet consists of a solvent cement spigot in metric standard.

As an additional version besides the L bore, we also offer a diverter ball for the ball valve.

International focus

Our global line of end connector options corresponds to ISO, BS, ASTM and JIS standards.

Standards and approvals

- EN ISO 16135: Industrial valves – Thermoplastic ball valves
- ISO 9393: Thermoplastic valves for industrial applications
- DIBt (Deutsches Institut für Bautechnik), pending
- NSF 61*: System components for drinking water, pending

*Only products bearing the NSF mark are certified.



More Perfection in detail

L-bore, 5 functions



Basic position for diverting function



Diverting function



Mixing function with reduced flow



Outlet closed, passage open with reduced flow



Shut-off function

T-bore, 4 functions



Basic position for mixing function



Outlet closed, passage open



Diverting function



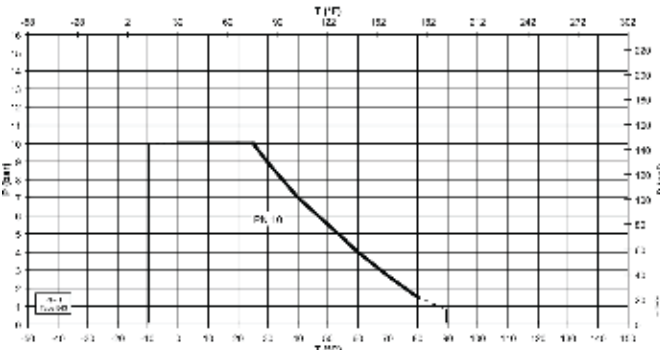
Diverting function

Pressure-temperature diagrams

Technical data for Type 543 Ball valve 3/8" - 2"

The following pressure temperature diagrams are based on a lifetime of 25 years and the medium water or similar media.

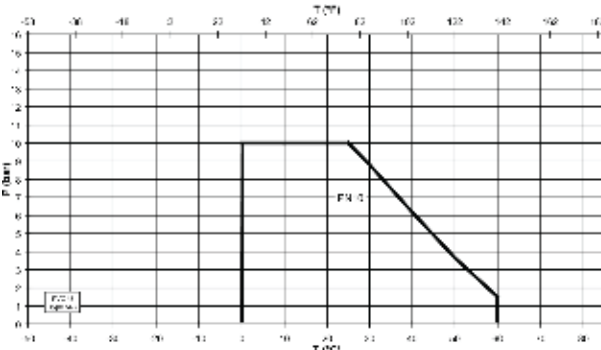
PP-H



p Permissible pressure in bar, psi
T Temperature in °C, °F

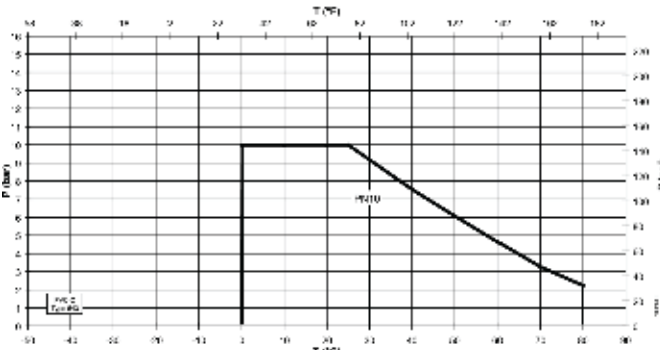
For applications with temperatures in the range of the dotted lines, please contact your GF representative.

PVC-U



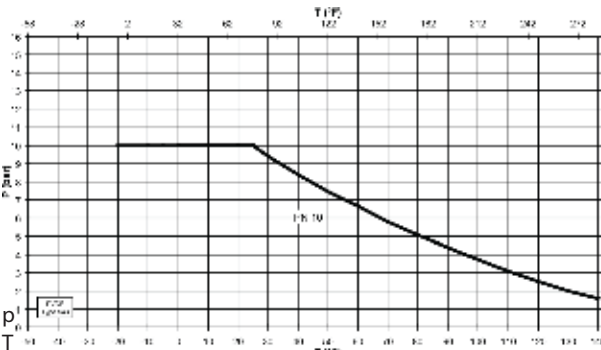
p Permissible pressure in bar, psi
T Temperature in °C, °F

PVC-C



p Permissible pressure in bar, psi
T Temperature in °C, °F

PVDF



p Permissible pressure in bar, psi
T Temperature in °C, °F
EPDM seal, max. 100 °C

Type 543 3-way ball valves

3-Way ball valve type 543 PVC/CPVC

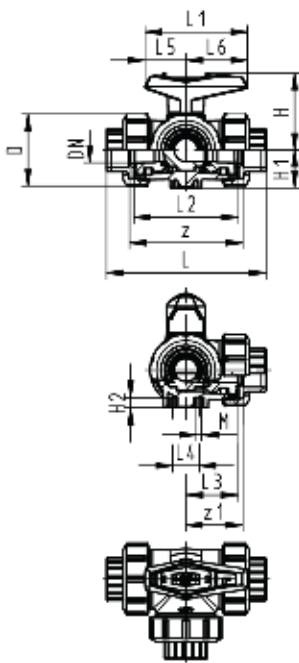
Horizontal

With solvent cement sockets ASTM

Size	PSI	Cv-value [gal (US) /min]			
3/8	150	4			
1/2	150	5			
3/4	150	11			
1	150	20			
1 1/4	150	34			
1 1/2	150	43			
2	150	86			

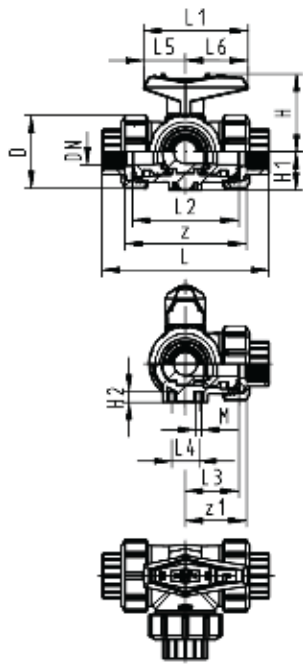
Size	D [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	H [inch]	H1 [inch]	H2 [inch]	M	z [inch]
3/8	1.97	4.84	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.35
1/2	1.97	4.80	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.03
3/4	2.28	5.55	3.82	3.39	1.69	0.98	1.54	2.28	2.64	1.26	0.31	6	3.62
1	2.68	6.34	3.82	3.90	1.97	0.98	1.54	2.28	2.87	1.42	0.31	6	4.13
1 1/4	3.31	7.36	5.04	4.72	2.36	1.77	2.13	2.91	3.54	1.77	0.35	8	4.96
1 1/2	3.82	8.39	5.04	5.39	2.72	1.77	2.13	2.91	3.82	2.01	0.35	8	5.63
2	4.88	10.28	5.98	7.05	3.50	1.77	2.60	3.43	4.57	2.56	0.35	8	7.28

Size	z1 [inch]
3/8	1.65
1/2	1.50
3/4	1.81
1	2.09
1 1/4	2.48
1 1/2	2.83
2	3.62



3-Way ball valve type 543 PVC/CPVC Horizontal With threaded NPT

NPT [inch]	PSI	Cv-value [gal (US) /min]			
3/8	150	4	87 543 111	87 543 111	
1/2	150	5	87 543 112	87 543 112	
3/4	150	11	87 543 113	87 543 113	
1	150	20	87 543 114	87 543 114	
1 1/4	150	34	87 543 115	87 543 115	
1 1/2	150	43	87 543 116	87 543 116	
2	150	86	87 543 117	87 543 117	



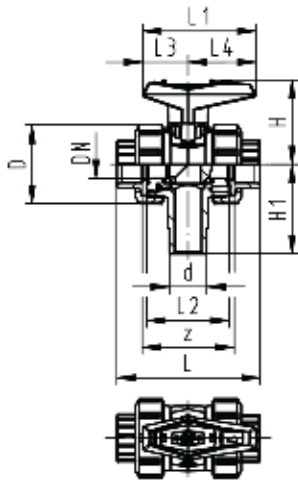
NPT [inch]	D [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	H [inch]	H1 [inch]	H2 [inch]	M	z [inch]
3/8	1.97	4.53	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.43
1/2	1.97	4.49	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.19
3/4	2.28	5.16	3.82	3.39	1.69	0.98	1.54	2.28	2.64	1.26	0.31	6	3.78
1	2.68	6.10	3.82	3.90	1.97	0.98	1.54	2.28	2.87	1.42	0.31	6	4.37
1 1/4	3.31	7.13	5.04	4.72	2.36	1.77	2.13	2.91	3.54	1.77	0.35	8	5.28
1 1/2	3.82	8.07	5.04	5.39	2.72	1.77	2.13	2.91	3.82	2.01	0.35	8	6.26
2	4.88	10.28	5.98	7.05	3.50	1.77	2.60	3.43	4.57	2.56	0.35	8	8.39

NPT [inch]	z1 [inch]
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3/8	1.69
1/2	1.57
3/4	1.89
1	2.20
1 1/4	2.64
1 1/2	3.15
2	4.17

3-Way ball valve type 543 PVC Vertical With solvent cement sockets ASTM

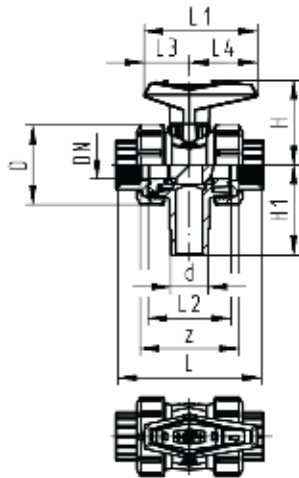
Size	PSI	Cv-value [gal (US) /min]			
3/8	150	3			
1/2	150	5			
3/4	150	10			
1	150	18			
1 1/4	150	31			
1 1/2	150	47			
2	150	91			



Size	D [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	H [inch]	H1 [inch]	z [inch]
3/8	1.97	4.17	3.03	2.20	1.26	1.77	2.24	2.44	2.64
1/2	1.97	4.13	3.03	2.20	1.26	1.77	2.24	2.44	2.40
3/4	2.28	4.76	3.82	2.60	1.54	2.28	2.64	2.83	2.76
1	2.68	5.24	3.82	2.80	1.54	2.28	2.87	3.03	2.99
1 1/4	3.31	5.98	5.04	3.35	2.13	2.91	3.54	3.43	3.54
1 1/2	3.82	6.50	5.04	3.50	2.13	2.91	3.82	3.82	3.70
2	4.88	7.20	5.98	3.98	2.60	3.43	4.57	4.41	4.21

3-Way ball valve type 543 PVC Vertical With threaded NPT

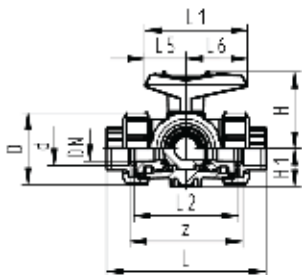
NPT [inch]	PSI	Cv-value [gal (US) /min]			
3/8	150	3			
1/2	150	5			
3/4	150	10			
1	150	18			
1 1/4	150	31			
1 1/2	150	47			
2	150	91			



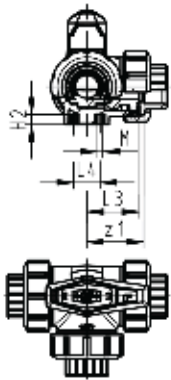
NPT [inch]	D [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	H [inch]	H1 [inch]	z [inch]	
3/8	1.97	3.86	3.03	2.20	1.26	1.77	2.24	2.44	2.76	
1/2	1.97	3.86	3.03	2.20	1.26	1.77	2.24	2.44	2.52	
3/4	2.28	4.41	3.82	2.60	1.54	2.28	2.64	2.83	2.99	
1	2.68	5.00	3.82	2.80	1.54	2.28	2.87	3.03	3.27	
1 1/4	3.31	5.75	5.04	3.35	2.13	2.91	3.54	3.43	3.90	
1 1/2	3.82	6.18	5.04	3.50	2.13	2.91	3.82	3.82	4.37	
2	4.88	7.20	5.98	3.98	2.60	3.43	4.57	4.41	5.31	

SYGEF Standard/PROGEF Standard (PVDF, PP)
3-Way ball valve type 543
Horizontal
With fusion sockets metric

d [mm]	PSI	Cv-value [gal (US) /min]	FPM Part No.
16	150	4	175 543 011
20	150	5	175 543 012
25	150	11	175 543 013
32	150	20	175 543 014
40	150	34	175 543 015
50	150	43	175 543 016
63	150	86	175 543 017



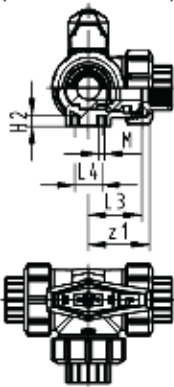
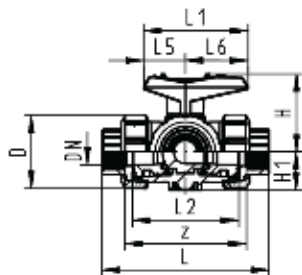
d [mm]	D [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	H [inch]	H1 [inch]	H2 [inch]	M	z [inch]
16	1.97	4.33	3.03	2.83	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.23
20	1.97	4.41	3.03	2.83	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.23
25	2.28	5.08	3.82	3.35	1.69	0.98	1.54	2.28	2.64	1.26	0.31	6	3.82
32	2.68	5.75	3.82	3.86	1.93	0.98	1.54	2.28	2.87	1.42	0.31	6	4.33
40	3.31	6.69	5.04	4.65	2.32	1.77	2.13	2.91	3.54	1.77	0.35	8	5.20
50	3.82	7.60	5.04	5.31	2.68	1.77	2.13	2.91	3.82	2.01	0.35	8	5.94
63	4.88	9.61	5.98	6.93	3.46	1.77	2.60	3.43	4.57	2.56	0.35	8	7.40



d [mm]	z1 [inch]
16	1.61
20	1.61
25	1.93
32	2.17
40	2.60
50	2.99
63	3.70

**SYGEF Standard/PROGEF Standard (PVDF, PP)
3-Way ball valve type 543
Horizontal
With threaded NPT**

NPT [inch]	PSI	Cv-value [gal (US) /min]	FPM Part No.
3/8	150	4	175 543 071
1/2	150	5	175 543 072
3/4	150	11	175 543 073
1	150	20	175 543 074
1 1/4	150	34	175 543 075
1 1/2	150	43	175 543 076
2	150	86	175 543 077

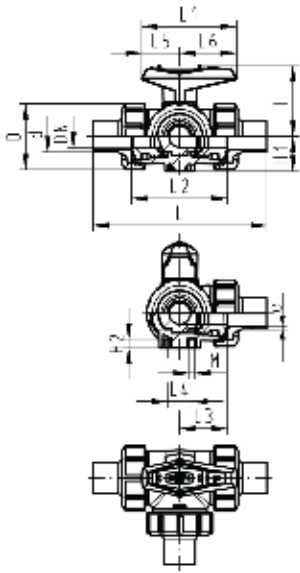


NPT [inch]	D [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	H [inch]	H1 [inch]	H2 [inch]	M [inch]	z [inch]
3/8	1.97	4.41	3.03	2.83	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.39
1/2	1.97	4.49	3.03	2.83	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.15
3/4	2.28	5.16	3.82	3.35	1.69	0.98	1.54	2.28	2.64	1.26	0.31	6	3.74
1	2.68	6.06	3.82	3.86	1.93	0.98	1.54	2.28	2.87	1.42	0.31	6	4.33
1 1/4	3.31	7.09	5.04	4.65	2.32	1.77	2.13	2.91	3.54	1.77	0.35	8	5.20
1 1/2	3.82	7.99	5.04	5.31	2.68	1.77	2.13	2.91	3.82	2.01	0.35	8	6.18
2	4.88	10.16	5.98	6.93	3.46	1.77	2.60	3.43	4.57	2.56	0.35	8	8.27

NPT [inch]	z1 [inch]
3/8	1.69
1/2	1.57
3/4	1.89
1	2.17
1 1/4	2.60
1 1/2	3.11
2	4.13

**SYGEF Standard/PROGEF Standard (PVDF, PP)
3-Way ball valve type 543
Horizontal
With butt fusion spigots**

d [mm]	PSI	Cv-value [gal (US) /min]	FPM Part No.
20	150	5	175 543 052
25	150	11	175 543 053
32	150	20	175 543 054
40	150	34	175 543 055
50	150	43	175 543 056
63	150	86	175 543 057



d [mm]	D [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	H [inch]	H1 [inch]	H2 [inch]	M	e [mm]
20	1.97	5.75	3.03	2.83	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	1.9
25	2.28	6.42	3.82	3.35	1.69	0.98	1.54	2.28	2.64	1.26	0.31	6	1.9
32	2.68	7.01	3.82	3.86	1.93	0.98	1.54	2.28	2.87	1.42	0.31	6	2.4
40	3.31	8.03	5.04	4.65	2.32	1.77	2.13	2.91	3.54	1.77	0.35	8	2.4
50	3.82	9.33	5.04	5.31	2.68	1.77	2.13	2.91	3.82	2.01	0.35	8	3.0
63	4.88	11.65	5.98	6.93	3.46	1.77	2.60	3.43	4.57	2.56	0.35	8	3.0

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