

# George Fischer 3-Way Horizontal Ball Valve Type 343



George Fischer plastic ball valves have the following outstanding features:

- Corrosion resistance
- Ideal flow characteristics
- Long working life, maintenance-free
- Light weight
- Silicone free versions available
- Ball valves Type 343 can be equipped with George Fischer electric or pneumatic actuators (refer to Type 101 and Type 201 in Section 11)
- Can be actuated after installation

George Fischer offers a wide range of manually operated ball valves. The introduction of the new 3-way ball valve further extends the industrial product range. 3-way ball valves are usually installed for diverting and mixing liquids in piping systems. While the 3-way ball valve with L-port is used for the distribution of liquids or the interruption of the flow, the T-port ball valve is the ideal solution for mixing of liquids.

The Type 343 is available in PVC, CPVC, PP and PVDF and also in all the relevant standards ISO/DIN, BS, ASTM/ANSI, JIS.

## Technical Features

- Position indicator on handle and stem for easy recognition of function
- Union ends for easy installation and disassembly
- Handle with integrated tool for easy maintenance
- High safety via 3 separately integrated union bushings with left hand threads
- High reliability and long life-span via 3 separate PTFE ball seals directly in contact with the ball, supported by an O-ring
- Integrated universal mounting system for simple and efficient installation.

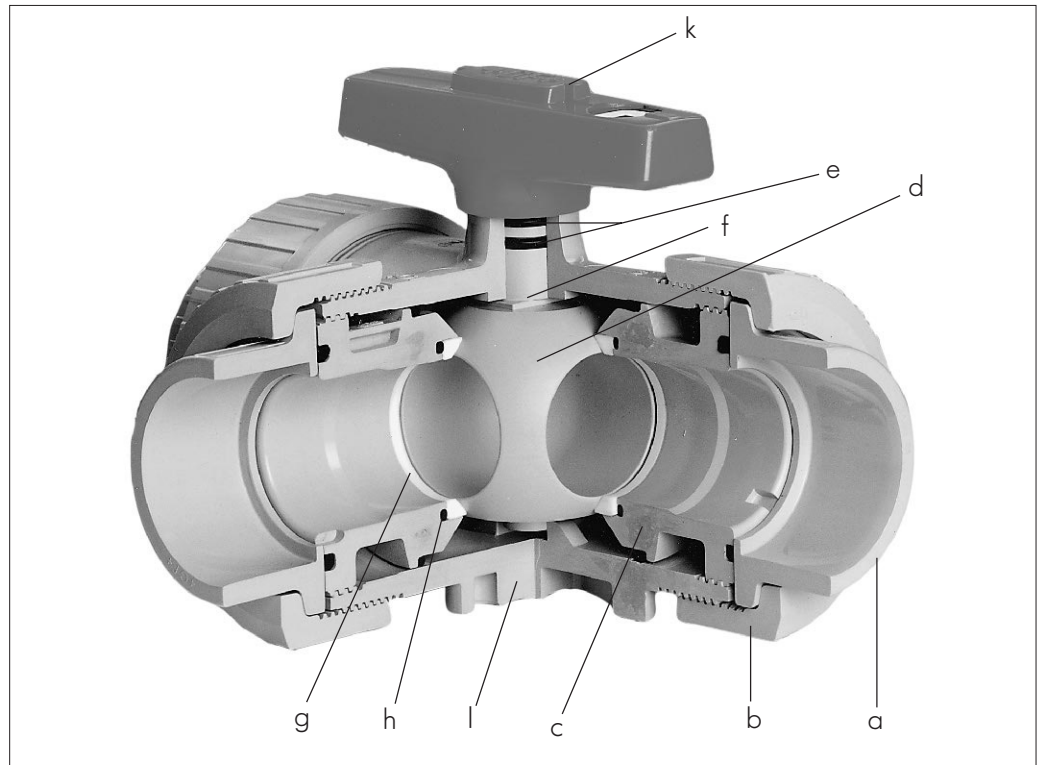
### L-port ball:

Provides independent connection of inlets with outlet.

### T-port ball:

Provides straight through flow (left to right), independent connection of inlets with outlets or interconnection of all three ports.

# Technical Data



- a) Connections
  - sockets
  - spigots
  - threaded sockets
  - IR/butt fusion ends
- b) Union ends, allow installation or removal of the connection parts for easy inspection and maintenance.  
**The pipeline should be depressurised before dismantling.**
- c) Union bushing with left-hand thread and molded end prevents ball from being blown out by line fluid.
- d) Balls with L- or T-port with diverting/mixing function.
- e) Double sealing on the stem for maintenance free operation.
- f) High strength stem.
- g) PTFE ball seal is extremely abrasion resistant and has good antifriction properties, good chemical resistance and a long service life.
- h) Backing O-ring automatically compensates for expansion and contraction in the valve and ball seal wear, resulting in maintenance free operation with low friction ball movement.
- i) Integrated fixing with insert screws.
- j) Handle with integrated position indicator and tool function: the position of the ball is visible on the handle. The integrated cams allow the assembly and dismantling of the ball valve without additional tooling.
- k) Handle with integrated position indicator and tool function: the position of the ball is visible on the handle.

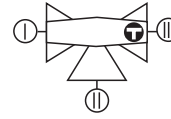
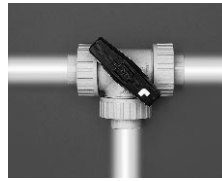
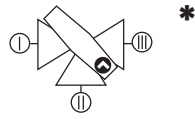
## Functions

The following illustrations show the functions and the corresponding position of the handle:

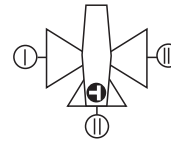
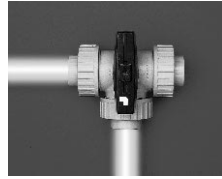
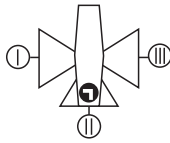
### L-port

### T-port

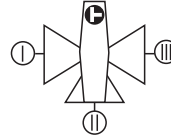
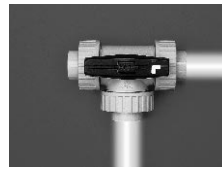
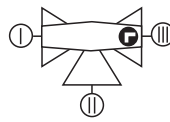
Mixing function



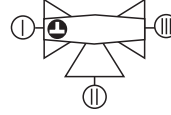
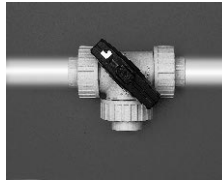
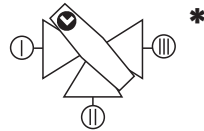
Diverting function



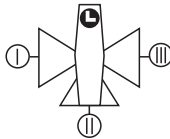
Diverting function



Branch closed/  
passage open



Closed



Example 1

Example 2

\* Cv/kv-value low

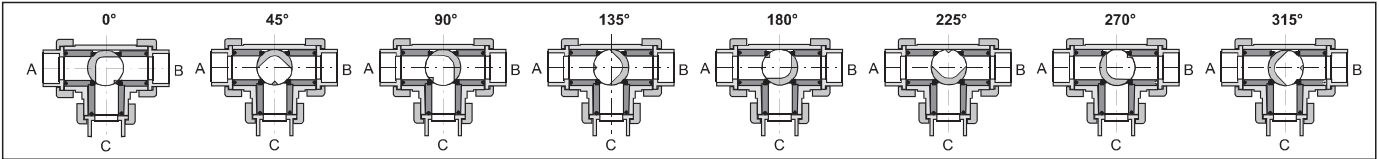
# Flow Characteristics

The  $K_v$  factor is defined as the flow rate of water in litres per minute with a pressure drop of 1 kg/cm<sup>2</sup> across the valve.

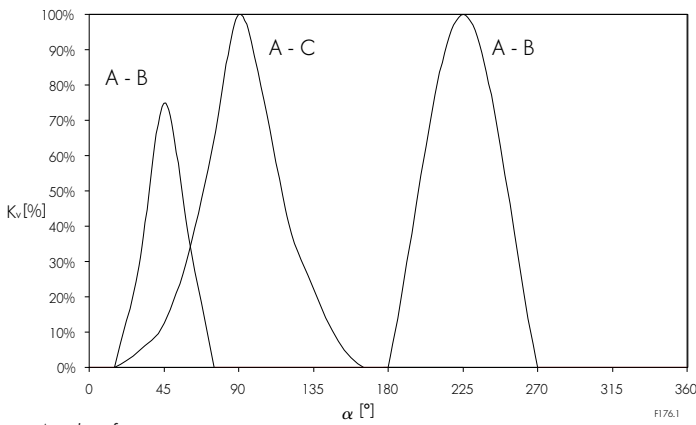
The shown  $K_v$ -values are in %, to calculate the absolute flow multiply these values with the corresponding values from the tables.

## L-port

Valve positions L-port:



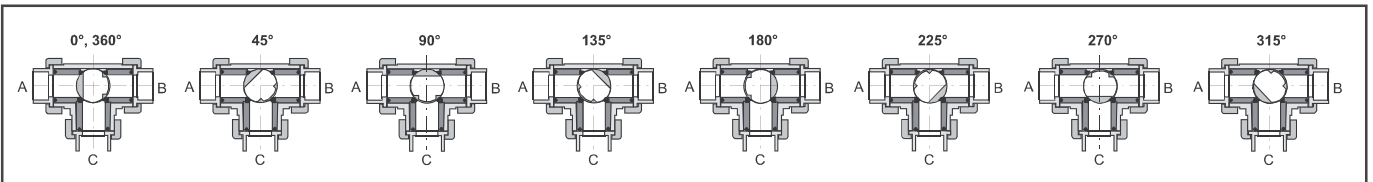
Flow A → B and A → C



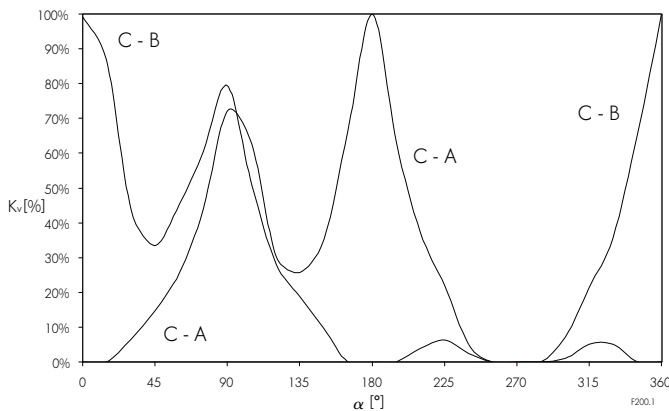
$\alpha$  Angle of operation  
 $K_v$   $K_v$ -value

## T-port

Valve positions T-port:

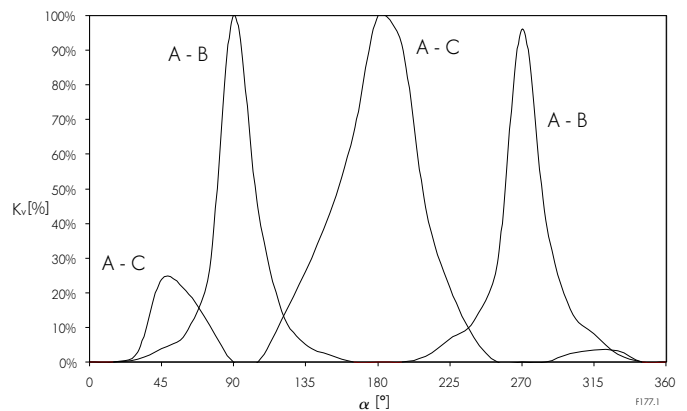


Flow C → A and C → B



$\alpha$  Angle of operation  
 $K_v$   $K_v$ -value

Flow A → B and A → C

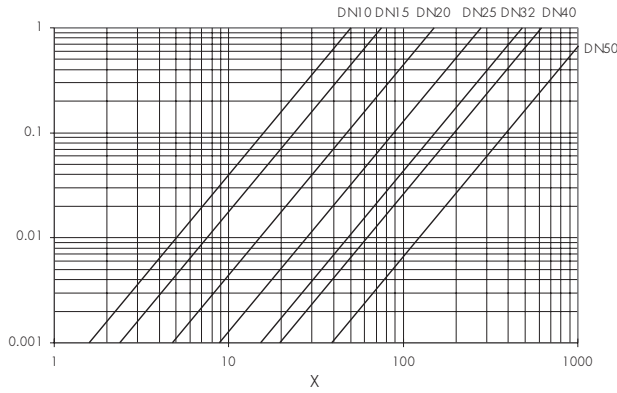


$\alpha$  Angle of operation  
 $K_v$   $K_v$ -value

# Pressure Loss Characteristics

## L-port

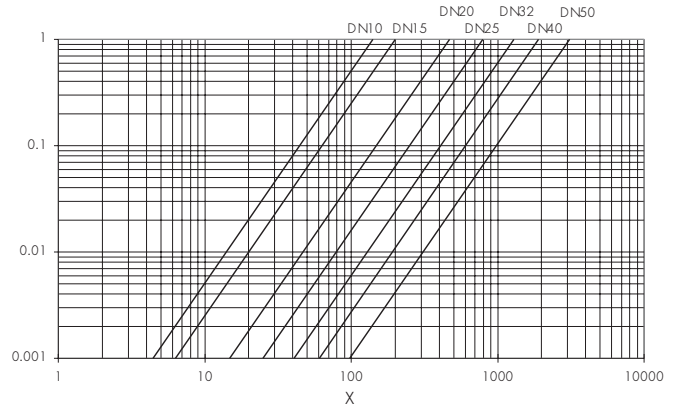
Flow C → A  
Valve position: 90°



Medium: water, 20°C  
X Flow rate (l/min)  
Y Pressure loss p (bar)

## T-port

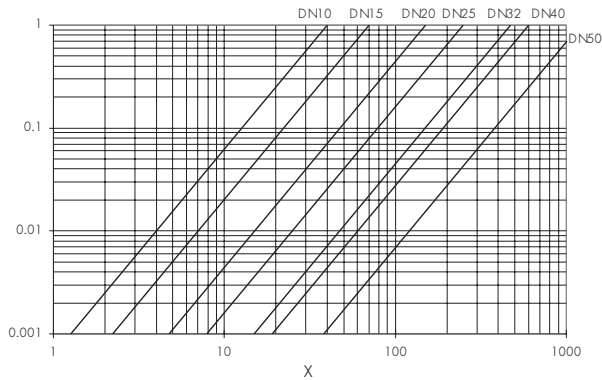
Flow A → B  
Valve position: 90°



Medium: water, 20°C  
X Flow rate (l/min)  
Y Pressure loss p (bar)

## T-port

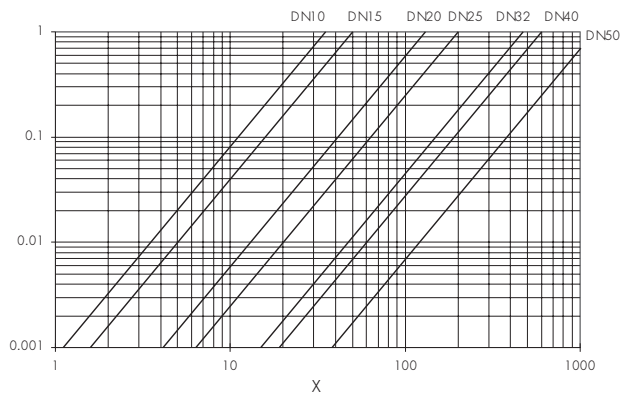
Flow A → C  
Valve position: 180°



Medium: water, 20°C  
X Flow rate (l/min)  
Y Pressure loss p (bar)

## T-port

Flow C → A and C → B  
Valve position: 180°



Medium: water, 20°C  
X Flow rate (l/min)  
Y Pressure loss p (bar)

### L-port

Flow A → C, C → A, B → C, C → B  
Valve position: 90°

Inch size	C <sub>v</sub> gal/min	K <sub>v</sub> 100 l/min	d mm
3/8	3.50	50	16
1/2	5.25	75	20
3/4	10.50	150	25
1	19.60	280	32
1 1/4	33.61	480	40
1 1/2	43.42	620	50
2	86.13	1230	63

### L-port

Flow A → B  
Valve position: 225°

Inch size	C <sub>v</sub> gal/min	K <sub>v</sub> 100 l/min	d mm
3/8	0.70	10	16
1/2	1.05	15	20
3/4	2.10	30	25
1	3.50	50	32
1 1/4	6.30	90	40
1 1/2	7.70	110	50
2	15.41	220	63

### T-port

Flow A → B  
Valve position: 90°

Inch size	C <sub>v</sub> gal/min	K <sub>v</sub> 100 l/min	d mm
3/8	9.80	140	16
1/2	14.01	200	20
3/4	32.91	470	25
1	55.53	793	32
1 1/4	90.34	1290	40
1 1/2	133.75	1910	50
2	217.09	3100	63

### T-port

Flow A → C  
Valve position: 180°

Inch size	C <sub>v</sub> gal/min	K <sub>v</sub> 100 l/min	d mm
3/8	2.80	40	16
1/2	4.90	70	20
3/4	10.50	150	25
1	17.51	250	32
1 1/4	32.91	470	40
1 1/2	42.02	600	50
2	84.73	1210	63

### T-port

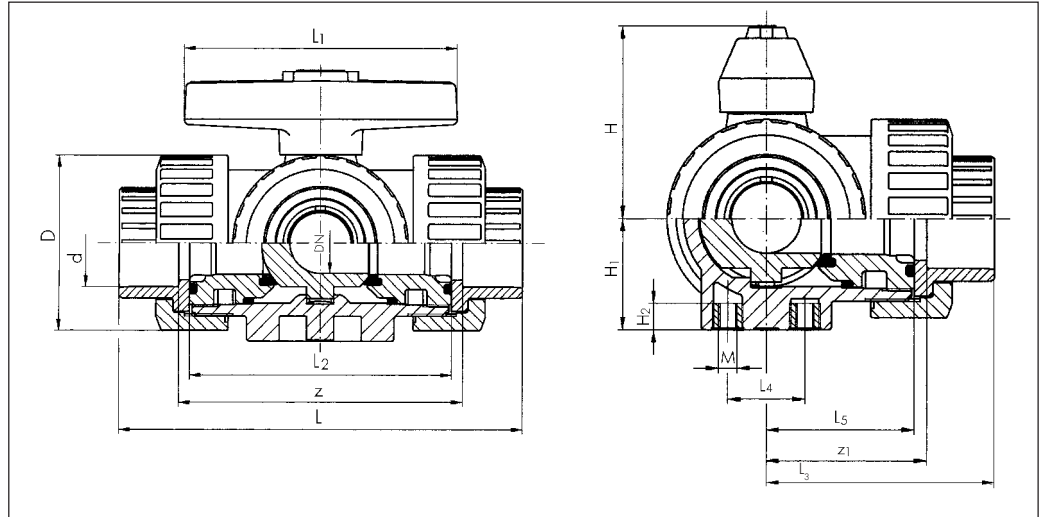
Flow C → A and C → B  
Valve position: 180°

Inch size	C <sub>v</sub> gal/min	K <sub>v</sub> 100 l/min	d mm
3/8	2.45	35	16
1/2	3.50	50	20
3/4	9.10	130	25
1	14.01	200	32
1 1/4	26.61	380	40
1 1/2	32.91	470	50
2	62.32	890	63

C<sub>v</sub> = gal./min at 1 psi pressure drop  
K<sub>v</sub> = litres/min at 1 bar pressure drop

# Dimensions

## 3-Way Ball Valve Type 343 Horizontal with sockets



**PVC  
CPVC  
solvent cement sockets**

d mm	DN mm	Inch size	z inch	z <sub>1</sub> inch	D inch	H inch	H <sub>1</sub> inch	H <sub>2</sub> inch	L inch	L <sub>1</sub> inch	L <sub>2</sub> inch	L <sub>3</sub> inch	L <sub>4</sub> inch	L <sub>5</sub> inch	M mm
16	10	3/8	3.15	1.57	1.69	1.97	1.06	0.31	4.76	3.07	2.83	2.40	0.98	1.42	6
20	15	1/2	3.15	1.57	1.69	1.97	1.06	0.31	4.76	3.07	2.83	2.40	0.98	1.42	6
25	20	3/4	3.70	1.85	2.05	2.36	1.30	0.31	5.59	3.62	3.39	2.80	0.98	1.69	6
32	25	1	4.09	2.05	2.56	2.68	1.42	0.31	6.22	3.94	3.78	3.11	0.98	1.89	6
40	32	1 1/4	4.96	2.48	3.07	3.11	1.73	0.35	7.60	4.33	4.57	3.82	1.77	2.28	8
50	40	1 1/2	5.67	2.83	3.62	3.54	1.93	0.35	8.35	4.72	5.39	4.17	1.77	2.72	8
63	50	2	7.32	3.66	4.57	4.29	2.40	0.35	10.43	5.75	7.05	5.24	1.77	3.54	8

**PP  
metric fusion sockets**

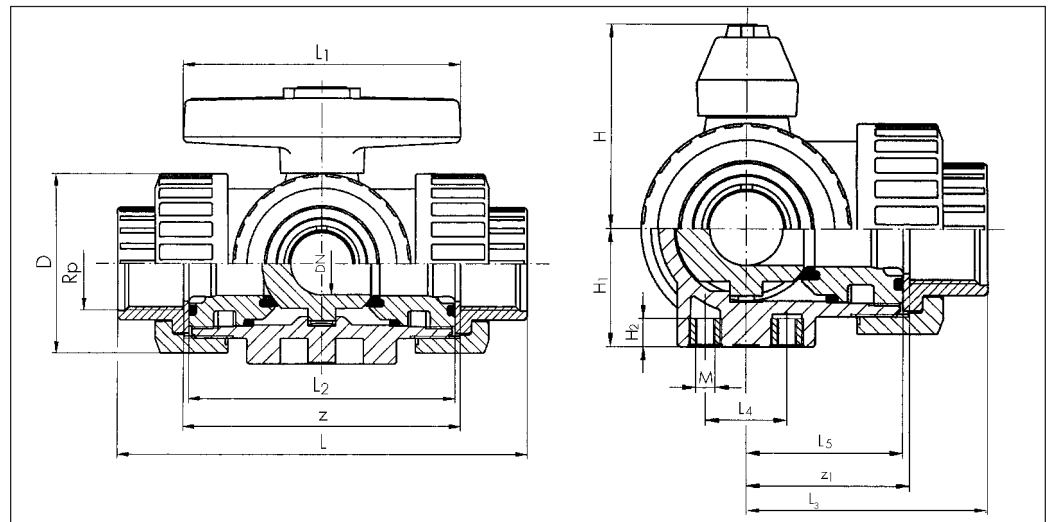
d mm	DN mm	Inch size	z inch	z <sub>1</sub> inch	D inch	H inch	H <sub>1</sub> inch	H <sub>2</sub> inch	L inch	L <sub>1</sub> inch	L <sub>2</sub> inch	L <sub>3</sub> inch	L <sub>4</sub> inch	L <sub>5</sub> inch	M mm
16	10	3/8	3.07	1.54	1.81	1.97	1.06	0.31	4.25	3.07	2.76	2.13	0.98	1.42	6
20	15	1/2	3.11	1.57	1.81	1.97	1.06	0.31	4.37	3.07	2.76	2.20	0.98	1.42	6
25	20	3/4	3.74	1.89	2.20	2.36	1.30	0.31	5.16	3.62	3.39	2.60	0.98	1.69	6
32	25	1	4.25	2.13	2.64	2.68	1.42	0.31	5.83	3.94	3.78	2.91	0.98	1.89	6
40	32	1 1/4	5.24	2.64	3.23	3.11	1.73	0.35	6.97	4.33	4.49	3.50	1.77	2.28	8
50	40	1 1/2	6.10	3.07	3.86	3.54	1.93	0.35	8.07	4.72	5.39	4.06	1.77	2.72	8
63	50	2	7.99	4.02	4.76	4.29	2.40	0.35	10.28	5.75	7.05	5.16	1.77	3.54	8

**PVDF  
metric fusion sockets**

d mm	DN mm	Inch size	z inch	z <sub>1</sub> inch	D inch	H inch	H <sub>1</sub> inch	H <sub>2</sub> inch	L inch	L <sub>1</sub> inch	L <sub>2</sub> inch	L <sub>3</sub> inch	L <sub>4</sub> inch	L <sub>5</sub> inch	M mm
16	10	3/8	3.07	1.54	1.81	1.97	1.06	0.31	4.25	3.07	2.76	2.13	0.98	1.42	6
20	15	1/2	3.11	1.57	1.81	1.97	1.06	0.31	4.37	3.07	2.76	2.20	0.98	1.42	6
25	20	3/4	3.74	1.89	2.20	2.36	1.30	0.31	5.16	3.62	3.39	2.60	0.98	1.69	6
32	25	1	4.25	2.13	2.64	2.68	1.42	0.31	5.79	3.94	3.78	2.91	0.98	1.89	6
40	32	1 1/4	5.24	2.64	3.19	3.11	1.73	0.35	6.93	4.33	4.49	3.46	1.77	2.28	8
50	40	1 1/2	6.10	3.07	3.82	3.54	1.93	0.35	8.03	4.72	5.39	4.02	1.77	2.72	8
63	50	2	7.99	4.02	4.69	4.29	2.40	0.35	10.20	5.75	7.05	5.12	1.77	3.54	8

# Dimensions

## 3-Way Ball Valve Type 343 Horizontal with threaded sockets NPT



### PVC CPVC

Inch size	d mm	z inch	z <sub>1</sub> inch	D inch	H inch	H <sub>1</sub> inch	H <sub>2</sub> inch	L inch	L <sub>1</sub> inch	L <sub>2</sub> inch	L <sub>3</sub> inch	L <sub>4</sub> inch	L <sub>5</sub> inch	M mm
3/8	16	2.99	1.50	1.69	1.97	1.06	0.31	4.49	3.07	2.83	2.24	0.98	1.42	6
1/2	20	2.99	1.50	1.69	1.97	1.06	0.31	4.53	3.07	2.83	2.28	0.98	1.42	6
3/4	25	3.54	1.77	2.05	2.36	1.30	0.31	5.20	3.62	3.39	2.60	0.98	1.69	6
1	32	3.94	1.97	2.56	2.68	1.42	0.31	5.98	3.94	3.78	2.99	0.98	1.89	6
1 1/4	40	4.80	2.40	3.07	3.11	1.73	0.35	6.97	4.33	4.57	3.50	1.77	2.32	8
1 1/2	50	5.98	2.99	3.62	6.54	1.93	0.35	8.07	4.72	5.39	4.06	1.77	2.72	8
2	63	7.87	3.94	4.57	4.29	2.40	0.35	10.28	5.75	7.05	5.16	1.77	3.54	8

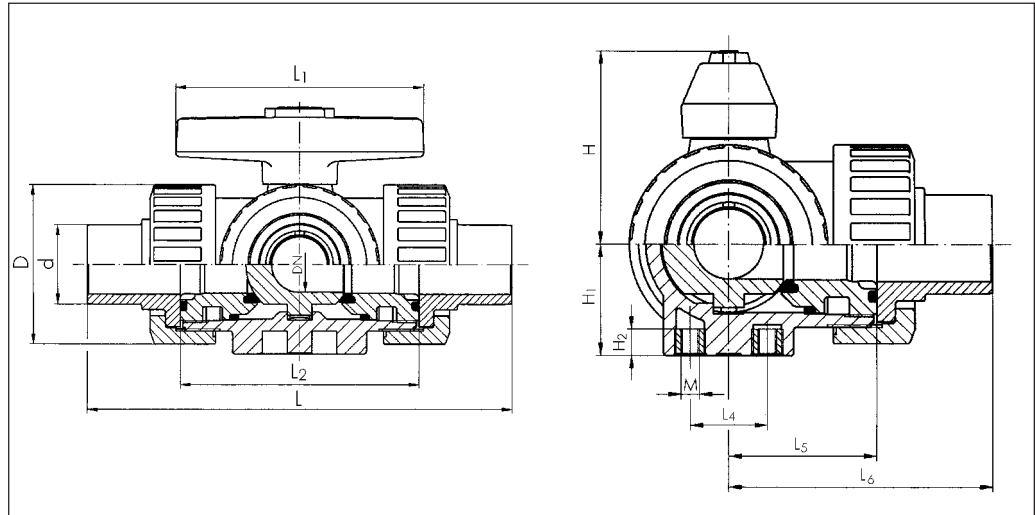
### PP PVDF

Inch size	d mm	z inch	z <sub>1</sub> inch	D inch	H inch	H <sub>1</sub> inch	H <sub>2</sub> inch	L inch	L <sub>1</sub> inch	L <sub>2</sub> inch	L <sub>3</sub> inch	L <sub>4</sub> inch	L <sub>5</sub> inch	M mm
3/8	16	2.99	1.50	1.81	1.97	1.06	0.31	4.49	3.07	2.76	2.24	0.98	1.42	6
1/2	20	2.99	1.50	1.81	1.97	1.06	0.31	4.53	3.07	2.76	2.28	0.98	1.42	6
3/4	25	3.54	1.77	2.20	2.36	1.30	0.31	5.20	3.62	3.39	2.60	0.98	1.69	6
1	32	3.94	1.97	2.64	2.68	1.42	0.31	5.98	3.94	3.78	2.99	0.98	1.89	6
1 1/4	40	4.80	2.40	3.19	3.11	1.73	0.35	6.97	4.33	4.49	3.50	1.77	2.32	8
1 1/2	50	5.98	2.99	3.82	6.54	1.93	0.35	8.07	4.72	5.39	4.06	1.77	2.72	8
2	63	7.87	3.94	4.69	4.29	2.40	0.35	10.28	5.75	7.05	5.16	1.77	3.54	8



# Dimensions

## 3-Way Ball Valve Type 343 Horizontal with IR/butt fusion ends



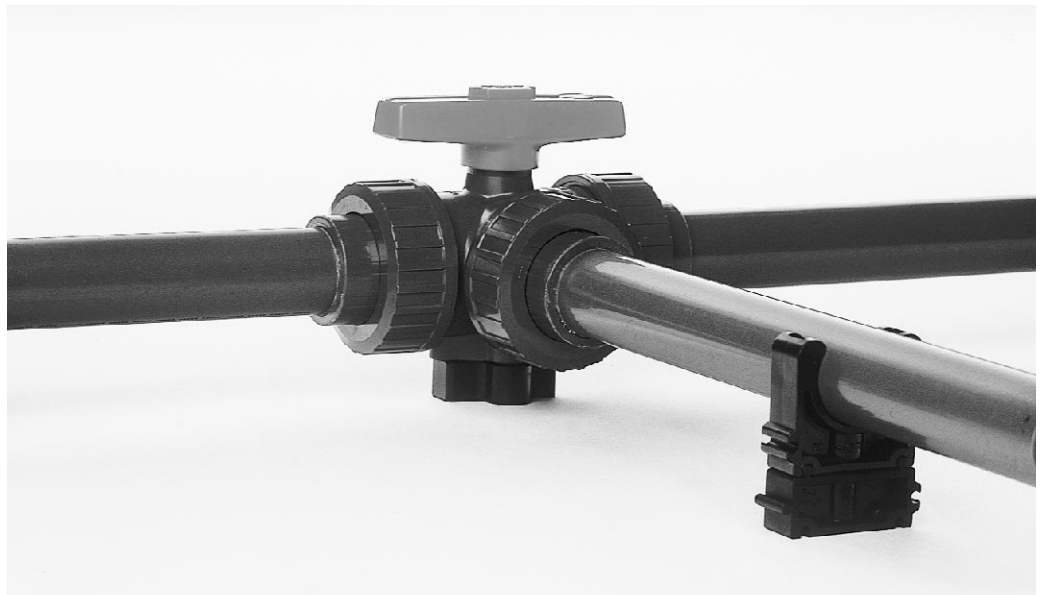
**PP**

d mm	DN mm	Inch size	D inch	H inch	H <sub>1</sub> inch	H <sub>2</sub> inch	L inch	L <sub>1</sub> inch	L <sub>2</sub> inch	L <sub>4</sub> inch	L <sub>5</sub> inch	L <sub>6</sub> inch	M mm
20	15	1/2	1.81	1.97	1.06	0.31	5.51	3.07	2.76	0.98	1.42	2.76	6
25	20	3/4	2.20	2.36	1.30	0.31	6.14	3.62	3.39	0.98	1.69	3.07	6
32	25	1	2.64	2.68	1.42	0.31	6.61	3.94	3.78	0.98	1.89	3.31	6
40	32	1 1/4	3.23	3.11	1.73	0.35	7.80	4.33	4.40	1.77	2.28	3.90	8
50	40	1 1/2	3.86	3.54	1.93	0.35	9.17	4.72	5.39	1.77	2.72	4.61	8
63	50	2	4.76	4.29	2.40	0.35	11.18	5.75	7.05	1.77	3.54	5.59	8

**PVDF**

d mm	DN mm	Inch size	D inch	H inch	H <sub>1</sub> inch	H <sub>2</sub> inch	L inch	L <sub>1</sub> inch	L <sub>2</sub> inch	L <sub>4</sub> inch	L <sub>5</sub> inch	L <sub>6</sub> inch	M mm
16	10	3/8	1.81	1.97	1.06	0.31	4.69	3.07	2.76	0.98	1.42	2.36	6
20	15	1/2	1.81	1.97	1.06	0.31	5.51	3.07	2.76	0.98	1.42	2.76	6
25	20	3/4	2.20	2.36	1.30	0.31	6.14	3.62	3.39	0.98	1.69	3.07	6
32	25	1	2.64	2.68	1.42	0.31	6.61	3.94	3.78	0.98	1.89	3.31	6
40	32	1 1/4	3.19	3.11	1.73	0.35	7.80	4.33	4.40	1.77	2.28	3.90	8
50	40	1 1/2	3.82	3.54	1.93	0.35	9.17	4.72	5.39	1.77	2.72	4.61	8
63	50	2	4.69	4.29	2.40	0.35	11.22	5.75	7.05	1.77	3.54	5.63	8

## Integrated, Universal Mounting System



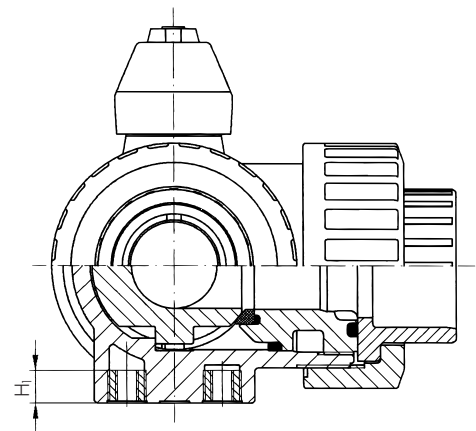
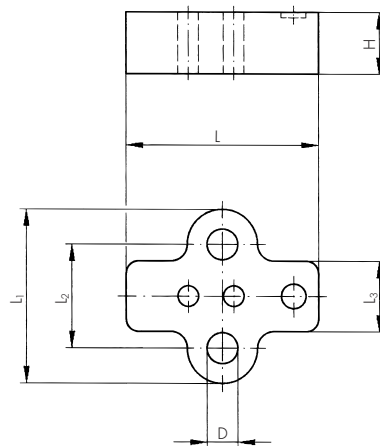
The 3-way ball valve Type 343 has an integrated mounting unit (insert screws in high-grade steel). The George Fischer mounting blocks are designed to allow different size George Fischer Valves to be aligned with the same pipe center line by equalizing the different heights from the base to the center line of the pipe. They are designed to be compati-

ble with George Fischer's pipe clips. The mounting blocks can be used for PVC, CPVC, PP, PVDF ball valves Type 343 horizontal, 3/8" - 2".

Mounting blocks:  
material PP-GF 15, black,  
3 sizes

## Mounting Blocks for 3-Way Horizontal Ball Valve Type 343

### Types/Dimensions

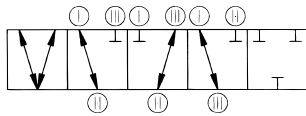


Inch size	DN mm	d mm	Part Number	H inch	L <sub>2</sub> inch	L <sub>3</sub> inch	L <sub>1</sub> inch	L inch	D inch	H <sub>1</sub> inch	Weight lbs.
3/8-1/2 <sup>1)</sup>	16/20	10/15	167 480 423 167 482 238	0.14 0.59	0.98 0.98	0.67 0.67	1.65 1.65	1.83 1.83	0.30 0.30	0.31 0.31	0.088 0.0352
3/4-1	25-32	20-25	167 482 238	0.59	0.98	0.67	1.65	1.83	0.30	0.31	0.0352
1 1/4-2	40-63	32-50	167 482 239	0.43	1.77	0.87	2.64	3.15	0.37	0.35	0.0616

<sup>1)</sup> For dimensions 3/8" & 1/2", the two mounting blocks need to be ordered separately and have to be assembled.

**Part Numbers for Type 343, Horizontal Model, L-port Ball**

Operation



**PVC**

Inch size	with solvent cement socket, ASTM		with taper female thread, NPT	
	EPDM seals	FPM* seals	EPDM seals	FPM* seals
3/8	161 343 081	161 343 091	161 343 101	161 343 111
1/2	161 343 082	161 343 092	161 343 102	161 343 112
3/4	161 343 083	161 343 093	161 343 103	161 343 113
1	161 343 084	161 343 094	161 343 104	161 343 114
1-1/4	161 343 085	161 343 095	161 343 105	161 343 115
1-1/2	161 343 086	161 343 096	161 343 106	161 343 116
2	161 343 087	161 343 097	161 343 107	161 343 117

**CPVC**

Inch size	with solvent cement socket, ASTM		with taper female thread, NPT	
	EPDM seals	FPM* seals	EPDM seals	FPM* seals
3/8	163 343 081	163 343 091	163 343 101	163 343 111
1/2	163 343 082	163 343 092	163 343 102	163 343 112
3/4	163 343 083	163 343 093	163 343 103	163 343 113
1	163 343 084	163 343 094	163 343 104	163 343 114
1-1/4	163 343 085	163 343 095	163 343 105	163 343 115
1-1/2	163 343 086	163 343 096	163 343 106	163 343 116
2	163 343 087	163 343 097	163 343 107	163 343 117



**Polypropylene**

d mm	DN Dmm	metric fusion socket		metric IR/butt fusion		Inch size
		EPDM Seals	FPM* Seals	EPDM Seals	FPM* Seals	
16	10	167 343 001	167 343 011	N/A	N/A	3/8
20	15	167 343 002	167 343 012	167 343 062	167 343 072	1/2
25	20	167 343 003	167 343 013	167 343 063	167 343 073	3/4
32	25	167 343 004	167 343 014	167 343 064	167 343 074	1
40	32	167 343 005	167 343 015	167 343 065	167 343 075	1-1/4
50	40	167 343 006	167 343 016	167 343 066	167 343 076	1-1/2
63	50	167 343 007	167 343 017	167 343 067	167 343 077	2



**Polypropylene**

Inch size	with taper female thread, NPT	
	EPDM seals	FPM* seals
3/8	167 343 161	167 343 171
1/2	167 343 162	167 343 172
3/4	167 343 163	167 343 173
1	167 343 164	167 343 174
1-1/4	167 343 165	167 343 175
1-1/2	167 343 166	167 343 176
2	167 343 167	167 343 177

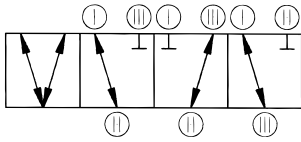
**PVDF**

d mm	DN mm	metric fusion socket	metric IR/butt fusion	threaded NPT	Inch size
		FPM* seals	FPM* seals	FPM* seals	
16	10	175 343 011	N/A	175 343 071	3/8
20	15	175 343 012	175 343 052	175 343 072	1/2
25	20	175 343 013	175 343 053	175 343 073	3/4
32	25	175 343 014	175 343 054	175 343 074	1
40	32	175 343 015	175 343 055	175 343 075	1-1/4
50	40	175 343 016	175 343 056	175 343 076	1-1/2
63	50	176 343 017	175 343 057	175 343 077	2



\* FPM seals are made of Viton® or equal materials.  
 Viton® is a registered trademark of DuPont Dow Elastomers.

Operation



## Part Numbers for Type 343, Horizontal Model, T-port Ball

### PVC

Inch size	with solvent cement socket, ASTM		with taper female thread, NPT	
	EPDM seals	FPM* seals	EPDM seals	FPM* seals
3/8	161 343 281	161 343 291	161 343 301	161 343 311
1/2	161 343 282	161 343 292	161 343 302	161 343 312
3/4	161 343 283	161 343 293	161 343 303	161 343 313
1	161 343 284	161 343 294	161 343 304	161 343 314
1-1/4	161 343 285	161 343 295	161 343 305	161 343 315
1-1/2	161 343 286	161 343 296	161 343 306	161 343 316
2	161 343 287	161 343 297	161 343 307	161 343 317

### CPVC

Inch size	with solvent cement socket, ASTM		with taper female thread, NPT	
	EPDM seals	FPM* seals	EPDM seals	FPM* seals
3/8	163 343 281	163 343 291	163 343 301	163 343 311
1/2	163 343 282	163 343 292	163 343 302	163 343 312
3/4	163 343 283	163 343 293	163 343 303	163 343 313
1	163 343 284	163 343 294	163 343 304	163 343 314
1-1/4	163 343 285	163 343 295	163 343 305	163 343 315
1-1/2	163 343 286	163 343 296	163 343 306	163 343 316
2	163 343 287	163 343 297	163 343 307	163 343 317



### Polypropylene

d mm	DN mm	metric fusion socket		metric IR/butt fusion		Inch size
		EPDM seals	FPM* seals	EPDM seals	FPM* seals	
16	10	167 343 201	167 343 211	N/A	N/A	3/8
20	15	167 343 202	167 343 212	167 343 262	175 343 272	1/2
25	20	167 343 203	167 343 213	167 343 263	175 343 273	3/4
32	25	167 343 204	167 343 214	167 343 264	175 343 274	1
40	32	167 343 205	167 343 215	167 343 265	175 343 275	1-1/4
50	40	167 343 206	167 343 216	167 343 266	175 343 276	1-1/2
63	50	167 343 207	167 343 217	167 343 267	175 343 277	2



### Polypropylene

Inch size	with taper female thread, NPT	
	EPDM seals	FPM* seals
3/8	167 343 361	167 343 371
1/2	167 343 362	167 343 372
3/4	167 343 363	167 343 373
1	167 343 364	167 343 374
1-1/4	167 343 365	167 343 375
1-1/2	167 343 366	167 343 376
2	167 343 367	167 343 377

### PVDF

d mm	DN mm	metric fusion socket	metric IR/butt fusion	threaded NPT	Inch size
		FPM* seals	FPM* seals	FPM* seals	
16	10	175 343 111	N/A	175 343 171	3/8
20	15	175 343 112	175 343 152	175 343 172	1/2
25	20	175 343 113	175 343 153	175 343 173	3/4
32	25	175 343 114	175 343 154	175 343 174	1
40	32	175 343 115	175 343 155	175 343 175	1-1/4
50	40	175 343 116	175 343 156	175 343 176	1-1/2
63	50	176 343 117	175 343 157	175 343 177	2



\* FPM seals are made of Viton® or equal materials.  
Viton® is a registered trademark of DuPont Dow Elastomers.

## Product Specification

*\*FPM seals are made of Viton® or equal materials. Viton® is a registered trademark of DuPont Dow Elastomers.*

### Type 343 True Union 3-Way Ball Valve - PVC

PVC true union 3-way ball valves 3/8" through 2" shall be available in horizontal configuration and have either solvent cement socket or threaded pipe connections. Horizontal configurations shall be supplied with a union connection on the outlet branch, it having its own individual ball seat (seal) enabling the option to be supplied with a "T" ported ball for flow-through operation. Incorporated into its design safety features is a blow-out proof stem and the ability to hold pressure when the downstream union nut is removed. Seats shall be PTFE with backing rings creating self-adjusting seals and constant operating torque. Backing rings and seals shall be EPDM or FPM\*. The handle shall include in its design a key for removal of the seat carrier in addition to having sufficient elevation to permit hand clearance. Seat carrier shall have left-hand threads to prevent possible unscrewing when threaded end connectors are removed from pipe. Material shall meet or exceed the requirements of 12454-B according to the classifications and requirements of ASTM D-1784. Socket end connection dimensions shall conform to ASTM D-2467. Threaded pipe connections shall be in accordance with ASTM D-2464 which references ANSI B1.20.1 (was B2.1) for tapered pipe threads. Optional flanged version shall be in accordance with ANSI B16.5, class 150 flanges. The valve, type 343, shall carry a pressure rating of 150 psi at 68°F as supplied by George Fischer, Inc., Tustin, CA 92780.

### Type 343 True Union 3-Way Ball Valve - CPVC

CPVC true union ball valves 1/2" through 2" shall be available in horizontal configuration and have either solvent cement socket or threaded pipe connections. Horizontal configurations shall be supplied with a union connection on the outlet branch, it having its own individual ball seat (seal) enabling the option to be supplied with a "T" ported ball for flow-through operation. Incorporated into its design safety features is a blow-out proof stem and the ability to hold pressure when the downstream union nut is removed. Seats shall be PTFE with backing rings creating self-adjusting seals and constant operating torque. Backing rings and seals shall be EPDM or FPM\*. The handle shall include in its design a key for removal of the seat carrier in addition to having sufficient elevation to permit hand clearance. Seat carrier shall have left-hand threads to prevent possible unscrewing when threaded end connectors are removed from pipe. Material shall meet or exceed the requirements of 23447-B according to the classifications and requirements of ASTM D-1784. Socket end connection dimensions shall conform to ASTM F439 (formerly D-2467). Threaded end connections shall conform to the dimensions as listed in ASTM F437 (formerly D-2464) which references ANSI B1.20.1 (was B2.1) for tapered pipe threads. The valve, type 343, shall carry a pressure rating of 150 psi at 68°F as supplied by George Fischer, Inc., Tustin, CA 92780.

## Product Specification

*\*FPM seals are made of Viton® or equal materials. Viton® is a registered trademark of DuPont Dow Elastomers.*

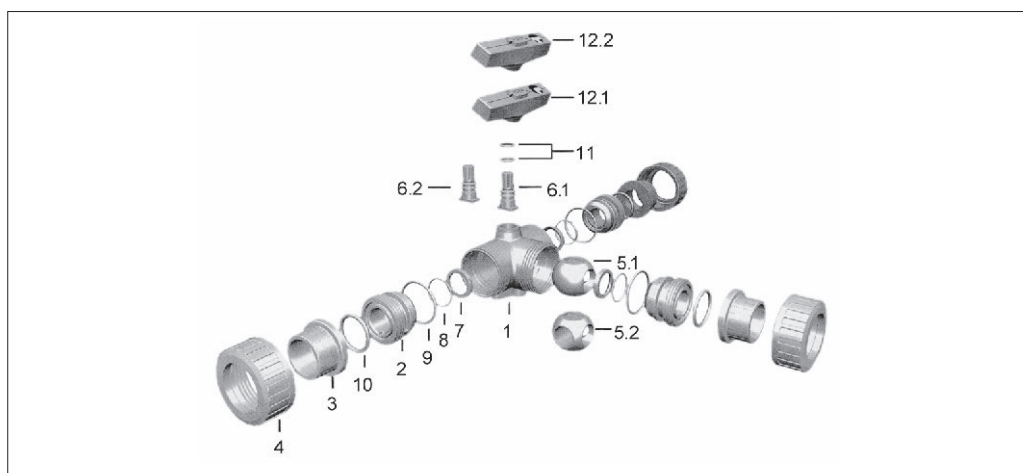
### **Type 343 True Union 3-way Ball Valve - PVDF**

PVDF true union 3-way ball valves 1/2" through 2" (20 mm - 63 mm) shall be available in horizontal configuration and have either metric fusion socket or threaded type pipe connections. Horizontal configurations shall be supplied with a union connection on the outlet branch, it having its own individual ball seat (seal) enabling the option to be supplied with a "T" ported ball for flow-through operation. Incorporated into its design safety features is a blow-out-proof stem and the ability to hold pressure when the downstream union nut is removed. Seats shall be PTFE with backing rings creating self-adjusting, constant operating torque sealing characteristics. Backing rings and seals shall be FPM\*. The handle shall include in its design a key for removal of the seat carrier in addition to providing sufficient height to permit hand clearance. Seat carrier shall have left-hand threads to prevent possible unscrewing when threaded end connector is installed on the pipe. Material shall meet or exceed the requirements of ASTM D 3222 as pertains to a natural, unpigmented, virgin, noncompounded polyvinylidene fluoride compound having a minimum tensile strength of 7800 psi/538 bar at 73°F/20°C when tested in accordance with ASTM D 638 and shall have a flexural strength of 10,700 psi/738 bar at 73°F/20°C when tested according to ASTM D 790. End connections shall be as outlined in ASTM D 2657 for fusion socket joining, and shall be compatible with metric pipe and fittings as manufactured by George Fischer, Inc. Threaded end connections shall be in accordance with ASTM D 2464 which references ANSI B 1.20 (was B 2.1) for tapered pipe threads. The valve, Type 343, shall carry a pressure rating of 150 psi/10 bar at 68°F/20°C as supplied by George Fischer, Inc., Tustin, CA 92780.

### **Type 343 True Union 3-way Ball Valve – Polypropylene**

Polypropylene true union 3-way ball valves 1/2" through 2" (20 mm – 63 mm) shall be available in horizontal configuration and have either metric fusion socket or threaded type pipe connections. Horizontal configurations shall be supplied with a union connection on the outlet branch, it having its own individual ball seat (seal) enabling the option to be supplied with a "T" ported ball for flow-through operation. Incorporated into its design safety features is a blow-out-proof stem and the ability to hold pressure when the downstream union nut is removed. Seats shall be PTFE (Teflon®) with backing rings creating self-adjusting, constant operating torque sealing characteristics. Backing rings and seals shall be EPDM or FPM\*. The handle shall include in its design a key for removal of the seat carrier in addition to providing sufficient height to permit hand clearance. Seat carrier shall have left-hand threads to prevent possible unscrewing when threaded end connector is installed on the pipe. Material shall meet or exceed the requirements of ASTM D 4101 as pertains to a type I homopolymer compound having a minimum tensile strength of 4350 psi/300 bar at 73°F/20°C when tested in accordance with ASTM D 638 and shall have a melt point which initiates at 316°F/158°C. The melt flow index (at 374°F/190°C/50 N) shall be 0.4 –0.8 grams per 10 minutes in accordance with ASTM D 1238. End connections shall be as outlined in ASTM D 2657 for fusion socket joining, and shall be compatible with metric pipe and fittings as manufactured by George Fischer, Inc. Threaded end connections shall be in accordance with ASTM D 2464 which references ANSI B 1.20 (was B 2.1) for tapered pipe threads. Optional flanged version shall be in accordance with ANSI B 16.5 class 150 flanges. The valve, Type 346, shall carry a pressure rating of 150 psi/10 bar at 68°F/20°C as supplied by George Fischer, Inc., Tustin, CA 92780.

### Component Parts for Type 343 PVC True Union Ball Valve



No.	Part/Material	Qty	3/8" OD d 16 mm ID DN 10 mm	1/2" d 20 mm DN 15 mm	3/4" d 25 mm DN 20 mm	1" d 32 mm DN 25 mm	1-1/4" d 40 mm DN 32 mm	1-1/2" d 50 mm DN 40 mm	2" d 63 mm DN 50 mm
8	Seal sets: Backing seals EPDM	3	161 484 941	161 484 941	161 484 942	161 484 943	161 484 944	161 484 945	161 484 946
9	Body seal EPDM	3							
10	Face seal EPDM	3							
11	Stem seals EPDM	2							
8	Seal sets: Backing seals FPM	3	161 486 951	161 486 951	161 486 952	161 486 953	161 486 954	161 486 955	161 486 956
9	Body seal FPM	3							
10	Face seal FPM	3							
11	Stem seals FPM	2							
5.1	Ball sets, L-port: L-port ball PVC	1	161 486 015	161 486 015	161 486 016	161 486 017	161 486 018	161 486 019	161 486 020
7	Ball seals PTFE	3							
6.1	Stem PVC	1							
11	Stem seals EPDM	3							
12.1	Handle PVC	1							
5.1	Ball sets, L-port: L-port ball PVC	1	161 486 027	161 486 027	161 486 028	161 486 029	161 486 030	161 486 031	161 486 032
7	Ball seals PTFE	3							
6.1	Stem PVC	1							
11	Stem seals FPM	3							
12.1	Handle PVC	1							
5.2	Ball sets, T-port: T-port ball PVC	1	161 486 039	161 486 039	161 486 040	161 486 041	161 486 042	161 486 043	161 486 044
7	Ball seals PTFE	3							
6.2	Stem PVC	1							
11	Stem seals EPDM	2							
12.2	Handle PVC	1							
5.2	Ball sets, T-port: T-port ball PVC	1	161 486 051	161 486 051	161 486 052	161 486 053	161 486 054	161 486 055	161 486 056
7	Ball seals PTFE	3							
6.2	Stem PVC	1							
11	Stem seals FPM	2							
12.2	Handle PVC	1							

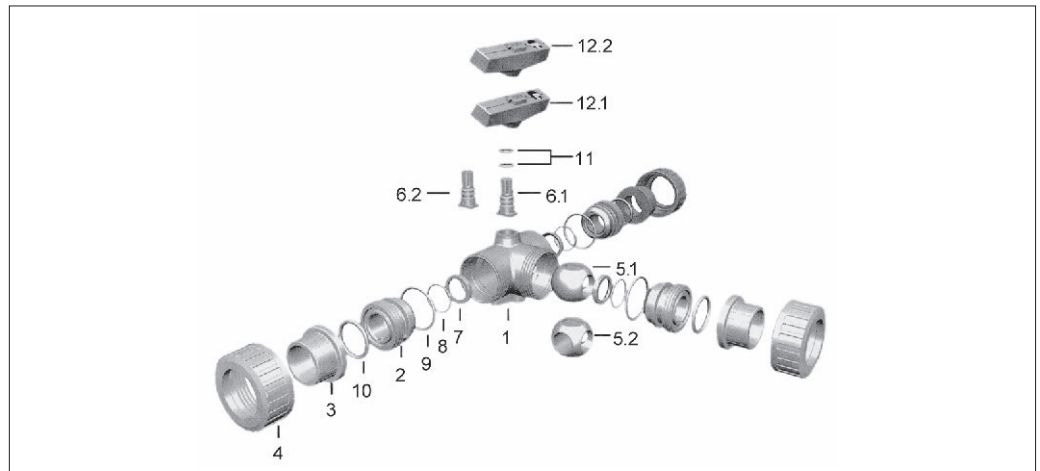


## Component Parts for Type 343 PVC True Union Ball Valve (continued)

No.	Part/Material	Qty	3/8" OD d 16 mm ID DN 10 mm	1/2" d 20 mm DN 15 mm	3/4" d 25 mm DN 20 mm	1" d 32 mm DN 25 mm	1-1/4" d 40 mm DN 32 mm	1-1/2" d 50 mm DN 40 mm	2" d 63 mm DN 50 mm
1	Central parts, L-port: Body PVC	1	161 490 439	161 490 439	161 490 440	161 490 441	161 490 442	161 490 443	161 490 444
5.1	L-port ball PVC	1							
7	Ball seals PTFE	3							
8	Backing seals EPDM	3							
9	Body seal EPDM	3							
2	Union bush PVC	3							
6.1	Stem PVC	1							
11	Stem seals EPDM	2							
12.1	Handle PVC	1							
1	Central parts, L-port: Body PVC	1	161 490 450	161 490 450	161 490 451	161 490 452	161 490 453	161 490 454	161 490 455
5.1	L-port ball PVC	1							
7	Ball seals PTFE	3							
8	Backing seals FPM	3							
9	Body seal FPM	3							
2	Union bush PVC	3							
6.1	Stem PVC	1							
11	Stem seals FPM	2							
12.1	Handle PVC	1							
1	Central parts, T-port: Body PVC	1	161 490 461	161 490 461	161 490 462	161 490 463	161 490 464	161 490 465	161 490 466
5.2	T-port ball PVC	1							
7	Ball seals PTFE	3							
8	Backing seals EPDM	3							
9	Body seals EPDM	3							
2	Union bush PVC	3							
6.2	Stem PVC	1							
11	Stem seals EPDM	2							
12.2	Handle PVC	1							
1	Central parts, T-port: Body PVC	1	161 490 472	161 490 472	161 490 473	161 490 474	161 490 475	161 490 476	161 490 477
5.2	T-port ball PVC	1							
7	Ball seals PTFE	3							
8	Backing seals FPM	3							
9	Body seal FPM	3							
2	Union bush PVC	3							
6.2	Stem PVC	1							
11	Stem seals FPM	2							
12.2	Handle PVC	1							
3	Valve ends with socket, PVC ASTM	1	161 482 377	161 482 378	161 482 379	161 482 380	161 482 381	161 482 382	161 482 383
3	Valve ends, PVC NPT	1	161 482 389	161 482 390	161 482 391	161 482 392	161 482 393	161 482 394	161 482 395
3	Valve ends with spigot, PVC ISO/DIN	1	161 482 345	161 482 346	161 482 347	161 482 348	161 482 349	161 482 350	161 482 351
4	Union nuts, PVC	1	161 340 617	161 340 617	161 340 618	161 340 619	161 340 620	161 340 621	161 480 522



### Component Parts for Type 343 PP True Union Ball Valve



No.	Part/Material	Qty	3/8" OD d 16 mm ID DN 10 mm	1/2" d 20 mm DN 15 mm	3/4" d 25 mm DN 20 mm	1" d 32 mm DN 25 mm	1-1/4" d 40 mm DN 32 mm	1-1/2" d 50 mm DN 40 mm	2" d 63 mm DN 50 mm
8	Seal sets: Backing seals EPDM	3	161 484 941	161 484 941	161 484 942	161 484 943	161 484 944	161 484 945	161 484 946
9	Body seal EPDM	3							
10	Face seal EPDM	3							
11	Stem seals EPDM	2							
8	Seal sets: Backing seals FPM	3	161 484 951	161 484 951	161 484 952	161 484 953	161 484 954	161 484 955	161 484 956
9	Body seal FPM	3							
10	Face seal FPM	3							
11	Stem seals FPM	2							
5.1	Ball sets, L-port: L-port ball PP	1	167 482 190	167 482 190	167 482 191	167 482 192	167 482 193	167 482 194	167 482 195
7	Ball seals PTFE	3							
6.1	Stem PP	1							
11	Stem seals EPDM	2							
12.1	Handle ASA	1							
5.1	Ball sets, L-port: L-port ball PP	1	167 482 202	167 482 202	167 482 203	167 482 204	167 482 205	167 482 206	167 482 207
7	Ball seals PTFE	3							
6.1	Stem PP	1							
11	Stem seals FPM	2							
12.1	Handle ASA	1							
5.2	Ball sets, T-port: T-port ball PP	1	167 482 214	167 482 214	167 482 215	167 482 216	167 482 217	167 482 218	167 482 219
7	Ball seals PTFE	3							
6.2	Stem PP	1							
11	Stem seals EPDM	2							
12.2	Handle ASA	1							
5.2	Ball sets, T-port: T-port ball PP	1	167 482 226	167 482 226	167 482 227	167 482 228	167 482 229	167 482 230	167 482 231
7	Ball seals PTFE	3							
6	Stem PP	1							
11	Stem seals FPM	2							
12.2	Handle ASA	1							

## Component Parts for Type 343 PP True Union Ball Valve (continued)

No.	Part/Material	Qty	3/8" OD d 16 mm ID DN 10 mm	1/2" d 20 mm DN 15 mm	3/4" d 25 mm DN 20 mm	1" d 32 mm DN 25 mm	1-1/4" d 40 mm DN 32 mm	1-1/2" d 50 mm DN 40 mm	2" d 63 mm DN 50 mm
1	Central parts, L-port: Body PP	1	167 482 137	167 482 137	167 482 138	167 482 139	167 482 140	167 482 141	167 482 142
5.1	L-port ball PP	1							
7	Ball seals PTFE	3							
8	Backing seals EPDM	3							
9	Body seal EPDM	3							
2	Union bush PP	3							
6	Stem PP	1							
11	Stem seals EPDM	2							
12.1	Handle ASA	1							
1	Central parts, L-port: Body PP	1	167 482 148	167 482 148	167 482 149	167 482 150	167 482 151	167 482 152	167 482 153
5.1	L-port ball PP	1							
7	Ball seals PTFE	3							
8	Backing seals FPM	3							
9	Body seal FPM	3							
2	Union bush PP	3							
6	Stem PP	1							
11	Stem seals FPM	2							
12.1	Handle ASA	1							
1	Central parts, T-port: Body PP	1	167 482 159	167 482 159	167 482 160	167 482 161	167 482 162	167 482 163	167 482 164
5.2	T-port ball PP	1							
7	Ball seals PTFE	3							
8	Backing seals EPDM	3							
9	Body seals EPDM	3							
2	Union bush PP	3							
6	Stem PP	1							
11	Stem seals EPDM	2							
12.2	Handle ASA	1							
1	Central parts, T-port: Body PP	1	167 482 170	167 482 170	167 482 171	167 482 172	167 482 173	167 482 174	167 482 175
5.2	T-port ball PP	1							
7	Ball seals PTFE	3							
8	Backing seals FPM	3							
9	Body seal FPM	3							
2	Union bush PP	3							
6	Stem PP	1							
11	Stem seals FPM	2							
12.2	Handle ASA	1							
3	Valve ends with socket, PP	1	167 480 159	167 480 160	167 480 161	167 480 162	167 480 163	167 480 164	167 480 165
3	Valve ends with spigots, PP	1	167 480 527	167 480 528	167 480 529	167 480 530	167 480 531	167 480 532	167 480 533
3	Valve ends with parallel female thread Rp, PP	1	167 480 166	167 480 167	167 480 168	167 480 169	167 480 170	167 480 171	167 480 172
3	Valve ends with tapered female thread NPT, PP	1	167 480 452	167 480 453	167 480 454	167 480 455	167 480 456	167 480 457	167 480 458
3	Butt fusion spigots, PP SDR11	1	—	167 480 546	167 480 547	167 480 548	167 480 549	167 480 550	167 480 551
4	Union nuts, PP	1	167 480 786	167 480 786	167 480 787	167 480 788	167 480 789	167 480 790	167 480 791
12	Handles, ASA	1	160 480 115	160 480 115	160 480 116	160 480 117	160 480 118	160 480 119	160 480 120