

COOL-FIT® ABS Plus

Pipe, fittings,
and accessories



P0736255

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.

GEORG FISCHER
PIPING SYSTEMS

COOL-FIT® ABS Plus

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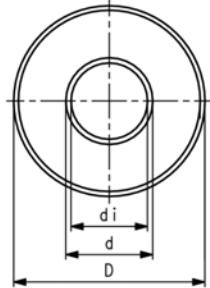
Pre-Insulated Pipe

Pipes pre-insulated, ABS metric (5 meters)

E

Model:

- insulated length: 5m
- Outer jacket impact resistant. Color: black
- Insulation made from PUR

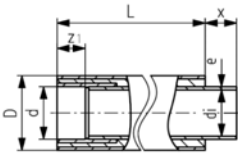


d [mm]	D [mm]	PSI	Part No.	USD/m	lbs/meter	di [inch]	closest inch	Refrigeration Size [inch]
25	90	150	169 017 682	65.00	2.866	0.80	¾	⅞
32	90	150	169 017 683	65.00	3.307	1.11	1	1 ⅛
40	110	150	169 017 684	76.00	4.189	1.39	1 ¼	1 ⅜
50	110	150	169 017 685	82.00	4.630	1.73	1 ½	1 ⅝
63	125	150	169 017 686	101.00	5.952	2.18	2	2 ⅛
75	140	150	169 017 687	118.00	7.716	2.60	2 ½	2 ⅝
90	160	150	169 017 688	146.00	9.700	3.12	3	3 ⅛
110	180	150	169 017 689	178.00	12.125	3.81	4	4 ⅛
140	225	150	169 017 691	258.00	18.739	4.87	5	
160	250	150	169 017 692	278.00	23.148	5.52	6	6
200	280	150	169 017 693	391.00	29.762	6.91	8	
225	315	150	169 017 694	484.00	40.785	7.76	8	

Pipe pre-insulated ABS metric

Model:

- insulated length: 6m (as an option: available in 5m)
- Outer jacket impact resistant. Color: black
- Insulation made from PUR
- ready for connection with free pipe end and integrated socket



d [mm]	D [mm]	PSI	Part No.	USD	lbs/meter
250	355	90	169 017 665	1020.00	32.849
280	400	90	169 017 666	1280.00	41.226
315	450	90	169 017 667	1660.00	52.249

d [mm]	x [mm]	L [inch]	closest inch	e [inch]	di [inch]	Z1 [inch]
250	150	236.22	10	0.38	9.09	5.12
280	165	236.22	10	0.42	10.18	5.71
315	185	236.22	12	0.48	11.45	6.50

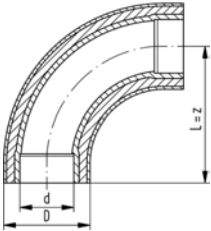


E

Pre-Insulated Fittings

Bend 90° pre-insulated, ABS metric

E



Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black

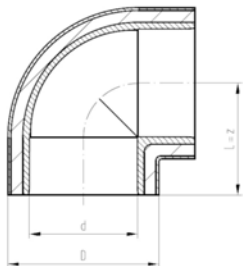
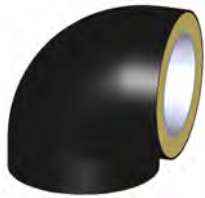
Connecting dimensions = Pipe outer diameter

* Available as long as our stock will last

d [mm]	D [mm]	PSI	Part No.	USD	lbs	z [inch]	L [inch]	required Nipple	closest inch
25	90	150	738 001 107	72.00	0.403	2.72	2.72	738901607	¾
32	90	150	738 001 108	76.00	0.485	3.39	3.39	738901608	1
40	110	150	738 001 109	92.00	0.800	4.29	4.29	738901609	1 ¼
50	110	150	738 001 110	99.00	1.153	5.16	5.16	738901610	1 ½
63	125	150	738 001 111	122.00	1.698	6.46	6.46	738901611	2
75	140	150	738 001 112	155.00	2.555	7.64	7.64	738901612	2 ½
90	160	150	738 001 113	190.00	4.153	9.09	9.09	738901613	3
110	180	150	738 001 114	263.00	7.282	11.06	11.06	738901614	4
140	225	150	738 001 116	371.00	13.228	14.02	14.02	738901616	5
* 160	250	150	738 001 117	478.00	13.228	15.98	15.98	738901617	6
225	315	150	738 001 120	530.00	17.637	11.30	11.30	738901620	8

Elbow 90° pre-insulated, ABS metric

E



Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black
- Compact design

Connecting dimensions = Pipe outer diameter

d [mm]	D [mm]	PSI	Part No.	USD	lbs	z [inch]	L [inch]	required Nipple	closest inch
160	250	150	738 101 117	350.00	5.732	6.54	6.54	738901617	6
200	280	150	738 101 119	515.00	11.030	8.15	8.15	738901619	8



Bend 90° short pattern pre-insulated ABS metric

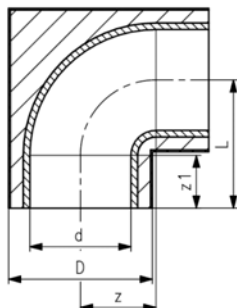


Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black
- Compact design

E

Connecting dimensions = Pipe outer diameter



d [mm]	D [mm]	PSI	Part No.	USD	lbs	z [inch]	z1 [inch]	L [inch]	closest inch	
250	355	90	738 101 121	2650.00	22.046	5.16	5.12	10.35	10	
280	400	90	738 001 122	2940.00	39.683	8.27	5.71	14.06	10	
315	450	90	738 001 123	3410.00	52.910	9.33	6.50	15.79	12	



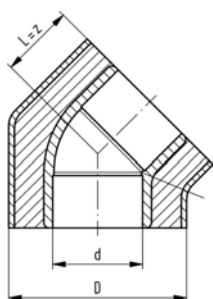
Elbow 45° pre-insulated, ABS metric

E

Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black

Connecting dimensions = Pipe outer diameter



d [mm]	D [mm]	PSI	Part No.	USD	lbs	z [inch]	L [inch]	required Nipple	closest inch	
25	90	150	738 151 107	64.00	0.176	0.98	0.98	738901607	¾	
32	90	150	738 151 108	67.00	0.227	1.18	1.18	738901608	1	
40	110	150	738 151 109	76.00	0.265	1.42	1.42	738901609	1 ¼	
50	110	150	738 151 110	77.00	0.425	1.69	1.69	738901610	1 ½	
63	125	150	738 151 111	96.00	0.732	2.05	2.05	738901611	2	
75	140	150	738 151 112	113.00	1.065	2.40	2.40	738901612	2 ½	
90	160	150	738 151 113	142.00	1.543	2.80	2.80	738901613	3	
110	180	150	738 151 114	179.00	2.229	3.50	3.50	738901614	4	
140	225	150	738 151 116	248.00	4.189	4.25	4.25	738901616	5	
160	250	150	738 151 117	308.00	6.402	4.80	4.80	738901617	6	
200	280	150	738 151 119	424.00	8.128	5.87	5.87	738901619	8	
225	315	150	738 151 120	456.00	10.185	6.61	6.61	738901620	8	



Elbow 45° pre-insulated ABS metric

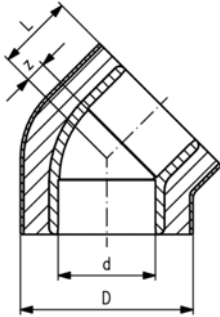


Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black
- Compact design

E

Connecting dimensions = Pipe outer diameter



d [mm]	D [mm]	PSI	Part No.	USD	lbs	z [inch]	L [inch]	closest inch	
250	355	90	738 151 121	2500.00	19.841	2.36	7.56	10	
280	400	90	738 151 122	2670.00	28.660	2.60	8.39	10	
315	450	90	738 151 123	3060.00	37.478	2.91	9.41	12	

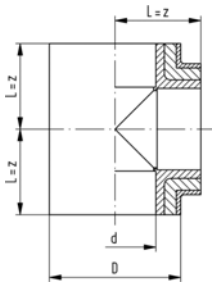


Tee 90° pre-insulated, ABS metric

E

Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black



d [mm]	D [mm]	PSI	Part No.	USD	lbs	z [inch]	L [inch]	required Nipple	closest inch
25	90	150	738 201 007	112.00	0.562	3.15	3.15	738901607	¾
32	90	150	738 201 008	112.00	0.569	3.15	3.15	738901608	1
40	110	150	738 201 009	115.00	0.985	3.54	3.54	738901609	1 ¼
50	110	150	738 201 010	118.00	1.091	3.54	3.54	738901610	1 ½
63	125	150	738 201 011	129.00	1.709	3.94	3.94	738901611	2
75	140	150	738 201 012	132.00	2.800	4.92	4.92	738901612	2 ½
90	160	150	738 201 013	152.00	3.527	5.51	5.51	738901613	3
110	180	150	738 201 114	190.00	5.090	4.80	4.80	738901614	4
140	225	150	738 201 116	391.00	8.023	5.79	5.79	738901616	5
160	250	150	738 201 117	463.00	4.850	6.57	6.57	738901617	6
200	280	150	738 201 119	608.00	14.991	8.15	8.15	738901619	8
225	315	150	738 201 120	680.00	22.487	9.17	9.17	738901620	8



Tee 90° pre-insulated ABS metric

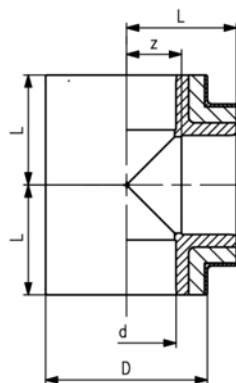
Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black
- Compact design



E

Connecting dimensions = Pipe outer diameter



d [mm]	D [mm]	PSI	Part No.	USD	lbs	z [inch]	L [inch]	closest inch	
250	355	90	738 201 121	2190.00	32.306	5.20	10.35	10	
280	400	90	738 201 122	2520.00	46.297	5.98	11.73	10	
315	450	90	738 201 123	3070.00	59.524	6.30	13.07	12	



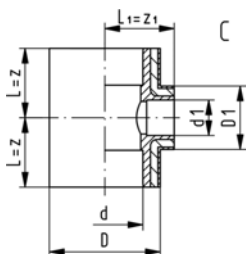
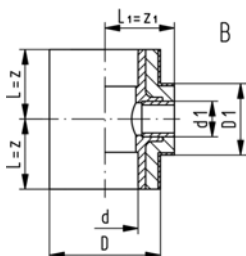
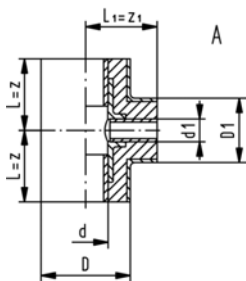
Tee 90° reduced pre-insulated, ABS metric

E

Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black

*available as long as stock exist



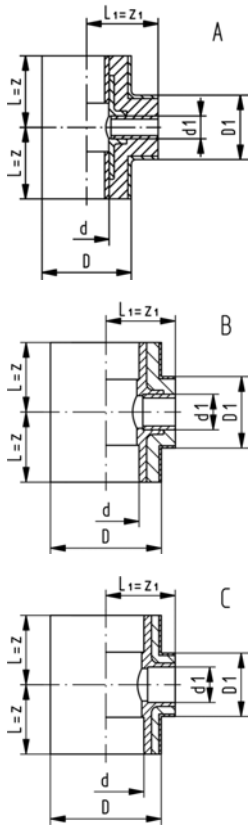
d [mm]	d1 [mm]	D [mm]	D1 [mm]	Type	PSI	Part No.	USD	
32	25	90	90	C	150	738 201 038	126.00	
40	25	110	90	C	150	738 201 051	128.00	
40	32	110	90	C	150	738 201 047	128.00	
50	25	110	90	C	150	738 201 092	132.00	
50	32	110	90	C	150	738 201 064	131.00	
63	25	125	90	A	150	738 201 193	144.00	
63	32	125	90	A	150	738 201 178	142.00	
63	50	125	110	A	150	738 201 170	142.00	
75	40	140	110	A	150	738 201 182	145.00	
90	32	160	90	B	150	738 201 143	176.00	
90	63	160	125	B	150	738 201 146	176.00	
110	32	180	90	B	150	738 201 144	206.00	
110	50	180	110	B	150	738 201 136	206.00	
140	50	225	110	B	150	738 201 148	443.00	
140	75	225	140	B	150	738 201 149	443.00	
160	90	250	160	B	150	738 201 158	505.00	
200	110	280	180	C	150	738 201 153	670.00	
225	110	315	180	C	150	738 201 156	731.00	
225	160	315	250	C	150	738 201 157	731.00	

d [mm]	d1 [mm]	z [inch]	z1 [inch]	required Nipple	closest inch	
32	25	3.15	3.15	1x738901607; 2x738901608	1 - 3/4	
40	25	3.54	3.54	1x738901607; 2x738901609	1 1/4 - 3/4	
40	32	3.54	3.54	1x738901608; 2x738901608	1 1/4 - 1	
50	25	3.54	3.54	1x738901607; 2x738901610	1 1/2 - 3/4	
50	32	3.54	3.54	1x738901608; 2x738901610	1 1/2 - 1	
63	25	3.94	3.94	1x738901107; 2x738901111	2 - 3/4	
63	32	3.94	3.94	1x738901108; 2x738901111	2 - 1	

table continued next page

- 40% Restock Charge on Actuated Valves

- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable



d [mm]	d1 [mm]	z [inch]	z1 [inch]	required Nipple	closest inch	
63	50	3.94	3.94	1x738901110; 2x738901111	2 - 1 ½	
75	40	4.53	4.33	1x738901109; 2x738901112	2 ½ - 1 ¼	
90	32	3.82	4.72	1x738901108; 2x738901613	3 - 1	
90	63	3.82	4.72	1x738901111; 2x738901613	3 - 2	
110	32	4.61	5.12	1x738901108; 2x738901614	4 - 1	
110	50	4.61	5.12	1x738901110; 2x738901614	4 - 1 ½	
140	50	5.79	6.02	1x738901110; 2x738901616	5 - 1 ½	
140	75	5.79	6.02	1x738901112; 2x738901616	5 - 2 ½	
160	90	6.57	6.50	1x738901113; 2x738901617	6 - 3	
200	110	8.39	7.60	1x738901614; 2x738901619	8 - 4	
225	110	9.41	8.11	1x738901614; 2x738901620	8 - 4	
225	160	9.41	8.11	1x738901617; 2x738901620	8 - 6	

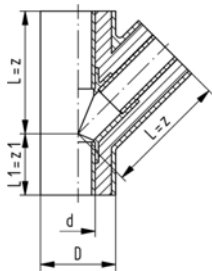


Tee 45° pre-insulated, ABS metric

E

Model:

- Insulation made from PUR
- Outer jacket impact resistant. Color: black
- * Connecting dimensions = Pipe inner diameter



d [mm]	D [mm]	PSI	Part No.	USD	lbs	
* 25	90	150	738 251 107	198.00	1.080	
* 32	90	150	738 251 108	206.00	1.166	
* 40	110	150	738 251 109	221.00	1.825	
* 50	110	150	738 251 110	231.00	2.090	
* 63	125	150	738 251 111	530.00	2.822	
* 75	140	150	738 251 112	587.00	1.764	
* 90	160	150	738 251 113	711.00	6.054	
* 110	180	150	738 251 114	855.00	9.764	

d [mm]	L [inch]	z [inch]	L1 [inch]	z1 [inch]	required Nipple	closest inch	
* 25	6.30	6.30	3.15	3.15	738901107	¾	
* 32	6.30	6.30	3.15	3.15	738901108	1	
* 40	7.09	7.09	3.54	3.54	738901109	1 ¼	
* 50	7.09	7.09	3.54	3.54	738901110	1 ½	
* 63	7.87	7.87	3.94	3.94	738901111	2	
* 75	9.45	9.45	4.72	4.72	738901112	2 ½	
* 90	9.84	9.84	4.92	4.92	738901113	3	
* 110	11.81	11.81	5.91	5.91	738901114	4	

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpping.com for updated info.

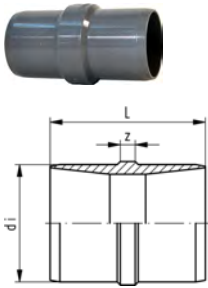
Connecting Nipples

Barrel Nipple di-di, ABS

E

Model:

- To connect pipe inner diameters di



d [mm]	PSI	Part No.	USD	lbs	di [inch]	L [inch]	z [inch]	closest inch	
25	150	738 901 107	2.45	0.020	0.79	2.05	0.39	¾	
32	150	738 901 108	2.80	0.031	1.10	2.28	0.39	1	
40	150	738 901 109	4.00	0.046	1.38	2.60	0.39	1 ¼	
50	150	738 901 110	4.55	0.077	1.73	2.99	0.39	1 ½	
63	150	738 901 111	7.55	0.130	2.17	3.54	0.39	2	
75	150	738 901 112	17.40	0.192	2.56	4.02	0.39	2 ½	
90	150	738 901 113	32.60	0.280	3.11	4.09	0.39	3	
110	150	738 901 114	46.60	0.450	3.78	4.80	0.39	4	
140	150	738 901 116	92.00	0.917	4.84	5.91	0.39	5	
160	150	738 901 117	116.00	1.283	5.55	6.54	0.39	6	
200	150	738 901 119	190.00	2.246	6.93	7.95	0.39	8	
225	150	738 901 120	220.00	3.069	7.80	8.82	0.39	8	

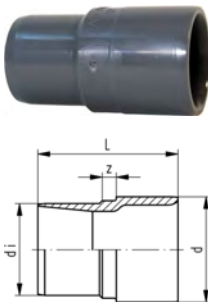
Adaptor Nipple d-di, ABS

E

Model:

- To connect d to pipe inner diameter di

* Can also be used as a reducer di 160 to di 140



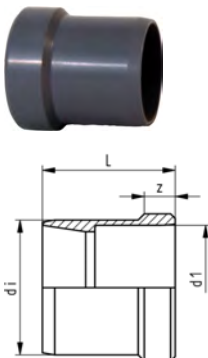
d [mm]	PSI	Part No.	USD	lbs	di [inch]	L [inch]	z [inch]	closest inch	
25	150	738 901 607	2.50	0.018	0.79	1.97	0.39	¾	
32	150	738 901 608	2.80	0.037	1.10	2.20	0.39	1	
40	150	738 901 609	4.00	0.057	1.38	2.52	0.39	1 ¼	
50	150	738 901 610	4.60	0.097	1.73	2.91	0.39	1 ½	
63	150	738 901 611	7.50	0.174	2.17	3.46	0.39	2	
75	150	738 901 612	17.40	0.280	2.56	3.94	0.39	2 ½	
90	150	738 901 613	32.60	0.395	3.11	4.25	0.39	3	
110	150	738 901 614	46.60	0.703	3.78	5.00	0.39	4	
* 140	150	738 901 616	92.00	1.113	4.84	6.14	0.39	5	
160	150	738 901 617	116.00	1.803	5.55	6.85	0.39	6	
200	150	738 901 619	190.00	4.090	6.93	8.35	0.39	8	
225	150	738 901 620	220.00	4.235	7.80	9.29	0.39	8	

Reducing Nipple di-dred, ABS

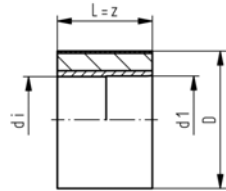
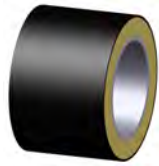
E

Model:

- To connect pipe inner diameter di to the next smaller size



d [mm]	d1 [mm]	PSI	Part No.	USD	lbs	di [inch]	L [inch]	z [inch]	closest inch	
32	25	150	738 911 341	35.00	0.013	1.10	1.34	0.39	1	
40	32	150	738 911 346	30.00	0.002	1.38	1.50	0.39	1 ¼	
50	40	150	738 911 352	29.90	0.029	1.73	1.69	0.39	1 ½	
63	50	150	738 911 358	30.90	0.055	2.17	1.97	0.39	2	
75	63	150	738 911 364	37.00	0.049	2.56	2.20	0.39	2 ½	
90	75	150	738 911 370	45.00	0.073	3.11	2.24	0.39	3	
110	90	150	738 911 376	59.00	0.163	3.78	2.60	0.39	4	
140	110	150	738 911 385	93.00	0.481	4.84	3.15	0.39	5	
200	160	150	738 911 392	194.00	0.994	6.93	4.17	0.39	8	



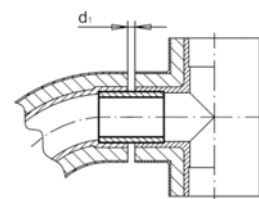
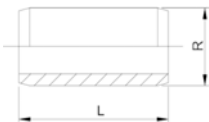
Reducing Bush, pre-insulated, ABS metric

E

Model:

- To connect di 225 to d 200
- Insulation made from PUR
- Outer jacket impact resistant. Color: black

d [mm]	d1 [mm]	PSI	Part No.	USD	lbs	di [inch]	L [inch]	z [inch]	closest inch	
225	200	150	738 911 396	226.00	8.651	7.80	8.66	8.66	8	



Barrel Nipple d-d, ABS metric

E

Model:

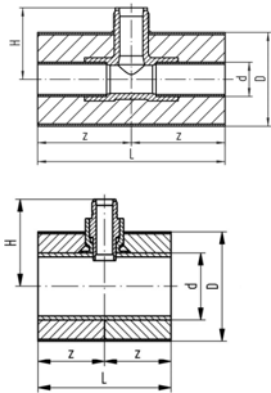
- For fast joining of COOL-FIT Plus fittings for d - connecting dimensions
- For the shortest possible distance between COOL-FIT fittings
- Overall length L = 2 x socket length + 10 mm inspection gap

d [mm]	PSI	Part No.	USD	lbs	L [inch]	d1 [inch]	closest inch	
25	240	738 901 907	10.30	0.022	1.89	0.39	3/4	
32	150	738 901 908	10.30	0.024	2.13	0.39	1	
40	150	738 901 909	11.30	0.046	2.44	0.39	1 1/4	
50	150	738 901 910	12.40	0.079	2.83	0.39	1 1/2	
63	150	738 901 911	14.40	0.159	3.39	0.39	2	
75	150	738 901 912	19.00	0.254	3.86	0.39	2 1/2	
90	150	738 901 913	25.80	0.419	4.41	0.39	3	
110	150	738 901 914	35.00	0.683	5.20	0.39	4	
140	150	738 901 916	85.00	1.603	6.38	0.39	5	
160	150	738 901 917	99.00	2.086	7.17	0.39	6	
200	150	738 901 919	155.00	3.946	8.74	0.39	8	
225	150	738 901 920	191.00	5.567	9.76	0.39	8	

Pre-Insulated Installation Fittings

Signet Installation Fitting Type 310 pre-insulated, ABS metric

E



Model:

- Threaded outlet 1 ¼" NPSM
- Insulation made from PUR
- Outer jacket impact resistant. Color: black

Range of use:

- Compatible Signet flow sensors: models 2551, 2537, 515, 8510, 2536, 8512
- Compatible Signet pH/ORP sensors: models 2724, 2725, 2726

Attention:

- Sensor length depends on installation fitting

Connecting dimensions = Pipe inner diameter

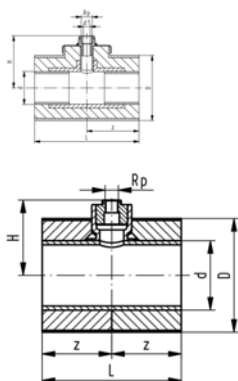
d [mm]	PSI	Part No.	USD	lbs
25	150	738 310 107	176.00	0.831
32	150	738 310 108	179.00	0.838
40	150	738 310 109	179.00	1.089
50	150	738 310 110	185.00	1.213
63	150	738 310 111	202.00	1.548
75	150	738 310 112	232.00	1.850
90	150	738 310 113	258.00	2.125
110	150	738 310 114	330.00	2.769
140	150	738 310 116	639.00	3.970
160	150	738 310 117	742.00	5.258
200	150	738 310 119	1051.00	7.224
225	150	738 310 120	1071.00	11.363

d [mm]	D [inch]	L [inch]	H [inch]	z [mm]	Sensor Type	required Nipple	closest inch	Type
25	3.54	8.66	3.07	110	flow X0, pH XX	738901107	¾	A
32	3.54	8.66	3.19	110	flow X0, pH XX	738901108	1	A
40	4.33	8.66	3.35	110	flow X0, pH XX	738901109	1	A
50	4.33	8.66	3.50	110	flow X0, pH XX	738901110	1 ½	A
63	4.92	8.66	3.74	110	flow X0, pH XX	738901111	2	A
75	5.51	8.66	6.34	110	flow X1	738901112	2 ½	B
90	6.30	8.66	6.73	110	flow X1	738901113	3	B
110	7.09	8.66	7.13	110	flow X1	738901114	4	B
140	8.86	8.66	7.60	110	flow X1	738901116	5	B
160	9.84	8.66	7.95	110	flow X1	738901117	6	B
200	11.02	9.84	8.31	125	flow X1	738901119	8	B
225	12.40	11.02	8.86	140	flow X1	738901120	8	B

Type A



Type B



Installation Fitting Type 313 pre-insulated, ABS metric, BSP

Model:

- With 1/2 " Rp threaded branch for sensors (i.e. pressure)
- Insulation made from PUR
- Outer jacket impact resistant. Color: black

Range of use:

- compatible signet pressure sensors: type 2450-1 /-2 /-5

Connecting dimensions = Pipe inner diameter

d [mm]	PSI	Part No.	USD	lbs						
25	150	738 313 107	205.00	0.728						
32	150	738 313 108	210.00	0.882						
40	150	738 313 109	210.00	1.102						
50	150	738 313 110	217.00	1.257						
63	150	738 313 111	237.00	1.962						
75	150	738 313 112	283.00	1.691						
90	150	738 313 113	309.00	2.119						
110	150	738 313 114	402.00	2.597						
140	150	738 313 116	773.00	3.816						
160	150	738 313 117	876.00	4.912						
200	150	738 313 119	1288.00	7.956						
225	150	738 313 120	1288.00	10.240						

d [mm]	D [inch]	d1 [inch]	Rp [inch]	L [inch]	H [inch]	z [inch]	required Nipple	closest inch	Type	
25	3.54	0.47	½	6.30	3.94	3.15	738901107	¾	A	
32	3.54	0.55	½	6.30	3.94	3.15	738901108	1	A	
40	4.33	0.55	½	7.09	3.94	3.54	738901109	1 ¼	A	
50	4.33	0.55	½	7.09	3.94	3.54	738901110	1 ½	A	
63	4.92	0.47	½	7.87	3.94	3.94	738901111	2	A	
75	5.51		½	8.66	3.98	4.33	738901112	2 ½	B	
90	6.30		½	8.66	4.29	4.33	738901113	3	B	
110	7.09		½	8.66	4.69	4.33	738901114	4	B	
140	8.86		½	8.66	5.28	4.33	738901116	5	B	
160	9.84		½	8.66	5.71	4.33	738901117	6	B	
200	11.02		½	9.84	6.50	4.92	738901119	8	B	
225	12.40		½	11.02	7.01	5.51	738901120	8	B	

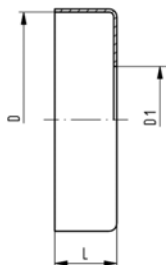
Installation Accessories

Cap, PE, black

E

Model:

- to seal the end of a COOL-FIT pipe to ABS



D [mm]	D1 [mm]	d	Part No.	USD	lbs	L [inch]	closest inch
90	24	25	733 960 171	22.70	0.057	1.38	¾
90	32	32	733 960 172	22.70	0.031	1.38	1
110	39	40	733 960 173	25.00	0.079	1.38	1 ¼
110	48	50	733 960 174	25.00	0.053	1.38	1 ½
125	59	63	733 960 175	25.00	0.099	1.38	2
140	70	75	733 960 176	28.80	0.064	1.38	2 ½
160	83	90	733 960 177	33.40	0.068	1.38	3
180	100	110	733 960 178	36.70	0.121	1.38	4
225	127	140	733 960 180	53.00	0.179	1.38	5
250	144	160	733 960 181	56.00	0.146	1.38	6
280	187	200	733 960 183	66.00	0.322	1.38	8
315	210	225	733 960 184	76.00	0.276	1.38	8

Silicon Glue

E

Model:

- For sealing and gluing caps
- Tube 50 ml
- Cartridge 290 ml



	Part No.	USD	lbs
50 ml	738 011 102	18.50	0.179
290 ml	738 011 103	77.00	1.043

Gap filler

E

- 13 x 13mm, 2.5 m on a roll, sold in Box of 36 rolls
- To insulate inspection gap at joints

Price listed per 2,5m roll



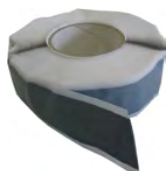
D [mm]	d-d [mm]	Part No.	USD/roll	lbs
90 - 450	25 - 315	738 011 150	5.00	0.044

Sealing tape

E

Model:

- For a water- and steam-tight sealing of inspection gaps in combination with shrink sleeves/ -sockets
- Sealing tape: 40 mm width, buthylene rubber-based
- 30 m on a roll



D [mm]	d-d [mm]	Part No.	USD	lbs	closest inch
90 - 450	25 - 315	738 011 152	149.00	4.705	¾ - 12

Shrink Sleeves

Shrink sleeve short, PE

E



Model:

- For a water- and steam-tight sealing in combination with buthylene rubber-based sealing tape
- Length: 100 mm
- For connections of the same pipe outer diameter

D [mm]	d [mm]	Part No.	USD	lbs	
90	25 / 32	738 011 113	17.50	0.077	
110	40 / 50	738 011 114	17.50	0.115	
125	63	738 011 115	19.60	0.168	
140	75	738 011 116	19.60	0.161	
160	90	738 011 117	21.70	0.194	
180	110	738 011 118	21.70	0.192	
225	140	738 011 120	25.80	0.267	
250	160	738 011 121	28.90	0.287	
280	200	738 011 122	29.90	0.295	
315	225	738 011 123	32.00	0.287	

Shrink sleeve, heavy duty, PE

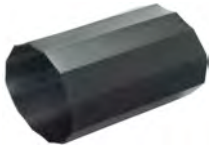
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Model:

- For a water- and steam-tight sealing in combination with buthylene rubber-based sealing tape
- Length: 100 mm
- "Heavy duty" version for high end applications
- For connections of the same pipe outer diameter

D [mm]	d [mm]	Part No.	USD	lbs	
90	25 / 32	738 011 013	33.00	0.220	
110	40 / 50	738 011 014	33.00	0.249	
125	63	738 011 015	35.00	0.293	
140	75	738 011 016	38.00	0.322	
160	90	738 011 017	43.30	0.364	
180	110	738 011 018	46.40	0.489	
225	140	738 011 020	56.70	0.617	
250	160	738 011 021	60.80	0.776	
280	200	738 011 022	71.00	0.818	
315	225	738 011 023	78.30	0.979	
 355	250	738 011 024	90.00	1.984	
 400	280	738 011 025	105.00	2.425	
 455	315	738 011 026	127.00	4.189	



Shrink sleeve long, PE, black

E

Model:

- To provide a water tight seal in combination with sealing tape
- For straight connections only
- D-D1 connections can be realized with the sleeves listed in the table below
- Length: 265 mm

D [mm]	Part No.	USD	lbs	L [inch]	closest inch	
110 - 160	738 011 167	30.30	0.635	10.43	4 - 6	
180 - 225	738 011 170	36.00	0.216	10.43	7 - 8	
250 - 315	738 011 173	38.10	1.499	10.43	10 - 12	

	D 110	D 125	D 140	D 160	D 180	D 225	D 250	D 280	D 315
D1 90	738.011.167	738.011.167	738.011.167	738.011.167					
D1 110		738.011.167	738.011.167	738.011.167					
D1 125			738.011.167	738.011.167					
D1 140				738.011.167	738.011.170	738.011.170			
D1 160					738.011.170	738.011.170			
D1 180						738.011.170	738.011.173	738.011.173	
D1 225							738.011.173	738.011.173	738.011.173
D1 250								738.011.173	738.011.173
D1 280									738.011.173

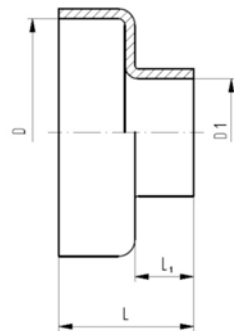


Shrink cap, PE, black

E

Model:

- To seal dimension reductions on PE
- Can also be used for T 90° reducers
- No sealing tape required (In cap included)
- Attention: Do not shrink onto ABS



D [mm]	D1 [mm]	Part No.	USD	lbs	L [inch]	L1 [inch]	closest inch	
225 - 160	140 - 90	733 960 135	55.70	0.390	5.39	2.40	8 - 6	
315 - 225	250 - 125	733 960 140	113.30	0.694	5.63	1.69	12 - 8	

Shrink Tape

Shrink tape, PE, black

E

Model:

- For indoor use only
- For later closing of gaps
- Mastic backed
- Width (L) available in 4 or 12 inch
- 10 m (33 ft) on a roll
- Shrink with a burner or hot air gun



D [mm]	d-d [mm]	Part No.	USD/roll	lbs	L [inch]	closest inch	
90 - 450	25 - 315	738 011 105	172.00	3.212	3.94	¾ - 8	
90 - 450	25 - 315	738 011 106	515.00	6.614	11.81	¾ - 8	

Repairing Tape, PE, black (non stock)

E

Model:

- For later closing of gaps instead of shrink sleeve
- 1150 mm x 150 mm (45" x 6"), black



D [mm]	d-d [mm]	Part No.	USD	lbs	closest inch	
90 - 355	25 - 250	738 011 104	58.80	1.038	¾ - 10	

Cold shrink tape PE black

Model:

- For indoor use only
- Shrinks without heat application
- Width (L) available in 100mm
- 15 m on a roll



E



D [mm]	d-d [mm]	Part No.	USD/roll	lbs	closest inch	
90 - 450	25 - 315	738 011 107	98.00	3.799	¾ - 8	

Pipe Calibration Tool

COOL-FIT Pipe Calibration Tool

D



Model:

- To calibrate pipe inner diameters of COOL-FIT Plus pipes 140mm and larger
- Includes transportation case

d-d [mm]	Part No.	USD	lbs	closest inch	
140 - 225	790 205 001	Call	41.678	5 - 8	



Deburring Tool

D

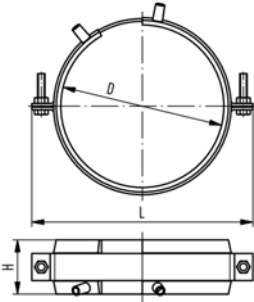
- The deburring tool is used to chamfer the inside of COOL-FIT ABS Plus pipes and fittings.

d-d [mm]	lbs	Part No.	USD	
25 - 225	0.110	4286A14	5.00	

Fixed Point

COOL-FIT Fixed point (non stock)

E



- The product consists of two components: a welding band and a pipe bracket.
- Electro-fusion welded band as permanent connection to transmit the forces that occur in the pipe to the fixed point.
- The included pipe brackets are needed to deliver welding pressure during installation and give stability during operation.
- For welding, use an MSA 250, 300, 350, 400 or commercially available 220V fusion machines.
- If you use an MSA fusion machine from GF Piping Systems, use the 799 350 339 adapter.
- Please take note of the maximum allowed forces for this version in the table below.
- **Fixed point brackets and cross braces have to be calculated and obtained by the installer. They are not included in the fixed point set from GF.**

D [mm]	d [mm]	Part No.	USD	lbs	L [inch]	H [inch]	max. Force [kN]	closest inch	
90	25 / 32	738 912 013	175.00	1.973	5.51	2.36	1.5	¾ - 1	
110	40 / 50	738 912 014	190.60	1.993	6.69	2.36	2.0	1 ¼ - 1 ½	
125	63	738 912 015	221.50	0.271	7.28	2.36	3.5	2	
140	75	738 912 016	247.00	2.619	8.27	2.36	5.5	2 ½	
160	90	738 912 017	309.00	2.595	8.66	2.36	9.0	3	
180	110	738 912 018	360.00	3.373	9.61	2.36	10.0	4	
225	140	738 912 020	412.00	3.997	11.61	2.36	10.0	5	
250	160	738 912 021	463.00	4.314	12.60	2.36	10.0	6	
280	200	738 912 022	494.00	4.411	13.78	2.36	10.0	8	
315	225	738 912 023	515.00	5.265	15.16	2.36	10.0	8	
355	250	738 912 024	656.00	5.265	16.54	2.36	10.0	10	

Scope of delivery:					
Code	Outside diameter PE pipe	Pipe brackets (for electro welding tape)	Electro welding tape	Barcode-Card	Assembly instructions
		[pieces]	[pieces]	[pieces]	
738 912 013	D90	2 x d90	2 x d90	1 x d90	1
738 912 014	D110	2 x d110	2 x d110	1 x d110	1
738 912 015	D125	2 x d125	2 x d125	1 x d125	1
738 912 016	D140	2 x d140	2 x d63, 2 x d75	1 x d63, 1 x d75	1
740 912 017	D160	2 x d160	2 x d160	1 x d160	1
741 912 018	D180	2 x d180	4 x d90	1 x d180	1
741 912 020	D225	2 x d225	4 x d110	1 x d225	1
742 912 021	D250	2 x d250	4 x d125	1 x d250	1
742 912 022	D280	2 x d280	4 x d125	1 x d280	1
738 912 023	D315	2 x d315	4 x d160	1 x d315	1
738 912 024	D355	2 x d355	6 x d110	1 x d110	1



Adaptor (non stock)

D

- MSA electrofusion adaptor for COOL-Fit Plus fixed point

Part No.	USD	lbs	
799 350 339	101.00	0.046	

COOL-FIT® ABS Lite

Pipe
Fittings



+GF+

Effective July 1, 2011. See www.gfpipe.com for updated info.

GEORG FISCHER
PIPING SYSTEMS

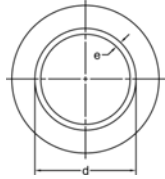
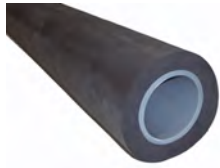
COOL-FIT® ABS Lite

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COOL-FIT ABS Lite Pipe

Pipes pre-insulated, COOL-FIT ABS metric (5 meters)

E



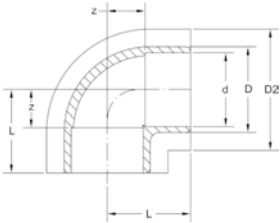
- Standard COOL-FIT ABS pipe with 1" thick flexible foam insulation.
- Color: Black insulation, pipe RAL 7001 gravel grey
- Length: Lengths of 16.4 feet (5 meters)
- Also available in 1 1/2" thick insulation. White insulation available, contact factory.

d [mm]	PSI	Part No.	USD/m	e [inch]	closest inch	Refrigeration size	
25	240	169 017 102	23.10	0.09	3/4	7/8	
32	150	169 017 103	24.20	0.07	1	1 1/8	
40	150	169 017 104	30.50	0.09	1 1/4	1 3/8	
50	150	169 017 105	34.70	0.12	1 1/2	1 5/8	
63	150	169 017 106	59.90	0.15	2	2 1/8	
75	150	169 017 107	75.60	0.18	2 1/2	2 5/8	
90	150	169 017 108	109.00	0.21	3	3 1/8	
110	150	169 017 109	143.00	0.26	4	4 1/8	
160	150	169 017 112	264.00	0.39	6	6	

COOL-FIT ABS Lite Fittings

Elbow 90 pre-insulated, COOL-FIT ABS Lite metric

E

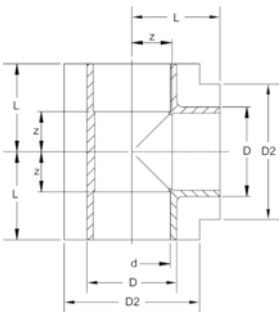


- Standard COOL-FIT ABS Elbow 90°, with 3/4" thick flexible foam insulation
- Color: Black insulation, fitting RAL 7001 gravel grey

d [mm]	PSI [psi]	Part No.	USD	z [inch]	D [inch]	D2 [inch]	L [inch]	closest inch	
63	150	738 102 111	69.30	1.30	2.99	4.49	2.83	2	
75	150	738 102 112	89.00	1.57	3.54	5.04	3.31	2 ½	
90	150	738 102 113	107.00	1.81	4.33	5.32	3.82	3	
110	150	738 102 114	148.00	2.40	5.35	6.07	4.57	4	
160	150	738 102 117	318.00	3.15	7.28	8.04	6.54	6	

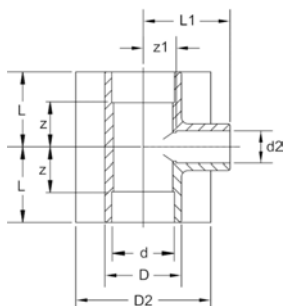
Tee 90° pre-insulated, COOL-FIT ABS Lite metric

E



- Standard COOL-FIT ABS Tee 90°, with 3/4" thick flexible foam insulation
- Color: Black insulation, fitting RAL 7001 gravel grey

d [mm]	PSI [psi]	Part No.	USD	z [inch]	D [inch]	D2 [inch]	L [inch]	closest inch	
63	150	738 202 111	78.00	1.34	2.99	4.49	2.83	2	
75	150	738 202 112	99.00	1.57	3.54	5.04	3.31	2 ½	
90	150	738 202 113	125.00	1.85	4.21	5.71	3.86	3	
110	150	738 202 114	169.00	2.17	5.24	6.74	4.57	4	
160	150	738 202 117	377.00	3.19	7.60	9.10	6.57	6	



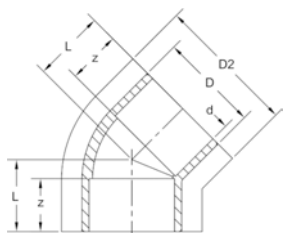
Reducing Tee 90° pre-insulated, COOL-FIT ABS Lite metric

E

- Standard COOL-FIT ABS Reducing Tee 90°, with 1" thick flexible foam insulation
- Color: Black insulation, fitting RAL 7001 gravel grey

d [mm]	d2 [mm]	PSI [psi]	Part No.	USD	
63	25	150	738 202 193	82.00	
63	32	150	738 202 178	80.00	
63	50	150	738 202 170	80.00	
75	40	150	738 202 182	105.00	
90	32	150	738 202 143	135.00	
90	63	150	738 202 146	135.00	
110	32	150	738 202 144	185.00	
110	50	150	738 202 136	185.00	
160	90	150	738 202 158	433.00	

d [mm]	z [inch]	z1 [inch]	D [inch]	D2 [inch]	L [inch]	L1 [inch]	closest inch	
63	1.34	1.34	3.03	4.53	2.87	2.09	2 - 3/4 - 2	
63	1.38	1.34	3.03	4.53	2.87	2.20	2 - 1 - 2	
63	1.38	1.34	3.03	4.53	2.87	2.56	2 - 1 1/2 - 2	
75	1.57	1.61	3.62	5.12	3.31	2.60	2 1/2 - 1 1/4 - 2 1/2	
90	1.81	2.17	4.33	5.83	3.82	3.66	3 - 1 - 3	
90	1.81	2.17	4.33	5.83	3.82	3.66	3 - 2 - 3	
110	2.20	2.64	5.24	6.74	4.61	3.50	4 - 1 - 4	
110	2.20	2.64	5.24	6.74	4.61	3.86	4 - 1 1/2 - 4	
160	3.19	3.58	7.56	9.06	6.57	5.59	6 - 3 - 6	



Elbow 45 pre-insulated, COOL-FIT ABS Lite metric

E

- Standard COOL-FIT ABS Elbow 45°, with 3/4" thick flexible foam insulation
- Color: Black insulation, fitting RAL 7001 gravel grey

d [mm]	PSI [psi]	Part No.	USD	z [inch]	D [inch]	D2 [inch]	L [inch]	closest inch	
63	150	738 152 111	69.30	0.55	2.99	4.49	2.05	2	
75	150	738 152 112	90.30	0.67	3.50	5.00	2.40	2 1/2	
90	150	738 152 113	111.00	0.79	4.21	5.71	2.80	3	
110	150	738 152 114	157.00	1.10	5.16	6.66	3.50	4	
160	150	738 152 117	255.00	1.42	7.28	8.78	4.80	6	



COOL-FIT® ABS

Pipe, fittings,
and accessories



+GF+

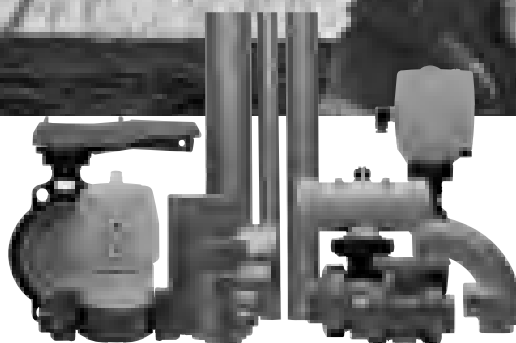
Effective July 1, 2011. See www.gfpiping.com for updated info.

GEORG FISCHER
PIPING SYSTEMS

COOL-FIT ABS Product Range



Background Information to the COOL-FIT ABS Product Range from GF Piping Systems



COOL-FIT ABS from GF Piping Systems is a pressure-bearing complete piping system that has been available from GF Piping Systems since the mid '80s.

COOL-FIT ABS piping system is available in metric mm dimensions. See ISO15493 for details.

COOL-FIT ABS metric is available in dimensions from d20 (1/2") to d315 (12") with a complete range of fittings and transition fittings for metal to plastic connections as well as a complete range of manually and actuated valves. COOL-FIT ABS Plus is only available using the metric COOL-FIT ABS system, d25–d225 (3/4"–8").

The COOL-FIT ABS valves are completely corrosion resistant with no metal parts and can be actuated either pneumatically or electrically.

ABS metric can be used for mediums at temperatures between –40°F (–40°C) to 140°F (60°C) and has a nominal pressure rating of 150 psi at 68°F.

Examples of application areas are: refrigeration secondary systems such as in supermarkets or breweries, iced water or ice slurry systems in pharmaceutical plants, water treatment plants, for drinking and cooling water on ships. Many other application areas are possible. Please ask GF Piping Systems for recommendations of suitability.

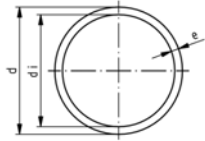
COOL-FIT® ABS

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COOL-FIT ABS Pipe

Pipe 16.4 feet lengths, COOL-FIT ABS metric

E



Model:

- Color: RAL 7001, gravel grey
- Length: Lengths of 16.4 feet (5 meters)
- PN6 (90PSI) / PN10 (150PSI) / PN16 (240PSI) at 20°C (68°F)

d [mm]	PSI	Part No.	USD/m	lbs/meter	e [inch]	di [inch]	closest inch	Refrigeration size
16	240	169 017 080	6.90	0.209	0.07	0.49	3/8	1/2
20	240	169 017 081	9.50	0.326	0.09	0.61	1/2	5/8
25	240	169 017 082	9.40	0.421	0.09	0.80	3/4	7/8
32	240	700 262 397	9.50	0.362	0.11	1.03	1	1 1/8
40	240	700 262 398	12.70	0.534	0.15	1.28	1 1/4	1 3/8
50	150	169 017 085	17.30	1.138	0.12	1.73	1 1/2	1 5/8
63	150	169 017 086	30.60	1.806	0.15	2.18	2	2 1/8
75	150	169 017 087	45.30	2.544	0.18	2.60	2 1/2	2 5/8
90	150	169 017 088	61.00	3.653	0.21	3.12	3	3 1/8
110	150	169 017 089	92.00	5.500	0.26	3.81	4	4 1/8
140	150	169 017 091	177.00	9.001	0.34	4.83	5	6
160	150	169 017 092	188.00	11.898	0.39	5.52	6	
200	150	169 017 093	300.00	18.314	0.48	6.91	8	
225	150	169 017 094	378.00	23.197	0.55	7.76	9	
250	90	169 017 095	534.00	18.296	0.38	9.09	10	
280	90	169 017 096	679.00	22.809	0.42	10.18	11	
315	90	169 017 097	868.00	29.041	0.48	11.45	12	

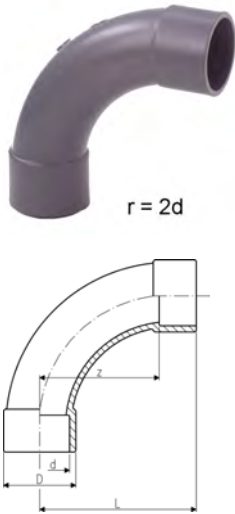
Fittings

Bend 90°, ABS metric

E

- Radius = 2 d

* Available as long as our stock will last



d [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]	closest inch
20	240	729 000 106	11.50	10	0.060	1.57	1.06	2.28	½
25	240	729 000 107	13.70	10	0.086	1.97	1.38	2.72	¾
32	150	729 000 108	18.90	10	0.123	2.52	1.50	3.39	1
40	150	729 000 109	26.30	30	0.218	3.15	2.13	4.29	1 ¼
50	150	729 000 110	33.60	10	0.505	3.94	2.40	5.16	1 ½
63	150	729 000 111	45.20	17	0.862	4.96	2.99	6.46	2
75	150	729 000 112	92.00	5	1.312	5.91	3.54	7.64	2 ½
90	150	729 000 113	112.00	5	2.302	7.09	4.45	9.09	3
110	150	729 000 114	187.00	5	4.632	8.66	5.39	11.06	4
140	150	729 000 116	315.00	1	8.810	11.02	6.61	14.02	5
* 160	150	729 000 117	399.00	1	12.346	12.60	7.52	15.98	6

Bend 90° short pattern, ABS metric

E

- >d225 - maximum operating temperature: +104° F

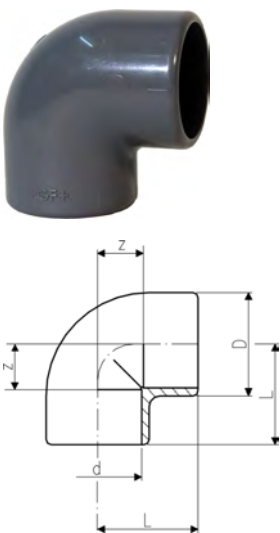


d [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]	closest inch
225	150	729 010 120	457.00	1	12.657	6.61	10.08	11.30	9
280	90	729 010 122	1436.00	1	39.683	8.27	12.52	14.06	11
315	90	729 010 123	2048.00	1	46.297	9.33	14.02	15.79	12

Elbow 90°, ABS metric

E

- >d225 - maximum operating temperature: +104° F



d [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]	closest inch
20	240	729 100 106	3.15	10	0.022	0.43	1.02	1.06	½
25	240	729 100 107	3.15	10	0.040	0.55	1.22	1.30	¾
32	150	729 100 108	3.15	10	0.073	0.67	1.57	1.54	1
40	150	729 100 109	6.30	10	0.121	0.83	1.93	1.85	1 ¼
50	150	729 100 110	8.40	10	0.216	1.02	2.40	2.24	1 ½
63	150	729 100 111	13.70	10	0.410	1.30	2.99	2.83	2
75	150	729 100 112	32.60	5	0.661	1.57	3.54	3.31	2 ½
90	150	729 100 113	49.40	5	0.963	1.81	4.33	3.82	3
110	150	729 100 114	75.60	4	1.695	2.17	5.35	4.57	4
140	150	729 100 116	170.00	4	3.342	2.76	6.38	5.75	5
160	150	729 100 117	255.00	1	4.866	3.15	7.28	6.54	6
200	150	729 100 119	441.00	1	7.434	3.98	8.86	8.15	8
250	90	729 100 121	997.00	1	18.117	5.16	11.10	10.35	9

- 40% Restock Charge on Actuated Valves

- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.

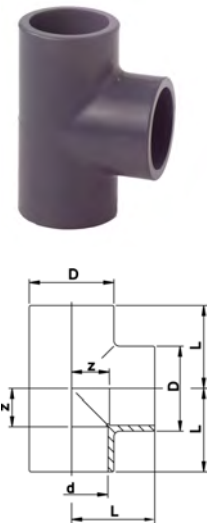


Elbow 45°, ABS metric

E

- >d225 - maximum operating temperature: +104° F

d [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]	closest inch	
20	240	729 150 106	4.20	10	0.018	0.20	0.98	0.83	½	
25	240	729 150 107	4.20	10	0.029	0.24	1.22	0.98	¾	
32	150	729 150 108	6.30	10	0.057	0.31	1.57	1.18	1	
40	150	729 150 109	8.40	10	0.097	0.39	1.93	1.42	1 ¼	
50	150	729 150 110	10.50	5	0.174	0.47	2.40	1.69	1 ½	
63	150	729 150 111	15.80	10	0.317	0.55	2.99	2.05	2	
75	150	729 150 112	36.80	5	0.503	0.67	3.50	2.40	2 ½	
90	150	729 150 113	57.80	5	0.800	0.79	4.21	2.80	3	
110	150	729 150 114	89.30	10	1.250	1.10	5.16	3.50	4	
140	150	729 150 116	158.00	1	2.590	1.26	6.38	4.25	5	
160	150	729 150 117	191.00	4	3.776	1.42	7.28	4.80	6	
200	150	729 150 119	336.00	1	5.613	1.69	8.86	5.87	8	
225	150	729 150 120	357.00	1	6.971	1.93	9.84	6.61	8	
250	90	729 150 121	777.00	1	13.534	2.36	11.10	7.56	9	
280	90	729 150 122	1102.00	1	23.148	2.60	12.52	8.39	10	
315	90	729 150 123	1585.00	1	32.187	2.91	14.02	9.41	12	



Tee 90°, ABS metric

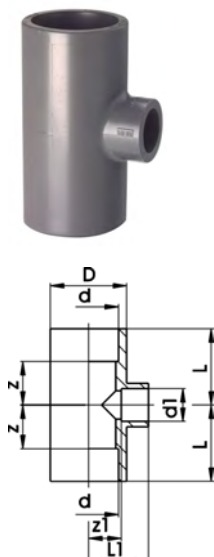
E

- >d225 - maximum operating temperature: +104° F

d [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]	closest inch	
20	240	729 200 106	4.20	10	0.033	0.43	0.98	1.06	½	
25	240	729 200 107	4.20	10	0.055	0.55	1.22	1.30	¾	
32	150	729 200 108	5.25	10	0.093	0.67	1.57	1.54	1	
40	150	729 200 109	8.40	10	0.172	0.83	1.93	1.85	1 ¼	
50	150	729 200 110	11.60	5	0.295	1.02	2.40	2.24	1 ½	
63	150	729 200 111	17.90	5	0.562	1.34	2.99	2.83	2	
75	150	729 200 112	37.80	5	0.891	1.57	3.54	3.31	2 ½	
90	150	729 200 113	63.00	5	1.464	1.85	4.21	3.86	3	
110	150	729 200 114	92.40	2	2.227	2.17	5.24	4.57	4	
140	150	729 200 116	225.00	1	5.736	2.80	6.65	5.79	5	
160	150	729 200 117	336.00	1	8.157	3.19	7.60	6.57	6	
200	150	729 200 119	504.00	1	9.802	3.98	8.86	8.15	8	
225	150	729 200 120	535.00	1	15.124	4.49	10.08	9.17	8	
250	90	729 200 121	1218.00	1	24.667	5.20	11.10	10.35	9	
280	90	729 200 122	1701.00	1	38.140	5.98	12.52	11.73	10	
315	90	729 200 123	2551.00	1	44.092	6.61	14.02	13.07	11	

Reducing Tee 90°, ABS metric

E



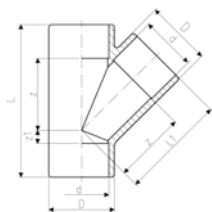
d [mm]	d1 [mm]	PSI	Part No.	USD	Std. Pack	lbs	
25	20	240	729 200 134	5.25	10	0.066	
32	25	150	729 200 138	8.40	10	0.108	
40	25	150	729 200 151	11.55	10	0.183	
40	32	150	729 200 147	10.50	10	0.187	
50	25	150	729 200 010	16.80	5	0.304	
50	32	150	729 200 164	13.65	5	0.311	
63	25	150	729 200 011	22.00	10	0.542	
63	32	150	729 200 178	21.00	5	0.564	
63	50	150	729 200 170	21.00	5	0.595	
75	40	150	729 200 182	45.00	9	0.875	
90	32	150	729 200 143	76.70	6	1.481	
90	63	150	729 200 146	76.70	5	1.576	
110	32	150	729 200 144	112.00	3	2.445	
110	50	150	729 200 136	112.00	3	2.520	
140	50	150	729 200 148	305.00	1	5.406	
140	75	150	729 200 149	305.00	1	5.463	
160	90	150	729 200 158	389.00	1	7.564	
200	110	150	729 200 153	598.00	1	14.744	
225	110	150	729 200 156	630.00	1	17.848	
225	160	150	729 200 157	630.00	1	16.501	

d [mm]	d1 [mm]	z [inch]	z1 [inch]	D [inch]	L [inch]	L1 [inch]	closest inch	
25	20	0.55	0.55	1.30	1.30	1.18	¾ - ½ - ¾	
32	25	0.67	0.67	1.61	1.54	1.42	1 - ¾ - 1	
40	25	0.91	0.91	1.97	1.93	1.65	1 ¼ - ¾ - 1 ¼	
40	32	0.91	0.91	1.97	1.93	1.77	1 ¼ - 1 - 1 ¼	
50	25	1.10	1.10	2.44	2.32	1.85	1 ½ - ¾ - 1 ½	
50	32	1.10	1.10	2.44	2.32	1.97	1 ½ - 1 - 1 ½	
63	25	1.34	1.34	3.03	2.87	2.09	2 - ¾ - 2	
63	32	1.38	1.34	3.03	2.87	2.20	2 - 1 - 2	
63	50	1.38	1.34	3.03	2.87	2.56	2 - 1 ½ - 2	
75	40	1.57	1.61	3.62	3.31	2.60	2 ½ - 1 ¼ - 2 ½	
90	32	1.81	2.17	4.33	3.82	3.66	3 - 1 - 3	
90	63	1.81	2.17	4.33	3.82	3.66	3 - 2 - 3	
110	32	2.20	2.64	5.24	4.61	3.50	4 - 1 - 4	
110	50	2.20	2.64	5.24	4.61	3.86	4 - 1 ½ - 4	
140	50	2.83	3.23	6.77	5.83	4.45	5 - 1 ½ - 5	
140	75	2.83	3.07	6.77	5.83	4.80	5 - 2 ½ - 5	
160	90	3.19	3.58	7.56	6.57	5.59	6 - 3 - 6	
200	110	4.17	5.16	9.13	8.39	7.56	7 - 4 - 7	
225	110	4.69	5.63	10.12	9.41	8.03	8 - 4 - 8	
225	160	4.69	4.69	10.12	9.41	8.07	8 - 6 - 8	

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.

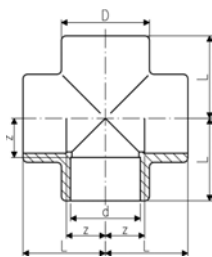


Tee 45°, ABS metric

E

d [mm]	PSI	Part No.	USD	Std. Pack	lbs	
20	150	729 250 106	10.50	10	0.060	
25	150	729 250 107	10.50	10	0.095	
32	150	729 250 108	12.60	10	0.161	
40	150	729 250 109	21.00	10	0.271	
50	150	729 250 110	23.10	10	0.445	
63	150	729 250 111	36.80	5	0.736	
75	90	729 250 112	72.50	5	1.334	
90	90	729 250 113	107.00	1	2.119	
110	90	729 250 114	202.00	3	4.204	
140	90	729 250 116	431.00	1	9.513	

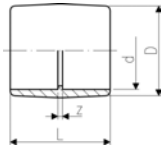
d [mm]	z [inch]	z1 [inch]	D [inch]	L [inch]	L1 [inch]	closest inch	
20	1.18	0.24	1.10	2.68	1.81	½	
25	1.42	0.35	1.30	3.27	2.17	¾	
32	1.77	0.39	1.61	3.90	2.64	1	
40	2.20	0.39	1.97	4.65	3.23	1 ¼	
50	2.60	0.47	2.36	5.51	3.82	1 ½	
63	3.35	0.55	2.91	6.89	4.84	2	
75	3.98	0.71	3.58	8.15	5.71	2 ½	
90	4.80	0.79	4.21	9.65	6.81	3	
110	5.87	1.06	5.28	11.73	8.27	4	
140	7.48	1.34	6.61	14.80	10.47	5	



Cross, ABS metric

E

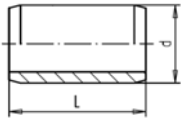
d [mm]	PSI	Part No.	USD	lbs	z [inch]	D [inch]	L [inch]	closest inch	
32	150	729 300 108	17.90	0.154	0.67	1.69	1.54	1	
63	150	729 300 111	46.20	0.791	1.34	3.11	2.83	2	



Socket, ABS metric

- >d225 - maximum operating temperature: +104° F

d [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]	closest inch
20	240	729 910 106	2.10	10	0.015	0.12	1.02	1.38	½
25	240	729 910 107	2.10	10	0.026	0.12	1.26	1.61	¾
32	150	729 910 108	3.15	10	0.044	0.12	1.57	1.85	1
40	150	729 910 109	4.20	10	0.077	0.12	1.93	2.17	1 ¼
50	150	729 910 110	5.25	10	0.132	0.12	2.40	2.56	1 ½
63	150	729 910 111	8.40	10	0.243	0.12	2.99	3.11	2
75	150	729 910 112	18.90	10	0.320	0.16	3.43	3.62	2 ½
90	150	729 910 113	34.70	10	0.531	0.20	4.09	4.21	3
110	150	729 910 114	50.40	5	1.184	0.20	5.16	5.20	4
140	150	729 910 116	97.70	2	1.792	0.28	6.38	6.26	5
160	150	729 910 117	126.00	2	2.593	0.31	7.20	7.09	6
200	150	729 910 119	224.00	1	3.375	0.35	8.70	8.70	8
225	150	729 910 120	255.00	1	5.624	0.39	9.96	9.76	8
250	90	729 910 121	504.00	1	8.946	0.63	11.18	11.18	9
280	90	729 910 122	714.00	1	14.550	0.63	12.64	12.36	10
315	90	729 910 123	1018.00	1	17.857	0.63	14.02	13.70	12

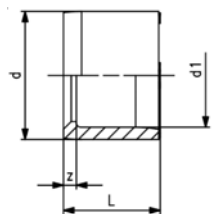


Barrel Nipple, ABS metric

Model:

- With solvent cement spigots on both sides
- For quick connections between fittings
- For the shortest possible distance between fittings
- Overall length L = 2 x socket length

d [mm]	PSI	Part No.	USD	lbs	L [inch]	closest inch
20	240	729 900 906	6.30	0.018	1.26	½
25	240	729 900 907	8.40	0.018	1.50	¾
32	150	729 900 908	8.40	0.015	1.73	1
40	150	729 900 909	9.50	0.035	2.05	1 ¼
50	150	729 900 910	10.50	0.071	2.44	1 ½
63	150	729 900 911	11.50	0.130	2.99	2
75	150	729 900 912	15.80	0.209	3.46	2 ½
90	150	729 900 913	21.00	0.355	4.02	3
110	150	729 900 914	29.40	0.622	4.80	4



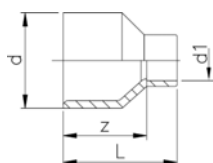
Reducing Bush, ABS metric

E

Model:

- With solvent cement spigot and socket metric

d [mm]	d1 [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	L [inch]	
25	20	240	729 900 337	2.10	10	0.011	0.12	0.75	
32	20	150	729 900 342	3.15	10	0.024	0.24	0.87	
32	25	150	729 900 341	3.15	10	0.018	0.16	0.87	
40	20	150	729 900 348	4.20	10	0.035	0.39	1.02	
40	25	150	729 900 347	4.20	10	0.035	0.28	1.02	
40	32	150	729 900 346	4.20	10	0.026	0.16	1.02	
50	20	150	729 900 355	4.20	10	0.057	0.59	1.22	
50	25	150	729 900 354	5.25	10	0.024	0.47	1.22	
50	32	150	729 900 353	4.20	10	0.077	0.35	1.22	
50	40	150	729 900 352	4.20	10	0.049	0.20	1.22	
63	32	150	729 900 360	6.30	10	0.132	0.63	1.50	
63	40	150	729 900 359	6.30	10	0.112	0.47	1.50	
63	50	150	729 900 358	6.30	10	0.095	0.28	1.42	
75	50	150	729 900 365	10.50	10	0.179	0.51	1.73	
75	63	150	729 900 364	10.50	10	0.134	0.28	1.73	
90	50	150	729 900 372	21.00	10	0.315	0.79	2.01	
90	63	150	729 900 371	21.00	10	0.284	0.55	2.01	
90	75	150	729 900 370	21.00	10	0.220	0.28	2.01	
110	63	150	729 900 378	26.30	5	0.509	0.94	2.40	
110	90	150	729 900 376	26.30	5	0.432	0.39	2.40	
125	110	150	700 244 660	Call	10	0.785	0.31	2.72	
140	110	150	729 900 385	78.80	5	1.012	0.59	2.99	
160	110	150	729 900 390	91.40	5	1.459	0.98	3.39	
160	140	150	729 900 388	103.00	5	0.904	0.39	3.39	
200	160	150	729 900 392	133.40	1	1.808	0.79	4.17	
225	160	150	729 900 396	190.00	2	3.640	1.30	4.69	
225	200	150	729 900 181	190.00	-	2.244	0.51	4.69	
250	225	90	729 900 303	588.00	-	2.205	0.47	5.16	
280	250	90	729 900 306	620.00	1	5.512	0.59	5.75	
315	280	90	729 900 312	662.00	1	7.385	0.67	6.46	

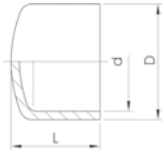


Reducing Bush long, ABS metric

E

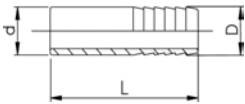
d [mm]	d1 [mm]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	L [inch]	closest inch	
32	20	150	729 910 342	3.15	10	0.031	1.18	1.81	1 - 1/2	
40	25	150	729 910 347	4.20	10	0.057	1.42	2.17	1 1/4 - 3/4	
50	25	150	729 910 354	5.25	10	0.084	1.73	2.48	1 1/2 - 3/4	
63	32	150	729 910 360	7.35	5	0.170	2.13	2.99	2 - 1	
75	40	150	729 910 366	21.00	5	0.254	2.44	3.46	2 1/2 - 1 1/4	
90	63	150	729 910 371	30.50	5	0.474	2.91	4.41	3 - 2	

Cap, ABS metric



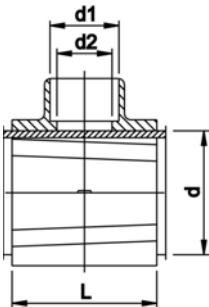
d [mm]	PSI	Part No.	USD	Std. Pack	lbs	D [inch]	L [inch]	closest inch	
20	240	729 960 106	2.10	10	0.015	1.18	0.98	½	
25	240	729 960 107	2.10	10	0.029	1.46	1.18	¾	
32	150	729 960 108	3.15	10	0.042	1.73	1.34	1	
40	150	729 960 109	5.25	10	0.075	2.17	1.61	1 ¼	
50	150	729 960 110	7.35	10	0.101	2.52	1.73	1 ½	
63	150	729 960 111	9.45	5	0.240	3.15	2.13	2	
75	150	729 960 112	23.10	5	0.254	3.43	2.56	2 ½	
90	150	729 960 113	28.30	5	0.481	4.41	3.03	3	
110	150	729 960 114	44.10	5	1.100	5.71	3.98	4	
140	150	729 960 116	76.70	10	1.940	6.42	4.49	5	
160	150	729 960 117	106.00	2	2.513	7.40	5.12	6	

Hose Connector, ABS metric



d [mm]	PSI	Part No.	USD	Std. Pack	lbs	D [inch]	L [inch]	closest inch	
20	150	729 960 406	4.20	10	0.024	0.79	2.87	½	
25	150	729 960 407	4.20	10	0.033	0.98	3.11	¾	
32	150	729 960 408	4.20	10	0.060	1.18	3.50	1	
40	150	729 960 409	7.30	10	0.057	1.57	3.94	1 ¼	

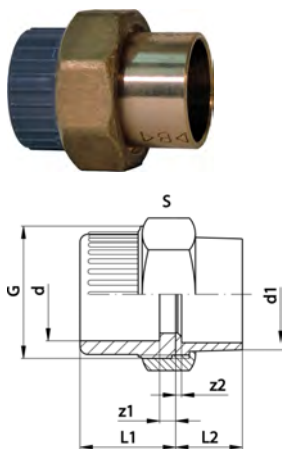
Branch Saddle, ABS metric



Model:

- For ABS pipes
- Top saddle (ABS) for solvent cementing
- Bottom part and wedges made from PVC
- Outlet with solvent cement socket metric
- PN 10, ISO PSI

d [mm]	Part No.	USD	lbs	d1 [inch]	d2 [inch]	Tapping-Ø [inch]	L [inch]	
90	169 110 056	118.00	1.733	1.97	1.57	1.54	4.13	
110	169 110 066	144.00	1.905	1.97	1.57	1.54	4.13	
160	169 110 097	183.00	2.930	2.48	1.93	1.89	4.72	
225	169 110 117	223.00	3.499	2.48	1.93	1.89	4.72	



Adaptor Union, Copper for sweating, ABS

E

d [mm]	Refrigeration Size [inch]	PSI	Part No.	USD	lbs	
16	1/8	150	720 512 105	23.10		
20	1/4	150	720 512 106	28.40	0.335	
25	3/8	150	720 512 107	34.70	0.062	
32	1/2	150	720 512 108	45.20	0.062	
40	3/4	150	720 512 109	62.00	0.002	
50	1 1/8	150	720 512 110	79.80	0.062	
63	1 1/2	150	720 512 111	109.00	0.062	

d [mm]	L1 [inch]	L2 [inch]	z1 [inch]	z2 [inch]	G [inch]	s [inch]	closest inch	
16	0.98	0.67	0.43	0.16	3/4	1.26	3/8	
20	1.02	0.75	0.35	0.12	1	1.57	1/2	
25	1.14	1.10	0.35	0.24	1 1/4	1.97	3/4	
32	1.26	1.06	0.39	0.20	1 1/2	2.05	1	
40	1.50	1.38	0.47	0.24	2	2.60	1 1/4	
50	1.57	1.81	0.55	0.12	2 1/4	2.83	1 1/2	
63	2.20	2.31	0.65	0.24	3	3.39	2	

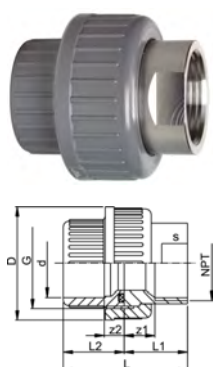


Copper Union End with ABS Adapter Ring for 546 Ball Valve

E

d [mm]	Part No.	USD	Std. Pack	lbs	
25	169 481 463	31.50	-	0.002	
32	169 481 464	41.00	-	0.002	
40	169 481 465	55.70	-	0.002	
50	169 481 466	72.50	-	0.002	
63	169 481 467	97.70	-	0.002	

d [mm]	d1 [inch]	d2 [inch]	d3 [inch]	d4 [inch]	L [inch]	L1 [inch]	L3 [inch]	Refrigeration size	
25	3/4	1.06	0.79	1.73	0.87	0.24	0.12	7/8	
32	1	1.34	1.02	2.09	1.02	0.31	0.12	1 1/8	
40	1 1/4	1.61	1.26	2.56	1.10	0.31	0.12	1 3/8	
50	1 1/2	1.85	1.50	3.03	1.22	0.31	0.12	1 5/8	
63	2	2.40	2.01	3.90	1.46	0.35	0.12	2 1/8	



Adapter Union, Stainless Steel NPT thread, ABS

E

- Union End: stainless steel (304L) female NPT tread
- Union Bush: solvent cement socket ABS metric
- Union Nut: ABS
- Gasket: O-ring EPDM

d [mm]	NPT [inch]	PSI [psi]	Part No.	USD	Std. Pack	lbs	
25	3/4	150	729 541 007	31.50	10	0.340	
32	1	150	729 541 008	36.80	10	0.397	

d [mm]	z1 [inch]	z2 [inch]	D [inch]	L [inch]	L1 [inch]	L2 [inch]	G [inch]	s [inch]	
25	0.43	0.39	2.00	2.16	1.02	1.14	1 1/4	1 1/4	
32	0.47	0.39	2.28	2.40	1.14	1.30	1 1/2	1 1/2	



Stainless Steel NPT Union End with ABS Adapter Ring for 546 Ball Valve

E

- This set has to be used in combination with the 546 ball valve
- Stainless Steel (304L) union end with NPT thread
- Perfect transition from 546 ball valve to NPT

d [mm]	NPT [inch]	Part No.	USD	Std. Pack	lbs	
25	3/4	159 481 025	29.40	-	0.002	
32	1	159 481 032	33.60	-	0.002	

d [mm]	d2 [inch]	d3 [inch]	d4 [inch]	L [inch]	L1 [inch]	L3 [inch]	Refrigeration size	
25	1.42	0.83	1.73	1.02	0.24	0.20	7/8	
32	1.61	1.02	2.09	1.14	0.31	0.24	1 1/8	



Union, ABS metric

E

Model:

- Union End: Solvent cement socket metric
- Union bush: Solvent cement socket metric
- Gasket: O-ring EPDM No. 48 41 00

d [mm]	PSI	Part No.	USD	Std. Pack	lbs	
20	150	729 510 106	11.55	10	0.077	
25	150	729 510 107	12.60	10	0.097	
32	150	729 510 108	15.75	10	0.141	
40	150	729 510 109	20.00	10	0.287	
50	150	729 510 110	29.40	5	0.335	
63	150	729 510 111	43.00	10	0.569	
75	150	729 510 112	106.00	2	1.034	
90	150	729 510 313	104.00	2	1.545	
110	150	729 510 114	151.00	1	2.357	

d [mm]	z1 [inch]	z2 [inch]	D [inch]	L1 [inch]	L2 [inch]	G/Tr	closest inch	
20	0.16	0.39	1.69	0.83	1.02	1	1/2	
25	0.20	0.39	2.09	0.94	1.14	1 1/4	3/4	
32	0.20	0.39	2.36	1.06	1.30	1 1/2	1	
40	0.12	0.47	2.91	1.22	1.54	2	1 1/4	
50	0.12	0.55	3.27	1.30	1.81	2 1/4	1 1/2	
63	0.12	0.71	4.06	1.57	2.28	2 3/4	2	
75	0.12	0.71	5.31	1.85	2.44	Tr 108x5	2 1/2	
90	0.20	0.71	6.22	2.20	2.72	Tr 128x5	3	
110	0.20	0.43	6.22	2.60	2.83	Tr 154x5	4	

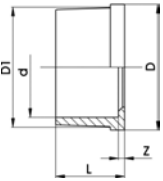
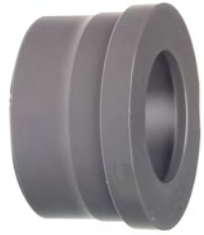
Union Spare Parts

Union End, ABS metric

E

Model:

- Solvent cement socket metric
- For adaptor unions 29 53 02, 29 53 07, 29 55 02, 29 55 07
- For union 29 51 01



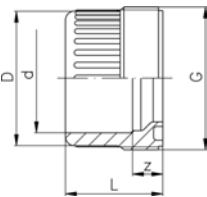
d [mm]	PSI	Part No.	USD	lbs	z [inch]	L [inch]	D [inch]	D1 [inch]	closest inch	
20	150	729 800 106	2.22	0.015	0.16	0.83	1.18	1.10	½	
25	150	729 800 107	2.44	0.026	0.20	0.94	1.54	1.42	¾	
32	150	729 800 108	2.88	0.035	0.20	1.06	1.73	1.61	1	
40	150	729 800 109	3.99	0.093	0.12	1.22	2.24	2.09	1 ¼	
50	150	729 800 110	7.40	0.099	0.12	1.34	2.48	2.32	1 ½	
63	150	729 800 111	10.50	0.185	0.12	1.61	3.07	2.91	2	
75	150	729 800 162	16.50	0.240	0.12	1.85	3.98	3.58	2 ½	
90	150	729 800 163	18.60	0.392	0.20	2.20	4.76	4.25	3	
110	150	729 800 164	23.70	0.650	0.20	2.60	5.75	5.16	4	

Union Bush, ABS metric

E

Model:

- Solvent cement socket metric
- For union 29 51 01
- Jointing face: With O-Ring groove



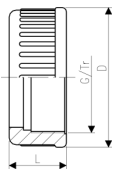
d [mm]	PSI	Part No.	USD	lbs	z [inch]	D [inch]	L [inch]	G/Tr	closest inch	
16	150	729 840 105	3.54	0.018	0.39	0.94	0.94	3/4	¾	
20	150	729 840 106	3.54	0.024	0.39	1.10	1.02	1	½	
25	150	729 840 107	3.77	0.035	0.39	1.30	1.14	1 1/4	¾	
32	150	729 840 108	5.80	0.060	0.39	1.61	1.30	1 1/2	1	
40	150	729 840 109	7.30	0.101	0.47	1.97	1.54	2	1 ¼	
50	150	729 840 110	10.10	0.128	0.55	2.44	1.81	2 1/4	1 ½	
63	150	729 840 111	12.10	0.243	0.71	3.03	2.28	2 3/4	2	
75	150	729 840 112	38.70	0.353	0.71	3.66	2.44	Tr108x5	2 ½	
90	150	729 840 123	38.80	0.604	0.71	4.33	2.72	Tr128x5	3	
110	150	729 840 114	48.90	0.728	0.43	5.24	2.83	Tr154x6	4	

Union Nut, ABS

E

Model:

- For union 23 51 01



d [mm]	PSI	Part No.	USD	Std. Pack	lbs	L [inch]	G/Tr	d [mm]	closest inch	
16	150	729 890 405	4.65	10	0.020	0.83	3/4	22	¾	
20	150	729 890 406	4.65	10	0.106	0.91	1	28	½	
25	150	729 890 407	4.87	10	0.101	0.98	1 1/4	36	¾	
32	150	729 890 408	4.76	10	0.055	1.06	1 1/2	42	1	
40	150	729 890 409	6.40	10	0.132	1.18	2	53	1 ¼	
50	150	729 890 410	9.10	10	0.220	1.34	2 1/4	59	1 ½	
63	150	729 890 411	11.50	10	0.324	1.50	2 3/4	74	2	
75	150	729 690 012	45.20	-	0.423	1.57	Tr108x5	92	2 ½	
90	150	729 690 013	54.60	-	0.593	1.69	Tr128x5	110	3	
110	150	729 690 014	62.00	-	0.917	1.89	Tr154x6	133	4	



O-Ring for PROGEF and SYGEF Standard IR/BCF & Socket Fusion Unions

B

Model:

- For unions and adaptor unions
- Hardness approx. 65° Shore
- EPDM minimum temperature -40°F
- FPM minimum temperature -15°F

* for unions PVC-U, PVC-C and ABS: 21 51 01, 21 51 11, 21 53 03, 21 53 08, 21 55 04, 21 55 13, 21 55 18, 23 51 01 and 29 51 01 only

d [mm]	EPDM Part No.	USD	Std. Pack	lbs	D [inch]	D1 [inch]	D2 [inch]	closest inch	
16	748 410 005 *	1.00	-	0.002	0.83	0.63	0.10	3/8	
20	748 410 006 *	3.00	-	0.002	1.06	0.79	0.14	1/2	
25	748 410 007 *	3.00	-	0.009	1.38	1.10	0.14	3/4	
32	748 410 008 *	5.00	-	0.004	1.57	1.30	0.14	1	
40	748 410 009 *	5.00	-	0.002	2.01	1.61	0.21	1 1/4	
50	748 410 010 *	5.00	-	0.002	2.28	1.85	0.21	1 1/2	
63	748 410 011 *	7.00	-	0.022	2.76	2.36	0.21	2	
75	748 410 014 *	10.00	100	0.015	3.66	3.23	0.21	2 1/2	
90	748 410 015 *	15.00	100	0.018	4.41	3.98	0.21	3	
110	748 410 016 *	15.00	100	0.035	5.28	4.72	0.28	4	

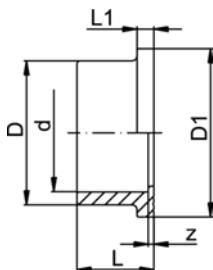
Flange Adaptor

Flange Adaptor, ABS metric

E

Model:

- Joining faces flat/serrated
- Counter part: Same flange adaptor
- Gasket: Profile flange gasket EPDM No. 48 44 07, FPM No. 49 44 07
- Gasket: Order separately: Flat gasket
- >d225 - maximum operating temperature: +104° F



d [mm]	PSI	Part No.	USD	Std. Pack	lbs
20	150	729 790 106	2.10	10	0.015
25	150	729 790 107	3.15	10	0.033
32	150	729 790 108	3.15	10	0.044
40	150	729 790 109	5.25	10	0.062
50	150	729 790 110	8.40	10	0.084
63	150	729 790 111	15.80	10	0.150
75	150	729 790 112	22.00	10	0.256
90	150	729 790 113	27.30	10	0.408
110	150	729 790 114	35.70	10	0.672
140	150	729 790 116	84.00	6	1.179
160	150	729 790 117	94.50	2	1.777
200	150	729 790 119	101.00	2	2.476
225	150	729 790 120	198.00	2	2.932
250	90	729 790 121	411.00	-	3.746
280	90	729 790 122	656.00	1	4.872
315	90	729 790 123	712.00	1	7.321

d [mm]	z [inch]	D [inch]	D1 [inch]	L [inch]	L1 [inch]	closest inch
20	0.12	1.06	1.34	0.83	0.24	½
25	0.12	1.30	1.61	0.94	0.28	¾
32	0.12	1.61	1.97	1.06	0.28	1
40	0.12	1.97	2.40	1.18	0.31	1 ¼
50	0.12	2.40	2.87	1.34	0.31	1 ½
63	0.12	2.99	3.54	1.61	0.35	2
75	0.12	3.58	4.17	1.85	0.39	2 ½
90	0.20	4.25	4.92	2.20	0.43	3
110	0.20	5.16	5.91	2.60	0.47	4
140	0.20	6.50	7.40	3.19	0.55	5
160	0.20	7.40	8.39	3.58	0.63	6
200	0.24	8.82	9.84	4.41	0.94	8
225	0.24	9.76	10.79	4.92	0.98	8
250	0.35	10.79	11.93	5.51	0.91	9
280	0.20	12.09	12.95	5.94	0.91	10
315	0.31	13.62	14.92	6.77	1.06	12

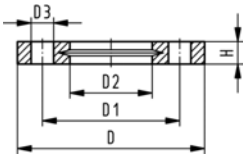
- 40% Restock Charge on Actuated Valves

- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

V-Flange Ring

V-Flange Ring Socket Fusion

B



Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt-fixing as an assembly aid
- UV-resistant. Applicable for outside applications
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- **Bolt circle class 150**
- 727701414, 727700417, 727700419: only for use with original metric flange adaptors

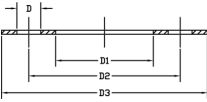
*) Suitable for socket- and butt fusion systems (no pictograph on flange)

AL: number of holes

* Combined version, metric-ANSI

Size	d [mm]	PSI	Part No.	USD	lbs
1 1/2	20	240	727 701 406	12.60	0.201
1 3/4	25	240	727 701 407	14.00	0.265
1	32	240	727 701 408	17.64	0.324
1 1/4	40	240	727 701 409	20.80	0.542
1 1/2	50	240	727 701 410	21.40	0.659
2	63	240	727 701 411	26.50	0.796
2 1/2	75	240	727 701 412	30.80	1.085
3	90	240	727 701 413	37.70	1.334
4	110	240	727 701 414	46.50	1.552
6	160	240	727 700 417	68.30	2.315
* 8	200	240	727 700 419	92.00	3.591
* 8	225	240	727 700 420	101.00	3.086
10	280	240	727 701 422	126.00	4.052
12	315	240	727 701 423	184.00	7.676

Size	D [inch]	D1 [inch]	D2 [inch]	D3 [inch]	H [inch]	AL	SC
1 1/2	3.74	2.36	1.10	0.63	0.63	4	M12
1 3/4	4.13	2.76	1.34	0.63	0.67	4	M12
1	4.53	3.11	1.65	0.63	0.71	4	M12
1 1/4	5.51	3.50	2.01	0.63	0.79	4	M16
1 1/2	5.91	3.86	2.44	0.63	0.87	4	M16
2	6.50	4.76	3.07	0.75	0.94	4	M16
2 1/2	7.28	5.51	3.62	0.75	1.02	4	M16
3	7.87	5.98	4.33	0.75	1.06	4	M16
4	9.02	7.48	5.24	0.75	1.10	8	M16
6	11.22	9.49	7.48	0.87	1.26	8	M20
* 8	13.39	11.67	8.90	0.87	1.34	8	M20
* 8	13.39	11.67	9.84	0.87	1.34	8	M20
10	15.98	14.25	12.20	1.02	1.50	12	M20
12	19.02	17.01	13.70	1.02	1.65	12	M20



Full Face, Flange Gasket EPDM

B

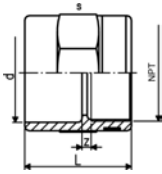
- Full Face Flange Gasket EPDM
- Connecting dimension: ANSI/ASME B 16.5 class 150 and BS 1560
- Bolt circle class 150
- AL: Number of holes

Size	D [inch]	D1 [inch]	D2 [inch]	D3 [inch]	AL	Part No.	USD	Std. Pack	lbs	
1/2	0.63	0.84	2.38	3.50	4	150 400 306	4.20			
3/4	0.63	1.06	2.75	3.88	4	150 400 307	4.20			
1	0.63	1.31	3.13	4.25	4	150 400 308	4.20			
1 1/4	0.63	1.66	3.50	4.63	4	150 400 309	5.25			
1 1/2	0.63	1.90	3.88	5.00	4	150 400 310	6.30			
2	0.75	2.38	4.75	6.00	4	150 400 311	7.35			
2 1/2	0.75	2.88	5.50	7.00	4	150 400 312	9.45	-	0.002	
3	0.75	3.50	6.00	7.50	4	150 400 313	11.60	-	0.002	
4	0.75	4.50	7.50	9.00	8	150 400 314	15.80			
5	0.88	5.56	8.50	10.00	8	150 400 316	20.00			
6	0.88	6.63	9.50	11.00	8	150 400 317	21.00	-	0.002	
8 & 9	0.88	8.63	11.75	13.50	8	150 400 319	30.50			
10	1.00	10.75	14.25	16.00	12	150 400 321	39.90			
12	1.00	12.75	17.00	19.00	12	150 400 323	58.80			

Adaptor Fittings

Socket ABS metric, NPT thread

E

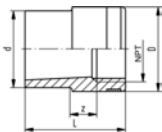


- With solvent cement socket metric and parallel female thread NPT
- Reinforcing ring stainless (A2)
- Connection to plastic or metal thread
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

d [mm]	NPT [inch]	PSI [psi]	Part No.	USD	Std. Pack	lbs	z [inch]	L [inch]	s [inch]	closest inch
20	½	150	729 914 206	38.90	-	0.002	0.16	1.38	1.26	½
25	¾	150	729 914 207	44.10	-	0.002	0.12	1.57	1.42	¾
32	1	150	729 914 208	50.40	-	0.002	0.12	1.77	1.81	1
40	1 ¼	150	729 914 209	55.70	-	0.002	0.20	2.01	2.17	1 ¼
50	1 ½	150	729 914 210	60.90	-	0.002	0.28	2.32	2.56	1 ½
63	2	150	729 914 211	67.20	-	0.002	0.28	2.72	3.15	2

Reducing Bushes ABS metric, NPT thread

E

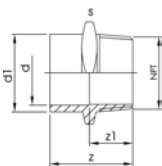


- With solvent cement socket metric and parallel female thread NPT
- Reinforcing ring stainless (A2)
- Connection to plastic or metal thread
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

d [mm]	NPT [inch]	PSI [psi]	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]	closest inch
20	¾	150	729 914 434	38.85	-	0.002	0.94	0.98	1.38	½
25	½	150	729 914 437	44.10	-	0.002	1.06	1.18	1.61	¾
32	¾	150	729 914 441	50.40	-	0.002	1.26	1.38	1.89	1
40	1	150	729 914 446	55.70	-	0.002	1.50	1.77	2.20	1 ¼
50	1 ¼	150	729 914 452	60.90	-	0.002	1.81	2.17	2.60	1 ½
63	1 ½	150	729 914 458	67.20	-	0.002	2.24	2.44	3.03	2

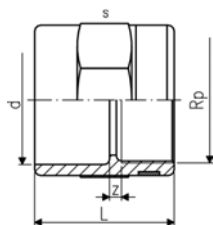
Adaptor Socket-Nipple ABS metric, NPT thread

E



- With solvent cement spigot/socket metric and taper male tread NPT
- Connection for plastic threads
- Do not use thread sealing pastes that are harmful to ABS

d [mm]	d1 [mm]	NPT [inch]	PSI [psi]	Part No.	USD	Std. Pack	lbs	z [inch]	z1 [inch]	s [inch]	closest inch
16	20	½	150	729 914 556	33.60			1.65	1.10	1.26	½
20	25	¾	150	729 914 557	38.85			1.85	1.22	1.42	¾
25	32	1	150	729 914 558	44.10	-	0.002	2.13	1.38	1.81	1
32	40	1 ¼	150	729 914 559	50.40	-	0.141	2.36	1.50	2.17	1 ¼
40	50	1 ½	150	729 914 560	55.70	-	0.002	2.60	1.57	2.56	1 ½
50	63	2	150	729 914 561	60.90	-	0.002	3.07	1.85	3.15	2



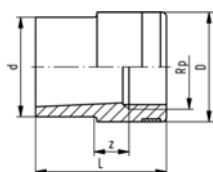
Socket, ABS metric BSP

E

Model:

- With solvent cement socket metric and parallel female thread Rp
- Reinforcing ring stainless (T304SS)
- Connection to plastic or metal thread.
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

d [mm]	FBSP [inch]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	L [inch]	s [inch]	closest inch
20	1/2	150	729 910 206	7.35	10	0.044	0.16	1.38	1.26	1/2
25	3/4	150	729 910 207	7.35	10	0.057	0.12	1.57	1.42	3/4
32	1	150	729 910 208	10.50	10	0.099	0.12	1.77	1.81	1
40	1 1/4	150	729 910 209	12.60	10	0.148	0.20	2.01	2.17	1 1/4
50	1 1/2	150	729 910 210	15.80	10	0.218	0.28	2.32	2.56	1 1/2
63	2	150	729 910 211	20.00	5	0.368	0.28	2.72	3.15	2



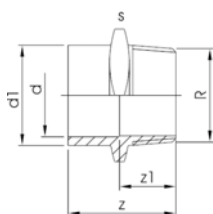
Reducing Bush, ABS metric - Rp BSP

E

Model:

- With solvent cement spigot metric and parallel female thread Rp
- Reinforcing ring stainless (T304SS)
- Connection to plastic or metal thread.
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

d [mm]	FBSP [inch]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	D [inch]	L [inch]
20	3/8	150	729 910 434	5.25	10	0.026	0.28	0.98	1.38
25	1/2	150	729 910 437	6.30	10	0.037	0.28	1.18	1.61
32	3/4	150	729 910 441	8.40	10	0.055	0.59	1.38	1.89
40	1	150	729 910 446	11.55	10	0.101	0.79	1.77	2.20
50	1 1/4	150	729 910 452	17.85	10	0.170	0.79	2.17	2.60
63	1 1/2	150	729 910 458	23.10	5	0.265	0.39	2.44	3.03



Adaptor Socket Nipple, ABS metric - R BSP

E

Model:

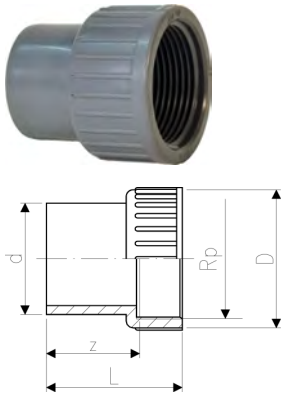
- With solvent cement spigot/socket metric and taper male thread R
- Connection for plastic threads
- Do not use thread sealing pastes that are harmful to ABS

d [mm]	d1 [mm]	R [inch]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	z1 [inch]	s [inch]	closest inch
16	20	1/2	150	729 910 556	4.20	10	0.026	1.65	1.10	1.26	3/8
20	25	3/4	150	729 910 557	4.20	10	0.037	1.85	1.22	1.42	1/2
25	32	1	150	729 910 558	4.20	10	0.066	2.13	1.38	1.81	3/4
32	40	1 1/4	150	729 910 559	6.30	10	0.101	2.36	1.50	2.17	1
40	50	1 1/2	150	729 910 560	8.40	10	0.159	2.60	1.57	2.56	1 1/4
50	63	2	150	729 910 561	11.55	5	0.276	3.07	1.85	3.15	1 1/2

Adaptor, ABS metric - Rp BSP

Model:

- With solvent cement spigot metric and parallel female thread Rp
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

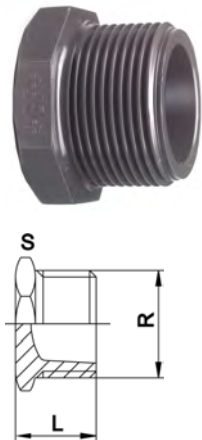


d [mm]	FBSP [inch]	PSI	Part No.	USD	Std. Pack	lbs	z [inch]	L [inch]	D [inch]	
20	1/2	150	729 900 406	5.25	10	0.018	0.83	1.46	1.10	
25	3/4	150	729 900 407	5.25	10	0.031	0.91	1.61	1.30	
32	1	150	729 900 408	7.35	10	0.057	1.06	1.89	1.65	
40	1 1/4	150	729 900 409	9.45	10	0.097	1.30	2.20	2.05	
50	1 1/2	150	729 900 410	12.60	10	0.168	1.50	2.40	2.44	
63	2	150	729 900 411	17.85	5	0.280	1.85	2.91	3.03	

Plug, ABS - R BSP

Model:

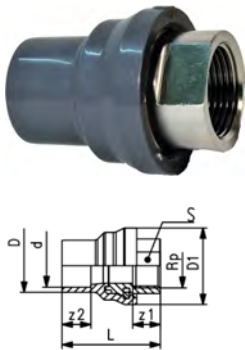
- With taper male thread R
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to ABS



R [inch]	PSI	Part No.	USD	Std. Pack	lbs	s [inch]	L [inch]	
1/2	150	729 961 906	9.45	10	0.018	1.06	0.98	
3/4	150	729 961 907	12.60	10	0.031	1.42	1.14	
1	150	729 961 908	14.70	10	0.049	1.61	1.26	

Transition Female Adaptor ABS Socket/SS NPT

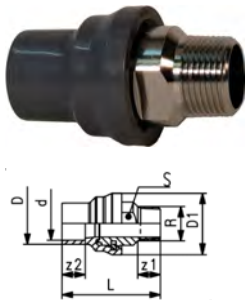
- With solvent cement spigot/socket metric and female thread NPT
- Gasket: O-ring EPDM
- For transition from ABS to stainless steel



d [mm]	D [mm]	PSI [psi]	NPT [inch]	Part No.	USD	Std. Pack	z1 [inch]	z2 [inch]	L [inch]	S [inch]	lbs	
20	25	150	1/2	729 942 106	32.00	10	0.67	0.65	2.15	0.98	0.270	
25	32	150	3/4	729 942 107	34.00	5	0.73	0.75	2.57	1.18	0.400	
32	40	150	1	729 942 108	39.00	5	0.85	0.89	3.01	1.42	0.610	

Transition Male Adaptor ABS Socket/SS NPT

- With solvent cement spigot/socket metric and male thread NPT
- Gasket: O-ring EPDM
- For transition from ABS to stainless steel

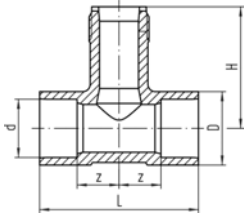


d [mm]	D [mm]	PSI [psi]	NPT [inch]	Part No.	USD	Std. Pack	z1 [inch]	z2 [inch]	L [inch]	S [inch]	lbs	
20	25	150	1/2	729 942 606	33.00	10	0.67	0.65	2.73	0.98	0.283	
25	32	150	3/4	729 942 607	35.00	5	0.73	0.75	3.28	1.18	0.506	
32	40	150	1	729 942 608	45.00	5	0.85	0.89	3.76	1.42	0.763	

Installation Fittings

Signet Installation Fittings Type 310, ABS metric

E



Model:

- Material: ABS (price is per meter)
- Threaded outlet 1 1/4" NPSM
- With solvent cement socket metric

Range of use:

- Compatible Signet flow sensors: models 2551, 2537, 515, 8510, 2536, 8512
- Compatible Signet pH/ORP sensors: models 2724, 2725, 2726

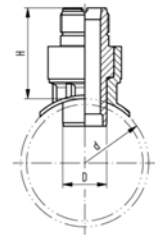
Attention:

- Sensor length depends on installation fitting

d [mm]	PSI	Part No.	USD	lbs	D [inch]	L [inch]	H [inch]	z [mm]	closest inch	Sensor Type
25	150	729 310 007	63.00	0.220	1.38	3.94	3.07	32	1/4	flow X0, pH XX
32	150	729 310 008	63.00	0.315	1.73	4.33	3.19	33	1	flow X0, pH XX
40	150	729 310 009	69.30	0.309	2.01	4.33	3.35	29	1 1/4	flow X0, pH XX
50	150	729 310 010	72.50	0.412	2.48	4.72	3.50	29	1 1/2	flow X0, pH XX
63	150	729 310 011	78.80	0.567	3.07	5.12	3.74	28	2	flow X0, pH XX

Signet Installation Fitting Type 312, ABS metric

E



Model:

- Material: ABS (price is per meter)
- Saddle with threaded outlet 1 1/4" NPSM
- Top saddle for solvent cement bonding

Range of use:

- Compatible Signet flow sensors: models 2551, 2537, 515, 8510, 2536, 8512

Attention:

- Sensor length depends on installation fitting

d [mm]	PSI	Part No.	USD	lbs	D [inch]	H [inch]	closest inch	Sensor Type
75	150	729 312 012	515.00	0.375	1.50	3.58	2 1/2	flow X1
90	150	729 312 013	536.00	0.388	1.50	3.58	3	flow X1
110	150	729 312 014	557.00	0.379	1.50	3.58	4	flow X1
140	150	729 312 016	578.00	0.366	1.50	3.19	5	flow X1
160	150	729 312 017	609.00	0.366	1.50	3.03	6	flow X1
200	150	729 312 019	651.00	0.335	1.50	2.80	8	flow X1
225	150	729 312 020	693.00	0.432	1.50	2.64	8	flow X1

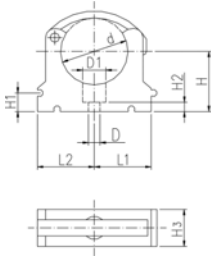
Installation Accessories

Pipe Bracket Type 061, PP metric

B

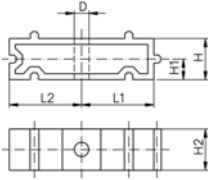
Model:

- Material: Clip and safety clip PP black, UV resistant, bolts galvanized
- d16 - d63: Height designed for Ball Valve Type 546 and 543
- **Minimum order quantity: standard packagings SP**



d [mm]	Part No.	USD	Std. Pack	lbs	
* 16	167 061 035 *	0.85	1	0.015	
* 20	167 061 036 *	0.95	1	0.015	
* 25	167 061 037 *	1.05	10	0.020	
* 32	167 061 038 *	1.60	10	0.026	
40	167 061 039 *	2.00	10	0.060	
50	167 061 040 *	2.50	10	0.068	
63	167 061 041 *	2.95	10	0.115	
75	167 061 012 *	5.50	10	0.126	
90	167 061 013 *	6.80	10	0.203	
110	167 061 014 *	8.10	10	0.258	
125	167 061 015	10.30	10	0.397	
140	167 061 016	13.40	10	0.494	
160	167 061 017 *	15.25	10	0.534	

d [mm]	D [inch]	D1 [inch]	L1 [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	SC	closest inch	
* 16	0.24	0.43	0.55	0.67	1.06	0.39	0.24	0.63	M5	¾	
* 20	0.24	0.43	0.67	0.75	1.06	0.39	0.24	0.63	M5	½	
* 25	0.24	0.43	0.75	0.87	1.18	0.39	0.24	0.63	M5	¾	
* 32	0.24	0.43	0.94	1.06	1.42	0.39	0.24	0.63	M5	1	
40	0.28	0.55	1.34	1.34	1.73	0.39	0.28	0.87	M6	1 ¼	
50	0.28	0.55	1.46	1.46	2.01	0.39	0.28	0.87	M6	1 ½	
63	0.35	0.67	1.77	1.77	2.52	0.39	0.39	0.98	M8	2	
75	0.35	0.67	2.05	2.05	2.28	0.39	0.39	0.98	M8	2 ½	
90	0.35	0.67	2.56	2.56	2.56	0.39	0.39	1.10	M8	3	
110	0.35	0.67	3.11	3.11	2.95	0.39	0.39	1.10	M8	4	
125	0.35	0.67	3.46	3.46	3.54	0.39	0.39	1.26	M8		
140	0.35	0.67	3.86	3.86	4.33	0.39	0.39	1.26	M8	5	
160	0.35	0.67	4.29	4.29	4.25	0.39	0.39	1.26	M8	6	



Spacer Type 061, PP

B

Model:

- For pipe clips Type 061/061H, PP black, UV resistant
- **Minimum order quantity: standard packaging SP**

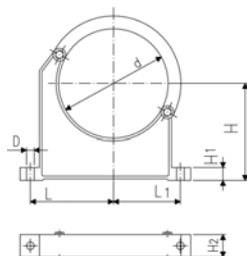
d [mm]	Inch [inch]	Part No.	USD	Std. Pack	lbs	
16	3/8	167 061 155 *	0.75	10	0.011	
20	1/2	167 061 156 *	0.85	10	0.011	
25	3/4	167 061 157 *	0.85	10	0.015	
32	1	167 061 158 *	0.95	10	0.018	
40	1 1/4	167 061 159 *	1.20	10	0.033	
50	1 1/2	167 061 160 *	1.40	10	0.037	
63	2	167 061 161 *	2.00	10	0.053	
75	2 1/2	167 061 162 *	2.75	10	0.060	
90	3	167 061 163 *	3.60	10	0.086	
110	4	167 061 164 *	4.60	10	0.110	
125	4 1/2	167 061 165	5.70	10	0.130	
140	5	167 061 166	6.65	10	0.143	
160	6	167 061 167 *	7.70	10	0.157	

d [mm]	D [inch]	L1 [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	HoH +/- 2mm [mm]	SC	
16	0.24	0.55	0.67	0.79	0.39	0.63	17.0	M5	
20	0.24	0.67	0.75	0.79	0.39	0.63	21.4	M5	
25	0.24	0.75	0.87	0.79	0.39	0.63	26.9	M5	
32	0.24	0.94	1.06	0.79	0.39	0.63	36.7	M5	
40	0.28	1.34	1.34	0.79	0.39	0.87	44.4	M6	
50	0.28	1.46	1.46	0.79	0.39	0.87	52.3	M6	
63	0.35	1.77	1.77	0.79	0.39	0.98	66.7	M8	
75	0.35	2.05	2.05	0.79	0.39	0.98	81.2	M8	
90	0.35	2.56	2.56	0.79	0.39	1.10	100.0	M8	
110	0.35	3.11	3.11	0.79	0.39	1.10	127.3	M8	
125	0.35	3.46	3.46	0.79	0.39	1.26	142.9	M8	
140	0.35	3.86	3.86	0.79	0.39	1.26	161.4	M8	
160	0.35	4.29	4.29	0.79	0.39	1.26	185.1	M8	

Pipe Clips Type 060, PP metric

Model:

- Material: Clip and safety clip PP black, UV resistant, bolts galvanized
- Accidental opening of the safety clip is not possible
- **Minimum order quantity: standard packaging SP or gross packaging GP**
- Clip and safety clip are not assembled in the packaging.
- Pipes with flanges can be installed directly



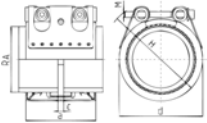
d [mm]	Part No.	USD	Std. Pack	lbs	
90	167 060 038 *	10.50	10	0.324	
110	167 060 039 *	11.55	10	0.353	
140	167 060 041	21.00	10	0.573	
160	167 060 042 *	24.15	10	0.653	
180	167 060 043	26.25	10	0.721	
200	167 060 019 *	33.60	5	1.188	
225	167 060 020 *	37.80	5	0.392	
250	167 060 021 *	50.40	5	1.448	
280	167 060 022	57.80	5	0.467	
315	167 060 023 *	63.00	5	1.775	

d [mm]	D [inch]	L [inch]	L1 [inch]	H [inch]	H1 [inch]	H2 [inch]	SC	closest inch	
90	0.35	3.50	2.80	4.13	0.59	1.30	M 8	3	
110	0.35	3.70	3.15	4.53	0.59	1.30	M 8	4	
140	0.43	4.76	3.86	5.12	0.79	1.38	M10	5	
160	0.43	5.16	4.21	5.83	0.79	1.38	M10	6	
180	0.43	5.63	4.53	6.42	0.79	1.38	M10	7	
200	0.51	5.98	4.72	6.89	0.98	1.54	M12	8	
225	0.51	6.50	5.20	6.89	0.98	1.54	M12	8	
250	0.51	7.20	5.63	7.87	0.98	1.54	M12	9	
280	0.51	7.80	6.14	7.87	0.98	1.54	M12	10	
315	0.51	8.62	6.77	8.86	0.98	1.54	M12	12	

Stainless Steel Couplings

Plast Grip E d40 - d160

B



Model:

- All metal parts W5 quality: housing AISI 316 Ti, bolts AISI 316 L, lock bars AISI 316, anchoring ring for plastic pipes PA-GF brass, steel band insert AISI 316 Ti
- EPDM gaskets
- Temperature range with EPDM gasket Ø <170 mm -22°F – 257°F
- EPDM for: water, Aqueous acids, alkaline solutions, alcohols, compressed air
- Couplings are available with NBR gaskets
- Nominal pressure (PN) is the maximum operating pressure
- No additional parts are needed for installation
- Other dimensions available on request

d [mm]	Range [mm]	PN [psi]	EPDM Part No.	USD	Std. Pack	lbs
40.0	39.0 - 40.5	240	779 532 008	152.00	-	1.058
50.0	49.0 - 50.5	240	779 532 012	152.00	-	1.168
63.0	62.0 - 63.5	240	779 532 017	168.00	-	1.477
75.0	74.0 - 76.0	240	779 532 020	210.00	-	2.866
90.0	89.0 - 91.0	240	779 532 025	229.00	-	3.086
110.0	109.0 - 111.0	240	779 532 032	253.00	-	3.527
140.0	139.0 - 141.0	240	779 532 040	357.00	-	7.055
160.0	159.0 - 162.0	240	779 532 046	410.00	-	7.716

d [mm]	a [inch]	C max. [inch]	d [mm]	H [inch]
40.0	2.44	0.31	60	3.15
50.0	2.44	0.31	70	3.54
63.0	3.07	0.67	85	4.13
75.0	3.86	0.98	100	4.72
90.0	3.86	0.98	110	5.12
110.0	3.86	0.98	130	5.91
140.0	4.53	1.38	160	7.09
160.0	4.53	1.38	180	7.87

Solvent Cement

COOL-FIT Cement

B

- 1 Quart, (32 Fl. Oz U.S.), (946mL)



lbs	Part No.	USD	
 2.250	799 298 101	21.00	

COOL-FIT Cleaner

B

- 1 Quart, (32 Fl. Oz U.S.), (946mL)



lbs	Part No.	USD	
 2.050	799 298 102	17.90	

Cap for cement

B

- Cap prevents the evaporation of the solvent while using the cement



Part No.	USD	lbs	
799 298 028	1.50	0.066	



Round brush

B

d-d [mm]		Part No.	USD	lbs	closest inch	
12 - 32	8 mm (for Fittings 12-32mm)	799 299 002	2.50	0.013	¼ - 1	



Flat brush

B

d-d [mm]		Part No.	USD	lbs	closest inch	
40 - 63	25x3 mm (for Fittings 40-63mm)	799 299 003	2.50	0.033	1 ¼ - 2	
75 - 225	50x5 mm (for Fittings 75-225mm)	799 299 004	6.50	0.077	2 ½ - 8	
250 - 400	75x6 mm (for Fittings 250-400mm)	799 299 005	14.20	0.117	9 - 16	

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

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Effective July 1, 2011. See www.gfppiping.com for updated info.



Chamfering Tools

D

- Chamfering tool (15° bevel) for plastic pipes (PVC, ABS, PB, PP, PE). Coated prism surface suitable for clean room applications. Fast and reliable adjustment to the different pipe diameters and wall thickness.

d-d [mm]	Part No.	USD	Std. Pack	lbs	
16 - 200	790 309 003 *	397.00	1	2.258	
63 - 400	790 309 004 *	519.00	1	5.617	



Spare blade for chamfering tool

Description	d-d [mm]	Part No.	USD	Std. Pack	lbs	
Spare blade	16 - 400	790 309 015	28.40	-	0.022	



PPC Plastic pipe cutter

D

- For cutting plastic pipes d10 - d160

d-d [mm]	Article	Part No.	USD	lbs	closest inch	
10 - 63	PPC 63, s max. = 7.2mm	790 109 001 *	87.00	1.907	1/8 - 2	
50 - 110	PPC 110, s max. = 12.7mm	790 109 002 *	185.00	3.580	1 1/2 - 4	
110 - 160	PPC 160, s max. = 19.0mm	790 109 003 *	221.00	4.877	4 - 6	



Replacement cutting wheels

D

- for plastic pipe cutter

d-d [mm]	Article	Part No.	USD	lbs	
10 - 63	SR 63 max. s=7,2 mm	790 109 011 *	24.20	0.009	
50 - 110	SR 110/160 max. s=12,7 mm	790 109 012 *	41.00	0.033	
110 - 160	SR 160 max. s=19,0 mm	790 109 013 *	48.30	0.051	



Two-Component Adhesive/Sealer

B

- The Starter Kit includes two cartridges, one dispensing gun, and six mixing tips.

Description	Part No.	USD	
Starter Kit	150 845 001	79.80	
Adhesive 43mL	150 845 002	15.10	
Mixing Tip	150 845 003	1.00	
Dispensing Gun	150 845 004	48.50	

COOL-FIT® ABS

Manual valves
Actuated valves
Accessories



P0900074

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GEORG FISCHER
PIPING SYSTEMS

COOL-FIT® ABS Valves

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Ball Valves

Ball valve type 546 ABS

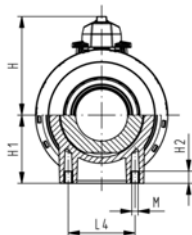
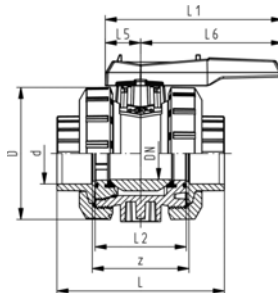
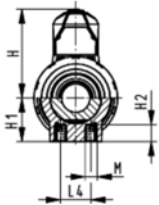
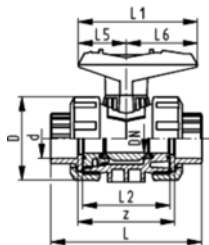
With mounting inserts

With solvent cement sockets metric

E



DN10/15 - 50



Model:

- Designed for easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- Not dimensionally compatible with Type 346 and Type 370

Option:

- Contact customer service for customization
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from GF

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	169 546 061	43.00	0.247
20	150	169 546 062	43.00	0.251
25	150	169 546 063	52.50	0.419
32	150	169 546 064	62.00	0.600
40	150	169 546 065	80.00	1.060
50	150	169 546 066	101.00	1.448
63	150	169 546 067	127.00	2.646
75	150	169 546 068	326.00	7.635
90	150	169 546 069	389.00	12.566
110	150	169 546 070	473.00	15.399

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	M	z [inch]
16	1.97	2.24	1.06	0.47	3.62	3.03	2.20	0.98	1.26	1.77	M6	2.52
20	1.97	2.24	1.06	0.47	3.74	3.03	2.20	0.98	1.26	1.77	M6	2.52
25	2.28	2.64	1.18	0.47	4.33	3.82	2.56	0.98	1.54	2.28	M6	2.83
32	2.68	2.87	1.42	0.47	4.84	3.82	2.80	0.98	1.54	2.28	M6	3.11
40	3.31	3.54	1.73	0.59	5.75	5.04	3.35	1.77	2.13	2.91	M8	3.70
50	3.82	3.82	2.01	0.59	6.18	5.04	3.50	1.77	2.13	2.91	M8	3.74
63	4.88	4.57	2.52	0.59	7.20	5.98	3.98	1.77	2.60	3.43	M8	4.21
75	6.54	5.87	3.35	0.59	9.17	10.63	5.35	2.76	2.52	8.11	M8	5.67
90	7.87	6.34	4.13	0.59	10.00	10.63	5.55	2.76	2.52	8.11	M8	5.94
110	9.37	7.01	4.84	0.87	11.85	12.60	6.46	4.72	2.52	10.08	M12	6.85

d [mm]	closest inch
16	3/8
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2
75	2 1/2
90	3
110	4

- 40% Restock Charge on Actuated Valves

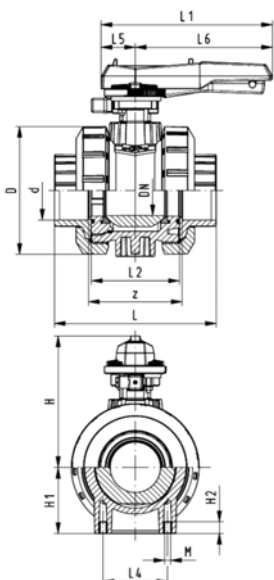
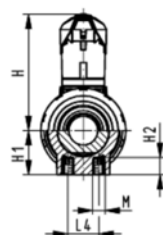
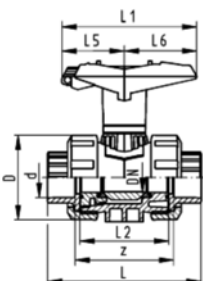
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.



DN10/15 - 50



Ball valve type 546 ABS

With lockable handle

With solvent cement sockets metric, non stock

Model:

- Designed for easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- Not dimensionally compatible with Type 346 and Type 370
- Lockable handle with ratchet settings

Option:

- Contact customer service for customization
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from GF

d [mm]	PSI	EPDM Part No.	USD	lbs	
16	150	169 546 081	56.70	0.267	
20	150	169 546 082	56.70	0.271	
25	150	169 546 083	68.30	0.425	
32	150	169 546 084	79.80	0.602	
40	150	169 546 085	100.00	1.058	
50	150	169 546 086	119.00	1.466	
63	150	169 546 087	149.00	2.657	
75	150	169 546 088	368.00	9.259	
90	150	169 546 089	441.00	13.448	
110	150	169 546 090	536.00	20.723	

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	M	z [inch]	
16	1.97	3.11	1.06	0.47	3.62	3.43	2.20	0.98	1.65	1.77	M6	2.52	
20	1.97	3.11	1.06	0.47	3.74	3.43	2.20	0.98	1.65	1.77	M6	2.52	
25	2.28	3.46	1.18	0.47	4.33	4.25	2.56	0.98	1.97	2.28	M6	2.83	
32	2.68	3.70	1.42	0.47	4.84	4.25	2.80	0.98	1.97	2.28	M6	3.11	
40	3.31	4.45	1.73	0.59	5.75	5.51	3.35	1.77	2.60	2.95	M8	3.70	
50	3.82	4.69	2.01	0.59	6.18	5.51	3.50	1.77	2.60	2.95	M8	3.74	
63	4.88	5.55	2.52	0.59	7.20	6.50	3.98	1.77	3.07	3.43	M8	4.21	
75	6.54	8.82	3.35	0.59	9.17	10.63	5.35	2.76	2.52	8.11	M8	5.67	
90	7.87	9.25	4.13	0.59	10.00	10.63	5.55	2.76	2.52	8.11	M8	5.94	
110	9.37	9.65	4.84	0.87	11.85	12.60	6.46	4.72	2.52	10.08	M12	6.85	

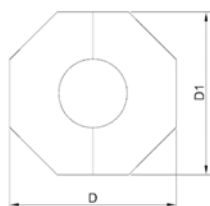
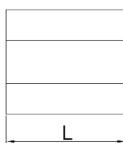
d [mm]	closest inch	
16	3/8	
20	1/2	
25	3/4	
32	1	
40	1 1/4	
50	1 1/2	
63	2	
75	2 1/2	
90	3	
110	4	

546 Ball Valve Insulation Kit

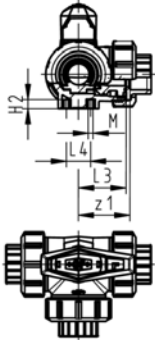
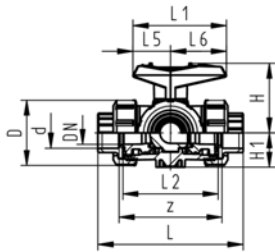
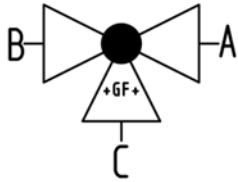
Model:

- Insulation made from EPDM
- Outer jacket UV resistant
- For ball valve Type 546; uses $\frac{3}{4}$ " PVC pipe

* handle extension for ball valve recommended, d75/90 161.490.920, d110 161.490.921



d [mm]	Part No.	USD	lbs	D [inch]	D1 [inch]	L [inch]	closest inch	
25	738 990 138	41.00	0.220	3.50	3.43	4.25	$\frac{3}{4}$	
32	738 990 139	47.30	0.220	3.78	3.70	4.76	1	
40	738 990 140	65.00	0.220	4.33	4.33	5.63	1 $\frac{1}{4}$	
50	738 990 141	65.00	0.220	4.80	4.72	6.14	1 $\frac{1}{2}$	
63	738 990 142	75.00	0.220	5.91	5.79	7.13	2	
* 75	738 990 143	110.00	0.220	7.48	7.28	9.25	2 $\frac{1}{2}$	
* 90	738 990 144	141.00	0.220	8.90	8.70	10.04	3	
* 110	738 990 145	186.00	0.220	10.55	10.31	11.81	4	



3-Way ball valve type 543 ABS

Horizontal/L-port

With solvent cement sockets metric

E

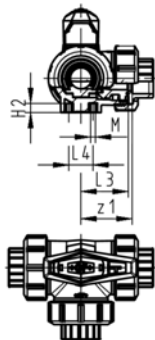
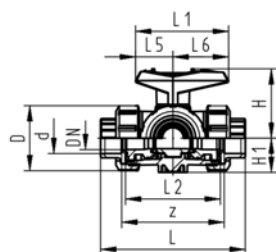
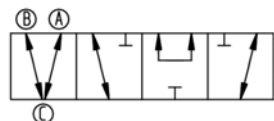
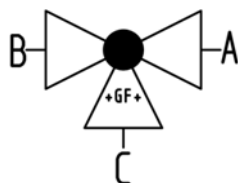
Model:

- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Flow: center left, center right

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	169 543 001	108.00	0.412
20	150	169 543 002	111.00	0.384
25	150	169 543 003	128.00	0.608
32	150	169 543 004	160.00	0.888
40	150	169 543 005	181.00	1.559
50	150	169 543 006	208.00	2.335
63	150	169 543 007	263.00	4.546

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	4.29	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.19
20	1.97	4.41	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.19
25	2.28	5.16	3.82	3.39	1.69	0.98	1.54	2.28	2.64	1.26	0.31	6	3.70
32	2.68	5.94	3.82	3.90	1.97	0.98	1.54	2.28	2.87	1.42	0.31	6	4.21
40	3.31	7.13	5.04	4.72	2.36	1.77	2.13	2.91	3.54	1.77	0.35	8	5.12
50	3.82	8.07	5.04	5.39	2.72	1.77	2.13	2.91	3.82	2.01	0.35	8	5.63
63	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

d [mm]	z1 [inch]	closest inch
16	1.57	3/8
20	1.57	1/2
25	1.85	3/4
32	2.13	1
40	2.56	1 1/4
50	2.83	1 1/2
63	3.62	2



3-Way ball valve type 543 ABS

Horizontal/T-port

With solvent cement sockets metric

Model:

- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Flow: all ports open, center-left

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	169 543 201	108.00	0.410
20	150	169 543 202	111.00	0.392
25	150	169 543 203	128.00	0.580
32	150	169 543 204	160.00	0.888
40	150	169 543 205	181.00	1.541
50	150	169 543 206	208.00	2.306
63	150	169 543 207	263.00	4.475

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	4.29	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.19
20	1.97	4.41	3.03	2.87	1.42	0.98	1.26	1.77	2.24	1.10	0.31	6	3.19
25	2.28	5.16	3.82	3.39	1.69	0.98	1.54	2.28	2.64	1.26	0.31	6	3.70
32	2.68	5.94	3.82	3.90	1.97	0.98	1.54	2.28	2.87	1.42	0.31	6	4.21
40	3.31	7.13	5.04	4.72	2.36	1.77	2.13	2.91	3.54	1.77	0.35	8	5.12
50	3.82	8.07	5.04	5.39	2.72	1.77	2.13	2.91	3.82	2.01	0.35	8	5.63
63	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

d [mm]	z1 [inch]	closest inch
16	1.57	3/8
20	1.57	1/2
25	1.85	3/4
32	2.13	1
40	2.56	1 1/4
50	2.83	1 1/2
63	3.62	2

Butterfly Valves

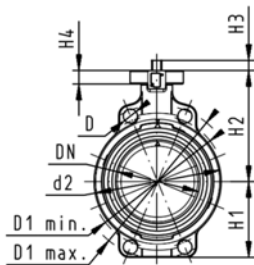
Butterfly valve type 567 ABS Bare shaft, non-stock

E

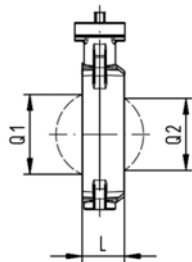


Model:

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Interface F07 according to DIN/ISO 5211



d [mm]	PSI	EPDM Part No.	USD	lbs	
63	150	169 567 802	326.00	1.682	
75	150	169 567 803	357.00	1.894	
90	150	169 567 804	389.00	2.202	
110	150	169 567 805	410.00	3.384	
140	150	169 567 806	557.00	4.449	
160	150	169 567 807	662.00	6.301	
225	150	169 567 808	924.00	9.103	



d [mm]	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	D3 [inch]	D4 [mm]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	L [inch]
63	0.75	4.72	4.92	4.09	2.76	90	8.74	3.03	5.28	1.06	0.91	0.43	1.77
75	0.75	5.50	5.71	4.53	2.76	90	9.25	3.27	5.51	1.06	0.91	0.43	1.81
90	0.75	5.91	6.30	5.16	2.76	90	9.72	3.50	5.75	1.06	0.91	0.43	1.93
110	0.75	6.89	7.50	6.34	2.76	90	11.30	4.09	6.57	0.63	0.91	0.55	2.20
140	0.91	8.27	8.50	7.36	2.76	90	12.32	4.61	7.13	0.63	0.91	0.55	2.52
160	0.94	9.50	9.50	8.46	2.76	90	13.19	5.12	7.44	0.75	0.91	0.67	2.83
225	0.91	11.42	11.61	10.51	2.76	90	15.24	6.22	8.27	0.75	0.91	0.67	2.87

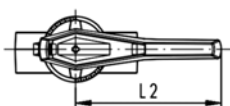
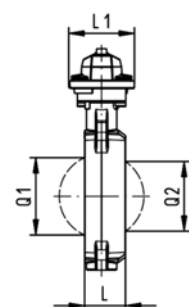
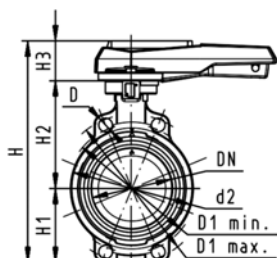
d [mm]	Q1 [inch]	Q2 [inch]	closest inch	
63	1.57		2	
75	2.13	1.38	2 ½	
90	2.64	1.97	3	
110	3.46	2.91	4	
140	4.45	3.82	5	
160	5.47	4.84	6	
225	7.01	6.65	8	



Butterfly valve type 567 ABS Hand lever with ratchet settings

Model:

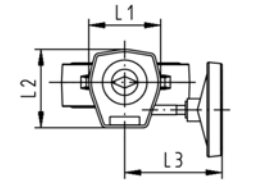
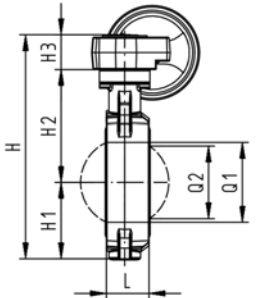
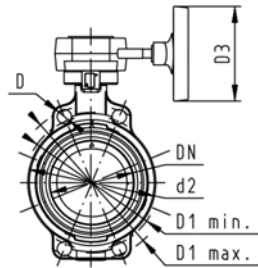
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752



d [mm]	PSI	EPDM Part No.	USD	lbs
63	150	169 567 002	336.00	2.617
75	150	169 567 003	378.00	2.826
90	150	169 567 004	462.00	3.131
110	150	169 567 005	483.00	4.453
140	150	169 567 006	756.00	5.591
160	150	169 567 007	1071.00	7.357
225	150	169 567 008	1155.00	12.804

d [mm]	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]	L2 [inch]	Q1 [inch]
63	0.75	4.72	4.92	4.09	10.39	3.03	5.28	2.13	1.77	4.17	8.07	1.57
75	0.75	5.50	5.71	4.53	10.91	3.27	5.51	2.13	1.81	4.17	8.07	2.13
90	0.75	5.91	6.30	5.16	11.38	3.50	5.75	2.13	1.93	4.17	8.07	2.64
110	0.75	6.89	7.50	6.34	12.80	4.09	6.57	2.17	2.20	4.17	10.04	3.46
140	0.91	8.27	8.50	7.36	13.86	4.61	7.13	2.17	2.52	4.17	10.04	4.45
160	0.94	9.50	9.50	8.46	14.69	5.12	7.44	2.17	2.83	4.17	10.04	5.47
225	0.91	11.42	11.61	10.51	17.13	6.22	8.27	2.64	2.87	5.51	16.06	7.01

d [mm]	Q2 [inch]	closest inch
63		2
75	1.38	2 ½
90	1.97	3
110	2.91	4
140	3.82	5
160	4.84	6
225	6.65	8



Butterfly valve type 567 ABS Reduction gear with handwheel

E

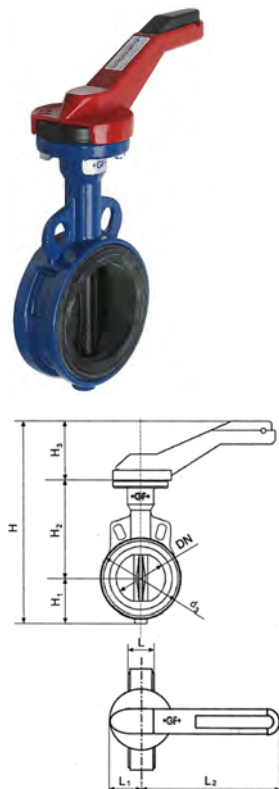
Model:

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752

d [mm]	PSI	EPDM Part No.	USD	lbs
63	150	169 567 022	1145.00	6.786
75	150	169 567 023	1145.00	7.057
90	150	169 567 024	1155.00	7.185
110	150	169 567 025	1176.00	7.701
140	150	169 567 026	1365.00	9.978
160	150	169 567 027	1407.00	11.283
225	150	169 567 028	1617.00	14.085

d [mm]	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	D3 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]	L2 [inch]
63	0.75	4.72	4.92	4.09	5.91	10.94	3.03	5.28	1.97	1.77	4.33	4.72
75	0.75	5.50	5.71	4.53	5.91	11.46	3.27	5.51	1.97	1.81	4.33	4.72
90	0.75	5.91	6.30	5.16	5.91	11.93	3.50	5.75	1.97	1.93	4.33	4.72
110	0.75	6.89	7.50	6.30	5.91	13.35	4.09	6.57	1.97	2.20	4.33	4.72
140	0.91	8.27	8.50	7.36	5.91	14.37	4.61	7.13	1.97	2.52	4.33	4.72
160	0.94	9.50	9.50	8.46	5.91	15.24	5.12	7.44	1.97	2.83	4.33	4.72
225	0.91	11.42	11.61	10.51	5.91	17.17	6.22	8.27	1.97	2.87	4.33	4.72

d [mm]	L3 [inch]	Q1 [inch]	Q2 [inch]	closest inch
63	6.10	1.57		2
75	6.10	2.13	1.38	2 ½
90	6.10	2.64	1.97	3
110	6.10	3.46	2.91	4
140	6.10	4.45	3.82	5
160	6.10	5.47	4.84	6
225	6.10	7.01	6.65	8



Metal butterfly valve type 037M With hand lever

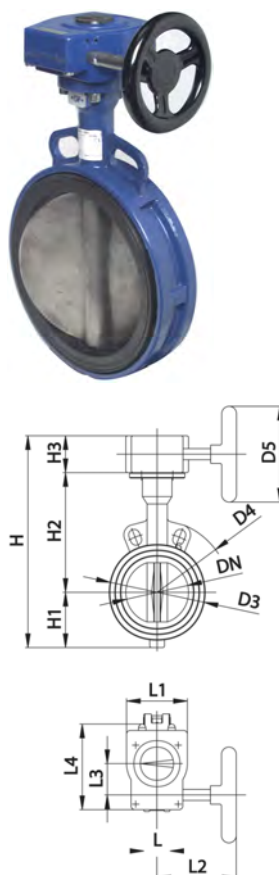
E

Model:

- Housing: Aluminium ASTM S 12A, Rilsan® coated
- Seatliner available in EPDM and FPM

d [mm]	Size	PSI	Disc: ductile iron/ Rilsan® coated EPDM Part No.	USD	Disc: stainless steel EPDM Part No.	USD	
280	10	150	199 037 007	893.00	199 037 207	1281.00	
315	12	150	199 037 008	1229.00	199 037 208	1722.00	

d [mm]	Size	d3 [inch]	L [inch]	L1 [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	
280	10	13.03	2.68	2.48	22.05	20.67	7.87	10.83	1.97	
315	12	14.96	3.07	2.48	22.05	23.31	8.94	12.40	1.97	



Metal butterfly valve type 037G Reduction gear with handwheel

E

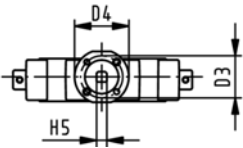
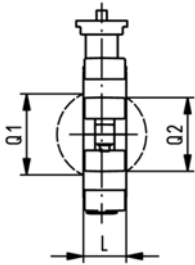
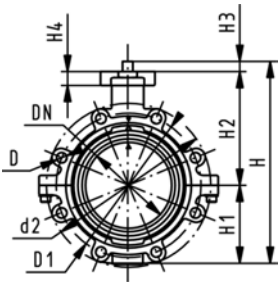
d [mm]	Size	PSI	Disc: ductile iron/ Rilsan® coated EPDM Part No.	USD	Disc: stainless steel EPDM Part No.	USD	lbs	
280	10	150	199 037 033	1229.00	199 037 233	1554.00	41.887	
315	12	150	199 037 034	1670.00	199 037 234	1890.00	50.706	

d [mm]	D3 [inch]	D4 [inch]	D5 [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	
280	13.03	13.11	9.84	4.17	7.24	2.05	5.59	21.34	7.87	10.83	2.64	
315	14.96	13.90	9.84	4.17	7.24	2.05	5.59	23.98	8.94	12.40	2.64	

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.



Lugstyle butterfly valve type 568 ABS Bare shaft

E

Model:

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Interface F07 according to DIN/ISO 5211

Size	d [mm]	PSI	EPDM Part No.	USD	lbs								
2	63	150	169 568 902	504.00	6.290								
2 ½	75	150	169 568 903	546.00	7.055								
3	90	150	169 568 904	599.00	7.910								
4	110	150	169 568 905	630.00	12.419								
5	140	150	169 568 906	872.00	16.539								
6	160	150	169 568 907	998.00	20.593								
8	225	150	169 568 908	1428.00	31.096								

Size	d2 [inch]	D	D1 [inch]	D3 [inch]	D4 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	L [inch]	Q1 [inch]
2	5.91	UNC 5/8	4.76	2.76	3.54	8.74	3.03	5.28	1.06	0.91	1.77	1.57
2 ½	6.69	UNC 5/8	5.43	2.76	3.54	9.25	3.27	5.51	1.06	0.91	1.81	2.13
3	6.97	UNC 5/8	5.98	2.76	3.54	9.72	3.50	5.75	1.06	0.91	1.93	2.64
4	8.50	UNC 5/8	7.52	2.76	3.54	11.30	4.09	6.57	0.63	0.91	2.20	3.46
5	9.69	UNC 3/4	8.50	2.76	3.54	12.32	4.61	7.13	0.63	0.91	2.52	4.45
6	10.75	UNC 3/4	9.49	2.76	3.54	13.19	5.12	7.44	0.75	0.91	2.83	5.47
8	13.15	UNC 3/4	11.73	2.76	3.54	15.24	6.22	8.27	0.75	0.91	2.87	7.01

Size	Q2 [inch]
2	
2 ½	1.38
3	1.97
4	2.91
5	3.82
6	4.84
8	6.65

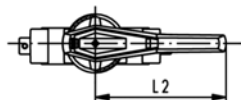
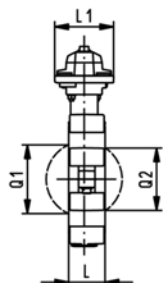
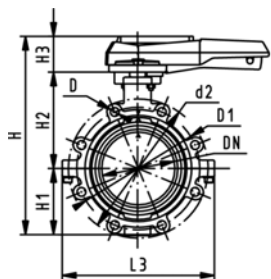


Lugstyle butterfly valve type 568 ABS

Hand lever with ratchet settings

Model:

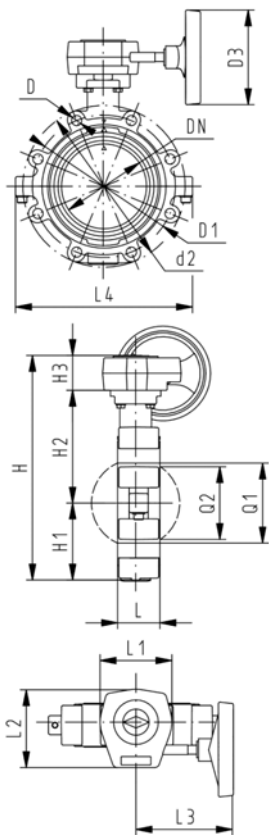
- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752



Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	169 568 102	557.00	6.779
2 ½	75	150	169 568 103	609.00	7.544
3	90	150	169 568 104	683.00	8.400
4	110	150	169 568 105	714.00	13.014
5	140	150	169 568 106	1019.00	17.134
6	160	150	169 568 107	1124.00	21.188
8	225	150	169 568 108	1607.00	32.875

Size	d2 [inch]	D	D1 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	Q1 [inch]
2	5.91	UNC 5/8	4.76	10.43	3.03	5.28	2.13	1.77	4.17	8.07	5.91	1.57
2 ½	6.69	UNC 5/8	5.43	10.91	3.27	5.51	2.13	1.81	4.17	8.07	6.30	2.13
3	6.97	UNC 5/8	5.98	11.38	3.50	5.75	2.13	1.93	4.17	8.07	6.89	2.64
4	8.50	UNC 5/8	7.52	12.83	4.09	6.57	2.17	2.20	4.17	10.04	9.61	3.46
5	9.69	UNC 3/4	8.50	13.90	4.61	7.13	2.17	2.52	4.17	10.04	10.71	4.45
6	10.75	UNC 3/4	9.49	14.72	5.12	7.44	2.17	2.83	4.17	10.04	11.69	5.47
8	13.15	UNC 3/4	11.73	17.13	6.22	8.27	2.64	2.87	5.51	16.06	14.17	7.01

Size	Q2 [inch]
2	
2 ½	1.38
3	1.97
4	2.91
5	3.82
6	4.84
8	6.65



Lugstyle butterfly valve type 568 ABS

Reduction gear with handwheel

E

Model:

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752

Size	d [mm]	PSI	EPDM Part No.	USD	lbs							
2	63	150	169 568 122	1470.00	11.272							
2 ½	75	150	169 568 123	1575.00	12.037							
3	90	150	169 568 124	1691.00	12.893							
4	110	150	169 568 125	1733.00	17.401							
5	140	150	169 568 126	1932.00	21.521							
6	160	150	169 568 127	2058.00	25.576							
8	225	150	169 568 128	2352.00	36.078							

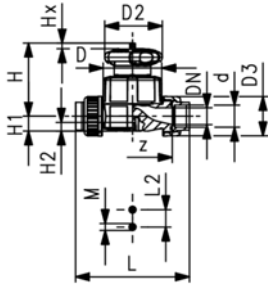
Size	d2 [inch]	D	D1 [inch]	D3 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]
2	5.91	UNC 5/8	4.76	5.91	10.98	3.03	5.28	1.97	1.77	4.33	4.72	6.10
2 ½	6.69	UNC 5/8	5.43	5.91	11.46	3.27	5.51	1.97	1.81	4.33	4.72	6.10
3	6.97	UNC 5/8	5.98	5.91	11.93	3.50	5.75	1.97	1.93	4.33	4.72	6.10
4	8.50	UNC 5/8	7.52	5.91	13.35	4.09	6.57	1.97	2.20	4.33	4.72	6.10
5	9.69	UNC 3/4	8.50	5.91	14.41	4.61	7.13	1.97	2.52	4.33	4.72	6.10
6	10.75	UNC 3/4	9.49	5.91	15.24	5.12	7.44	1.97	2.83	4.33	4.72	6.10
8	13.15	UNC 3/4	11.73	5.91	17.17	6.22	8.27	1.97	2.87	4.33	4.72	6.10

Size	L4 [inch]	Q1 [inch]	Q2 [inch]									
2	5.91	1.57										
2 ½	6.30	2.13	1.38									
3	6.89	2.64	1.97									
4	9.61	3.46	2.91									
5	10.71	4.45	3.82									
6	11.69	5.47	4.84									
8	14.17	7.01	6.65									

Diaphragm valves

Diaphragm valve type 514 ABS With solvent cement sockets metric

E



Model:

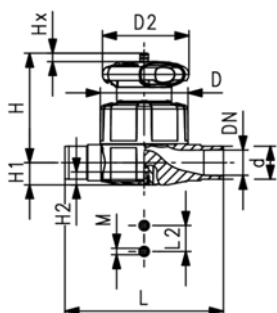
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- Designed for easy installation and removal
- Short overall length

Option:

- Contact customer service for customization
- Self adjusting multifunctional module with integrated limit switches

d [mm]	PSI	EPDM Part No.	USD	PTFE/EPDM Part No.	USD	lbs	
20	150	169 514 012	130.00	169 514 032	250.00	0.802	
25	150	169 514 013	150.00	169 514 033	300.00	1.054	
32	150	169 514 014	190.00	169 514 034	370.00	2.383	
40	150	169 514 015	220.00	169 514 035	450.00	2.992	
50	150	169 514 016	300.00	169 514 036	590.00	5.234	
63	150	169 514 017	360.00	169 514 037	730.00	6.859	

d [mm]	D [inch]	D2 [inch]	D3 [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	M	z [inch]	Lift = Hx [inch]	closest inch	
20	2.56	2.56	1.69	5.04	0.98	2.87	0.55	0.47	M6	3.78	0.28	1/2	
25	3.15	2.56	2.01	5.98	0.98	3.19	0.71	0.47	M6	4.49	0.39	3/4	
32	3.46	3.43	2.28	6.54	0.98	4.21	0.87	0.47	M6	4.80	0.51	1	
40	3.98	3.43	2.83	7.56	1.77	4.53	1.02	0.59	M8	5.51	0.59	1 1/4	
50	4.61	5.31	3.27	8.74	1.77	5.83	1.26	0.59	M8	6.30	0.75	1 1/2	
63	5.67	5.31	3.94	10.47	1.77	6.54	1.54	0.59	M8	7.48	0.98	2	



Diaphragm valve type 515 ABS With solvent cement spigots metric

E

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- Overall length EN 558

Option:

- Contact customer service for customization
- Self adjusting multifunctional module with integrated limit switches

d [mm]	PSI	EPDM Part No.	USD	PTFE/EPDM Part No.	USD	lbs	
20	150	169 515 012	100.00	169 515 032	200.00	0.701	
25	150	169 515 013	120.00	169 515 033	240.00	0.908	
32	150	169 515 014	150.00	169 515 034	300.00	2.187	
40	150	169 515 015	180.00	169 515 035	360.00	2.566	
50	150	169 515 016	140.00	169 515 036	470.00	4.720	
63	150	169 515 017	290.00	169 515 037	580.00	6.010	

d [mm]	D [inch]	D2 [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	M	Lift = Hx [inch]	closest inch	
20	2.56	2.56	4.88	0.98	2.87	0.55	0.47	M6	0.28	½	
25	3.15	2.56	5.67	0.98	3.19	0.71	0.47	M6	0.39	¾	
32	3.46	3.43	6.06	0.98	4.21	0.87	0.47	M6	0.51	1	
40	3.98	3.43	6.85	1.77	4.53	1.02	0.59	M8	0.59	1 ¼	
50	4.61	5.31	7.64	1.77	5.83	1.26	0.59	M8	0.75	1 ½	
63	5.67	5.31	8.82	1.77	6.54	1.54	0.59	M8	0.98	2	

Diaphragm valve type 317 ABS With flanges metric

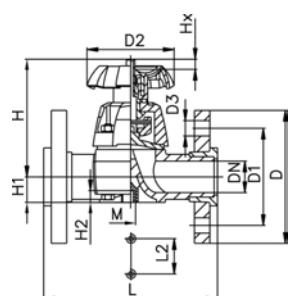
Model:

- Overall length according to EN 558
- Joining face flat
- Other dimensions available on request
- 3"-4" with fixed flange
- Operating temperature as low -22°F

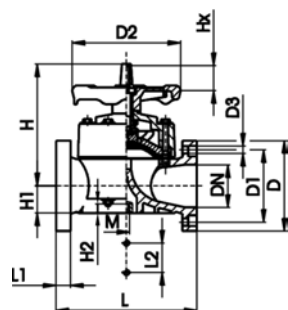
Option:

- Handwheel lockable DN15-65 (basic version not lockable)

* 3"-4" fixed flanges metric and inch ANSI B16.5



DN 15-65



DN 80-100

d [mm]	PSI	EPDM Part No.	USD	lbs	
75	150	169 317 423	756.00	10.430	
* 90	150	169 317 024	1145.00	18.408	
110	150	169 317 025	1617.00	25.725	

d [mm]	D [inch]	D1 [inch]	D2 [inch]	D3 [inch]	L [inch]	L1 [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	M	AL	Lift = Hx [inch]
75	7.28	5.71	5.98	0.71	11.42		2.76	7.91	1.81	0.59	M8	4	1.18
* 90	7.87	6.30	10.63	0.71	12.20	1.38	4.72	10.43	2.24	0.91	M12	8	1.57
110	8.86	7.09	10.63	0.71	13.78	1.38	4.72	11.97	2.72	0.91	M12	8	1.97

d [mm]	closest inch	
75	2 1/2	
* 90	3	
110	4	

Check Valves

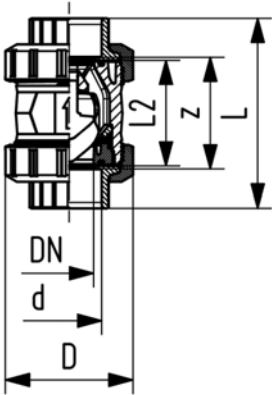
Cone check valve type 561 ABS With solvent cement sockets metric



E

Model:

- Designed for easy installation and removal
- Sealing at a minimum water column of 2m
- Vibration free even at high flow velocity
- Flow-optimized return cone, double guided
- For vertical installation
- Compact installation length, same as ball valve type 546
- Z-length, end connectors and union nuts **not** compatible with type 360
- New DN65-DN100



d [mm]	PSI	EPDM Part No.	USD	lbs	D [inch]	L [inch]	L2 [inch]	z [inch]	closest inch	
16	150	169 561 001	70.00	0.198	1.97	3.62	2.20	2.52	3/8	
20	150	169 561 002	70.00	0.198	1.97	3.74	2.20	2.52	1/2	
25	150	169 561 003	85.00	0.419	2.28	4.33	2.56	2.83	3/4	
32	150	169 561 004	92.00	0.485	2.68	4.84	2.80	3.11	1	
40	150	169 561 005	111.00	0.838	3.31	5.75	3.35	3.70	1 1/4	
50	150	169 561 006	138.00	1.235	3.82	6.18	3.50	3.74	1 1/2	
63	150	169 561 007	195.00	2.183	4.88	7.20	3.98	4.21	2	
75	150	169 561 008	543.00	5.335	6.54	9.17	5.35	5.67	2 1/2	
90	150	169 561 009	679.00	8.532	7.87	10.00	5.55	5.94	3	
110	150	169 561 010	814.00	13.757	9.37	11.85	6.46	6.85	4	

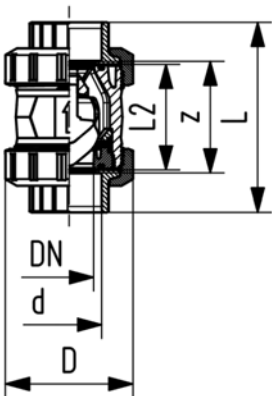
Cone check valve type 562 ABS With solvent cement sockets metric



E

Model:

- Spring loaded, spring made of stainless steel (1.4310)
- Spring available in other materials, see spare parts
- Designed for easy installation and removal
- Sealing at a minimum water column of 1m
- Vibration free even at high flow velocity
- Flow-optimized return cone, double guided
- For horizontal or vertical installation
- Compact installation length, same as ball valve type 546
- Z-length, end connectors and union nuts **not** compatible with type 360
- New DN65-DN100



d [mm]	PSI	EPDM Part No.	USD	lbs	D [inch]	L [inch]	L2 [inch]	z [inch]	closest inch	
16	150	169 562 001	111.00	0.198	1.97	3.62	2.20	2.52	3/8	
20	150	169 562 002	111.00	0.198	1.97	3.74	2.20	2.52	1/2	
25	150	169 562 003	134.00	0.419	2.28	4.33	2.56	2.83	3/4	
32	150	169 562 004	145.00	0.485	2.68	4.84	2.80	3.11	1	
40	150	169 562 005	175.00	0.838	3.31	5.75	3.35	3.70	1 1/4	
50	150	169 562 006	216.00	1.235	3.82	6.18	3.50	3.74	1 1/2	
63	150	169 562 007	307.00	2.183	4.88	7.20	3.98	4.21	2	
75	150	169 562 008	614.00	5.335	6.54	9.17	5.35	5.67	2 1/2	
90	150	169 562 009	767.00	8.532	7.87	10.00	5.55	5.94	3	
110	150	169 562 010	921.00	13.757	9.37	11.85	6.46	6.85	4	



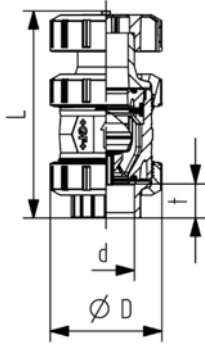
Ventilating and bleed valve Type 591 ABS With solvent cement sockets metric



E

Model:

- With protection cap up to DN50 made from PP-GF, DN65-100 made from POM
- Floater made of PP-H
- Designed for easy installation and removal
- Compact installation length



d [mm]	PSI	EPDM Part No.	USD	lbs	D [inch]	L [inch]	t [mm]	closest inch	
16	150	169 591 001	146.00	0.236	1.97	4.96	14	⅝	
20	150	169 591 002	146.00	0.236	1.97	5.00	16	½	
25	150	169 591 003	208.00	0.470	2.28	5.59	18	¾	
32	150	169 591 004	256.00	0.560	2.68	6.10	22	1	
40	150	169 591 005	309.00	0.952	3.31	6.97	26	1 ¼	
50	150	169 591 006	478.00	1.387	3.82	7.68	31	1 ½	
63	150	169 591 007	679.00	2.416	4.88	8.94	38	2	
75	150	169 591 008	1086.00	5.335	6.54	10.08	45	2 ½	
90	150	169 591 009	1357.00	8.532	7.87	10.83	52	3	
110	150	169 591 010	1629.00	13.757	9.37	12.52	64	4	



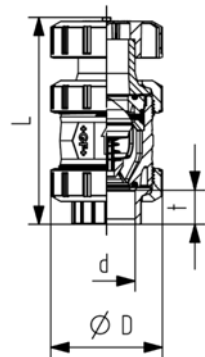
Ventilating valve type 595 ABS With solvent cement sockets metric



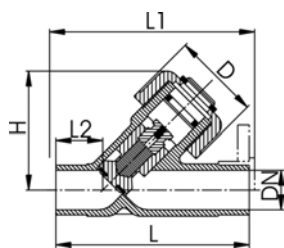
E

Model:

- With protection cap up to DN50 made from PP-GF, DN65-100 made from POM
- Spring loaded, spring made of NIMONIC 90, HALAR coated
- Spring available in other materials, see spare parts
- Designed for easy installation and removal
- Compact installation length



d [mm]	PSI	EPDM Part No.	USD	lbs	D [inch]	L [inch]	t [mm]	closest inch	
16	150	169 595 001	167.00	0.236	1.97	4.96	14	⅝	
20	150	169 595 002	167.00	0.236	1.97	5.00	16	½	
25	150	169 595 003	235.00	0.470	2.28	5.59	18	¾	
32	150	169 595 004	289.00	0.560	2.68	6.10	22	1	
40	150	169 595 005	349.00	0.952	3.31	6.97	26	1 ¼	
50	150	169 595 006	541.00	1.387	3.82	7.68	31	1 ½	
63	150	169 595 007	767.00	2.416	4.88	8.94	38	2	
75	150	169 595 008	1227.00	5.335	6.54	10.08	45	2 ½	
90	150	169 595 009	1534.00	8.532	7.87	10.83	52	3	
110	150	169 595 010	1841.00	13.757	9.37	12.52	64	4	



Angle seat check valve type 303 ABS With solvent cement spigots metric

E

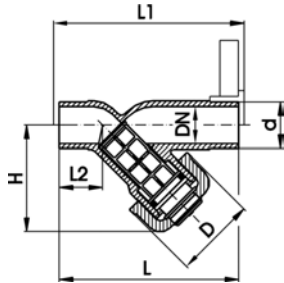
Model:

- For horizontal or vertical installation
- Leakproof from: EPDM 2m (6.5 ft)
- Specific gravity of piston approx. 2 kg/dm³ (200 lb/ft³)
- Overall length EN 558

d [mm]	PSI	EPDM Part No.	USD	lbs	D [inch]	L [inch]	L1 [inch]	L2 [inch]	H [inch]	closest inch	
20	150	169 303 006	72.50	0.203	1.69	4.88	5.12	1.10	2.56	½	
25	150	169 303 007	91.50	0.293	1.85	5.67	5.91	1.46	2.95	¾	
32	150	169 303 008	109.00	0.483	2.20	6.06	6.30	1.46	3.54	1	
40	150	169 303 009	135.00	0.767	2.52	6.85	7.09	1.73	4.02	1 ¼	
50	150	169 303 010	195.00	1.356	3.23	7.64	7.87	1.89	4.84	1 ½	
63	150	169 303 011	305.00	2.335	3.74	8.82	9.06	2.36	5.67	2	

Strainers

E



Line strainer type 305 ABS With solvent cement spigots metric

Model:

- Protects valves, pumps, etc. from becoming damaged
- Easy dismantling for cleaning the screens
- Cylindrical screen must be ordered separately
- Overall length EN 558
- Screen in stainless steel operable temperature range from 14°F to 140°F
- Screen in PVC-U operable temperature range from 32°F to 140°F

d [mm]	PSI	EPDM Part No.	USD	lbs	D [inch]	L [inch]	L1 [inch]	L2 [inch]	H [inch]	closest inch	
20	150	169 305 302	68.30	0.179	1.89	4.88	5.12	1.10	2.56	½	
25	150	169 305 303	78.80	0.265	2.13	5.67	5.91	1.46	2.99	¾	
32	150	169 305 304	104.00	0.397	2.44	6.06	6.30	1.46	3.54	1	
40	150	169 305 305	137.00	0.626	2.80	6.85	7.09	1.73	4.09	1 ¼	
50	150	169 305 306	175.00	1.067	3.46	7.64	7.87	1.89	4.88	1 ½	
63	150	169 305 307	236.00	1.720	4.06	8.82	9.06	2.36	5.83	2	



Stainless Steel Screen for Type 306 30 mesh, 1/64" hole

A

Model:

- Stainless Steel A4 Quality (AISI 316)
- For line strainers Type 306

d [mm]	Part No.	USD	lbs	D [inch]	L [inch]	closest inch	
20	161 486 100	9.50	0.004	0.55	1.54	½	
25	161 486 101	12.60	0.009	0.71	1.89	¾	
32	161 486 102	12.60	0.013	0.94	2.36	1	
40	161 486 103	14.70	0.018	1.18	2.80	1 ¼	
50	161 486 104	17.90	0.031	1.50	3.43	1 ½	
63	161 486 105	21.00	0.042	1.89	4.17	2	

Spare parts ball valves

Spare parts ball valve type 546



Handle

A

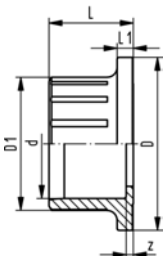


d [mm]	Size	Standard handle red Part No.	USD	Lockable, multi- functional handle Part No.	USD	lbs	
16	3/8	167 484 088	3.00	167 484 100	14.00	0.057	
20	1/2	167 484 088	3.00	167 484 100	14.00	0.057	
25	3/4	167 484 089	3.00	167 484 101	15.00	0.099	
32	1	167 484 090	3.00	167 484 102	16.00	0.104	
40	1 1/4	167 484 091	3.00	167 484 103	18.00	0.201	
50	1 1/2	167 484 092	4.00	167 484 104	21.00	0.176	
63	2	167 484 093	5.00	167 484 105	23.00	0.273	
75	2 1/2	167 484 094	16.00	161 486 689	43.00	1.032	
90	3	167 484 095	16.00	161 486 690	63.00	1.030	
110	4	167 484 096	23.00	161 486 691	73.00	1.197	

Valve end 546 and 543 ABS

With solvent cement socket metric

E

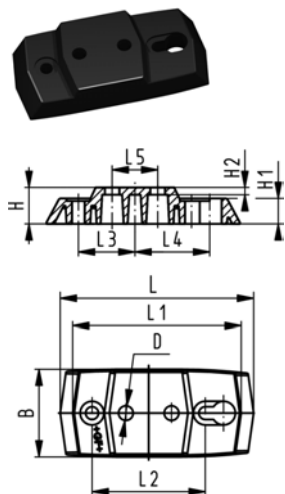


d [mm]	PSI	Part No.	USD	lbs	D [inch]	D1 [inch]	L [inch]	L1 [inch]	z [inch]	
16	150	169 480 775	2.90	0.013	1.50	0.91	0.71	0.16	0.16	
20	150	169 480 776	2.90	0.018	1.50	1.06	0.79	0.16	0.16	
25	150	169 480 777	3.50	0.026	1.73	1.30	0.87	0.20	0.16	
32	150	169 480 778	3.50	0.042	2.09	1.61	1.02	0.20	0.16	
40	150	169 480 779	5.20	0.068	2.56	2.01	1.22	0.20	0.20	
50	150	169 480 780	9.80	0.104	3.03	2.44	1.34	0.24	0.12	
63	150	169 480 781	10.90	0.190	3.90	3.03	1.61	0.28	0.12	
75	150	169 480 782	24.50	0.386	4.92	3.62	1.93	0.35	0.16	
90	150	169 480 783	30.50	0.644	5.91	4.33	2.24	0.39	0.20	
110	150	169 480 784	40.00	1.091	7.09	5.28	2.72	0.43	0.20	

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

Type 546 Mounting Plate

- 2 mounting screws inclusive



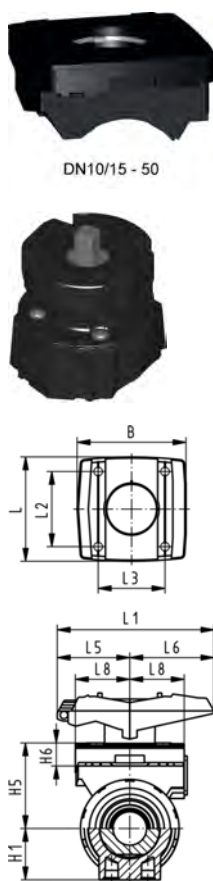
d-d [mm]	Inch [inch]	DN-DN [mm]	Part No.	USD	lbs	
16 - 32	¾ - 1	10 - 25	167 484 110	3.00	0.119	
40 - 63	1 ¼ - 2	32 - 50	167 484 111	4.00	0.146	

d-d [mm]	B [inch]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	
16 - 32	1.89	0.31	0.79	0.55	0.16	4.17	3.62	2.44	1.22	1.61	0.98	
40 - 63	2.13	0.35	0.79	0.55	0.16	5.87	5.28	4.09	2.05	2.44	1.77	

Multifunctional Module without limit switches

Model:

- Accessory to ball valve Type 546; requires Multifunction Handle
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Includes screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100
- The multifunctional module in sizes 2½" - 4" has ISO F07 mounting flange.



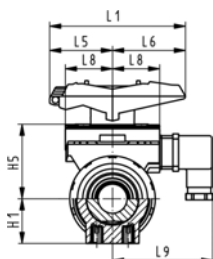
DN10/15 - 50

d-d [mm]	Inch [inch]	DN-DN [mm]	Part No.	USD	lbs	
16 - 20	¾ - ½	10 - 15	167 482 680	4.00	0.152	
25 - 32	¾ - 1	20 - 25	167 482 681	4.00	0.328	
40 - 50	1 ¼ - 1 ½	32 - 40	167 482 682	6.00	0.370	
- 63	2	- 50	167 482 683	8.00	0.461	
75 - 90	2 ½ - 3	65 - 80	167 482 684	27.00	0.836	
- 110	4	- 100	167 482 685	36.00	1.338	

d-d [mm]	B [inch]	H1 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L5 [inch]	L6 [inch]	L8 [inch]	
16 - 20	2.64	1.06	1.97	0.67	2.83	3.43	2.13	1.57	1.65	1.77	1.34	
25 - 32	2.95	1.18	2.09	0.63	2.83	4.25	2.05	1.81	1.97	2.28	1.50	
40 - 50	3.19	1.73	2.83	0.63	3.15	5.51	2.36	1.97	2.60	2.95	1.61	
- 63	3.58	2.52	3.70	0.75	3.66	6.50	2.68	2.56	3.07	3.43	1.81	
75 - 90	3.54	3.35	6.18	0.91	3.35	10.63			2.52	8.11		
- 110	4.17	4.84	6.89	0.91	3.82	12.60			2.52	10.08		



DN10/15 - 50



Multifunctional Module

With mechanical limit switches Ag Ni 1-240V AC/DC 6A

C

Model:

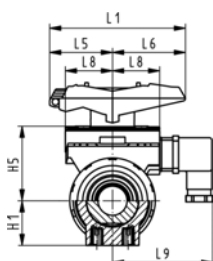
- Accessory to ball valve Type 546; requires Multifunction Handle
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Includes Plug 3P+E / Protection: IPI65
- Includes screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

d-d [mm]	Inch [inch]	DN-DN [mm]	Part No.	USD	lbs
16 - 20	3/8 - 1/2	10 - 15	167 482 626	51.00	0.229
25 - 32	3/4 - 1	20 - 25	167 482 627	54.00	0.260
40 - 50	1 1/4 - 1 1/2	32 - 40	167 482 628	66.00	0.309
- 63	2	- 50	167 482 629	70.00	0.567
75 - 90	2 1/2 - 3	65 - 80	167 482 630	95.00	1.054
- 110	4	- 100	167 482 631	109.00	1.058

d-d [mm]	H1 [inch]	H5 [inch]	L1 [inch]	L5 [inch]	L6 [inch]	L8 [inch]	L9 [mm]
16 - 20	1.06	1.97	3.43	1.65	1.77	1.34	73
25 - 32	1.18	2.09	4.25	1.97	2.28	1.50	77
40 - 50	1.73	2.83	5.51	2.60	2.95	1.61	80
- 63	2.52	3.70	6.50	3.07	3.43	1.81	85
75 - 90	3.35	6.18	10.63	2.52	8.11		
- 110	4.84	6.89	12.60	2.52	10.08		



DN10/15 - 50



Multifunctional Module

With mechanical limit switches Au 4-30V DC 100mA

C

Model:

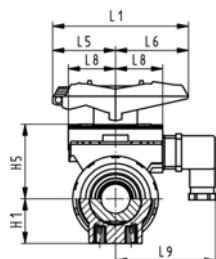
- Accessory to ball valve Type 546; requires Multifunction Handle
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Includes Plug 3P+E / Protection: IPI65
- Includes screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

d-d [mm]	Inch [inch]	DN-DN [mm]	Part No.	USD	lbs
16 - 20	3/8 - 1/2	10 - 15	167 482 635	51.00	0.227
25 - 32	3/4 - 1	20 - 25	167 482 636	54.00	0.265
40 - 50	1 1/4 - 1 1/2	32 - 40	167 482 637	66.00	0.304
- 63	2	- 50	167 482 638	70.00	0.386
75 - 90	2 1/2 - 3	65 - 80	167 482 639	95.00	1.014
- 110	4	- 100	167 482 640	109.00	1.058

d-d [mm]	H1 [inch]	H5 [inch]	L1 [inch]	L5 [inch]	L6 [inch]	L8 [inch]	L9 [mm]
16 - 20	1.06	1.97	3.43	1.65	1.77	1.34	73
25 - 32	1.18	2.09	4.25	1.97	2.28	1.50	77
40 - 50	1.73	2.83	5.51	2.60	2.95	1.61	80
- 63	2.52	3.70	6.50	3.07	3.43	1.81	85
75 - 90	3.35	6.18	10.63	2.52	8.11		
- 110	4.84	6.89	12.60	2.52	10.08		



DN10/15 - 50



Multifunctional Module

With inductive limit switches PNP 5-30V DC 100mA

Model:

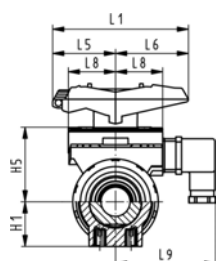
- Accessory to ball valve Type 546; requires Multifunction Handle
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Includes Plug 3P+E / Protection: IPI65
- Includes screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

d-d [mm]	Inch [inch]	DN-DN [mm]	Part No.	USD	lbs
16 - 20	¾ - ½	10 - 15	167 482 662	178.00	0.401
25 - 32	¾ - 1	20 - 25	167 482 663	183.00	0.434
40 - 50	1 ¼ - 1 ½	32 - 40	167 482 664	195.00	0.474
- 63	2	- 50	167 482 665	198.00	0.386
75 - 90	2 ½ - 3	65 - 80	167 482 666	227.00	1.014
- 110	4	- 100	167 482 667	241.00	1.058

d-d [mm]	H1 [inch]	H5 [inch]	L1 [inch]	L5 [inch]	L6 [inch]	L8 [inch]	L9 [mm]
16 - 20	1.06	1.97	3.43	1.65	1.77	1.34	73
25 - 32	1.18	2.09	4.25	1.97	2.28	1.50	77
40 - 50	1.73	2.83	5.51	2.60	2.95	1.61	80
- 63	2.52	3.70	6.50	3.07	3.43	1.81	85
75 - 90	3.35	6.18	10.63	2.52	8.11		
- 110	4.84	6.89	12.60	2.52	10.08		



DN10/15 - 50



Multifunctional Module

With inductive limit switches NPN 5-30V DC 100mA

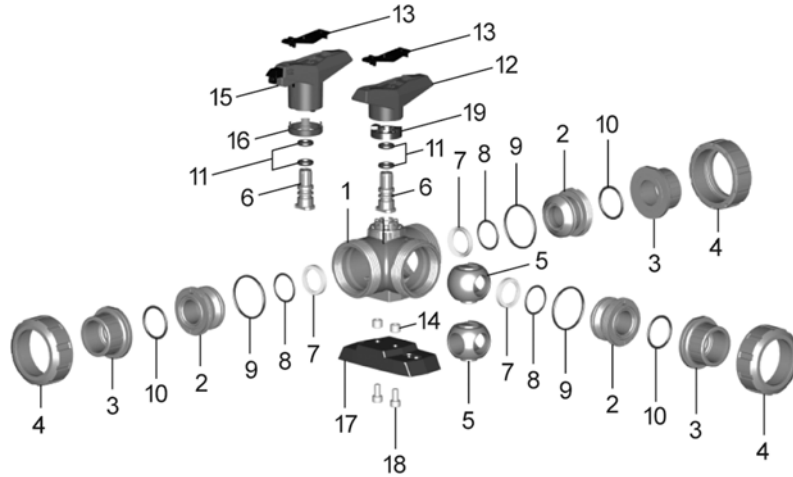
Model:

- Accessory to ball valve Type 546; requires Multifunction Handle
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Includes Plug 3P+E / Protection: IPI65
- Includes screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

d-d [mm]	Inch [inch]	DN-DN [mm]	Part No.	USD	lbs
16 - 20	¾ - ½	10 - 15	167 482 653	178.00	0.243
25 - 32	¾ - 1	20 - 25	167 482 654	183.00	0.265
40 - 50	1 ¼ - 1 ½	32 - 40	167 482 655	195.00	0.298
- 63	2	- 50	167 482 656	198.00	0.386
75 - 90	2 ½ - 3	65 - 80	167 482 657	227.00	1.014
- 110	4	- 100	167 482 658	241.00	1.058

d-d [mm]	H1 [inch]	H5 [inch]	L1 [inch]	L5 [inch]	L6 [inch]	L8 [inch]	L9 [mm]
16 - 20	1.06	1.97	3.43	1.65	1.77	1.34	73
25 - 32	1.18	2.09	4.25	1.97	2.28	1.50	77
40 - 50	1.73	2.83	5.51	2.60	2.95	1.61	80
- 63	2.52	3.70	6.50	3.07	3.43	1.81	85
75 - 90	3.35	6.18	10.63	2.52	8.11		
- 110	4.84	6.89	12.60	2.52	10.08		

Accessories ball valve type 543 horizontal



Handle

C

d [mm]	Size	Standard handle L-port red Part No.	USD	Standard handle T-port red Part No.	USD	Lockable, multi- functional-handle L-port red Part No.	USD
16	3/8	167 484 488	10.00	167 484 588	10.00	167 484 442	37.00
20	1/2	167 484 488	10.00	167 484 588	10.00	167 484 442	37.00
25	3/4	167 484 489	10.00	167 484 589	10.00	167 484 443	39.00
32	1	167 484 490	12.00	167 484 590	12.00	167 484 444	43.00
40	1 1/4	167 484 491	13.00	167 484 591	13.00	167 484 445	48.00
50	1 1/2	167 484 492	14.00	167 484 592	14.00	167 484 446	52.00
63	2	167 484 493	17.00	167 484 593	17.00	167 484 447	58.00

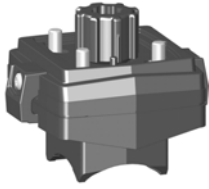
d [mm]	Size	Lockable, multi- functional-handle T-port red Part No.	USD	lbs
16	3/8	167 484 542	37.00	0.057
20	1/2	167 484 542	37.00	0.057
25	3/4	167 484 543	39.00	0.099
32	1	167 484 544	43.00	0.099
40	1 1/4	167 484 545	48.00	0.181
50	1 1/2	167 484 546	52.00	0.181
63	2	167 484 547	58.00	0.229



Turn limiter 90°

C

d [mm]	Size	Part No.	USD	lbs
16	3/8	167 482 479	3.00	0.002
20	1/2	167 482 479	3.00	0.002
25	3/4	167 482 480	3.00	0.004
32	1	167 482 480	3.00	0.004
40	1 1/4	167 482 481	3.00	0.009
50	1 1/2	167 482 481	3.00	0.009
63	2	167 482 482	3.00	0.009



Assembly kit

C

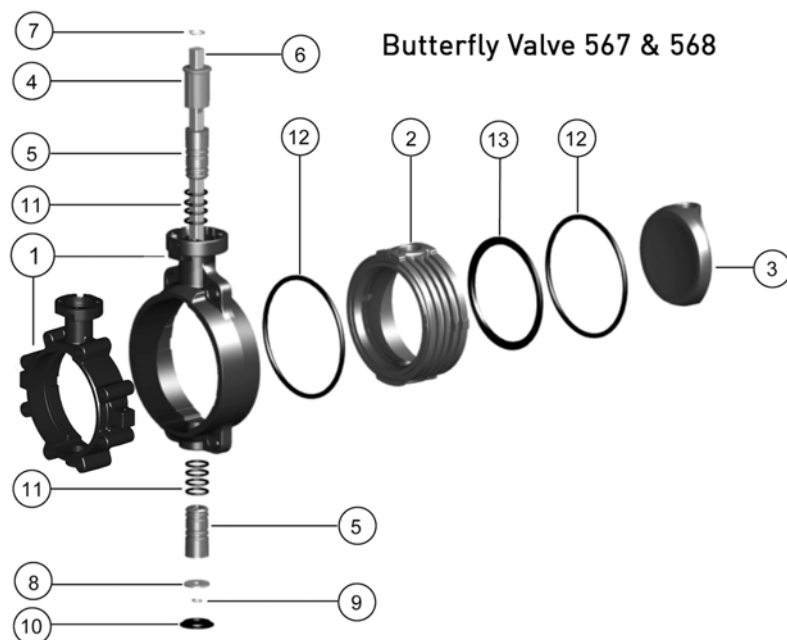
Model:

- Intermediate element for ball valve type 543 horizontal and electric or pneumatic actuators EA21; PA11/21
- Including screws and position indicator for actuators

d [mm]	Inch [inch]	DN [mm]	Part No.	USD	lbs	
16 - 20	¾ - ½	10 - 15	167 484 941	103.00	0.344	
25 - 32	¾ - 1	20 - 25	167 484 942	113.00	0.414	
40 - 50	1 ¼ - 1 ½	32 - 40	167 484 943	123.00	0.465	
63	2	50	167 484 944	136.00	0.595	

Spare parts butterfly valves

Spare parts butterfly valve type 567/568



Handle

A



d [mm]	Size	Part No.	USD	with fine adjust- ment Part No.	USD	lbs	
63	2	161 486 690	63.00	161 486 325	93.00	1.056	
75	2 ½	161 486 690	63.00	161 486 325	93.00	1.056	
90	3	161 486 690	63.00	161 486 325	93.00	1.056	
110	4	161 486 691	73.00	161 486 326	100.00	1.190	
140	5	161 486 691	73.00	161 486 326	100.00	1.190	
160	6	161 486 694	86.00	161 486 327	100.00	1.184	
225	8	161 486 695	111.00	161 486 328	200.00	3.031	
280	10	161 486 697	218.00			0.728	
315	12	161 486 697	218.00			0.728	



Integrated Position Indicator Automatic AU 4-30V DC 100mA

C

Size	DN-DN [mm]	Part No.	USD	lbs	
1	50 - 80	161 486 858	255.00	0.159	
2	100 - 125	161 486 304	255.00	0.121	
3	150 - 200	161 486 009	255.00	0.139	



Integrated Position Indicator Automatic AG NI 250V AC/DC 6A

C

Size	DN-DN [mm]	Part No.	USD	lbs	
1	50 - 80	161 486 859	255.00	0.139	
2	100 - 125	161 486 305	255.00	0.150	
3	150 - 200	161 486 010	255.00	0.139	



Integrated Position Indicator Electric Namur 1-8V

C

Size	DN-DN [mm]	Part No.	USD	lbs	
1	50 - 80	161 486 855	589.00	0.110	
2	100 - 125	161 486 301	589.00	0.110	
3	150 - 200	161 486 006	589.00	0.110	



Integrated Position Indicator Electric PNP 5-30V DC 100mA

C

Size	DN-DN [mm]	Part No.	USD	lbs	
1	50 - 80	161 486 856	571.00	0.123	
2	100 - 125	161 486 302	571.00	0.123	
3	150 - 200	161 486 007	571.00	0.123	



Integrated Position Indicator Electric NPN 5-30V DC 100mA

C

Size	DN-DN [mm]	Part No.	USD	lbs	
1	50 - 80	161 486 857	589.00	0.123	
2	100 - 125	161 486 303	589.00	0.123	
3	150 - 200	161 486 008	589.00	0.123	

Ball valves electric

Ball valve type 107 ABS 100-230V With manual emergency override With solvent cement sockets metric

C



DN10/15 - 50

Model:

- Built with electric actuator EA11
- Voltage 100-230 V, 50-60 Hz
- Control range 90°<
- Control time 5 s/90°<
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

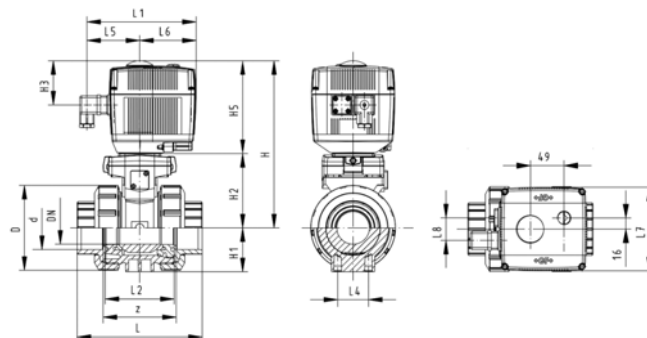
Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 107 082	378.00	4.568
20	150	199 107 083	378.00	4.568
25	150	199 107 084	389.00	4.826
32	150	199 107 085	389.00	4.985
40	150	199 107 086	410.00	5.434
50	150	199 107 087	420.00	5.838
63	150	199 107 088	431.00	7.103

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	L7 [inch]
16	1.97	7.87	1.06	2.52	2.52	5.39	3.62	6.34	2.20	0.98	3.03	3.27	4.80
20	1.97	7.87	1.06	2.52	2.52	5.39	3.74	6.34	2.20	0.98	3.03	3.27	4.80
25	2.28	8.23	1.18	2.87	2.52	5.39	4.33	6.34	2.56	0.98	3.03	3.27	4.80
32	2.68	8.23	1.42	2.87	2.52	5.39	4.84	6.34	2.80	0.98	3.03	3.27	4.80
40	3.31	8.66	1.73	3.31	2.52	5.39	5.75	6.34	3.35	1.77	3.03	3.27	4.80
50	3.82	8.66	2.01	3.31	2.52	5.39	6.18	6.34	3.50	1.77	3.03	3.27	4.80
63	4.88	9.57	2.52	4.17	2.52	5.39	7.20	6.34	3.98	1.77	3.03	3.27	4.80

d [mm]	L8 [inch]	z [inch]	closest inch
16	1.30	2.52	¾
20	1.30	2.52	½
25	1.30	2.83	¾
32	1.30	3.11	1
40	1.30	3.70	1 ¼
50	1.30	3.74	1 ½
63	1.30	4.21	2





DN10/15 - 50

Ball valve type 107 ABS 24V

With manual emergency override

With solvent cement sockets metric

Model:

- Built with electric actuator EA11
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts
- Voltage 24 V AC/DC
- Control range 90°<
- Control time 5 s/90°<

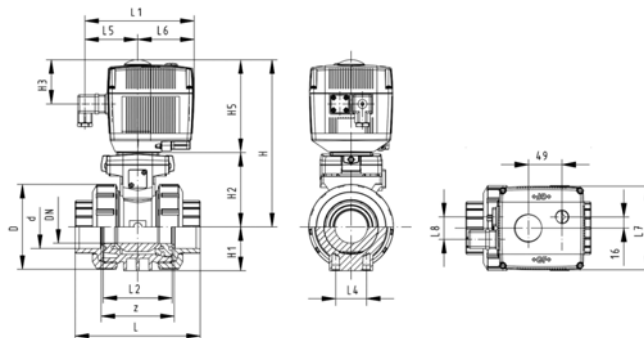
Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs	
16	150	199 107 092	378.00	4.568	
20	150	199 107 093	378.00	4.623	
25	150	199 107 094	389.00	4.826	
32	150	199 107 095	389.00	4.967	
40	150	199 107 096	410.00	5.714	
50	150	199 107 097	420.00	6.424	
63	150	199 107 098	431.00	7.075	

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	L7 [inch]
16	1.97	7.87	1.06	2.52	2.52	5.39	3.62	6.34	2.20	0.98	3.03	3.27	4.80
20	1.97	7.87	1.06	2.52	2.52	5.39	3.74	6.34	2.20	0.98	3.03	3.27	4.80
25	2.28	8.23	1.18	2.87	2.52	5.39	4.33	6.34	2.56	0.98	3.03	3.27	4.80
32	2.68	8.23	1.42	2.87	2.52	5.39	4.84	6.34	2.80	0.98	3.03	3.27	4.80
40	3.31	8.66	1.73	3.31	2.52	5.39	5.75	6.34	3.35	1.77	3.03	3.27	4.80
50	3.82	8.66	2.01	3.31	2.52	5.39	6.18	6.34	3.50	1.77	3.03	3.27	4.80
63	4.88	9.57	2.52	4.17	2.52	5.39	7.20	6.34	3.98	1.77	3.03	3.27	4.80

d [mm]	L8 [inch]	z [inch]	closest inch
16	1.30	2.52	3/8
20	1.30	2.52	1/2
25	1.30	2.83	3/4
32	1.30	3.11	1
40	1.30	3.70	1 1/4
50	1.30	3.74	1 1/2
63	1.30	4.21	2





DN10/15 - 50



Ball valve type 130 ABS 100-230V With manual emergency override With solvent cement sockets metric

C

Model:

- Designed for easy installation and removal
- Integrated stainless steel mounting inserts
- Voltage 100-230 V, 50-60 Hz
- Control range 90°<)
- EA21 for sizes 3/8" to 2", EA31 for sizes 2 1/2" to 4"
- Control time: EA21: 5s/90°<), EA31: 15s/90°<)

Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 130 702	567.00	4.630
20	150	199 130 703	567.00	4.630
25	150	199 130 704	578.00	4.850
32	150	199 130 705	588.00	5.071
40	150	199 130 706	609.00	5.732
50	150	199 130 707	630.00	6.614
63	150	199 130 708	662.00	7.837
75	150	199 130 709	945.00	13.889
90	150	199 130 710	987.00	18.078
110	150	199 130 711	1050.00	25.353

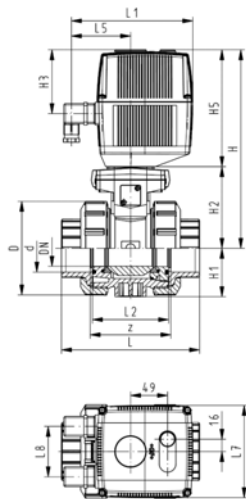
d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L7 [inch]	z [inch]
16	1.97	9.09	1.06	2.52	3.70	6.57	3.62	7.09	2.20	0.98	3.82	4.80	2.52
20	1.97	9.09	1.06	2.52	3.70	6.57	3.74	7.09	2.20	0.98	3.82	4.80	2.52
25	2.28	9.45	1.18	2.87	3.70	6.57	4.33	7.09	2.56	0.98	3.82	4.80	2.83
32	2.68	9.45	1.42	2.87	3.70	6.57	4.84	7.09	2.80	0.98	3.82	4.80	3.11
40	3.31	9.88	1.73	3.31	3.70	6.57	5.75	7.09	3.35	1.77	3.82	4.80	3.70
50	3.82	9.88	2.01	3.31	3.70	6.57	6.18	7.09	3.50	1.77	3.82	4.80	3.74
63	4.88	10.75	2.52	4.17	3.70	6.57	7.20	7.09	3.98	1.77	3.82	4.80	4.21
75	6.54	13.62	3.35	6.14	3.70	7.48	9.17	7.09	5.35	2.76	3.86	4.80	5.67
90	7.87	14.09	4.13	6.61	3.70	7.48	10.00	7.09	5.55	2.76	3.86	4.80	5.94
110	9.37	14.37	4.84	6.89	3.70	7.48	11.85	7.09	6.46	4.72	3.86	4.80	6.85

d [mm]	closest inch
16	3/8
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2

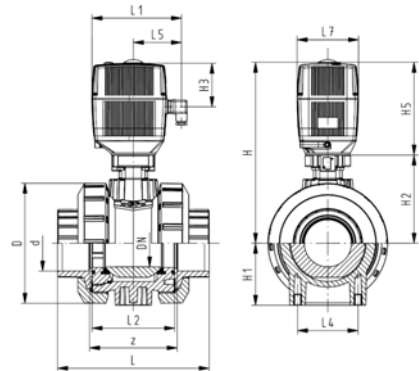
table continued next page

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

d [mm]	closest inch	
75	2 ½	
90	3	
110	4	



DN10/15-50



DN65-100



DN10/15 - 50



Ball valve type 130 ABS 24V With manual emergency override With solvent cement sockets metric

C

Model:

- Designed for easy installation and removal
- Integrated stainless steel mounting inserts
- Voltage 24 V AC/DC
- Control range 90°<)
- EA21 for sizes 3/8" to 2", EA31 for sizes 2 1/2" to 4"
- Control time: EA21: 5s/90°<), EA31: 15s/90°<)

Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 130 742	567.00	4.630
20	150	199 130 743	567.00	4.630
25	150	199 130 744	578.00	4.850
32	150	199 130 745	588.00	5.071
40	150	199 130 746	609.00	5.732
50	150	199 130 747	630.00	6.614
63	150	199 130 748	662.00	7.793
75	150	199 130 749	945.00	13.889
90	150	199 130 750	987.00	18.078
110	150	199 130 751	1050.00	25.353

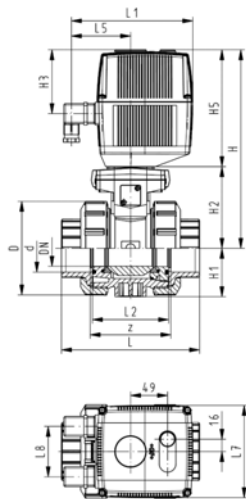
d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L7 [inch]	z [inch]
16	1.97	9.09	1.06	2.52	3.70	6.57	3.62	7.09	2.20	0.98	3.82	4.80	2.52
20	1.97	9.09	1.06	2.52	3.70	6.57	3.74	7.09	2.20	0.98	3.82	4.80	2.52
25	2.28	9.45	1.18	2.87	3.70	6.57	4.33	7.09	2.56	0.98	3.82	4.80	2.83
32	2.68	9.45	1.42	2.87	3.70	6.57	4.84	7.09	2.80	0.98	3.82	4.80	3.11
40	3.31	9.88	1.73	3.31	3.70	6.57	5.75	7.09	3.35	1.77	3.82	4.80	3.70
50	3.82	9.88	2.01	3.31	3.70	6.57	6.18	7.09	3.50	1.77	3.82	4.80	3.74
63	4.88	10.75	2.52	4.17	3.70	6.57	7.20	7.09	3.98	1.77	3.82	4.80	4.21
75	6.54	13.62	3.35	6.14	3.70	7.48	9.17	7.09	5.35	2.76	3.86	4.80	5.67
90	7.87	14.09	4.13	6.61	3.70	7.48	10.00	7.09	5.55	2.76	3.86	4.80	5.94
110	9.37	14.37	4.84	6.89	3.70	7.48	11.85	7.09	6.46	4.72	3.86	4.80	6.85

d [mm]	closest inch
16	3/8
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2

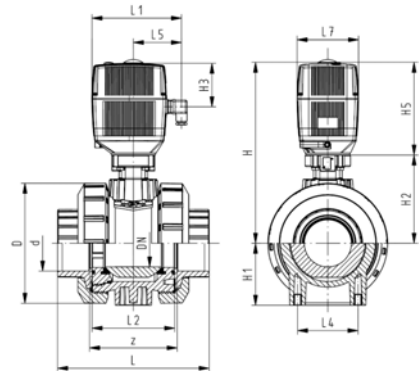
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- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

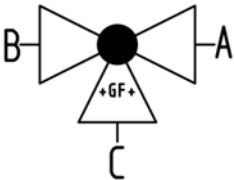
d [mm]	closest inch	
75	2 ½	
90	3	
110	4	



DN10/15-50



DN65-100



3-Way ball valve type 185 ABS Horizontal/L-port 100-230V With manual emergency override With solvent cement sockets metric

C

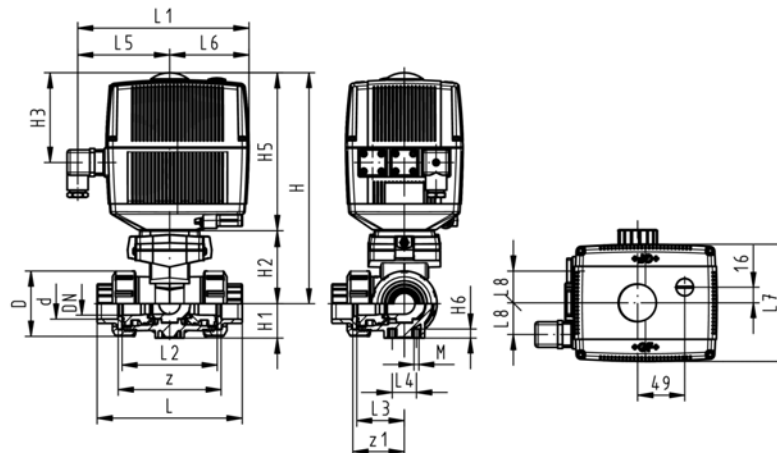
Model:

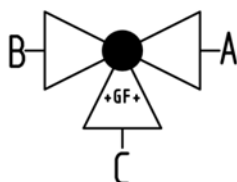
- Built on with electric actuator EA21
- Voltage 100-230 V, 50-60 Hz
- Control range 90°<)
- Basic position: center left, center right
- Other positions possible by adjusting the limit switches
- Control time 5 s/90°<)
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 185 162	630.00	4.552
20	150	199 185 163	641.00	4.561
25	150	199 185 164	662.00	4.786
32	150	199 185 165	683.00	5.106
40	150	199 185 166	693.00	5.840
50	150	199 185 167	714.00	7.460
63	150	199 185 168	756.00	11.737

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]
16	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.29	7.09	2.87	1.42	0.98	3.82
20	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.41	7.09	2.87	1.42	0.98	3.82
25	2.28	9.45	1.26	2.87	3.70	6.57	0.31	5.16	7.09	3.39	1.69	0.98	3.82
32	2.68	9.45	1.42	2.87	3.70	6.57	0.31	5.94	7.09	3.90	1.97	0.98	3.82
40	3.31	9.88	1.77	3.31	3.70	6.57	0.35	7.13	7.09	4.72	2.36	1.77	3.82
50	3.82	9.88	2.01	3.31	3.70	6.57	0.35	8.07	7.09	5.39	2.72	1.77	3.82
63	4.88	10.75	2.56	4.17	3.70	6.57	0.35	10.28	7.09	7.05	3.50	1.77	3.82

d [mm]	L6 [inch]	L7 [inch]	L8 [inch]	M	z [inch]	z1 [inch]	closest inch
16	3.27	4.80	1.30	6	3.19	1.57	3/8
20	3.27	4.80	1.30	6	3.19	1.57	1/2
25	3.27	4.80	1.30	6	3.70	1.85	3/4
32	3.27	4.80	1.30	6	4.21	2.13	1
40	3.27	4.80	1.30	8	5.12	2.56	1 1/4
50	3.27	4.80	1.30	8	5.63	2.83	1 1/2
63	3.27	4.80	1.30	8	7.28	3.62	2





3-Way ball valve type 185 ABS

Horizontal/L-port 24V

With manual emergency override

With solvent cement sockets metric

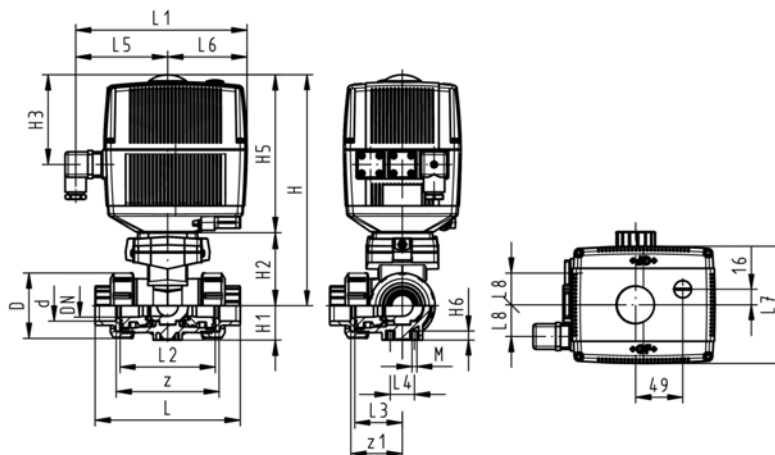
Model:

- Built on with electric actuator EA21
- Voltage 24 V AC/DC
- Control range 90°<
- Basic position: center left, center right
- Other positions possible by adjusting the limit switches
- Control time 5 s/90°<
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 185 342	630.00	4.552
20	150	199 185 343	641.00	4.561
25	150	199 185 344	662.00	4.786
32	150	199 185 345	683.00	5.961
40	150	199 185 346	693.00	8.115
50	150	199 185 347	714.00	7.430
63	150	199 185 348	756.00	8.911

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]
16	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.29	7.09	2.87	1.42	0.98	3.82
20	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.41	7.09	2.87	1.42	0.98	3.82
25	2.28	9.45	1.26	2.87	3.70	6.57	0.31	5.16	7.09	3.39	1.69	0.98	3.82
32	2.68	9.45	1.42	2.87	3.70	6.57	0.31	5.94	7.09	3.90	1.97	0.98	3.82
40	3.31	9.88	1.77	3.31	3.70	6.57	0.35	7.13	7.09	4.72	2.36	1.77	3.82
50	3.82	9.88	2.01	3.31	3.70	6.57	0.35	8.07	7.09	5.39	2.72	1.77	3.82
63	4.88	10.75	2.56	4.17	3.70	6.57	0.35	10.28	7.09	7.05	3.50	1.77	3.82

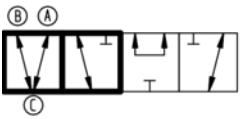
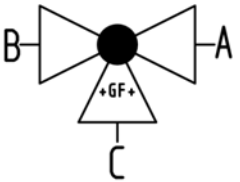
d [mm]	L6 [inch]	L7 [inch]	L8 [inch]	M	z [inch]	z1 [inch]	closest inch
16	3.27	4.80	1.30	6	3.19	1.57	3/8
20	3.27	4.80	1.30	6	3.19	1.57	1/2
25	3.27	4.80	1.30	6	3.70	1.85	3/4
32	3.27	4.80	1.30	6	4.21	2.13	1
40	3.27	4.80	1.30	8	5.12	2.56	1 1/4
50	3.27	4.80	1.30	8	5.63	2.83	1 1/2
63	3.27	4.80	1.30	8	7.28	3.62	2



- 40% Restock Charge on Actuated Valves
 - Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.



3-Way ball valve type 185 ABS Horizontal/T-port 100-230V With manual emergency override With solvent cement sockets metric

C

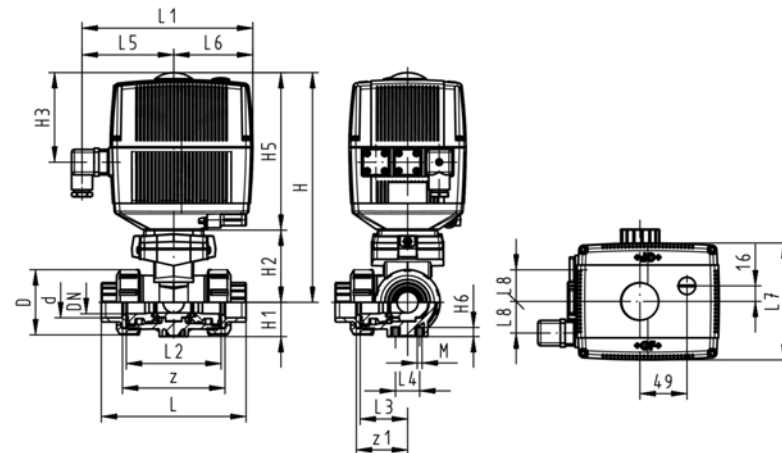
Model:

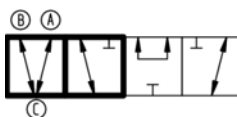
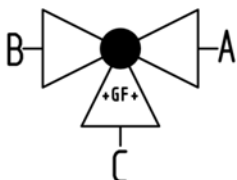
- Built on with electric actuator EA21
- Voltage 100-230 V, 50-60 Hz
- Control range 90°<)
- Electric: all ports open, center left. Pneumatic: fail - all ports open; air - center left.
- Other positions possible by adjusting the limit switches
- Control time 5 s/90°<)
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 185 172	630.00	4.550
20	150	199 185 173	641.00	4.559
25	150	199 185 174	662.00	4.782
32	150	199 185 175	683.00	6.023
40	150	199 185 176	693.00	5.820
50	150	199 185 177	714.00	7.445
63	150	199 185 178	756.00	11.321

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]
16	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.29	7.09	2.87	1.42	0.98	3.82
20	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.41	7.09	2.87	1.42	0.98	3.82
25	2.28	9.45	1.26	2.87	3.70	6.57	0.31	5.16	7.09	3.39	1.69	0.98	3.82
32	2.68	9.45	1.42	2.87	3.70	6.57	0.31	5.94	7.09	3.90	1.97	0.98	3.82
40	3.31	9.88	1.77	3.31	3.70	6.57	0.35	7.13	7.09	4.72	2.36	1.77	3.82
50	3.82	9.88	2.01	3.31	3.70	6.57	0.35	8.07	7.09	5.39	2.72	1.77	3.82
63	4.88	10.75	2.56	4.17	3.70	6.57	0.35	10.28	7.09	7.05	3.50	1.77	3.82

d [mm]	L6 [inch]	L7 [inch]	L8 [inch]	M	z [inch]	z1 [inch]	closest inch
16	3.27	4.80	1.30	6	3.19	1.57	3/8
20	3.27	4.80	1.30	6	3.19	1.57	1/2
25	3.27	4.80	1.30	6	3.70	1.85	3/4
32	3.27	4.80	1.30	6	4.21	2.13	1
40	3.27	4.80	1.30	8	5.12	2.56	1 1/4
50	3.27	4.80	1.30	8	5.63	2.83	1 1/2
63	3.27	4.80	1.30	8	7.28	3.62	2





3-Way ball valve type 185 ABS

Horizontal/T-port 24V

With manual emergency override

With solvent cement sockets metric

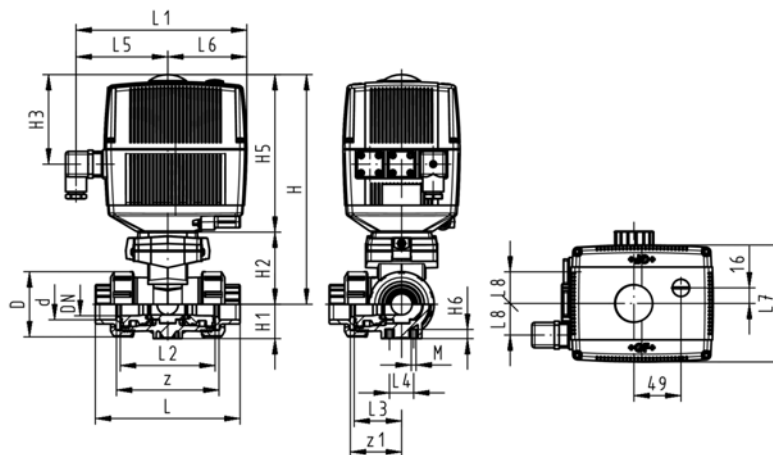
Model:

- Built on with electric actuator EA21
- Voltage 24 V AC/DC
- Control range 90°<
- Electric: all ports open, center left. Pneumatic: fail - all ports open; air - center left.
- Other positions possible by adjusting the limit switches
- Control time 5 s/90°<
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 185 352	630.00	4.550
20	150	199 185 353	641.00	4.559
25	150	199 185 354	662.00	4.782
32	150	199 185 355	683.00	5.095
40	150	199 185 356	693.00	5.820
50	150	199 185 357	714.00	6.563
63	150	199 185 358	756.00	8.836

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]
16	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.29	7.09	2.87	1.42	0.98	3.82
20	1.97	9.09	1.10	2.52	3.70	6.57	0.31	4.41	7.09	2.87	1.42	0.98	3.82
25	2.28	9.45	1.26	2.87	3.70	6.57	0.31	5.16	7.09	3.39	1.69	0.98	3.82
32	2.68	9.45	1.42	2.87	3.70	6.57	0.31	5.94	7.09	3.90	1.97	0.98	3.82
40	3.31	9.88	1.77	3.31	3.70	6.57	0.35	7.13	7.09	4.72	2.36	1.77	3.82
50	3.82	9.88	2.01	3.31	3.70	6.57	0.35	8.07	7.09	5.39	2.72	1.77	3.82
63	4.88	10.75	2.56	4.17	3.70	6.57	0.35	10.28	7.09	7.05	3.50	1.77	3.82

d [mm]	L6 [inch]	L7 [inch]	L8 [inch]	M	z [inch]	z1 [inch]	closest inch
16	3.27	4.80	1.30	6	3.19	1.57	3/8
20	3.27	4.80	1.30	6	3.19	1.57	1/2
25	3.27	4.80	1.30	6	3.70	1.85	3/4
32	3.27	4.80	1.30	6	4.21	2.13	1
40	3.27	4.80	1.30	8	5.12	2.56	1 1/4
50	3.27	4.80	1.30	8	5.63	2.83	1 1/2
63	3.27	4.80	1.30	8	7.28	3.62	2



- 40% Restock Charge on Actuated Valves
 - Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.

Ball valves pneumatic

Ball valve type 230 ABS FC (Fail safe to close) With manual override With solvent cement sockets metric

C



DN10/15 - 50

Model:

- Built with pneumatic actuator PA11 (3/8"-1"), PA21 (1¼"-2")
- Control time 90°<) 1-2 s
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

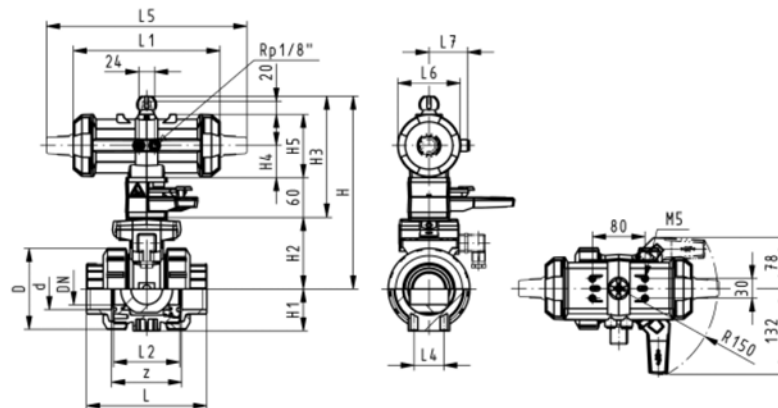
Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 230 702	399.00	3.217
20	150	199 230 703	399.00	3.217
25	150	199 230 704	410.00	3.474
32	150	199 230 705	420.00	3.073
40	150	199 230 706	483.00	6.065
50	150	199 230 707	504.00	6.775
63	150	199 230 708	525.00	6.733

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]
16	1.97	9.06	1.06	2.44	6.61	1.57	3.03	3.62	7.64	2.20	0.98	10.28	2.99
20	1.97	9.06	1.06	2.44	6.61	1.57	3.03	3.74	7.64	2.20	0.98	10.28	2.99
25	2.28	9.41	1.18	2.80	6.61	1.57	3.03	4.33	7.64	2.56	0.98	10.28	2.99
32	2.68	9.41	1.42	2.80	6.61	1.57	3.03	4.84	7.64	2.80	0.98	10.28	2.99
40	3.31	10.67	1.73	3.31	7.36	2.01	3.90	5.75	8.82	3.35	1.77	12.01	3.74
50	3.82	10.67	2.01	3.31	7.36	2.01	3.90	6.18	8.82	3.50	1.77	12.01	3.74
63	4.88	11.54	2.52	4.17	7.36	2.01	3.90	7.20	8.82	3.98	1.77	12.01	3.74

d [mm]	L7 [inch]	z [inch]	closest inch
16	1.89	2.52	¾
20	1.89	2.52	½
25	1.89	2.83	¾
32	1.89	3.11	1
40	2.32	3.70	1 ¼
50	2.32	3.74	1 ½
63	2.32	4.21	2





DN10/15 - 50

Ball valve type 230 ABS FO (Fail safe to open) With manual override With solvent cement sockets metric

C

Model:

- Built with pneumatic actuator PA11 (3/8"–1"), PA21 (1¼"–2")
- Control time 90°< 1-2 s
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

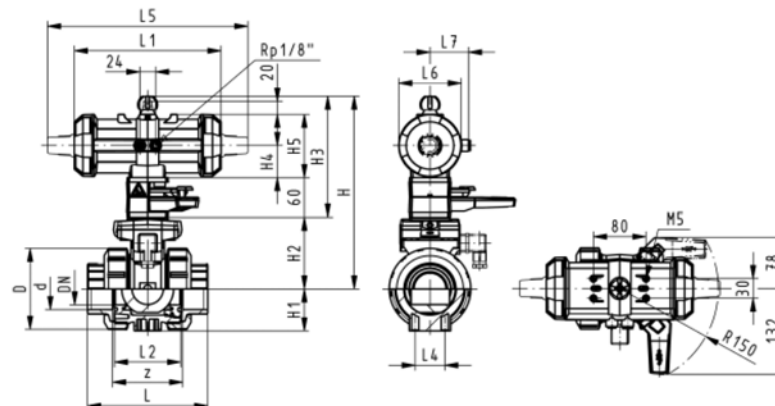
Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 230 742	399.00	3.217
20	150	199 230 743	399.00	3.217
25	150	199 230 744	410.00	3.474
32	150	199 230 745	420.00	3.748
40	150	199 230 746	483.00	6.065
50	150	199 230 747	504.00	6.775
63	150	199 230 748	525.00	8.666

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]
16	1.97	9.06	1.06	2.44	6.61	1.57	3.03	3.62	7.64	2.20	0.98	10.28	2.99
20	1.97	9.06	1.06	2.44	6.61	1.57	3.03	3.74	7.64	2.20	0.98	10.28	2.99
25	2.28	9.41	1.18	2.80	6.61	1.57	3.03	4.33	7.64	2.56	0.98	10.28	2.99
32	2.68	9.41	1.42	2.80	6.61	1.57	3.03	4.84	7.64	2.80	0.98	10.28	2.99
40	3.31	10.67	1.73	3.31	7.36	2.01	3.90	5.75	8.82	3.35	1.77	12.01	3.74
50	3.82	10.67	2.01	3.31	7.36	2.01	3.90	6.18	8.82	3.50	1.77	12.01	3.74
63	4.88	11.54	2.52	4.17	7.36	2.01	3.90	7.20	8.82	3.98	1.77	12.01	3.74

d [mm]	L7 [inch]	z [inch]	closest inch
16	1.89	2.52	¾
20	1.89	2.52	½
25	1.89	2.83	¾
32	1.89	3.11	1
40	2.32	3.70	1 ¼
50	2.32	3.74	1 ½
63	2.32	4.21	2



- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.



DN10/15 - 50

Ball valve type 230 ABS DA (Double acting) With manual override With solvent cement sockets metric

C

Model:

- Built with pneumatic actuator PA11 (3/8"-1"), PA21 (1¼"-2")
- Control time 90° < 1-2 s
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

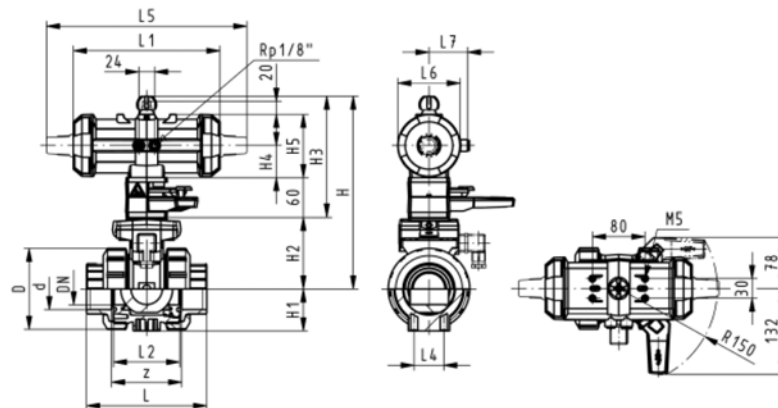
Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 230 782	389.00	3.217
20	150	199 230 783	389.00	3.217
25	150	199 230 784	399.00	3.474
32	150	199 230 785	410.00	3.748
40	150	199 230 786	462.00	6.065
50	150	199 230 787	473.00	6.775
63	150	199 230 788	504.00	8.666

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]
16	1.97	9.06	1.06	2.44	6.61	1.57	3.03	3.62	7.64	2.20	0.98	10.28	2.99
20	1.97	9.06	1.06	2.44	6.61	1.57	3.03	3.74	7.64	2.20	0.98	10.28	2.99
25	2.28	9.41	1.18	2.80	6.61	1.57	3.03	4.33	7.64	2.56	0.98	10.28	2.99
32	2.68	9.41	1.42	2.80	6.61	1.57	3.03	4.84	7.64	2.80	0.98	10.28	2.99
40	3.31	10.67	1.73	3.31	7.36	2.01	3.90	5.75	8.82	3.35	1.77	12.01	3.74
50	3.82	10.67	2.01	3.31	7.36	2.01	3.90	6.18	8.82	3.50	1.77	12.01	3.74
63	4.88	11.54	2.52	4.17	7.36	2.01	3.90	7.20	8.82	3.98	1.77	12.01	3.74

d [mm]	L7 [inch]	z [inch]	closest inch
16	1.89	2.52	¾
20	1.89	2.52	½
25	1.89	2.83	¾
32	1.89	3.11	1
40	2.32	3.70	1 ¼
50	2.32	3.74	1 ½
63	2.32	4.21	2





DN10/15 - 50



Ball valve type 230 ABS FC (Fail safe to close) Without manual override With solvent cement sockets metric

C

Model:

- Designed for easy installation and removal
- Integrated stainless steel mounting inserts
- Control time 90° < 1-2 s
- Assignment of actuators: PA11 (DN10/15-25), PA21 (DN32-50), PA30 (DN65), PA40 (DN80), PA40 (DN100)

Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 230 822	263.00	3.217
20	150	199 230 823	263.00	3.217
25	150	199 230 824	273.00	3.474
32	150	199 230 825	294.00	3.748
40	150	199 230 826	336.00	6.065
50	150	199 230 827	357.00	6.775
63	150	199 230 828	378.00	8.666
75	150	199 230 829	672.00	14.771
90	150	199 230 830	777.00	18.960
110	150	199 230 831	777.00	28.439

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	L7 [inch]
16	1.97	6.26	1.06	2.44	3.03	3.62	7.64	2.20	0.98	10.28	2.99	1.89
20	1.97	6.26	1.06	2.44	3.03	3.74	7.64	2.20	0.98	10.28	2.99	1.89
25	2.28	6.61	1.18	2.80	3.03	4.33	7.64	2.56	0.98	10.28	2.99	1.89
32	2.68	6.61	1.42	2.80	3.03	4.84	7.64	2.80	0.98	10.28	2.99	1.89
40	3.31	7.95	1.73	3.31	3.90	5.75	8.82	3.35	1.77	12.01	3.74	2.32
50	3.82	7.95	2.01	3.31	3.90	6.18	8.82	3.50	1.77	12.01	3.74	2.32
63	4.88	8.86	2.52	4.17	3.90	7.20	8.82	3.98	1.77	12.01	3.74	2.32
75	6.54	10.31	3.35	6.14	2.76	9.17		5.35	2.76	10.87	2.56	
90	7.87	11.06	4.13	6.61	3.07	10.00		5.55	2.76	13.43	2.83	
110	9.37	11.50	4.84	6.89	3.39	11.85		6.46	4.72	14.53	3.15	

d [mm]	z [inch]	closest inch
16	2.52	¾
20	2.52	½
25	2.83	¾
32	3.11	1
40	3.70	1 ¼
50	3.74	1 ½
63	4.21	2

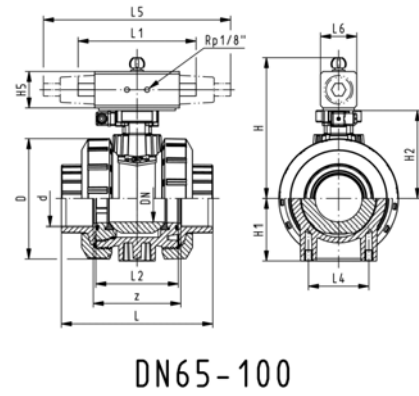
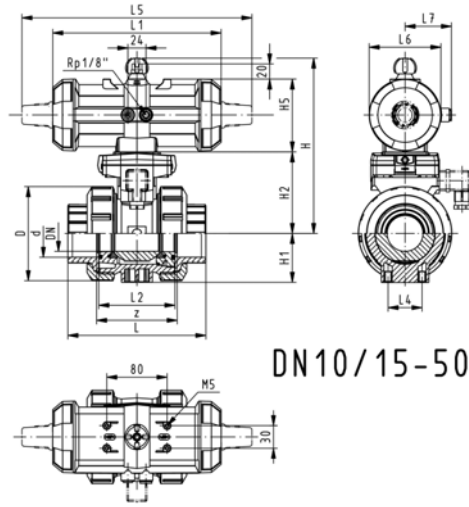
table continued next page

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.

d [mm]	z [inch]	closest inch	
75	5.67	2 ½	
90	5.94	3	
110	6.85	4	





Ball valve type 230 ABS FO (Fail safe to open) Without manual override With solvent cement sockets metric

C

Model:

- Designed for easy installation and removal
- Integrated stainless steel mounting inserts
- Control time 90° < 1-2 s
- Assignment of actuators: PA11 (DN10/15-25), PA21 (DN32-50), PA30 (DN65), PA40 (DN80), PA40 (DN100)

Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs	
16	150	199 230 862	263.00	3.217	
20	150	199 230 863	263.00	3.217	
25	150	199 230 864	273.00	3.474	
32	150	199 230 865	294.00	3.748	
40	150	199 230 866	336.00	6.065	
50	150	199 230 867	357.00	6.775	
63	150	199 230 868	378.00	8.666	
75	150	199 230 869	672.00	14.771	
90	150	199 230 870	777.00	18.960	
110	150	199 230 871	777.00	28.439	

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	L7 [inch]	
16	1.97	6.26	1.06	2.44	3.03	3.62	7.64	2.20	0.98	10.28	2.99	1.89	
20	1.97	6.26	1.06	2.44	3.03	3.74	7.64	2.20	0.98	10.28	2.99	1.89	
25	2.28	6.61	1.18	2.80	3.03	4.33	7.64	2.56	0.98	10.28	2.99	1.89	
32	2.68	6.61	1.42	2.80	3.03	4.84	7.64	2.80	0.98	10.28	2.99	1.89	
40	3.31	7.95	1.73	3.31	3.90	5.75	8.82	3.35	1.77	12.01	3.74	2.32	
50	3.82	7.95	2.01	3.31	3.90	6.18	8.82	3.50	1.77	12.01	3.74	2.32	
63	4.88	8.86	2.52	4.17	3.90	7.20	8.82	3.98	1.77	12.01	3.74	2.32	
75	6.54	10.31	3.35	6.14	2.76	9.17		5.35	2.76	10.87	2.56		
90	7.87	11.06	4.13	6.61	3.07	10.00		5.55	2.76	13.43	2.83		
110	9.37	11.50	4.84	6.89	3.39	11.85		6.46	4.72	14.53	3.15		

d [mm]	z [inch]	closest inch	
16	2.52	¾	
20	2.52	½	
25	2.83	¾	
32	3.11	1	
40	3.70	1 ¼	
50	3.74	1 ½	
63	4.21	2	

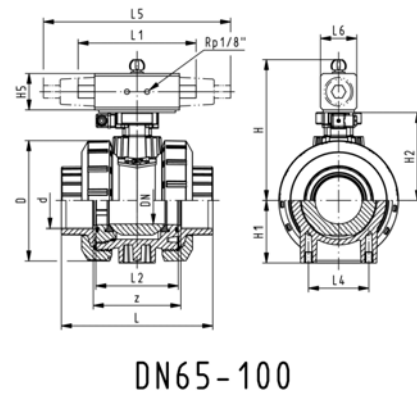
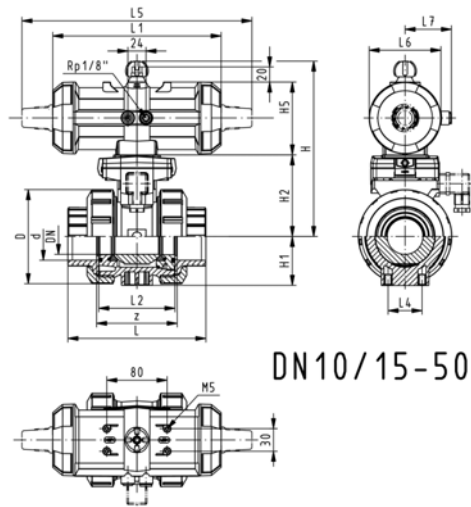
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- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfiping.com for updated info.

d [mm]	z [inch]	closest inch
75	5.67	2 ½
90	5.94	3
110	6.85	4





Ball valve type 230 ABS DA (Double acting) Without manual override With solvent cement sockets metric

Model:

- Designed for easy installation and removal
- Integrated stainless steel mounting inserts
- Control time 90° < 1-2 s
- Assignment of actuators: PA11 (DN10/15-25), PA21 (DN32-50), PA35 (DN65), PA40 (DN80), PA45 (DN100)

Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs	
16	150	199 230 902	242.00	3.217	
20	150	199 230 903	242.00	3.217	
25	150	199 230 904	252.00	3.474	
32	150	199 230 905	263.00	3.748	
40	150	199 230 906	315.00	6.065	
50	150	199 230 907	336.00	6.775	
63	150	199 230 908	357.00	8.666	
75	150	199 230 909	588.00	12.346	
90	150	199 230 910	662.00	17.416	
110	150	199 230 911	672.00	24.692	

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H5 [inch]	L [inch]	L1 [inch]	L2 [inch]	L4 [inch]	L5 [inch]	L6 [inch]	L7 [inch]	
16	1.97	6.26	1.06	2.44	3.03	3.62	7.64	2.20	0.98	10.28	2.99	1.89	
20	1.97	6.26	1.06	2.44	3.03	3.74	7.64	2.20	0.98	10.28	2.99	1.89	
25	2.28	6.61	1.18	2.80	3.03	4.33	7.64	2.56	0.98	10.28	2.99	1.89	
32	2.68	6.61	1.42	2.80	3.03	4.84	7.64	2.80	0.98	10.28	2.99	1.89	
40	3.31	7.95	1.73	3.31	3.90	5.75	8.82	3.35	1.77	12.01	3.74	2.32	
50	3.82	7.95	2.01	3.31	3.90	6.18	8.82	3.50	1.77	12.01	3.74	2.32	
63	4.88	8.86	2.52	4.17	3.90	7.20	8.82	3.98	1.77	12.01	3.74	2.32	
75	6.54	10.12	3.35	6.14	2.60	9.17	5.67	5.35	2.76		2.36		
90	7.87	10.79	4.13	6.61	2.76	10.00	5.98	5.55	2.76		2.56		
110	9.37	10.75	4.84	6.89	3.07	11.85	6.65	6.46	4.72		2.83		

d [mm]	z [inch]	closest inch	
16	2.52	¾	
20	2.52	½	
25	2.83	¾	
32	3.11	1	
40	3.70	1 ¼	
50	3.74	1 ½	
63	4.21	2	

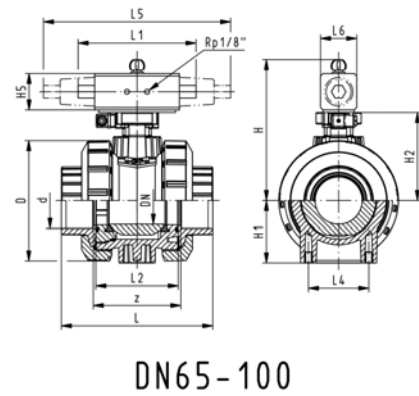
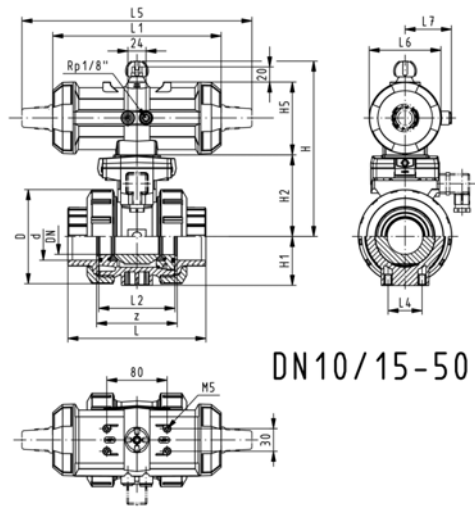
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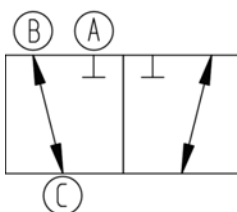
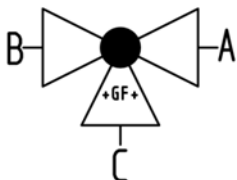
- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.

d [mm]	z [inch]	closest inch	
75	5.67	2 ½	
90	5.94	3	
110	6.85	4	





3-Way ball valve type 285 ABS

Horizontal/L-port

Without manual override

With solvent cement sockets metric

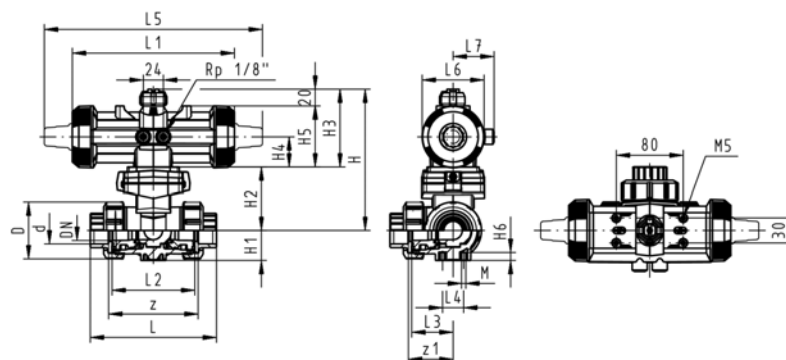
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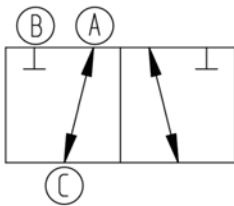
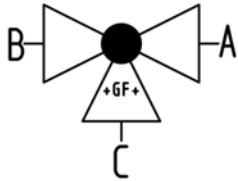
- Built with pneumatic actuator PA11 (3/8"–1"), PA21 (1¼"–2")
- Actuator fails safe to the closed position FC
- Basic position: fail position center left, air position center right
- Control time 90°<) 1-3 s
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 285 162	473.00	2.332
20	150	199 285 163	473.00	2.341
25	150	199 285 164	483.00	2.566
32	150	199 285 165	504.00	2.886
40	150	199 285 166	557.00	5.110
50	150	199 285 167	567.00	5.869
63	150	199 285 168	609.00	8.133

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]
16	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.29	7.64	2.87	1.42	0.98
20	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.41	7.64	2.87	1.42	0.98
25	2.28	6.61	1.26	2.80	3.82	1.57	3.03	0.31	5.16	7.64	3.39	1.69	0.98
32	2.68	6.61	1.42	2.80	3.82	1.57	3.03	0.31	5.94	7.64	3.90	1.97	0.98
40	3.31	7.99	1.77	3.31	4.69	2.01	3.90	0.35	7.13	8.82	4.72	2.36	1.77
50	3.82	7.99	2.01	3.31	4.69	2.01	3.90	0.35	8.07	8.82	5.39	2.72	1.77
63	4.88	8.86	2.56	4.17	4.69	2.01	3.90	0.35	10.28	8.82	7.05	3.50	1.77

d [mm]	L5 [inch]	L6 [inch]	L7 [inch]	M	z [inch]	z1 [inch]	closest inch
16	10.28	2.99	1.89	6	3.19	1.57	3/8
20	10.28	2.99	1.89	6	3.19	1.57	1/2
25	10.28	2.99	1.89	6	3.70	1.85	3/4
32	10.28	2.99	1.89	6	4.21	2.13	1
40	12.01	3.74	2.32	8	5.12	2.56	1 1/4
50	12.01	3.74	2.32	8	5.63	2.83	1 1/2
63	12.01	3.74	2.32	8	7.28	3.62	2





3-Way ball valve type 285 ABS

Horizontal/L-port DA (Double acting)

Without manual override

With solvent cement sockets metric

C

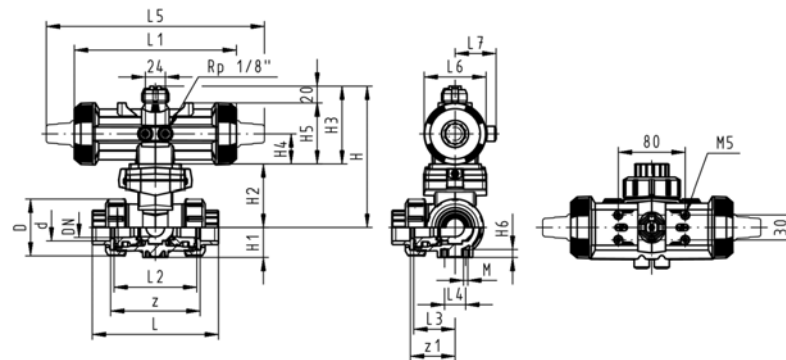
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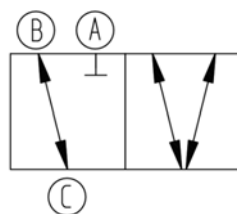
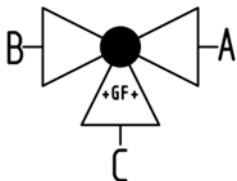
- Built with pneumatic actuator PA11 (3/8"-1"), PA21 (1 1/4"-2")
- Basic position: center left, center right
- Control time 90°< 1-3 s
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 285 342	441.00	1.911
20	150	199 285 343	441.00	1.922
25	150	199 285 344	473.00	2.147
32	150	199 285 345	483.00	2.467
40	150	199 285 346	525.00	4.176
50	150	199 285 347	546.00	4.934
63	150	199 285 348	588.00	7.247

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]
16	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.29	7.64	2.87	1.42	0.98
20	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.41	7.64	2.87	1.42	0.98
25	2.28	6.61	1.26	2.80	3.82	1.57	3.03	0.31	5.16	7.64	3.39	1.69	0.98
32	2.68	6.61	1.42	2.80	3.82	1.57	3.03	0.31	5.94	7.64	3.90	1.97	0.98
40	3.31	7.99	1.77	3.31	4.69	2.01	3.90	0.35	7.13	8.82	4.72	2.36	1.77
50	3.82	7.99	2.01	3.31	4.69	2.01	3.90	0.35	8.07	8.82	5.39	2.72	1.77
63	4.88	8.86	2.56	4.17	4.69	2.01	3.90	0.35	10.28	8.82	7.05	3.50	1.77

d [mm]	L5 [inch]	L6 [inch]	L7 [inch]	M	z [inch]	z1 [inch]	closest inch
16	10.28	2.99	1.89	6	3.19	1.57	3/8
20	10.28	2.99	1.89	6	3.19	1.57	1/2
25	10.28	2.99	1.89	6	3.70	1.85	3/4
32	10.28	2.99	1.89	6	4.21	2.13	1
40	12.01	3.74	2.32	8	5.12	2.56	1 1/4
50	12.01	3.74	2.32	8	5.63	2.83	1 1/2
63	12.01	3.74	2.32	8	7.28	3.62	2





3-Way ball valve type 285 ABS

Horizontal/T-port

Without manual override

With solvent cement sockets metric

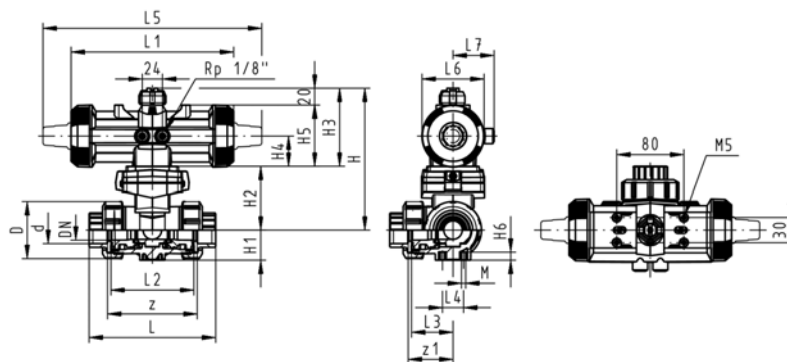
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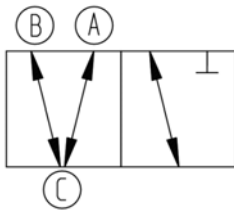
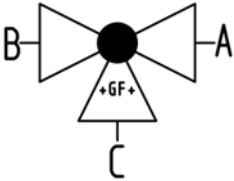
- Built with pneumatic actuator PA11 (3/8"–1"), PA21 (1¼"–2")
- Actuator fails safe to the closed position FC
- Basic position fail: all ports open, air: center left
- Control time 90°<) 1-3 s
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs	
16	150	199 285 172	473.00	2.330	
20	150	199 285 173	473.00	2.339	
25	150	199 285 174	483.00	2.562	
32	150	199 285 175	504.00	2.875	
40	150	199 285 176	557.00	5.090	
50	150	199 285 177	567.00	5.833	
63	150	199 285 178	609.00	8.106	

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]
16	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.29	7.64	2.87	1.42	0.98
20	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.41	7.64	2.87	1.42	0.98
25	2.28	6.61	1.26	2.80	3.82	1.57	3.03	0.31	5.16	7.64	3.39	1.69	0.98
32	2.68	6.61	1.42	2.80	3.82	1.57	3.03	0.31	5.94	7.64	3.90	1.97	0.98
40	3.31	7.99	1.77	3.31	4.69	2.01	3.90	0.35	7.13	8.82	4.72	2.36	1.77
50	3.82	7.99	2.01	3.31	4.69	2.01	3.90	0.35	8.07	8.82	5.39	2.72	1.77
63	4.88	8.86	2.56	4.17	4.69	2.01	3.90	0.35	10.28	8.82	7.05	3.50	1.77

d [mm]	L5 [inch]	L6 [inch]	L7 [inch]	M	z [inch]	z1 [inch]	closest inch
16	10.28	2.99	1.89	6	3.19	1.57	¾
20	10.28	2.99	1.89	6	3.19	1.57	½
25	10.28	2.99	1.89	6	3.70	1.85	¾
32	10.28	2.99	1.89	6	4.21	2.13	1
40	12.01	3.74	2.32	8	5.12	2.56	1 ¼
50	12.01	3.74	2.32	8	5.63	2.83	1 ½
63	12.01	3.74	2.32	8	7.28	3.62	2





3-Way ball valve type 285 ABS

Horizontal/T-port DA (Double acting)

Without manual override

With solvent cement sockets metric

C

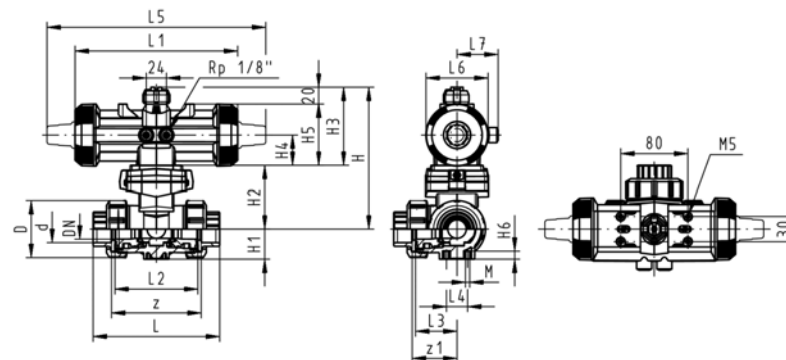
Model:

- Built with pneumatic actuator PA11 (3/8"-1"), PA21 (1¼"-2")
- Electric: all ports open, center left. Pneumatic: fail - all ports open; air - center left.
- Control time 90°<) 1-3 s
- Designed for easy installation and removal
- Integrated stainless steel mounting inserts

d [mm]	PSI	EPDM Part No.	USD	lbs
16	150	199 285 352	441.00	1.909
20	150	199 285 353	441.00	1.920
25	150	199 285 354	473.00	2.143
32	150	199 285 355	483.00	2.337
40	150	199 285 356	525.00	3.931
50	150	199 285 357	546.00	4.899
63	150	199 285 358	588.00	7.172

d [mm]	D [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	L [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]
16	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.29	7.64	2.87	1.42	0.98
20	1.97	6.26	1.10	2.44	3.82	1.57	3.03	0.31	4.41	7.64	2.87	1.42	0.98
25	2.28	6.61	1.26	2.80	3.82	1.57	3.03	0.31	5.16	7.64	3.39	1.69	0.98
32	2.68	6.61	1.42	2.80	3.82	1.57	3.03	0.31	5.94	7.64	3.90	1.97	0.98
40	3.31	7.99	1.77	3.31	4.69	2.01	3.90	0.35	7.13	8.82	4.72	2.36	1.77
50	3.82	7.99	2.01	3.31	4.69	2.01	3.90	0.35	8.07	8.82	5.39	2.72	1.77
63	4.88	8.86	2.56	4.17	4.69	2.01	3.90	0.35	10.28	8.82	7.05	3.50	1.77

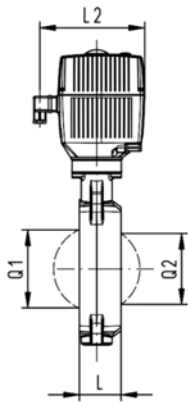
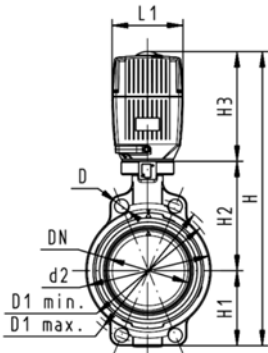
d [mm]	L5 [inch]	L6 [inch]	L7 [inch]	M	z [inch]	z1 [inch]	closest inch
16	10.28	2.99	1.89	6	3.19	1.57	¾
20	10.28	2.99	1.89	6	3.19	1.57	½
25	10.28	2.99	1.89	6	3.70	1.85	¾
32	10.28	2.99	1.89	6	4.21	2.13	1
40	12.01	3.74	2.32	8	5.12	2.56	1 ¼
50	12.01	3.74	2.32	8	5.63	2.83	1 ½
63	12.01	3.74	2.32	8	7.28	3.62	2



Butterfly valves electric

Butterfly valve type 140 ABS 100-230V Without manual override

C



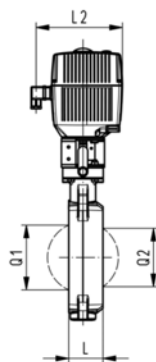
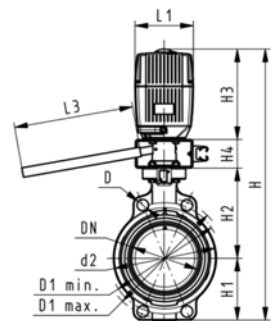
Model:

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Voltage 100-230 V, 50-60 Hz
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard

d [mm]	PSI	EPDM Part No.	USD	lbs	
63	150	199 140 502	935.00	6.881	
75	150	199 140 503	945.00	9.438	
90	150	199 140 504	966.00	9.610	
110	150	199 140 505	977.00	10.792	
140	150	199 140 506	1061.00	9.647	
160	150	199 140 507	1082.00	13.708	
225	150	199 140 508	1449.00	26.519	

d [mm]	Actuator unit type	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]	
63	EA-31	0.75	4.72	4.92	4.09	15.75	3.03	5.28	7.40	1.77	4.80	
75	EA-31	0.75	5.50	5.71	4.53	16.26	3.27	5.51	7.40	1.81	4.80	
90	EA-31	0.75	5.91	6.30	5.16	16.85	3.50	5.75	7.40	1.93	4.80	
110	EA-31	0.75	6.89	7.50	6.34	18.11	4.09	6.57	7.40	2.20	4.80	
140	EA-31	0.91	8.27	8.50	7.36	19.17	4.61	7.13	7.40	2.52	4.80	
160	EA-31	0.94	9.50	9.50	8.46	20.00	5.12	7.44	7.40	2.83	4.80	
225	EA-42	0.91	11.42	11.61	10.51	22.64	6.22	8.27	8.19	2.87	4.80	

d [mm]	L2 [inch]	Q1 [inch]	Q2 [inch]	closest inch	
63	7.09	1.57		2	
75	7.09	2.13	1.38	2 ½	
90	7.09	2.64	1.97	3	
110	7.09	3.46	2.91	4	
140	7.09	4.45	3.82	5	
160	7.09	5.47	4.84	6	
225	7.09	7.01	6.65	8	



Butterfly valve type 140 ABS 100-230V With manual override

C

Model:

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Voltage 100-230 V, 50-60 Hz
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard

d [mm]	PSI	EPDM Part No.	USD	lbs
63	150	199 140 482	1439.00	12.518
75	150	199 140 483	1449.00	12.745
90	150	199 140 484	1470.00	12.917
110	150	199 140 485	1481.00	14.098
140	150	199 140 486	1554.00	11.881
160	150	199 140 487	1617.00	17.015
225	150	199 140 488	1985.00	29.826

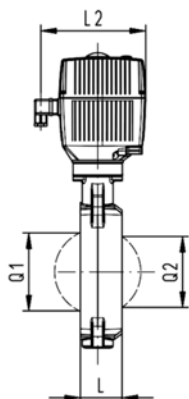
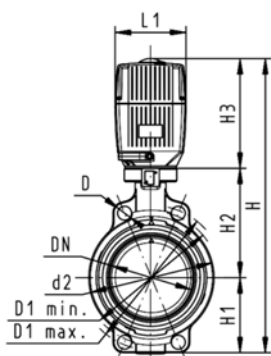
d [mm]	Actuator unit type	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	L [inch]
63	EA-31	0.75	4.72	4.92	4.09	18.11	3.03	5.28	7.40	2.36	1.77
75	EA-31	0.75	5.50	5.71	4.53	18.62	3.27	5.51	7.40	2.36	1.81
90	EA-31	0.75	5.91	6.30	5.16	19.21	3.50	5.75	7.40	2.36	1.93
110	EA-31	0.75	6.89	7.50	6.34	20.47	4.09	6.57	7.40	2.36	2.20
140	EA-31	0.91	8.27	8.50	7.36	21.54	4.61	7.13	7.40	2.36	2.52
160	EA-31	0.94	9.50	9.50	8.46	22.36	5.12	7.44	7.40	2.36	2.83
225	EA-42	0.91	11.42	11.61	10.51	25.00	6.22	8.27	8.19	2.36	2.87

d [mm]	L1 [inch]	L2 [inch]	L3 [inch]	Q1 [inch]	Q2 [inch]	closest inch
63	4.80	7.09	9.84	1.57		2
75	4.80	7.09	9.84	2.13	1.38	2 ½
90	4.80	7.09	9.84	2.64	1.97	3
110	4.80	7.09	9.84	3.46	2.91	4
140	4.80	7.09	9.84	4.45	3.82	5
160	4.80	7.09	9.84	5.47	4.84	6
225	4.80	7.09	9.84	7.01	6.65	8

Butterfly valve type 140 ABS 24V Without manual override

Model:

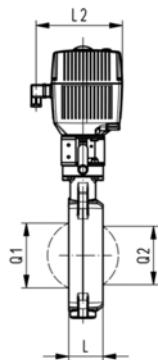
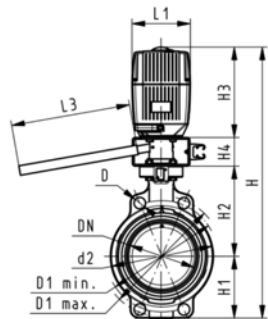
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Voltage 24 V AC/DC
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard



d [mm]	PSI	EPDM Part No.	USD	lbs
63	150	199 140 542	935.00	9.211
75	150	199 140 543	945.00	7.092
90	150	199 140 544	966.00	9.610
110	150	199 140 545	977.00	10.792
140	150	199 140 546	1061.00	9.647
160	150	199 140 547	1082.00	13.708
225	150	199 140 548	1449.00	26.519

d [mm]	Actuator unit type	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]
63	EA-31	0.75	4.72	4.92	4.09	15.75	3.03	5.28	7.40	1.77	4.80
75	EA-31	0.75	5.50	5.71	4.53	16.26	3.27	5.51	7.40	1.81	4.80
90	EA-31	0.75	5.91	6.30	5.16	16.85	3.50	5.75	7.40	1.93	4.80
110	EA-31	0.75	6.89	7.50	6.34	18.11	4.09	6.57	7.40	2.20	4.80
140	EA-31	0.91	8.27	8.50	7.36	19.17	4.61	7.13	7.40	2.52	4.80
160	EA-31	0.94	9.50	9.50	8.46	20.00	5.12	7.44	7.40	2.83	4.80
225	EA-42	0.91	11.42	11.61	10.51	22.64	6.22	8.27	8.19	2.87	4.80

d [mm]	L2 [inch]	Q1 [inch]	Q2 [inch]	closest inch
63	7.09	1.57		2
75	7.09	2.13	1.38	2 ½
90	7.09	2.64	1.97	3
110	7.09	3.46	2.91	4
140	7.09	4.45	3.82	5
160	7.09	5.47	4.84	6
225	7.09	7.01	6.65	8



Butterfly valve type 140 ABS 24V With manual override

C

Model:

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Voltage 24 V AC/DC
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard

d [mm]	PSI	EPDM Part No.	USD	lbs
63	150	199 140 522	1439.00	9.173
75	150	199 140 523	1449.00	9.385
90	150	199 140 524	1470.00	12.917
110	150	199 140 525	1481.00	14.098
140	150	199 140 526	1554.00	11.881
160	150	199 140 527	1617.00	21.848
225	150	199 140 528	1985.00	29.826

d [mm]	Actuator unit type	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	L [inch]
63	EA-31	0.75	4.72	4.92	4.09	18.11	3.03	5.28	7.40	2.36	1.77
75	EA-31	0.75	5.50	5.71	4.53	18.62	3.27	5.51	7.40	2.36	1.81
90	EA-31	0.75	5.91	6.30	5.16	19.21	3.50	5.75	7.40	2.36	1.93
110	EA-31	0.75	6.89	7.50	6.34	20.47	4.09	6.57	7.40	2.36	2.20
140	EA-31	0.91	8.27	8.50	7.36	21.54	4.61	7.13	7.40	2.36	2.52
160	EA-31	0.94	9.50	9.50	8.46	22.36	5.12	7.44	7.40	2.36	2.83
225	EA-42	0.91	11.42	11.61	10.51	25.00	6.22	8.27	8.19	2.36	2.87

d [mm]	L1 [inch]	L2 [inch]	L3 [inch]	Q1 [inch]	Q2 [inch]	closest inch
63	4.80	7.09	9.84	1.57		2
75	4.80	7.09	9.84	2.13	1.38	2 ½
90	4.80	7.09	9.84	2.64	1.97	3
110	4.80	7.09	9.84	3.46	2.91	4
140	4.80	7.09	9.84	4.45	3.82	5
160	4.80	7.09	9.84	5.47	4.84	6
225	4.80	7.09	9.84	7.01	6.65	8

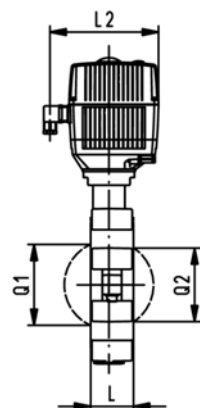
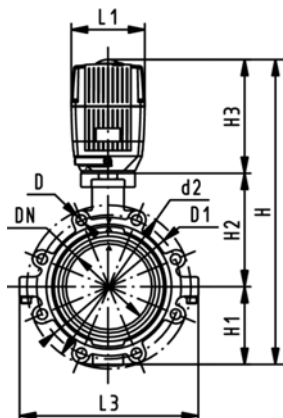


Lugstyle butterfly valve type 142 ABS 100-230V Without manual override

C

Model:

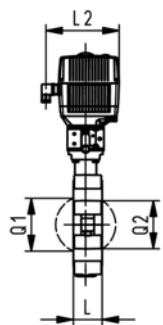
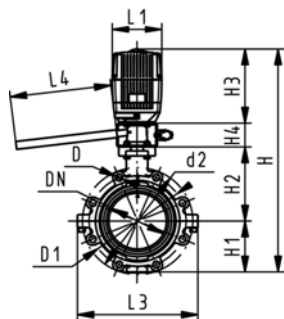
- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Voltage 100-230 V, 50-60 Hz
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard



Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	199 142 502	1029.00	13.697
2 ½	75	150	199 142 503	1050.00	14.462
3	90	150	199 142 504	1082.00	15.318
4	110	150	199 142 505	1092.00	19.826
5	140	150	199 142 506	1229.00	23.946
6	160	150	199 142 507	1271.00	28.001
8	225	150	199 142 508	1712.00	48.512

Size	Actuator unit type	D	D1 [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]	L2 [inch]
2	EA-31	UNC 5/8	4.76	5.91	15.71	3.03	5.28	7.40	1.77	4.80	7.09
2 ½	EA-31	UNC 5/8	5.51	6.69	16.18	3.27	5.51	7.40	1.81	4.80	7.09
3	EA-31	UNC 5/8	6.02	6.97	16.65	3.50	5.75	7.40	1.93	4.80	7.09
4	EA-31	UNC 5/8	7.52	8.50	18.07	4.09	6.57	7.40	2.20	4.80	7.09
5	EA-31	UNC 3/4	8.50	9.69	19.13	4.61	7.13	7.40	2.52	4.80	7.09
6	EA-31	UNC 3/4	9.53	10.75	19.96	5.12	7.44	7.40	2.83	4.80	7.09
8	EA-42	UNC 3/4	11.77	13.15	22.68	6.22	8.27	8.19	2.87	4.80	7.09

Size	L3 [inch]	Q1 [inch]	Q2 [inch]
2	5.91	1.57	
2 ½	6.30	2.13	1.38
3	6.89	2.64	1.97
4	9.61	3.46	2.91
5	10.71	4.45	3.82
6	11.69	5.47	4.84
8	14.17	7.01	6.65



Lugstyle butterfly valve type 142 ABS 100-230V With manual override

C

Model:

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Voltage 100-230 V, 50-60 Hz
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard

Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	199 142 482	1523.00	17.002
2 ½	75	150	199 142 483	1554.00	17.769
3	90	150	199 142 484	1586.00	18.624
4	110	150	199 142 485	1607.00	23.133
5	140	150	199 142 486	1722.00	27.253
6	160	150	199 142 487	1806.00	31.308
8	225	150	199 142 488	2247.00	51.819

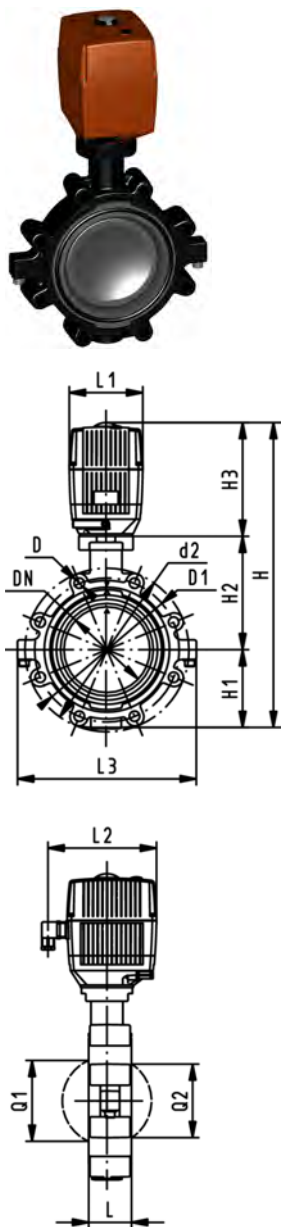
Size	Actuator unit type	D	D1 [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	L [inch]	L1 [inch]
2	EA-31	UNC 5/8	4.76	5.91	18.07	3.03	5.28	7.40	2.36	1.77	4.80
2 ½	EA-31	UNC 5/8	5.51	6.69	18.54	3.27	5.51	7.40	2.36	1.81	4.80
3	EA-31	UNC 5/8	6.02	6.97	19.02	3.50	5.75	7.40	2.36	1.93	4.80
4	EA-31	UNC 5/8	7.52	8.50	20.43	4.09	6.57	7.40	2.36	2.20	4.80
5	EA-31	UNC 3/4	8.50	9.69	21.50	4.61	7.13	7.40	2.36	2.52	4.80
6	EA-31	UNC 3/4	9.53	10.75	22.32	5.12	7.44	7.40	2.36	2.83	4.80
8	EA-42	UNC 3/4	11.77	13.15	25.04	6.22	8.27	8.19	2.36	2.87	4.80

Size	L2 [inch]	L3 [inch]	L4 [inch]	Q1 [inch]	Q2 [inch]
2	7.09	5.91	7.87	1.57	
2 ½	7.09	6.30	7.87	2.13	1.38
3	7.09	6.89	7.87	2.64	1.97
4	7.09	9.61	9.84	3.46	2.91
5	7.09	10.71	9.84	4.45	3.82
6	7.09	11.69	9.84	5.47	4.84
8	7.09	14.17	9.84	7.01	6.65

Lugstyle butterfly valve type 142 ABS 24V Without manual override

Model:

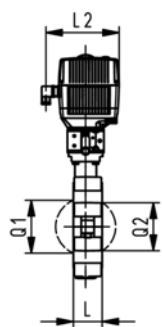
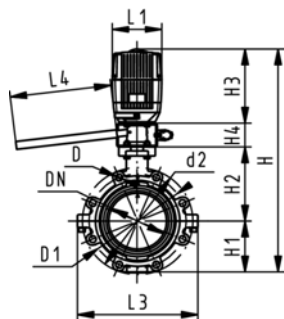
- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Voltage 24 V AC/DC
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard



Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	199 142 542	1029.00	13.697
2 ½	75	150	199 142 543	1050.00	14.462
3	90	150	199 142 544	1082.00	15.318
4	110	150	199 142 545	1092.00	19.826
5	140	150	199 142 546	1229.00	23.946
6	160	150	199 142 547	1271.00	28.001
8	225	150	199 142 548	1712.00	48.512

Size	Actuator unit type	D	D1 [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	L [inch]	L1 [inch]	L2 [inch]
2	EA-31	UNC 5/8	4.76	5.91	15.71	3.03	5.28	7.40	1.77	4.80	7.09
2 ½	EA-31	UNC 5/8	5.51	6.69	16.18	3.27	5.51	7.40	1.81	4.80	7.09
3	EA-31	UNC 5/8	6.02	6.97	16.65	3.50	5.75	7.40	1.93	4.80	7.09
4	EA-31	UNC 5/8	7.52	8.50	18.07	4.09	6.57	7.40	2.20	4.80	7.09
5	EA-31	UNC 3/4	8.50	9.69	19.13	4.61	7.13	7.40	2.52	4.80	7.09
6	EA-31	UNC 3/4	9.53	10.75	19.96	5.12	7.44	7.40	2.83	4.80	7.09
8	EA-42	UNC 3/4	11.77	13.15	22.68	6.22	8.27	8.19	2.87	4.80	7.09

Size	L3 [inch]	Q1 [inch]	Q2 [inch]
2	5.91	1.57	
2 ½	6.30	2.13	1.38
3	6.89	2.64	1.97
4	9.61	3.46	2.91
5	10.71	4.45	3.82
6	11.69	5.47	4.84
8	14.17	7.01	6.65



Lugstyle butterfly valve type 142 ABS 24V With manual override

C

Model:

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Voltage 24 V AC/DC
- Control time 15 s/90°<) EA31
- Control time 25s/90°<) EA42 (8" and above)
- Control range 90°<)
- Actuator with integrated emergency manual override standard

Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	199 142 522	1523.00	17.002
2 ½	75	150	199 142 523	1554.00	17.769
3	90	150	199 142 524	1586.00	18.624
4	110	150	199 142 525	1607.00	23.133
5	140	150	199 142 526	1722.00	27.253
6	160	150	199 142 527	1806.00	31.308
8	225	150	199 142 528	2247.00	51.819

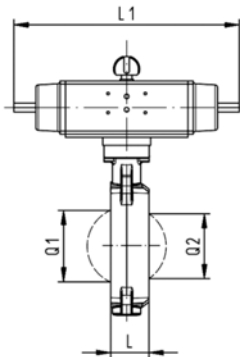
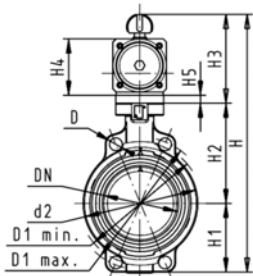
Size	Actuator unit type	D	D1 [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	L [inch]	L1 [inch]
2	EA-31	UNC 5/8	4.76	5.91	18.07	3.03	5.28	7.40	2.36	1.77	4.80
2 ½	EA-31	UNC 5/8	5.51	6.69	18.54	3.27	5.51	7.40	2.36	1.81	4.80
3	EA-31	UNC 5/8	6.02	6.97	19.02	3.50	5.75	7.40	2.36	1.93	4.80
4	EA-31	UNC 5/8	7.52	8.50	20.43	4.09	6.57	7.40	2.36	2.20	4.80
5	EA-31	UNC 3/4	8.50	9.69	21.50	4.61	7.13	7.40	2.36	2.52	4.80
6	EA-31	UNC 3/4	9.53	10.75	22.32	5.12	7.44	7.40	2.36	2.83	4.80
8	EA-42	UNC 3/4	11.77	13.15	25.04	6.22	8.27	8.19	2.36	2.87	4.80

Size	L2 [inch]	L3 [inch]	L4 [inch]	Q1 [inch]	Q2 [inch]
2	7.09	5.91	7.87	1.57	
2 ½	7.09	6.30	7.87	2.13	1.38
3	7.09	6.89	7.87	2.64	1.97
4	7.09	9.61	9.84	3.46	2.91
5	7.09	10.71	9.84	4.45	3.82
6	7.09	11.69	9.84	5.47	4.84
8	7.09	14.17	9.84	7.01	6.65

Butterfly valves pneumatic

Butterfly valve type 240 ABS FC (Fail safe to close) Without manual override

C



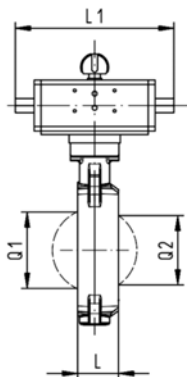
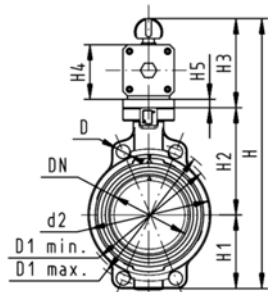
Model:

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Control range 90°<)

d [mm]	PSI	EPDM Part No.	USD	lbs	
63	150	199 240 402	494.00	7.432	
75	150	199 240 403	504.00	6.834	
90	150	199 240 404	578.00	7.493	
110	150	199 240 405	588.00	11.316	
140	150	199 240 406	777.00	15.049	
160	150	199 240 407	893.00	21.559	
225	150	199 240 408	1187.00	29.826	

d [mm]	Actuator unit type	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	
63	PA-30 FC	0.75	4.72	4.92	4.09	12.87	3.03	5.28	4.61	2.76	0.59	
75	PA-30 FC	0.75	5.50	5.71	4.53	13.39	3.27	5.51	4.61	2.76	0.59	
90	PA-35 FC	0.75	5.91	6.30	5.16	14.21	3.50	5.75	4.96	3.07	0.59	
110	PA-40 FC	0.75	6.89	7.50	6.34	15.75	4.09	6.57	5.08	3.39		
140	PA-45 FC	0.91	8.27	8.50	7.36	17.17	4.61	7.13	5.47	3.78		
160	PA-50 FC	0.94	9.50	9.50	8.46	18.43	5.12	7.44	5.87	4.17		
225	PA-55 FC	0.91	11.42	11.61	10.51	20.83	6.22	8.27	6.34	4.65		

d [mm]	L [inch]	L1 [inch]	L2 [inch]	Q1 [inch]	Q2 [inch]	closest inch	
63	1.77	10.87	2.56	1.57		2	
75	1.81	10.87	2.56	2.13	1.38	2 ½	
90	1.93	12.83	2.83	2.64	1.97	3	
110	2.20	14.57	3.15	3.46	2.91	4	
140	2.52	16.18	3.54	4.45	3.82	5	
160	2.83	16.65	3.94	5.47	4.84	6	
225	2.87	17.80	4.41	7.01	6.65	8	



Butterfly valve type 240 ABS DA (Double acting) Without manual override

Model:

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Control range 90°<

d [mm]	PSI	EPDM Part No.	USD	lbs	
63	150	199 240 442	420.00	4.896	
75	150	199 240 443	431.00	5.108	
90	150	199 240 444	473.00	6.019	
110	150	199 240 445	483.00	7.463	
140	150	199 240 446	557.00	8.986	
160	150	199 240 447	704.00	13.796	
225	150	199 240 448	851.00	16.598	

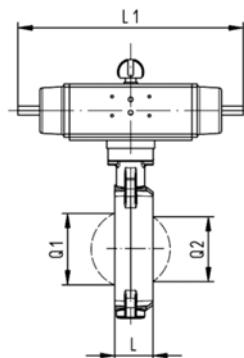
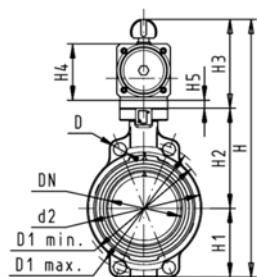
d [mm]	Actuator unit type	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	
63	PA-35 DA	0.75	4.72	4.92	4.09	12.48	3.03	5.28	4.21	2.36	0.59	
75	PA-35 DA	0.75	5.50	5.71	4.53	12.99	3.27	5.51	4.21	2.36	0.59	
90	PA-40 DA	0.75	5.91	6.30	5.16	13.70	3.50	5.75	4.45	2.60	0.59	
110	PA-45 DA	0.75	6.89	7.50	6.34	14.65	4.09	6.57	4.02	2.80		
140	PA-45 DA	0.91	8.27	8.50	7.36	16.06	4.61	7.13	4.37	3.07		
160	PA-55 DA	0.94	9.50	9.50	8.46	17.64	5.12	7.44	5.08	3.39		
225	PA-55 DA	0.91	11.42	11.61	10.51	19.96	6.22	8.27	5.47	3.78		

d [mm]	L [inch]	L1 [inch]	L2 [inch]	Q1 [inch]	Q2 [inch]	closest inch	
63	1.77	6.97	2.17	1.57		2	
75	1.81	6.97	2.17	2.13	1.38	2 ½	
90	1.93	7.48	2.36	2.64	1.97	3	
110	2.20	9.25	2.56	3.46	2.91	4	
140	2.52	9.25	2.83	4.45	3.82	5	
160	2.83	10.98	3.15	5.47	4.84	6	
225	2.87	10.98	3.54	7.01	6.65	8	

Butterfly valve type 240 ABS FO (Fail safe to open) Without manual override

Model:

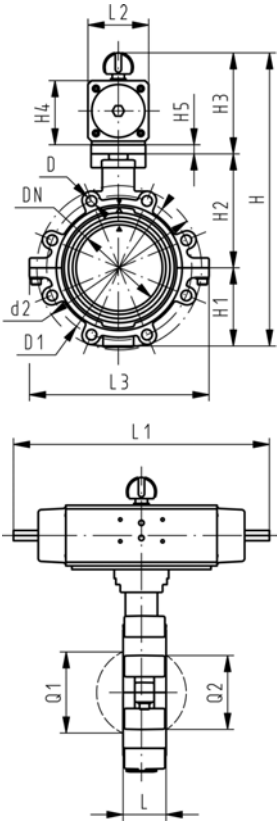
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI B 16.5 Class 150, BS 1560:1989, JIS B 2220
- Overall length according to EN 558-1, ISO 5752
- Control range 90°<



d [mm]	PSI	EPDM Part No.	USD	lbs	
63	150	199 240 422	494.00	7.432	
75	150	199 240 423	504.00	7.643	
90	150	199 240 424	578.00	7.493	
110	150	199 240 425	588.00	11.316	
140	150	199 240 426	777.00	15.049	
160	150	199 240 427	893.00	21.559	
225	150	199 240 428	1187.00	29.826	

d [mm]	Actuator unit type	D [inch]	D1 min. [inch]	D1 max. [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	
63	PA-30 FO	0.75	4.72	4.92	4.09	12.87	3.03	5.28	4.61	2.76	0.59	
75	PA-30 FO	0.75	5.50	5.71	4.53	13.39	3.27	5.51	4.61	2.76	0.59	
90	PA-35 FO	0.75	5.91	6.30	5.16	14.21	3.50	5.75	4.96	3.07	0.59	
110	PA-40 FO	0.75	6.89	7.50	6.34	15.75	4.09	6.57	5.08	3.39		
140	PA-45 FO	0.91	8.27	8.50	7.36	17.17	4.61	7.13	5.47	3.78		
160	PA-50 FO	0.94	9.50	9.50	8.46	18.43	5.12	7.44	5.87	4.17		
225	PA-55 FO	0.91	11.42	11.61	10.51	20.83	6.22	8.27	6.34	4.65		

d [mm]	L [inch]	L1 [inch]	L2 [inch]	Q1 [inch]	Q2 [inch]	closest inch	
63	1.77	10.87	2.56	1.57		2	
75	1.81	10.87	2.56	2.13	1.38	2 ½	
90	1.93	12.83	2.83	2.64	1.97	3	
110	2.20	14.57	3.15	3.46	2.91	4	
140	2.52	16.18	3.54	4.45	3.82	5	
160	2.83	16.65	3.94	5.47	4.84	6	
225	2.87	17.80	4.41	7.01	6.65	8	



Lugstyle butterfly valve type 242 ABS FC (Fail safe to close) Without manual override

C

Model:

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Control range 90°<

Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	199 242 402	588.00	11.581
2 ½	75	150	199 242 403	609.00	12.346
3	90	150	199 242 404	693.00	13.201
4	110	150	199 242 405	704.00	11.532
5	140	150	199 242 406	945.00	26.680
6	160	150	199 242 407	1082.00	35.851
8	225	150	199 242 408	1460.00	51.819

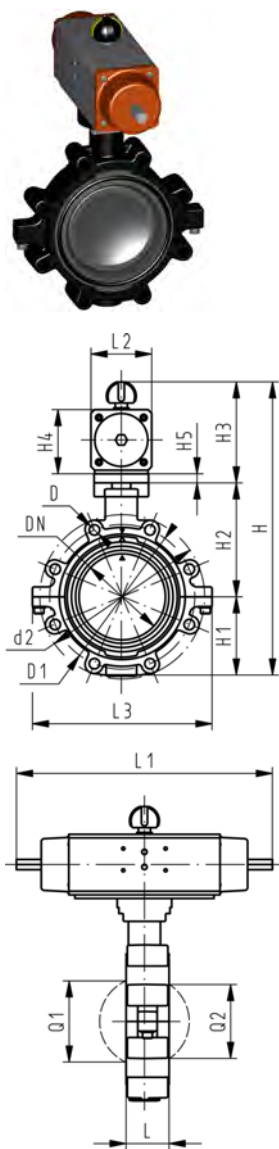
Size	Actuator unit type	D	D1 [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	L [inch]
2	PA-30 FC	UNC 5/8	4.76	5.91	12.91	3.03	5.28	4.61	2.76	0.59	1.77
2 ½	PA-30 FC	UNC 5/8	5.51	6.69	13.39	3.27	5.51	4.61	2.76	0.59	1.81
3	PA-35 FC	UNC 5/8	6.02	6.97	14.21	3.50	5.75	4.96	3.07	0.59	1.93
4	PA-40 FC	UNC 5/8	7.52	8.50	15.75	4.09	6.57	5.08	3.39		2.20
5	PA-45 FC	UNC 3/4	8.50	9.69	17.20	4.61	7.13	5.47	3.78		2.52
6	PA-50 FC	UNC 3/4	9.53	10.75	18.43	5.12	7.44	5.87	4.17		2.83
8	PA-55 FC	UNC 3/4	11.77	13.15	20.83	6.22	8.27	6.34	4.65		2.87

Size	L1 [inch]	L2 [inch]	L3 [inch]	Q1 [inch]	Q2 [inch]
2	10.87	2.56	5.91	1.57	
2 ½	10.87	2.56	6.30	2.13	1.38
3	12.83	2.83	6.89	2.64	1.97
4	14.57	3.15	9.61	3.46	2.91
5	16.18	3.54	10.71	4.45	3.82
6	16.65	3.94	11.69	5.47	4.84
8	17.80	4.41	14.17	7.01	6.65

Lugstyle butterfly valve type 242 ABS FO (Fail safe to open) Without manual override

Model:

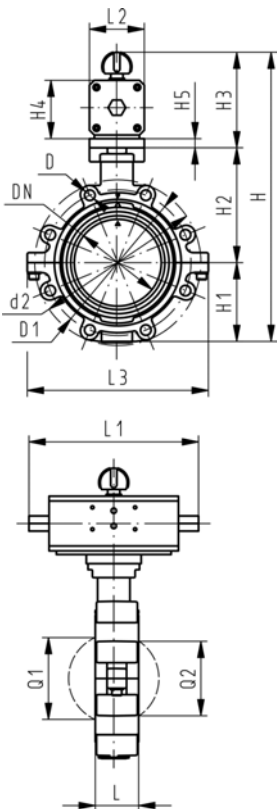
- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Control range 90°<



Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	199 242 422	588.00	11.581
2 ½	75	150	199 242 423	609.00	12.346
3	90	150	199 242 424	693.00	13.201
4	110	150	199 242 425	704.00	11.532
5	140	150	199 242 426	945.00	26.680
6	160	150	199 242 427	1082.00	35.851
8	225	150	199 242 428	1460.00	51.819

Size	Actuator unit type	D	D1 [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	L [inch]
2	PA-30 FO	UNC 5/8	4.76	5.91	12.91	3.03	5.28	4.61	2.76	0.59	1.77
2 ½	PA-30 FO	UNC 5/8	5.51	6.69	13.39	3.27	5.51	4.61	2.76	0.59	1.81
3	PA-35 FO	UNC 5/8	6.02	6.97	14.21	3.50	5.75	4.96	3.07	0.59	1.93
4	PA-40 FO	UNC 5/8	7.52	8.50	15.75	4.09	6.57	5.08	3.39		2.20
5	PA-45 FO	UNC 3/4	8.50	9.69	17.20	4.61	7.13	5.47	3.78		2.52
6	PA-50 FO	UNC 3/4	9.53	10.75	18.43	5.12	7.44	5.87	4.17		2.83
8	PA-55 FO	UNC 3/4	11.77	13.15	20.83	6.22	8.27	6.34	4.65		2.87

Size	L1 [inch]	L2 [inch]	L3 [inch]	Q1 [inch]	Q2 [inch]
2	10.87	2.56	5.91	1.57	
2 ½	10.87	2.56	6.30	2.13	1.38
3	12.83	2.83	6.89	2.64	1.97
4	14.57	3.15	9.61	3.46	2.91
5	16.18	3.54	10.71	4.45	3.82
6	16.65	3.94	11.69	5.47	4.84
8	17.80	4.41	14.17	7.01	6.65



Lugstyle butterfly valve type 242 ABS DA (Double acting) Without manual override

C

Model:

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI B 16.5 Class 150
- Overall length according to EN 558-1, ISO 5752
- Control range 90°<

Size	d [mm]	PSI	EPDM Part No.	USD	lbs
2	63	150	199 242 442	515.00	9.045
2 ½	75	150	199 242 443	536.00	9.810
3	90	150	199 242 444	578.00	11.726
4	110	150	199 242 445	599.00	16.497
5	140	150	199 242 446	723.00	20.617
6	160	150	199 242 447	893.00	28.089
8	225	150	199 242 448	1113.00	38.592

Size	Actuator unit type	D	D1 [inch]	d2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	L [inch]
2	PA-35 DA	UNC 5/8	4.76	5.91	12.52	3.03	5.28	4.21	2.36	0.59	1.77
2 ½	PA-35 DA	UNC 5/8	5.51	6.69	12.99	3.27	5.51	4.21	2.36	0.59	1.81
3	PA-40 DA	UNC 5/8	6.02	6.97	13.70	3.50	5.75	4.45	2.60	0.59	1.93
4	PA-45 DA	UNC 5/8	7.52	8.50	14.69	4.09	6.57	4.02	2.80		2.20
5	PA-45 DA	UNC 3/4	8.50	9.69	16.10	4.61	7.13	4.37	3.07		2.52
6	PA-55 DA	UNC 3/4	9.53	10.75	17.64	5.12	7.44	5.08	3.39		2.83
8	PA-55 DA	UNC 3/4	11.77	13.15	19.96	6.22	8.27	5.47	3.78		2.87

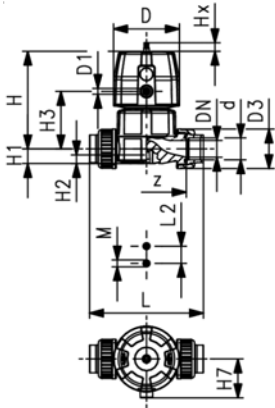
Size	L1 [inch]	L2 [inch]	L3 [inch]	Q1 [inch]	Q2 [inch]
2	6.97	2.17	5.91	1.57	
2 ½	6.97	2.17	6.30	2.13	1.38
3	7.48	2.36	6.89	2.64	1.97
4	9.25	2.56	9.61	3.46	2.91
5	9.25	2.83	10.71	4.45	3.82
6	10.98	3.15	11.69	5.47	4.84
8	10.98	3.54	14.17	7.01	6.65

Diaphragm valves pneumatic

New generation

C

Diaphragm valve DIASTAR Six ABS FC (Fail safe to close) Unions with solvent cement sockets metric



Model:

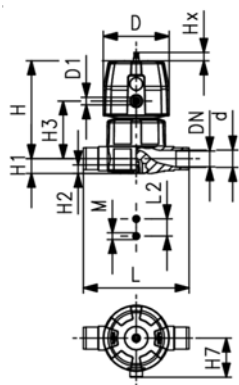
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Designed for easy installation and removal
- Short overall length

Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs									
20	90	169 614 012	196.00	1.153									
25	90	169 614 013	209.00	2.174									
32	90	169 614 014	219.00	2.590									
40	90	169 614 015	276.00	4.358									
50	90	169 614 016	342.00	5.500									
63	90	169 614 017	422.00	7.628									

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H7 [inch]	M	z [inch]	Lift = Hx [inch]	closest inch
20	2.68	1/8	5.04	0.98	3.98	0.55	0.47	2.36	1.69	M6	3.78	0.28	1/2
25	3.78	1/8	5.98	0.98	5.20	0.71	0.47	2.87	2.24	M6	4.49	0.39	3/4
32	3.78	1/8	6.54	0.98	5.63	0.87	0.47	3.31	2.24	M6	4.80	0.51	1
40	4.72	1/8	7.56	1.77	6.81	1.02	0.59	3.90	2.72	M8	5.51	0.55	1 1/4
50	4.72	1/8	8.74	1.77	7.60	1.26	0.59	4.69	2.72	M8	6.30	0.63	1 1/2
63	4.72	1/8	10.47	1.77	8.07	1.54	0.59	5.20	2.72	M8	7.48	0.63	2



Diaphragm valve DIASTAR Six ABS FC (Fail safe to close) With solvent cement spigots metric

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Overall length EN 558

Option:

- Contact customer service for customization

d [mm]	PSI	EPDM Part No.	USD	lbs								
20	90	169 615 012	178.00	1.049								
25	90	169 615 013	190.00	2.026								
32	90	169 615 014	200.00	2.394								
40	90	169 615 015	251.00	3.929								
50	90	169 615 016	311.00	4.987								
63	90	169 615 017	383.00	6.779								

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H7 [inch]	M	Lift = Hx [inch]	closest inch	
20	2.68	1/8	4.88	0.98	3.98	0.55	0.47	2.36	1.69	M6	0.28	1/2	
25	3.78	1/8	5.67	0.98	5.20	0.71	0.47	2.87	2.24	M6	0.39	3/4	
32	3.78	1/8	6.06	0.98	5.63	0.87	0.47	3.31	2.24	M6	0.51	1	
40	4.72	1/8	6.85	1.77	6.81	1.02	0.59	3.90	2.72	M8	0.55	1 1/4	
50	4.72	1/8	7.64	1.77	7.60	1.26	0.59	4.69	2.72	M8	0.63	1 1/2	
63	4.72	1/8	8.82	1.77	8.07	1.54	0.59	5.20	2.72	M8	0.63	2	



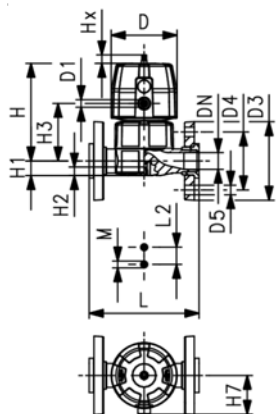
Diaphragm valve DIASTAR Six ABS FC (Fail safe to close) With backing flanges PP-V metric

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Joining face flat
- Overall length EN 558
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, BS 4504 PN 10

Option:

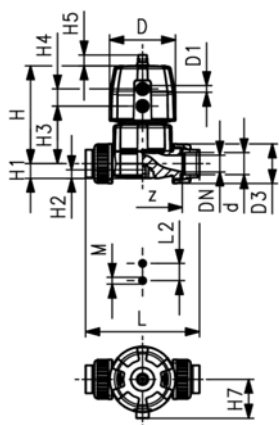
- Contact customer service for customization



d [mm]	PSI	EPDM Part No.	USD	lbs
20	90	169 617 112	205.00	1.437
25	90	169 617 113	219.00	2.522
32	90	169 617 114	229.00	3.100
40	90	169 617 115	288.00	5.026
50	90	169 617 116	358.00	6.168
63	90	169 617 117	441.00	8.781

d [mm]	D [inch]	D1_G [inch]	D3 [inch]	D4 [inch]	D5 [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H7 [inch]	M
20	2.68	1/8	3.74	2.56	0.55	5.12	0.98	3.98	0.55	0.47	2.36	1.69	M6
25	3.78	1/8	4.13	2.95	0.55	5.91	0.98	5.20	0.71	0.47	2.87	2.24	M6
32	3.78	1/8	4.53	3.35	0.55	6.30	0.98	5.63	0.87	0.47	3.31	2.24	M6
40	4.72	1/8	5.51	3.94	0.71	7.09	1.77	6.81	1.02	0.59	3.90	2.72	M8
50	4.72	1/8	5.91	4.33	0.71	7.87	1.77	7.60	1.26	0.59	4.69	2.72	M8
63	4.72	1/8	6.50	4.92	0.71	9.06	1.77	8.07	1.54	0.59	5.20	2.72	M8

d [mm]	Lift = Hx [inch]	closest inch
20	0.28	1/2
25	0.39	3/4
32	0.51	1
40	0.55	1 1/4
50	0.63	1 1/2
63	0.63	2



Diaphragm valve DIASTAR Ten ABS FC (Fail safe to close) Unions with solvent cement sockets metric

C

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Designed for easy installation and removal
- Short overall length

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

* PN: PTFE

Working Pressure: **one side**

d [mm]	EPDM Part No.	USD	lbs												
20	169 624 012	280.00	1.210												
25	169 624 013	299.00	2.339												
32	169 624 014	313.00	2.749												
40	169 624 015	394.00	4.689												
50	169 624 016	489.00	8.009												
63	169 624 017	602.00	9.658												

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H7 [inch]	M	z [inch]		
20	2.68	⅜	5.04	0.98	3.98	0.55	0.47	2.36	0.94	0.63	1.69	M6	3.78		
25	3.78	⅜	5.98	0.98	5.20	0.71	0.47	2.87	0.98	0.63	2.24	M6	4.49		
32	3.78	⅜	6.54	0.98	5.63	0.87	0.47	3.31	0.98	0.63	2.24	M6	4.80		
40	4.72	⅜	7.56	1.77	6.81	1.02	0.59	3.90	1.02	1.02	2.72	M8	5.51		
50	5.91	¼	8.74	1.77	8.43	1.26	0.59	4.69	1.42	1.02	3.46	M8	6.30		
63	5.91	¼	10.47	1.77	8.90	1.54	0.59	5.20	1.42	1.02	3.46	M8	7.48		

d [mm]	Lift = Hx [inch]	closest inch										
20	0.28	½										
25	0.39	¾										
32	0.51	1										
40	0.59	1 ¼										
50	0.75	1 ½										
63	0.91	2										



Diaphragm valve DIASTAR Ten ABS FC (Fail safe to close) With solvent cement spigots metric

Model:

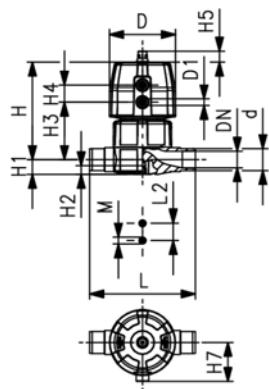
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Overall length EN 558

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

* PN: PTFE

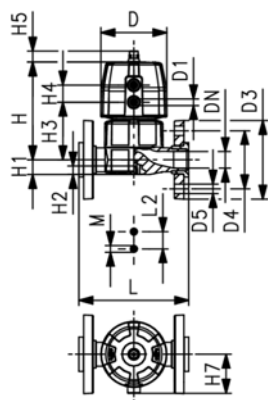
Working Pressure: **one side**



d [mm]	EPDM Part No.	USD	lbs
20	169 625 012	255.00	1.107
25	169 625 013	272.00	2.191
32	169 625 014	285.00	2.553
40	169 625 015	358.00	4.259
50	169 625 016	444.00	7.760
63	169 625 017	548.00	8.810

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H7 [inch]	M	Lift = Hx [inch]
20	2.68	1/8	4.88	0.98	3.98	0.55	0.47	2.36	0.94	0.63	1.69	M6	0.28
25	3.78	1/8	5.67	0.98	5.20	0.71	0.47	2.87	0.98	0.63	2.24	M6	0.39
32	3.78	1/8	6.06	0.98	5.63	0.87	0.47	3.31	0.98	0.63	2.24	M6	0.51
40	4.72	1/8	6.85	1.77	6.81	1.02	0.59	3.90	1.02	1.02	2.72	M8	0.59
50	5.91	1/4	7.64	1.77	8.43	1.26	0.59	4.69	1.42	1.02	3.46	M8	0.75
63	5.91	1/4	8.82	1.77	8.90	1.54	0.59	5.20	1.42	1.02	3.46	M8	0.91

d [mm]	closest inch
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2



Diaphragm valve DIASTAR Ten ABS FC (Fail safe to close) With backing flanges PP-V metric

C

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Joining face flat
- Overall length EN 558
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, BS 4504 PN 10

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

* PN: PTFE

Working Pressure: **one side**

d [mm]	EPDM Part No.	USD	lbs
20	169 627 112	293.00	1.495
25	169 627 113	313.00	2.687
32	169 627 114	327.00	3.258
40	169 627 115	412.00	5.357
50	169 627 116	511.00	8.677
63	169 627 117	630.00	10.811

d [mm]	D [inch]	D1_G [inch]	D3 [inch]	D4 [inch]	D5 [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]
20	2.68	⅜	3.74	2.56	0.55	5.12	0.98	3.98	0.55	0.47	2.36	0.94	0.63
25	3.78	⅜	4.13	2.95	0.55	5.91	0.98	5.20	0.71	0.47	2.87	0.98	0.63
32	3.78	⅜	4.53	3.35	0.55	6.30	0.98	5.63	0.87	0.47	3.31	0.98	0.63
40	4.72	⅜	5.51	3.94	0.71	7.09	1.77	6.81	1.02	0.59	3.90	1.02	1.02
50	5.91	¼	5.91	4.33	0.71	7.87	1.77	7.60	1.26	0.59	4.69	1.42	1.02
63	5.91	¼	6.50	4.92	0.71	9.06	1.77	8.07	1.54	0.59	5.20	1.42	1.02

d [mm]	H7 [inch]	M	Lift = Hx [inch]	closest inch
20	1.69	M6	0.28	½
25	2.24	M6	0.39	¾
32	2.24	M6	0.51	1
40	2.72	M8	0.59	1 ¼
50	3.46	M8	0.75	1 ½
63	3.46	M8	0.91	2

Diaphragm valve DIASTAR Ten ABS FO (Fail safe to open) Unions with solvent cement sockets metric



Model:

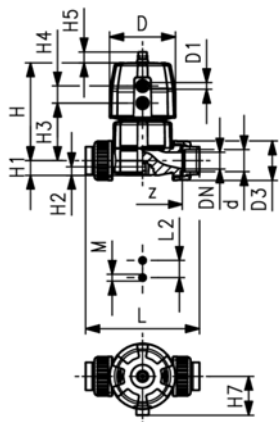
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Designed for easy installation and removal
- Short overall length

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

* PN: PTFE

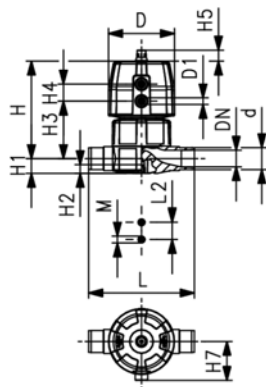
Working Pressure: **one side**



d [mm]	EPDM Part No.	USD	lbs
20	169 644 012	210.00	1.100
25	169 644 013	224.00	1.955
32	169 644 014	235.00	2.352
40	169 644 015	295.00	3.896
50	169 644 016	367.00	7.811
63	169 644 017	452.00	9.460

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H7 [inch]	M	z [inch]
20	2.68	⅜	5.04	0.98	3.98	0.55	0.47	2.36	0.94	0.63	1.69	M6	3.78
25	3.78	⅜	5.98	0.98	5.20	0.71	0.47	2.87	0.98	0.63	2.24	M6	4.49
32	3.78	⅜	6.54	0.98	5.63	0.87	0.47	3.31	0.98	0.63	2.24	M6	4.80
40	4.72	⅜	7.56	1.77	6.81	1.02	0.59	3.90	1.02	1.02	2.72	M8	5.51
50	5.91	¼	8.74	1.77	8.43	1.26	0.59	4.69	1.42	1.02	3.46	M8	6.30
63	5.91	¼	10.47	1.77	8.90	1.54	0.59	5.20	1.42	1.02	3.46	M8	7.48

d [mm]	Lift = Hx [inch]	closest inch
20	0.28	½
25	0.39	¾
32	0.51	1
40	0.59	1 ¼
50	0.75	1 ½
63	0.91	2



Diaphragm valve DIASTAR Ten ABS FO (Fail safe to open) With solvent cement spigots metric

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Overall length EN 558

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

* PN: PTFE

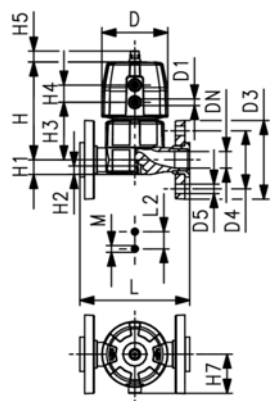
Working Pressure: **one side**

d [mm]	EPDM Part No.	USD	lbs
20	169 645 012	191.00	0.996
25	169 645 013	204.00	1.808
32	169 645 014	214.00	2.154
40	169 645 015	269.00	3.466
50	169 645 016	333.00	7.297
63	169 645 017	411.00	8.611

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H7 [inch]	M	Lift = Hx [inch]
20	2.68	⅜	4.88	0.98	3.98	0.55	0.47	2.36	0.94	0.63	1.69	M6	0.28
25	3.78	⅜	5.67	0.98	5.20	0.71	0.47	2.87	0.98	0.63	2.24	M6	0.39
32	3.78	⅜	6.06	0.98	5.63	0.87	0.47	3.31	0.98	0.63	2.24	M6	0.51
40	4.72	⅜	6.85	1.77	6.81	1.02	0.59	3.90	1.02	1.02	2.72	M8	0.59
50	5.91	¼	7.64	1.77	8.43	1.26	0.59	4.69	1.42	1.02	3.46	M8	0.75
63	5.91	¼	8.82	1.77	8.90	1.54	0.59	5.20	1.42	1.02	3.46	M8	0.91

d [mm]	closest inch
20	⅜
25	¾
32	1
40	1 ¼
50	1 ½
63	2

Diaphragm valve DIASTAR Ten ABS FO (Fail safe to open) With backing flanges PP-V metric



Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Joining face flat
- Overall length EN 558
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, BS 4504 PN 10

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

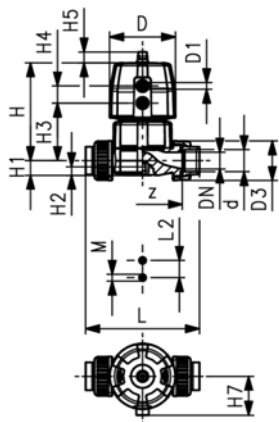
* PN: PTFE

Working Pressure: **one side**

d [mm]	EPDM Part No.	USD	lbs
20	169 647 112	220.00	1.384
25	169 647 113	235.00	2.304
32	169 647 114	246.00	2.862
40	169 647 115	309.00	4.564
50	169 647 116	383.00	8.479
63	169 647 117	472.00	10.613

d [mm]	D [inch]	D1_G [inch]	D3 [inch]	D4 [inch]	D5 [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]
20	2.68	⅜	3.74	2.56	0.55	5.12	0.98	3.98	0.55	0.47	2.36	0.94	0.63
25	3.78	⅜	4.13	2.95	0.55	5.91	0.98	5.20	0.71	0.47	2.87	0.98	0.63
32	3.78	⅜	4.53	3.35	0.55	6.30	0.98	5.63	0.87	0.47	3.31	0.98	0.63
40	4.72	⅜	5.51	3.94	0.71	7.09	1.77	6.81	1.02	0.59	3.90	1.02	1.02
50	5.91	¼	5.91	4.33	0.71	7.87	1.77	8.43	1.26	0.59	4.69	1.42	1.02
63	5.91	¼	6.50	4.92	0.71	9.06	1.77	8.90	1.54	0.59	5.20	1.42	1.02

d [mm]	H7 [inch]	M	Lift = Hx [inch]	closest inch
20	1.69	M6	0.28	½
25	2.24	M6	0.39	¾
32	2.24	M6	0.51	1
40	2.72	M8	0.59	1 ¼
50	3.46	M8	0.75	1 ½
63	3.46	M8	0.91	2



Diaphragm valve DIASTAR Ten ABS DA (Double acting) Unions with solvent cement sockets metric

C

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Designed for easy installation and removal
- Short overall length

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

* PN: PTFE

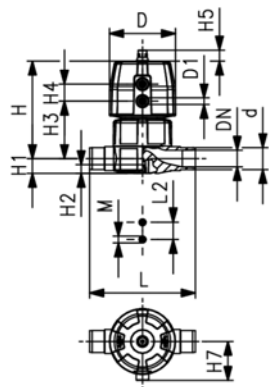
Working Pressure: **one side**

d [mm]	EPDM Part No.	USD	lbs										
20	169 654 012	210.00	1.065										
25	169 654 013	224.00	1.876										
32	169 654 014	235.00	2.286										
40	169 654 015	295.00	3.763										
50	169 654 016	367.00	6.157										
63	169 654 017	452.00	7.806										

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H7 [inch]	M	z [inch]	
20	2.68	⅜	5.04	0.98	3.98	0.55	0.47	2.36	0.94	0.63	1.69	M6	3.78	
25	3.78	⅜	5.98	0.98	5.20	0.71	0.47	2.87	0.98	0.63	2.24	M6	4.49	
32	3.78	⅜	6.54	0.98	5.63	0.87	0.47	3.31	0.98	0.63	2.24	M6	4.80	
40	4.72	⅜	7.56	1.77	6.81	1.02	0.59	3.90	1.02	1.02	2.72	M8	5.51	
50	5.91	¼	8.74	1.77	8.43	1.26	0.59	4.69	1.42	1.02	3.46	M8	6.30	
63	5.91	¼	10.47	1.77	8.90	1.54	0.59	5.20	1.42	1.02	3.46	M8	7.48	

d [mm]	Lift = Hx [inch]	closest inch											
20	0.28	½											
25	0.39	¾											
32	0.51	1											
40	0.59	1 ¼											
50	0.75	1 ½											
63	0.91	2											

Diaphragm valve DIASTAR Ten ABS DA (Double acting) With solvent cement spigots metric



Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Overall length EN 558

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

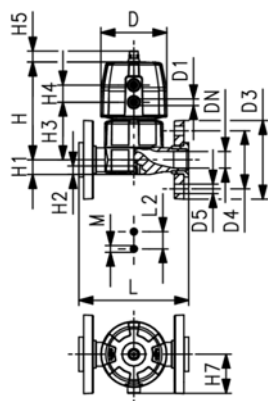
* PN: PTFE

Working Pressure: **one side**

d [mm]	EPDM Part No.	USD	lbs
20	169 655 012	191.00	0.961
25	169 655 013	204.00	1.728
32	169 655 014	214.00	2.088
40	169 655 015	269.00	3.333
50	169 655 016	333.00	5.644
63	169 655 017	411.00	6.958

d [mm]	D [inch]	D1_G [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H7 [inch]	M	Lift = Hx [inch]
20	2.68	1/8	4.88	0.98	3.98	0.55	0.47	2.36	0.94	0.63	1.69	M6	0.28
25	3.78	1/8	5.67	0.98	5.20	0.71	0.47	2.87	0.98	0.63	2.24	M6	0.39
32	3.78	1/8	6.06	0.98	5.63	0.87	0.47	3.31	0.98	0.63	2.24	M6	0.51
40	4.72	1/8	6.85	1.77	6.81	1.02	0.59	3.90	1.02	1.02	2.72	M8	0.59
50	5.91	1/4	7.64	1.77	8.43	1.26	0.59	4.69	1.42	1.02	3.46	M8	0.75
63	5.91	1/4	8.82	1.77	8.90	1.54	0.59	5.20	1.42	1.02	3.46	M8	0.91

d [mm]	closest inch
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2



Diaphragm valve DIASTAR Ten ABS DA (Double acting) With backing flanges PP-V metric

C

Model:

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Joining face flat
- Overall length EN 558
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, BS 4504 PN 10

Option:

- Contact customer service for customization
- Comprehensive range of accessories available

* PN: PTFE

Working Pressure: **one side**

d [mm]	EPDM Part No.	USD	lbs
20	169 657 112	220.00	1.349
25	169 657 113	235.00	2.224
32	169 657 114	246.00	2.795
40	169 657 115	309.00	4.431
50	169 657 116	383.00	6.825
63	169 657 117	472.00	8.959

d [mm]	D [inch]	D1_G [inch]	D3 [inch]	D4 [inch]	D5 [inch]	L [inch]	L2 [inch]	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]
20	2.68	⅜	3.74	2.56	0.55	5.12	0.98	3.98	0.55	0.47	2.36	0.94	0.63
25	3.78	⅜	4.13	2.95	0.55	5.91	0.98	5.20	0.71	0.47	2.87	0.98	0.63
32	3.78	⅜	4.53	3.35	0.55	6.30	0.98	5.63	0.87	0.47	3.31	0.98	0.63
40	4.72	⅜	5.51	3.94	0.71	7.09	1.77	6.81	1.02	0.59	3.90	1.02	1.02
50	5.91	¼	5.91	4.33	0.71	7.87	1.77	8.43	1.26	0.59	4.69	1.42	1.02
63	5.91	¼	6.50	4.92	0.71	9.06	1.77	8.90	1.54	0.59	5.20	1.42	1.02

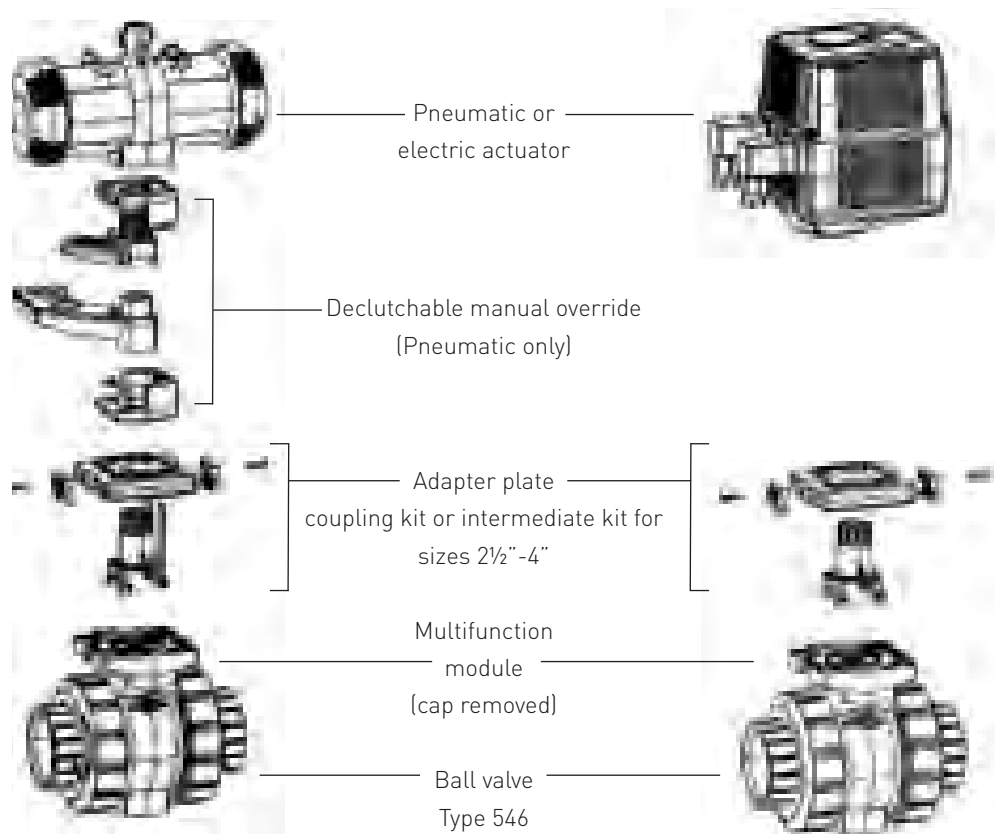
d [mm]	H7 [inch]	M	Lift = Hx [inch]	closest inch
20	1.69	M6	0.28	½
25	2.24	M6	0.39	¾
32	2.24	M6	0.51	1
40	2.72	M8	0.59	1 ¼
50	3.46	M8	0.75	1 ½
63	3.46	M8	0.91	2

Actuated Ball Valves Accessories and Component Parts

Valve Assembly for 2- and 3-way Valves*

With manual override

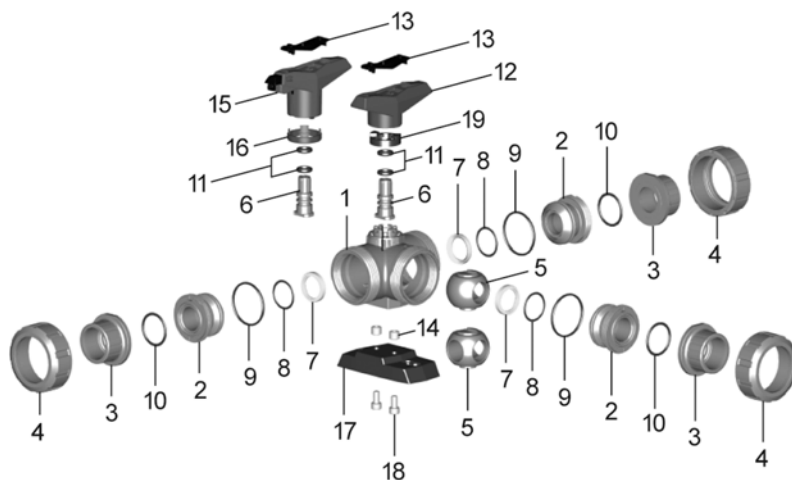
Without manual override



Note: Three-way valves use one complete kit to attach actuator to valve. See assembly kit on next page.

Valve type	Actuator	For valve sizes
Type 107	EA11	all
Type 133	EA21	3/8"–2"
	EA31	2½"–4"
Type 233	PA11	3/8"–1"
	PA21	1¼"–2"
	PA30	2½" FC/FO
	PA35	2½" DA
	PA40	3"–4" FC/FO
	PA45	3"–4" DA

Accessories ball valve type 543 horizontal



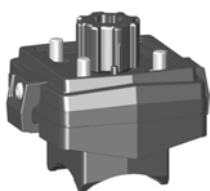
Assembly kit

C

Model:

- Intermediate element for ball valve type 543 horizontal and electric or pneumatic actuators EA21; PA11/21
- Including screws and position indicator for actuators

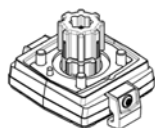
d [mm]	Inch [inch]	DN [mm]	Part No.	USD	lbs	
16 - 20	3/8 - 1/2	10 - 15	167 484 941	103.00	0.344	
25 - 32	3/4 - 1	20 - 25	167 484 942	113.00	0.414	
40 - 50	1 1/4 - 1 1/2	32 - 40	167 484 943	123.00	0.465	
63	2	50	167 484 944	136.00	0.595	



Adapter Plate and Coupling For Actuator Units

C

d-d [mm]	Inch [inch]	DN-DN [mm]	Part No.	USD	lbs	
16 - 20	3/8 - 1/2	10 - 15	198 150 556	22.00	0.282	
25 - 32	3/4 - 1	20 - 25	198 150 557	22.00	0.300	
40 - 50	1 1/4 - 1 1/2	32 - 40	198 150 558	22.00	0.265	
- 63	- 2	- 50	198 150 559	22.00	0.309	



Declutchable Manual Override for Pneumatic Actuator PA 11 and PA 21

C

DN-DN [mm]	Inch [inch]	Part No.	USD	lbs	
10 - 25	3/8 - 1	198 000 500	109.00	0.551	
32 - 50	1 1/4 - 2	198 000 501	109.00	0.582	





Electric Actuator Type EA11

C

Note:

F05 (WS11/14) per EN ISO 5211 with adapter 198.000.587

Voltage	Part No.	USD	lbs	
100-230 V~	198 150 180	328.00	4.094	
24 V= / ~	198 150 181	328.00	4.072	



Electric Actuator Type EA21

C

Note:

F05 (WS11/14) per EN ISO 5211 with adapter 198.000.587

Voltage	Part No.	USD	lbs	
100-230 V~	198 150 182	673.00	4.835	
24 V= / ~	198 150 183	673.00	4.784	



Electric Actuator Type EA31

C

Note:

F07 (WS 17) per EN ISO 5211 (2"-6½")

Voltage	Part No.	USD	lbs	
100-230 V~	198 150 184	1050.00	7.795	
24 V= / ~	198 150 185	1050.00	7.738	



Pneumatic Actuator Type PA11/PA21 Fail safe to close (FC)

C

Type	DN-DN [mm]	Inch [inch]	Part No.	USD	lbs	
PA 11 FC	10 - 25	3/8 - 1	198 150 127	217.00	1.653	
PA 21 FC	32 - 50	1 1/4 - 2	198 150 130	258.00	3.186	



Pneumatic Actuator Type PA11/PA21 Fail safe to open (FO)

C

Type	DN-DN [mm]	Inch [inch]	Part No.	USD	lbs	
PA 11 FO	10 - 25	3/8 - 1	198 150 128	217.00	1.709	
PA 21 FO	32 - 50	1 1/4 - 2	198 150 131	258.00	3.128	



Pneumatic Actuator Type PA11/PA21 Double action (DA)

C

Type	DN-DN [mm]	Inch [inch]	Part No.	USD	lbs	
PA 11 DA	10 - 25	3/8 - 1	198 150 129	198.00	1.195	
PA 21 DA	32 - 50	1 1/4 - 2	198 150 132	227.00	2.194	



Pneumatic Actuator Type PA11/PA21 Fail Safe to Close (FC) with Stroke Limiter

C

Type	DN-DN [mm]	Inch [inch]	Part No.	USD	lbs	
PA 11 FC	10 - 25	3/8 - 1	198 150 144	309.00	1.883	
PA 21 FC	32 - 50	1 1/4 - 2	198 150 147	350.00	3.547	



Pneumatic Actuator Type PA11/PA21 Fail safe to open (FO) with stroke limiter

C

Type	DN-DN [mm]	Inch [inch]	Part No.	USD	lbs	
PA 11 FO	10 - 25	3/8 - 1	198 150 145	309.00	1.845	
PA 21 FO	32 - 50	1 1/4 - 2	198 150 148	350.00	3.547	



Pneumatic Actuator Type PA11/PA21 Double action (DA) with stroke limiter

C

Type	DN-DN [mm]	Inch [inch]	Part No.	USD	lbs	
PA 11 DA	10 - 25	3/8 - 1	198 150 146	271.00	1.426	
PA 21 DA	32 - 50	1 1/4 - 2	198 150 149	303.00	2.612	



Pneumatic Actuator Type PA30 PA90

Fail safe to close/fail safe to open (FC/FO)

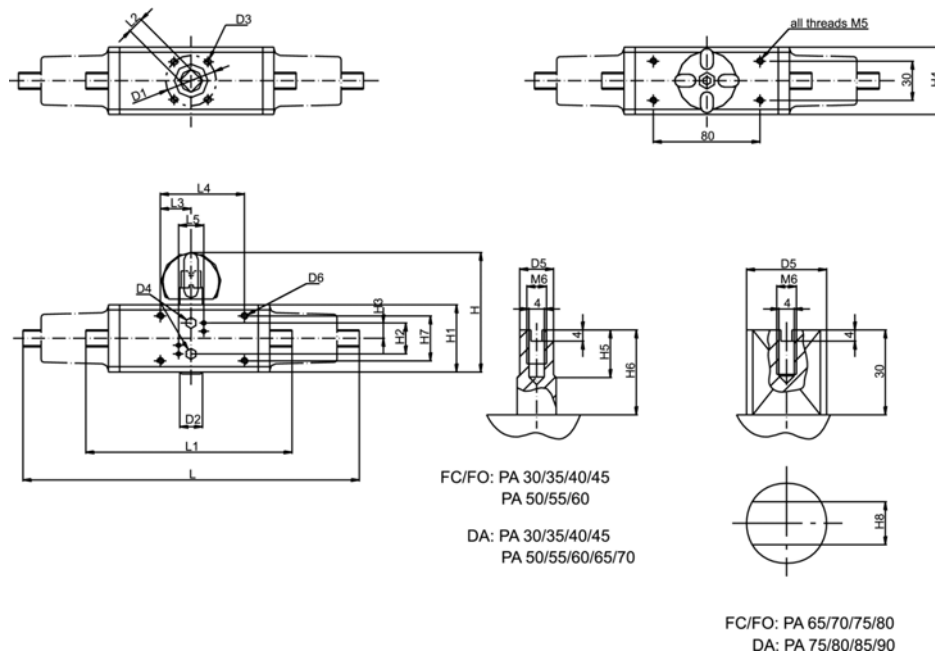
C

* Only valid for butterfly valve type 240, 241, 242 and ball valve type 230 - 235

Type	hard anodized Part No.	USD
PA 30 FC/FO	198 800 757	441.00
PA 35 FC/FO	198 800 037	481.00
PA 40 FC/FO	198 800 728	584.00

Type		D1 [inch]	D2 [inch]	D3 [mm]	D4 [inch]	D5 [inch]	L [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]
PA 30 FC/FO	F04	1.65	1.18	M5x9		0.39	10.87	0.43	1.38	2.76	1.26
PA 35 FC/FO	F05	1.97	1.38	M6x11		0.47	12.83	0.55	1.38	2.76	1.26
PA 40 FC/FO	F05	1.97	1.38	M6x11		0.47	14.57	0.55	1.38	2.76	1.26

Type	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	H7 [inch]	H8 [inch]
PA 30 FC/FO	4.02	2.76	0.83	0.71	2.56	0.51	0.79	1.42	
PA 35 FC/FO	4.37	3.07	0.83	0.71	2.83	0.51	0.79	1.42	
PA 40 FC/FO	5.08	3.39	0.98	0.83	3.15	0.51	1.18	1.42	





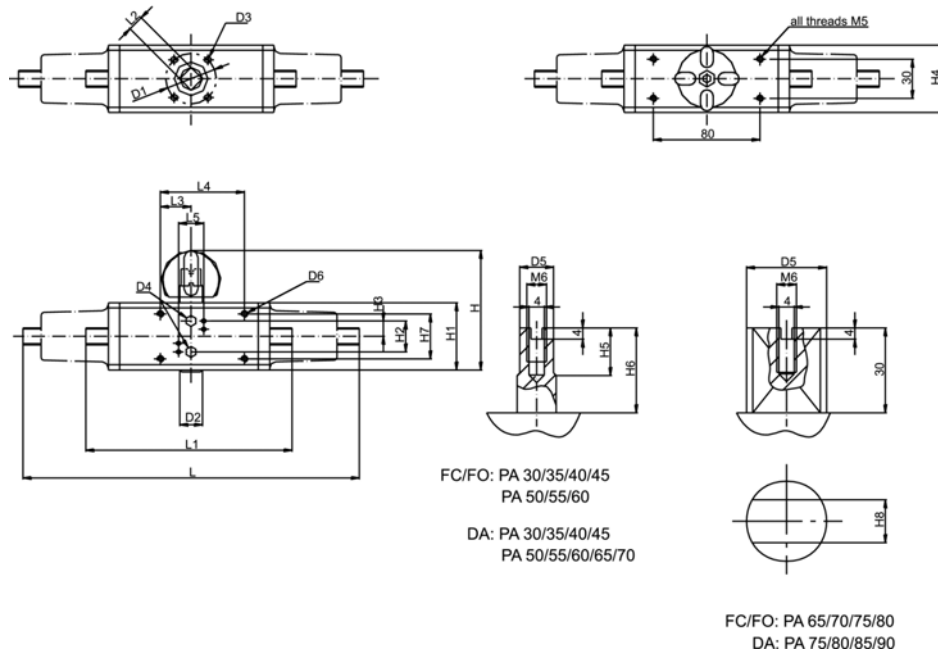
Pneumatic Actuator Type PA30 PA90 Double acting (DA)

C

Type	hard anodized Part No.	USD	lbs									
PA 35 DA	198 800 758	316.00	2.967									
PA 40 DA	198 800 759	322.00	3.816									
PA 45 DA	198 800 040	381.00	4.751									

Type		D1 [inch]	D2 [inch]	D3 [mm]	D4 [inch]	D5 [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	H [inch]
PA 35 DA	F03	1.65	1.18	M5x9	1/8	0.39	7.48	0.43	1.38	2.76		3.86
PA 40 DA	F05	1.65	1.18	M5x9	1/8	0.39	7.80	0.43	1.38	2.76		4.02
PA 45 DA	F05	1.97	1.38	M6x11	1/8	0.47	9.25	0.55	1.38	2.76		4.37

Type	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	H7 [inch]	H8 [inch]
PA 35 DA	2.60	0.98	0.51	2.36	0.51	0.79	1.42	
PA 40 DA	2.76	0.83	0.71	2.56	0.51	0.79	1.42	
PA 45 DA	3.07	0.83	0.71	2.83	0.51	0.79	1.42	



Ball Valve Bracket Type 175-7/275-7

C

Model:

- For EA21 and PA11/21 to ball valve 343

Type of actuator	d-d [mm]	Inch [inch]	DN-DN [mm]	Master gauge	EPDM Part No.	USD	lbs	
EA21 / PA11	16 - 20	3/8 - 1/2	10 - 15	F04 / F05	198 000 570	130.00	0.373	
EA21 / PA11	- 25	3/4	- 20	F04 / F05	198 000 571	130.00	0.392	
EA21 / PA11	- 32	1	- 25	F04 / F05	198 000 572	130.00	0.467	
EA21 / PA21	- 40	1 1/4	- 32	F05	198 000 573	148.00	0.478	
EA21 / PA21	- 50	1 1/2	- 40	F05	198 000 574	148.00	0.525	
EA21 / PA21	- 63	2	- 50	F05	198 000 575	175.00	0.754	

Ball Valve Bracket Type 178/278

C

Model:

- For EA21 and PA11/21 to ball valves 343 vertical and 346 retro sizes 3/8" - 1 1/4"
- 3-way ball valve only with EA21

Type of actuator	d-d [mm]	Inch [inch]	DN-DN [mm]	Master gauge	EPDM Part No.	USD	lbs	
PA11 / EA11/21	16 - 20	3/8 - 1/2	10 - 15	F05	198 000 580	130.00	0.809	
PA11 / EA21	- 25	3/4	- 20	F05	198 000 581	130.00	0.922	
PA11 / EA11/21	- 32	1	- 25	F05	198 000 582	130.00	0.902	
PA21 / EA21	- 40	1 1/4	- 32	F05	198 000 583	148.00	1.003	
PA21 / EA21	- 50	1 1/2	- 40	F05	198 000 584	148.00	0.650	
PA21 / EA21	- 63	2	- 50	F05	198 000 585	175.00	0.763	



For Electric Actuators Type EA11/EA21/EA31/EA42 Heating element

C

Voltage	Part No.	USD	lbs	
24 V=	199 190 086	97.00	0.112	



For Electric Actuators Type EA11/EA21/EA31/EA42 Fail safe return

C

Voltage	Part No.	USD	lbs	
24 V=	199 190 085	389.00	1.720	



For Electric Actuators Type EA11/EA21/EA31/EA42 Heating element and fail safe

C

Voltage	Part No.	USD	lbs	
24 V=	199 190 087	396.00	0.441	



**For Electric Actuators
Type EA11/EA21/EA31/EA42
Spare battery kit**

C

Voltage	Part No.	USD	lbs
24 V=	198 151 317	330.00	1.446



**For Electric Actuators
Type EA11/EA21/EA31/EA42
Limit Switch Kit with Mechanical Limit Switches AgNi**

C

Voltage	Part No.	USD	lbs
250 V ~6 A	199 190 092	89.00	0.408



**For Electric Actuators
Type EA21/EA31/EA42
Monitor print**

C

Part No.	USD	lbs
199 190 099	235.00	0.044



**For Electric Actuators
Type EA21/EA31/EA42
Cycle time extension**

C

Model:

- Monitoring print required

Part No.	USD	lbs
199 190 080	51.00	0.004



**For Electric Actuators
Type EA21/EA31/EA42
Cycle time monitoring**

C

Model:

- Monitoring print required

Part No.	USD	lbs
199 190 082	51.00	0.044



**For Electric Actuators
Type EA21/EA31/EA42
Cycle counter**

C

Model:

- Monitoring print required

Part No.	USD	lbs
199 190 083	51.00	0.044



For Electric Actuators Type EA21/EA31/EA42 Position sensor 4-20mA

C

Model:

- Enables a 4... 20mA feedback signal
- Must be used with either the PE25 positioner or the monitoring print

Part No.	USD	lbs	
199 190 084	195.00	0.044	



For Electric Actuators Type EA21/EA31/EA42 Positioner PE25

C

Model:

- Positioner must use position signalization 199 190 084
- ** galvanic isolated set value inputs
- * not galvanic isolated set value inputs

Voltage	Part No.	USD	lbs	
* 24 V=	199 190 100	526.00	0.441	



For Electric Actuators Type EA21/EA31/EA42 Limit switch AU

C

Voltage	Part No.	USD	lbs	
30 V=, 100mA	199 190 093	125.00	0.106	



For Electric Actuators Type EA21/EA31/EA42 Limit switch PNP

C

Voltage	Part No.	USD	lbs	
5-30 V= 0,1 A	199 190 095	316.00	0.441	



For Electric Actuators Type EA21/EA31/EA42 Limit switch NPN

C

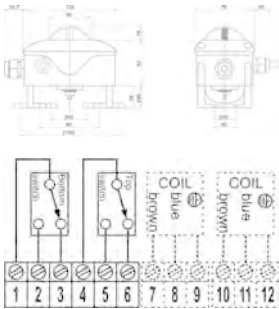
Voltage	Part No.	USD	lbs	
5-30 V= 0,1 A	199 190 096	316.00	0.441	



For Electric Actuators Type EA21/EA31/EA42 Middle positioning (1 switch)

C

Voltage	Part No.	USD	lbs	
4-30 V= 1-100 mA	199 190 094	130.00	0.441	

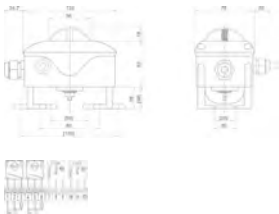


For Actuator Units Pneumatic Type PA11 - PA90 Limit switch box with 2 auxiliary switches

C

- Including namur mounting flange

Voltage	Part No.	USD	lbs	
250 V ~/10 A	199 190 282	278.00	0.595	

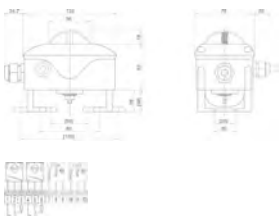


For Actuator Units Pneumatic Type PA11 - PA90 Limit Switch Box with 2 Inductive Auxiliary Switches NPN with Luminous Diode

C

- Including namur mounting flange

Voltage	Part No.	USD	lbs	
10...30 V/ 0.1 A	199 190 283	449.00	1.168	

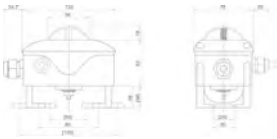


For Actuator Units Pneumatic Type PA11 - PA90 Limit Switch Box with 2 Inductive Auxiliary Switches PNP with Luminous Diode

C

- Including namur mounting flange

Voltage	Part No.	USD	lbs	
10...30 V/ 0.1 A	199 190 284	449.00	1.168	



For Actuator Units Pneumatic Type PA11 - PA90 Limit Switch Box with 2 Inductive Auxiliary Switches Namur Eexi (intrinsically safe)

C

- Including namur mounting flange

Voltage	Part No.	USD	lbs	
5-15 V	199 190 285	455.00	0.626	



For Actuator Units Pneumatic Type PA11 - PA90 Limit Switch Box with 2 Auxiliary Switches Eexd

C

- Including namur mounting flange

Voltage	Part No.	USD	lbs	
250 V ~/5 A	199 190 286	890.00	4.295	

BSP to NPT Brass Adapter

C

Size	Part No.	USD	lbs	
1/8" male BSP to 1/8" female NPT	150 101 038	4.00	0.002	
1/4" male BSP to 1/4" female NPT	150 101 037	8.00	0.002	



For Pneumatic Actuators Type PA11 - PA90 Namur mounting flange

C

No	Part No.	USD	lbs	
3	199 190 281	42.00	0.529	

Butterfly Valve Actuator Accessories and Components

Intermediate Kit Without Manual Override

C

Inch	Type	Part No.
2	PA30 FC/FO	198 000 595
2	PA35 DA	198 000 595
2½	PA30 FC/FO	198 000 595
2½	PA35 DA	198 000 595
3	PA40 DA	198 000 595
3	PA35 FC/FO	198 000 596
4	PA40 FC/FO	198 000 600
4	PA45 DA	198 000 600
5	PA45 DA	198 000 600
5	PA45 FC/FO	198 000 597
6	PA55 DA	198 000 600
6	PA50 FC	198 000 599
8	PA55 FC/FO	198 000 598
8	PA55 DA	198 000 600
10	PA65 FC/FO	198 000 730
10	PA65 DA	198 000 731
12	PA70 FC/FO	198 000 730
12	PA70 DA	198 000 731

Part No.	USD	lbs
198 000 595	69.00	0.681
198 000 596	82.00	0.714
198 000 600	29.00	0.220
198 000 597	93.00	0.223
198 000 598	93.00	0.245
198 000 599	29.00	0.220
198 000 730	77.00	0.661
198 000 731	63.00	0.661

Intermediate Kit Electric type 140 / 141 / 142 Without manual override

C

Inch	Type	Part No.
2	EA31	198 000 601
2½	EA31	198 000 601
3	EA31	198 000 601
4	EA31	198 000 602
5	EA31	198 000 602
6	EA31	198 000 599
8	EA42	198 000 603
10	EA42	198 000 732

Part No.	USD	lbs
198 000 601	93.00	0.225
198 000 602	114.00	0.245
198 000 603	96.00	0.331

Intermediate Kit
Electric type 140 / 141 / 142
With manual override

C

d-d [mm]	DN-DN [mm]	Type of actuator	Part No.	USD	lbs	
63 - 90	50 - 80	EA31	198 000 623	732.00	3.748	
110 - 140	100 - 125	EA31	198 000 624	732.00	4.037	
160 -	150 -	EA31	198 000 625	732.00	3.902	
225 -	200 -	EA42	198 000 627	732.00	3.748	



Electric Actuator Type EA31

C

Note:

F07 (WS 17) per EN ISO 5211 (2"-6½")

Voltage	Part No.	USD	lbs	
100-230 V~	198 150 184	1050.00	7.795	
24 V= / ~	198 150 185	1050.00	7.738	



Electric Actuator Type EA42

C

Note:

F07 (WS 22) per EN ISO 5211 (8"-10")

Voltage	Part No.	USD	lbs	
100-230 V~	198 150 186	1453.00	11.012	
24 V= / ~	198 150 187	1453.00	4.740	



Pneumatic Actuator Type PA30 PA90

Fail safe to close/fail safe to open (FC/FO)

C

* Only valid for butterfly valve type 240, 241, 242 and ball valve type 230 - 235

Type	hard anodized Part No.	USD
PA 30 FC/FO	198 800 757	441.00
* PA 30 FO	198 811 025	399.00
PA 35 FC/FO	198 800 037	481.00
* PA 35 FO	198 811 026	459.00
PA 40 FC/FO	198 800 728	584.00
* PA 40 FO	198 811 027	524.00
PA 45 FC/FO	198 800 039	638.00
* PA45 FO	198 811 028	638.00
PA 50 FC/FO	198 800 729	882.00
* PA50 FO	198 811 029	798.00
PA 55 FC/FO	198 800 041	985.00
* PA 55 FO	198 811 030	985.00
PA 60 FC/FO	198 800 730	1120.00
PA 65 FC/FO	198 800 043	1209.00
PA 70 FC/FO	198 800 731	1575.00
* PA 70 FO	198 811 198	1499.00
PA 75 FC/FO	198 800 045	2164.00
PA 80 FC/FO	198 800 047	2841.00

Type		D1 [inch]	D2 [inch]	D3 [mm]	D4 [inch]	D5 [inch]	L [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]
PA 30 FC/FO	F04	1.65	1.18	M5x9		0.39	10.87	0.43	1.38	2.76	1.26
* PA 30 FO	F04	1.65	1.18	M5x9	1/8	0.39	10.87	0.43	1.38	2.76	1.26
PA 35 FC/FO	F05	1.97	1.38	M6x11		0.47	12.83	0.55	1.38	2.76	1.26
* PA 35 FO	F05	1.97	1.38	M6x11	1/8	0.47	12.83	0.55	1.38	2.76	1.26
PA 40 FC/FO	F05	1.97	1.38	M6x11		0.47	14.57	0.55	1.38	2.76	1.26
* PA 40 FO	F05	1.97	1.38	M6x11	1/8	0.47	14.57	0.55	1.38	2.76	1.26
PA 45 FC/FO	F07	2.76	2.17	M8x15	1/8	0.59	16.18	0.67	1.38	2.76	1.26
* PA45 FO	F07	2.76	2.17	M8x15	1/8	0.59	16.18	0.67	1.38	2.76	1.26
PA 50 FC/FO	F07	2.76	2.17	M8x15		0.59	16.65	0.67	1.38	2.76	1.26
* PA50 FO	F07	2.76	2.17	M8x15	1/8	0.59	16.65	0.67	1.38	2.76	1.26
PA 55 FC/FO	F10	4.02	2.76	M10x17		0.75	17.80	0.87	1.38	2.76	1.26
* PA 55 FO	F10	4.02	2.76	M10x17	1/8	0.75	17.80	0.87	1.38	2.76	1.26
PA 60 FC/FO	F10	4.02	2.76	M10x17	1/8	0.75	19.80	0.87	1.38	2.76	1.26
PA 65 FC/FO	F12	4.92	3.35	M12x21	1/4		25.51	1.06			1.26
PA 70 FC/FO	F12	4.92	3.35	M12x21			26.10	1.06			1.26
* PA 70 FO	F12	4.92	3.35	M12x21	1/4		26.10	1.06			1.26
PA 75 FC/FO	F14	5.51	3.94	M16x25	1/4		32.44	1.42			1.26
PA 80 FC/FO	F14	5.51	3.94	M16x25	1/4		36.14	1.42			1.26

Type	H [inch]	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	H7 [inch]	H8 [inch]
PA 30 FC/FO	4.02	2.76	0.83	0.71	2.56	0.51	0.79	1.42	
* PA 30 FO	4.02	2.76	0.83	0.71	2.56	0.51	0.79	1.42	
PA 35 FC/FO	4.37	3.07	0.83	0.71	2.83	0.51	0.79	1.42	
* PA 35 FO	4.37	3.07	0.83	0.71	2.83	0.51	0.79	1.42	
PA 40 FC/FO	5.08	3.39	0.98	0.83	3.15	0.51	1.18	1.42	
* PA 40 FO	5.08	3.39	0.98	0.83	3.15	0.51	1.18	1.42	
PA 45 FC/FO	5.47	3.78	0.98	0.83	3.54	0.63	1.18	1.42	
* PA45 FO	5.47	3.78	0.98	0.83	3.54	0.63	1.18	1.42	
PA 50 FC/FO	5.87	4.17	0.98	1.02	3.94	0.67	1.18	1.42	
* PA50 FO	5.87	4.17	0.98	1.02	3.94	0.67	1.18	1.42	
PA 55 FC/FO	6.34	4.65	0.98	0.98	4.41	0.75	1.18	1.42	
* PA 55 FO	6.34	4.65	0.98	0.98	4.41	0.75	1.18	1.42	
PA 60 FC/FO	6.81	5.12	0.98	1.26	4.88	0.75	1.18	1.42	

table continued next page

- 40% Restock Charge on Actuated Valves

- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable



Pneumatic Actuator Type PA30 PA90 Double acting (DA)

C

Type	hard anodized Part No.	USD	lbs	
PA 30 DA	198 800 737	286.00	2.213	
PA 35 DA	198 800 758	316.00	2.967	
PA 40 DA	198 800 759	322.00	3.816	
PA 45 DA	198 800 040	381.00	4.751	
PA 50 DA	198 800 733	385.00	6.572	
PA 55 DA	198 800 042	492.00	8.580	
PA 60 DA	198 800 734	438.00	12.449	
PA 65 DA	198 800 044	545.00	16.078	
PA 70 DA	198 800 735	690.00	19.859	
PA 75 DA	198 800 046	863.00	26.455	
PA 80 DA	198 800 048	1068.00	30.864	
PA 85 DA	198 800 050	1683.00	47.458	
PA 90 DA	198 800 051	2328.00	55.997	

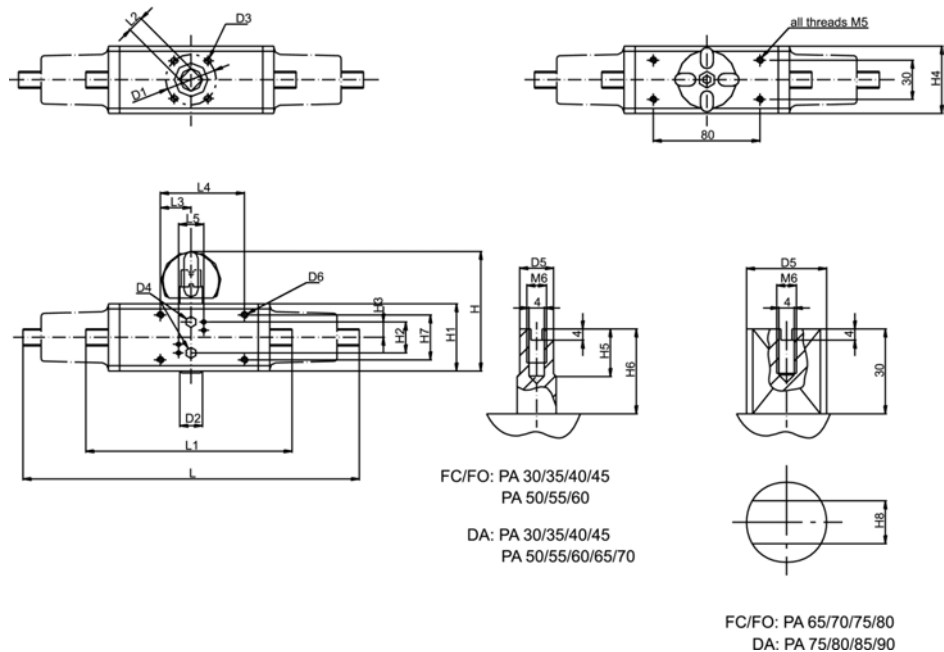
Type		D1 [inch]	D2 [inch]	D3 [mm]	D4 [inch]	D5 [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]	L5 [inch]	H [inch]
PA 30 DA	F03	1.42	0.98	M5x9	⅛	0.35	6.97	0.35	1.38	2.76		3.62
PA 35 DA	F03	1.65	1.18	M5x9	⅛	0.39	7.48	0.43	1.38	2.76		3.86
PA 40 DA	F05	1.65	1.18	M5x9	⅛	0.39	7.80	0.43	1.38	2.76		4.02
PA 45 DA	F05	1.97	1.38	M6x11	⅛	0.47	9.25	0.55	1.38	2.76		4.37
PA 50 DA	F05	1.97	1.38	M6x11	⅛	0.47	9.84	0.55	1.38	2.76		5.08
PA 55 DA	F07	2.76	2.17	M8x15		0.59	10.98	0.67	1.38	2.76		5.47
PA 60 DA	F07	2.76	2.17	M8x15	⅛	0.59	13.43	0.67	1.38	2.76		5.87
PA 65 DA	F10	4.02	2.76	M10x17	⅛	0.75	13.78	0.87	1.38	2.76		6.34
PA 70 DA	F10	4.02	2.76	M10x17		0.75	15.00	0.87	1.38	2.76		6.81
PA 75 DA	F12	4.92	3.35	M12x21	¼		16.38	1.06			1.26	7.52
PA 80 DA	F12	4.92	3.35	M12x21	¼		18.35	1.06			1.26	7.76
PA 85 DA	F14	5.51	3.94	M16x25	¼		21.85	1.42			1.26	9.02
PA 90 DA	F14	5.51	3.94	M16x25	¼		22.87	1.42			1.26	9.49

Type	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	H7 [inch]	H8 [inch]	
PA 30 DA	2.36	0.98	0.47	2.17	0.39	0.79	1.42		
PA 35 DA	2.60	0.98	0.51	2.36	0.51	0.79	1.42		
PA 40 DA	2.76	0.83	0.71	2.56	0.51	0.79	1.42		
PA 45 DA	3.07	0.83	0.71	2.83	0.51	0.79	1.42		
PA 50 DA	3.39	0.98	0.83	3.15	0.51	1.18	1.42		
PA 55 DA	3.78	0.98	0.83	3.54	0.63	1.18	1.42		
PA 60 DA	4.17	0.98	1.02	3.94	0.67	1.18	1.42		
PA 65 DA	4.65	0.98	0.98	4.41	0.75	1.18	1.42		
PA 70 DA	5.12	0.98	1.26	4.88	0.75	1.18	1.42		
PA 75 DA	5.83	0.94	1.34	5.39				0.87	

table continued next page

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

Type	H1 [inch]	H2 [inch]	H3 [inch]	H4 [inch]	H5 [inch]	H6 [inch]	H7 [inch]	H8 [inch]	
PA 80 DA	6.02	0.94	1.50	5.71				0.94	
PA 85 DA	7.32	0.94	1.69	6.54				1.06	
PA 90 DA	7.80	0.94	1.73	7.09				1.26	





Solenoid Pilot Valve Type PV2000 2 x 3/2-way valve

C

Model:

- lockable manual override
- Version for 3/2-way and 5/2-way valves
- Electrical control over multiple and field bus connector

No	Voltage	Part No.	USD	lbs	
1	24V/DC 100%	199 190 435	331.00	0.251	



Solenoid Pilot Valve Type PV2000 Connection module with D-sub connector

C

- Version for 3/2-way and 5/2-way valves
- Electrical control over multiple and field bus connector

No	Part No.	USD	lbs	
3	199 190 424	154.00	0.437	



Solenoid Pilot Valve Type PV2000 End module

C

- Version for 3/2-way and 5/2-way valves
- Electrical control over multiple and field bus connector

No	Part No.	USD	lbs	
4	199 190 426	66.00	0.326	



Solenoid Pilot Valve Type PV2000 Connection module AS-interface

C

- Version for 3/2-way and 5/2-way valves
- Electrical control over multiple and field bus connector

No	Part No.	USD	lbs	
1	199 190 430	872.00	0.441	



Solenoid Pilot Valve Type PV2000 Connection module profibus

C

- Version for 3/2-way and 5/2-way valves
- Electrical control over multiple and field bus connector

No	Part No.	USD	lbs	
1	199 190 431	1835.00	0.441	

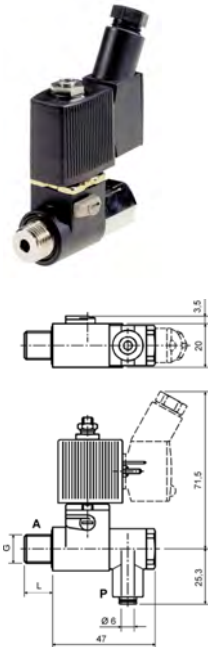


Solenoid Pilot Valve Type PV2000 Connection module with bus interface

C

- Version for 3/2-way and 5/2-way valves
- Electrical control over multiple and field bus connector

No	Part No.	USD	lbs	
2	199 190 425	183.00	0.344	



Solenoid Pilot Valve Type PV94 Pilot Valve

C

Model:

- IP65 protection class
- For direct installation (including valve body and hollow screw)
- Port P compressed air connection NPT 1/8
- Port A actuator connection G 1/8
- With connector plug form C
- With adapter G1/8 to G1/4
- To pneumatic actuators FC/FO (single acting)
- Circuit function C: de-energized closed
- Valve material polyamid / brass

Voltage	DN [mm]	Compressed air connec- tion P	Actuator connec- tion	PSI	NBR Part No.	USD	lbs	
24 V=	1.2	NPT 1/8	G 1/8	150	199 190 546	94.00	0.260	
110 V, 50-60 Hz	1.2	NPT 1/8	G 1/8	150	199 190 547	94.00	0.381	



Solenoid Pilot Valve Type PV95 Pilot valve 3/2-ways

C

Model:

- IP65 protection class
- For direct installation (including valve body and hollow screw)
- Port P compressed air connection NPT 1/8
- Port A actuator connection G 1/4
- With connector plug form A
- With adapter G1/8 to G1/4
- To pneumatic actuators FC/FO (single acting)
- Circuit function C: de-energized closed
- Valve material: brass
- Power consumption: 24VA at AC inrush; 17VA/8W at AC hold; 8W at DC

Voltage	DN [mm]	Compressed air connec- tion P	Actuator connec- tion	PSI	FPM Part No.	USD	lbs	
24 V=	1.5	NPT 1/8	G 1/4	150	199 190 554	136.00	1.074	
110 V, 50-60 Hz	1.5	NPT 1/8	G 1/4	150	199 190 555	136.00	0.902	



Pilot Valve Type 5470

Pilot valve

C

- to pneumatic actuators DA (Double acting)
- Version with NAMUR connection
- Circuit function: 4/2-way valve, in rest position pressure inlet 1 connected to outlet 2, outlet 4 exhausted
- Valve material: polyamid
- Electrical connection: cable plug
- For AC 50-60 Hz and DC

Voltage	NBR Part No.	USD	lbs	
230 V, AC/DC	199 190 302	194.00	0.595	
115 V, AC/DC	199 190 303	194.00	0.595	
24 V, AC/DC	199 190 304	194.00	0.309	



Pilot Valve Type MNL532

Pilot valve 3/2-5/2-ways

C

Model:

- With NAMUR connection and two silencers/throttle screws

Mode of action:

- 3/2-way valve, in rest position pressure inlet 1 closed, outlet 3 exhausted
- 5/2-way valve, in rest position pressure inlet 1 connected to outlet 4, outlet 3 exhausted
- Material of body: Aluminum
- to pneumatic actuators
- Electrical connection: cable plug

Voltage	Size	NBR Part No.	USD	lbs	
110 V, AC	1/8	199 190 359	158.00	0.756	
48 V, AC	1/8	199 190 361	158.00	0.752	
24 V, AC	1/8	199 190 358	158.00	0.747	
24 V, DC	1/8	199 190 357	158.00	0.756	

Diaphragm Valve Actuator Accessories and Components

C

Pneumatic Actuator DIASTAR Series 028-FC



d [mm]	Size	Size	EPDM Part No.	USD	for PTFE/EPDM Part No.	USD	lbs	
20	1/2	1	198 150 091	141.00	198 150 097	141.00	0.650	
25	3/4	2	198 150 126	150.00			2.205	
25	3/4	2			198 150 126	150.00	2.205	
32	1	2	198 150 093	157.00	198 150 098	157.00	2.205	
40	1 1/4	3	198 150 094	207.00	198 150 124	207.00	3.042	
50	1 1/2	4	198 150 095	243.00	198 150 099	243.00	4.630	
63	2	4	198 150 125	271.00			6.614	
63	2	4			198 150 125	271.00	6.614	

C

Pneumatic Actuator DIASTAR Series 025-FC



d [mm]	Size	Size	for EPDM Part No.	USD	for PTFE/EPDM Part No.	USD	lbs	
20	1/2	2	198 150 087	174.00	198 150 962	174.00	1.541	
25	3/4	2	198 150 963	184.00			1.559	
25	3/4	2			198 150 963	184.00	1.559	
32	1	3	198 150 088	191.00	198 150 964	191.00	2.954	
40	1 1/4	4	198 150 965	245.00			4.647	
40	1 1/4	4			198 150 965	245.00	4.647	
50	1 1/2	5	198 150 089	321.00	198 150 966	321.00	8.889	
63	2	5	198 150 090	355.00	198 150 967	355.00	8.907	
75	2 1/2		198 150 736	873.00			8.157	
75	2 1/2				198 150 736	873.00	8.157	
90	3		198 150 737	1105.00			28.977	
90	3				198 150 737	1105.00	28.977	
110	4		198 150 738	1340.00			31.515	
110	4				198 150 738	1340.00	31.515	
160	6		198 150 739	2176.00	-		47.399	

C

Pneumatic Actuator DIASTAR Series 025-FO



d [mm]	Size	Size	for PTFE/EPDM and EPDM Part No.	USD	lbs	
20	1/2	1	198 150 105	102.00	1.984	
25	3/4	2	198 150 969	109.00	1.085	
32	1	2	198 150 106	135.00	1.250	
40	1 1/4	3	198 150 107	157.00	2.224	
50	1 1/2	4	198 150 108	173.00	3.962	
63	2	4	198 150 109	205.00	4.568	
75	2 1/2		198 150 746	693.00	8.157	
90	3		198 150 747	808.00	8.157	
110	4		198 150 748	1101.00	8.157	
160	6		198 150 749	1918.00	8.157	

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

+GF+

Effective July 1, 2011. See www.gfpiping.com for updated info.

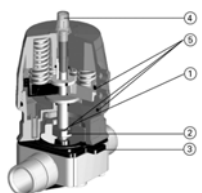


For Diaphragm Valve Type DIASTAR Manual Override

C

Inch	Series 028-FC DIASTAR 10	Series 025-FC DIASTAR 10 Plus	Series 025-FO/DA DIASTAR 10
1/2	199 190 381	199 190 382	199 190 381
3/4	199 190 382	199 190 382	199 190 382
1	199 190 382	199 190 383	199 190 382
1 1/4	199 190 383	199 190 384	199 190 383
1 1/2	199 190 384	199 190 385	199 190 384
2	199 190 384	199 190 385	199 190 384
2 1/2-3		199 190 318	199 190 318
*4-6		199 190 319	199 190 319

Stroke limiter Part No.	USD	lbs
199 190 381	33.00	0.126
199 190 382	33.00	0.150
199 190 383	38.00	0.265
199 190 384	46.00	0.315
199 190 385	46.00	0.351
199 190 318	73.00	1.102
199 190 319	98.00	1.102

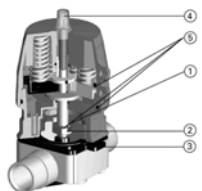


Accessories and Spare Parts for DIASTAR Indicator cap for DIASTAR

C

Inch	Series 028 FC	Series 025 FC	Series 025 FO	Series 025 DA
1/2	198 806 639	198 806 639	198 806 639	198 806 639
3/4	198 806 639	198 806 639	198 806 639	198 806 639
1	198 806 639	198 806 640	198 806 639	198 806 639
1 1/4	198 806 640	198 806 640	198 806 640	198 806 640
1 1/2	198 806 640	198 806 640	198 806 640	198 806 640
2	198 806 640	198 806 640	198 806 640	198 806 640
2 1/2	-	198 806 376	198 806 376	198 806 376
3	-	198 806 376	198 806 376	198 806 376
4	-	198 806 376	198 806 376	198 806 376
6	-	198 806 376	198 806 376	198 806 376

Pos	Part No.	USD	Part No.	USD	Part No.	USD	lbs
4	198 806 639	2.00	198 806 640	2.00	198 806 376	19.00	0.049



Accessories and Spare Parts for DIASTAR Diaphragms for DIASTAR

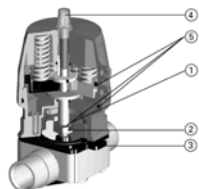
C

d [mm]	EPDM Part No.	USD	lbs
20	161 481 022	13.00	0.029
25	161 481 023	16.00	0.044
32	161 481 024	19.00	0.086
40	161 481 025	25.00	0.128
50	161 481 026	36.00	0.157
63	161 481 027	50.00	0.256
75	161 481 028	57.00	0.401

table continued next page

- 40% Restock Charge on Actuated Valves
- Pipe, Cement, Cleaner, Gap Filler, Sealing Tape, Silicone, and Tools are Non-Cancelable/Non-Returnable

d [mm]	EPDM Part No.	USD	lbs	
90	161 481 029	68.00	0.556	
110	161 481 030	113.00	0.950	
160	161 482 754	463.00	2.425	



Accessories and Spare Parts for DIASTAR Compression set complete Consisting of compressor and diaphragm holder

C

d [mm]	Size	EPDM Part No.	USD	PTFE/EPDM Part No.	USD	lbs	
20	½	198 000 320	35.00	198 000 326	45.00	0.046	
25	¾	198 000 321	35.00	198 000 327	45.00	0.106	
32	1	198 000 322	37.00	198 000 328	49.00	0.139	
40	1 ¼	198 000 323	37.00	198 000 329	49.00	0.121	
50	1 ½	198 000 324	39.00	198 000 330	54.00	0.194	
63	2	198 000 325	39.00	198 000 331	54.00	0.291	
75	2 ½	198 000 268	98.00	198 000 269	98.00	0.298	
90	3	198 000 270	214.00	198 000 271	214.00	0.772	
110	4	198 000 272	235.00	198 000 273	235.00	1.078	
160	6	198 000 274	341.00	198 000 275	341.00	3.232	



For Diaphragm Valve Type DIASTAR Ni

C

- Connection: Plug

DN-DN [mm]	Inch [inch]	Type	Voltage	Part No.	USD	lbs	
15 - 50	½ - 2	ER 52-1	250 V~ 6 A	199 190 305	183.00	0.527	
65 - 150	2 ½ - 6	ER 53-1	250 V~ 6 A	199 190 293	247.00	1.049	



For Diaphragm Valve Type DIASTAR Electric Position Indicator with 2 Auxiliary Switches With Gold Contact

C

- Connection: Plug

DN-DN [mm]	Inch [inch]	Type	Voltage	Part No.	USD	lbs	
15 - 50	½ - 2	ER 52-2	4-30 V= 1-100 mA	199 190 306	199.00	0.496	
65 - 150	2 ½ - 6	ER 53-2	4-30 V= 1-100 mA	199 190 297	284.00	1.433	



For Diaphragm Valve Type DIASTAR Electric position indicator with 2 inductive switches NPN

C

- Connection: Plug

DN-DN [mm]	Inch [inch]	Type	Voltage	Part No.	USD	lbs	
15 - 50	½ - 2	ER 52-3	5-30 V= 100 mA	199 190 307	460.00	0.873	
65 - 150	2 ½ - 6	ER 53-3	10-30 V= 100 mA	199 190 294	667.00	1.433	



For Diaphragm Valve Type DIASTAR Electric position indicator with 2 inductive switches PNP

C

- Connection: Plug

DN-DN [mm]	Inch [inch]	Type	Voltage	Part No.	USD	lbs	
15 - 50	½ - 2	ER 52-4	5-30 V= 100 mA	199 190 308	460.00	0.503	
65 - 150	2 ½ - 6	ER 53-4	10-30 V= 100 mA	199 190 295	667.00	1.067	



For Diaphragm Valve Type DIASTAR Electric position indicator with 2 inductive switches Namur Eexi (intrinsically safe)

C

- Connection: Plug

DN-DN [mm]	Inch [inch]	Type	Voltage	Part No.	USD	lbs	
15 - 50	½ - 2	ER 52-5	8 V=	199 190 309	392.00	1.093	
65 - 150	2 ½ - 6	ER 53-5	8 V=	199 190 296	473.00	1.433	



For Diaphragm Valve Type DIASTAR Electric position indicator with 2 auxiliary switches Eexd

C

- Connection: Cable, 2 m

DN-DN [mm]	Inch [inch]	Type	Voltage	Part No.	USD	lbs	
15 - 50	½ - 2	ER 52-6	250 V ~ 5 A	199 190 405	1029.00	1.433	
65 - 150	2 ½ - 6	ER 53-6	250 V ~ 5 A	199 190 298	1029.00	1.433	



For Diaphragm Valve Type DIASTAR Adapter set

C

for combination electric position indicator / stroke limiter / manual override

Inch	Type	Series DIASTAR 10	Series DIASTAR 16	Series DIASTAR 10
½	ER 52	199 190 387	199 190 387	199 190 387
¾	ER 52	199 190 387	199 190 387	199 190 387
1	ER 52	199 190 387	199 190 388	199 190 387
1¼	ER 52	199 190 388	199 190 389	199 190 388
1½	ER 52	199 190 389	199 190 389	199 190 389
2	ER 52	199 190 389	199 190 389	199 190 389
2½-6	ER 53	-	199 190 310	199 190 310

Adapter Part No.	USD	lbs	
199 190 387	40.00	0.137	
199 190 388	40.00	0.134	
199 190 389	40.00	0.150	
199 190 310	109.00	0.353	



Accessories for Digital Electro-Pneumatic Positioner C Attachment kit to type DSR 500-1 With optical position indicator for Diastar DN 15-50

Pos	Inch	Series DIASTAR 10	Series DIASTAR 16	Series DIASTAR 10
2	1/2	-	199 190 417	-
2	3/4	199 190 417	199 190 417	199 190 417
2	1	199 190 417	199 190 418	199 190 417
2	1 1/4	199 190 418	199 190 418	199 190 418
2	1 1/2	199 190 418	199 190 418	199 190 418
2	2	199 190 418	199 190 418	199 190 418

Part No.	Attachment kit Part No.	USD	lbs	
2	199 190 417	186.00	0.410	
2	199 190 418	186.00	0.441	



Accessories for Digital Electro-Pneumatic Positioner C Attachment kit to type DSR 500-1 Without optical position indicator for Diastar DN 15-50

Pos	Inch	Series DIASTAR 10	Series DIASTAR 16	Series DIASTAR 10
3	1/2	-	199 190 414	-
3	3/4	199 190 414	199 190 414	199 190 414
3	1	199 190 414	199 190 415	199 190 414
3	1 1/4	199 190 415	199 190 415	199 190 415
3	1 1/2	199 190 415	199 190 415	199 190 415
3	2	199 190 415	199 190 415	199 190 415

No	Attachment kit Part No.	USD	lbs	
3	199 190 414	97.00	0.223	
3	199 190 415	97.00	0.295	



Accessories for Digital Electro-Pneumatic Positioner C Attachment kit to type DSR 500-2 For Diastar 2 1/2" - 6"

Part No.	with optical posi- tion indicator Part No.	USD	without optical position indicator Part No.	USD	lbs	
2	199 190 419	186.00			0.474	
3			199 190 416	207.00	0.326	

BSP to NPT Brass Adapter C

Size	Part No.	USD	lbs	
1/8" male BSP to 1/8" female NPT	150 101 038	4.00	0.002	
1/4" male BSP to 1/4" female NPT	150 101 037	8.00	0.002	

ASI Accessories

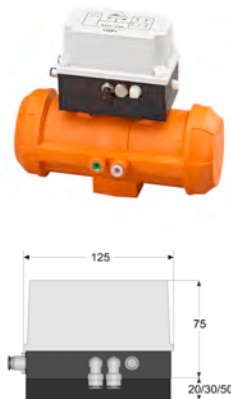
AS-Interface type ASEV 2400 For electric rotary actuators

- Without accessories



Part No.	USD	lbs	
199 190 562	Call	0.351	

AS-Interface set type ASVC 2300 For pneumatic rotary actuators



Type of actuator	Part No.	USD	lbs	
PA11/21 (FC/FO); PA30/35 (FC/FO)	199 190 560	Call	1.779	
PA11/21 (DA); PA30-45 (DA)	199 190 566	Call	1.819	
PA >45 (DA)	199 190 567	Call	1.898	

AS-Interface set type topmatic For Diastar Series 028-FC (Fail safe to close)

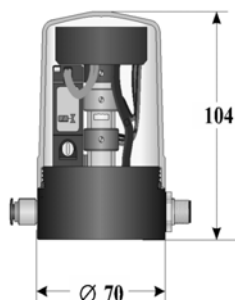
- Without accessories



DN-DN [mm]	Part No.	USD	lbs	
15 - 20	199 190 456	Call	0.957	
32 - 50	199 190 457	Call	0.767	

AS-Interface set type topmatic For Diastar Series 025-FC/FO

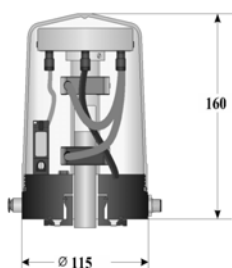
- Without accessories



DN-DN [mm]	Part No.	USD	lbs	
15 - 20	199 190 456	Call	0.957	
25 - 32	199 190 467	Call	0.959	
40 - 50	199 190 468	Call	0.963	

AS-Interface set type topmatic For Diastar Series 025-FC/FO

- Without accessories



DN-DN [mm]	Part No.	USD	lbs	
65 - 150	199 190 458	Call	2.052	

Part number index

Part No.	Page	USD
-	215	
150 101 037	205	8.00
150 101 038	205	4.00
150 400 306	104	4.20
150 400 307	104	4.20
150 400 308	104	4.20
150 400 309	104	5.25
150 400 310	104	6.30
150 400 311	104	7.35
150 400 312	104	9.45
150 400 313	104	11.60
150 400 314	104	15.80
150 400 316	104	20.00
150 400 317	104	21.00
150 400 319	104	30.50
150 400 321	104	39.90
150 400 323	104	58.80
150 845 001	114	79.80
150 845 002	114	15.10
150 845 003	114	1.00
150 845 004	114	48.50
159 481 025	99	29.40
159 481 032	99	33.60
161 481 022	216	13.00
161 481 023	216	16.00
161 481 024	216	19.00
161 481 025	216	25.00
161 481 026	216	36.00
161 481 027	216	50.00
161 481 028	216	57.00
161 481 029	217	68.00
161 481 030	217	113.00
161 482 754	217	463.00
161 486 006	145	589.00
161 486 007	145	571.00
161 486 008	145	589.00
161 486 009	144	255.00
161 486 010	144	255.00
161 486 100	137	9.50
161 486 101	137	12.60
161 486 102	137	12.60
161 486 103	137	14.70
161 486 104	137	17.90
161 486 105	137	21.00
161 486 301	145	589.00
161 486 302	145	571.00
161 486 303	145	589.00
161 486 304	144	255.00
161 486 305	144	255.00
161 486 325	144	93.00
161 486 326	144	100.00
161 486 327	144	100.00
161 486 328	144	200.00
161 486 689	138	43.00
161 486 690	138	63.00
161 486 691	138	73.00
161 486 694	144	86.00
161 486 695	144	111.00
161 486 697	144	218.00
161 486 855	145	589.00
161 486 856	145	571.00
161 486 857	145	589.00

Part No.	Page	USD
161 486 858	144	255.00
161 486 859	144	255.00
167 060 019	111	33.60
167 060 020	111	37.80
167 060 021	111	50.40
167 060 022	111	57.80
167 060 023	111	63.00
167 060 038	111	10.50
167 060 039	111	11.55
167 060 041	111	21.00
167 060 042	111	24.15
167 060 043	111	26.25
167 061 012	109	5.50
167 061 013	109	6.80
167 061 014	109	8.10
167 061 015	109	10.30
167 061 016	109	13.40
167 061 017	109	15.25
167 061 035	109	0.85
167 061 036	109	0.95
167 061 037	109	1.05
167 061 038	109	1.60
167 061 039	109	2.00
167 061 040	109	2.50
167 061 041	109	2.95
167 061 155	110	0.75
167 061 156	110	0.85
167 061 157	110	0.85
167 061 158	110	0.95
167 061 159	110	1.20
167 061 160	110	1.40
167 061 161	110	2.00
167 061 162	110	2.75
167 061 163	110	3.60
167 061 164	110	4.60
167 061 165	110	5.70
167 061 166	110	6.65
167 061 167	110	7.70
167 482 479	142	3.00
167 482 480	142	3.00
167 482 481	142	3.00
167 482 482	142	3.00
167 482 626	140	51.00
167 482 627	140	54.00
167 482 628	140	66.00
167 482 629	140	70.00
167 482 630	140	95.00
167 482 631	140	109.00
167 482 635	140	51.00
167 482 636	140	54.00
167 482 637	140	66.00
167 482 638	140	70.00
167 482 639	140	95.00
167 482 640	140	109.00
167 482 653	141	178.00
167 482 654	141	183.00
167 482 655	141	195.00
167 482 656	141	198.00
167 482 657	141	227.00
167 482 658	141	241.00
167 482 662	141	178.00
167 482 663	141	183.00

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Part No.	Page	USD	Part No.	Page	USD
167 482 664	141	195.00	169 017 089	90	92.00
167 482 665	141	198.00	169 017 091	90	177.00
167 482 666	141	227.00	169 017 092	90	188.00
167 482 667	141	241.00	169 017 093	90	300.00
167 482 680	139	4.00	169 017 094	90	378.00
167 482 681	139	4.00	169 017 095	90	534.00
167 482 682	139	6.00	169 017 096	90	679.00
167 482 683	139	8.00	169 017 097	90	868.00
167 482 684	139	27.00	169 017 102	84	23.10
167 482 685	139	36.00	169 017 103	84	24.20
167 484 088	138	3.00	169 017 104	84	30.50
167 484 089	138	3.00	169 017 105	84	34.70
167 484 090	138	3.00	169 017 106	84	59.90
167 484 091	138	3.00	169 017 107	84	75.60
167 484 092	138	4.00	169 017 108	84	109.00
167 484 093	138	5.00	169 017 109	84	143.00
167 484 094	138	16.00	169 017 112	84	264.00
167 484 095	138	16.00	169 017 665	64	1020.00
167 484 096	138	23.00	169 017 666	64	1280.00
167 484 100	138	14.00	169 017 667	64	1660.00
167 484 101	138	15.00	169 017 682	64	65.00
167 484 102	138	16.00	169 017 683	64	65.00
167 484 103	138	18.00	169 017 684	64	76.00
167 484 104	138	21.00	169 017 685	64	82.00
167 484 105	138	23.00	169 017 686	64	101.00
167 484 110	139	3.00	169 017 687	64	118.00
167 484 111	139	4.00	169 017 688	64	146.00
167 484 442	142	37.00	169 017 689	64	178.00
167 484 443	142	39.00	169 017 691	64	258.00
167 484 444	142	43.00	169 017 692	64	278.00
167 484 445	142	48.00	169 017 693	64	391.00
167 484 446	142	52.00	169 017 694	64	484.00
167 484 447	142	58.00	169 110 056	97	118.00
167 484 488	142	10.00	169 110 066	97	144.00
167 484 489	142	10.00	169 110 097	97	183.00
167 484 490	142	12.00	169 110 117	97	223.00
167 484 491	142	13.00	169 303 006	136	72.50
167 484 492	142	14.00	169 303 007	136	91.50
167 484 493	142	17.00	169 303 008	136	109.00
167 484 542	142	37.00	169 303 009	136	135.00
167 484 543	142	39.00	169 303 010	136	195.00
167 484 544	142	43.00	169 303 011	136	305.00
167 484 545	142	48.00	169 305 302	137	68.30
167 484 546	142	52.00	169 305 303	137	78.80
167 484 547	142	58.00	169 305 304	137	104.00
167 484 588	142	10.00	169 305 305	137	137.00
167 484 589	142	10.00	169 305 306	137	175.00
167 484 590	142	12.00	169 305 307	137	236.00
167 484 591	142	13.00	169 317 024	133	1145.00
167 484 592	142	14.00	169 317 025	133	1617.00
167 484 593	142	17.00	169 317 423	133	756.00
167 484 941	143	103.00	169 480 775	138	2.90
167 484 942	143	113.00	169 480 776	138	2.90
167 484 943	143	123.00	169 480 777	138	3.50
167 484 944	143	136.00	169 480 778	138	3.50
169 017 080	90	6.90	169 480 779	138	5.20
169 017 081	90	9.50	169 480 780	138	9.80
169 017 082	90	9.40	169 480 781	138	10.90
169 017 085	90	17.30	169 480 782	138	24.50
169 017 086	90	30.60	169 480 783	138	30.50
169 017 087	90	45.30	169 480 784	138	40.00
169 017 088	90	61.00	169 481 463	98	31.50

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169 481 464	98	41.00
169 481 465	98	55.70
169 481 466	98	72.50
169 481 467	98	97.70
169 514 012	131	130.00
169 514 013	131	150.00
169 514 014	131	190.00
169 514 015	131	220.00
169 514 016	131	300.00
169 514 017	131	360.00
169 514 032	131	250.00
169 514 033	131	300.00
169 514 034	131	370.00
169 514 035	131	450.00
169 514 036	131	590.00
169 514 037	131	730.00
169 515 012	132	100.00
169 515 013	132	120.00
169 515 014	132	150.00
169 515 015	132	180.00
169 515 016	132	140.00
169 515 017	132	290.00
169 515 032	132	200.00
169 515 033	132	240.00
169 515 034	132	300.00
169 515 035	132	360.00
169 515 036	132	470.00
169 515 037	132	580.00
169 543 001	122	108.00
169 543 002	122	111.00
169 543 003	122	128.00
169 543 004	122	160.00
169 543 005	122	181.00
169 543 006	122	208.00
169 543 007	122	263.00
169 543 201	123	108.00
169 543 202	123	111.00
169 543 203	123	128.00
169 543 204	123	160.00
169 543 205	123	181.00
169 543 206	123	208.00
169 543 207	123	263.00
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169 546 062	119	43.00
169 546 063	119	52.50
169 546 064	119	62.00
169 546 065	119	80.00
169 546 066	119	101.00
169 546 067	119	127.00
169 546 068	119	326.00
169 546 069	119	389.00
169 546 070	119	473.00
169 546 081	120	56.70
169 546 082	120	56.70
169 546 083	120	68.30
169 546 084	120	79.80
169 546 085	120	100.00
169 546 086	120	119.00
169 546 087	120	149.00
169 546 088	120	368.00
169 546 089	120	441.00
169 546 090	120	536.00

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169 561 001	134	70.00
169 561 002	134	70.00
169 561 003	134	85.00
169 561 004	134	92.00
169 561 005	134	111.00
169 561 006	134	138.00
169 561 007	134	195.00
169 561 008	134	543.00
169 561 009	134	679.00
169 561 010	134	814.00
169 562 001	134	111.00
169 562 002	134	111.00
169 562 003	134	134.00
169 562 004	134	145.00
169 562 005	134	175.00
169 562 006	134	216.00
169 562 007	134	307.00
169 562 008	134	614.00
169 562 009	134	767.00
169 562 010	134	921.00
169 567 002	125	336.00
169 567 003	125	378.00
169 567 004	125	462.00
169 567 005	125	483.00
169 567 006	125	756.00
169 567 007	125	1071.00
169 567 008	125	1155.00
169 567 022	126	1145.00
169 567 023	126	1145.00
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169 567 028	126	1617.00
169 567 802	124	326.00
169 567 803	124	357.00
169 567 804	124	389.00
169 567 805	124	410.00
169 567 806	124	557.00
169 567 807	124	662.00
169 567 808	124	924.00
169 568 102	129	557.00
169 568 103	129	609.00
169 568 104	129	683.00
169 568 105	129	714.00
169 568 106	129	1019.00
169 568 107	129	1124.00
169 568 108	129	1607.00
169 568 122	130	1470.00
169 568 123	130	1575.00
169 568 124	130	1691.00
169 568 125	130	1733.00
169 568 126	130	1932.00
169 568 127	130	2058.00
169 568 128	130	2352.00
169 568 902	128	504.00
169 568 903	128	546.00
169 568 904	128	599.00
169 568 905	128	630.00
169 568 906	128	872.00
169 568 907	128	998.00
169 568 908	128	1428.00

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169 591 001	135	146.00	169 645 012	190	191.00
169 591 002	135	146.00	169 645 013	190	204.00
169 591 003	135	208.00	169 645 014	190	214.00
169 591 004	135	256.00	169 645 015	190	269.00
169 591 005	135	309.00	169 645 016	190	333.00
169 591 006	135	478.00	169 645 017	190	411.00
169 591 007	135	679.00	169 647 112	191	220.00
169 591 008	135	1086.00	169 647 113	191	235.00
169 591 009	135	1357.00	169 647 114	191	246.00
169 591 010	135	1629.00	169 647 115	191	309.00
169 595 001	135	167.00	169 647 116	191	383.00
169 595 002	135	167.00	169 647 117	191	472.00
169 595 003	135	235.00	169 654 012	192	210.00
169 595 004	135	289.00	169 654 013	192	224.00
169 595 005	135	349.00	169 654 014	192	235.00
169 595 006	135	541.00	169 654 015	192	295.00
169 595 007	135	767.00	169 654 016	192	367.00
169 595 008	135	1227.00	169 654 017	192	452.00
169 595 009	135	1534.00	169 655 012	193	191.00
169 595 010	135	1841.00	169 655 013	193	204.00
169 614 012	183	196.00	169 655 014	193	214.00
169 614 013	183	209.00	169 655 015	193	269.00
169 614 014	183	219.00	169 655 016	193	333.00
169 614 015	183	276.00	169 655 017	193	411.00
169 614 016	183	342.00	169 657 112	194	220.00
169 614 017	183	422.00	169 657 113	194	235.00
169 615 012	184	178.00	169 657 114	194	246.00
169 615 013	184	190.00	169 657 115	194	309.00
169 615 014	184	200.00	169 657 116	194	383.00
169 615 015	184	251.00	169 657 117	194	472.00
169 615 016	184	311.00	198 000 268	217	98.00
169 615 017	184	383.00	198 000 269	217	98.00
169 617 112	185	205.00	198 000 270	217	214.00
169 617 113	185	219.00	198 000 271	217	214.00
169 617 114	185	229.00	198 000 272	217	235.00
169 617 115	185	288.00	198 000 273	217	235.00
169 617 116	185	358.00	198 000 274	217	341.00
169 617 117	185	441.00	198 000 275	217	341.00
169 624 012	186	280.00	198 000 320	217	35.00
169 624 013	186	299.00	198 000 321	217	35.00
169 624 014	186	313.00	198 000 322	217	37.00
169 624 015	186	394.00	198 000 323	217	37.00
169 624 016	186	489.00	198 000 324	217	39.00
169 624 017	186	602.00	198 000 325	217	39.00
169 625 012	187	255.00	198 000 326	217	45.00
169 625 013	187	272.00	198 000 327	217	45.00
169 625 014	187	285.00	198 000 328	217	49.00
169 625 015	187	358.00	198 000 329	217	49.00
169 625 016	187	444.00	198 000 330	217	54.00
169 625 017	187	548.00	198 000 331	217	54.00
169 627 112	188	293.00	198 000 500	196	109.00
169 627 113	188	313.00	198 000 501	196	109.00
169 627 114	188	327.00	198 000 570	201	130.00
169 627 115	188	412.00	198 000 571	201	130.00
169 627 116	188	511.00	198 000 572	201	130.00
169 627 117	188	630.00	198 000 573	201	148.00
169 644 012	189	210.00	198 000 574	201	148.00
169 644 013	189	224.00	198 000 575	201	175.00
169 644 014	189	235.00	198 000 580	201	130.00
169 644 015	189	295.00	198 000 581	201	130.00
169 644 016	189	367.00	198 000 582	201	130.00
169 644 017	189	452.00	198 000 583	201	148.00

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198 000 584	201	148.00
198 000 585	201	175.00
198 000 595	206	69.00
198 000 596	206	82.00
198 000 597	206	93.00
198 000 598	206	93.00
198 000 599	206	29.00
198 000 600	206	29.00
198 000 601	206	93.00
198 000 602	206	114.00
198 000 603	206	96.00
198 000 623	207	732.00
198 000 624	207	732.00
198 000 625	207	732.00
198 000 627	207	732.00
198 000 730	206	77.00
198 000 731	206	63.00
198 150 087	215	174.00
198 150 088	215	191.00
198 150 089	215	321.00
198 150 090	215	355.00
198 150 091	215	141.00
198 150 093	215	157.00
198 150 094	215	207.00
198 150 095	215	243.00
198 150 097	215	141.00
198 150 098	215	157.00
198 150 099	215	243.00
198 150 105	215	102.00
198 150 106	215	135.00
198 150 107	215	157.00
198 150 108	215	173.00
198 150 109	215	205.00
198 150 124	215	207.00
198 150 125	215	271.00
198 150 126	215	150.00
198 150 127	198	217.00
198 150 128	198	217.00
198 150 129	198	198.00
198 150 130	198	258.00
198 150 131	198	258.00
198 150 132	198	227.00
198 150 144	198	309.00
198 150 145	198	309.00
198 150 146	198	271.00
198 150 147	198	350.00
198 150 148	198	350.00
198 150 149	198	303.00
198 150 180	197	328.00
198 150 181	197	328.00
198 150 182	197	673.00
198 150 183	197	673.00
198 150 184	197	1050.00
198 150 185	197	1050.00
198 150 186	207	1453.00
198 150 187	207	1453.00
198 150 556	196	22.00
198 150 557	196	22.00
198 150 558	196	22.00
198 150 559	196	22.00
198 150 736	215	873.00
198 150 737	215	1105.00

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198 150 738	215	1340.00
198 150 739	215	2176.00
198 150 746	215	693.00
198 150 747	215	808.00
198 150 748	215	1101.00
198 150 749	215	1918.00
198 150 962	215	174.00
198 150 963	215	184.00
198 150 964	215	191.00
198 150 965	215	245.00
198 150 966	215	321.00
198 150 967	215	355.00
198 150 969	215	109.00
198 151 317	202	330.00
198 800 037	199	481.00
198 800 039	208	638.00
198 800 040	200	381.00
198 800 041	208	985.00
198 800 042	210	492.00
198 800 043	208	1209.00
198 800 044	210	545.00
198 800 045	208	2164.00
198 800 046	210	863.00
198 800 047	208	2841.00
198 800 048	210	1068.00
198 800 050	210	1683.00
198 800 051	210	2328.00
198 800 728	199	584.00
198 800 729	208	882.00
198 800 730	208	1120.00
198 800 731	208	1575.00
198 800 733	210	385.00
198 800 734	210	438.00
198 800 735	210	690.00
198 800 737	210	286.00
198 800 757	199	441.00
198 800 758	200	316.00
198 800 759	200	322.00
198 806 376	216	19.00
198 806 639	216	2.00
198 806 640	216	2.00
198 811 025	208	399.00
198 811 026	208	459.00
198 811 027	208	524.00
198 811 028	208	638.00
198 811 029	208	798.00
198 811 030	208	985.00
198 811 198	208	1499.00
199 037 007	127	893.00
199 037 008	127	1229.00
199 037 033	127	1229.00
199 037 034	127	1670.00
199 037 207	127	1281.00
199 037 208	127	1722.00
199 037 233	127	1554.00
199 037 234	127	1890.00
199 107 082	146	378.00
199 107 083	146	378.00
199 107 084	146	389.00
199 107 085	146	389.00
199 107 086	146	410.00
199 107 087	146	420.00

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Part No.	Page	USD	Part No.	Page	USD
199 107 088	146	431.00	199 142 488	174	2247.00
199 107 092	147	378.00	199 142 502	173	1029.00
199 107 093	147	378.00	199 142 503	173	1050.00
199 107 094	147	389.00	199 142 504	173	1082.00
199 107 095	147	389.00	199 142 505	173	1092.00
199 107 096	147	410.00	199 142 506	173	1229.00
199 107 097	147	420.00	199 142 507	173	1271.00
199 107 098	147	431.00	199 142 508	173	1712.00
199 130 702	148	567.00	199 142 522	176	1523.00
199 130 703	148	567.00	199 142 523	176	1554.00
199 130 704	148	578.00	199 142 524	176	1586.00
199 130 705	148	588.00	199 142 525	176	1607.00
199 130 706	148	609.00	199 142 526	176	1722.00
199 130 707	148	630.00	199 142 527	176	1806.00
199 130 708	148	662.00	199 142 528	176	2247.00
199 130 709	148	945.00	199 142 542	175	1029.00
199 130 710	148	987.00	199 142 543	175	1050.00
199 130 711	148	1050.00	199 142 544	175	1082.00
199 130 742	150	567.00	199 142 545	175	1092.00
199 130 743	150	567.00	199 142 546	175	1229.00
199 130 744	150	578.00	199 142 547	175	1271.00
199 130 745	150	588.00	199 142 548	175	1712.00
199 130 746	150	609.00	199 185 162	152	630.00
199 130 747	150	630.00	199 185 163	152	641.00
199 130 748	150	662.00	199 185 164	152	662.00
199 130 749	150	945.00	199 185 165	152	683.00
199 130 750	150	987.00	199 185 166	152	693.00
199 130 751	150	1050.00	199 185 167	152	714.00
199 140 482	170	1439.00	199 185 168	152	756.00
199 140 483	170	1449.00	199 185 172	154	630.00
199 140 484	170	1470.00	199 185 173	154	641.00
199 140 485	170	1481.00	199 185 174	154	662.00
199 140 486	170	1554.00	199 185 175	154	683.00
199 140 487	170	1617.00	199 185 176	154	693.00
199 140 488	170	1985.00	199 185 177	154	714.00
199 140 502	169	935.00	199 185 178	154	756.00
199 140 503	169	945.00	199 185 342	153	630.00
199 140 504	169	966.00	199 185 343	153	641.00
199 140 505	169	977.00	199 185 344	153	662.00
199 140 506	169	1061.00	199 185 345	153	683.00
199 140 507	169	1082.00	199 185 346	153	693.00
199 140 508	169	1449.00	199 185 347	153	714.00
199 140 522	172	1439.00	199 185 348	153	756.00
199 140 523	172	1449.00	199 185 352	155	630.00
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199 140 525	172	1481.00	199 185 354	155	662.00
199 140 526	172	1554.00	199 185 355	155	683.00
199 140 527	172	1617.00	199 185 356	155	693.00
199 140 528	172	1985.00	199 185 357	155	714.00
199 140 542	171	935.00	199 185 358	155	756.00
199 140 543	171	945.00	199 190 080	202	51.00
199 140 544	171	966.00	199 190 082	202	51.00
199 140 545	171	977.00	199 190 083	202	51.00
199 140 546	171	1061.00	199 190 084	203	195.00
199 140 547	171	1082.00	199 190 085	201	389.00
199 140 548	171	1449.00	199 190 086	201	97.00
199 142 482	174	1523.00	199 190 087	201	396.00
199 142 483	174	1554.00	199 190 092	202	89.00
199 142 484	174	1586.00	199 190 093	203	125.00
199 142 485	174	1607.00	199 190 094	203	130.00
199 142 486	174	1722.00	199 190 095	203	316.00
199 142 487	174	1806.00	199 190 096	203	316.00

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199 190 099	202	235.00
199 190 100	203	526.00
199 190 281	205	42.00
199 190 282	204	278.00
199 190 283	204	449.00
199 190 284	204	449.00
199 190 285	205	455.00
199 190 286	205	890.00
199 190 293	217	247.00
199 190 294	217	667.00
199 190 295	218	667.00
199 190 296	218	473.00
199 190 297	217	284.00
199 190 298	218	1029.00
199 190 302	214	194.00
199 190 303	214	194.00
199 190 304	214	194.00
199 190 305	217	183.00
199 190 306	217	199.00
199 190 307	217	460.00
199 190 308	218	460.00
199 190 309	218	392.00
199 190 310	218	109.00
199 190 318	216	73.00
199 190 319	216	98.00
199 190 357	214	158.00
199 190 358	214	158.00
199 190 359	214	158.00
199 190 361	214	158.00
199 190 381	216	33.00
199 190 382	216	33.00
199 190 383	216	38.00
199 190 384	216	46.00
199 190 385	216	46.00
199 190 387	218	40.00
199 190 388	218	40.00
199 190 389	218	40.00
199 190 405	218	1029.00
199 190 414	219	97.00
199 190 415	219	97.00
199 190 416	219	207.00
199 190 417	219	186.00
199 190 418	219	186.00
199 190 419	219	186.00
199 190 424	212	154.00
199 190 425	213	183.00
199 190 426	212	66.00
199 190 430	212	872.00
199 190 431	212	1835.00
199 190 435	212	331.00
199 190 456	220	Call
199 190 457	220	Call
199 190 458	221	Call
199 190 467	221	Call
199 190 468	221	Call
199 190 546	213	94.00
199 190 547	213	94.00
199 190 554	213	136.00
199 190 555	213	136.00
199 190 560	220	Call
199 190 562	220	Call
199 190 566	220	Call

Part No.	Page	USD
199 190 567	220	Call
199 230 702	156	399.00
199 230 703	156	399.00
199 230 704	156	410.00
199 230 705	156	420.00
199 230 706	156	483.00
199 230 707	156	504.00
199 230 708	156	525.00
199 230 742	157	399.00
199 230 743	157	399.00
199 230 744	157	410.00
199 230 745	157	420.00
199 230 746	157	483.00
199 230 747	157	504.00
199 230 748	157	525.00
199 230 782	158	389.00
199 230 783	158	389.00
199 230 784	158	399.00
199 230 785	158	410.00
199 230 786	158	462.00
199 230 787	158	473.00
199 230 788	158	504.00
199 230 822	159	263.00
199 230 823	159	263.00
199 230 824	159	273.00
199 230 825	159	294.00
199 230 826	159	336.00
199 230 827	159	357.00
199 230 828	159	378.00
199 230 829	159	672.00
199 230 830	159	777.00
199 230 831	159	777.00
199 230 862	161	263.00
199 230 863	161	263.00
199 230 864	161	273.00
199 230 865	161	294.00
199 230 866	161	336.00
199 230 867	161	357.00
199 230 868	161	378.00
199 230 869	161	672.00
199 230 870	161	777.00
199 230 871	161	777.00
199 230 902	163	242.00
199 230 903	163	242.00
199 230 904	163	252.00
199 230 905	163	263.00
199 230 906	163	315.00
199 230 907	163	336.00
199 230 908	163	357.00
199 230 909	163	588.00
199 230 910	163	662.00
199 230 911	163	672.00
199 240 402	177	494.00
199 240 403	177	504.00
199 240 404	177	578.00
199 240 405	177	588.00
199 240 406	177	777.00
199 240 407	177	893.00
199 240 408	177	1187.00
199 240 422	179	494.00
199 240 423	179	504.00
199 240 424	179	578.00

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Part No.	Page	USD	Part No.	Page	USD
199 240 425	179	588.00	700 262 397	90	9.50
199 240 426	179	777.00	700 262 398	90	12.70
199 240 427	179	893.00	720 512 105	98	23.10
199 240 428	179	1187.00	720 512 106	98	28.40
199 240 442	178	420.00	720 512 107	98	34.70
199 240 443	178	431.00	720 512 108	98	45.20
199 240 444	178	473.00	720 512 109	98	62.00
199 240 445	178	483.00	720 512 110	98	79.80
199 240 446	178	557.00	720 512 111	98	109.00
199 240 447	178	704.00	727 700 417	103	68.30
199 240 448	178	851.00	727 700 419	103	92.00
199 242 402	180	588.00	727 700 420	103	101.00
199 242 403	180	609.00	727 701 406	103	12.60
199 242 404	180	693.00	727 701 407	103	14.00
199 242 405	180	704.00	727 701 408	103	17.64
199 242 406	180	945.00	727 701 409	103	20.80
199 242 407	180	1082.00	727 701 410	103	21.40
199 242 408	180	1460.00	727 701 411	103	26.50
199 242 422	181	588.00	727 701 412	103	30.80
199 242 423	181	609.00	727 701 413	103	37.70
199 242 424	181	693.00	727 701 414	103	46.50
199 242 425	181	704.00	727 701 422	103	126.00
199 242 426	181	945.00	727 701 423	103	184.00
199 242 427	181	1082.00	729 000 106	91	11.50
199 242 428	181	1460.00	729 000 107	91	13.70
199 242 442	182	515.00	729 000 108	91	18.90
199 242 443	182	536.00	729 000 109	91	26.30
199 242 444	182	578.00	729 000 110	91	33.60
199 242 445	182	599.00	729 000 111	91	45.20
199 242 446	182	723.00	729 000 112	91	92.00
199 242 447	182	893.00	729 000 113	91	112.00
199 242 448	182	1113.00	729 000 114	91	187.00
199 285 162	165	473.00	729 000 116	91	315.00
199 285 163	165	473.00	729 000 117	91	399.00
199 285 164	165	483.00	729 010 120	91	457.00
199 285 165	165	504.00	729 010 122	91	1436.00
199 285 166	165	557.00	729 010 123	91	2048.00
199 285 167	165	567.00	729 100 106	91	3.15
199 285 168	165	609.00	729 100 107	91	3.15
199 285 172	167	473.00	729 100 108	91	3.15
199 285 173	167	473.00	729 100 109	91	6.30
199 285 174	167	483.00	729 100 110	91	8.40
199 285 175	167	504.00	729 100 111	91	13.70
199 285 176	167	557.00	729 100 112	91	32.60
199 285 177	167	567.00	729 100 113	91	49.40
199 285 178	167	609.00	729 100 114	91	75.60
199 285 342	166	441.00	729 100 116	91	170.00
199 285 343	166	441.00	729 100 117	91	255.00
199 285 344	166	473.00	729 100 119	91	441.00
199 285 345	166	483.00	729 100 121	91	997.00
199 285 346	166	525.00	729 150 106	92	4.20
199 285 347	166	546.00	729 150 107	92	4.20
199 285 348	166	588.00	729 150 108	92	6.30
199 285 352	168	441.00	729 150 109	92	8.40
199 285 353	168	441.00	729 150 110	92	10.50
199 285 354	168	473.00	729 150 111	92	15.80
199 285 355	168	483.00	729 150 112	92	36.80
199 285 356	168	525.00	729 150 113	92	57.80
199 285 357	168	546.00	729 150 114	92	89.30
199 285 358	168	588.00	729 150 116	92	158.00
4286A14	78	5.00	729 150 117	92	191.00
700 244 660	96	Call	729 150 119	92	336.00

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Part No.	Page	USD
729 150 120	92	357.00
729 150 121	92	777.00
729 150 122	92	1102.00
729 150 123	92	1585.00
729 200 010	93	16.80
729 200 011	93	22.00
729 200 106	92	4.20
729 200 107	92	4.20
729 200 108	92	5.25
729 200 109	92	8.40
729 200 110	92	11.60
729 200 111	92	17.90
729 200 112	92	37.80
729 200 113	92	63.00
729 200 114	92	92.40
729 200 116	92	225.00
729 200 117	92	336.00
729 200 119	92	504.00
729 200 120	92	535.00
729 200 121	92	1218.00
729 200 122	92	1701.00
729 200 123	92	2551.00
729 200 134	93	5.25
729 200 136	93	112.00
729 200 138	93	8.40
729 200 143	93	76.70
729 200 144	93	112.00
729 200 146	93	76.70
729 200 147	93	10.50
729 200 148	93	305.00
729 200 149	93	305.00
729 200 151	93	11.55
729 200 153	93	598.00
729 200 156	93	630.00
729 200 157	93	630.00
729 200 158	93	389.00
729 200 164	93	13.65
729 200 170	93	21.00
729 200 178	93	21.00
729 200 182	93	45.00
729 250 106	94	10.50
729 250 107	94	10.50
729 250 108	94	12.60
729 250 109	94	21.00
729 250 110	94	23.10
729 250 111	94	36.80
729 250 112	94	72.50
729 250 113	94	107.00
729 250 114	94	202.00
729 250 116	94	431.00
729 300 108	94	17.90
729 300 111	94	46.20
729 310 007	108	63.00
729 310 008	108	63.00
729 310 009	108	69.30
729 310 010	108	72.50
729 310 011	108	78.80
729 312 012	108	515.00
729 312 013	108	536.00
729 312 014	108	557.00
729 312 016	108	578.00
729 312 017	108	609.00

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729 312 019	108	651.00
729 312 020	108	693.00
729 510 106	99	11.55
729 510 107	99	12.60
729 510 108	99	15.75
729 510 109	99	20.00
729 510 110	99	29.40
729 510 111	99	43.00
729 510 112	99	106.00
729 510 114	99	151.00
729 510 313	99	104.00
729 541 007	98	31.50
729 541 008	98	36.80
729 690 012	100	45.20
729 690 013	100	54.60
729 690 014	100	62.00
729 790 106	102	2.10
729 790 107	102	3.15
729 790 108	102	3.15
729 790 109	102	5.25
729 790 110	102	8.40
729 790 111	102	15.80
729 790 112	102	22.00
729 790 113	102	27.30
729 790 114	102	35.70
729 790 116	102	84.00
729 790 117	102	94.50
729 790 119	102	101.00
729 790 120	102	198.00
729 790 121	102	411.00
729 790 122	102	656.00
729 790 123	102	712.00
729 800 106	100	2.22
729 800 107	100	2.44
729 800 108	100	2.88
729 800 109	100	3.99
729 800 110	100	7.40
729 800 111	100	10.50
729 800 162	100	16.50
729 800 163	100	18.60
729 800 164	100	23.70
729 840 105	100	3.54
729 840 106	100	3.54
729 840 107	100	3.77
729 840 108	100	5.80
729 840 109	100	7.30
729 840 110	100	10.10
729 840 111	100	12.10
729 840 112	100	38.70
729 840 114	100	48.90
729 840 123	100	38.80
729 890 405	100	4.65
729 890 406	100	4.65
729 890 407	100	4.87
729 890 408	100	4.76
729 890 409	100	6.40
729 890 410	100	9.10
729 890 411	100	11.50
729 900 181	96	190.00
729 900 303	96	588.00
729 900 306	96	620.00
729 900 312	96	662.00

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Part No.	Page	USD	Part No.	Page	USD
729 900 337	96	2.10	729 910 342	96	3.15
729 900 341	96	3.15	729 910 347	96	4.20
729 900 342	96	3.15	729 910 354	96	5.25
729 900 346	96	4.20	729 910 360	96	7.35
729 900 347	96	4.20	729 910 366	96	21.00
729 900 348	96	4.20	729 910 371	96	30.50
729 900 352	96	4.20	729 910 434	106	5.25
729 900 353	96	4.20	729 910 437	106	6.30
729 900 354	96	5.25	729 910 441	106	8.40
729 900 355	96	4.20	729 910 446	106	11.55
729 900 358	96	6.30	729 910 452	106	17.85
729 900 359	96	6.30	729 910 458	106	23.10
729 900 360	96	6.30	729 910 556	106	4.20
729 900 364	96	10.50	729 910 557	106	4.20
729 900 365	96	10.50	729 910 558	106	4.20
729 900 370	96	21.00	729 910 559	106	6.30
729 900 371	96	21.00	729 910 560	106	8.40
729 900 372	96	21.00	729 910 561	106	11.55
729 900 376	96	26.30	729 914 206	105	38.90
729 900 378	96	26.30	729 914 207	105	44.10
729 900 385	96	78.80	729 914 208	105	50.40
729 900 388	96	103.00	729 914 209	105	55.70
729 900 390	96	91.40	729 914 210	105	60.90
729 900 392	96	133.40	729 914 211	105	67.20
729 900 396	96	190.00	729 914 434	105	38.85
729 900 406	107	5.25	729 914 437	105	44.10
729 900 407	107	5.25	729 914 441	105	50.40
729 900 408	107	7.35	729 914 446	105	55.70
729 900 409	107	9.45	729 914 452	105	60.90
729 900 410	107	12.60	729 914 458	105	67.20
729 900 411	107	17.85	729 914 556	105	33.60
729 900 906	95	6.30	729 914 557	105	38.85
729 900 907	95	8.40	729 914 558	105	44.10
729 900 908	95	8.40	729 914 559	105	50.40
729 900 909	95	9.50	729 914 560	105	55.70
729 900 910	95	10.50	729 914 561	105	60.90
729 900 911	95	11.50	729 942 106	107	32.00
729 900 912	95	15.80	729 942 107	107	34.00
729 900 913	95	21.00	729 942 108	107	39.00
729 900 914	95	29.40	729 942 606	107	33.00
729 910 106	95	2.10	729 942 607	107	35.00
729 910 107	95	2.10	729 942 608	107	45.00
729 910 108	95	3.15	729 960 106	97	2.10
729 910 109	95	4.20	729 960 107	97	2.10
729 910 110	95	5.25	729 960 108	97	3.15
729 910 111	95	8.40	729 960 109	97	5.25
729 910 112	95	18.90	729 960 110	97	7.35
729 910 113	95	34.70	729 960 111	97	9.45
729 910 114	95	50.40	729 960 112	97	23.10
729 910 116	95	97.70	729 960 113	97	28.30
729 910 117	95	126.00	729 960 114	97	44.10
729 910 119	95	224.00	729 960 116	97	76.70
729 910 120	95	255.00	729 960 117	97	106.00
729 910 121	95	504.00	729 960 406	97	4.20
729 910 122	95	714.00	729 960 407	97	4.20
729 910 123	95	1018.00	729 960 408	97	4.20
729 910 206	106	7.35	729 960 409	97	7.30
729 910 207	106	7.35	729 961 906	107	9.45
729 910 208	106	10.50	729 961 907	107	12.60
729 910 209	106	12.60	729 961 908	107	14.70
729 910 210	106	15.80	733 960 135	76	55.70
729 910 211	106	20.00	733 960 140	76	113.30

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733 960 171	74	22.70
733 960 172	74	22.70
733 960 173	74	25.00
733 960 174	74	25.00
733 960 175	74	25.00
733 960 176	74	28.80
733 960 177	74	33.40
733 960 178	74	36.70
733 960 180	74	53.00
733 960 181	74	56.00
733 960 183	74	66.00
733 960 184	74	76.00
738 001 107	65	72.00
738 001 108	65	76.00
738 001 109	65	92.00
738 001 110	65	99.00
738 001 111	65	122.00
738 001 112	65	155.00
738 001 113	65	190.00
738 001 114	65	263.00
738 001 116	65	371.00
738 001 117	65	478.00
738 001 120	65	530.00
738 001 122	66	2940.00
738 001 123	66	3410.00
738 011 013	75	33.00
738 011 014	75	33.00
738 011 015	75	35.00
738 011 016	75	38.00
738 011 017	75	43.30
738 011 018	75	46.40
738 011 020	75	56.70
738 011 021	75	60.80
738 011 022	75	71.00
738 011 023	75	78.30
738 011 024	75	90.00
738 011 025	75	105.00
738 011 026	75	127.00
738 011 102	74	18.50
738 011 103	74	77.00
738 011 104	77	58.80
738 011 105	77	172.00
738 011 106	77	515.00
738 011 107	77	98.00
738 011 113	75	17.50
738 011 114	75	17.50
738 011 115	75	19.60
738 011 116	75	19.60
738 011 117	75	21.70
738 011 118	75	21.70
738 011 120	75	25.80
738 011 121	75	28.90
738 011 122	75	29.90
738 011 123	75	32.00
738 011 150	74	5.00
738 011 152	74	149.00
738 011 167	76	30.30
738 011 170	76	36.00
738 011 173	76	38.10
738 101 117	65	350.00
738 101 119	65	515.00
738 101 121	66	2650.00

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738 102 111	85	69.30
738 102 112	85	89.00
738 102 113	85	107.00
738 102 114	85	148.00
738 102 117	85	318.00
738 151 107	66	64.00
738 151 108	66	67.00
738 151 109	66	76.00
738 151 110	66	77.00
738 151 111	66	96.00
738 151 112	66	113.00
738 151 113	66	142.00
738 151 114	66	179.00
738 151 116	66	248.00
738 151 117	66	308.00
738 151 119	66	424.00
738 151 120	66	456.00
738 151 121	67	2500.00
738 151 122	67	2670.00
738 151 123	67	3060.00
738 152 111	86	69.30
738 152 112	86	90.30
738 152 113	86	111.00
738 152 114	86	157.00
738 152 117	86	255.00
738 201 007	67	112.00
738 201 008	67	112.00
738 201 009	67	115.00
738 201 010	67	118.00
738 201 011	67	129.00
738 201 012	67	132.00
738 201 013	67	152.00
738 201 038	68	126.00
738 201 047	68	128.00
738 201 051	68	128.00
738 201 064	68	131.00
738 201 092	68	132.00
738 201 114	67	190.00
738 201 116	67	391.00
738 201 117	67	463.00
738 201 119	67	608.00
738 201 120	67	680.00
738 201 121	68	2190.00
738 201 122	68	2520.00
738 201 123	68	3070.00
738 201 136	68	206.00
738 201 143	68	176.00
738 201 144	68	206.00
738 201 146	68	176.00
738 201 148	68	443.00
738 201 149	68	443.00
738 201 153	68	670.00
738 201 156	68	731.00
738 201 157	68	731.00
738 201 158	68	505.00
738 201 170	68	142.00
738 201 178	68	142.00
738 201 182	68	145.00
738 201 193	68	144.00
738 202 111	85	78.00
738 202 112	85	99.00
738 202 113	85	125.00

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Part No.	Page	USD	Part No.	Page	USD
738 202 114	85	169.00	738 901 614	70	46.60
738 202 117	85	377.00	738 901 616	70	92.00
738 202 136	86	185.00	738 901 617	70	116.00
738 202 143	86	135.00	738 901 619	70	190.00
738 202 144	86	185.00	738 901 620	70	220.00
738 202 146	86	135.00	738 901 907	71	10.30
738 202 158	86	433.00	738 901 908	71	10.30
738 202 170	86	80.00	738 901 909	71	11.30
738 202 178	86	80.00	738 901 910	71	12.40
738 202 182	86	105.00	738 901 911	71	14.40
738 202 193	86	82.00	738 901 912	71	19.00
738 251 107	69	198.00	738 901 913	71	25.80
738 251 108	69	206.00	738 901 914	71	35.00
738 251 109	69	221.00	738 901 916	71	85.00
738 251 110	69	231.00	738 901 917	71	99.00
738 251 111	69	530.00	738 901 919	71	155.00
738 251 112	69	587.00	738 901 920	71	191.00
738 251 113	69	711.00	738 911 341	70	35.00
738 251 114	69	855.00	738 911 346	70	30.00
738 310 107	72	176.00	738 911 352	70	29.90
738 310 108	72	179.00	738 911 358	70	30.90
738 310 109	72	179.00	738 911 364	70	37.00
738 310 110	72	185.00	738 911 370	70	45.00
738 310 111	72	202.00	738 911 376	70	59.00
738 310 112	72	232.00	738 911 385	70	93.00
738 310 113	72	258.00	738 911 392	70	194.00
738 310 114	72	330.00	738 911 396	71	226.00
738 310 116	72	639.00	738 912 013	79	175.00
738 310 117	72	742.00	738 912 014	79	190.60
738 310 119	72	1051.00	738 912 015	79	221.50
738 310 120	72	1071.00	738 912 016	79	247.00
738 313 107	73	205.00	738 912 017	79	309.00
738 313 108	73	210.00	738 912 018	79	360.00
738 313 109	73	210.00	738 912 020	79	412.00
738 313 110	73	217.00	738 912 021	79	463.00
738 313 111	73	237.00	738 912 022	79	494.00
738 313 112	73	283.00	738 912 023	79	515.00
738 313 113	73	309.00	738 912 024	79	656.00
738 313 114	73	402.00	738 990 138	121	41.00
738 313 116	73	773.00	738 990 139	121	47.30
738 313 117	73	876.00	738 990 140	121	65.00
738 313 119	73	1288.00	738 990 141	121	65.00
738 313 120	73	1288.00	738 990 142	121	75.00
738 901 107	70	2.45	738 990 143	121	110.00
738 901 108	70	2.80	738 990 144	121	141.00
738 901 109	70	4.00	738 990 145	121	186.00
738 901 110	70	4.55	748 410 005	101	1.00
738 901 111	70	7.55	748 410 006	101	3.00
738 901 112	70	17.40	748 410 007	101	3.00
738 901 113	70	32.60	748 410 008	101	5.00
738 901 114	70	46.60	748 410 009	101	5.00
738 901 116	70	92.00	748 410 010	101	5.00
738 901 117	70	116.00	748 410 011	101	7.00
738 901 119	70	190.00	748 410 014	101	10.00
738 901 120	70	220.00	748 410 015	101	15.00
738 901 607	70	2.50	748 410 016	101	15.00
738 901 608	70	2.80	779 532 008	112	152.00
738 901 609	70	4.00	779 532 012	112	152.00
738 901 610	70	4.60	779 532 017	112	168.00
738 901 611	70	7.50	779 532 020	112	210.00
738 901 612	70	17.40	779 532 025	112	229.00
738 901 613	70	32.60	779 532 032	112	253.00

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Part No.	Page	USD
779 532 040	112	357.00
779 532 046	112	410.00
790 109 001	114	87.00
790 109 002	114	185.00
790 109 003	114	221.00
790 109 011	114	24.20
790 109 012	114	41.00
790 109 013	114	48.30
790 205 001	78	Call
790 309 003	114	397.00
790 309 004	114	519.00
790 309 015	114	28.40
799 298 028	113	1.50
799 298 101	113	21.00
799 298 102	113	17.90
799 299 002	113	2.50
799 299 003	113	2.50
799 299 004	113	6.50
799 299 005	113	14.20
799 350 339	79	101.00