










Versatile and
larger

Metal butterfly
valves type 037
in DN50 to DN1200

Metal - butterfly valves

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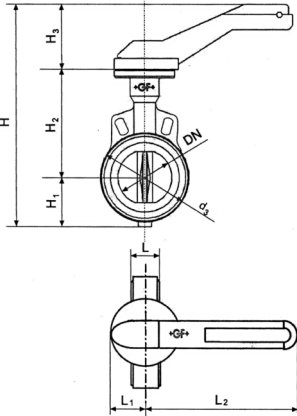
Metal - butterfly valves

Metal - butterfly valves wafer metric/Inch/ ASTM/ANSI

Metal - butterfly valve type 037M With hand lever

Model:

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



d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	10	3140	220	199 037 000	199 037 013
75	65	2 ½	10	4570	320	199 037 001	199 037 014
90	80	3	10	7140	500	199 037 002	199 037 015
110	100	4	10	11710	800	199 037 003	199 037 016
140	125	5	10	18570	1300	199 037 004	199 037 017
160	150	6	10	27130	1900	199 037 005	199 037 018
225	200	8	10	47130	3330	199 037 006	199 037 019
280	250	10	10	77110	5400	199 037 007	199 037 020
315	300	12	10	114240	8000	199 037 008	199 037 021

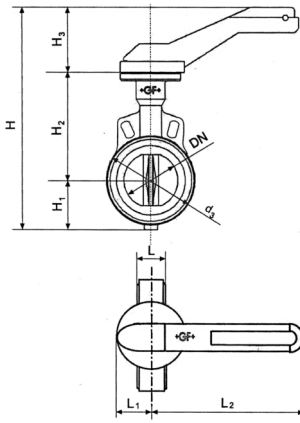
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	10	3140	220	199 037 200	199 037 213
75	65	2 ½	10	4570	320	199 037 201	199 037 214
90	80	3	10	7140	500	199 037 202	199 037 215
110	100	4	10	11710	800	199 037 203	199 037 216
140	125	5	10	18570	1300	199 037 204	199 037 217
160	150	6	10	27130	1900	199 037 205	199 037 218
225	200	8	10	47130	3330	199 037 206	199 037 219
280	250	10	10	77110	5400	199 037 207	199 037 220
315	300	12	10	114240	8000	199 037 208	199 037 221

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	10	3140	220	199 037 400	199 037 413
75	65	2 ½	10	4570	320	199 037 401	199 037 414
90	80	3	10	7140	500	199 037 402	199 037 415
110	100	4	10	11710	800	199 037 403	199 037 416
140	125	5	10	18570	1300	199 037 404	199 037 417
160	150	6	10	27130	1900	199 037 405	199 037 418
225	200	8	10	47130	3330	199 037 406	199 037 419
280	250	10	10	77110	5400	199 037 407	199 037 420
315	300	12	10	114240	8000	199 037 408	199 037 421

d [mm]	DN [mm]	d3 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	50	95	43	45	220	290	53	140	95
75	65	114	46	45	220	312	63	152	95
90	80	131	46	45	220	327	71	159	95
110	100	152	52	45	220	360	87	178	95
140	125	182	56	45	320	388	102	191	95
160	150	209	56	45	320	416	118	203	95

table continued next page

Metal - butterfly valves



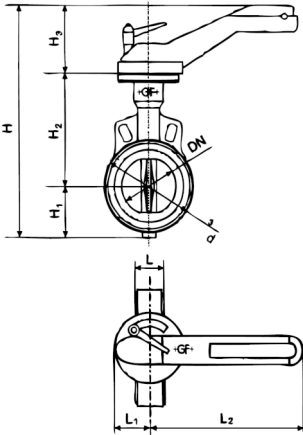
d [mm]	DN [mm]	d3 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
225	200	262	60	45	320	489	149	245	95
280	250	331	68	63	560	525	200	275	50
315	300	380	78	63	560	592	227	315	50

Metal - butterfly valves

Metal - butterfly valve type 039M Hand lever with fine adjustment

Model:

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



d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	10	3140	220	199 037 180	199 037 187
75	65	2 ½	10	4570	320	199 037 181	199 037 188
90	80	3	10	7140	500	199 037 182	199 037 189
110	100	4	10	11710	820	199 037 183	199 037 190
140	125	5	10	18750	1300	199 037 184	199 037 191
160	150	6	10	27130	1900	199 037 185	199 037 192
225	200	8	10	47130	3330	199 037 186	199 037 193

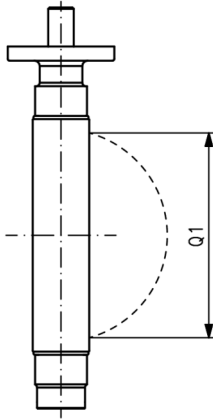
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	10	3140	220	199 037 380	199 037 387
75	65	2 ½	10	4570	320	199 037 381	199 037 388
90	80	3	10	7140	500	199 037 382	199 037 389
110	100	4	10	11710	820	199 037 383	199 037 390
140	125	5	10	18750	1300	199 037 384	199 037 391
160	150	6	10	27130	1900	199 037 385	199 037 392
225	200	8	10	47130	3330	199 037 386	199 037 393

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	10	3140	220	199 037 580	199 037 587
75	65	2 ½	10	4570	320	199 037 581	199 037 588
90	80	3	10	7140	500	199 037 582	199 037 589
110	100	4	10	11710	820	199 037 583	199 037 590
140	125	5	10	18750	1300	199 037 584	199 037 591
160	150	6	10	27130	1900	199 037 585	199 037 592
225	200	8	10	47130	3330	199 037 586	199 037 593

d [mm]	d3 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	95	43	45	220	290	55	140	95
75	114	46	45	220	312	65	152	95
90	131	46	45	220	327	73	159	95
110	152	52	45	220	360	87	178	95
140	182	56	45	320	388	102	191	95
160	209	56	45	320	416	118	203	95
225	262	60	45	320	489	149	245	95

Metal - butterfly valves

Metal - butterfly valve type 039M Bare shaft metric DN350-1200

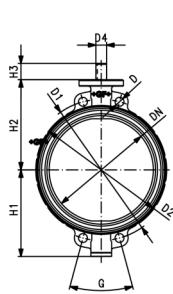


Model:

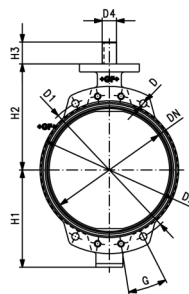
- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752
- Top flange according to EN ISO 5211
- Shaft end: Key way, parallel square available on request

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code
355	350	10	143360	198 152 000	198 152 010
400	400	10	186700	198 152 001	198 152 011
450	450	10	258390	198 152 002	198 152 012
500	500	10	316730	198 152 003	198 152 013
630	600	10	431750	198 152 004	198 152 014
700	700	10	618333	198 152 005	198 152 015
800	800	10	675000	198 152 006	198 152 016
900	900	10	1005200	198 152 007	198 152 017
1000	1000	10	1306930	198 152 008	198 152 018
1200	1200	10	1907050	198 152 009	198 152 019

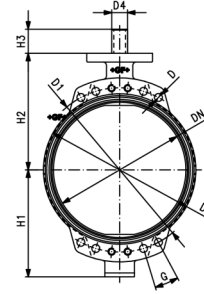
d [mm]	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Q1 [mm]
355	20	21	16	460	442	125	36	291	307	55	78	75	332
400	24	25	16	515	193	140	42	325	342	65	102	88	382
450	24	25	20	565	544	140	48	357	387	65	113	88	432
500	24	25	20	620	601	140	48	381	425	65	126	88	478
630	27	28	20	725	695	254	72	488	532	110	146	150	585
700	27	28	24	840	798	254	72	506	573	110	175	150	683
800	30	31	24	950	908	254	72	578	650	110	215	150	755
900	30	31	28	1050	1004	254	98	643	707	110	246	150	852
1000	33	34	28	1160	1114	254	98	729	755	110	280	150	958
1200	36	37	32	1380	1330	298	120	855	900	130	360	195	1098



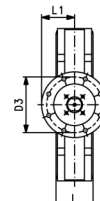
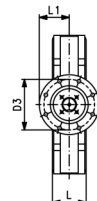
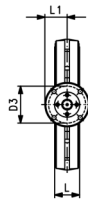
DN350-500



DN600-1000

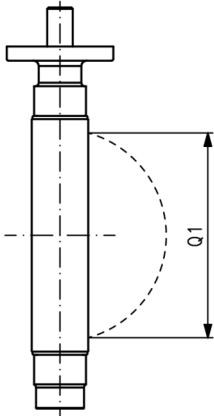


DN1200



Metal - butterfly valves

Metal - butterfly valve type 039M Bare shaft ANSI DN350-1200

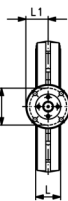
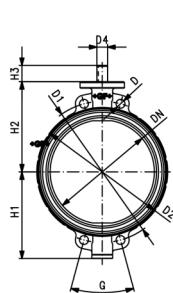


Model:

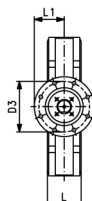
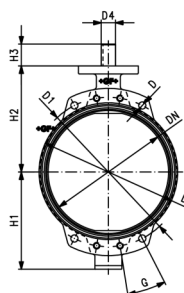
- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752
- Top flange according to EN ISO 5211
- Shaft end: Key way, parallel square available on request

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code
355	350	10	143360	198 152 020	198 152 030
400	400	10	186700	198 152 021	198 152 031
450	450	10	258390	198 152 022	198 152 032
500	500	10	316730	198 152 023	198 152 033
630	600	10	431750	198 152 024	198 152 034
700	700	10	618333	198 152 025	198 152 035
800	800	10	675000	198 152 026	198 152 036
900	900	10	1005200	198 152 027	198 152 037
1000	1000	10	1306930	198 152 028	198 152 038
1200	1200	10	1907050	198 152 029	198 152 039

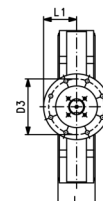
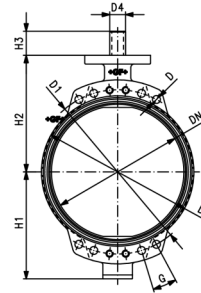
d [mm]	M [inch]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Q1 [mm]
355	1	26	12	476	442	125	36	291	307	55	78	75	332
400	1	26	16	540	493	140	42	325	342	65	102	88	382
450	1 1/8	29	20	578	544	140	48	357	387	65	113	88	432
500	1 1/8	29	20	635	601	140	48	381	425	65	126	88	478
630	1 1/4	32	20	749	695	254	72	488	532	110	146	150	585
700	1 1/4	32	28	864	798	254	72	506	573	110	175	150	683
800	1 1/2	39	28	978	908	254	72	578	650	110	215	150	755
900	1 1/2	39	28	1086	1004	254	98	643	707	110	246	150	852
1000	1 1/2	39	32	1200	1114	254	98	729	755	110	280	150	958
1200	1 1/2	39	44	1422	1330	298	120	855	900	130	360	195	1098



DN350-500



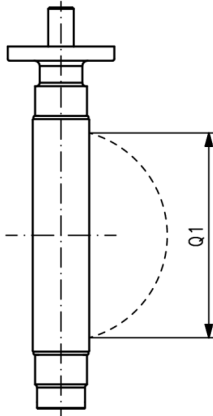
DN600-1000



DN1200

Metal - butterfly valves

Metal - butterfly valve type 039M Bare shaft metric DN350-1200

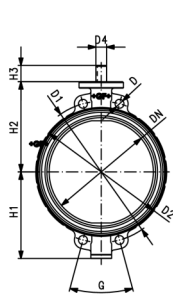


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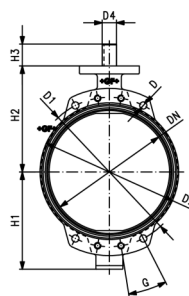
- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752
- Top flange according to EN ISO 5211
- Shaft end: Key way, parallel square available on request

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code
355	350	10	143360	198 152 000	198 152 010
400	400	10	186700	198 152 001	198 152 011
450	450	10	258390	198 152 002	198 152 012
500	500	10	316730	198 152 003	198 152 013
630	600	10	431750	198 152 004	198 152 014
700	700	10	618333	198 152 005	198 152 015
800	800	10	675000	198 152 006	198 152 016
900	900	10	1005200	198 152 007	198 152 017
1000	1000	10	1306930	198 152 008	198 152 018
1200	1200	10	1907050	198 152 009	198 152 019

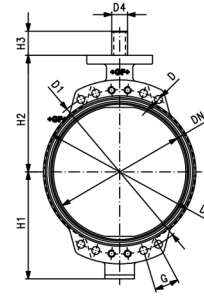
d [mm]	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Q1 [mm]
355	20	21	16	460	442	125	36	291	307	55	78	75	332
400	24	25	16	515	193	140	42	325	342	65	102	88	382
450	24	25	20	565	544	140	48	357	387	65	113	88	432
500	24	25	20	620	601	140	48	381	425	65	126	88	478
630	27	28	20	725	695	254	72	488	532	110	146	150	585
700	27	28	24	840	798	254	72	506	573	110	175	150	683
800	30	31	24	950	908	254	72	578	650	110	215	150	755
900	30	31	28	1050	1004	254	98	643	707	110	246	150	852
1000	33	34	28	1160	1114	254	98	729	755	110	280	150	958
1200	36	37	32	1380	1330	298	120	855	900	130	360	195	1098



DN350-500



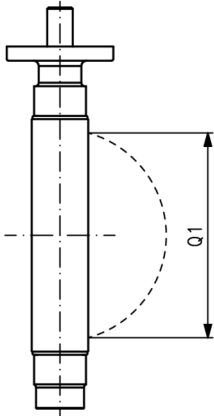
DN600-1000



DN1200

Metal - butterfly valves

Metal - butterfly valve type 039M Bare shaft ANSI DN350-1200

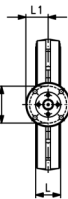
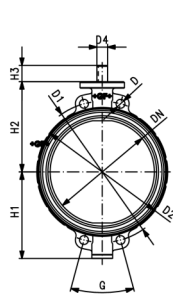


Model:

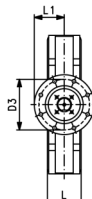
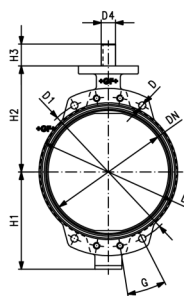
- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752
- Top flange according to EN ISO 5211
- Shaft end: Key way, parallel square available on request

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code
355	350	10	143360	198 152 020	198 152 030
400	400	10	186700	198 152 021	198 152 031
450	450	10	258390	198 152 022	198 152 032
500	500	10	316730	198 152 023	198 152 033
630	600	10	431750	198 152 024	198 152 034
700	700	10	618333	198 152 025	198 152 035
800	800	10	675000	198 152 026	198 152 036
900	900	10	1005200	198 152 027	198 152 037
1000	1000	10	1306930	198 152 028	198 152 038
1200	1200	10	1907050	198 152 029	198 152 039

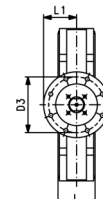
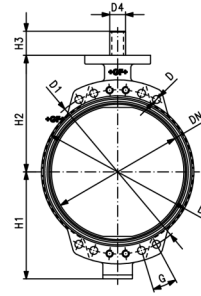
d [mm]	M [inch]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	Q1 [mm]
355	1	26	12	476	442	125	36	291	307	55	78	75	332
400	1	26	16	540	493	140	42	325	342	65	102	88	382
450	1 1/8	29	20	578	544	140	48	357	387	65	113	88	432
500	1 1/8	29	20	635	601	140	48	381	425	65	126	88	478
630	1 1/4	32	20	749	695	254	72	488	532	110	146	150	585
700	1 1/4	32	28	864	798	254	72	506	573	110	175	150	683
800	1 1/2	39	28	978	908	254	72	578	650	110	215	150	755
900	1 1/2	39	28	1086	1004	254	98	643	707	110	246	150	852
1000	1 1/2	39	32	1200	1114	254	98	729	755	110	280	150	958
1200	1 1/2	39	44	1422	1330	298	120	855	900	130	360	195	1098



DN350-500



DN600-1000

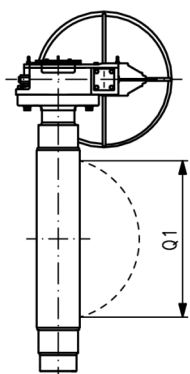


DN1200

Metal - butterfly valves

Metal - butterfly valve type 039G

Reduction gear with handwheel metric DN350-1200



Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752

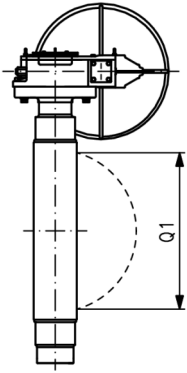
d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: Ductile Iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: Ductile Iron: EPOXY coated FPM Code
355	350	10	143360	198 039 000	198 039 010	198 039 040
400	400	10	186700	198 039 001	198 039 011	198 039 041
450	450	10	258390	198 039 002	198 039 012	198 039 042
500	500	10	316730	198 039 003	198 039 013	198 039 043
630	600	10	431750	198 039 004	198 039 014	198 039 044
700	700	10	618333	198 039 005	198 039 015	198 039 045
800	800	10	675000	198 039 006	198 039 016	198 039 046
900	900	10	1005200	198 039 007	198 039 017	198 039 047
1000	1000	10	1306930	198 039 008	198 039 018	198 039 048
1200	1200	10	1907050	198 039 009	198 039 019	198 039 049

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 050
400	400	10	186700	198 039 051
450	450	10	258390	198 039 052
500	500	10	316730	198 039 053
630	600	10	431750	198 039 054
700	700	10	618333	198 039 055
800	800	10	675000	198 039 056
900	900	10	1005200	198 039 057
1000	1000	10	1306930	198 039 058
1200	1200	10	1907050	198 039 059

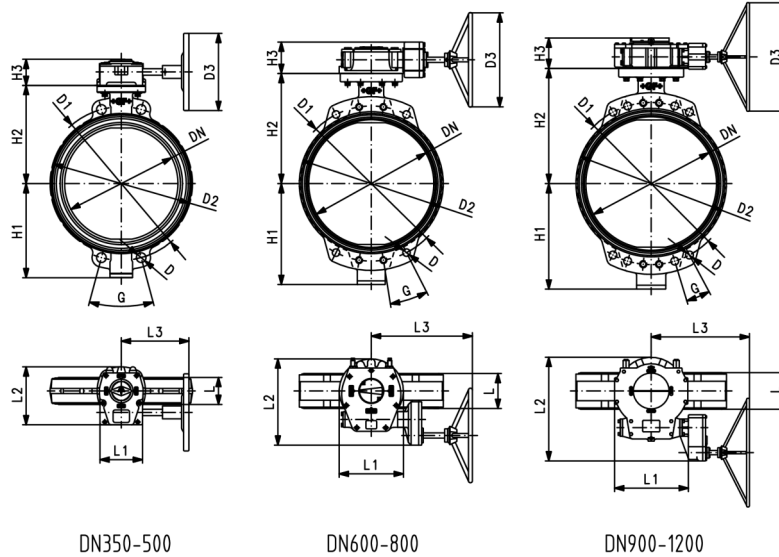
d [mm]	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	Q1 [mm]
355	20	21	16	460	442	125	291	307	55	78	75	180	282	332
400	24	25	16	515	193	140	325	342	65	102	88	226	270	382
450	24	25	20	565	544	140	357	387	65	113	88	258	326	432
500	24	25	20	620	601	140	381	425	65	126	88	258	326	478
630	27	28	20	725	695	254	488	532	110	146	150	403	447	585
700	27	28	24	840	798	254	506	573	110	175	150	403	447	683
800	30	31	24	950	908	254	578	650	110	215	150	403	447	755

table continued next page

Metal - butterfly valves



d [mm]	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	Q1 [mm]
900	30	31	28	1050	1004	254	643	707	110	246	150	482	500	852
1000	33	34	28	1160	1114	254	729	755	110	280	150	482	500	958
1200	36	37	32	1380	1330	298	855	900	130	360	195	725	611	1098



DN350-500

DN600-800

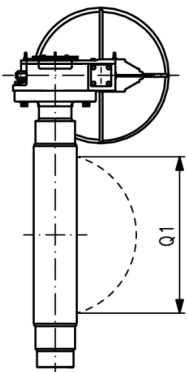
DN900-1200



Metal - butterfly valve type 039G Reduction gear with handwheel ANSI DN350-1200

Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752

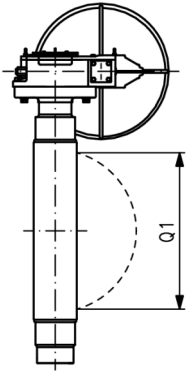


d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: Ductile Iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: Ductile Iron: EPOXY coated FPM Code
355	350	10	143360	198 039 020	198 039 030	198 039 060
400	400	10	186700	198 039 021	198 039 031	198 039 061
450	450	10	258390	198 039 022	198 039 032	198 039 062
500	500	10	316730	198 039 023	198 039 033	198 039 063
630	600	10	431750	198 039 024	198 039 034	198 039 064
700	700	10	618333	198 039 025	198 039 035	198 039 065
800	800	10	675000	198 039 026	198 039 036	198 039 066
900	900	10	1005200	198 039 027	198 039 037	198 039 067
1000	1000	10	1306930	198 039 028	198 039 038	198 039 068
1200	1200	10	1907050	198 039 029	198 039 039	198 039 069

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 070
400	400	10	186700	198 039 071
450	450	10	258390	198 039 072
500	500	10	316730	198 039 073
630	600	10	431750	198 039 074
700	700	10	618333	198 039 075
800	800	10	675000	198 039 076

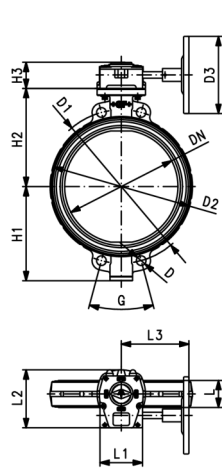
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Metal - butterfly valves

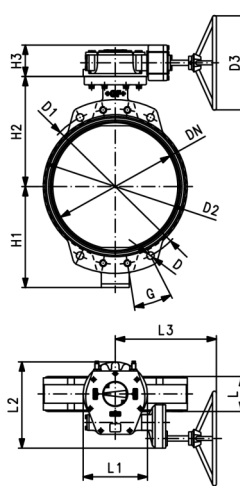


d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
900	900	10	1005200	198 039 077
1000	1000	10	1306930	198 039 078
1200	1200	10	1907050	198 039 079

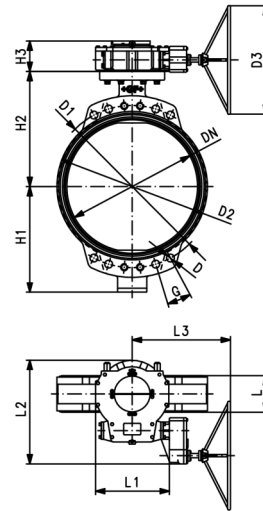
d [mm]	M [inch]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	Q1 [mm]
355	1	26	12	476	442	125	291	307	55	78	75	180	282	332
400	1	26	16	540	193	140	325	342	65	102	88	226	270	382
450	1 1/8	29	20	578	544	140	357	387	65	113	88	258	326	432
500	1 1/8	29	20	635	601	140	381	425	65	126	88	258	326	478
630	1 1/4	32	20	749	695	254	488	532	110	146	150	403	447	585
700	1 1/4	32	28	864	798	254	506	573	110	175	150	403	447	683
800	1 1/2	39	28	978	908	254	578	650	110	215	150	403	447	755
900	1 1/2	39	28	1086	1004	254	643	707	110	246	150	482	500	852
1000	1 1/2	39	32	1200	1114	254	729	755	110	280	150	482	500	958
1200	1 1/2	39	44	1422	1330	298	855	900	130	360	195	725	611	1098



DN350-500



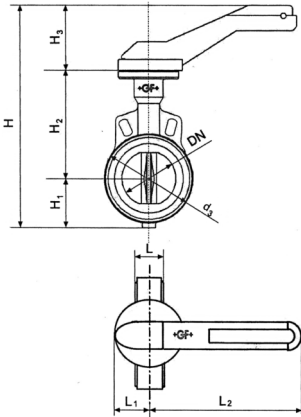
DN600-800



DN900-1200

Metal - butterfly valves

Metal - butterfly valve type 039M With hand lever



Model:

- Body GGG40 (A 395 M:88, EN-JS 1020 EN1563) Rilsan coating
- Installation length: EN 558 row 20
- Seat Material: EPDM, FPM and others on request
- Mounting between ISO, ANSI, BS or JIS Flanges
- Full bore shaft, square shape
- Interface according to DIN/ISO 5211

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	16	3167	837	199 039 000	199 039 200
75	65	2 ½	16	4667	1233	199 039 001	199 039 201
90	80	3	16	7167	1893	199 039 002	199 039 202
110	100	4	16	11833	3126	199 039 003	199 039 203
140	125	5	16	18333	4843	199 039 004	199 039 204
160	150	6	16	26667	7045	199 039 005	199 039 205
225	200	8	16	46667	12328	199 039 006	199 039 206
280	250	10	16	78333	20693	199 039 007	199 039 207
315	300	12	16	115000	30380	199 039 008	199 039 208

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code
63	50	2	16	3167	837	199 039 400
75	65	2 ½	16	4667	1233	199 039 401
90	80	3	16	7167	1893	199 039 402
110	100	4	16	11833	3126	199 039 403
140	125	5	16	18333	4843	199 039 404
160	150	6	16	26667	7045	199 039 405
225	200	8	16	46667	12328	199 039 406
280	250	10	16	78333	20693	199 039 407
315	300	12	16	115000	30380	199 039 408

d [mm]	DN [mm]	d3 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	50	95	43	45	220	290	53	140	95
75	65	114	46	45	220	312	63	152	95
90	80	131	46	45	220	327	71	159	95
110	100	152	52	45	220	360	87	178	95
140	125	182	56	45	320	388	102	191	95
160	150	209	56	45	320	416	118	203	95
225	200	262	60	45	320	489	149	245	95
280	250	331	68	63	560	525	200	275	50
315	300	380	78	63	560	592	227	315	50

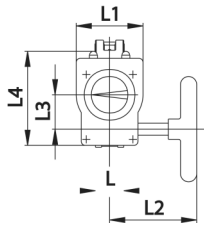
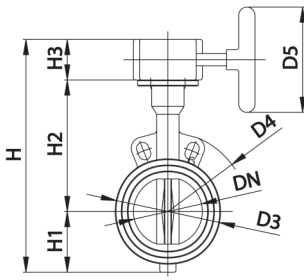
Metal - butterfly valves

Metal - butterfly valve type 039G Reduction gear with handwheel



Model:

- Body GGG40 (A 395 M:88, EN-JS 1020 EN1563) Rilsan coating
- Installation length: EN 558 row 20
- Seat Material: EPDM, FPM and others on request
- Mounting between ISO, ANSI, BS or JIS Flanges
- Full bore shaft, square shape
- Interface according to DIN/ISO 5211



d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	16	3167	837	199 039 026	199 039 226
75	65	2 ½	16	4667	1233	199 039 027	199 039 227
90	80	3	16	7167	1893	199 039 028	199 039 228
110	100	4	16	11833	3126	199 039 029	199 039 229
140	125	5	16	18333	4843	199 039 030	199 039 230
160	150	6	16	26667	7045	199 039 031	199 039 231
225	200	8	16	46667	12328	199 039 032	199 039 232
280	250	10	16	78333	20693	199 039 033	199 039 233
315	300	12	16	115000	30380	199 039 034	199 039 234

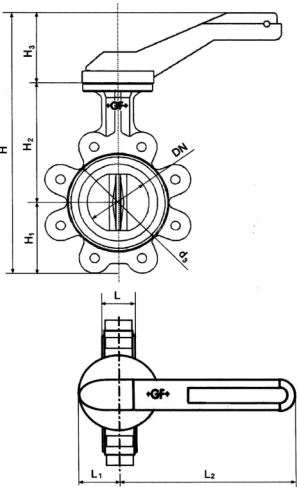
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code
63	50	2	16	3167	837	199 039 426
75	65	2 ½	16	4667	1233	199 039 427
90	80	3	16	7167	1893	199 039 428
110	100	4	16	11833	3126	199 039 429
140	125	5	16	18333	4843	199 039 430
160	150	6	16	26667	7045	199 039 431
225	200	8	16	46667	12328	199 039 432
280	250	10	16	78333	20693	199 039 433
315	300	12	16	115000	30380	199 039 434

d [mm]	D3 [mm]	D4 [mm]	D5 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	95	165	125	84	152	38	107	253	55	140	58
75	114	185	125	84	152	38	107	275	65	152	58
90	131	190	125	84	152	38	107	290	73	159	58
110	152	229	125	84	152	38	107	323	87	178	58
140	182	254	125	84	152	38	107	351	102	191	58
160	209	285	125	84	152	38	107	379	118	203	58
225	262	343	125	84	152	38	107	452	149	245	58
280	331	333	250	106	184	52	142	542	200	275	67
315	380	353	250	106	184	52	142	609	227	315	67

Metal - butterfly valves

Metal - butterfly valves lug metric

Metal - butterfly valve type 038M With hand lever



Model:

- Seat Material: EPDM, FPM and others on request
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar

d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	16	3140	220	199 038 000	199 038 013
75	65	2 ½	16	4570	320	199 038 001	199 038 014
90	80	3	16	7140	500	199 038 002	199 038 015
110	100	4	16	11710	820	199 038 003	199 038 016
140	125	5	16	18570	1300	199 038 004	199 038 017
160	150	6	16	27130	1900	199 038 005	199 038 018
225	200	8	16	47130	3330	199 038 006	199 038 019
280	250	10	16	77110	5400	199 038 007	199 038 020
315	300	12	16	114240	8000	199 038 008	199 038 021

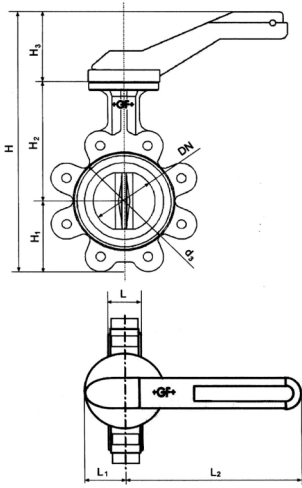
d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	16	3140	220	199 038 200	199 038 213
75	65	2 ½	16	4570	320	199 038 201	199 038 214
90	80	3	16	7140	500	199 038 202	199 038 215
110	100	4	16	11710	820	199 038 203	199 038 216
140	125	5	16	18570	1300	199 038 204	199 038 217
160	150	6	16	27130	1900	199 038 205	199 038 218
225	200	8	16	47130	3330	199 038 206	199 038 219
280	250	10	16	77110	5400	199 038 207	199 038 220
315	300	12	16	114240	8000	199 038 208	199 038 221

d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	16	3140	220	199 038 400	199 038 413
75	65	2 ½	16	4570	320	199 038 401	199 038 414
90	80	3	16	7140	500	199 038 402	199 038 415
110	100	4	16	11710	820	199 038 403	199 038 416
140	125	5	16	18570	1300	199 038 404	199 038 417
160	150	6	16	27130	1900	199 038 405	199 038 418
225	200	8	16	47130	3330	199 038 406	199 038 419
280	250	10	16	77110	5400	199 038 407	199 038 420
315	300	12	16	114240	8000	199 038 408	199 038 421

d [mm]	d3 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	95	43	45	220	298	63	95	152
75	114	46	45	220	320	73	95	178
90	131	46	45	220	335	81	95	200
110	152	52	45	220	370	97	95	229
140	182	56	45	320	398	112	95	254
160	209	56	45	320	420	122	95	280

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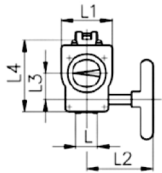
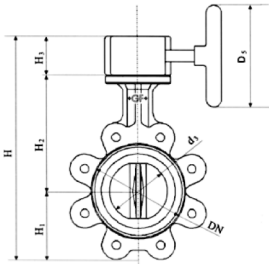
Metal - butterfly valves



d [mm]	d3 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	
225	262	60	45	320	489	149	95	343	
280	331	68	63	560	573	203	95	406	
315	380	78	63	560	651	241	95	483	

Metal - butterfly valves

Metal - butterfly valve type 038G Reduction gear with handwheel



Model:

- Seat Material: EPDM, FPM and others on request
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	16	3140	220	199 038 026	199 038 039
75	65	2 ½	16	4570	320	199 038 027	199 038 040
90	80	3	16	7140	500	199 038 028	199 038 041
110	100	4	16	11710	820	199 038 029	199 038 042
140	125	5	16	18570	1300	199 038 030	199 038 043
160	150	6	16	27130	1900	199 038 031	199 038 044
225	200	8	16	47130	3330	199 038 032	199 038 045
280	250	10	16	77110	5400	199 038 033	199 038 046
315	300	12	16	114240	8000	199 038 034	199 038 047

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	16	3140	220	199 038 226	199 038 239
75	65	2 ½	16	4570	320	199 038 227	199 038 240
90	80	3	16	7140	500	199 038 228	199 038 241
110	100	4	16	11710	820	199 038 229	199 038 242
140	125	5	16	18570	1300	199 038 230	199 038 243
160	150	6	16	27130	1900	199 038 231	199 038 244
225	200	8	16	47130	3330	199 038 232	199 038 245
280	250	10	16	77110	5400	199 038 233	199 038 246
315	300	12	16	114240	8000	199 038 234	199 038 247

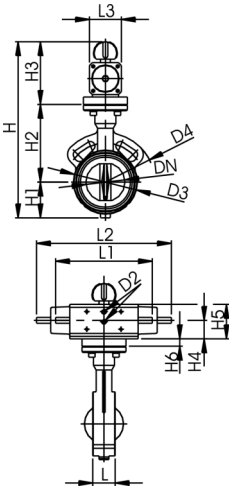
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	16	3140	220	199 038 426	199 038 439
75	65	2 ½	16	4570	320	199 038 427	199 038 440
90	80	3	16	7140	500	199 038 428	199 038 441
110	100	4	16	11710	820	199 038 429	199 038 442
140	125	5	16	18570	1300	199 038 430	199 038 443
160	150	6	16	27130	1900	199 038 431	199 038 444
225	200	8	16	47130	3330	199 038 432	199 038 445
280	250	10	16	77110	5400	199 038 433	199 038 446
315	300	12	16	114240	8000	199 038 434	199 038 447

d [mm]	d3 [mm]	D5 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	95	125	43	84	152	38	107	261	63	140	58
75	114	125	46	84	152	38	107	283	73	152	58
90	131	125	46	84	152	38	107	298	81	159	58
110	152	125	52	84	152	38	107	333	97	178	58
140	182	125	56	84	152	38	107	361	112	191	58
160	209	125	56	84	152	38	107	383	122	203	58
225	262	125	60	84	152	38	107	452	149	245	58
280	331	250	68	106	152	52	141	545	203	275	67
315	380	250	78	106	152	52	141	623	241	315	67

Metal - butterfly valves

Metal - butterfly valves pneumatic wafer Metric/Inch/ASTM

Metal - butterfly valve type 037P FC (Fail safe to close) Without manual override



Model:

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

d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	10	3140	220	199 037 052	199 037 065
75	65	2 ½	10	4570	320	199 037 053	199 037 066
90	80	3	10	7140	500	199 037 054	199 037 067
110	100	4	10	11710	820	199 037 055	199 037 068
140	125	5	10	18570	1300	199 037 056	199 037 069
160	150	6	10	27130	1900	199 037 057	199 037 070
225	200	8	10	47130	3330	199 037 058	199 037 071
280	250	10	10	77110	5400	199 037 059	199 037 072
315	300	12	10	114240	8000	199 037 060	199 037 073

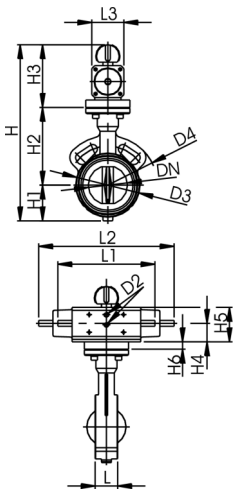
d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	10	3140	220	199 037 252	199 037 265
75	65	2 ½	10	4570	320	199 037 253	199 037 266
90	80	3	10	7140	500	199 037 254	199 037 267
110	100	4	10	11710	820	199 037 255	199 037 268
140	125	5	10	18570	1300	199 037 256	199 037 269
160	150	6	10	27130	1900	199 037 257	199 037 270
225	200	8	10	47130	3330	199 037 258	199 037 271
280	250	10	10	77110	5400	199 037 259	199 037 272
315	300	12	10	114240	8000	199 037 260	199 037 273

d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	10	3140	220	199 037 452	199 037 465
75	65	2 ½	10	4570	320	199 037 453	199 037 466
90	80	3	10	7140	500	199 037 454	199 037 467
110	100	4	10	11710	820	199 037 455	199 037 468
140	125	5	10	18570	1300	199 037 456	199 037 469
160	150	6	10	27130	1900	199 037 457	199 037 470
225	200	8	10	47130	3330	199 037 458	199 037 471
280	250	10	10	77110	5400	199 037 459	199 037 472
315	300	12	10	114240	8000	199 037 460	199 037 473

d [mm]	Actuator unit type	d3 [mm]	d4 [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
63	PA-30	95	165	65	240	338	55	140	40	103
75	PA-30	114	185	65	240	360	65	152	40	103
90	PA-35	131	190	72	294	391	73	159	46	113
110	PA-40	152	229	80	320	441	87	178	46	130
140	PA-45	182	254	90	357	489	102	191	56	140
160	PA-50	209	285	100	395	527	118	203	56	150

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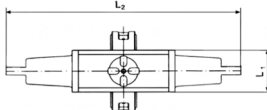
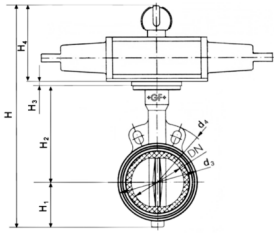
Metal - butterfly valves



d [mm]	Actuator unit type	d3 [mm]	d4 [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	
225	PA-60	262	343	124	487	632	149	241	68	174	
280	PA-60	331	333	124	487	717	200	275	68	174	
315	PA-70	380	353	145	551	823	227	315	83	198	

Metal - butterfly valves

Metal - butterfly valve type 037P FO (Fail safe to open) Without manual override



Model:

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

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	10	3140	220	199 037 078	199 037 091
75	65	2 ½	10	4570	320	199 037 079	199 037 092
90	80	3	10	7140	500	199 037 080	199 037 093
110	100	4	10	11710	820	199 037 081	199 037 094
140	125	5	10	18570	1300	199 037 082	199 037 095
160	150	6	10	27130	1900	199 037 083	199 037 096
225	200	8	10	47130	3330	199 037 084	199 037 097
280	250	10	10	77110	5400	199 037 085	199 037 098
315	300	12	10	114240	8000	199 037 086	199 037 099

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	10	3140	220	199 037 278	199 037 291
75	65	2 ½	10	4570	320	199 037 279	199 037 292
90	80	3	10	7140	500	199 037 280	199 037 293
110	100	4	10	11710	820	199 037 281	199 037 294
140	125	5	10	18570	1300	199 037 282	199 037 295
160	150	6	10	27130	1900	199 037 283	199 037 296
225	200	8	10	47130	3330	199 037 284	199 037 297
280	250	10	10	77110	5400	199 037 285	199 037 298
315	300	12	10	114240	8000	199 037 286	199 037 299

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	10	3140	220	199 037 478	199 037 491
75	65	2 ½	10	4570	320	199 037 479	199 037 492
90	80	3	10	7140	500	199 037 480	199 037 493
110	100	4	10	11710	820	199 037 481	199 037 494
140	125	5	10	18570	1300	199 037 482	199 037 495
160	150	6	10	27130	1900	199 037 483	199 037 496
225	200	8	10	47130	3330	199 037 484	199 037 497
280	250	10	10	77110	5400	199 037 485	199 037 498
315	300	12	10	114240	8000	199 037 486	199 037 499

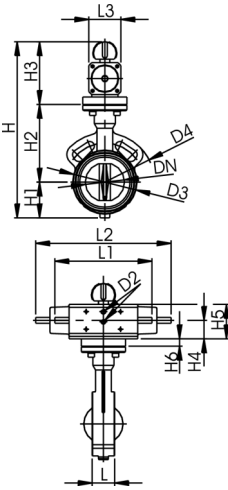
d [mm]	Actuator unit type	d3 [mm]	d4 [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
63	PA-30	95	165	65	240	338	55	140	40	103
75	PA-30	114	185	65	240	360	65	152	40	103
90	PA-35	131	190	72	294	391	73	159	46	113
110	PA-40	152	229	80	320	441	87	178	46	130
140	PA-45	182	254	90	357	489	102	191	56	140
160	PA-50	209	285	100	395	527	118	203	56	150
225	PA-60	262	343	124	487	632	149	241	68	174
280	PA-60	331	333	124	487	717	200	275	68	174
315	PA-60	380	353	145	551	823	227	315	83	198

Metal - butterfly valves

Metal - butterfly valve type 037P DA (Double acting) Without manual override

Model:

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



d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	10	3140	220	199 037 104	199 037 117
75	65	2 ½	10	4570	320	199 037 105	199 037 118
90	80	3	10	7140	500	199 037 106	199 037 119
110	100	4	10	11710	820	199 037 107	199 037 120
140	125	5	10	18570	1300	199 037 108	199 037 121
160	150	6	10	27130	1900	199 037 109	199 037 122
225	200	8	10	47130	3330	199 037 110	199 037 123
280	250	10	10	77110	5400	199 037 111	199 037 124
315	300	12	10	114240	8000	199 037 112	199 037 125

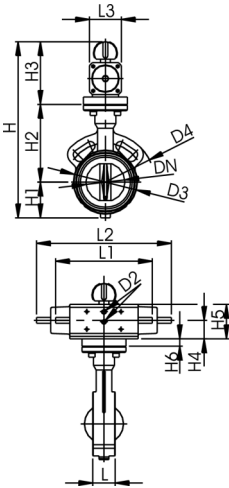
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	10	3140	220	199 037 304	199 037 317
75	65	2 ½	10	4570	320	199 037 305	199 037 318
90	80	3	10	7140	500	199 037 306	199 037 319
110	100	4	10	11710	820	199 037 307	199 037 320
140	125	5	10	18570	1300	199 037 308	199 037 321
160	150	6	10	27130	1900	199 037 309	199 037 322
225	200	8	10	47130	3330	199 037 310	199 037 323
280	250	10	10	77110	5400	199 037 311	199 037 324
315	300	12	10	114240	8000	199 037 312	199 037 325

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	10	3140	220	199 037 504	199 037 517
75	65	2 ½	10	4570	320	199 037 505	199 037 518
90	80	3	10	7140	500	199 037 506	199 037 519
110	100	4	10	11710	820	199 037 507	199 037 520
140	125	5	10	18570	1300	199 037 508	199 037 521
160	150	6	10	27130	1900	199 037 509	199 037 522
225	200	8	10	47130	3330	199 037 510	199 037 523
280	250	10	10	77110	5400	199 037 511	199 037 524
315	300	12	10	114240	8000	199 037 512	199 037 525

d [mm]	Actuator unit type	D3 [mm]	D4 [mm]	L [mm]	L1 [mm]	L3 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	H5 [mm]	H6 [mm]
63	PA-35	95	165	43	190	60	308	55	140	113	35	60	15
75	PA-35	114	185	46	190	60	330	65	152	113	35	60	15
90	PA-35	131	190	46	190	60	345	73	159	113	38	71	15
110	PA-45	152	229	52	235	72	392	87	178	127	38	71	15
140	PA-45	182	254	56	235	72	420	102	191	127	46	86	15
160	PA-55	209	285	56	279	90	476	118	203	155	46	86	15
225	PA-60	262	343	60	341	100	559	149	245	165	56	106	15
280	PA-65	331	333	68	350	112	662	200	275	187	56	106	25
315	PA-70	380	353	78	381	124	741	227	315	199	68	130	25

Metal - butterfly valves

Metal - butterfly valve type 039P FC (Fail safe to close) Without manual override



Model:

- Body GGG40 (A 395 M:88, EN-JS 1020 EN1563) Rilsan coating
- Installation length: EN 558 row 20
- Seat Material: EPDM, FPM and others on request
- Mounting between ISO, ANSI, BS or JIS Flanges
- Full bore shaft, square shape
- Interface according to DIN/ISO 5211

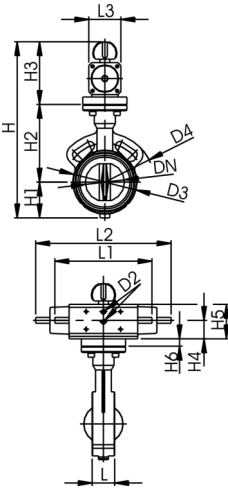
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	16	3167	837	199 039 052	199 039 252
75	65	2 ½	16	4667	1233	199 039 053	199 039 253
90	80	3	16	7167	1893	199 039 054	199 039 254
110	100	4	16	11833	3126	199 039 055	199 039 255
140	125	5	16	18333	4843	199 039 056	199 039 256
160	150	6	16	26667	7045	199 039 057	199 039 257
225	200	8	16	46667	12328	199 039 058	199 039 258
280	250	10	16	78333	20693	199 039 059	199 039 259
315	300	12	16	115000	30380	199 039 060	199 039 260

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code
63	50	2	16	3167	837	199 039 452
75	65	2 ½	16	4667	1233	199 039 453
90	80	3	16	7167	1893	199 039 454
110	100	4	16	11833	3126	199 039 455
140	125	5	16	18333	4843	199 039 456
160	150	6	16	26667	7045	199 039 457
225	200	8	16	46667	12328	199 039 458
280	250	10	16	78333	20693	199 039 459
315	300	12	16	115000	30380	199 039 460

d [mm]	Actuator unit type	d3 [mm]	d4 [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
63	PA-30	95	165	65	240	338	55	140	40	103
75	PA-30	114	185	65	240	360	65	152	40	103
90	PA-35	131	190	72	294	391	73	159	46	113
110	PA-40	152	229	80	320	441	87	178	46	130
140	PA-45	182	254	90	357	489	102	191	56	140
160	PA-50	209	285	100	395	527	118	203	56	150
225	PA-60	262	343	124	487	632	149	241	68	174
280	PA-60	331	333	124	487	717	200	275	68	174
315	PA-70	380	353	145	551	823	227	315	83	198

Metal - butterfly valves

Metal - butterfly valve type 039P DA (Double acting) Without manual override



Model:

- Body GGG40 (A 395 M:88, EN-JS 1020 EN1563) Rilsan coating
- Installation length: EN 558 row 20
- Seat Material: EPDM, FPM and others on request
- Mounting between ISO, ANSI, BS or JIS Flanges
- Full bore shaft, square shape
- Interface according to DIN/ISO 5211

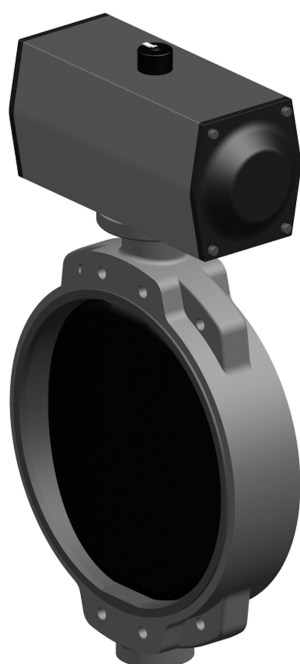
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	16	3167	837	199 039 104	199 039 304
75	65	2 ½	16	4667	1233	199 039 105	199 039 305
90	80	3	16	7167	1893	199 039 106	199 039 306
110	100	4	16	11833	3126	199 039 107	199 039 307
140	125	5	16	18333	4843	199 039 108	199 039 308
160	150	6	16	26667	7045	199 039 109	199 039 309
225	200	8	16	46667	12328	199 039 110	199 039 310
280	250	10	16	78333	20693	199 039 111	199 039 311
315	300	12	16	115000	30380	199 039 112	199 039 312

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code
63	50	2	16	3167	837	199 039 504
75	65	2 ½	16	4667	1233	199 039 505
90	80	3	16	7167	1893	199 039 506
110	100	4	16	11833	3126	199 039 507
140	125	5	16	18333	4843	199 039 508
160	150	6	16	26667	7045	199 039 509
225	200	8	16	46667	12328	199 039 510
280	250	10	16	78333	20693	199 039 511
315	300	12	16	115000	30380	199 039 512

d [mm]	Actuator unit type	D3 [mm]	D4 [mm]	L [mm]	L1 [mm]	L3 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	H5 [mm]	H6 [mm]
63	PA-35	95	165	43	190	60	308	55	140	113	35	60	15
75	PA-35	114	185	46	190	60	330	65	152	113	35	60	15
90	PA-35	131	190	46	190	60	345	73	159	113	38	71	15
110	PA-45	152	229	52	235	72	392	87	178	127	38	71	15
140	PA-45	182	254	56	235	72	420	102	191	127	46	86	15
160	PA-55	209	285	56	279	90	476	118	203	155	46	86	15
225	PA-60	262	343	60	341	100	559	149	245	165	56	106	15
280	PA-65	331	333	68	350	112	662	200	275	187	56	106	25
315	PA-70	380	353	78	381	124	741	227	315	199	68	130	25

Metal - butterfly valves

Metal - butterfly valve type 039P FC (Fail safe to close) Without manual override DN350-1200 metric



Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: ductile iron: EPOXY coated FPM Code
355	350	10	143360	198 039 100	198 039 110	198 039 140
400	400	10	186700	198 039 101	198 039 111	198 039 141
450	450	10	258390	198 039 102	198 039 112	198 039 142
500	500	10	316730	198 039 103	198 039 113	198 039 143
630	600	10	431750	198 039 104	198 039 114	198 039 144
700	700	10	618333	198 039 105	198 039 115	198 039 145
800	800	10	675000	198 039 106	198 039 116	198 039 146
900	900	10	1005200	198 039 107	198 039 117	198 039 147
1000	1000	10	1306930	198 039 108	198 039 118	198 039 148
1200	1200	10	1907050	198 039 109	198 039 119	198 039 149

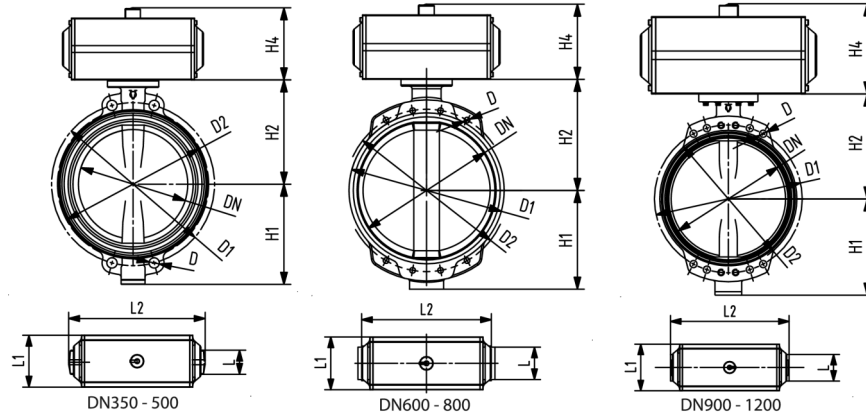
d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 150
400	400	10	186700	198 039 151
450	450	10	258390	198 039 152
500	500	10	316730	198 039 153
630	600	10	431750	198 039 154
700	700	10	618333	198 039 155
800	800	10	675000	198 039 156
900	900	10	1005200	198 039 157
1000	1000	10	1306930	198 039 158
1200	1200	10	1907050	198 039 159

d [mm]	Actuator unit type	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	H1 [mm]	H2 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	Q1 [mm]
355	CH-240	20	21	16	460	442	291	307	382	200	590	332
400	CH-270	24	25	16	515	193	325	342	380	350	684	382
450	CH-B270	24	25	20	565	544	357	387	350	281	722	432
500	CH-B350	24	25	20	620	601	381	425	432	349	860	478
630	CH-B400	27	28	20	725	695	488	532	510	450	918	585
700	CH-B500	27	28	24	840	798	506	573	700	640	1550	683
800	CH-B500	30	31	24	950	908	578	650	700	640	1550	755

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Metal - butterfly valves

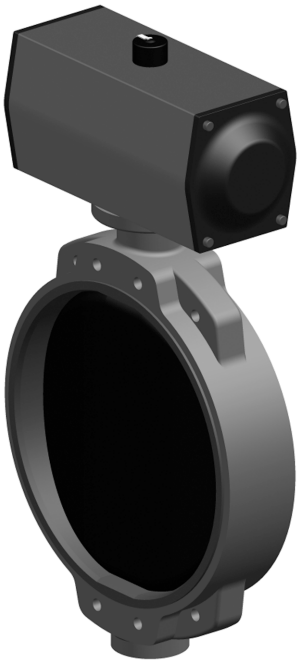
d [mm]	Actuator unit type	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	H1 [mm]	H2 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	Q1 [mm]
900	CH-B500	30	31	28	1050	1004	643	707	700	640	1550	852
1000	CH-B500	33	34	28	1160	1114	729	755	700	640	1550	958
1200	CH-B600	36	37	32	1380	1330	855	900	875	850	2070	1098



Metal - butterfly valve type 039P FC (Fail safe to close) Without manual override DN350-1200 ANSI

Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752



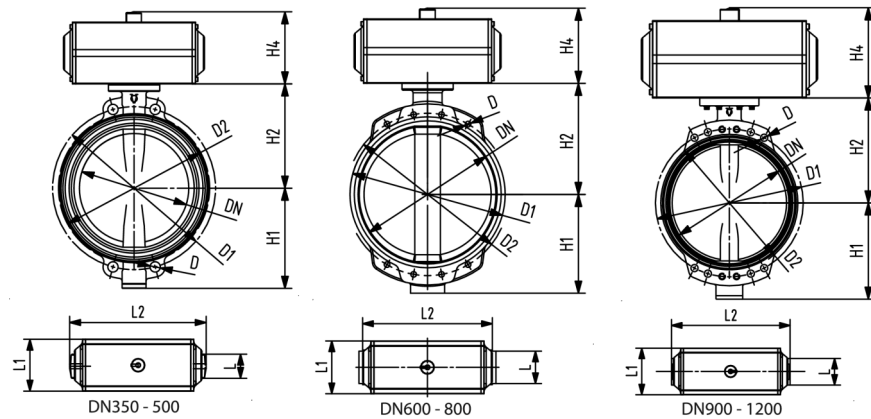
d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: ductile iron: EPOXY coated FPM Code
355	350	10	143360	198 039 120	198 039 130	198 039 160
400	400	10	186700	198 039 121	198 039 131	198 039 161
450	450	10	258390	198 039 122	198 039 132	198 039 162
500	500	10	316730	198 039 123	198 039 133	198 039 163
630	600	10	431750	198 039 124	198 039 134	198 039 164
700	700	10	618333	198 039 125	198 039 135	198 039 165
800	800	10	675000	198 039 126	198 039 136	198 039 166
900	900	10	1005200	198 039 127	198 039 137	198 039 167
1000	1000	10	1306930	198 039 128	198 039 138	198 039 168
1200	1200	10	1907050	198 039 129	198 039 139	198 039 169

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 170
400	400	10	186700	198 039 171
450	450	10	258390	198 039 172
500	500	10	316730	198 039 173
630	600	10	431750	198 039 174
700	700	10	618333	198 039 175
800	800	10	675000	198 039 176
900	900	10	1005200	198 039 177
1000	1000	10	1306930	198 039 178
1200	1200	10	1907050	198 039 179

table continued next page

Metal - butterfly valves

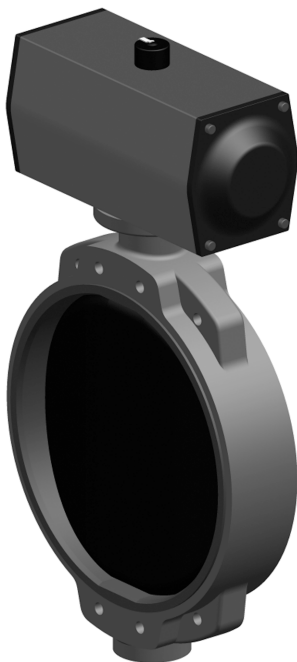
d [mm]	M [inch]	Actuator unit type	D [mm]	N [mm]	D1 [mm]	D2 [mm]	H1 [mm]	H2 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	Q1 [mm]
355	1	CH-240	26	12	476	442	291	307	382	200	590	332
400	1	CH-270	26	16	540	493	325	342	380	350	684	382
450	1 1/8	CH-B270	29	20	578	544	357	387	350	281	722	432
500	1 1/8	CH-B350	29	20	635	601	381	425	432	349	860	478
630	1 1/4	CH-B400	32	20	749	695	488	532	510	450	918	585
700	1 1/4	CH-B500	32	28	864	798	506	573	700	640	1550	683
800	1 1/2	CH-B500	39	28	978	908	578	650	700	640	1550	755
900	1 1/2	CH-B500	39	28	1086	1004	643	707	700	640	1550	852
1000	1 1/2	CH-B500	39	32	1200	1114	729	755	700	640	1550	958
1200	1 1/2	CH-B600	39	44	1422	1330	855	900	875	850	2070	1098



Metal - butterfly valve type 039P DA (Double acting) Without manual override DN350-1200 metric

Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752



d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: ductile iron: EPOXY coated FPM Code
355	350	10	143360	198 039 200	198 039 210	198 039 240
400	400	10	186700	198 039 201	198 039 211	198 039 241
450	450	10	258390	198 039 202	198 039 212	198 039 242
500	500	10	316730	198 039 203	198 039 213	198 039 243
630	600	10	431750	198 039 204	198 039 214	198 039 244
700	700	10	618333	198 039 205	198 039 215	198 039 245
800	800	10	675000	198 039 206	198 039 216	198 039 246
900	900	10	1005200	198 039 207	198 039 217	198 039 247
1000	1000	10	1306930	198 039 208	198 039 218	198 039 248
1200	1200	10	1907050	198 039 209	198 039 219	198 039 249

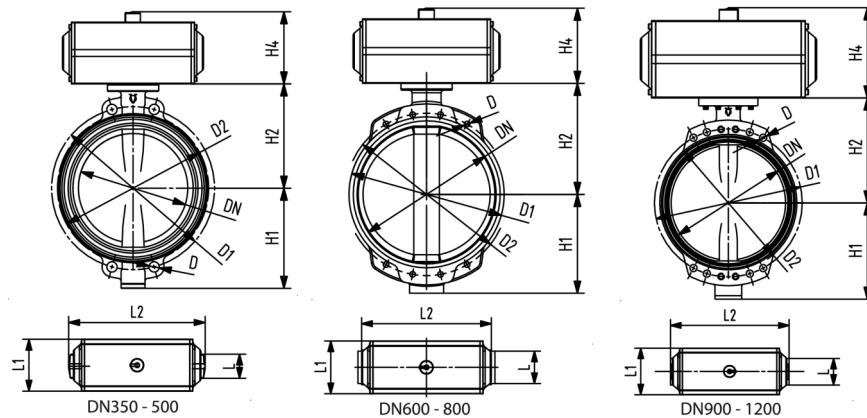
d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 250
400	400	10	186700	198 039 251
450	450	10	258390	198 039 252
500	500	10	316730	198 039 253
630	600	10	431750	198 039 254
700	700	10	618333	198 039 255
800	800	10	675000	198 039 256

table continued next page

Metal - butterfly valves

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
900	900	10	1005200	198 039 257
1000	1000	10	1306930	198 039 258
1200	1200	10	1907050	198 039 259

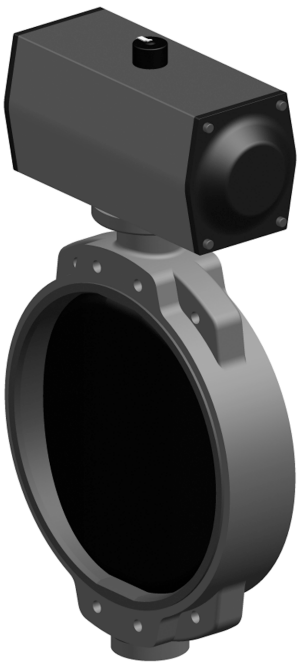
d [mm]	Actuator unit type	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L1 [mm]	L2 [mm]	Q1 [mm]
355	CH-B200	20	21	16	460	442	291	307	290	220	575	332
400	CH-B240	24	25	16	515	193	325	342	290	220	575	382
450	CH-B240	24	25	20	565	544	357	387	380	350	684	432
500	CH-B270	24	25	20	620	601	381	425	380	350	684	478
630	CH-B350	27	28	20	725	695	488	532	432	349	860	585
700	CH-B350	27	28	24	840	798	506	573	432	349	860	683
800	CH-B400	30	31	24	950	908	578	650	510	450	918	755
900	CH-B500	30	31	28	1050	1004	643	707	700	640	1550	852
1000	CH-B500	33	34	28	1160	1114	729	755	700	640	1550	958
1200	CH-B500	36	37	32	1380	1330	855	900	700	640	1550	1098



Metal - butterfly valve type 039P DA (Double acting) Without manual override DN350-1200 ANSI

Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752



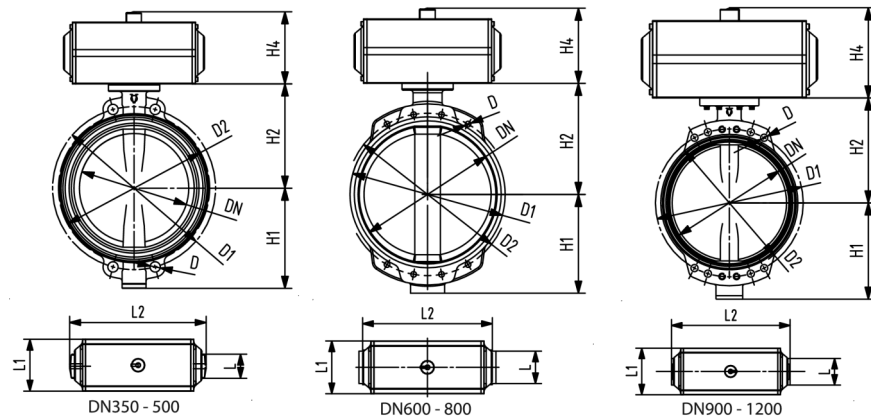
d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: ductile iron: EPOXY coated FPM Code
355	350	10	143360	198 039 220	198 039 230	198 039 260
400	400	10	186700	198 039 221	198 039 231	198 039 261
450	450	10	258390	198 039 222	198 039 232	198 039 262
500	500	10	316730	198 039 223	198 039 233	198 039 263
630	600	10	431750	198 039 224	198 039 234	198 039 264
700	700	10	618333	198 039 225	198 039 235	198 039 265
800	800	10	675000	198 039 226	198 039 236	198 039 266
900	900	10	1005200	198 039 227	198 039 237	198 039 267
1000	1000	10	1306930	198 039 228	198 039 238	198 039 268
1200	1200	10	1907050	198 039 229	198 039 239	198 039 269

table continued next page

Metal - butterfly valves

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 270
400	400	10	186700	198 039 271
450	450	10	258390	198 039 272
500	500	10	316730	198 039 273
630	600	10	431750	198 039 274
700	700	10	618333	198 039 275
800	800	10	675000	198 039 276
900	900	10	1005200	198 039 277
1000	1000	10	1306930	198 039 278
1200	1200	10	1907050	198 039 279

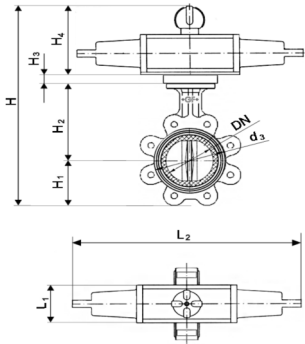
d [mm]	Actuator unit type	M [inch]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L1 [mm]	L2 [mm]	Q1 [mm]
355	CH-B200	1	26	12	476	442	291	307	290	220	575	332
400	CH-B240	1	26	16	540	493	325	342	290	220	575	382
450	CH-B240	1 1/8	29	20	578	544	357	387	380	350	684	432
500	CH-B270	1 1/8	29	20	635	601	381	425	380	350	684	478
630	CH-B350	1 1/4	32	20	749	695	488	532	432	349	860	585
700	CH-B350	1 1/4	32	28	864	798	506	573	432	349	860	683
800	CH-B400	1 1/2	39	28	978	908	578	650	510	450	918	755
900	CH-B500	1 1/2	39	28	1086	1004	643	707	700	640	1550	852
1000	CH-B500	1 1/2	39	32	1200	1114	729	755	700	640	1550	958
1200	CH-B500	1 1/2	39	44	1422	1330	855	900	700	640	1550	1098



Metal - butterfly valves

Metal - butterfly valves pneumatic lug metric

Metal - butterfly valve type 038P FC (Fail safe to close) Without manual override



Model:

- Seat Material: EPDM, FPM and others on request
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	16	3140	220	199 038 052	199 038 252
75	65	2 ½	16	4570	320	199 038 053	199 038 253
90	80	3	16	7140	500	199 038 054	199 038 254
110	100	4	16	11710	820	199 038 055	199 038 255
140	125	5	16	18570	1300	199 038 056	199 038 256
160	150	6	16	27130	1900	199 038 057	199 038 257
225	200	8	16	47130	3330	199 038 058	199 038 258
280	250	10	16	77110	5400	199 038 059	199 038 259
315	300	12	16	114240	8000	199 038 060	199 038 260

d [mm]	Actuator unit type	d3 [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
63	PA-30	95	65	240	321	63	140	15	103
75	PA-30	114	65	240	343	73	152	15	103
90	PA-35	131	72	294	365	81	159	12	113
110	PA-40	152	80	320	420	97	178	15	130
140	PA-45	182	90	357	455	112	191	12	140
160	PA-50	209	100	395	487	122	203	12	150
225	PA-60	262	124	487	580	149	245	12	174
280	PA-60	331	124	487	672	203	275	20	174
315	PA-70	380	145	551	774	241	315	20	198

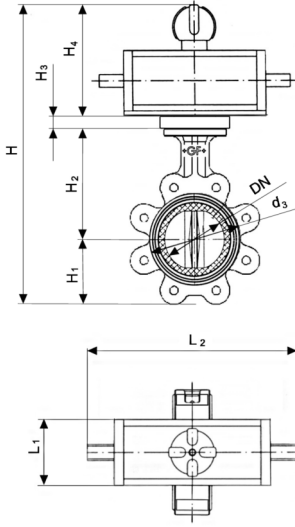
Metal - butterfly valves

Metal - butterfly valve type 038P DA (Double acting) Without manual override



Model:

- Seat Material: EPDM, FPM and others on request
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar



d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv value ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	16	3140	220	199 038 104	199 038 304
75	65	2 ½	16	4570	320	199 038 105	199 038 305
90	80	3	16	7140	500	199 038 106	199 038 306
110	100	4	16	11710	820	199 038 107	199 038 307
140	125	5	16	18570	1300	199 038 108	199 038 308
160	150	6	16	27130	1900	199 038 109	199 038 309
225	200	8	16	47130	3330	199 038 110	199 038 310
280	250	10	16	77110	5400	199 038 111	199 038 311
315	300	12	16	114240	8000	199 038 112	199 038 312

d [mm]	Actuator unit type	d3 [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
63	PA-35	95	60	144	317	63	140	15	99
75	PA-35	114	60	144	339	73	152	15	99
90	PA-35	131	60	144	354	81	159	15	99
110	PA-45	152	72	169	402	97	178	15	112
140	PA-45	182	72	169	430	112	191	15	112
160	PA-55	209	90	212	480	122	203	15	140
225	PA-60	262	100	255	559	149	245	15	150
280	PA-65	331	112	264	665	203	275	25	162
315	PA-70	380	124	295	755	241	315	25	174

Metal - butterfly valves

Metal - butterfly valves electric wafer

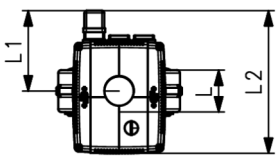
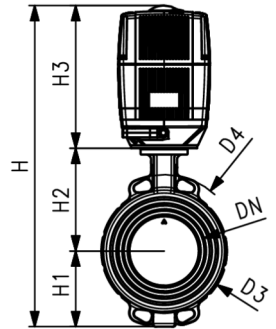
Metric/Inch/ASTM

Metal - butterfly valve type 039E 100-230V 50-60Hz Without manual override

Model:

- Voltage 100-230 V, 50-60 Hz for EA31
- Body GGG40 (A 395 M:88, EN-JS 1020 EN1563) Rilsan coating
- Installation length: EN 558 row 20
- Seat Material: EPDM, FPM and others on request
- Mounting between ISO, ANSI, BS or JIS Flanges
- Full bore shaft, square shape
- Interface according to DIN/ISO 5211

* Electric actuator for higher nominal pressure on request



d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	10	3140	220	199 039 130	199 039 330
75	65	2 ½	10	4570	320	199 039 131	199 039 331
90	80	3	10	7140	500	199 039 132	199 039 332
110	100	4	10	11710	820	199 039 133	199 039 333
140	125	5	10	18570	1300	199 039 134	199 039 334
160	150	6	10	27130	1900	199 039 135	199 039 335
225	200	8	10	47130	3330	199 039 136	199 039 336
* 280	250	10	6	77110	5400	199 039 137	199 039 337
* 315	300	12	4	114240	8000	199 039 138	199 039 338

d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code
63	50	2	10	3140	220	199 039 530
75	65	2 ½	10	4570	320	199 039 531
90	80	3	10	7140	500	199 039 532
110	100	4	10	11710	820	199 039 533
140	125	5	10	18570	1300	199 039 534
160	150	6	10	27130	1900	199 039 535
225	200	8	10	47130	3330	199 039 536
* 280	250	10	6	77110	5400	199 039 537
* 315	300	12	4	114240	8000	199 039 538

d [mm]	Actuator unit type	D3 [mm]	D4 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	EA-31	96	165	43	28	122	383	53	140	190
75	EA-31	114	185	46	28	122	405	63	152	190
90	EA-31	131	190	46	28	122	420	71	159	190
110	EA-31	152	229	52	64	181	415	87	178	149
140	EA-31	182	254	56	60	220	443	102	191	149
160	EA-42	209	285	56	60	220	475	122	203	149
225	EA-42	262	343	60	60	220	540	149	241	149
* 280	EA-42	323	333	68	70	220	671	201	273	197
* 315	EA-42	373	353	78	70	220	739	231	311	197

Metal - butterfly valves

Metal - butterfly valve type 039E 100-230V 50-60Hz Without manual override DN350-1200 metric



Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752
- Electric actuator: Auma Type SA-07

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: ductile iron: EPOXY coated FPM Code
355	350	10	143360	198 039 300	198 039 310	198 039 340
400	400	10	186700	198 039 301	198 039 311	198 039 341
450	450	10	258390	198 039 302	198 039 312	198 039 342
500	500	10	316730	198 039 303	198 039 313	198 039 343
630	600	10	431750	198 039 304	198 039 314	198 039 344
700	700	10	618333	198 039 305	198 039 315	198 039 345
800	800	10	675000	198 039 306	198 039 316	198 039 346
900	900	10	1005200	198 039 307	198 039 317	198 039 347
1000	1000	10	1306930	198 039 308	198 039 318	198 039 348
1200	1200	10	1907050	198 039 309	198 039 319	198 039 349

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 350
400	400	10	186700	198 039 351
450	450	10	258390	198 039 352
500	500	10	316730	198 039 353
630	600	10	431750	198 039 354
700	700	10	618333	198 039 355
800	800	10	675000	198 039 356
900	900	10	1005200	198 039 357
1000	1000	10	1306930	198 039 358
1200	1200	10	1907050	198 039 359

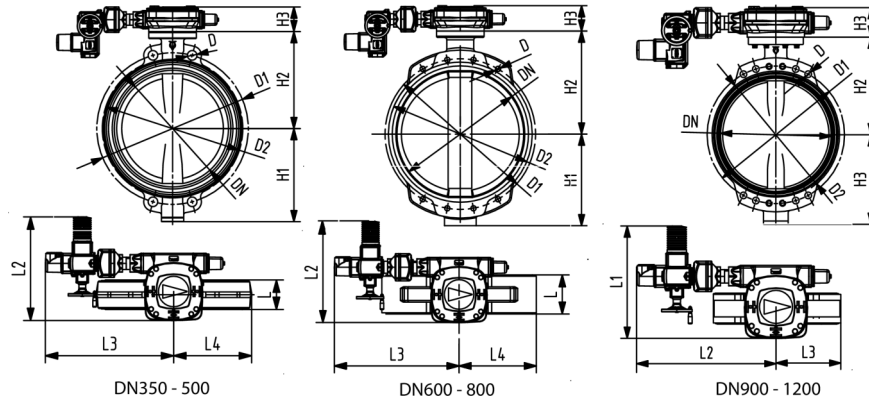
d [mm]	Actuator unit type	M [mm]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L2 [mm]	L3 [mm]	L4 [mm]
355	GS 80	20	21	16	460	442	291	307	307	78	130	527	514
400	GS 80	24	25	16	515	493	325	342	307	102	154	527	514
450	GS 100	24	25	20	565	544	357	387	321	113	182	690	514
500	GS 125	24	25	20	620	601	381	425	321	126	182	690	514
630	GS 125	27	28	20	725	695	488	532	330	146	286	710	744
700	GS 125	27	28	24	840	798	506	573	330	175	286	710	744
800	GS 160	30	31	24	950	908	578	650	313	215	286	990	514
900	GS 160	30	31	28	1050	1004	643	707	323	246	370	990	538
1000	GS 160	33	34	28	1160	1114	729	755	323	280	370	990	538
1200	GS 200	36	37	32	1380	1330	855	900	348	360	510	1133	538

d [mm]	Q1 [mm]
355	332
400	382
450	432
500	478
630	585
700	683
800	755

table continued next page

Metal - butterfly valves

d [mm]	Q1 [mm]
900	852
1000	958
1200	1098



Metal - butterfly valve type 039E 100-230V 50-60Hz Without manual override DN350-1200 ANSI

Model:

- Housing: Ductile Iron ASTM A 395, Epoxy coated
- Seatliner available in EPDM, FPM on request
- Disc available in Aluminium Bronze on request
- Connecting dimension: EN 1092 PN10, ANSI B 16.5 Class 150
- Up to DN 500: Overall length according to EN558, line 20, ISO 5752

d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: ductile iron: EPOXY coated EPDM Code	Disc: stainless steel EPDM Code	Disc: ductile iron: EPOXY coated FPM Code
355	350	10	143360	198 039 320	198 039 330	198 039 360
400	400	10	186700	198 039 321	198 039 331	198 039 361
450	450	10	258390	198 039 322	198 039 332	198 039 362
500	500	10	316730	198 039 323	198 039 333	198 039 363
630	600	10	431750	198 039 324	198 039 334	198 039 364
700	700	10	618333	198 039 325	198 039 335	198 039 365
800	800	10	675000	198 039 326	198 039 336	198 039 366
900	900	10	1005200	198 039 327	198 039 337	198 039 367
1000	1000	10	1306930	198 039 328	198 039 338	198 039 368
1200	1200	10	1907050	198 039 329	198 039 339	198 039 369

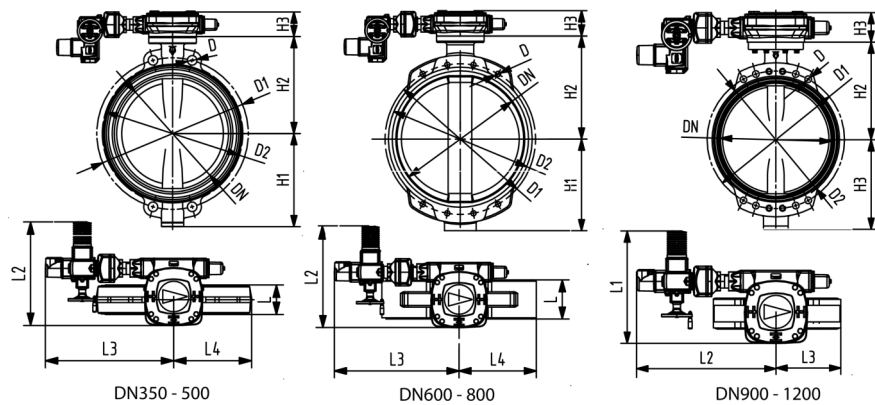
d [mm]	DN [mm]	PN	kv-value ($\Delta p=1$ bar) [l/min]	Disc: stainless steel FPM Code
355	350	10	143360	198 039 370
400	400	10	186700	198 039 371
450	450	10	258390	198 039 372
500	500	10	316730	198 039 373
630	600	10	431750	198 039 374
700	700	10	618333	198 039 375
800	800	10	675000	198 039 376
900	900	10	1005200	198 039 377
1000	1000	10	1306930	198 039 378
1200	1200	10	1907050	198 039 379

table continued next page

Metal - butterfly valves

d [mm]	Actuator unit type	M [inch]	D [mm]	N [mm]	D1 [mm]	D2 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L [mm]	L2 [mm]	L3 [mm]
355	GS 80	1	26	12	476	442	291	307	307	78	130	527
400	GS 80	1	26	16	540	493	325	342	307	102	154	527
450	GS 100	1 1/8	29	20	578	544	357	387	321	113	182	690
500	GS 125	1 1/8	29	20	635	601	381	425	321	126	182	690
630	GS 125	1 1/4	32	20	749	695	488	532	330	146	286	710
700	GS 125	1 1/4	32	28	864	798	506	573	330	175	286	710
800	GS 160	1 1/2	39	28	978	908	578	650	313	215	286	990
900	GS 160	1 1/2	39	28	1086	1004	643	707	323	246	370	990
1000	GS 160	1 1/2	39	32	1200	1114	729	755	323	280	370	990
1200	GS 200	1 1/2	39	44	1422	1330	855	900	348	360	510	1133

d [mm]	L4 [mm]	Q1 [mm]
355	514	332
400	514	382
450	514	432
500	514	478
630	744	585
700	744	683
800	514	755
900	538	852
1000	538	958
1200	538	1098



Metal - butterfly valves

Metal - butterfly valves electric lug metric

Metal - butterfly valve type 038E 100-230V 50-60Hz Without manual override

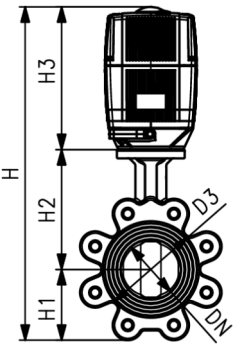


Model:

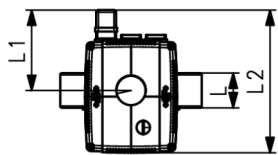
- Voltage 100-230 V, 50-60 Hz for EA31
- Voltage 115/230 V, 50-60 Hz for EA41/EA50
- Seatliner available in EPDM, FPM on request
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in 24 V AC/DC and/other in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar

* Electric actuator for higher nominal pressure on request

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: stainless steel EPDM Code
63	50	2	10	3140	220	199 038 130	199 038 330
75	65	2 ½	10	4570	320	199 038 131	199 038 331
90	80	3	10	7140	500	199 038 132	199 038 332
110	100	4	10	11710	820	199 038 133	199 038 333
140	125	5	10	18570	1300	199 038 134	199 038 334
160	150	6	10	27130	1900	199 038 135	199 038 335
225	200	8	10	47130	3330	199 038 136	199 038 336
* 280	250	10	6	77110	5400	199 038 137	199 038 337
* 315	300	12	4	114240	8000	199 038 138	199 038 338



d [mm]	Actuator unit type	d3 [mm]	L [mm]	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]
63	EA-31	65	43	28	122	393	63	140	190
75	EA-31	114	46	28	122	415	73	152	190
90	EA-31	131	46	28	122	430	81	159	190
110	EA-31	152	52	60	220	333	97	178	58
140	EA-31	182	56	60	220	361	112	191	58
160	EA-42	209	56	60	220	383	122	203	58
225	EA-42	262	60	60	220	452	149	245	58
* 280	EA-42	331	68	70	220	545	203	275	67
* 315	EA-42	380	78	70	220	623	241	315	67



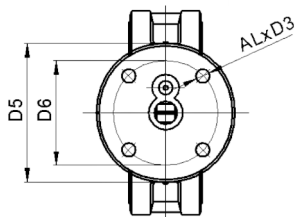
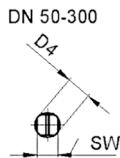
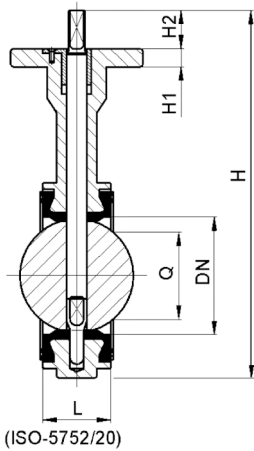
Metal - butterfly valves

Spare parts

Bare shaft metal - butterfly valve type 037 Metric/Inch/ASTM

Model:

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



d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	10	3140	220	198 150 800	198 150 832
75	65	2 ½	10	4570	320	198 150 801	198 150 833
90	80	3	10	7140	500	198 150 802	198 150 834
110	100	4	10	11710	820	198 150 803	198 150 835
140	125	5	10	18570	1300	198 150 804	198 150 836
160	150	6	10	27130	1900	198 150 805	198 150 837
225	200	8	10	47130	3330	198 150 806	198 150 838
280	250	10	10	77110	5400	198 150 807	198 150 839
315	300	12	10	114240	8000	198 150 808	198 150 840

d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	10	3140	220	198 150 843	198 150 854
75	65	2 ½	10	4570	320	198 150 844	198 150 855
90	80	3	10	7140	500	198 150 845	198 150 856
110	100	4	10	11710	820	198 150 846	198 150 857
140	125	5	10	18570	1300	198 150 847	198 150 858
160	150	6	10	27130	1900	198 150 848	198 150 859
225	200	8	10	47130	3330	198 150 849	198 150 860
280	250	10	10	77110	5400	198 150 850	198 150 861
315	300	12	10	114240	8000	198 150 851	198 150 862

d [mm]	DN [mm]	Inch	PN	kv-value (Δp=1 bar) [l/min]	Cv value (Δp=1 psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	10	3140	220	198 151 000	198 151 011
75	65	2 ½	10	4570	320	198 151 001	198 151 012
90	80	3	10	7140	500	198 151 002	198 151 013
110	100	4	10	11710	820	198 151 003	198 151 014
140	125	5	10	18570	1300	198 151 004	198 151 015
160	150	6	10	27130	1900	198 151 005	198 151 016
225	200	8	10	47130	3330	198 151 006	198 151 017
280	250	10	10	77110	5400	198 151 007	198 151 018
315	300	12	10	114240	8000	198 151 008	198 151 019

d [mm]	Q [mm]	L [mm]		AL	D3 [mm]	D4 [mm]	D5 [mm]	D6 [mm]	H [mm]	H1 [mm]	H2 [mm]	SW [mm]
63	32	43	F-07	4	9	14	90	70	221	13	26	11
75	51	46	F-07	4	9	14	90	70	243	13	26	11
90	69	46	F-07	4	9	14	90	70	258	13	26	11
110	89	52	F-07	4	9	18	90	70	295	16	30	14
140	115	56	F-07	4	9	18	90	70	323	16	30	14
160	143	56	F-07	4	9	22	90	70	354	17	33	17
225	194	60	F-07	4	9	22	90	70	427	17	33	17
280	243	68	F-10	4	11	28	125	102	522	17	47	22
315	293	78	F-10	4	11	28	125	102	589	17	47	22

Metal - butterfly valves

Bare shaft metal - butterfly valve type 038 metric



Model:

- Seat Material: EPDM, FPM and others on request
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: ductile iron/ Rilsan® coated EPDM Code	Disc: ductile iron/ Rilsan® coated FPM Code
63	50	2	16	3140	220	198 150 811	198 151 022
75	65	2 ½	16	4570	320	198 150 812	198 151 023
90	80	3	16	7140	500	198 150 813	198 151 024
110	100	4	16	11710	820	198 150 814	198 151 025
140	125	5	16	18570	1300	198 150 815	198 151 026
160	150	6	16	27130	1900	198 150 816	198 151 027
225	200	8	16	47130	3330	198 150 817	198 151 028
280	250	10	16	77110	5400	198 150 818	198 151 029
315	300	12	16	114240	8000	198 150 819	198 151 030

d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: stainless steel EPDM Code	Disc: stainless steel FPM Code
63	50	2	16	3140	220	198 151 031	198 151 040
75	65	2 ½	16	4570	320	198 151 032	198 151 041
90	80	3	16	7140	500	198 151 033	198 151 042
110	100	4	16	11710	820	198 151 034	198 151 043
140	125	5	16	18570	1300	198 151 035	198 151 044
160	150	6	16	27130	1900	198 151 036	198 151 045
225	200	8	16	47130	3330	198 151 037	198 151 046
280	250	10	16	77110	5400	198 151 038	198 151 047
315	300	12	16	114240	8000	198 151 039	198 151 048

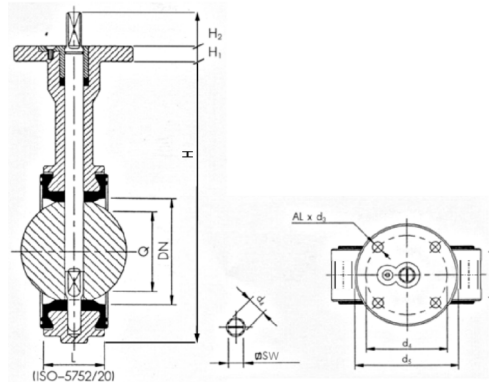
d [mm]	DN [mm]	Inch	PN	kv-value ($\Delta p=1$ bar) [l/min]	Cv val- ue ($\Delta p=1$ psi) [gal (US) / min]	Disc: Alu-bronze EPDM Code	Disc: Alu-bronze FPM Code
63	50	2	16	3140	220	198 151 049	198 151 058
75	65	2 ½	16	4570	320	198 151 050	198 151 059
90	80	3	16	7140	500	198 151 051	198 151 060
110	100	4	16	11710	820	198 151 052	198 151 061
140	125	5	16	18570	1300	198 151 053	198 151 062
160	150	6	16	27130	1900	198 151 054	198 151 063
225	200	8	16	47130	3330	198 151 055	198 151 064
280	250	10	16	77110	5400	198 151 056	198 151 065
315	300	12	16	114240	8000	198 151 057	198 151 066

d [mm]	Q	L		AL	D3	D4	D5	D6	H	H1	H2	SW
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
63	32	43	F-07	4	9	14	90	70	229	13	26	11
75	51	46	F-07	4	9	14	90	70	251	13	26	11
90	69	46	F-07	4	9	14	90	70	266	13	26	11
110	89	52	F-07	4	9	18	90	70	305	16	30	14
140	115	56	F-07	4	9	18	90	70	333	16	30	14
160	143	56	F-07	4	9	22	90	70	358	17	33	17

table continued next page

Metal - butterfly valves

d [mm]	Q [mm]	L [mm]		AL	D3 [mm]	D4 [mm]	D5 [mm]	D6 [mm]	H [mm]	H1 [mm]	H2 [mm]	SW [mm]
225	194	60	F-07	4	9	22	90	70	427	17	33	17
280	243	68	F-10	4	11	28	125	102	525	17	47	22
315	293	78	F-10	4	11	28	125	102	603	17	47	22



Seat liner for type 037/038



d [mm]	DN [mm]	Inch	EPDM Code	FPM Code	CSM Code	NBR Code
63	50	2	198 806 726	198 806 713	198 806 854	198 806 937
75	65	2 ½	198 806 727	198 806 714	198 806 855	198 806 938
90	80	3	198 806 728	198 806 715	198 806 856	198 806 939
110	100	4	198 806 729	198 806 716	198 806 857	198 806 940
140	125	5	198 806 730	198 806 717	198 806 858	198 806 941
160	150	6	198 806 731	198 806 718	198 806 859	198 806 942
225	200	8	198 806 732	198 806 719	198 806 860	198 806 943
280	250	10	198 806 733	198 806 720	198 806 861	198 806 944
315	300	12	198 806 734	198 806 721	198 806 862	198 806 945
355	350	14	198 808 735	198 808 722		
400	400	16	198 808 736	198 808 723		
450	450	18	198 808 737	198 808 724		
500	500	20	198 808 738	198 808 725		
630	600	24	198 808 739	198 808 726		
710	700	28	198 808 740	198 808 727		
800	800	32	198 808 741	198 808 728		
900	900	36	198 808 742	198 808 729		
1000	1000	40	198 808 743	198 808 730		
1200	1200	48	198 808 744	198 808 731		

Disc for type 037/038



d [mm]	DN [mm]	Inch	Ductile iron (GGG40)/ Rilsan® coated Code	Ductile iron (GGG40)/ epoxy coated Code	Stainless steel (ASTM A351 - CF8M - 1.4408) Code
63	50	2	198 806 740		198 806 700
75	65	2 ½	198 806 741		198 806 701
90	80	3	198 806 742		198 806 702
110	100	4	198 806 743		198 806 703
140	125	5	198 806 744		198 806 704
160	150	6	198 806 745		198 806 705
225	200	8	198 806 746		198 806 706
280	250	10	198 806 747		198 806 707
315	300	12	198 806 748		198 806 708
355	350	14		198 808 109	198 808 709
400	400	16		198 808 110	198 808 710
450	450	18		198 808 111	198 808 711
500	500	20		198 808 112	198 808 712
630	600	24		198 808 113	198 808 713

table continued next page

Metal - butterfly valves

d [mm]	DN [mm]	Inch	Ductile iron (GGG40)/ Rilsan® coated Code	Ductile iron (GGG40)/ epoxy coated Code	Stainless steel (ASTM A351 - CF8M - 1.4408) Code
710	700	28		198 808 114	198 808 714
800	800	32		198 808 115	198 808 715
900	900	36		198 808 116	198 808 716
1000	1000	40		198 808 117	198 808 717
1200	1200	48		198 808 118	198 808 718

d [mm]	DN [mm]	Inch	Aluminium- bronze (ASTM B- 148) Code
63	50	2	198 806 920
75	65	2 ½	198 806 921
90	80	3	198 806 922
110	100	4	198 806 923
140	125	5	198 806 924
160	150	6	198 806 925
225	200	8	198 806 926
280	250	10	198 806 927
315	300	12	198 806 928
355	350	14	198 808 929
400	400	16	198 808 930
450	450	18	198 808 931
500	500	20	198 808 932
630	600	24	198 808 933
710	700	28	198 808 934
800	800	32	198 808 935
900	900	36	198 808 936
1000	1000	40	198 808 937
1200	1200	48	198 808 938



Shaft for type 037/038

Model:

- Up to DN300 square-shaft, from DN350 two flat

d [mm]	DN [mm]	Inch	Stainless steel AISI 420 / V2A Code	Stainless steel AISI 316 / V4A Code
63	50	2	198 806 780	198 806 790
75	65	2 ½	198 806 781	198 806 791
90	80	3	198 806 782	198 806 792
110	100	4	198 806 783	198 806 793
140	125	5	198 806 784	198 806 794
160	150	6	198 806 785	198 806 795
225	200	8	198 806 786	198 806 796
280	250	10	198 806 787	198 806 797
315	300	12	198 806 788	198 806 798
355	350	14	198 808 789	198 808 799
400	400	16	198 808 790	198 808 800
450	450	18	198 808 791	198 808 801
500	500	20	198 808 792	198 808 802
630	600	24	198 808 793	198 808 803
710	700	28	198 808 794	198 808 804
800	800	32	198 808 795	198 808 805
900	900	36	198 808 796	198 808 806
1000	1000	40	198 808 797	198 808 807
1200	1200	48	198 808 798	198 808 808

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198 039 002	11	198 039 070	12	198 039 158	25
198 039 003	11	198 039 071	12	198 039 159	25
198 039 004	11	198 039 072	12	198 039 160	26
198 039 005	11	198 039 073	12	198 039 161	26
198 039 006	11	198 039 074	12	198 039 162	26
198 039 007	11	198 039 075	12	198 039 163	26
198 039 008	11	198 039 076	12	198 039 164	26
198 039 009	11	198 039 077	13	198 039 165	26
198 039 010	11	198 039 078	13	198 039 166	26
198 039 011	11	198 039 079	13	198 039 167	26
198 039 012	11	198 039 100	25	198 039 168	26
198 039 013	11	198 039 101	25	198 039 169	26
198 039 014	11	198 039 102	25	198 039 170	26
198 039 015	11	198 039 103	25	198 039 171	26
198 039 016	11	198 039 104	25	198 039 172	26
198 039 017	11	198 039 105	25	198 039 173	26
198 039 018	11	198 039 106	25	198 039 174	26
198 039 019	11	198 039 107	25	198 039 175	26
198 039 020	12	198 039 108	25	198 039 176	26
198 039 021	12	198 039 109	25	198 039 177	26
198 039 022	12	198 039 110	25	198 039 178	26
198 039 023	12	198 039 111	25	198 039 179	26
198 039 024	12	198 039 112	25	198 039 200	27
198 039 025	12	198 039 113	25	198 039 201	27
198 039 026	12	198 039 114	25	198 039 202	27
198 039 027	12	198 039 115	25	198 039 203	27
198 039 028	12	198 039 116	25	198 039 204	27
198 039 029	12	198 039 117	25	198 039 205	27
198 039 030	12	198 039 118	25	198 039 206	27
198 039 031	12	198 039 119	25	198 039 207	27
198 039 032	12	198 039 120	26	198 039 208	27
198 039 033	12	198 039 121	26	198 039 209	27
198 039 034	12	198 039 122	26	198 039 210	27
198 039 035	12	198 039 123	26	198 039 211	27
198 039 036	12	198 039 124	26	198 039 212	27
198 039 037	12	198 039 125	26	198 039 213	27
198 039 038	12	198 039 126	26	198 039 214	27
198 039 039	12	198 039 127	26	198 039 215	27
198 039 040	11	198 039 128	26	198 039 216	27
198 039 041	11	198 039 129	26	198 039 217	27
198 039 042	11	198 039 130	26	198 039 218	27
198 039 043	11	198 039 131	26	198 039 219	27
198 039 044	11	198 039 132	26	198 039 220	28
198 039 045	11	198 039 133	26	198 039 221	28
198 039 046	11	198 039 134	26	198 039 222	28
198 039 047	11	198 039 135	26	198 039 223	28
198 039 048	11	198 039 136	26	198 039 224	28
198 039 049	11	198 039 137	26	198 039 225	28
198 039 050	11	198 039 138	26	198 039 226	28
198 039 051	11	198 039 139	26	198 039 227	28
198 039 052	11	198 039 140	25	198 039 228	28
198 039 053	11	198 039 141	25	198 039 229	28
198 039 054	11	198 039 142	25	198 039 230	28
198 039 055	11	198 039 143	25	198 039 231	28
198 039 056	11	198 039 144	25	198 039 232	28
198 039 057	11	198 039 145	25	198 039 233	28
198 039 058	11	198 039 146	25	198 039 234	28
198 039 059	11	198 039 147	25	198 039 235	28
198 039 060	12	198 039 148	25	198 039 236	28
198 039 061	12	198 039 149	25	198 039 237	28
198 039 062	12	198 039 150	25	198 039 238	28
198 039 063	12	198 039 151	25	198 039 239	28
198 039 064	12	198 039 152	25	198 039 240	27
198 039 065	12	198 039 153	25	198 039 241	27
198 039 066	12	198 039 154	25	198 039 242	27
198 039 067	12	198 039 155	25	198 039 243	27

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198 039 254	27	198 039 342	33	198 150 846	37
198 039 255	27	198 039 343	33	198 150 847	37
198 039 256	27	198 039 344	33	198 150 848	37
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General Condition of Supply of Georg Fischer Piping Systems Limited, Schaffhausen

1 General

- 1.1 These General Conditions shall apply to all Products supplied by Georg Fischer to the Purchaser. They shall also apply to all future business even when no express reference is made to them.
- 1.2 Any deviating or supplementary conditions especially Purchaser's general conditions of purchase and verbal agreements shall only be applicable if accepted in writing by Georg Fischer.
- 1.3 The written form shall be deemed to be fulfilled by all forms of transmission, evidenced in the form of text, such as telefax, e-mail, etc.

2 Tenders

- 2.1 Tenders shall only be binding if they contain a specifically stated period for acceptance.

3 Scope of Delivery

- 3.1 Georg Fischer's product range is subject to change.
- 3.2 The confirmation of order shall govern the scope and execution of the contract.

4 Data and Documents

- 4.1 Technical documents such as drawings, descriptions, illustrations and data on dimensions, performance and weight as well as the reference to standards are for information purposes only. They are not warranted characteristics and are subject to change.
- 4.2 All technical documents shall remain the exclusive property of Georg Fischer and may only be used for the agreed purposes or as Georg Fischer may consent.

5 Confidentiality, Protection of Personal Data

- 5.1 Each party shall keep in strict confidence all commercial or technical information relating to the business of the other party, of which it has gained knowledge in the course of its dealing with the other party. Such information shall neither be disclosed to third parties nor used for other purposes than those for which the information has been supplied.
- 5.2 In the context of the contractual relation with the Purchaser personal data may be processed. The Purchaser agrees to the disclosure of said data to third parties such as foreign subcontractors and suppliers etc.

6 Local Laws and Regulations, Export Controls

- 6.1 The Purchaser shall bring to the attention of Georg Fischer all local laws and regulations at the place of destination which bear connection with the execution of the contract and the adherence to relevant safety regulations and approval procedures.
- 6.2 In case of re-exports, Purchaser shall be responsible for compliance with pertinent export control regulations.

7 Price

- 7.1 Unless agreed otherwise, the prices shall be deemed quoted net ex works (according to Incoterms of the ICC, latest version) including standard packing. All supplementary costs such as the cost of carriage, insurance, export-, transit- and importlicences etc. shall be borne by the Purchaser. The Purchaser shall also bear the costs of all taxes, fees, duties etc. connected with the contract.
- 7.2 If the costs of packing, carriage, insurance, fees and other supplementary costs are included in the tender price or contract price or are referred to specifically in the tender or confirmation of order, Georg Fischer reserve the right to revise their prices accordingly should any change occur in the relevant tariffs.

8 Terms of Payment

- 8.1 The Purchaser shall make payment in the manner agreed by the parties without any deductions such as discounts, costs, taxes or dues.
- 8.2 The Purchaser may only withhold or off-set payments due against counter claims which are either expressly acknowledged by Georg Fischer or finally awarded to the Purchaser. In particular, payment shall still be made when unessential items are still out-standing provided that the Products already delivered are not rendered unusable as a result.

9 Retention of Title

- 9.1 The Products shall remain the property of Georg Fischer until the Purchaser shall have settled all claims, present and future, which Georg Fischer may have against him.
- 9.2 Should the Purchaser resell Products to which title is reserved, in the ordinary course of business, he shall hereby be deemed to have tacitly assigned to Georg Fischer the proceeds deriving from their sale together with all collateral rights, securities and reservations of title until all claims held by Georg Fischer shall have been settled. Until revoked by Georg Fischer, this assignment shall not preclude Purchaser's right to collect the assigned receivables.
- 9.3 To the extent the value of the Products to which title is reserved together with collateral securities exceeds Georg Fischer's claims against the Purchaser by more than 20%, Georg Fischer shall re-assign the above proceeds to Purchaser at his request.

10 Delivery

- 10.1 The term of delivery shall commence as soon as the contract has been entered into, all official formalities such as import and payment permits have been obtained and all essential technical issues have been settled. The term of delivery shall be deemed duly observed when, upon its expiry, the Products are ready for despatch.
- 10.2 Delivery is subject to the following conditions, i.e. the term of delivery shall be reasonably extended:
 - a) if Georg Fischer are not supplied in time with the information necessary for the execution of the contract or if subsequent changes causing delays are made by the Purchaser.
 - b) if Georg Fischer are prevented from performing the contract by force majeure. Force majeure shall equally be deemed to be any unforeseeable event beyond Georg Fischer's control which renders Georg Fischer's performance commercially unpractical or impossible, such as delayed or defective supplies from sub contractors labour disputes, governmental orders or regulations, shortages in materials or energy, serious disturbances in Georg Fischer's works, such as the total or partial destruction of plant and equipment or the breakdown of essential facilities, serious disruptions in transport facilities, e.g. impassable roads.
Should the effect of force majeure exceed a period of six months, either party may cancel the contract forthwith.
Georg Fischer shall not be liable for any damage or loss of any kind whatsoever resulting therefrom, any suspension or cancellation being without prejudice to Georg Fischer's right to recover all sums due in respect of consignments delivered and costs incurred to date.
 - c) if the Purchaser is in delay with the fulfilment of his obligations under the contract, in particular, if he does not adhere to the agreed conditions of payment or if he has failed to timely provide the agreed securities.
- 10.3 If for reasons attributable to Georg Fischer the agreed term of delivery or a reasonable extension thereof is exceeded, Georg Fischer shall not be deemed in default until the Purchaser has granted to Georg Fischer in writing a reasonable extension thereof of not less than one month which equally is not met.
The Purchaser shall then be entitled to the remedies provided at law, it being however understood that, subject to limitations of Art. 16, damage claims shall be limited to max. 10% of the price of the delayed delivery.
- 10.4 Part shipments shall be allowed and Georg Fischer shall be entitled to invoice for such partial deliveries.
- 10.5 If the Purchaser fails to take delivery within a reasonable time of Products notified as ready for despatch, Georg Fischer shall be entitled to store the Products at the Purchaser's expense and risk and to invoice them as delivered. If Purchaser fails to effect payment, Georg Fischer shall be entitled to dispose of the Products.
- 10.6 Should Purchaser cancel an order without justification and should Georg Fischer not insist on the performance of the contract, Georg Fischer shall be entitled to liquidated damages in the amount of 10% of the contract price, Georg Fischer's right to prove and claim higher damages remaining reserved. Purchaser shall be entitled to prove, that Georg Fischer has suffered no or a considerably lower damage.

11 Packing

- 11.1 If the Products are provided with additional packing over and above the standard packing, such packing shall be charged additionally.

12 Passing of Risk

- 12.1 The risk in the Products shall pass to the Purchaser as soon as they have left Georg Fischer's works [EX WORKS, Incoterms ICC, latest version], even if delivery is made carriage-paid, under similar clauses or including installation or when carriage is organized and managed by Georg Fischer.
- 12.2 If delivery is delayed for reasons beyond Georg Fischer's control, the risk shall pass to the Purchaser when he is notified that the Products are ready for despatch.

13 Carriage and Insurance

- 13.1 Unless agreed otherwise, the Purchaser shall bear the cost of carriage.
 - 13.2 The Purchaser shall be responsible for transport insurance against damage of whatever kind. Even when such insurance is arranged by Georg Fischer it shall be deemed taken out by the order of and for the account of the Purchaser and at his risk.
 - 13.3 Special requests regarding carriage and insurance shall be communicated to Georg Fischer in due time. Otherwise carriage shall be arranged by Georg Fischer at their discretion, but without responsibility, by the quickest and cheapest method possible.
In case of carriage-paid delivery transport arrangements shall be made by Georg Fischer. If the Purchaser specifies particular requirements, any extra costs involved shall be borne by him.
 - 13.4 In the event of damage or loss of the Products during carriage the Purchaser shall mark the delivery documents accordingly and immediately have the damage ascertained by the carrier. Not readily ascertainable damages sustained during carriage shall be notified to the carrier within six days after receipt of the Products.
- ## 14 Inspection, Notification of Defects and Damages
- 14.1 The Products will be subject to normal inspection by Georg Fischer during manufacture. Additional tests required by the Purchaser shall be agreed upon in writing and shall be charged to the Purchaser.
 - 14.2 It shall be a condition of Georg Fischer's obligation under the warranties stated hereinafter that Georg Fischer be notified in writing by the Purchaser of any purported defect immediately upon discovery. Notice concerning weight, numbers or apparent defects is to be given latest within 30 days from receipt of the Products, notice of other defects immediately latest within 7 working days after discovery, in any event within the agreed warranty period.
 - 14.3 Purchaser shall not dispose of allegedly defective Products until all warranty and/or damage claims are finally settled. At its request, defective Products are to be placed at Georg Fischer's disposal.
 - 14.4 At its request, Georg Fischer shall be given the opportunity to inspect the defect and/or damage, prior to commencement of remedial work, either itself or by third party experts.

15 Warranty

- 15.1 At the written request of the Purchaser, Georg Fischer undertake to repair or replace at their discretion, as quickly as possible and free of charge all Products supplied which demonstrably suffer from faulty design, materials or workman-ship or from faulty operating or installation instructions.
In order to protect employees from toxic or radioactive substances which may have been transported through defective parts returned to Georg Fischer's sales organisation, said parts must be accompanied by a Material Safety Disclosure Form. The form may be obtained from Georg Fischer's local sales company or via www.piping.georgfischer.com. Replaced parts shall become property of Georg Fischer.
- 15.2 For Products which are manufactured to specifications, drawings or patterns supplied by the Purchaser, Georg Fischer's warranty shall be restricted to proper materials and workmanship.
- 15.3 The Purchaser shall be entitled to cancel the contract or to demand a reduction in the contract price if also a second attempt to repair or replace the Products has failed.
- 15.4 For Products or essential components manufactured by a third party and supplied by Georg Fischer under this contract, Georg Fischer's warranty is limited to the warranty provided by said third party.
- 15.5 This warranty shall not apply to damage resulting from normal wear and tear, improper storage and maintenance, failure to observe the operating instructions, overstressing or overloading, unsuitable operating media, unsuitable construction work or unsuitable building ground, improper repairs or alterations by the Purchaser or third parties, the use of other than original spare parts and other reasons beyond Georg Fischer's control.
- 15.6 No action or claim may be brought by the Purchaser on account of any alleged breach of warranty or any other obligation of Georg Fischer after the expiration of twelve (12) months from receipt of the Products by the end user or at the latest within eighteen (18) months of the Products being despatched by Georg Fischer.
- 15.7 In case of Products for use in domestic installations or in utilities
 - Georg Fischer will assume the costs of dismantling the defective Product and restoring the damaged object as well as, in case of negligence, all other direct damages caused by the defective Product (damage to property and injury to or death of persons) up to CHF 1 000 000 per occurrence.
 - the statute of limitations for warranty or damage claims - contrary to Section 15.6 - will be 5 years from the date of installation.

16 Limitation of Liability

- All cases of breach of contract and the relevant consequences as well as all rights and claims on the part of the customer, irrespective of what ground they are based, are exhaustively covered by these general conditions of supply. In particular, any claims not expressly mentioned for damages, reduction of price, termination of or withdrawal from the contract are excluded. In no case whatsoever shall the customer be entitled to claim damages other than compensation for costs of remedying defects in the supplies. This in particular refers, but shall not be limited, to loss of production, loss of use, loss of orders, loss of profit and other direct or indirect or consequential damage. This exclusion of liability, however, does not apply to unlawful intent or gross negligence on the part of Georg Fischer and in case of strict liability under applicable product liability statutes, but does apply to unlawful intent or gross negligence of persons employed or appointed by Georg Fischer to perform any of its obligations.

17 Severability

- 17.1 Should any term or clause of these General Conditions in whole or in part be found to be unenforceable or void, all other provisions shall remain in full force and effect and the unenforceable or void provision shall be replaced by a valid provision, which comes closest to the original intention of the unenforceable or invalid provision.

18 Place of Performance and Jurisdiction

- 18.1 Place of performance for the Products shall be the Georg Fischer works from which the Products are despatched.
- 18.2 Any civil action based upon any alleged breach of this contract shall be filed and prosecuted exclusively in the courts of Schaffhausen, Switzerland.
Georg Fischer however reserves the right to file actions in any court having jurisdiction over controversies arising out of or in connection with the present contract.
- 18.3 The contract shall be governed by Swiss law without regard to conflict of law provisions that would require the application of another law.

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The technical data is not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed durability. They are subject to modification. Our General Terms of Sale apply.

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