

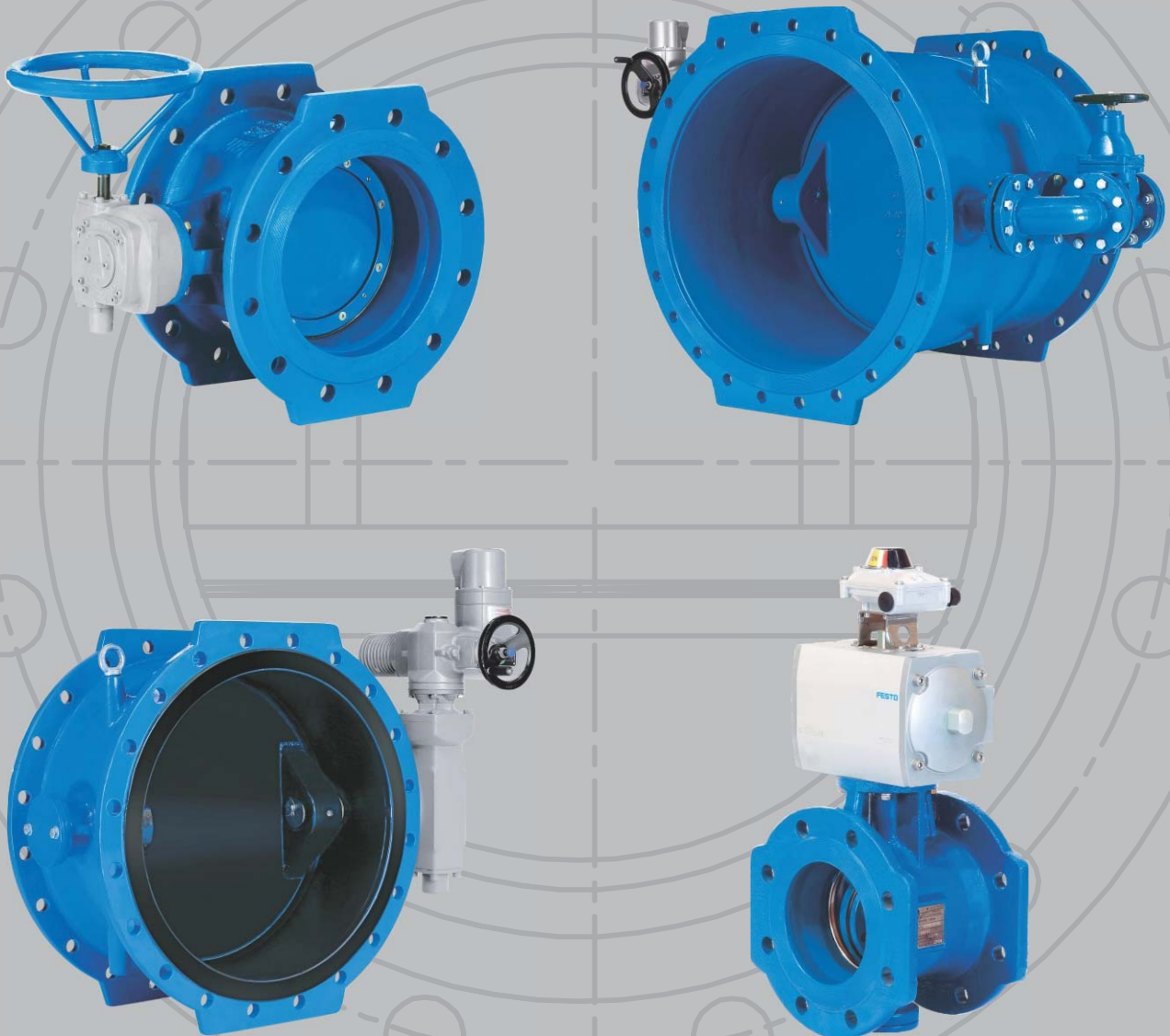


®

MIRAB CO.

Manufacturer of Industrial Valves
and Relevant Equipment

Flanged Type Butterfly Valves



www.mirab-valves.com

Flanged Type Butterfly Valves

Size: DN 100-3000 mm

Pressure: PN 6-40 bar

Valve design according to: DIN EN 593 (DIN 3354)

Flanges: DIN EN 1092-2 (DIN2501)

Face to face: DIN EN 558-1 series 14/ISO 5752-14 (DIN3202-F4)

Product Features:

Mirab flanged type butterfly valves are made of double eccentric disc tilting mechanism which fits sealing ring that is rolled or welded into a solid disc seat in a safe manner. Adjustable and removable clamping ring is provided for easy readjustment or replacement of sealing ring, and ensures zero leakage in both flow directions. The result of perfect design for profile and shape of disk is low head loss, valve can be closed by 90° clockwise rotating.

Operating actuator:

1-Worm gear with handwheel.

2-Nut gear with handwheel.

3-Auma electrical actuator.

4-Hydraulic actuator.

For more information see page 5.

Corrosion protection:

Body and disc are fully coated with blue electrostatic powder paint (Ral 5005 or 5015) with minimum 250 micron thickness.

Application:

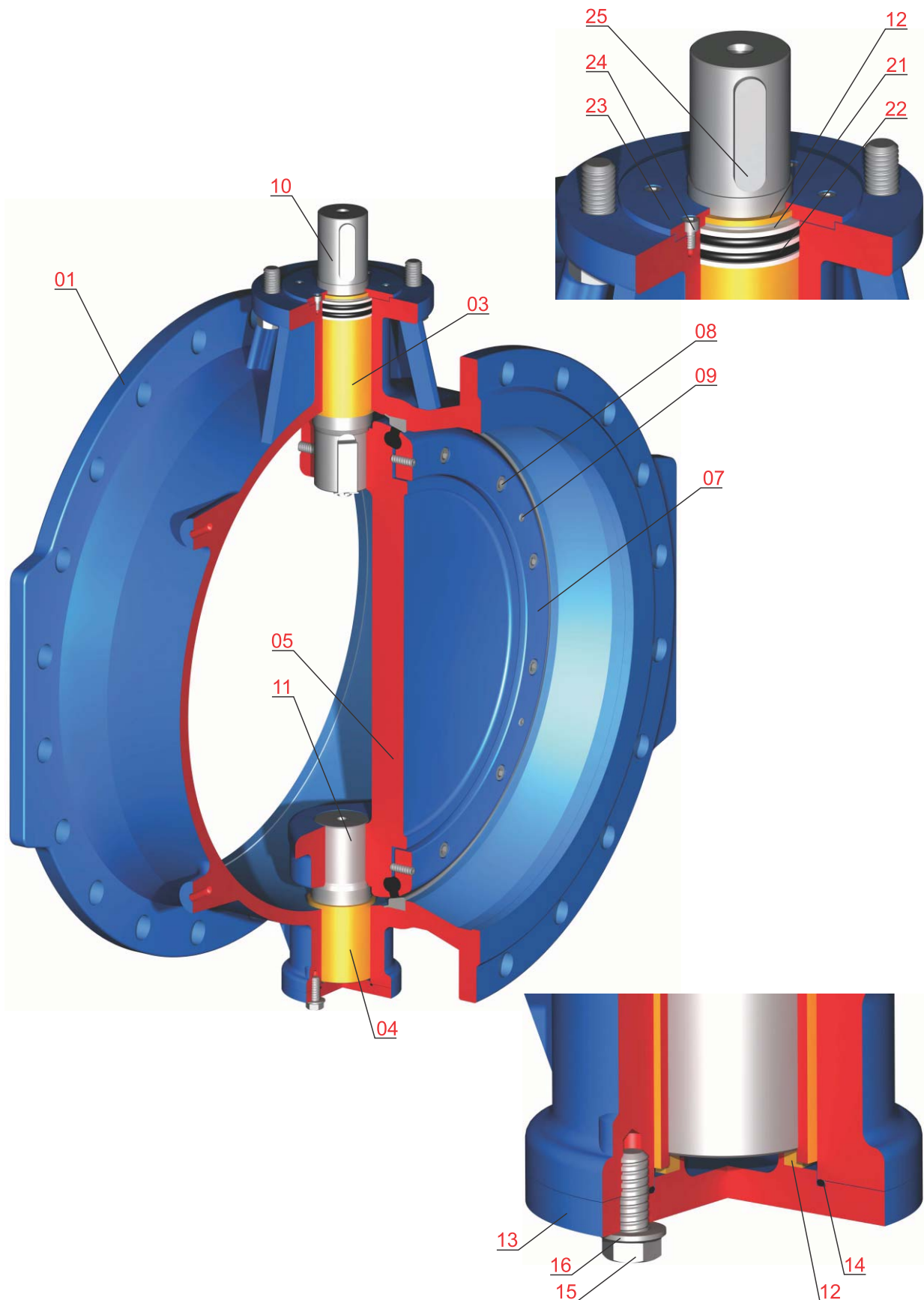
Butterfly valves are suitable for fluids such as raw water, drinking water, air & gas up to 70°C

Attention:

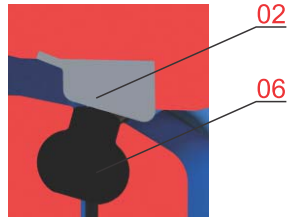
NBR sealing ring shall be used for services up to 70°C & EPDM sealing ring for services up to 120°C. (other material as request).

Hydrostatic test Pressure (bar) according to DIN EN 12266-1		
Nominal Pressure PN (bar)	Test Pressure	
	Shell Test	Closure Test
6	12	7
10	17	11
16	25	18
25	38	28
40	60	44

Part List

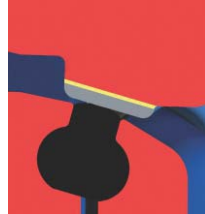


Normal Design



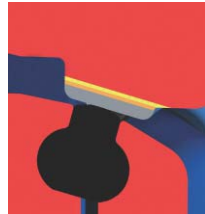
Separate Seat Ring Pressed into the Body

Optional Design # 1 Double Layers, Single Alloy

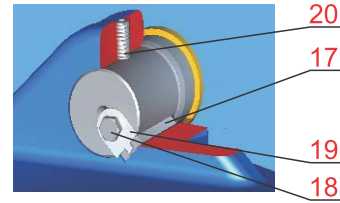


Welded Directly onto the Body

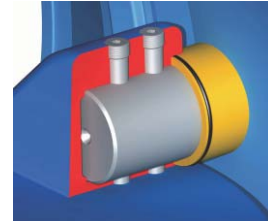
Optional Design # 2 Multi Layers, Double Alloy



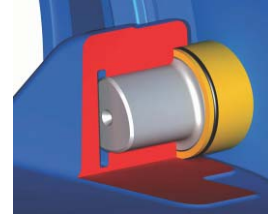
Welded Directly onto the Body



Key Type Connection



Taper Pin Type Connection



Polygon Type Connection

Part No.	Part Name	Part Material	1	2
01	Body	*EN 1563/EN-GJS-400-15		
02	Body Seating Surface	18Cr-8Ni		
03	Bush	**ASTM B148 UNS NO.C 95200/ Steel-PTFE		
04	Bush	**ASTM B148 UNS NO.C 95200/ Steel-PTFE		
05	Disc	*EN 1563/EN-GJS-400-15		
06	Disc Seating Surface	EPDM (NBR on Request)	•	•
07	Disc Seat Retainer	*EN 1563/EN-GJS-400-15	•	
08	Socket Screw	ISO 3506-1 Gr. A2 Property Class 70	•	
09	Counter Socket Screw	ISO 3506-1 Gr. A2 Property Class 70	•	
10	Driving Shaft	DIN EN 10088-3/ 1.4021		
11	Free Shaft	DIN EN 10088-3/ 1.4021		
12	Thrust Spacer	Brass		
13	Cap	*EN 1563/EN-GJS-400-15		
14	Free Shaft Seal	NBR (EPDM on Request)	•	•
15	Hexagonal Bolt	DIN ISO 898-1 Property Class 8.8, Zinc Plated	•	
16	Washer	DIN ISO 898-2 Property Class 8, Zinc Plated		
17	Internal Key	DIN EN 10088-3/ 1.4057		
18	Hexagonal Bolt	ISO 3506-1 Gr. A2 Property Class 70	•	
19	Key Retainer	DIN EN 10088-3/ 1.4301		
20	Counter Socket Screw	ISO 3506-1 Gr. A2 Property Class 70	•	
21	Backup Ring	PTFE	•	
22	Driving Shaft Seal	NBR (EPDM on Request)	•	•
23	Driving Shaft Seal Retainer	*EN 1563/EN-GJS-400-15		
24	Socket Screw	ISO 3506-1 Gr. A2 Property Class 70	•	
25	Key	High Strength Carbon Steel-St 60		

1-Recommended Spare Parts

2-Parts Subjected to Wear

*EN-GJS-500-7 available on request.

**Self-lubricating bushings (Steel-PTFE) are used up to DN 800 and for larger valves the bushes are produced using aluminum bronze material (C95200).

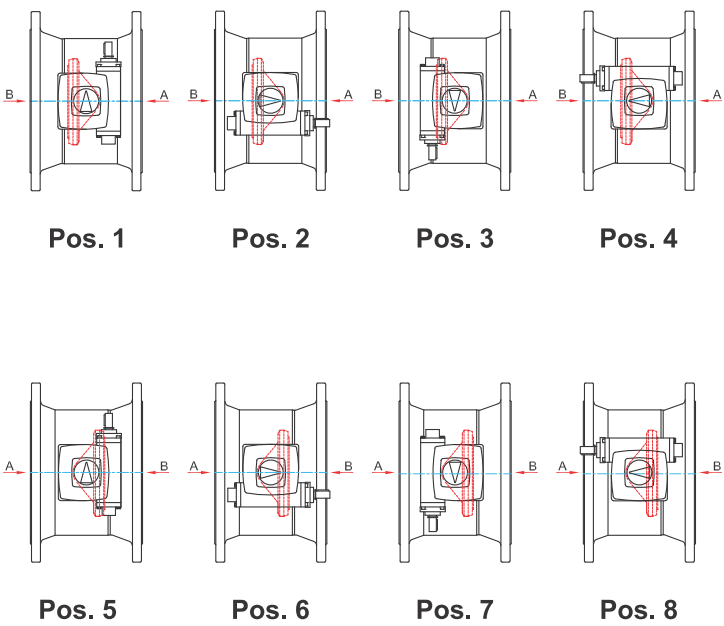
Gearbox arrangements

Mirab Butterfly valves can be supplied in 8 different gearbox arrangements, as shown in positions 1 to 8. When ordering, please select the position number that correctly suits your requirement.

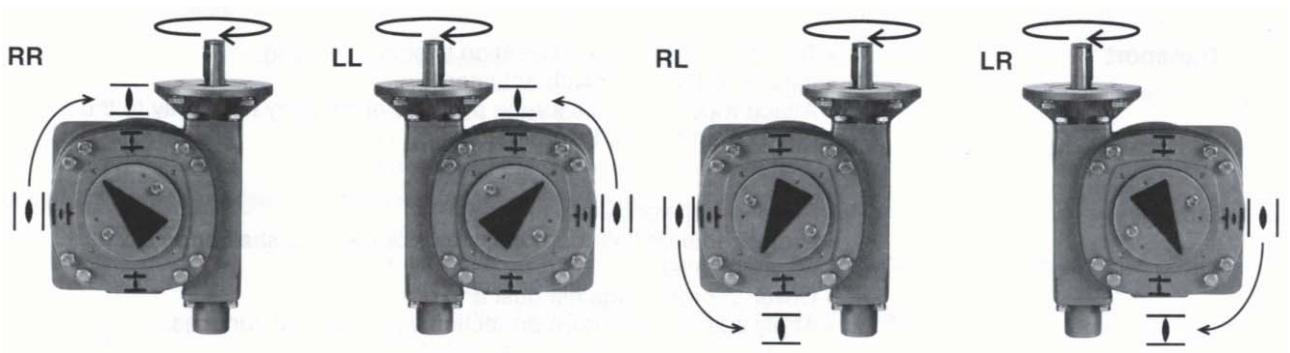
Note 1: (A) is High pressure side (this is recommended for better water tight, particular for DN 1000 and above and pressure 16 bar and more) and (B) is Low pressure side when the valve is closed.

Note 2: in order to install the flanged type butterfly valves larger than DN1000 mm from low pressure side (B), contact & in from Mirab Valves to adjust the sealing ring tightening.

Note 3: It is recommended to easy open/ close & operating for all sizes flanged butterfly valves in PN 40 & for DN(s) larger than DN 1000 in other pressure ratings (Less than PN 40) and exhausting the Pressured air in pipeline, use bypass circuit systems.

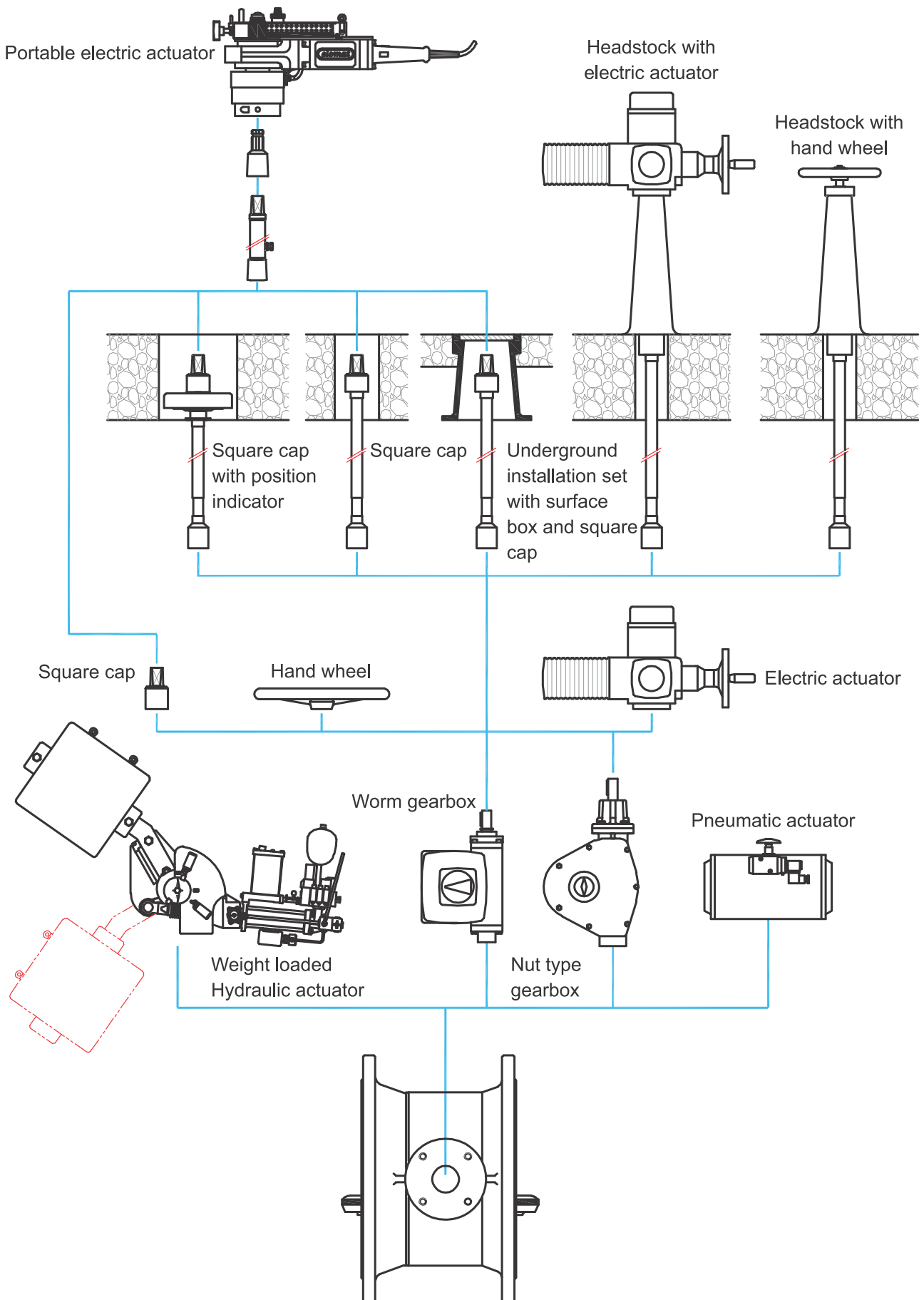


Auma Gearbox as Inlet Shaft and Indicator Rotation

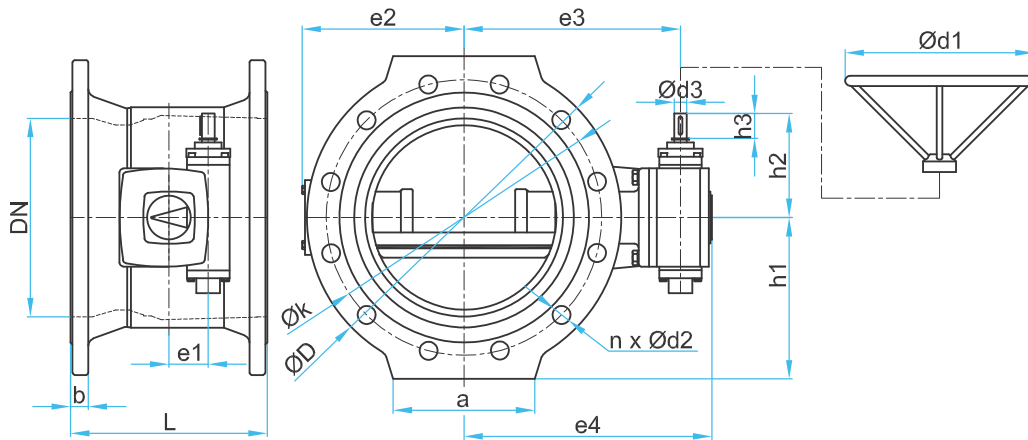


Description of operation on four mentioned situation of AUMA gearbox.

Code	Input shaft rotation	Screw rotation	Gear box indicator rotation
RR	Clockwise	Clockwise	Clockwise
LL	Clockwise	Counterclockwise	Counterclockwise
RL	Clockwise	Clockwise	Counterclockwise
LR	Clockwise	Counterclockwise	Clockwise



Dimensions & Weight: Butterfly valve with hand wheel



DIN EN 593 (DIN 3354)

• DIN EN 1092-2 (DIN 2501)

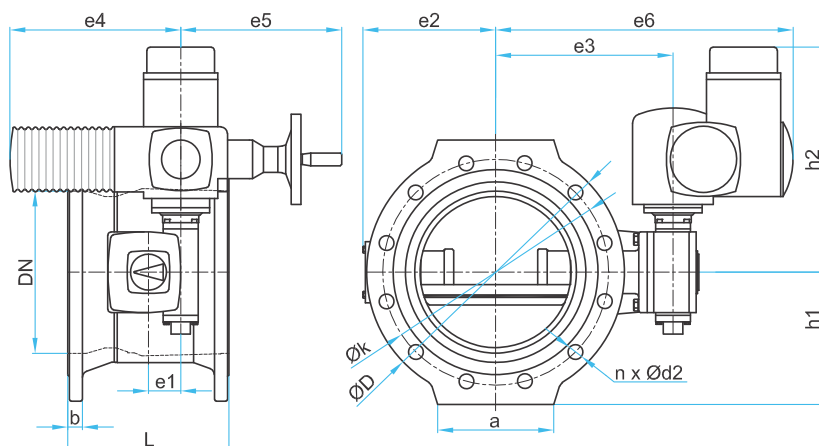
• DIN EN 558-1 series 14 (DIN 3202-F4)

	DN	•L	•ØD	•b	•ØK	•Ød2	•n	a	e1	e2	e3	e4	h1	h2	h3	Ød1	Ød3	Turns for 90	Approx WT. kg
PN 6	800	470	975	34	920	31	24	450	125	543	615	685	493	255	42	400	30	52	645
	1000	550	1175	36	1120	31	28	600	200	700	752	832	633	380	43	400	20	110.5	1206
	1200	630	1405	40	1340	34	32	700	200	860	910	1006	688	485	43	400	20	108.5	1881
	1400	710	1630	44	1560	37	36	800	300	976	1040	1136	850	485	43	400	20	108.5	3447
	1600	790	1830	48	1760	37	40	860	250	1076	1160	1280	971	540	60	400	30	212	3685
	1800	870	2045	50	1970	41	44	1000	250	1160	1264	1383	1033	585	60	400	30	212	4625
	2000	950	2265	54	2180	44	48	1100	315	1281	1400	1640	1145	725	43	400	20	424	7520
	2200	1030	2475	42	2390	44	52	1200	400	1415	1565	1805	1248	826	63	500	30	432	10000
PN 10	100	190	220	19	180	19	8	100	50	110	170	219	110	132	31.5	250	16	12.75	21
	125	200	250	19	210	19	8	125	50	125	183	232	128	132	31.5	250	16	12.75	29
	150	210	285	19	240	23	8	150	50	150	215	253	142	132	31.5	250	16	12.75	34
	200	230	340	20	295	23	8	160	50	178	234	274	168	132	31.5	250	16	12.75	52
	250	250	395	22	350	23	12	180	50	213	270	310	205	132	31.5	250	16	12.75	70
	300	270	445	24.5	400	23	12	200	50	254	319	359	232	132	31.5	250	16	12.75	92
	350	290	505	24.5	460	23	16	224	50	280	348	383	263	132	31.5	250	16	12.75	117
	400	310	565	24.5	515	28	16	250	63	303	375	424	288	165	42	400	20	12.75	137
	450	330	615	25.5	565	28	20	275	80	337	417	467	313	170	42	400	20	13.25	183
	500	350	670	26.5	620	28	20	291	80	362	452	502	345	170	42	500	20	13.25	230
	600	390	780	30	725	31	20	330	100	417	516	583	398	299	60	500	30	13	335
	700	430	895	32.5	840	31	24	400	125	475	555	625	458	304	42	500	20	52	497
	800	470	1015	35	950	34	24	450	125	543	615	685	513	304	42	400	20	52	678
	900	510	1115	37.5	1050	34	28	550	160	619	682	763	568	380	43	400	20	110.5	1080
	1000	550	1230	40	1160	37	28	600	160	700	752	832	633	380	43	500	20	110.5	1240
	1100	590	1340	42.5	1270	37	32	650	200	810	875	971	688	510	43	500	20	108.5	1870
	1200	630	1455	45	1380	41	32	700	200	860	910	1006	750	485	43	400	20	108.5	1975
	1400	710	1675	46	1590	44	36	800	250	976	1080	1200	850	540	60	400	30	103	3530
	1600	790	1915	49	1820	50	40	900	315	1076	1180	1340	965	725	60	400	30	212	4455
	1800	870	2115	52	2020	50	44	1000	315	1187	1300	1540	1068	725	43	400	20	424	6015
	2000	950	2325	55	2230	50	48	1100	400	1315	1465	1705	1175	825	63	500	30	432	8470

	DN	•L	•ØD	•b	•ØK	•Ød2	•n	a	e1	e2	e3	e4	h1	h2	h4	Ød1	Ød3	Turns for 90	Approx WT. kg
	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
PN 16	100	190	220	19	180	19	8	100	50	110	170	219	110	132	31.5	250	16	12.75	21
	125	200	250	19	210	19	8	125	50	125	183	232	128	132	31.5	250	16	12.75	29
	150	210	285	19	240	23	8	150	50	150	215	255	144	132	31.5	250	16	12.75	34
	200	230	340	20	295	23	12	160	50	178	232	274	170	132	31.5	250	16	12.75	52
	250	250	405	22	355	28	12	180	50	213	270	310	205	132	31.5	250	16	12.75	69
	300	270	455	24.5	410	28	12	200	63	254	315	364	232	165	42	250	20	12.75	94
	350	290	520	26.5	470	28	16	224	63	280	348	397	270	165	42	400	20	12.75	126
	400	310	580	28	525	31	16	250	80	316	433	433	297	170	42	400	20	13.25	183
	450	330	640	30	585	31	20	275	100	337	435	487	325	299	60	400	30	13	226
	500	350	715	31.5	650	34	20	300	100	362	470	522	363	299	60	500	30	13	283
	600	390	840	36	770	37	20	330	100	420	516	583	425	299	43	400	20	52	378
	700	430	910	39.5	840	37	24	400	125	493	565	645	458	255	43	500	20	52	557
	800	470	1025	43	950	41	24	450	160	573	635	715	518	380	43	400	20	110.5	792
	900	510	1125	46.5	1050	41	28	550	200	656	705	801	568	485	43	400	20	108.5	1205
	1000	550	1255	50	1170	44	28	600	200	700	773	868	633	485	43	500	20	108.5	1485
	1100	590	1355	53.5	1270	44	32	650	200	810	875	971	688	510	43	500	20	216	1880
	1200	630	1485	57	1390	50	32	700	250	861	965	1084	750	540	60	400	20	103	2305
	1400	710	1685	60	1590	50	36	800	315	975	1097	1257	850	726	63	400	30	212	3938
	1600	790	1930	65	1820	57	40	900	315	1088	1180	1340	975	725	43	400	20	424	5442
	1800	870	2130	70	2020	57	44	1000	400	1215	1365	1605	1075	826	63	500	30	432	7296
	2000	950	2345	75	2230	62	48	1100	400	1335	1490	1725	1183	826	63	500	30	432	9452
PN 25	100	190	220	19	190	23	8	100	50	118	170	266	118	132	31.5	250	16	12.75	23
	125	200	270	19	220	28	8	125	50	135	188	262	138	132	31.5	250	16	12.75	30
	150	210	300	20	250	28	8	150	50	153	215	255	150	132	31.5	250	16	12.75	36
	200	230	360	22	310	28	12	160	63	180	249	298	185	165	42	250	20	12.75	58
	250	250	425	24.5	370	31	12	180	63	213	274	323	215	165	42	250	20	12.75	83
	300	270	485	27.5	430	31	16	200	80	263	312	358	247	170	42	400	20	13.25	123
	350	290	555	30	490	34	16	225	80	308	347	407	282	299	60	400	30	13	152
	400	310	620	32	550	37	16	250	100	393	435	487	318	299	60	400	30	13	258
	450	330	670	34.5	600	37	20	275	125	418	455	513	338	304	42	400	20	52	321
	500	350	730	36.5	660	37	20	300	125	425	475	536	370	304	42	400	20	52	390
	600	390	845	42	770	41	20	330	160	490	552	632	428	380	43	500	20	110.5	578
	700	430	960	46.5	875	44	24	400	160	566	613	711	493	485	43	500	20	108.5	816
	800	470	1085	51	990	50	24	450	200	616	680	776	550	485	43	500	20	108.5	1052
	900	510	1185	55.5	1090	50	28	550	250	710	812	931	597	540	60	400	30	103	1664
	1000	550	1320	60	1210	57	28	600	250	760	865	984	670	540	60	400	30	103	1935
	1100	590	1420	64.5	1310	57	32	650	250	810	915	1034	715	585	60	400	30	212	2613
	1200	630	1530	69	1420	57	32	700	315	860	982	1142	765	726	63	400	30	212	3154
	1400	710	1755	74	1640	62	36	800	315	988	1100	1261	890	726	63	400	30	212	4525
	1600	790	1975	81	1860	62	40	900	400	1088	1270	1405	998	826	63	400	30	432	6600
	1800	870	2195	88	2070	70	44	1000	400	1235	1385	1625	1108	826	63	500	30	432	8239
	2000	950	2425	95	2300	70	48	1100	500	1390	1585	1830	1223	1090	73	500	40	832	11952

PN 40 and valve sizes larger than 2000 mm on request.

Dimensions & Weight: Butterfly valve with electrical actuator



DIN EN 593 (DIN 3354)

• DIN EN 1092-2 (DIN 2501)

• DIN EN 558-1 series 14 (DIN 3202-F4)

	DN	•L	•ØD	•b	•ØK	•Ød2	•n	a	e1	e2	e3	e4	e5	e6	h1	h2	Turns for 90	Approx WT. kg
PN 6	800	470	975	34	920	31	24	450	125	543	615	282	254	862	513	539	52	670
	1000	550	1175	36	1120	31	28	600	160	700	752	265	249	990	633	547	110.5	1226
	1200	630	1405	40	1340	34	32	700	200	860	910	282	254	1157	688	615	108.5	1907
	1400	710	1630	44	1560	37	36	800	200	976	1040	282	254	1287	850	700	108.5	3473
	1600	790	1830	48	1760	37	40	860	250	1076	1165	282	254	1412	971	675	212	3711
	1800	870	2045	50	1970	41	44	1000	250	1260	1187	282	254	1547	1033	1000	212	4677
	2000	950	2265	54	2180	44	48	1100	315	1281	1400	282	254	1647	1145	1000	424	7572
	2200	1030	2475	42	2390	44	52	1200	400	1415	1570	384	329	1750	1248	1000	432	10052
PN 10	100	190	220	19	180	19	8	100	50	110	170	265	249	407	109	373	12.75	41
	125	200	250	19	210	19	8	125	50	125	183	265	249	420	128	373	12.75	49
	150	210	285	19	240	23	8	150	50	150	215	265	249	452	142	373	12.75	54
	200	230	340	20	295	23	8	160	50	178	234	265	249	471	170	373	12.75	72
	250	250	395	22	350	23	12	180	50	213	270	265	249	507	205	373	12.75	90
	300	270	445	24.5	400	23	12	200	50	254	319	265	249	556	232	373	12.75	113
	350	290	505	24.5	460	23	16	224	50	280	343	265	249	580	263	373	12.75	138
	400	310	565	24.5	515	28	16	250	63	303	375	282	254	622	288	400	12.75	163
	450	330	615	25.5	565	28	20	275	80	337	417	282	254	664	313	405	13.25	209
	500	350	670	26.5	620	28	20	291	80	362	452	282	254	700	345	405	13.25	256
	600	390	780	30	725	31	20	330	100	417	516	265	249	753	398	532	52	356
	700	430	895	32.5	840	31	24	400	125	475	555	282	254	802	458	539	52	523
	800	470	1015	35	950	34	24	450	125	543	615	282	254	862	513	539	52	704
	900	510	1115	37.5	1050	34	28	550	160	619	682	282	254	930	568	615	110.5	1106
	1000	550	1230	40	1160	37	28	600	160	700	752	282	254	1000	633	615	110.5	1265
	1100	590	1340	42.5	1270	37	32	650	200	810	875	282	254	1122	688	745	216	1896
	1200	630	1455	45	1380	41	32	700	200	860	910	282	254	1157	750	745	216	2001
	1400	710	1675	46	1590	44	36	800	250	976	1080	384	329	1365	850	860	212	3582
	1600	790	1915	49	1820	50	40	900	315	1076	1180	282	254	1427	965	955	424	4481
	1800	870	2115	52	2020	50	44	1000	315	1187	1300	384	329	1585	1068	1015	424	6067
	2000	950	2325	55	2230	50	48	1100	400	1315	1465	384	329	1750	1175	1100	432	8522



	DN	•L	•ØD	•b	•ØK	•Ød2	•n	a	e1	e2	e3	e4	e5	e6	h1	h2	Turns	Approx
	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	for 90	WT. kg
PN 16	100	190	220	19	180	19	8	100	80	110	170	265	249	407	109	373	12.75	41
	125	200	250	19	210	19	8	125	80	125	183	265	249	420	128	373	12.75	49
	150	210	285	19	240	23	8	150	50	150	215	265	249	452	142	373	12.75	54
	200	230	340	20	295	23	12	160	50	178	232	265	249	470	170	373	12.75	71.5
	250	250	405	22	355	28	12	180	50	213	270	265	249	507	205	373	12.75	90
	300	270	450	24.5	410	28	12	200	63	254	315	265	249	552	232	398	12.75	115
	350	290	520	26.5	470	28	16	224	63	280	348	282	254	595	270	400	12.75	152
	400	310	580	28	525	31	16	250	80	316	433	282	254	680	297	405	13.25	209
	450	330	640	30	585	31	20	275	100	337	435	265	249	672	325	532	52	256
	500	350	715	31.5	650	34	20	300	100	362	470	265	249	707	363	532	52	304
	600	390	840	36	770	37	20	330	100	420	516	282	254	763	425	534	52	404
	700	430	910	39.5	840	37	24	400	160	493	565	282	254	812	460	539	52	583
	800	470	1025	43	950	41	24	450	160	573	635	282	254	882	518	615	110.5	818
	900	510	1125	46.5	1050	41	28	550	200	656	705	282	254	952	568	745	216	1231
	1000	550	1255	50	1170	44	28	600	200	700	773	282	254	1020	633	745	216	1511
	1100	590	1355	53.5	1270	44	32	650	200	810	875	282	254	1122	688	745	216	1906
	1200	630	1485	57	1390	50	32	700	250	861	965	384	329	1250	750	860	212	2357
	1400	710	1685	60	1590	50	36	800	315	975	1097	282	254	1344	850	955	424	3964
	1600	790	1930	65	1820	57	40	900	315	1088	1180	384	329	1465	975	1015	424	5494
	1800	870	2130	70	2020	57	44	1000	400	1215	1365	384	336	1650	1075	1100	432	7348
	2000	950	2345	75	2230	62	48	1100	400	1335	1490	384	336	1775	1183	1100	432	9510
PN 25	100	190	235	19	190	23	8	100	70	118	170	265	249	407	118	373	12,75	43
	125	200	270	19	220	28	8	125	70	135	188	265	249	425	138	373	12,75	50
	150	210	300	20	250	28	8	150	50	153	215	265	249	452	150	373	12.75	56
	200	230	360	22	310	28	12	160	63	180	249	265	249	486	185	398	12.75	79
	250	250	425	24.5	370	31	12	180	63	213	274	265	249	511	215	398	12.75	104
	300	270	485	27.5	430	31	16	200	80	263	312	282	254	560	247	405	13.25	149
	350	290	555	30	490	34	16	225	100	308	347	282	254	594	282	405	13.25	178
	400	310	620	32	550	37	16	250	100	393	435	282	254	682	318	534	52	292
	450	330	670	34.5	600	37	20	275	125	418	455	282	254	702	338	539	52	347
	500	350	730	36.5	660	37	20	300	125	425	475	282	254	722	370	539	52	425
	600	390	845	42	770	41	20	330	160	490	552	282	254	800	428	615	110.5	604
	700	430	960	46.5	875	44	24	400	200	566	613	282	254	860	493	615	108.5	842
	800	470	1085	51	990	50	24	450	200	616	680	282	254	927	550	745	216	1078
	900	510	1185	55.5	1090	50	28	550	250	710	812	282	254	1059	597	800	212	1702
	1000	550	1320	60	1210	57	28	600	250	760	865	384	329	1150	670	860	212	1987
	1100	590	1420	64.5	1310	57	32	650	250	810	915	384	329	1200	715	860	212	2665
	1200	630	1530	69	1420	57	32	700	315	860	982	282	254	1230	765	955	424	3180
	1400	710	1755	74	1640	62	36	800	315	988	1100	384	329	1385	890	1000	424	4577
	1600	790	1975	81	1860	62	40	900	400	1088	1270	384	336	1555	998	1100	432	6657
	1800	870	2195	88	2070	70	44	1000	400	1235	1385	384	336	1670	1075	1100	432	8296
	2000	950	2425	95	2300	70	48	1100	500	1390	1585	384	336	1870	1183	1345	832	12010

PN 40 and valve sizes larger than 2000 mm on request.

Butterfly Valves with bypass system

Size: DN 500 - 1400 mm

Pressure: PN 6 - 40 bar

Face to Face: DIN EN 558-1 series 15 (DIN3202-F5)

Product Features:

This valve is equipped with a bypass system and an on/off valve. Bypass system is used for connecting both sides of the disk for special applications. The usual diameter of bypass valve is approximately 1/10 of nominal diameter of the main valve. For installation of bypass the face to face of the main valve is increased.

Application:

This system (bypass) is used for making equal pressure on both sides of the disc so the main valve can be operated with minimum force for opening and closing. This system can be used for filling up piping systems. As long as the pipeline system is protected from water Hammer phenomenon and the pipeline will fill up gradually and at the same time air will be ejected from pipeline (through air valves) without any disturbance and minimum sound.

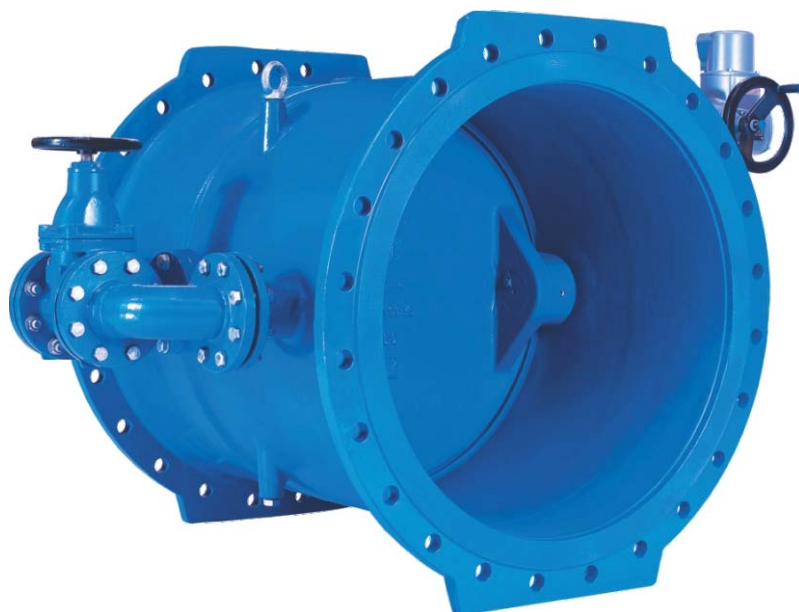
Operation:

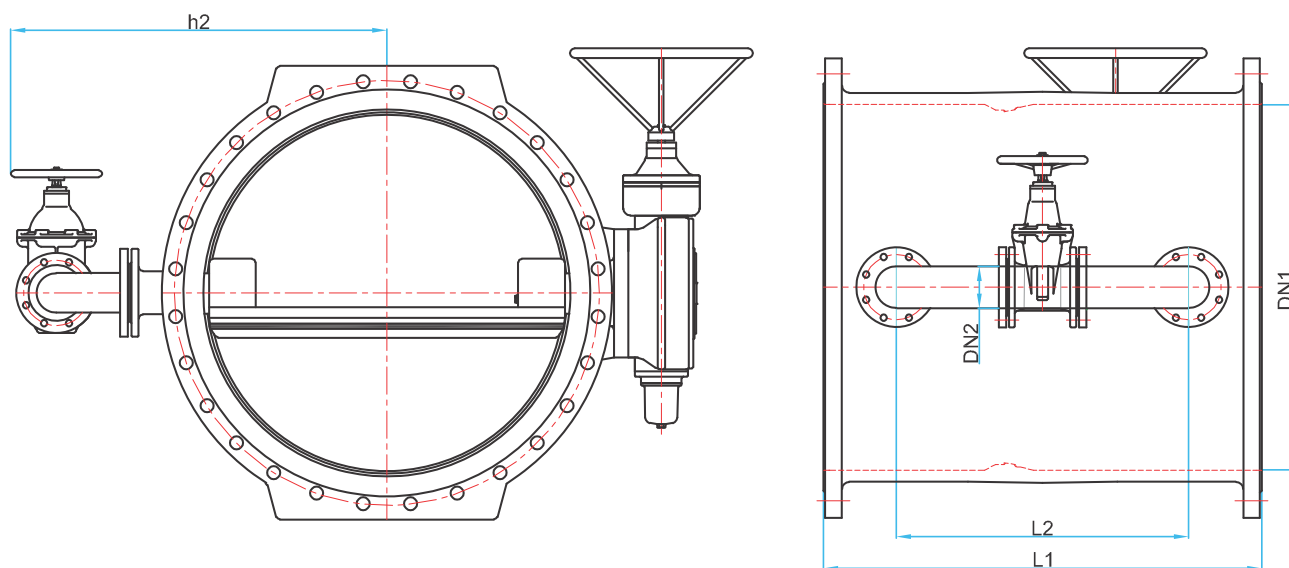
Opening the valve:

To start operation when the main valve and bypass valve are in closed position first open the bypass valve, and after opening the by pass valve the main valve will be opened. For transferring the liquid during operation time, both valves (main and bypass) should be open.

Closing the valve:

When system is not in use or the system has to be shut down, first main valve should be closed and then the by pass valve will be closed. If the above procedure takes place, difficulties with air and water hummer will be reduced enormously.

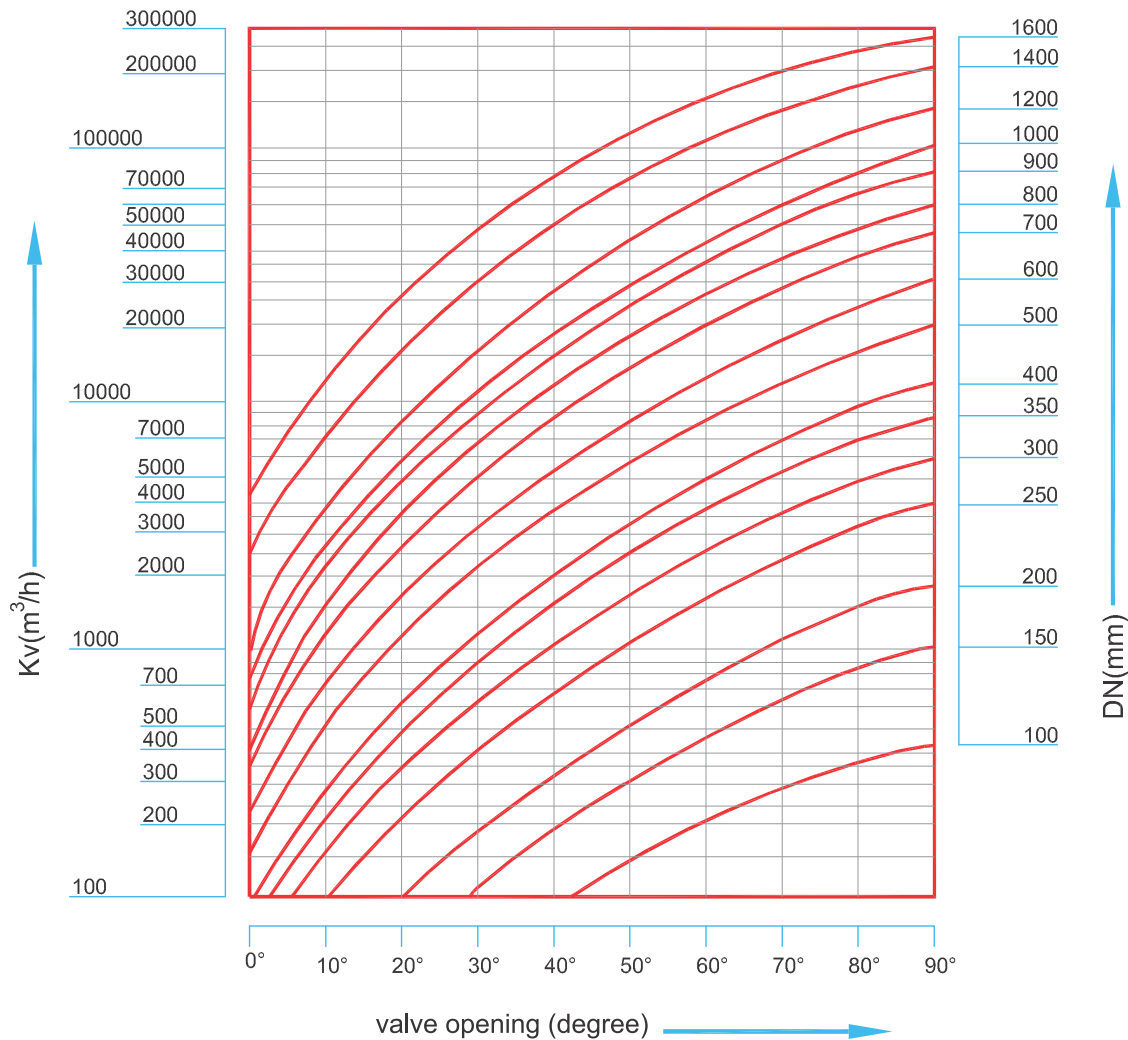


Dimensions & Weight


DN1	L1	DN2	L2	h2	Weight (kg)
500	700	80	454	650	360
600	800	80	454	700	545
700	900	80	514	735	740
800	1000	80	514	800	1032
900	1100	80	580	900	1425
1000	1200	80	580	1000	1675
1200	1400	100	800	1175	2750
1400	1400	150	800	1415	4180



Pressure Drop Δp (bar)



- Q = Rate of flow(m³/h)
- Kv = flow coefficient (m³/h)
- ΔP = Head loss (bar)
- ΔH = Head loss (m)
- V = Average pipe velocity (m/s)
- g. = Gravitational constant (9.81m/s²)
- ζ = Resistance coefficient.

$Q = Kv \sqrt{\Delta p}$
 $\Delta H = \zeta \frac{V^2}{2g}$

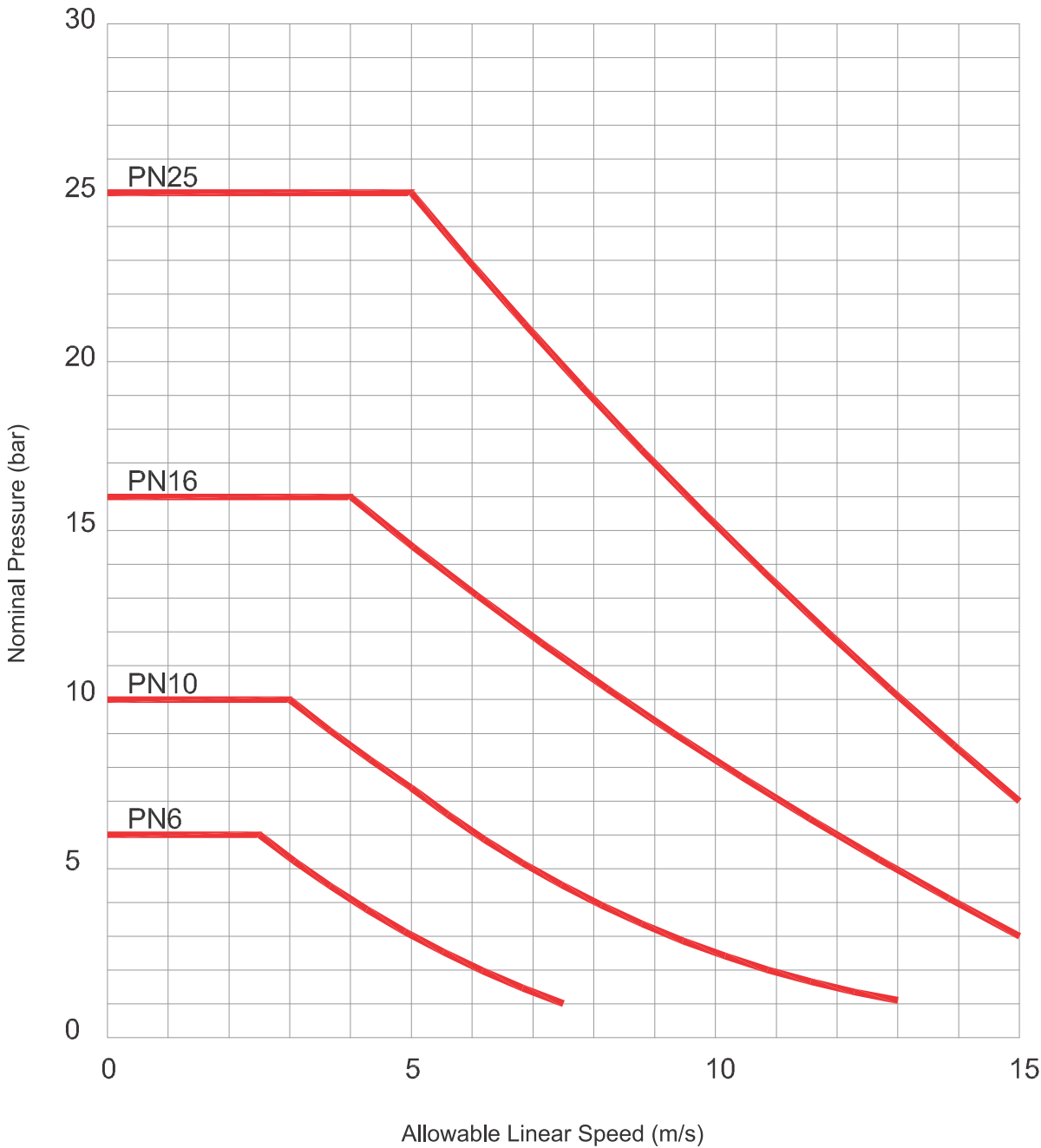
Kv value is the rate of water flow in cubic meters per hour in temperature from 5 to 30°C and pressure drop of 1 bar when the valve is in completely open position.

Coefficient of pressure drop (ζ)

DN	100	150	200	250	300	350	400	500	600	700	800	900	1000	1200	1400	1600
PN 10	-	-	0.73	0.4	0.4	0.3	0.26	0.23	0.21	0.17	0.17	0.15	0.14	0.14	0.13	0.13
PN 16	0.9	0.75	0.7	0.45	0.45	0.35	0.35	0.3	0.26	0.24	0.22	0.21	0.2	0.15	0.14	0.14

To calculate the head loss value for sizes larger than DN 1600 contact to Mirab Technical department.

Allowable Linear Speed for AV-Valves Butterfly valves



Important Note:

13For selection of valve nominal pressure, please compare linear speed of flow versus working pressure of valve , if working point is below the red curve (red curves show nominal pressure of valve) valve nominal pressure is suitable, otherwise valve nominal pressure should be increased.

Installation of valve

- Open the packing and take out the valve, inspect inside of pipe and clean it.
- Before installation(or before operating valve) all pipe line should be cleaned and all external parts like welding electrodes, solid particles, woods and ... should be removed.
- The legs of the valve are only for taking the valve's weight not for any other matter.
- Leave sufficient space around the valve for maintenance.
- In case of installation of the valve in an open area, the climate condition should be considered
- For easy installation of valve & gaskets the distance between flanges of valve and pipeline should be approximately 20mm.
- It is recommended to use standard DIN EN1514 for gaskets.
- The pipe flanges should be parallel and centric.
- The bolts should fasten equality and diagonally.
- When a butterfly valve is installed next to the non return valve, the minimum distance between these two valves should be considered. This distance is for preventing conflict of the valve discs when the valve is going to be opened.

Initial start up

- After installation of the valve on the pipeline, valve should be opened and closed easily.
- After final installation, turn on and off for several times, valve function should be the same as before installation (in electrical actuators).
- Pipeline should be cleaned with flushing process to avoid any damage to the valve by external particles.

Operation

Inadmissible point:

- Avoid installing valves immediately after any junction, elbows or any disturber parts.
- Prevent to use the valve in middle position (the disc in half open position) during operation.
- Valve must be used in temperatures defined.
- It is not allowed to use the valve in the pressure higher than nominal pressure.
- In fully closed position, pressure must not be higher than nominal pressure.
- If the material of profile sealing ring is EPDM, it should not be in contact with oil and greases.

Operation with hand wheel:

If any external particle is caught between the disc and valve seat, in case of using hand wheel or actuators with high gear reduction, this action can damage the actuator, so act as follow:

During emergency hand wheel operation, if any resistance is detected, the hand wheel should be rotated in opposite direction until the particle that is caught between disc and sealing ring, gets out. Then we can move in previous direction. If it is needed, you should repeat flushing operation again.

Short Pattern

All sizes produce by two categorized types:

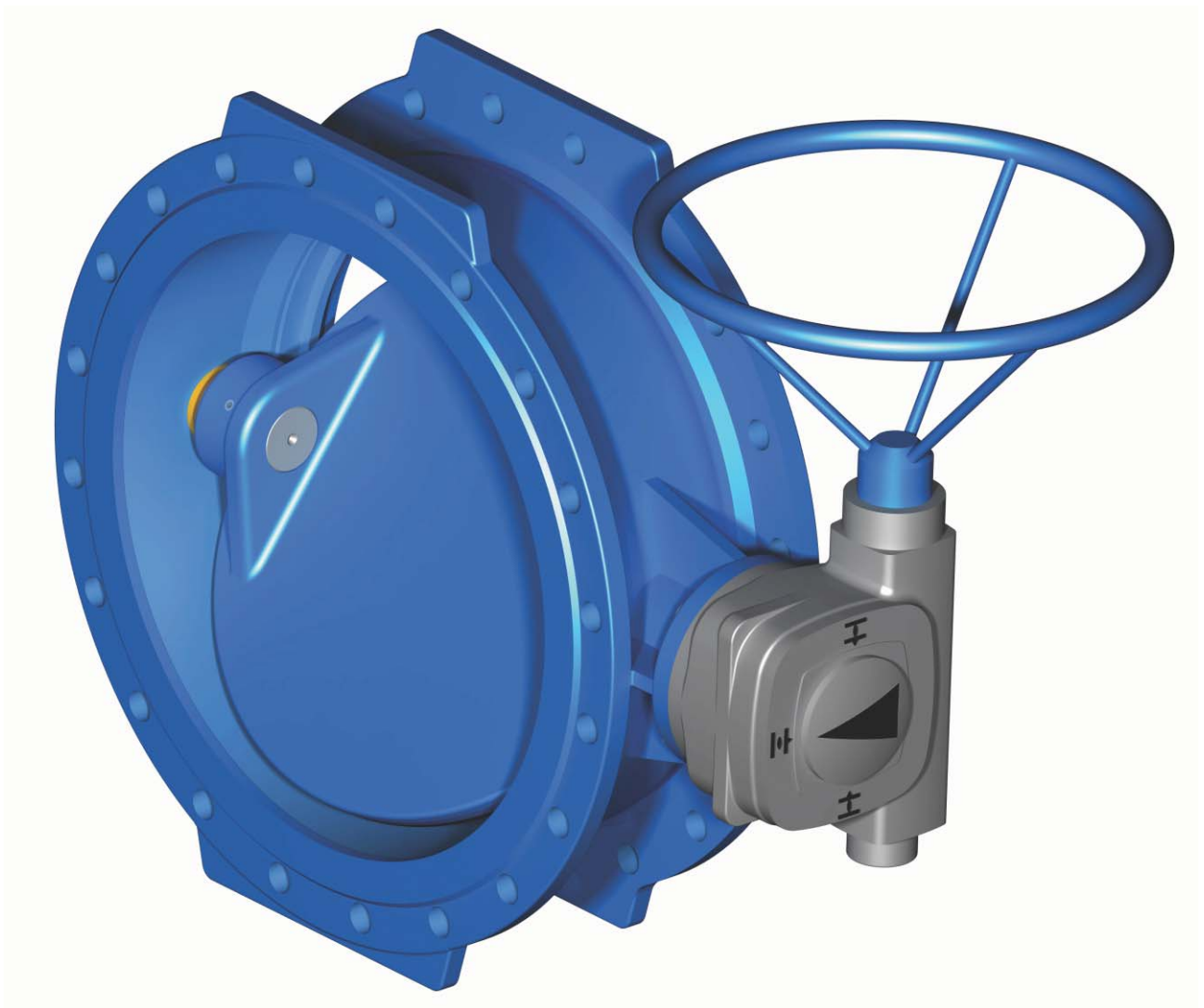
Type 1

Sizes: DN150 - 1200

Pressures: up to PN 16

Face to Face Dimension: DIN EN 558-1 Series 13/ ISO 5752-13 (DIN3202-F16)

Flange Dimension: DIN EN 1092-2 (DIN2501)



Type 2

Sizes: NPS 6" - 48"

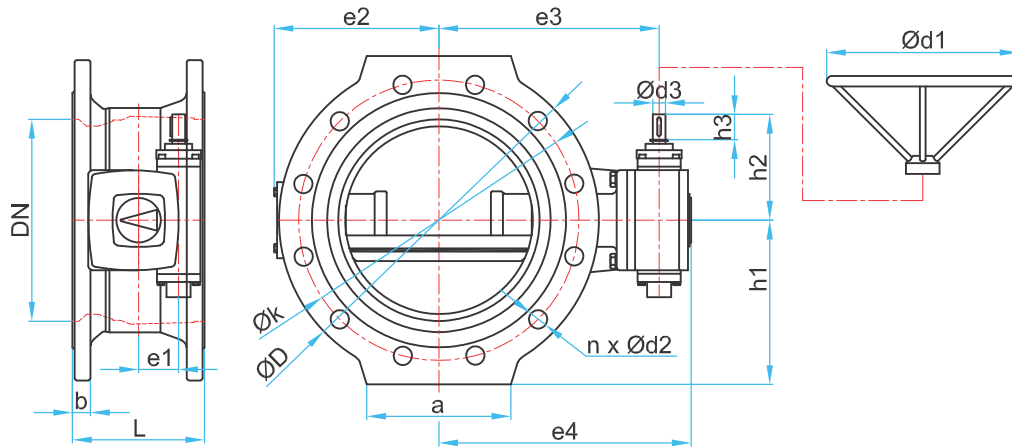
Pressures: Class 150 AWWA C504

Face to Face Dimension: AWWA C504 - Short Body

Flange Dimension: ASME ANSI B16,5 , B16,47 Series A , AWWA C207

Dimensions (Type 1)

Manually Operated Butterfly valve Short Pattern



DIN EN 593 (DIN 3354)

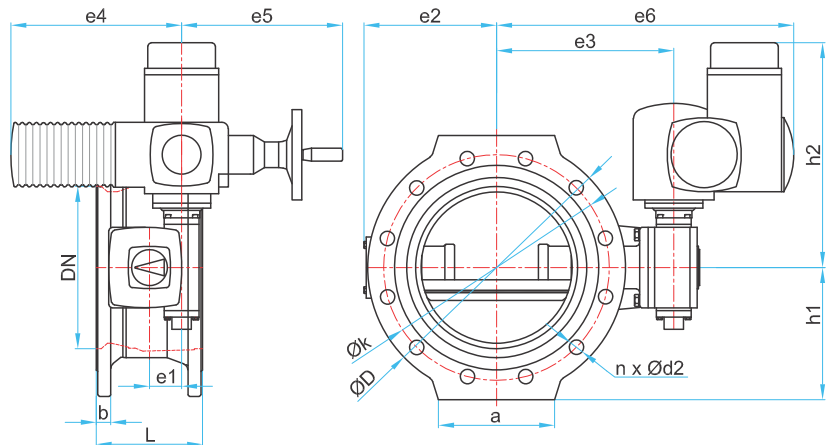
• DIN EN 1092-2 (DIN 2501)

• DIN EN 558-1 series 13 (DIN 3202-F16)

	DN	•L	•ØD	•b	•ØK	•Ød2	•n	a	e1	e2	e3	e4	h1	h2	h3	Ød1	Ød3	Turns for 90
	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
PN 10	150	140	285	19	240	23	8	150	50	150	215	253	142	132	31.5	250	16	12.75
	200	152	340	20	295	23	8	160	50	178	234	274	168	132	31.5	250	16	12.75
	250	165	395	22	350	23	12	180	50	213	270	310	205	132	31.5	250	16	12.75
	300	178	445	24.5	400	23	12	200	50	254	319	359	232	132	31.5	250	16	12.75
	350	190	505	24.5	460	23	16	224	50	280	343	383	263	132	31.5	250	16	12.75
	400	216	565	24.5	515	28	16	250	63	303	375	424	288	165	42	400	20	12.75
	450	222	615	25.5	565	28	20	275	80	337	417	467	313	170	42	400	20	13.25
	500	229	670	26.5	620	28	20	291	80	362	452	502	345	170	42	500	20	13.25
	600	267	780	30	725	31	20	330	100	417	516	583	398	299	60	500	30	13
	700	292	895	32.5	840	31	24	400	125	475	555	625	458	304	42	500	20	52
	800	318	1015	35	950	34	24	450	125	543	615	685	513	304	42	400	20	52
	900	330	1115	37.5	1050	34	28	550	160	619	682	763	568	380	43	400	20	110.5
	1000	410	1230	40	1160	37	28	600	160	700	752	832	633	380	43	500	20	110.5
	1200	470	1455	45	1380	41	32	700	200	860	910	1006	750	485	43	400	20	108.5
PN 16	150	140	285	19	240	23	8	150	50	150	215	255	144	132	31.5	250	16	12.75
	200	152	340	20	295	23	12	160	50	178	232	274	170	132	31.5	250	16	12.75
	250	165	405	22	355	28	12	180	50	213	270	310	205	132	31.5	250	16	12.75
	300	178	455	24.5	410	28	12	200	63	254	315	364	232	165	42	250	20	12.75
	350	190	520	26.5	470	28	16	224	63	280	348	397	270	165	42	400	20	12.75
	400	216	580	28	525	31	16	250	80	316	433	433	297	170	42	400	20	13.25
	450	222	640	30	585	31	20	275	100	337	435	487	325	299	60	400	30	13
	500	229	715	31.5	650	34	20	300	100	362	470	522	363	299	60	500	30	13
	600	267	840	36	770	37	20	330	100	420	516	583	425	299	43	400	20	52
	700	292	910	39.5	840	37	24	400	125	493	565	645	458	255	43	500	20	52
	800	318	1025	43	950	41	24	450	160	573	635	715	518	380	43	400	20	110.5
	900	330	1125	46.5	1050	41	28	550	200	656	705	801	568	485	43	400	20	108.5
	1000	410	1255	50	1170	44	28	600	200	700	773	868	633	485	43	500	20	108.5
	1200	470	1485	57	1390	50	32	700	250	861	965	1084	750	540	60	400	20	103

Dimensions (Type 1)

Electric Actuator Butterfly valve Short Pattern



DIN EN 593 (DIN 3354)

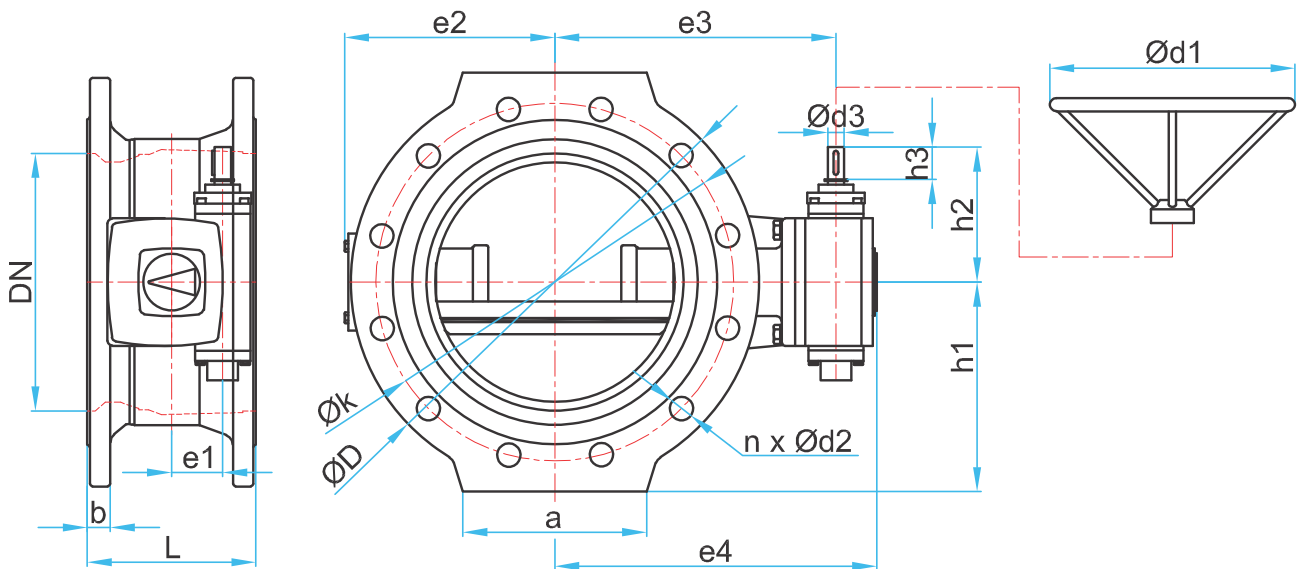
• DIN EN 1092-2 (DIN 2501)

• DIN EN 558-1 series 13 (DIN 3202-F16)

	DN	•L	•ØD	•b	•ØK	•Ød2	•n	a	e1	e2	e3	e4	e5	e6	h1	h2	Turns for 90
mm	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	
PN 10	150	140	285	19	240	23	8	150	50	150	215	265	249	452	142	373	12.75
	200	152	340	20	295	23	8	160	50	178	234	265	249	471	170	373	12.75
	250	165	395	22	350	23	12	180	50	213	270	265	249	507	205	373	12.75
	300	178	445	24.5	400	23	12	200	50	254	319	265	249	556	232	373	12.75
	350	190	505	24.5	460	23	16	224	50	280	343	265	249	580	263	373	12.75
	400	216	565	24.5	515	28	16	250	63	303	375	282	254	622	288	400	12.75
	450	222	615	25.5	565	28	20	275	80	337	417	282	254	664	313	405	13.25
	500	229	670	26.5	620	28	20	291	80	362	452	282	254	700	345	405	13.25
	600	267	780	30	725	31	20	330	100	417	516	265	249	753	398	532	52
	700	292	895	32.5	840	31	24	400	125	475	555	282	254	802	458	539	52
	800	318	1015	35	950	34	24	450	125	543	615	282	254	862	513	539	52
	900	330	1115	37.5	1050	34	28	550	160	619	682	282	254	930	568	615	110.5
PN 16	1000	410	1230	40	1160	37	28	600	160	700	752	282	254	1000	633	615	110.5
	1200	470	1455	45	1380	41	32	700	200	860	910	282	254	1157	750	745	216
	150	140	285	19	240	23	8	150	50	150	215	265	249	452	142	373	12.75
	200	152	340	20	295	23	12	160	50	178	232	265	249	470	170	373	12.75
	250	165	405	22	355	28	12	180	50	213	270	265	249	507	205	373	12.75
	300	178	450	24.5	410	28	12	200	63	254	315	265	249	552	232	398	12.75
	350	190	520	26.5	470	28	16	224	63	280	348	282	254	595	270	400	12.75
	400	216	580	28	525	31	16	250	80	316	433	282	254	680	297	405	13.25
	450	222	640	30	585	31	20	275	100	337	435	265	249	672	325	532	52
	500	229	715	31.5	650	34	20	300	100	362	470	265	249	707	363	532	52
	600	267	840	36	770	37	20	330	100	420	516	282	254	763	425	534	52
	700	292	910	39.5	840	37	24	400	160	493	565	282	254	812	460	539	52
	800	318	1025	43	950	41	24	450	160	573	635	282	254	882	518	615	110.5
	900	330	1125	46.5	1050	41	28	550	200	656	705	282	254	952	568	745	216
	1000	410	1255	50	1170	44	28	600	200	700	773	282	254	1020	633	745	216
	1200	470	1485	57	1390	50	32	700	250	861	965	384	329	1250	750	860	212

Dimensions (Type 2)

Manually Operated Butterfly valve Short Pattern

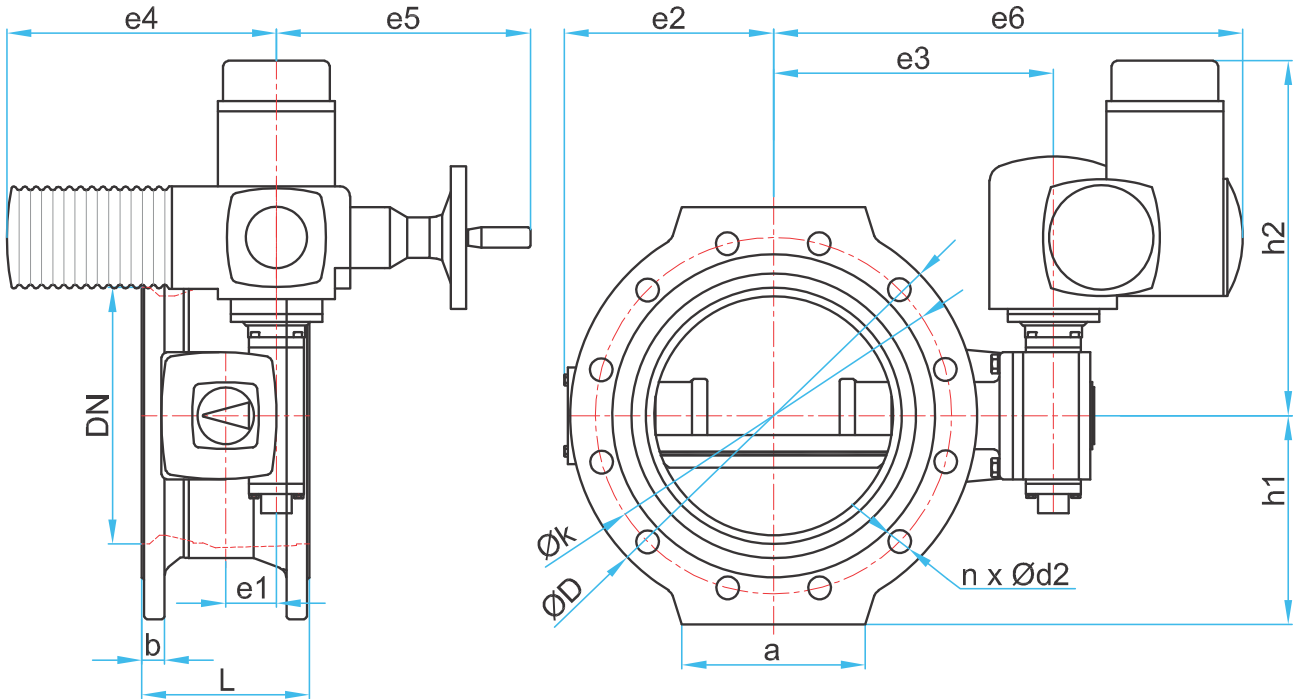


- AWWA C504
- DIN EN 593 (DIN 3354)
- ASME ANSI B16.5 , B16.47 Series A

DN mm	•L mm	•ØD mm	•b mm	•ØK mm	•Ød2 mm	•n	a mm	e1 mm	e2 mm	e3 mm	e4 mm	h1 mm	h2 mm	h3 mm	Ød1 mm	Ød3 mm	Turns for 90
6"	127	279.4	25.4	241.3	22.4	8	150	50	150	215	255	144	132	31.5	250	16	12.75
8"	152	342.9	28.4	298.5	22.4	8	160	50	178	232	274	170	132	31.5	250	16	12.75
10"	203	406.4	30.2	362	25.4	12	180	50	213	270	310	205	132	31.5	250	16	12.75
12"	203	482.6	31.8	431.8	25.4	12	200	63	254	315	364	232	165	42	250	20	12.75
14"	203	533.4	35.1	476.3	28.5	12	224	63	280	348	397	270	165	42	400	20	12.75
16"	203	596.9	36.6	539.8	28.5	16	250	80	316	433	433	297	170	42	400	20	13.25
18"	203	635	39.6	577.9	31.8	16	275	100	337	435	487	325	299	60	400	30	13
20"	203	698.5	42.9	635	31.8	20	300	100	362	470	522	363	299	60	500	30	13
24"	203	812.8	47.8	749.3	35.1	20	330	100	420	516	583	425	299	43	400	20	52
36"	305	1168.4	90.4	1085.9	41.3	32	550	200	656	705	801	568	485	43	400	20	108.5
48"	381	1511.3	108	1422.4	41.3	44	700	250	861	965	1084	750	540	60	400	20	103

Dimensions (Type 2)

Electric Actuator Butterfly valve Short Pattern



• AWWA C504

DIN EN 593 (DIN 3354)

• ASME ANSI B16.5 , B16.47 Series A

DN mm	•L mm	•ØD mm	•b mm	•ØK mm	•Ød2 mm	•n	a mm	e1 mm	e2 mm	e3 mm	e4 mm	e5 mm	e6 mm	h1 mm	h2 mm	Turns for 90
6"	127	279.4	25.4	241.3	22.4	8	150	50	150	215	265	249	452	142	373	12.75
8"	152	342.9	28.4	298.5	22.4	8	160	50	178	232	265	249	470	170	373	12.75
10"	203	406.4	30.2	362	25.4	12	180	50	213	270	265	249	507	205	373	12.75
12"	203	482.6	31.8	431.8	25.4	12	200	63	254	315	265	249	552	232	398	12.75
14"	203	533.4	35.1	476.3	28.5	12	224	63	280	348	282	254	595	270	400	12.75
16"	203	596.9	36.6	539.8	28.5	16	250	80	316	433	282	254	680	297	405	13.25
18"	203	635	39.6	577.9	31.8	16	275	100	337	435	265	249	672	325	532	52
20"	203	698.5	42.9	635	31.8	20	300	100	362	470	265	249	707	363	532	52
24"	203	812.8	47.8	749.3	35.1	20	330	100	420	516	282	254	763	425	534	52
36"	305	1168.4	90.4	1085.9	41.3	32	550	200	656	705	282	254	952	568	745	216
48"	381	1511.3	108	1422.4	41.3	44	700	250	861	965	384	329	1250	750	860	212

Lining butterfly valves

Pressure: PN 6 - 40 bar

Size: DN 100 - 3000 mm

Flanges: DIN EN 1092-2 (DIN 2501)

Valve design according to: DIN EN 593 (DIN 3354)

Face to Face: DIN EN 558-1 series 14 (DIN3202-F4)

Product features:

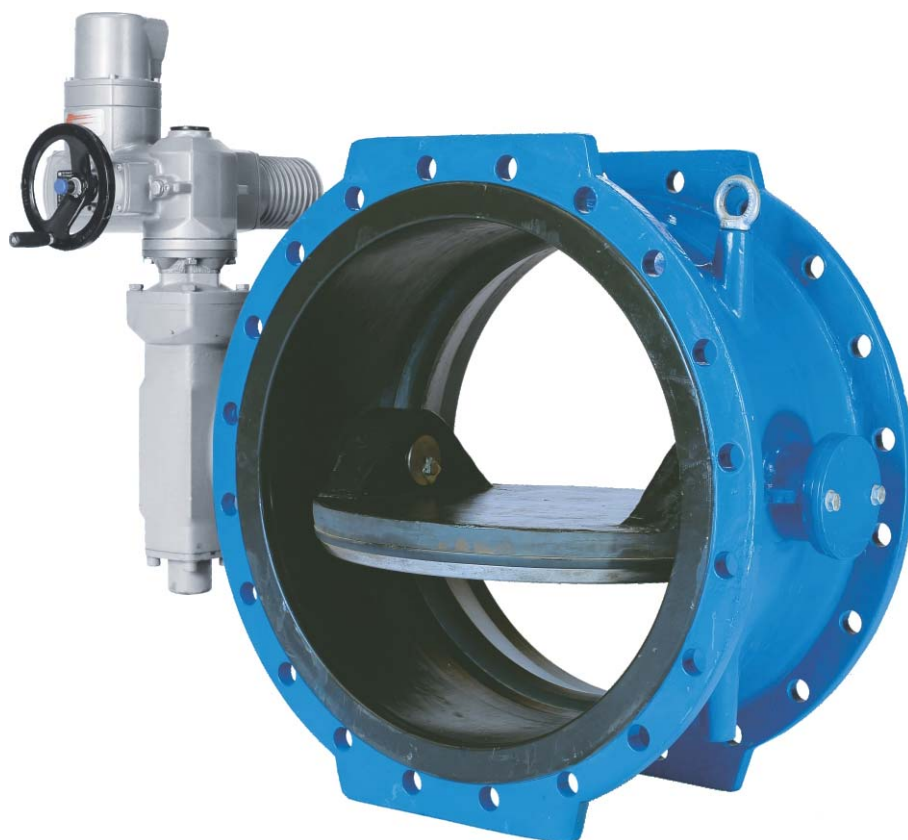
This valve has all butterfly valve features with a plus specification, all disc surface & internal body surface is coated by elastomer.

Corrosion protection:

External body surface is fully coated with blue electrostatic powder paint (ral 5005 or 5015) with minimum 250 micron thickness, all disc surface & internal body surface are coated by hard rubber lining of 3 mm thickness.

Application:

Lining butterfly valves are suitable for special fluids such as sea water or corrosive fluids.



MIRAB Co' PRODUCTS

Butterfly Valves Family: Double Flanged Type, Butt-weld End, Wafer Type, Lug Type, Hydraulic Actuated, Pneumatic Actuated.

Gate Valves Family: Soft-Sealing Gate Valve, Metal Seat Gate Valve, Knife Gate Valve, Sluice Gate Valve.

Non Return Valves Family: Tilting Disc with Counter Weight, Tilting Disk with Counter Weight and Hydraulic Damper, Swing Check Valve, Silent Check Valve, Foot Valve, Nozzle Check Valve, Wafer Pattern Check Valve, Flap Valve.

Air Vent Family: Single Chamber - Double Orifices , Double Chambers - Double Orifices, Sewage Air Valves, Large - Orifice Air Valve.

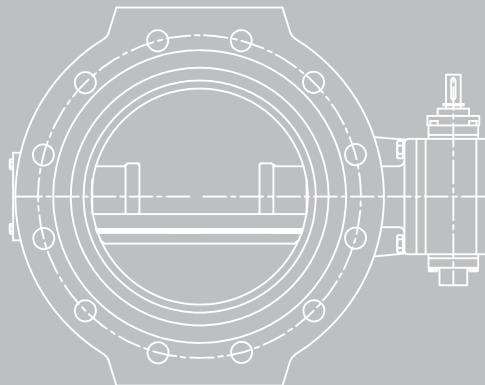
Control Valves Family: Automatic Control Valves, Needle Valve, Globe Valve, Fixed Cone Free Discharge Valve, Hollow Jet Valve, Sleeve Valve.

Hydrant Valves Family: Standing Type, Pit Type, Wet Barrel Fire Fighting Valve, Post Indicator Valve.

Strainers Family: Y Type, T Type, One Side Flanged Type.

Fittings Family: Dismantling Joint F1&F2, Pipe Coupling, Flange.

Actuators: Electrical, Hydraulic, Pneumatic, Portable Electrical.



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