

WAFER BUTTERFLY VALVE



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WAFER BUTTERFLY VALVE

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DESCRIPTION

Wafer butterfly valves with epoxy-coated ductile iron bodies are designed to control various media in commercial and industrial applications. Valve mounts between two standard ANSI 125/150, DIN PN10/16 and other international flanges. Seat-to-flange seal eliminates the need for flange gaskets. The disc is precision machined 1.4408 (CF8M). The two-piece stem and disc design enhances the flow capacity and reduces turbulence.

FEATURES

- ISO5211 top mounting for manual, air or electric actuators
- Unique hard / soft seat reduces torque and extends seal life
- Ductile iron body with epoxy coating
- 316SS disc with 2-piece stem design enhances flow capacity
- EPDM , NBR (Buna-N) , FPM , PTFE or VMQ seal options
- PTFE graphite reinforced stem bearings
- Pressure rated 16 Bar
- Multi-standard flanged mounting holes
- Optional 10 position locking hand lever

APPLICATION

Wafer body butterfly valves are used to control the flow of water, oils, air, vacuum and other media compatible with the materials of construction. Valves can be operated with manual, air or electric actuators.

Four seal options are available :

EPDM , NBR (Buna-N), FPM, PTFE, VMQ

OPERATION

Direct-mount wafer butterfly valves can be easily fitted with an optional manual operator, air actuator or electric actuator using standard ISO5211 top mounting. Rotating the square stem one-quarter turn moves the stainless steel disc and open or closes the valve. A unique soft seat reduces the torque required to close the valve and extends the seal life.

TEMPERATURE RANGE

EPDM : -20 to 120°C , **Buna-N** : -15 to 85°C , **FKM**: -15 to 180°C , **VMQ**:-30 to 200°C, **PTFE**:-20 to 200°C

OPTIONS

- Hand lever with 10 position locking
- Gear Box
- Air Actuators
- Electric Actuators

CONSTRUCTION

VALVE BODY	Epoxy coated ductile iron GGG40
DISC	1.4408 stainless steel (CF8M)
DISC SEAT OPTIONS	EPDM, NBR (Buna-N) , FKM , VMQ , PTFE
STEM SEALS	O-ring (same material as seat)
STEM	420SS
BEARINGS	PTFE Graphite reinforced
FASTENERS	Stainless Steel

PART LIST AND MATERIAL SPECIFICATION

DIM	KV-VALUE RATED FLOW COEFFICIENT (M ³ /H AT 1 BAR ΔP)									
[MM]	MAX. TORK [NM]	10°	20°	30°	40°	50°	60°	70°	80°	90°
DN50	12	<1	<1	5	14	29	47	71	98	107
DN65	17	1	2	11	27	50	77	122	171	213
DN80	24	3	6	28	54	91	140	213	301	404
DN100	35	5	14	57	108	175	262	404	594	799
DN125	59	6	27	84	156	248	385	624	954	1239
DN150	84	7	51	129	224	363	572	977	1535	1929
DN200	164	22	114	229	401	639	1018	1755	2880	3484
DN250	280	33	171	334	634	970	1530	2650	4403	5753
DN300	386	49	250	490	925	1416	2231	3865	6641	8828
DN350	700	118	301	631	1131	1918	3081	4963	8884	10308
DN400	850	153	393	824	1478	2506	4024	6482	11603	13464
DN450	1497	195	498	1043	1871	3170	5093	8210	14686	17041
DN500	1988	240	615	1288	2309	3913	6287	10128	18130	21038
DN600	3264	345	885	1853	3326	5635	9054	14584	26109	30295

ABOVE MENTIONED TORQUES ARE BASED ON ON/OFF SERVICES/LUBRICATING LIQUID.

VALVE SIZING

- Determining the size of butterfly valves for control purposes should not be done based on the nominal diameter of the pipe but should be calculated based on the operating characteristics to attain the correct control characteristics.
- Convalve Butterfly valves are designed with approximately equal percentage characteristics over an opening angle of 65°.
- You only need to consider the opening angle when determining the size of control valves. When determining the valve nominal diameter calculate the Kv value the below

Liquid:

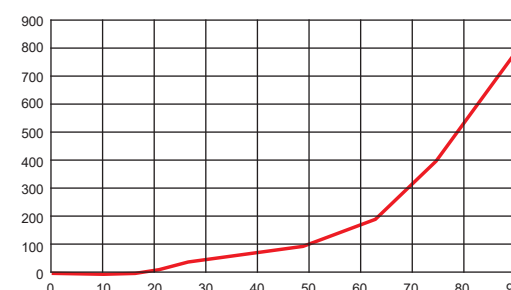
$$K_v = Q \times \sqrt{\frac{w}{\Delta S}}$$

Gas:

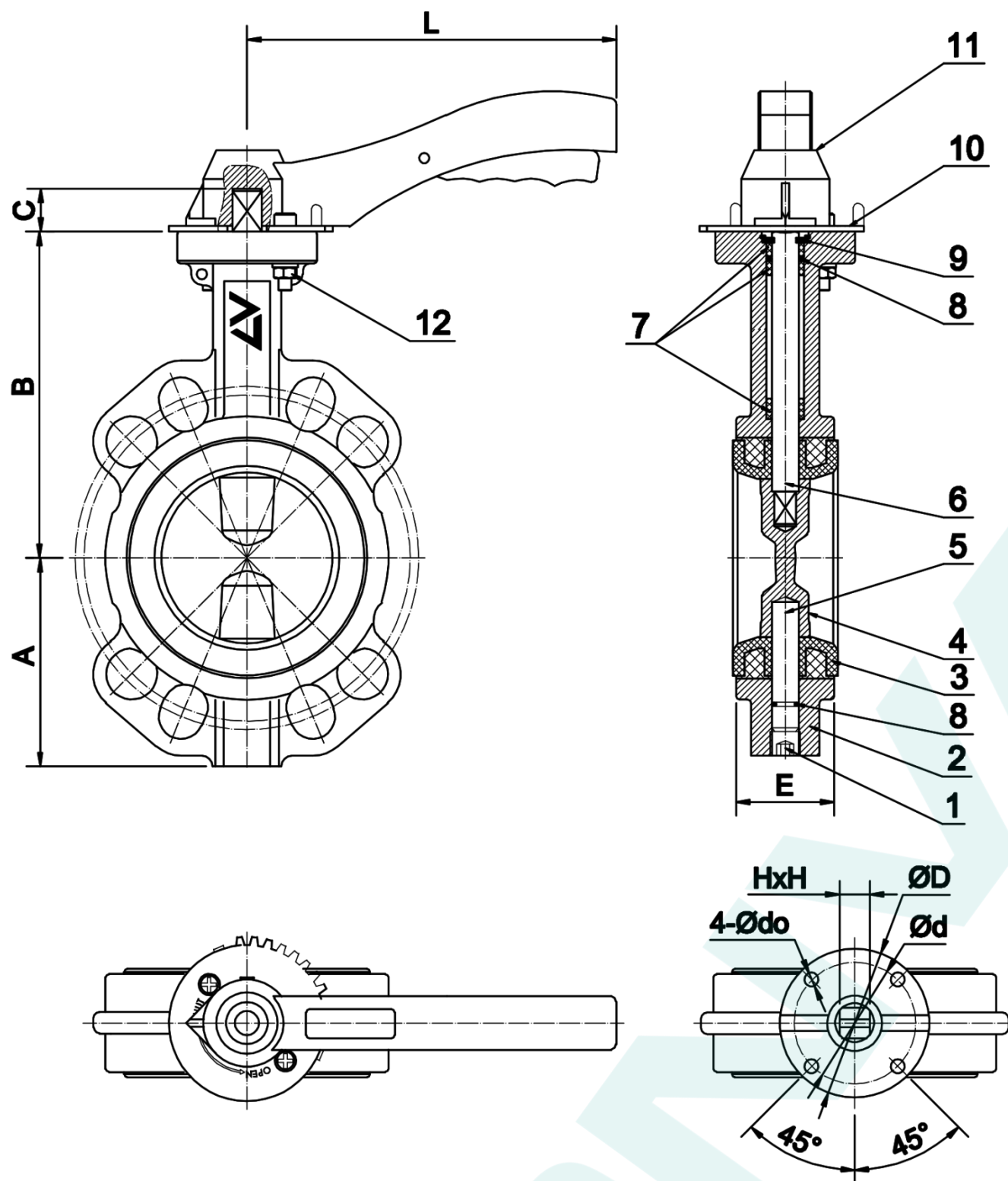
$$K_v = \frac{V_N}{514} \sqrt{\frac{G \times T}{\Delta S \cdot P_d}}$$

KV = Flow coefficient
 Q = Max. flow volume in m³/h
 w = Exact weight in kg/m³
 ΔS = Pressure drop in bar
 VN = Max. flow in Nm³/h
 G = Exact weight in kg/Nm³
 T = Absolute temp. in ° Kelvin
 Pd = Absolute pressure downstream in bar

Example: DN 100



VALVE STRUCTURE: HARD SEAL 50-150

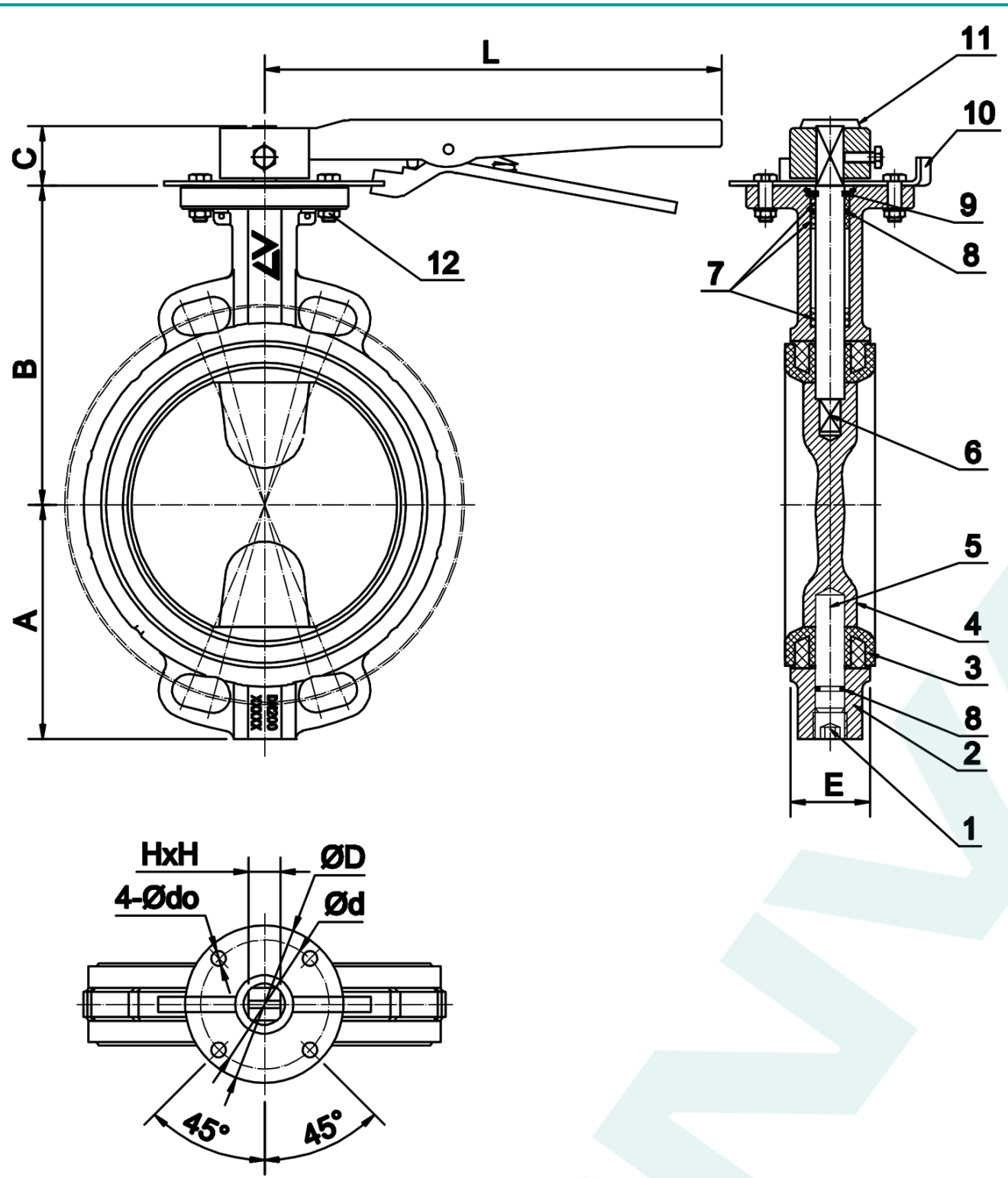


ITEM	STANDART	
DESIGN STANDARD	EN593-2002	
FLANGE STANDARD	EN1092-2 PN10/16 ;10K; ANS 1125/150.	
WORKING PRESSURE	PN16	
TEST PRESSURE	SHELL	24 Bar
	SEAL	17.6 Bar
WORKING TEMPERATURE	EPDM	120°C

SIZE	A	B	C	E	ΦD	Φd	4-Φdo	HxH	L
DN40	61	130	14	33	65	50	4-7	9x9	170
DN50	77	136	14	43	65	50	4-7	9x9	170
DN65	87	142	14	46	65	50	4-7	9x9	170
DN80	95	158	14	46	65	50	4-7	9x9	170
DN100	107	182	15	52	90	70	4-9	11x11	215
DN125	122	196	17	56	90	70	4-9	14x14	215
DN150	144	218	17	56	90	70	4-9	14x14	215

ITEM	PART NAME	QTY.	MATERIALS
1	STUB SCREW	1	CARBON STEEL
2	BODY	1	GGG40
3	SEAT	1	EPDM
4	DISC	1	CF8/CF8M
5	BOTTOM SHAFT	1	AISI SS 420
6	TOP-SHAFT	1	AISI SS 420
7	BUSHING	3	PTFE
8	O-RING	2	NBR
9	SHAFT CARD	1	CARBON STEEL
10	PLATE	1	CARBON STEEL + SPRAY COATING
11	HANDLE	1	ALUMINUM
12	BOLT/NUT	2	AISI SS 201

VALVE STRUCTURE: HARD SEAL 200300

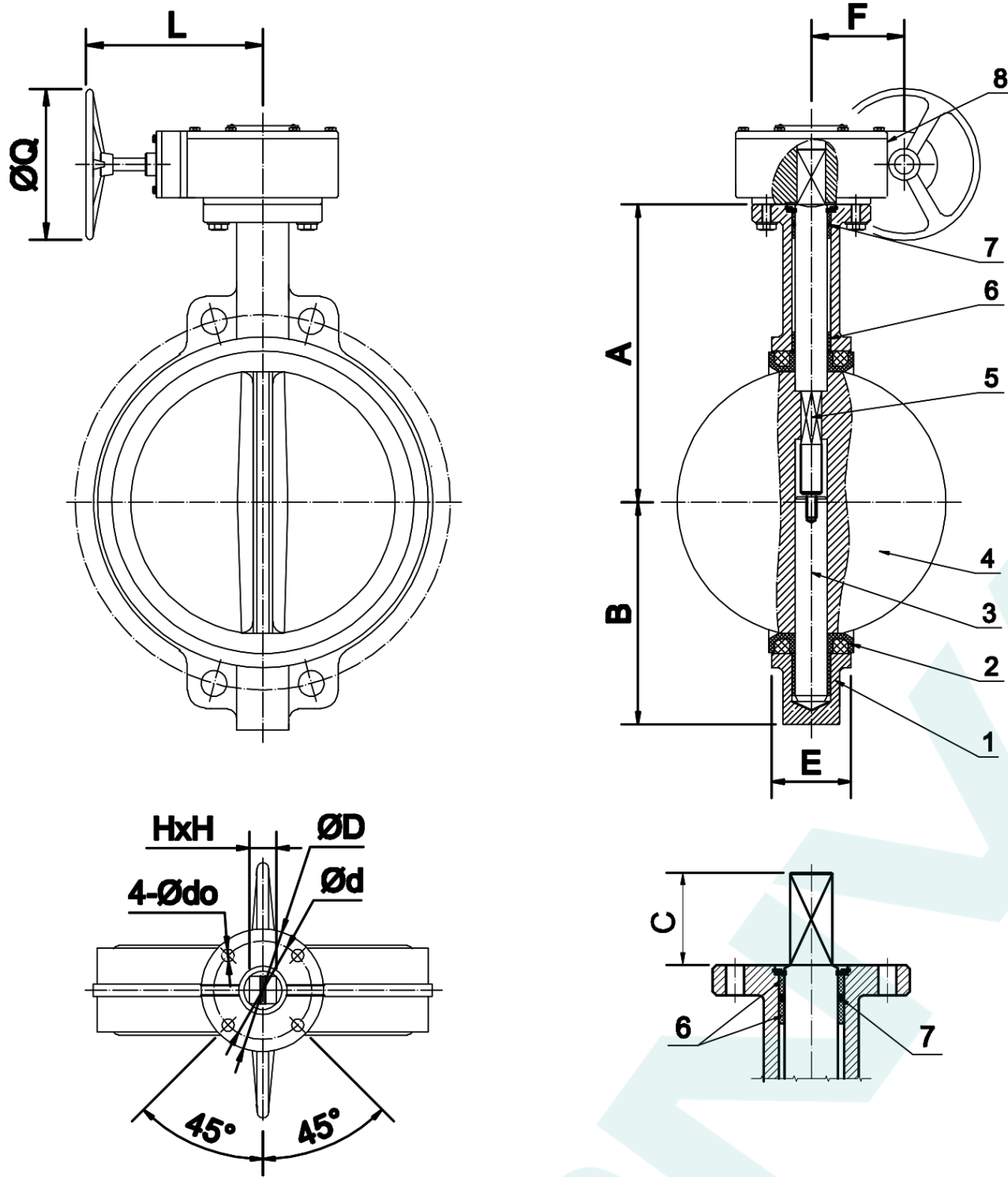


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DESIGN STANDARD	EN593-2002	
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WORKING PRESSURE	PN16	
TEST PRESSURE	SHELL	24 Bar
	SEAL	17.6 Bar
WORKING TEMPERATURE	EPDM	120°C

SIZE	A	B	C	E	ΦD	Φd	4-Φdo	HxH	L
DN200	171	245	30	60	125	102	4-12	17x17	360
DN250	205	280	35	68	125	102	4-12	22x22	360
DN300	235	310	35	78	125	102	4-12	22x22	500

ITEM	PART NAME	QTY.	MATERIALS
1	STUB SCREW	1	CARBON STEEL
2	BODY	1	GGG40
3	SEAT	1	EPDM
4	DISC	1	CF8/CF8M
5	BOTTOM SHAFT	1	AISI SS 420
6	TOP-SHAFT	1	AISI SS 420
7	BUSHING	3	PTFE
8	O-RING	2	NBR
9	SHAFT CARD	1	CARBON STEEL
10	PLATE	1	CARBON STEEL
11	HANDLE	1	MALLEABLE IRON
12	BOLT/NUT	2	AISI SS 201

VALVE STRUCTURE: HARD SEAL 350

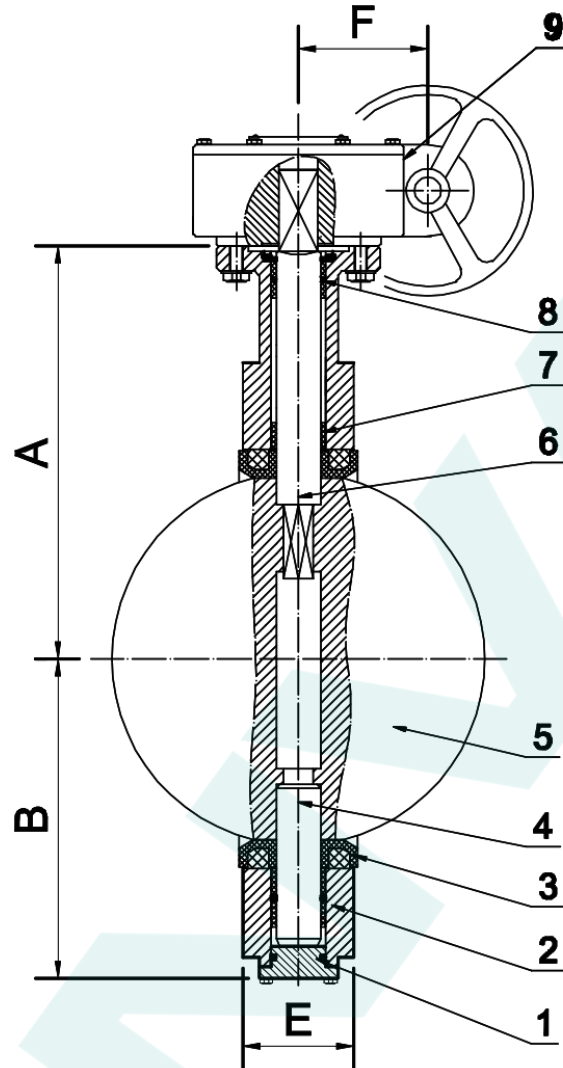
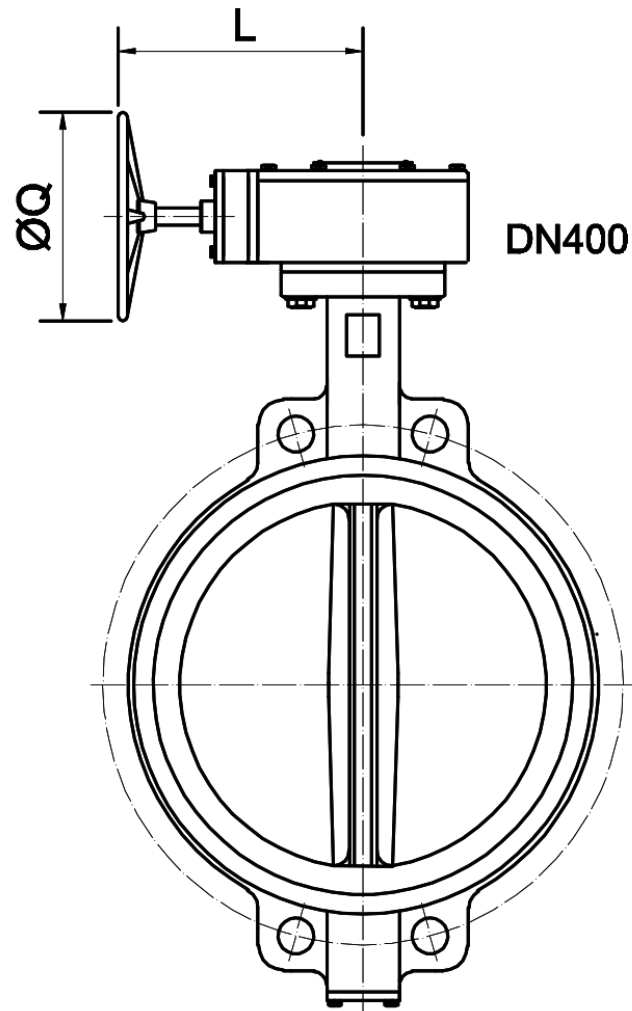
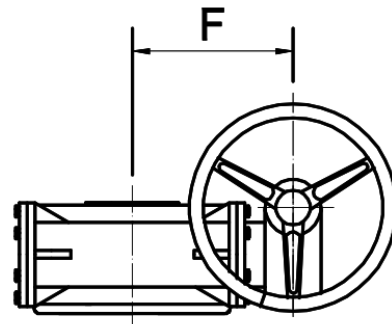
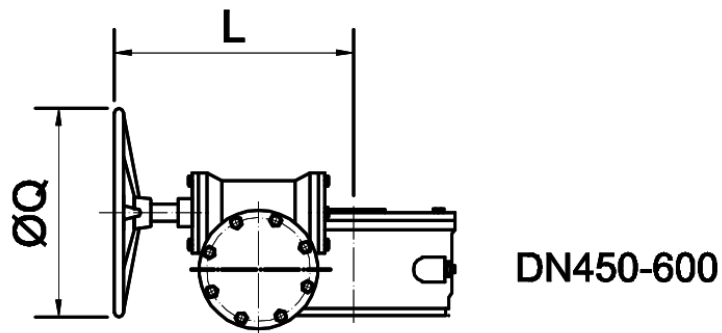


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DESIGN STANDARD	EN593-2002	
FLANGE STANDARD	EN1092-2 PN10/16 ;10K; ANS 1125/150.	
WORKING PRESSURE	PN16	
TEST PRESSURE	SHELL	24 Bar
	SEAL	17.6 Bar
WORKING TEMPERATURE	EPDM	120°C

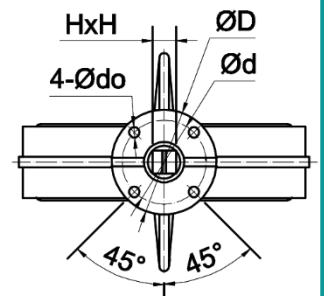
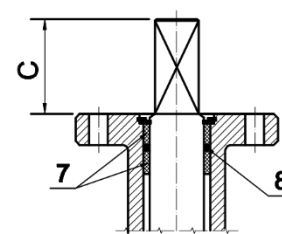
SIZE	A	B	C	E	ΦQ	L	F	ΦD	Φd	4-Φd0	HxH
DN350	368	267	45	78	285	195	77	150	125	4-14	22x22

ITEM	PART NAME	QTY.	MATERIALS
1	BODY	1	GGG40
2	SEAT	1	EPDM
3	BOTTOM SHAFT	1	AISI SS 420
4	DISC	1	AISI SS 304/316
5	TOP-SHAFT	1	AISI SS 420
6	BUSHING	4	PTFE
7	O-RING	1	NBR
8	GEARBOX	1	

VALVE STRUCTURE: HARD SEAL 400-600



ITEM	STANDART	
DESIGN STANDARD	EN593-2002	
FLANGE STANDARD	EN1092-2 PN10/16 ;10K; ANS 1125/150.	
WORKING PRESSURE	PN16	
TEST PRESSURE	SHELL	24 Bar
	SEAL	17.6 Bar
WORKING TEMPERATURE	EPDM	120°C



SIZE	A	B	C	E	ΦQ	L	F	ΦD	Φd	4-Φd0	HxH
DN400	400	298	52	102	385	240	107	175	140	4-18	27x27
DN450	422	317	52	114	285	255	174	175	140	4-18	32x32
DN500	480	358	65	127	285	255	174	175	140	4-18	32x32
DN600	562	447	70	154	285	280	212	210	165	4-22	36x36

ITEM	PART NAME	QTY.	MATERIALS
1	STUB	1	GGG40
2	BODY	1	GGG40
3	SEAT	1	EPDM
4	BOTTOM SHAFT	1	AISI SS 420
5	DISC	1	AISI SS 304/316
6	TOP-SHAFT	1	AISI SS 420
7	BUSHING	5	PTFE
8	O-RING	3	NBR
9	GEARBOX	1	