



BUTTERFLY VALVES



www.hartvalves.co.uk

Our Company



Hart Valves

Consistent product quality and availability of substantial stocks, makes HART a dependable choice for cast gate, globe and check valves, where total reliability is the number one concern.

Hart valves offer valves either to standard specification, or valves can be modified to suit customers specific requirements. Both quickly and economically.

Hart has an extensive quality system which complies to the requirement of the major oil companies and has been audited and approved to ISO 9002 by Lloyd's register of industrial services.



Range

Hart have a range of low emission valves offering minimum leakage and maximum service life in the stem sealing and bonnet joint areas.

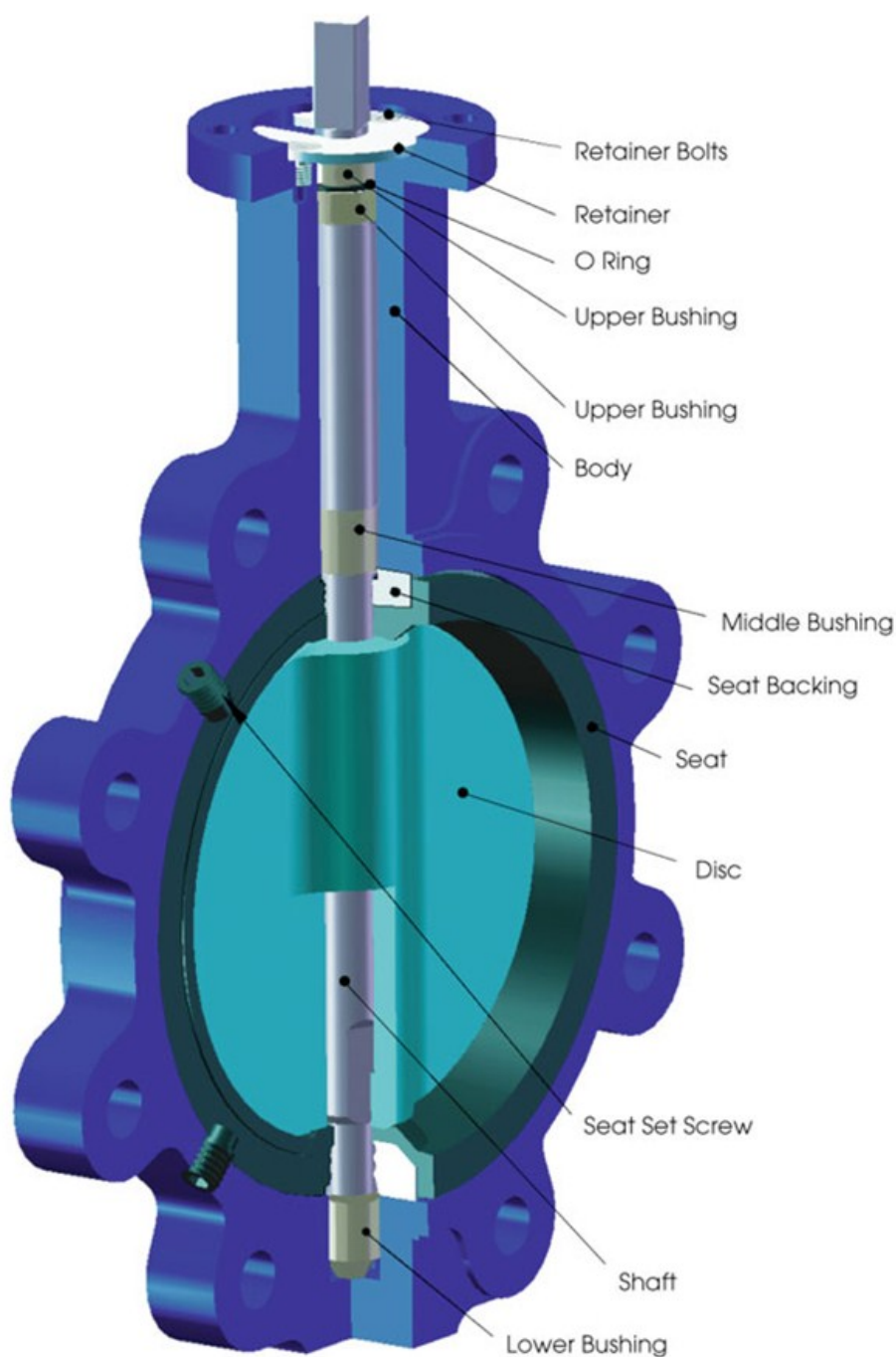
Testing and evaluation criteria is based on EPA method 21, and emission rates lower than 500ppm during operation are standard for this range of gate, globe and check valves.

All Hart gate and globe valves are easily adaptable for bevel gear or actuator mounting, and most makes of actuator can be supplied to suit clients specifications.



Butterfly Valve

All of our GM butterfly valve are available with handles (1.5" to 12"), manual gear operators (1.5" to 48"), and electric or pneumatic actuators (1.5" to 48"). Designed to comply with MSS SP-67 and API 609. Compatible with ANSI 125/150, BS4504, DIN PN10/16 flanges. Valves (2" to 20") meet the intent and have passed the AWWA C-504-87 Section 5 proof of design tests.

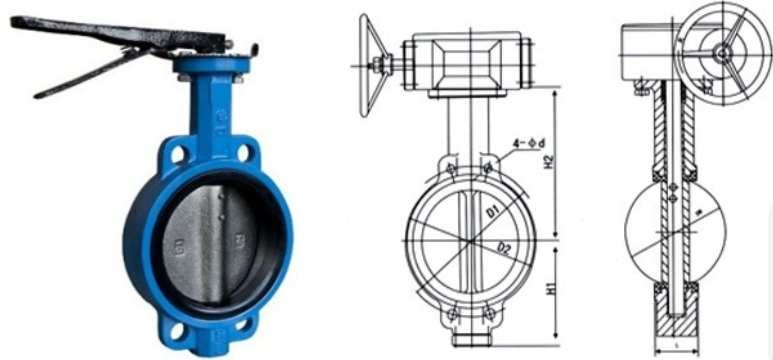


Butterfly Valve

Class 150/PN10-16/JIS

BT1W

RESILIENT SEAT BUTTERFLY VALVE Wafer Type DN 40- 600 ANSI B16.1



Designed to comply with MSS SP-67 and API609. Compatible with ANSI 125/150, BS4504, DIN PN10/16 flanges. Valves (2"-20") meet the intent and have passed the AWWA C-504-87 Section 5 proof of design tests.

Carbon & Stainless Steel Materials Installation
ASTM : WCB , A351-CF8 , CF8M
JIS : SCW42 , SCS13 , SCS14

MATERIALS LIST

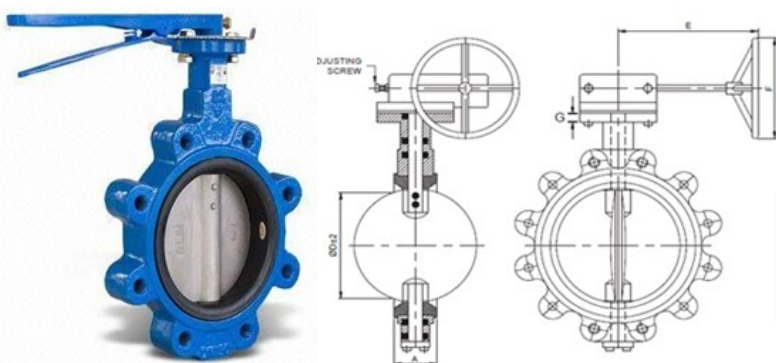
Description	Materials	Option Materials
Body	Grey Cast Iron Standard ASTM A126 Grade b, DIN 1691 GG25	Ductile Cast Iron , Stainless Steel, WCB
SEAT	Buna-N or EPDM	PTFE , Viton , Neoprene Hypalon
DISC	Ductile Cast Iron (Nickel plated or Nylon coated) Standard ASTM A536 65-45-12, DIN 1693 GGG40	Stainless Steel ASTM CF8M , CF8, AL-BZ ASTM C954
SHAFT	Stainless Steel Standard ASTM 316 , 410 , 418	Carbon Steel
PIN	Stainless Steel Standard ASTM 316 , 410 , 418	Carbon Steel
Key	Carbon Steel	No optional
" O " Ring	Buna-N or EPDM	No optional
Bushing	PTFE	Lubricated Bronze

VALVE DIMENSIONS

IN	1.5	2	2.5	3	4	5	6	8	10	12	14	16	18	20	24
MM	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
H1	60	76	89	95	114	127	140	177	203	242	267	298	318	349	410
H2	130	162	175	181	200	213	225	260	292	337	368	400	422	479	562
H3	32	32	32	32	32	32	32	45	45	45	45	51	51	54	70
L	36	45	48	49	55	58	59	64	70	80	80	90	109	135	156
Ø1	12.7	12.7	12.7	12.7	15.9	19	19	22.2	28.6	31.7	31.7	33.34	38	41.15	50.65
Ø2	50	50	50	50	70	70	70	102	102	102	102	165	165	165	165
Ø3	57.15	57.15	57.15	57.15	69.85	69.85	69.85	88.9	88.9	108	107.95	158.75	158.75	158.75	215.9
Ø4	ANSI	98.5	120.65	139.7	152.4	190.5	215.9	241.3	298.45	361.95	431.8	476.25	539.75	577.85	749.00
	PN10	110	125	145	160	180	210	240	295	350	400	460	515	565	725
	PN16	110	125	145	160	180	210	240	295	355	410	470	525	585	770
	5K	95	105	130	145	165	200	230	280	345	390	435	495	555	715
	10K	105	120	140	150	175	210	240	290	355	400	445	510	565	730
	16K	105	120	140	160	185	225	260	305	380	430	480	540	605	770

RESILIENT SEAT BUTTERFLY VALVE Lug Type

DN 40- 600 ANSI B16.1



Designed to comply with MSS SP-67 and API609.
Compatible with ANSI 125/150, BS4504, DIN
PN10/16 flanges. Valves (2"-20") meet the intent and
have passed the AWWA C-504-87 Section 5 proof of
design tests

Carbon & Stainless Steel Materials Installation
ASTM : WCB , A351-CF8 , CF8M
JIS : SCW42 , SCS13 , SCS14

MATERIALS LIST		
Description	Materials	Option Materials
Body	Grey Cast Iron Standard ASTM A126 Grade b, DIN 1691 GG25	Ductile Cast Iron , Stainless Steel, WCB
SEAT	Buna-N or EPDM	PTFE , Viton , Neoprene Hypalon
DISC	Ductile Cast Iron (Nickel plated or Nylon coated) Standard ASTM A536 65-45-12, DIN 1693 GGG40	Stainless Steel ASTM CF8M , CF8, AL-BZ ASTM C954
SHAFT	Stainless Steel Standard ASTM 316 , 410 , 418	Carbon Steel
PIN	Stainless Steel Standard ASTM 316 , 410 , 418	Carbon Steel
Key	Carbon Steel	No optional
" O " Ring	Buna-N or EPDM	No optional
Bushing	PTFE	Lubricated Bronze

VALVE DIMENSIONS

IN	1.5	2	2.5	3	4	5	6	8	10	12	14	16	18	20	24
MM	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
H1	60	76	89	95	114	127	140	177	203	242	267	298	318	349	410
H2	130	162	175	181	200	213	225	260	292	337	368	400	422	479	562
H3	32	32	32	32	32	32	32	45	45	45	45	51	51	54	70
L	36	45	48	49	55	58	59	64	70	80	80	90	109	135	156
Ø1	12.7	12.7	12.7	12.7	15.9	19	19	22.2	28.6	31.7	31.7	33.34	38	41.15	50.65
Ø2	50	50	50	50	70	70	70	102	102	102	102	165	165	165	165
Ø3	57.15	57.15	57.15	57.15	69.85	69.85	69.85	88.9	88.9	108	107.95	158.75	158.75	158.75	215.9
Ø4	ANSI	98.5	120.65	139.7	152.4	190.5	215.9	241.3	298.45	361.95	431.8	476.25	539.75	577.85	749.00
	PN10	110	125	145	160	180	210	240	295	350	400	460	515	565	725
	PN16	110	125	145	160	180	210	240	295	355	410	470	525	585	770

High Performance Butterfly Valve



Type :	Wafer, Lugged, Flanged BW End
Face to Face :	API609, BS EN 558, DIN3202 ISO 5752
Flange :	BS, UNI, ISO, ANSI
Mounting Flange :	ISO 5211
Working Pressure :	PN6-PN40 (ANSI 125-600)
Application :	HVAC, Water Supply & Sewage, Chemical, Petrochemical, Processing, Power and Utilities, Paper and Pulp, Ship Building, Food & Beverage, Pharmaceutical

Mounting Flange

ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

Disc and Stem Connection

The connection by flat key with locating taper pins between disc and stem ensure positive, vibration proof.

Rigid Body Structure

Available in wafer, lug or double flange connection and various material range

Bushings

Stem bushings have self-lubrication function to minimize torque easy for operation

Seal Ring

The seal ring is designed with resilient seal or metal seal. Metal seal is graphite plus metal layers providing an elastic tight seal with zero leakage

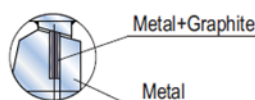
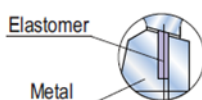
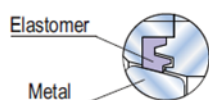
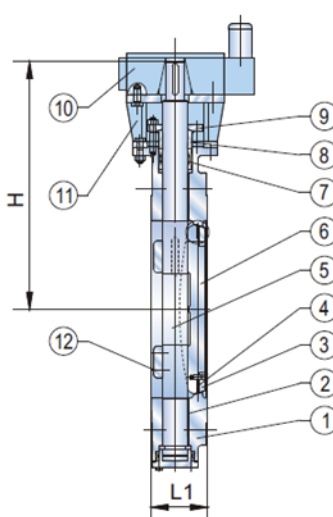
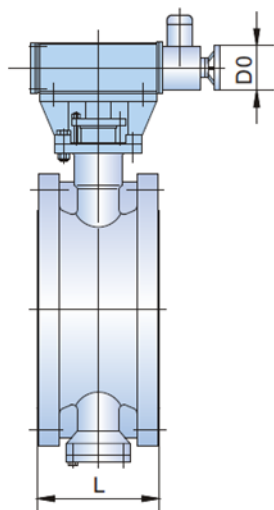
Disc

The disc has double or triple eccentric design, the seal surface is used cone and ball shapes for reducing or eliminating the friction between disc and seat during valve closing and opening

High Performance Butterfly Valve

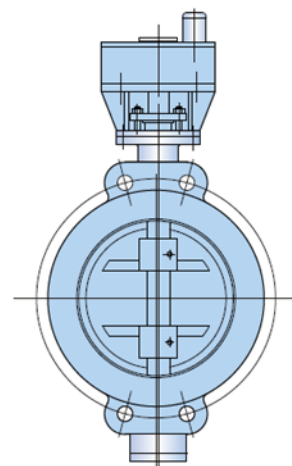
Flange Type

Resilient Seal
(Double Eccentric)
BTD



Wafer / Lug Type

Metal Seal
(Triple Eccentric)
BTW , BTL



Series BTD Standard Material of main parts		
Item	Part Name	Materials
1	Body	WCB (+13Cr) , CF8 , CF8M
2	Bushing	CS+PTFE, 304+PTFE, 316+PTFE
3	Washer	Carbon Steel
4	Seal Ring	NBR, EPDM, PTFE Viton
5	Stem	13Cr, 304, 316
6	Plate	WCB, CF8, CF8M
7	Packing	Flexible Graphite
8	Gland	13Cr, 304, 316
9	Gland Flange	WCB, CF8, CF8M
10	Gear	Cast Iron
11	Yoke	WCB
12	Pin	13Cr, 304, 316

Series BTW, BTL Standard Material of main parts		
Item	Part Name	Materials
1	Body	WCB (+13Cr) , CF8 , CF8M
2	Bushing	CS+PTFE, 304+PTFE, 316+PTFE
3	Washer	Carbon Steel
4	Seal Ring	316+Graphite, 13Cr
5	Stem	13Cr, 304, 316
6	Plate	WCB, CF8, CF8M
7	Packing	Flexible Graphite
8	Gland	13Cr, 304, 316
9	Gland Flange	WCB, CF8, CF8M
10	Gear	Cast Iron
11	Yoke	WCB
12	Pin	13Cr, 304, 316

High Performance Butterfly Valve

ANSI DIMENSIONS AND WEIGHTS

SIZE		ANSI 125				ANSI 150				ANSI 300				ANSI 600			
in	DN	L	L1	DO	H	L	L1	DO	H	L	L1	DO	H	L	L1	DO	H
4"	100	127	54	160	232	127	54	160	240	190	54	160	240	190	64	160	240
5"	125	140	56	160	245	140	56	160	255	200	56	160	255	200	64	160	255
6"	150	140	57	160	258	140	57	160	290	210	59	240	290	210	78	240	290
8"	200	152	64	240	305	152	64	240	310	230	73	240	310	230	102	240	310
10"	250	165	71	240	337	165	71	240	340	250	83	240	340	250	117	240	340
12"	300	178	81	240	382	178	81	240	395	270	92	240	395	270	140	240	395
14"	350	190	92	240	413	190	92	240	440	290	117	240	440	290	155	240	440
16"	400	216	102	320	451	216	102	320	485	310	133	320	485	310	178	320	485
18"	450	222	114	320	473	222	114	320	525	330	149	350	525	330	200	350	525
20"	500	229	127	320	544	229	127	320	570	350	159	500	570	350	216	500	570
24"	600	267	154	500	632	267	154	500	700	390	181	500	700				
28"	700	292	165	500	690	292	165	500	905	430	229	500	905				
32"	800	318	190	500	738	318	190	500	970	470	241	500	970				
36"	900	330	203	500	925	330	203	500	1038	510	241	500	1038				
40"	1000	410	216	500	1035	410	216	500	1100	550	300	500	1100				
48"	1200	470	254	500	1155	470	254	500	1180	630	350	600	1180				
56"	1400	530	279	600	1350	530	279	600	1525	710	390	600	1525				
64"	1600	600	318	600	1475	600	318	600	1642	790	440	600	1642				

NOTE: (1) Face to face L is accordance with BS EN 558-2 and equal to ISO 5752/13 series (ANSI 125/150). 14 series (ANSI 300/600) for flange type, L1 with API609 B (4"-24"), BS EN 558-2 (28"-64") for wafer and lug type.
(2) End flange connection is in accordance with ASME B16.5 (4"-24"). ASME B16.47B (28" and larger).

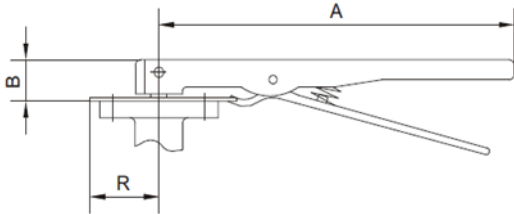
ANSI DIMENSIONS AND WEIGHTS

SIZE		PN6 PN10				PN16				PN25				PN40			
in	DN	L	L1	DO	H	L	L1	DO	H	L	L1	DO	H	L	L1	DO	H
4"	100	127	56	160	232	127	56	160	240	127	56	160	240	190	64	240	260
5"	125	140	64	160	245	140	64	160	255	140	64	160	255	200	70	240	310
6"	150	140	70	160	258	140	70	160	290	140	70	160	290	210	76	240	320
8"	200	152	71	240	305	152	71	240	310	152	71	240	310	230	89	320	350
10"	250	165	76	240	337	165	76	240	340	165	76	240	340	250	114	320	420
12"	300	178	83	240	382	178	83	240	395	178	83	240	395	270	114	350	470
14"	350	190	92	240	413	190	92	240	440	190	92	240	440	290	127	350	500
16"	400	216	102	320	451	216	102	320	485	216	102	320	485	310	140	500	550
18"	450	222	114	320	473	222	114	320	525	222	114	350	525	330	152	500	640
20"	500	229	127	320	544	229	127	320	570	229	127	500	570	350	152	500	850
24"	600	267	154	500	632	267	154	500	700	267	154	500	700				
28"	700	292	165	500	690	292	165	500	905	292	165	500	905				
32"	800	318	190	500	738	318	190	500	970	318	190	500	970				
36"	900	330	203	500	925	330	203	500	1038	330	203	500	1038				
40"	1000	410	216	500	1035	410	216	500	1100	410	216	500	1100				
48"	1200	470	254	500	1155	470	254	500	1180	470	254	500	1180				
56"	1400	530	279	600	1350	530	279	600	1525	530	279	600	1525				
64"	1600	600	318	600	1475	600	318	600	1642	600	318	600	1642				

NOTE: (1) Face to face L is accordance with DIN 3202/F16 series, F4 series (PN40) and equal to ISO 5752/13, 14 series for flange type, L1 with DIN 3202/K2 (4"-24"), K1, K3 (PN40) series and equal to ISO 5752/25, 20, 16 series for wafer and lug type. for wafer and lug type.
(2) End flange connection is in accordance with DIN 2501.

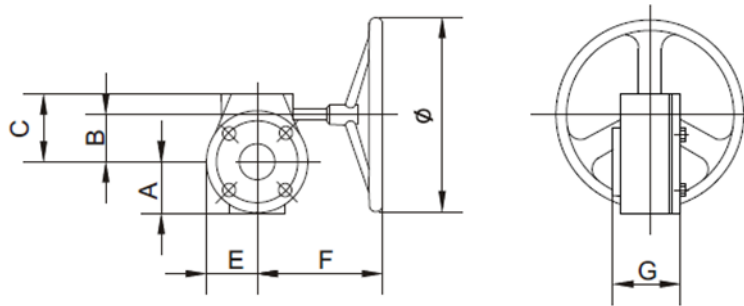
Lever and Gear

Overall Dimensions & Weight of Lever



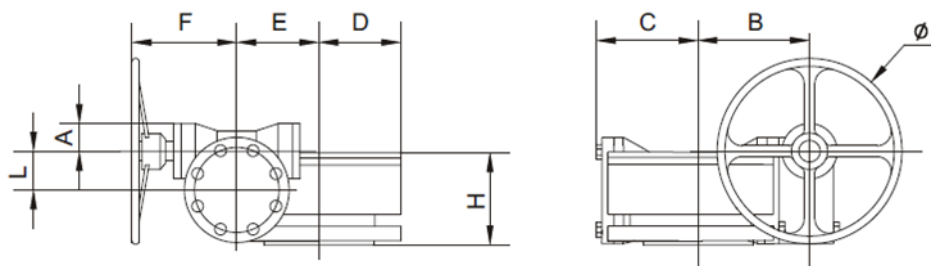
Size	A	B	R	Weight (kg)
8"	360	45	75.2	1.95
10"-12"	500	45	75.2	2.65

Overall Dimensions & Weight of Worm Gear Actuator



Type	Rated Output N.m	Maximum Output N.m	Ration	Butterfly Valve Size	A	B	C	E	F	G	Ø	Weight (kg)
3Dc-15	150	270	24:1	2"-6"	52	45	74	52	152.5	75	150	5.2
3Dc-50	500	700	30:1	8"-10"	75	62.75	101	75	250	86	300	13
3Dc-120	1000	1200	50:1	12"-14"	81	80	118	81	227	83	300	15

Overall Dimensions & Weight of Double-Stage Worm Gear Actuator



Type	Rated Output N.m	Maximum Output N.m	Ration	Butterfly Valve Size	A	B	C	D	E	F	H	L	Ø	Weight (kg)
3DA-30/250	2500	3000	560:1	16"-20"	56.5	178.5	121	115	104	174	125.5	66	300	56.9
3DA-30/400	4000	5200	640:1	24"	56.5	197.5	142	144	130	174	145.6	66	300	72.37
3DA-60/800	8000	8500	704:1	28"-32"	67	244	183	189	162	165	157	88	400	127
3DA-120/1500	15000	18000	704:1	36"-44"	76	270	215	220	196	215	235	126	300	158
3DA-120/2500	25000	28000	800:1	48"	76	313	250	220	236	220	143	126	450	235

NOTE: Butterfly valve size is referred with Model BT1W , BT1L only.

Materials

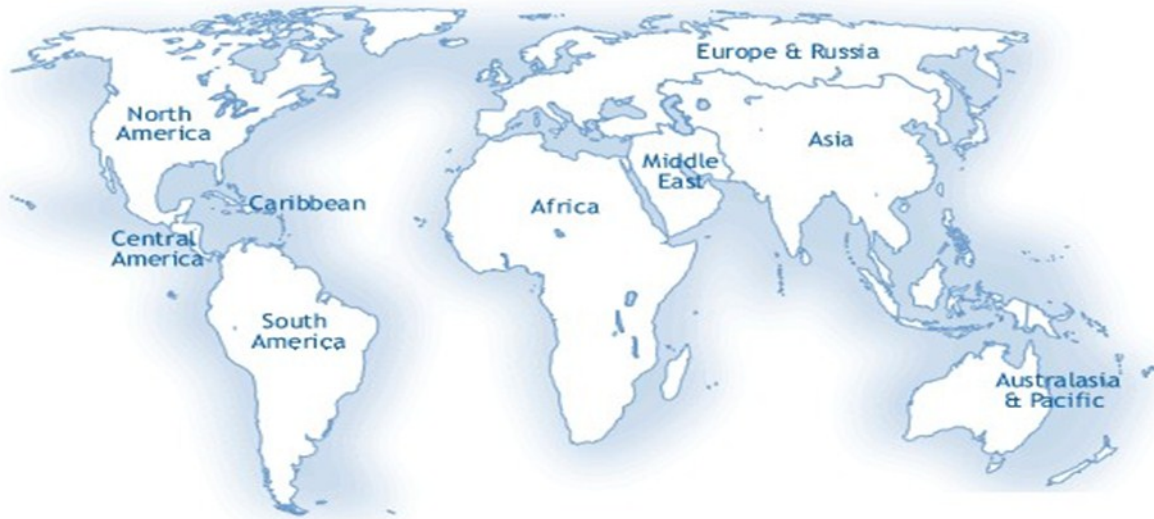
Part Name	Material		
	Name	ASTM	DIN
Body	Cast Iron	A126 GR.B	EN1561 GG-25
	Ductile Iron	A536 GR.65-45-12	EN1563 GGG-50
	Carbon Steel	A216 GR.WCB	17245 GS-C25
	Stainless Steel	A351 GR.CF8	17445 1.4308
		A351 GR.CF8M	17445 1.4408

Part Name	Material		
	Name	ASTM	DIN
Disc	Ductile Iron+Ni	A536 GR.65-45-12+Ni	EN1563 GGG-50+Ni
	AL-Bronze	B148 GR.C954	- -
	Carbon Steel	A216 GR.WCB+PTFE	17245 GS-C25+PTFE
		A351 GR.CF8	17445 1.4308
		A351 GR.CF8M	17445 1.4408
	Stainless Steel	A351 GR.CF8+PTFE	17445 1.4308+PTFE
		A351 GR.CF8M+PTFE	17445 1.4408+PTFE

Part Name	Material		
	Name	ASTM	DIN
Shaft	Stainless Steel	A582 Type 416	- -
		A276 Type 410	17440 1.4006
		A276 Type 420	17440 1.4021
		A276 Type 304	17440 1.4301
		A276 Type 316	17440 1.4401
		A276 Type 431	17440 1.4057
		A276 Type 630(17-4PH)	17440 1.4542

Part Name	Material		
	Material	Temperature °F	Temperature °C
Seat (Soft Seat)	Buna-N (NBR)	+10 to 180	-12 to 82
	Buna-N , Food Grade	+10 to 180	-12 to 82
	EPDM	-30 to 250	-35 to 121
	EPDM, Food Grade	-30 to 225	-35 to 107
	EPDM, Heat-Resistant	+30 to 300	-2 to 150
	Viton	+10 to 275	-12 to 135
	Viton, High Temp,	+10 to 400	-12 to 204
	Neoprene	+20 to 200	-7 to 93
	Hypalon	0 to 275	-18 to 135
	Silicon	-70 to 425	-57 to 218
	PTFE over EPDM	-20 to 250	-29 to 121
	Pure PTFE	-100 to 400	-74 to 204

WORLDWIDE NETWORK OF AGENTS AND DISTRIBUTORS



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