

**CHECK-BUTTERFLY VALVE (OVERSPEED VALVE)**

Kindly, we ask you to refer to information page of butterfly valves first.

Check-Butterfly valve is actually a kind of butterfly valve but it is operated by a hydraulic power unit instead of gearbox. Duty of gearbox is performed by hydraulic power unit.

Installation Position, Valve should be installed as shaft in horizontal position.

Area of usage, It can be used like a butterfly valve or hydraulic damped tilting check valve at outlet side of pump. It can also be used as an emergency shut-off valve at main pipe lines and reservoir outlets.

Components of Check-Butterfly Valve System, Butterfly valve

- Counter lever and weight
- Hydraulic cylinder and piston
- Operation switches
- Hydraulic power unit
- Electric panel

Operation Manual, When hydraulic power unit is energized, oil is pressurized. At that time, valve of oil suction line is in closed position; so, oil can lift up counter lever and weight, which are connected to valve shaft, by pushing the piston forward. At the same time, disc of valve also opens which is connected to valve shaft. This action continues till the operation switch sends “fully open” position signal to electric panel. Motor stops as signal is received. This is open position of valve. If there is a leakage at hydraulic system, valve closes slowly. When opening degree is reduced down to 80% of stroke, pump is automatically energized by the signal sent by related switch. Valve, again, comes back to fully open position. Valve is always kept in fully open position by automatic control.

When valve is required to close, valve of suction line opens. Valve closes by assistance of counter lever and weight. This closure is also controlled. First 70% portion and remaining 30% portion of entire travel is controlled individually by related operation switches and flow control valves. Closure speed of valve can be adjusted as required. Adjustment is made at the time of first operation and not changed unless necessary.

If valve is required to open or close when there is power-cut, additional accessories on hydraulic power unit can perform it.

Automatic Operation, If there is power cut when check-butterfly valve is in open position installed at outlet side of pump, valve of suction line opens automatically. Valve closes by assistance of counter lever and weight. Valve acts like a check valve.

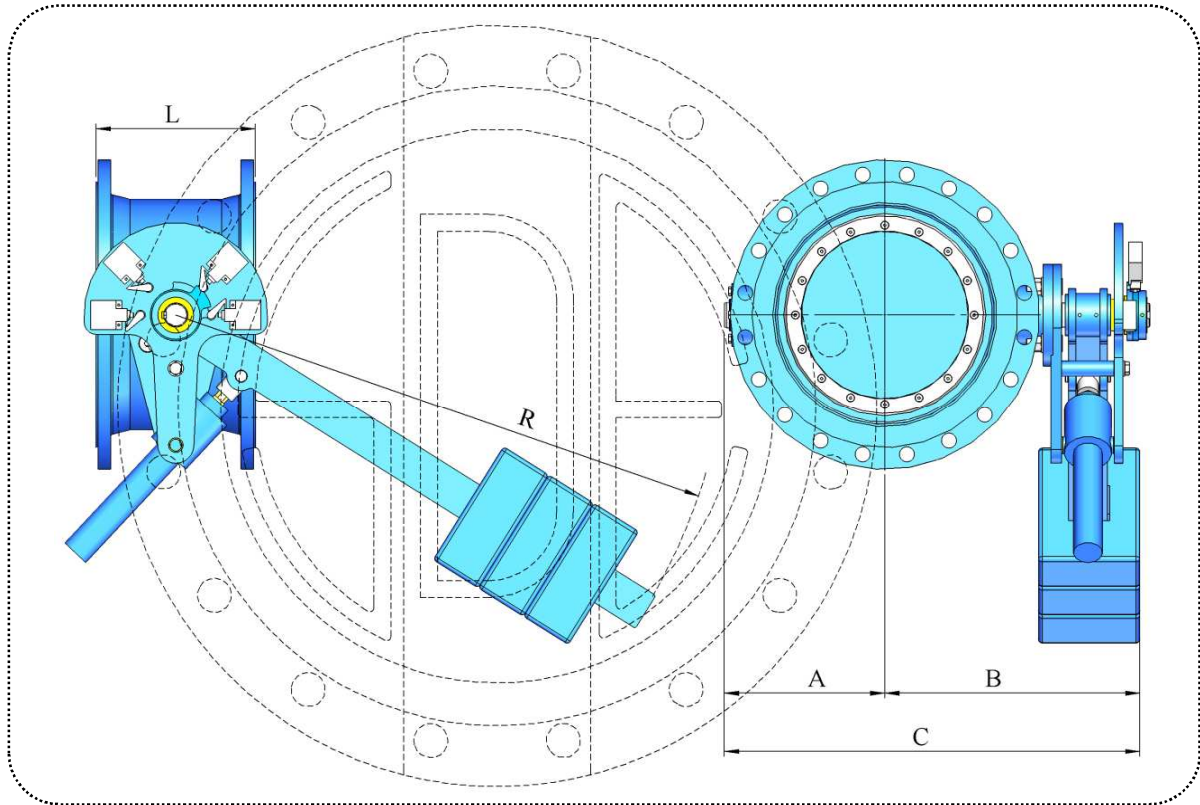
Check-butterfly valve can also be used for the same purpose at main pipe line or outlet side of a reservoir. A velocity-meter, fixed on pipe-line, checks velocity of flow continuously. When there is damage at the pipe-line or at any equipment, when there is uncontrolled situation, flow rate increases. Velocity-meter perceives increase of flow rate as increase of velocity. It sends a signal to control unit to close the valve. Valve of suction line opens automatically. Check-butterfly valve closes by assistance of counter lever and weight. Damage, destruction or loss that could be caused by flow is prevented immediately without any intervention.

**CHECK-BUTTERFLY VALVE (OVERSPEED VALVE)**

Body Length Standard : EN 558-1, S 14

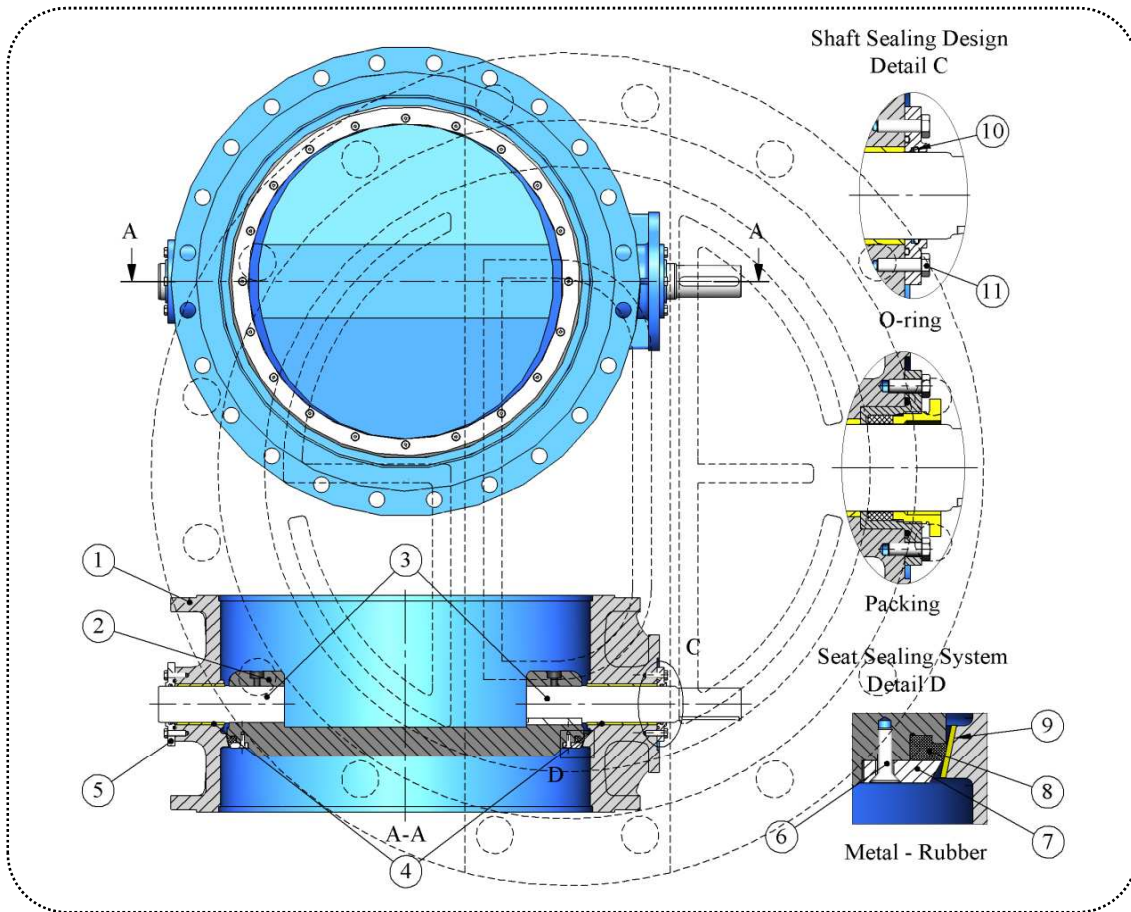
Valve Standard : EN 593

Maximum allowable working temperature for all types of our valves is 80 degrees Celcius.

**DIMENSIONS**

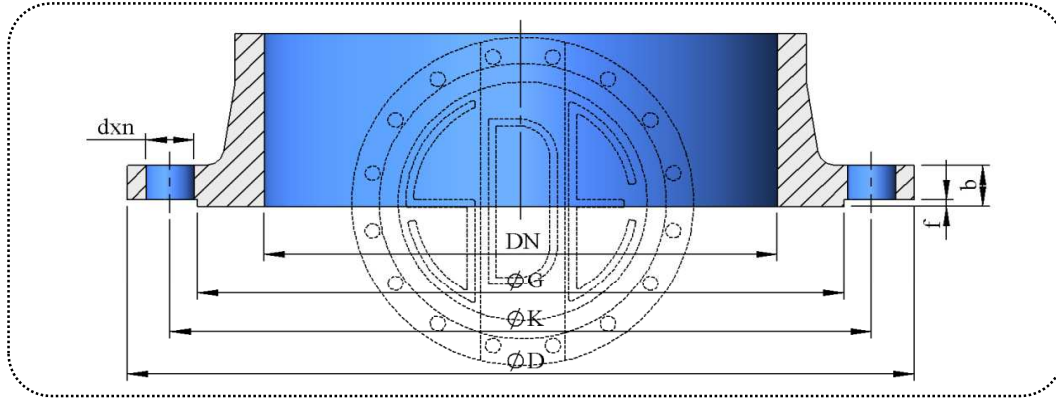
Inch	L	ANSI 125					ANSI 150				
		A	B	C	R	Kg	A	B	C	R	Kg
8	230	180	324	504	560	138	180	324	504	560	138
10	250	213	368	581	560	175	213	368	581	560	175
12	270	243	409	652	670	255	243	409	652	670	255
14	290	278	466	744	670	290	278	466	744	670	290
16	310	310	520	830	800	431	310	520	830	800	431
18	330	335	567	902	1.000	620	335	567	902	1.000	620
20	350	365	597	962	1.000	677	365	597	962	1.000	677
22	370	394	648	1.041	1.000	758	394	648	1.041	1.000	758
24	390	423	677	1.100	1.200	1.022	423	677	1.100	1.200	1.022
26	410	451	748	1.199	1.200	1.141	451	748	1.199	1.200	1.141
28	430	480	778	1.258	1.400	1.572	480	778	1.258	1.400	1.572
30	450	510	870	1.380	1.400	1.738	510	870	1.380	1.400	1.738
32	470	543	904	1.446	1.600	2.447	543	904	1.446	1.600	2.447
36	510	593	955	1.548	1.600	2.725	593	955	1.548	1.600	2.725
40	550	660	1.025	1.685	1.600	3.115	660	1.025	1.685	1.600	3.115
42	570	686	1.093	1.779	1.600	3.358	686	1.093	1.779	1.600	3.358
44	590	713	1.120	1.833	1.600	3.613	713	1.120	1.833	1.600	3.613
48	630	765	1.174	1.939	1.600	3.856	765	1.174	1.939	1.600	3.856

## CHECK-BUTTERFLY VALVE (OVERSPEED VALVE)



No	Item Name	Material	Description	EN Standard	Material No
1	Body	GGG 40	Ductile Iron	EN-GJS-450-15	0.7040
		GGG 50		EN-GJS-500-7	0.7050
		ST 37-2	Steel Construction	EN 10025	1.0037
2	Disc	GGG 40	Ductile Iron	EN-GJS-450-15	0.7040
		GGG 50		EN-GJS-500-7	0.7050
		304	Stainless Steel Casting	G - X6CrNi 18-9	1.4308
		316		G - X6CrNiMo 18-10	1.4408
		CC 331G-GS	Aluminium Bronze	CuAl10Fe2-C	2.0940.01
3	Shafts	420	Stainless Steel	X20Cr13	1.4021
		304		X5CrNi 18-10	1.4301
		316		X5CrNiMo17-12-2	1.4401
		431		X17CrNi16-2	1.4057
4	Bearings	CC 331G-GS	Aluminium Bronze	CuAl10Fe2-C	2.0940.01
5	Shaft Covers	GGG 50	Ductile Iron	EN-GJS-500-7	0.7050
6	Retainer Ring Bolts	A2 - A4	Stainless Steel	-	-
7	Retainer Ring	304	Stainless Steel	X5CrNi 18-10	1.4301
		316		X5CrNiMo17-12-2	1.4401
		CC 331G-GS	Aluminium Bronze	CuAl10Fe2-C	2.0940.01
8	Disc Ring	NBR - EPDM	Rubber	-	-
9	Body Seat	316 L	Stainless Steel Welding	12072	1.4430
		CuAl8	Aluminium Bronze Welding	14640 S Cu 6100	2.0921
10	Shaft and Cover Sealing	NBR - EPDM	Rubber	-	-
		Packing*	Non Asbestos	Only for shaft sealing	
11	Bolt of Covers	Galvanized	Steel	-	-
		A 2 - A 4	Stainless Steel	-	-
Coating		WRAS approved fusion bonded epoxy. 300 microns dft as standard.			
Maximum allowable working temperature for all types of our valves is 80 degrees Celcius.					

## FLANGE DIMENSIONS



Nominal Dia	Outside Dia	Raised Face		Flange Holes			Flange Thickness	Outside Dia	Raised Face		Flange Holes			Flange Thickness
		Dia	Height	Circle Dia.	Dia	Num ber			Dia	Height	Circle Dia.	Dia	Num ber	
DN	D	G	f	K	d	n	b	D	G	f	K	d	n	b
PN 10								PN 16						
100	220	158	3	180	19	8	19	220	158	3	180	19	8	19
125	250	188	3	210	19	8	19	250	188	3	210	19	8	19
150	285	212	3	240	23	8	19	285	212	3	240	23	8	19
200	340	268	3	295	23	8	20	340	268	3	295	23	12	20
250	395	320	3	350	23	12	22	405	320	3	355	28	12	22
300	445	370	4	400	23	12	25	460	378	4	410	28	12	25
350	505	430	4	460	23	16	25	520	438	4	470	28	16	27
400	565	482	4	515	28	16	25	580	490	4	525	31	16	28
450	615	532	4	565	28	20	26	640	550	4	585	31	20	30
500	670	585	4	620	28	20	27	715	610	4	650	34	20	32
600	780	685	5	725	31	20	30	840	725	5	770	37	20	36
700	895	800	5	840	31	24	33	910	795	5	840	37	24	40
800	1.015	905	5	950	34	24	35	1.025	900	5	950	41	24	43
900	1.115	1.005	5	1.050	34	28	38	1.125	1.000	5	1.050	41	28	47
1.000	1.230	1.110	5	1.160	37	28	40	1.255	1.115	5	1.170	44	28	50
1.200	1.455	1.330	5	1.380	41	32	45	1.485	1.330	5	1.390	50	32	57
1.400	1.675	1.535	5	1.590	44	36	46	1.685	1.530	5	1.590	50	36	59
1.500	1.785	1.640	5	1.700	44	36	48	1.820	1.640	5	1.710	57	36	63
1.600	1.915	1.760	5	1.820	50	40	49	1.930	1.750	5	1.820	57	40	65
1.800	2.115	1.950	5	2.020	50	44	52	2.130	1.950	5	2.020	57	44	69
2.000	2.325	2.150	5	2.230	50	48	55	2.345	2.150	5	2.230	62	48	73
2.200	2.550	2.370	5	2.440	57	52	59	2.555	2.360	5	2.440	62	52	80
PN 25								PN 40						
100	235	162	3	190	23	8	19	235	162	3	190	23	8	19
125	270	188	3	220	28	8	19	270	188	3	220	28	8	24
150	300	218	3	250	28	8	20	300	218	3	250	28	8	26
200	360	278	3	310	28	12	22	375	285	3	320	31	12	30
250	425	335	3	370	31	12	25	450	345	3	385	34	12	35
300	485	395	4	430	31	16	28	515	410	4	450	34	16	40
350	555	450	4	490	34	16	30	580	465	4	510	37	16	44
400	620	505	4	550	37	16	32	660	535	4	585	41	16	48
450	670	548	4	600	37	20	34	685	560	4	610	41	20	50
500	730	615	4	660	37	20	37	755	615	4	670	44	20	52
600	845	720	5	770	41	20	42	890	735	5	795	50	20	58
700	960	820	5	875	44	24	47	995	840	5	900	50	24	63
800	1.085	930	5	990	50	24	51	1.140	960	5	1.030	57	24	68
900	1.185	1.030	5	1.090	50	28	56	1.250	1.070	5	1.140	57	28	73
1.000	1.320	1.140	5	1.210	57	28	60	1.360	1.180	5	1.250	57	28	80
1.200	1.530	1.360	5	1.420	57	32	69	1.575	1.385	5	1.460	62	32	88
1.400	1.755	1.570	5	1.640	62	36	74	1.795	1.600	5	1.680	62	36	98
1.500	1.865	1.680	5	1.750	62	40	75	1.910	1.700	5	1.790	70	40	102
1.600	1.975	1.790	5	1.860	62	40	81	2.025	1.815	5	1.900	70	40	108
1.800	2.195	2.000	5	2.070	70	44	88							
2.000	2.425	2.230	5	2.300	70	48	95							