



The high performance butterfly valve

Features and Benefits

- The design and quality of construction ensure the highest performance, for example:
 - the double offset design avoids seat wear and a low seating torque,
 - the JHP has a high flow capacity value due to the well engineered shape of the disc and the stub shaft design,
 - the mounting plate is standardized according to ISO 5211 to adapt any type of actuator without any intermediate component.

JHP complies with the following standards:

• Flange adaptation:

- ISO 2084 / 7005
- EN 1092
- DIN 2501
- BS 4504
- ANSI B 16.5
- JIS B 2210
- MSS SP 44

• Face to face:

- ISO 5752
- EN 558-1
- NFE 29305
- DIN 3202 (K1, K2)
- BS 5155
- API 609
- MSS SP 68

Fire safe standards:

- API 607
- BS 6755-2



Applications

- General industrial utilities
- Power generation
- Automotive Industry
- Chemical petrochemical
- Food processing
- Pulp and Paper
- Ship building
- Desalination
- Off-shore
- Bitume
- Sugar mills
- Cooling industries

Technical data

- Maximum working pressure:
 - DN50 to DN400: PN 40
 - DN450 to DN600: PN 25
 - DN700 to DN900: PN 16
- Temperature range: -50°C to +400°C
- Vacuum: 1 Torr
- JHP is suitable to be mounted with all quarter-turn pneumatic and electric operators.
- Wafer and lugged designs are available.

No leakage

- 1 **Seat:**
Tightness is unaffected by pressure changes, or changes in flow direction as the seat can move radially in its slot.
- 2 **Bottom end cover:**
Ensures lower stem tightness by its static seal of expanded graphite.
- 3 **Packing system:**
The perfect internal tightness is obtained by a conventional packing system in expanded graphite. The excellent temperature stability ensures 100% static and dynamic tightness.

Easy accessible

- 4 **Standardized mounting plate:**
The integrally cast plate is in accordance with ISO 5211. The actuator can be directly mounted to it, eliminating the need of brackets and couplings.
- 5 **Twin column construction:**
Allows easy access to the packing system without removing the actuator.
- 6 **Extended neck:**
For easy insulation. Especially designed for isolated pipes as it allows insulation - flanges included- with easy access to the packing system. In addition any potential leak path is located outside the isolation material.
- 7 **Centering flange:**
Allows precise centering of the valve on the pipe.
- 8 **Retaining ring:**
With screws outside of flange sealing zone, which facilitates easy maintenance. In addition the uninterrupted sealing surface allows the installation of spiral wound gaskets.

Perfect shaft guiding

- 9 **Bearings:**
Double corrosion resistant bearings on upper and lower stem, providing low friction coefficient and high load capacity. The bearings avoid any deflection of shaft at the packing level, thus ensuring perfect bidirectional tightness.
- 10 **Disc locating shoulder:**
Shrunk on the shaft during assembly. It retains its position for the life of the valve and prevents displacement of disc in relation to the seat while being in service.
- 11 **Travel stop, position indicator:**
Located at the mounting plate level:
- The travel stop is set during assembly at 90° disc angle in order to avoid any over traveling of the disc. (See fig. 1)

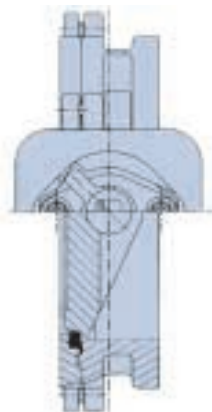


Fig. 1: Travel stop position indicator

- The travel stop contact against the mounting plate, thus avoiding potential over-torque of the discstem.
- When actuator has been removed and valve is in service, the position of the disc is clearly shown.

- 12 **Disc to stem connection:**
Via radial taper pins (no intruding between up- and downstream side of the valve), which allows accurate connection without any play between disc and stem.

Optimized design

- 13 **Disc:**
The double eccentric disc design is optimized via the finite element method so that there is no contact between the seat and disc already at small angles.

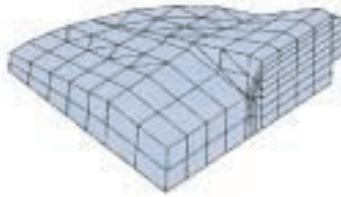



Fig. 2: Optimized design via finite element method

The results of this unique design are:

- No wear and low closing torque.
- A large free flow area resulting in a low headloss and high flow values.
- The disc edge has a geometry which
 - facilitates the contact between disc and seat during valve closure,
 - guarantees tightness through a wide area of contact.

The Sapag plant is ISO9001 approved




The JHP is in compliance with the latest european directives:


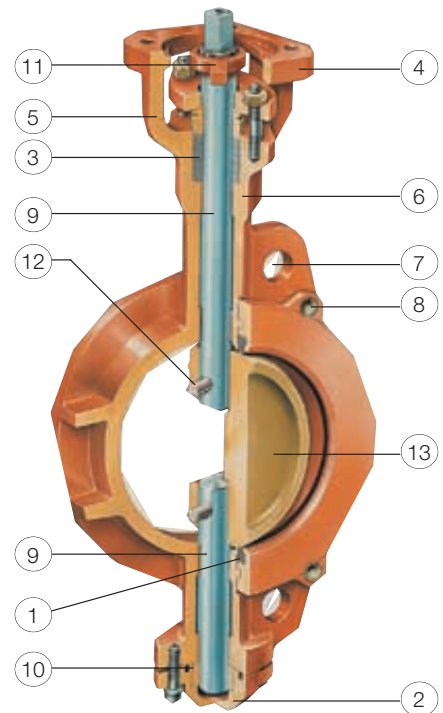
- PED module H, categorie 3
- TPED module H, categorie 2
- ATEX: II 2 G/D EEx c

The JHP range holds the following approvals and certificates:

MARINE:

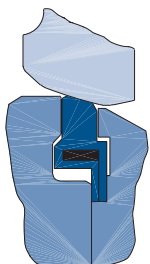


Fire safe:

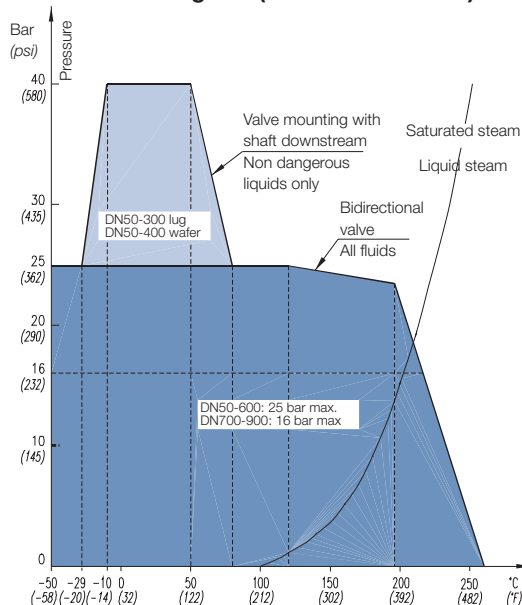



JHP RTFE (standard)

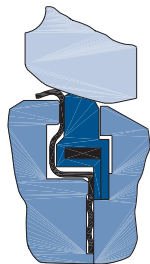
The seat is made of filled RTFE in order to minimize cold flow effects at high temperatures. The combined action of seat geometry and the elastic metal insert guarantees a long lasting bidirectional tight shutoff.



P-T diagram (JHP RTFE and FS)



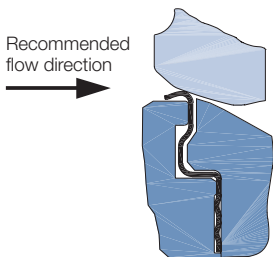
JHP FS (Fire Safe)



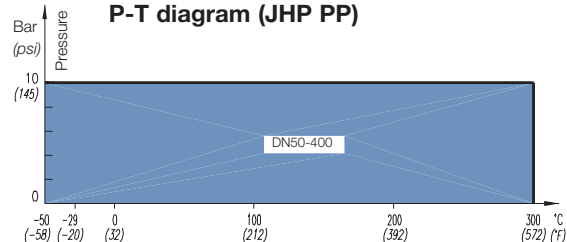
The valve has been designed according fire test standards. The standard RTFE seat is mounted with a stainless steel ring. In the event of fire, it supersedes over the RTFE seat and provides a bidirectional backup seal, according to API 607 / BS 6755 part 2.

JHP PP (Pulp and Paper)

The valve has been designed specially for the pulp and paper applications. The special seat guarantees a long life time without maintenance.

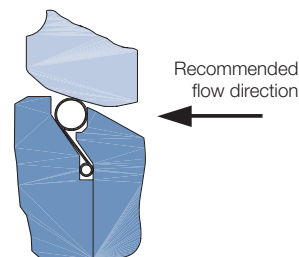


P-T diagram (JHP PP)

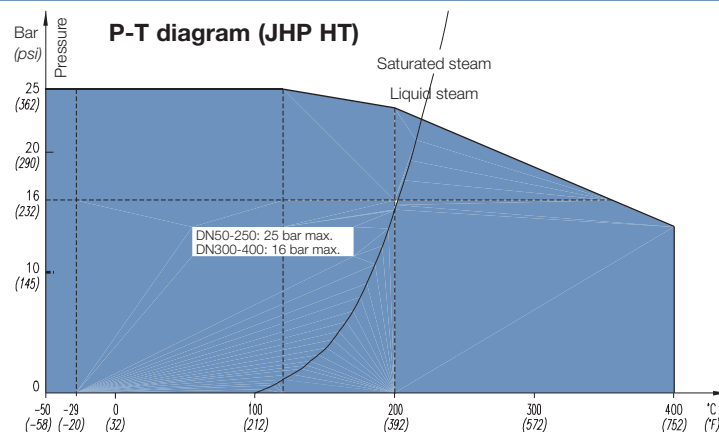


JHP HT (High Temperature)

The valve integrates a metal seat in order to be used on all applications with high pressure and high temperature.



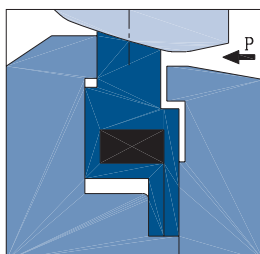
P-T diagram (JHP HT)



Bidirectional (JHP RTFE and FS)

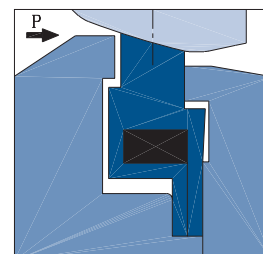
1 Seat downstream

In this case, the closing action of disc leads to compression of PTFE seat between disc and metallic insert. Subsequently, the seat takes support from the retaining ring, while the energized insert delivers a sealing pressure between disc and seat, in radial direction.



2 Seat upstream

The fluid flowing behind the seat increases the sealing effect. In fact, the JHP seat offers real dynamic tightness in both directions.



Flow coefficients K_V and C_V

K_V is the flow in m³/h of water, at an average temperature of 20°C, crossing the valve with creating a headloss of 1 bar.

$$C_V = 1.16 K_V$$

Simplified formula

Headloss	K_V	Non compressible fluid	Gas
$\Delta p < \frac{P_1}{2}$	K_V	$\frac{Q}{31.6} \sqrt{\frac{\rho_1}{\Delta p}}$	$\frac{Q_N}{514} \sqrt{\frac{\rho_N \cdot T}{\Delta p \cdot P_2}}$
$\left(\frac{P_2 > \frac{P_1}{2}}{\Delta p > \frac{P_1}{2}} \right)$			
$\left(\frac{P_2 < \frac{P_1}{2}}{\Delta p > \frac{P_1}{2}} \right)$			

Definitions

- K_V : Flow coefficient of the valve
- Q : Flow in m³/h
- Δp : Headloss in the valve in bar
- P_1 : Upstream pressure in bar
- P_2 : Downstream pressure in bar
- Q_N : Flow in normal conditions (0°C, 760 mm Hg) in m³/h
- T : Temperature of the fluid in °K
- ρ_1 : Volumic weight of the fluid in kg/m³
- ρ_N : Volumic weight in normal conditions

K_V values

DN (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
Size (inch)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"
20°	5	9	19	37	61	72	137	180	265	302	392	490	620	900	1 250	1 700	2 150
30°	14	25	42	70	115	126	241	368	521	612	795	1 010	1 250	1 880	2 560	3 400	4 350
40°	25	41	62	116	190	210	364	612	981	1 072	1 394	1 760	2 190	3 190	4 450	5 970	7 750
50°	37	64	98	174	285	342	574	1 005	1 548	1 748	2 272	2 870	3 620	5 250	7 250	9 600	12 350
60°	50	93	149	244	400	520	893	1 503	2 254	2 700	3 511	4 445	5 620	8 100	11 250	15 220	19 800
70°	70	130	213	328	538	786	1 389	2 182	3 232	4 045	5 266	6 650	8 350	12 100	16 950	22 600	29 200
80°	95	180	274	442	725	1 050	1 986	3 012	4 250	6 030	7 848	9 910	12 430	18 200	25 220	34 250	44 240
90°	115	210	320	500	820	1 200	2 300	3 600	5 200	7 300	9 500	12 000	14 800	21 600	30 200	40 200	51 200

Headloss coefficient (K_α)

For liquid, the formula of the headloss with a disc opening angle α is:

$$\Delta P_\alpha = \frac{\rho}{10\,000} K_\alpha \frac{V_\alpha^2}{2g}$$

In the case of water the formula is simplified

$$\Delta H_\alpha = K_\alpha \frac{V_\alpha^2}{2g}$$

Definitions

- K_α is the headloss coefficient according to the angle to opening in which:
- ΔP_α : Headloss in a valve opened to an angle α expressed in bar
- V_α : Velocity of the fluid in a pipeline of diameter equal to the one of the valve expressed in m/s when the valve is opened to an angle α
- g : Acceleration of gravity in m/s²
- K_α : Headloss according to the angle to opening. Results in the table
- ρ : Volumic weight of the fluid (kg/m³)
- ΔH_α : Headloss on the valve opened to an angle α expressed in meters of water columns.

K_α values

DN (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
Size (inch)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"
20°	392	346	178	115	103	153	134	189	181	258	261	268	255	251	241	222	223
30°	50	45	36	32	29	50	43	45	47	63	64	63	63	58	57	56	54
40°	16	17	17	12	11	18	19	16	13	20	21	21	20	20	19	18	17
50°	7.2	6.8	6.7	5.2	4.7	6.8	7.6	6.1	5.3	7.7	7.8	7.8	7.5	7.4	7.2	7	6.7
60°	3.9	3.2	2.9	2.6	2.4	2.9	3.1	2.7	2.5	3.2	3.3	3.3	3.1	3.1	3	2.8	2.6
70°	2	1.66	1.42	1.46	1.32	1.29	1.3	1.29	1.22	1.44	1.45	1.45	1.41	1.39	1.31	1.26	1.21
80°	1.09	0.86	0.86	0.8	0.73	0.72	0.64	0.68	0.7	0.65	0.65	0.65	0.63	0.61	0.59	0.55	0.53
90°	0.74	0.63	0.63	0.63	0.57	0.55	0.47	0.47	0.47	0.44	0.44	0.45	0.45	0.44	0.41	0.4	0.39

Maximum allowable torques in Nm for standard shaft material (13% Cr)

DN (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
Size (inch)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"
13% Cr	122	122	122	297	297	743	743	1 332	1 957	1 957	3 108	6 389	10 793	10 793	25 948	25 948	52 851

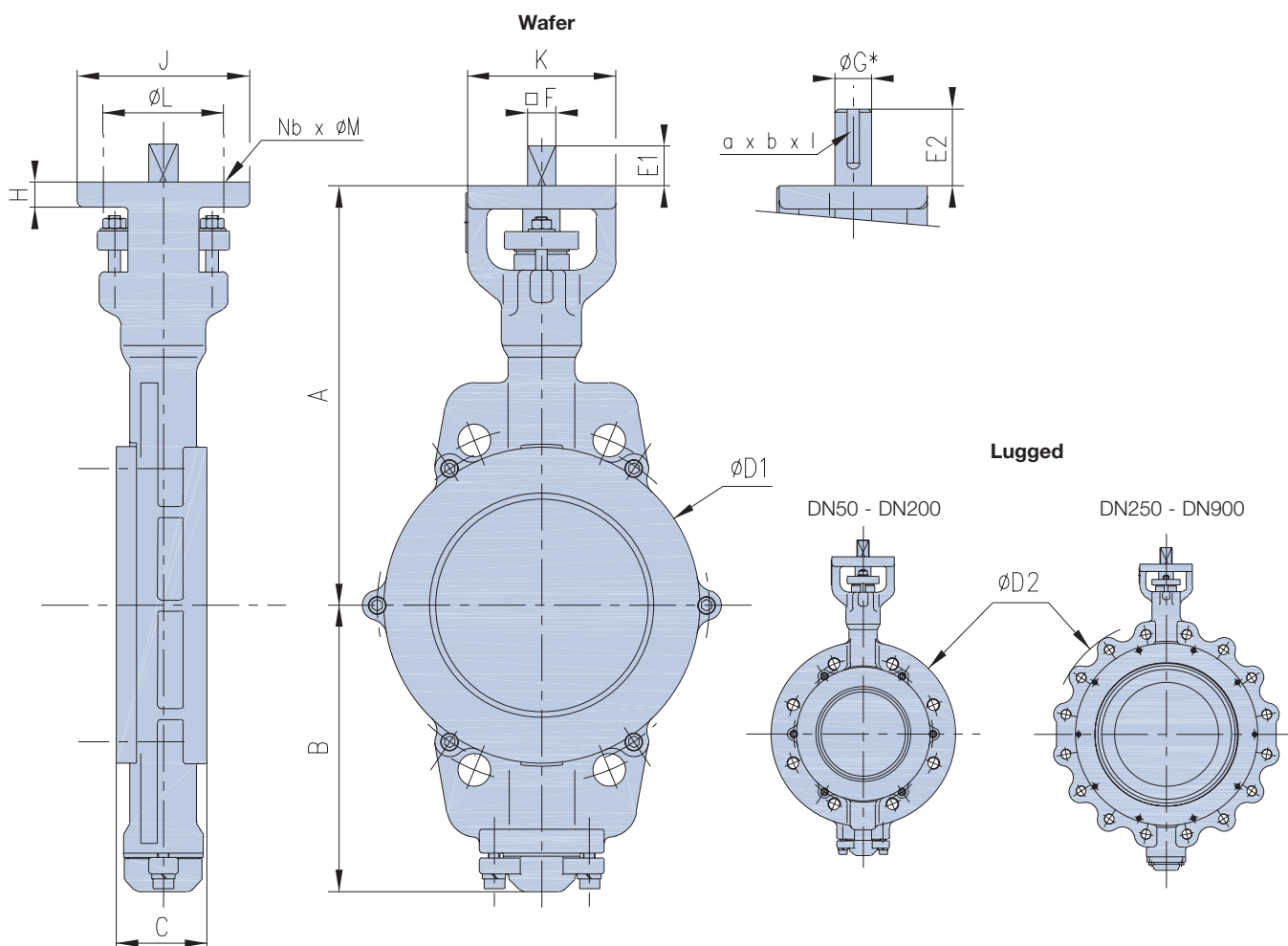
Notes

The maximum allowable torques are applicable for standard type valves.

Actuator sizing torques in Nm

DN (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
Size (inch)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"
JHP RTFE/FS/PP	27	33	45	73	115	780	320	480	720	950	1 350	1 700	2 300	3 200	4 500	6 000	8 000
JHP HT	54	66	90	146	230	340	40	910	1 290	1 290	1 610	2 290	-	-	-	-	-

Bare shaft valve - All constructions



Dimensions (mm)

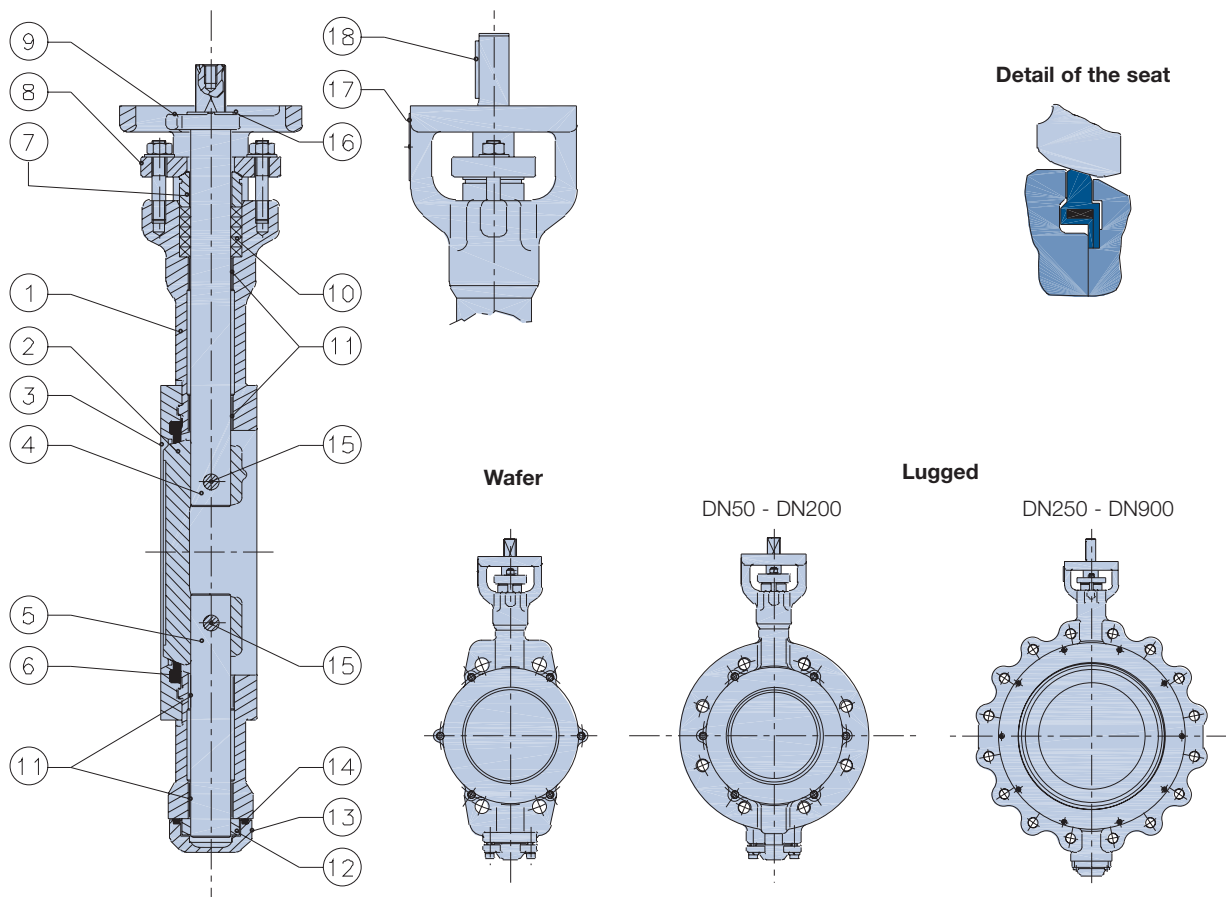
DN (mm)	DN (inch)	A	B	C	øD1	øD2	E1	E2	□ F	øG*	H	J	K	L	Nb	øM	a	b	l	Weight (kg)	
																				Wafer	Lugged
50	2"	175	102	43	97	153	26	-	11	-	14	80	70	70	4	9	-	-	-	3.1	4.8
65	2½"	191	116	46	117	173	26	-	11	-	14	80	70	70	4	9	-	-	-	4.5	6.9
80	3"	197	122	46	130	190	26	-	11	-	14	80	70	70	4	9	-	-	-	4.9	7.7
100	4"	233	149	52	158	225	26	-	14	-	16	100	100	102	4	11	-	-	-	8.2	13.7
125	5"	245	160	56	188	261	26	-	14	-	16	100	100	102	4	11	-	-	-	9.8	17
150	6"	283	193	56	212	294	26	-	19	-	18	116	100	102	4	11	-	-	-	12.5	22.5
200	8"	307	217	60	267	365	26	-	19	-	18	116	100	102	4	11	-	-	-	22	34
250	10"	371	251	68	321	420	36	70	27	35	21	155	132	125	4	14	10	8	60	41	53
300	12"	399	302	78	372	476	36	70	27	35	21	155	132	125	4	14	10	8	60	55	78
350	14"	421	324	78	431	542	36	70	27	35	22	155	132	125	4	14	10	8	60	75	97
400	16"	453	358	102	484	606	43	90	32	40	24	162	140	140	4	18	12	8	73	98	133
450	18"	522	392	114	534	662	49	100	36	50	30	175	-	140	4	18	14	9	60	145	206
500	20"	550	427	127	590	722	63	100	46	60	30	210	-	165	4	22	18	11	80	188	244
600	24"	634	485	154	689	837	63	100	46	60	30	210	-	165	4	22	18	11	80	224	306
700	28"	720	547	165	799	947	81	110	55	80	35	300	-	254	8	18	22	14	100	269	450
800	32"	771	598	190	900	1070	81	110	55	80	36	300	-	254	8	18	22	14	100	515	825
900	36"	878	687	241	1000	-	-	110	-	100	38	350	-	254	8	18	28	16	100	850	-

Notes

Dimensions and weights are given as a guide.
 (øG*): Sapag standard is square shafts for DN50 - DN800, key drive for DN900.
 Key drive for DN250 - DN800 are available on request.

Butterfly valves JHP RTFE

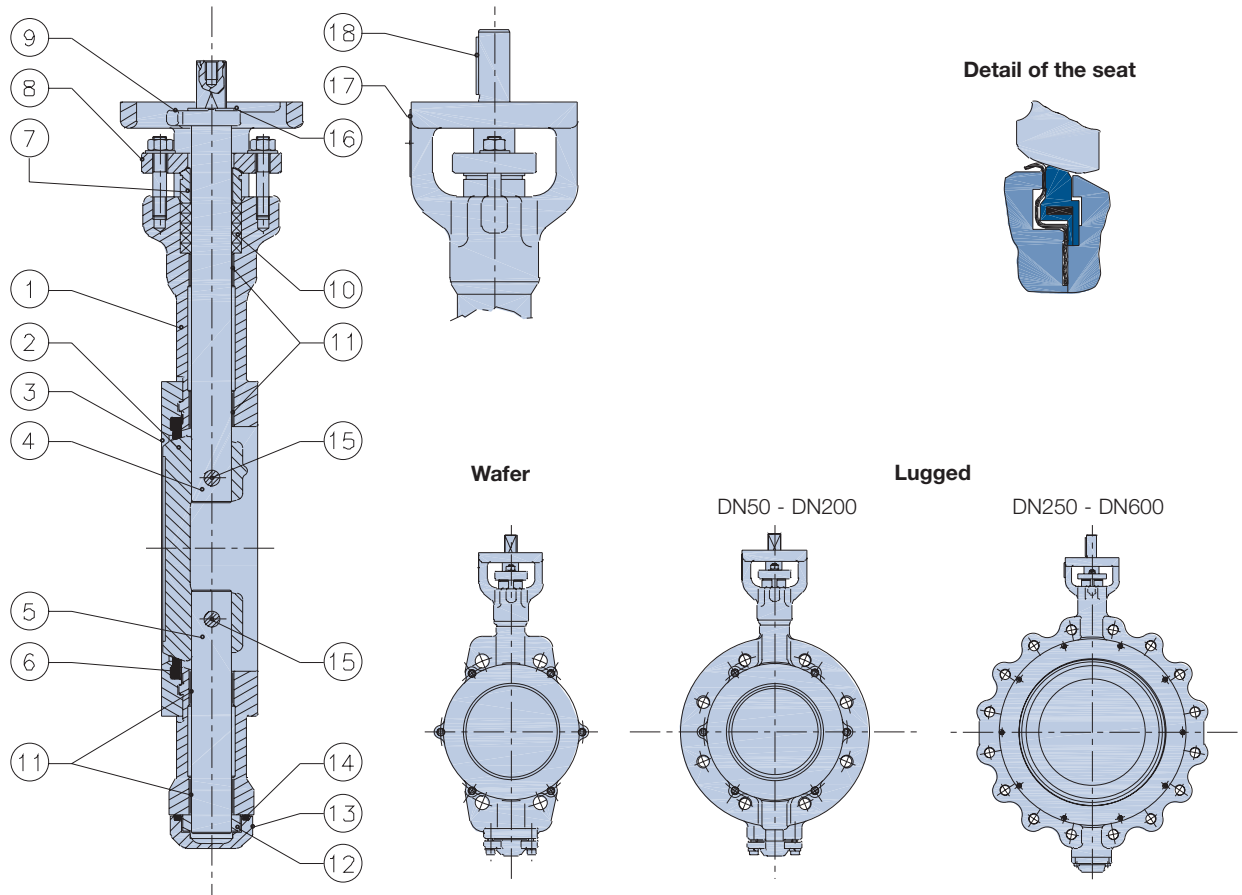
Standard version: DN50 - DN900 (2" - 36")



Parts list

Rep. Number	Designation	Steel body and disc	Stainless steel body and disc	Steel body /stainless steel disc
1	1 Body	EN GP 240 GH / A 216 Gr. WCB	EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
2	1 Disc	EN GP 240 GH / A 216 Gr. WCB	EN X5CrNiMo 19-11-2 / AISI 316 EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN X5CrNiMo 19-11-2 / AISI 316 EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M
3	1 Retaining ring	EN GP 240 GH / A 216 Gr. WCB	EN X5CrNiMo 19-11-2 / AISI 316 EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
4	1 Upper stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
5	1 Lower stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
6	1 Seat	Reinforced PTFE	Reinforced PTFE	Reinforced PTFE
7	1 Packing gland	EN X12Cr13 / AISI 410	EN X2CrNi 19-11 / AISI 304 L	EN X12Cr13 / AISI 410
8	1 Gland follower	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
9	1 Position indicator	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
10	* Packing	Expanded graphite	Expanded graphite	Expanded graphite
11	4 Bearing	Carbon steel + PTFE	Stainless steel + PTFE	Carbon steel + PTFE
12	1 Disc locating shoulder	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L
13	1 Bottom end cover	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
14	1 Bottom seal	PTFE	PTFE	PTFE
15	* Pin	EN X2CrNiMo 17-12-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L
16	1 Circlips	Carbon steel	Stainless steel	Carbon steel
	* Set screw	Carbon steel	Stainless steel	Carbon steel
17	1 Indication plate	Stainless steel	Stainless steel	Stainless steel
18	1 Key	EN C35E / AISI 1038	EN C35E / AISI 1038	EN C35E / AISI 1038
	Bolt	Galvanized steel	Stainless steel	Galvanized steel

* Number dependent on valve size

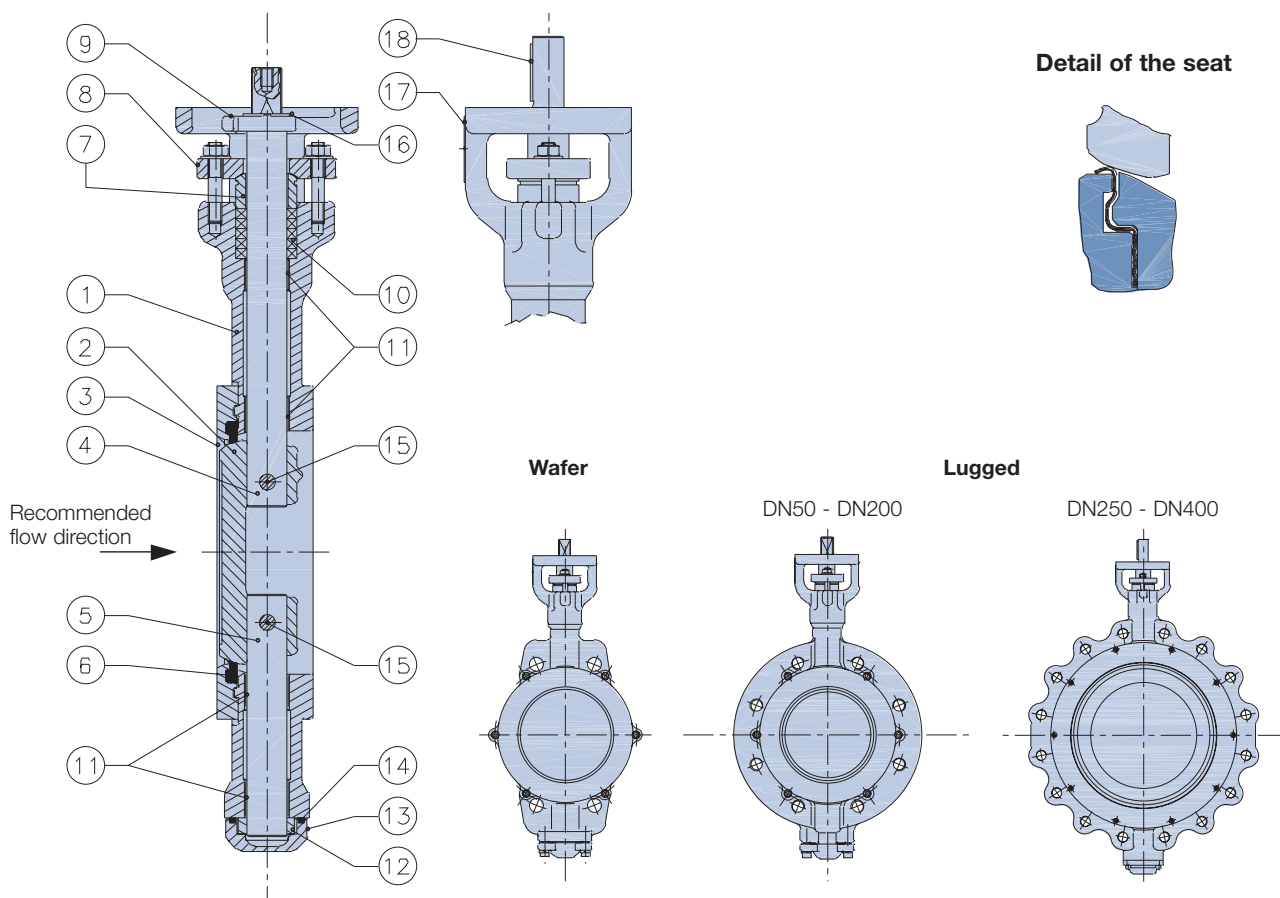


Parts list					
Rep. Number	Designation	Steel body and disc	Stainless steel body and disc	Steel body /stainless steel disc	
1	1	Body	EN GP 240 GH / A 216 Gr. WCB	EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
2	1	Disc	EN GP 240 GH Chrome / Chrome A 216 Gr. WCB	EN X5CrNiMo 19-11-2 Chrome / Chrome AISI 316 EN GX5CrNiMo 19-11-2 Chrome / Chrome A 351 Gr. CF8M	EN X5CrNiMo 19-11-2 Chrome / Chrome AISI 316 EN GX5CrNiMo 19-11-2 Chrome / Chrome A 351 Gr. CF8M
3	1	Retaining ring	EN GP 240 GH / A 216 Gr. WCB	EN X5CrNiMo 19-11-2 / AISI 316 EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
4	1	Upper stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
5	1	Lower stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
6	1	Seat	FS Loaded PTFE	FS Loaded PTFE	FS Loaded PTFE
7	1	Packing gland	EN X12Cr13 / AISI 410	EN X2CrNi 19-11 / AISI 304 L	EN X12Cr13 / AISI 410
8	1	Gland follower	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
9	1	Position indicator	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
10	*	Packing	Expanded graphite	Expanded graphite	Expanded graphite
11	4	Bearing	Carbon steel + PTFE	Stainless steel + PTFE	Carbon steel + PTFE
12	1	Disc locating shoulder	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L
13	1	Bottom end cover	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
14	1	Bottom seal	Expanded graphite	Expanded graphite	Expanded graphite
15	*	Pin	EN X2CrNiMo 17-12-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L
16	1	Circlips	Carbon steel	Stainless steel	Carbon steel
	*	Set screw	Carbon steel	Stainless steel	Carbon steel
17	1	Indication plate	Stainless steel	Stainless steel	Stainless steel
18	1	Key	EN C35E / AISI 1038	EN C35E / AISI 1038	EN C35E / AISI 1038
		Bolt	Galvanized steel	Stainless steel	Galvanized steel

* Number dependent on valve size

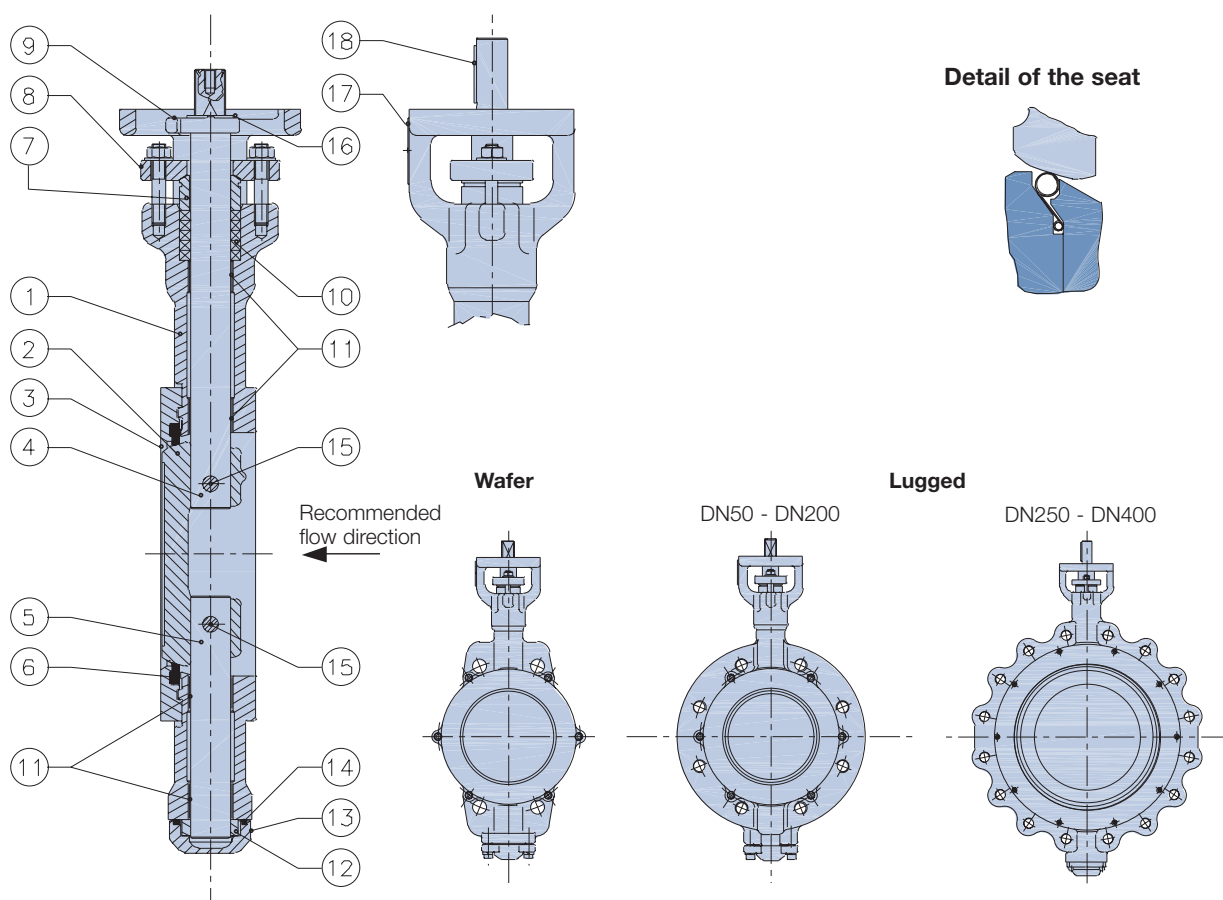
Butterfly valves JHP PP

Pulp & Paper metal seat: DN50 - DN400 (2" - 16")



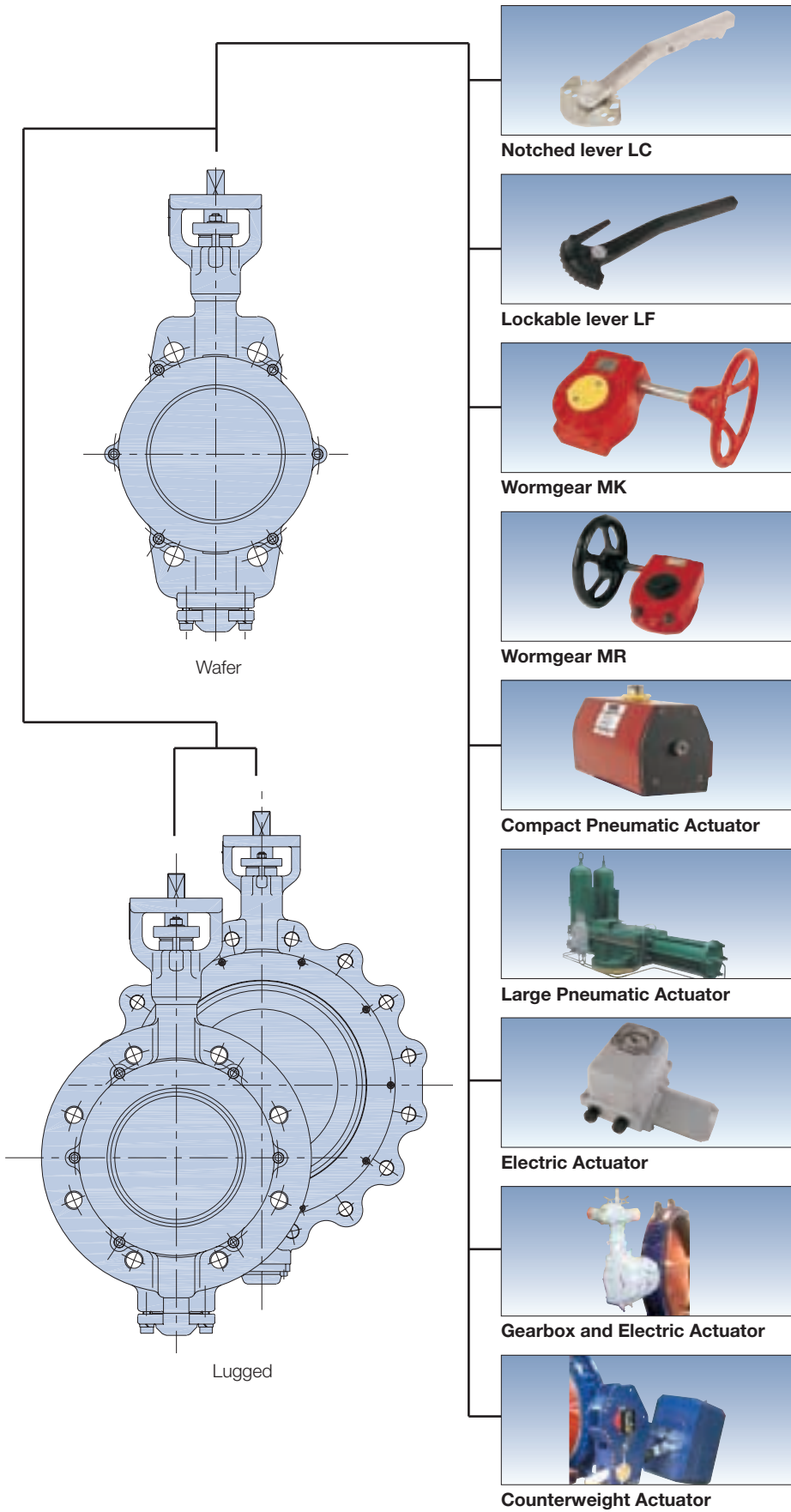
Parts list					
Rep.	Number	Designation	Steel body and disc	Stainless steel body and disc	Steel body /stainless steel disc
1	1	Body	EN GP 240 GH / A 216 Gr. WCB	EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
2	1	Disc	EN GP 240 GH Chrome / Chrome A 216 Gr. WCB	EN X5CrNiMo 19-11-2 Chrome / Chrome AISI 316 EN GX5CrNiMo 19-11-2 Chrome / Chrome A 351 Gr. CF8M	EN X5CrNiMo 19-11-2 Chrome / Chrome AISI 316 EN GX5CrNiMo 19-11-2 Chrome / Chrome A 351 Gr. CF8M
3	1	Retaining ring	EN GP 240 GH / A 216 Gr. WCB	EN X5CrNiMo 19-11-2 / AISI 316 EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
4	1	Upper stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
5	1	Lower stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
6	1	Seat	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L
7	1	Packing gland	EN X12Cr13 / AISI 410	EN X2CrNi 19-11 / AISI 304 L	EN X12Cr13 / AISI 410
8	1	Gland follower	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
9	1	Position indicator	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
10	*	Packing	Expanded graphite	Expanded graphite	Expanded graphite
11	4	Bearing	Carbon steel + PTFE	Stainless steel + PTFE	Carbon steel + PTFE
12	1	Disc locating shoulder	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L
13	1	Bottom end cover	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
14	1	Bottom seal	Expanded graphite	Expanded graphite	Expanded graphite
15	*	Pin	EN X2CrNiMo 17-12-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L
16	1	Circlips	Carbon steel	Stainless steel	Carbon steel
	*	Set screw	Carbon steel	Stainless steel	Carbon steel
17	1	Indication plate	Stainless steel	Stainless steel	Stainless steel
18	1	Key	EN C35E / AISI 1038	EN C35E / AISI 1038	EN C35E / AISI 1038
		Bolt	Galvanized steel	Stainless steel	Galvanized steel

* Number dependent on valve size

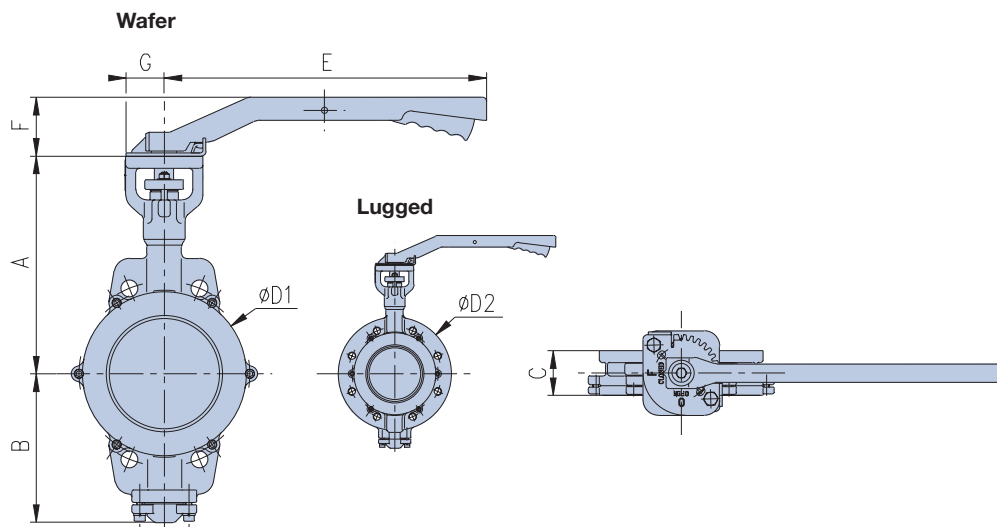


Parts list					
Rep. Number	Designation	Steel body and disc	Stainless steel body and disc	Steel body /stainless steel disc	
1	1	Body	EN GP 240 GH / A 216 Gr. WCB	EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
2	1	Disc	EN GP 240 GH Chrome / Chrome A 216 Gr. WCB	EN X5CrNiMo 19-11-2 Chrome / Chrome AISI 316 EN GX5CrNiMo 19-11-2 Chrome / Chrome A 351 Gr. CF8M	EN X5CrNiMo 19-11-2 Chrome / Chrome AISI 316 EN GX5CrNiMo 19-11-2 Chrome / Chrome A 351 Gr. CF8M
3	1	Retaining ring	EN GP 240 GH / A 216 Gr. WCB	EN X5CrNiMo 19-11-2 / AISI 316 EN GX5CrNiMo 19-11-2 / A 351 Gr. CF8M	EN GP 240 GH / A 216 Gr. WCB
4	1	Upper stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
5	1	Lower stem	EN X20Cr13 / AISI 420	EN X5CrNiCuNb 16-4 / A 564 Gr. 630	EN X5CrNiCuNb 16-4 / A 564 Gr. 630
6	1	Seat	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L
7	1	Packing gland	EN X12Cr13 / AISI 410	EN X2CrNi 19-11 / AISI 304 L	EN X12Cr13 / AISI 410
8	1	Gland follower	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
9	1	Position indicator	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
10	*	Packing	Expanded graphite	Expanded graphite	Expanded graphite
11	4	Bearing	Stainless steel	Stainless steel	Stainless steel
12	1	Disc locating shoulder	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L	EN X2CrNi 19-11 / AISI 304 L
13	1	Bottom end cover	EN C22E / AISI 1015	EN X5CrNiMo 19-11-2 / AISI 316	EN C22E / AISI 1015
14	1	Bottom seal	Expanded graphite	Expanded graphite	Expanded graphite
15	*	Pin	EN X2CrNiMo 17-12-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L	EN X2CrNiMo 17-2-2 / AISI 316 L
16	1	Circlips	Carbon steel	Stainless steel	Carbon steel
	*	Set screw	Carbon steel	Stainless steel	Carbon steel
17	1	Indication plate	Stainless steel	Stainless steel	Stainless steel
18	1	Key	EN C35E / AISI 1038	EN C35E / AISI 1038	EN C35E / AISI 1038
		Bolt	Galvanized steel	Stainless steel	Galvanized steel

* Number dependent on valve size



Notched lever "LC"



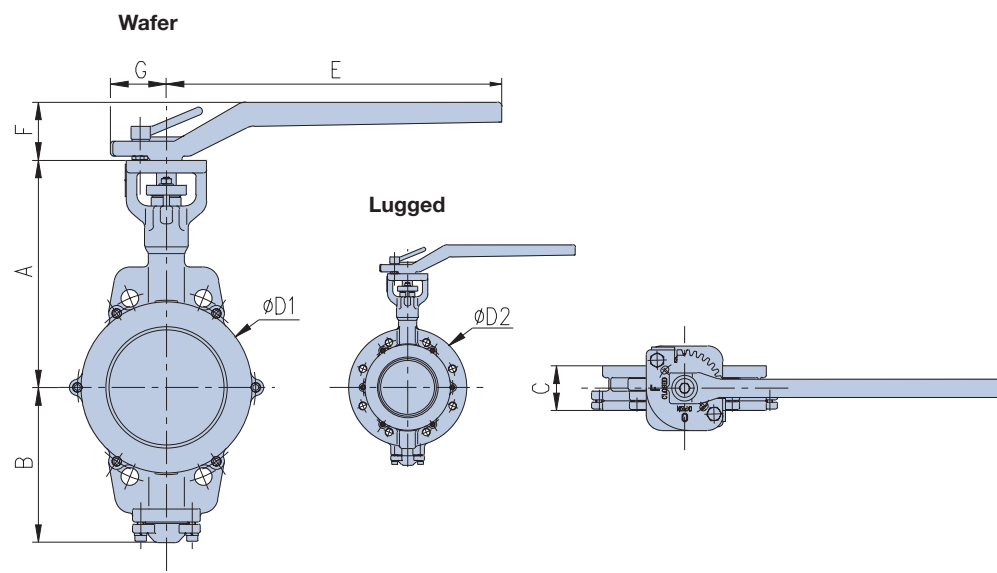
Notes

- Dimensions in mm, weights in kg
- Dimensions and weights are given as a guide.
- Number of locking positions: LC4 = 9, LC12 = 9, LC20 = 7

Dimensions

DN (mm)	DN (inch)	Lever	A	B	C	$\phi D1$	$\phi D2$	E	F	G	Weights	
											Wafer	Lugged
50	2"	LC 4	175	102	43	97	153	230	69	45	3.6	5.3
65	2½"	LC 4	191	116	46	117	173	230	69	45	5	7.4
80	3"	LC 4	197	122	46	130	190	230	69	45	5.4	8.2
100	4"	LC 12	233	149	52	158	225	320	75	52	8.9	14.4
125	5"	LC 12	245	160	56	188	261	320	75	52	10.5	17.7
150	6"	LC 20	283	193	56	212	294	420	75	52	13.5	23.5

Lockable lever "LF"



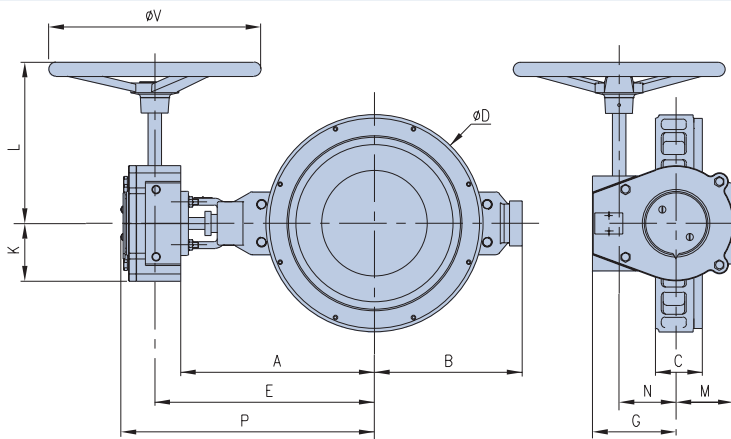
Notes

- Dimensions in mm, weights in kg
- Dimensions and weights are given as a guide.
- Continuous adjustable.

Dimensions

DN (mm)	DN (inch)	Lever	A	B	C	$\phi D1$	$\phi D2$	E	F	G	Weights	
											Wafer	Lugged
50	2"	LF 4	175	102	43	97	153	230	69	45	4.1	5.8
65	2½"	LF 4	191	116	46	117	173	230	69	45	5.5	7.9
80	3"	LF 4	197	122	46	130	190	230	69	45	5.9	8.7
100	4"	LF 12	233	149	52	158	225	320	75	63	9.8	15.3
125	5"	LF 12	245	160	56	188	261	320	75	63	11.5	18.6
150	6"	LF 20	283	193	56	212	294	420	75	65	14.5	24.5
200	8"	LF 20	307	217	60	267	365	420	75	65	24	35.7

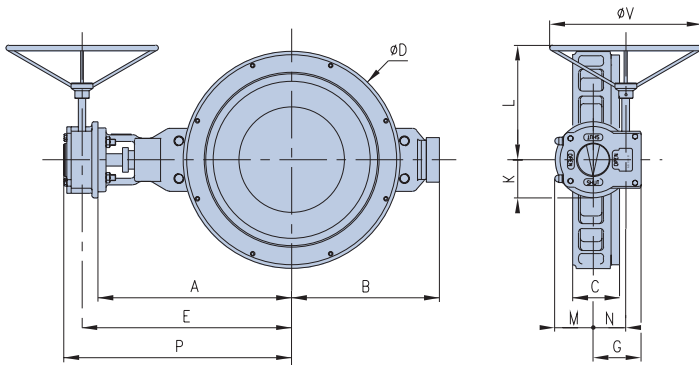
Worm gear MK



Dimensions

DN (mm)	DN (inch)	Actuator Type	Nr of hand- wheel turns	øD			øD		E	G	K	L	M	N	P	øV	Weight (Kg)	
				A	B	C	Wafer	Lugged									Wafer	Lugged
50	2"	MK 1	6	175	102	43	97	153	200	72	55	185	55	45	236	150	7.6	9.3
65	2½"	MK 1	6	191	116	46	117	173	216	72	55	185	55	45	252	150	9	11.4
80	3"	MK 1	6	197	122	46	130	190	223	72	55	185	55	45	258	150	9.4	12.2
100	4"	MK 1	6	233	149	52	158	225	258	72	55	185	55	45	294	150	12.7	18.2
125	5"	MK 1	6	245	160	56	188	261	270	72	55	185	55	45	306	150	14.5	21.5
150	6"	MK 2	7.5	283	193	56	212	294	318	101	77	228	77	67	364	300	23	33
200	8"	MK 2	7.5	307	217	60	267	365	342	101	77	228	77	67	388	300	32.4	44.2
250	10"	MK 3	12.5	371	251	68	321	420	409	118	79	228	79	80	453	300	54	66
300	12"	MK 3	12.5	399	302	78	372	476	437	118	79	228	79	80	481	300	68.1	91
350	14"	MK 3	12.5	421	324	78	431	542	459	118	79	228	79	80	502	300	88	110
400	16"	MK 4	20	453	358	102	484	606	507	160	130	285	130	122	574	400	128	163
450	18"	MK 4	20	522	392	114	534	662	576	160	130	285	130	122	643	400	175	236

Worm gear MR



Notes

- Dimensions in mm or inches, weights in kg
- Dimensions and weights are given as a guide.
- Actuator selection valid for all JHP valves except HT series.

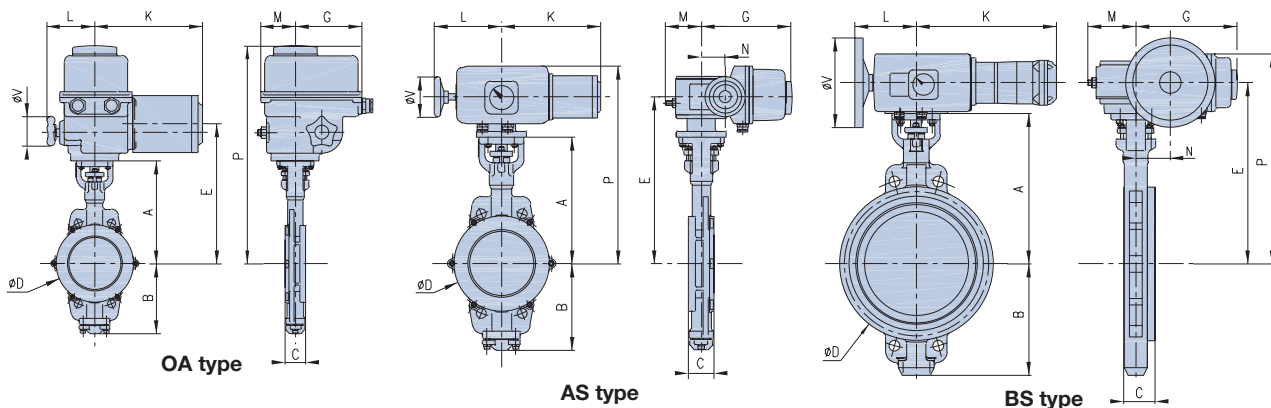
Dimensions

DN (mm)	DN (inch)	Actuator Type	Nr of hand- wheel turns	øD			øD		E	G	K	L	M	N	P	øV	Weight (Kg)	
				A	B	C	Wafer	Lugged									Wafer	Lugged
50	2"	AB 210	7.5	175	102	43	97	153	202	73	63	171	66	45	235	125	7.4	9.1
65	2½"	AB 210	7.5	191	116	46	117	173	218	73	63	171	66	45	251	125	8.8	11.2
80	3"	AB 210	7.5	197	122	46	130	190	224	73	63	171	66	45	257	125	9.2	12
100	4"	AB 210	7.5	233	149	52	158	225	260	73	63	185	66	45	293	160	12.6	18.1
125	5"	AB 210	7.5	245	160	56	188	261	272	73	63	185	66	45	305	160	14.2	21.4
150	6"	AB 210	7.5	283	193	56	212	294	310	73	63	185	66	45	343	160	16.9	26.9
200	8"	AB 210	7.5	307	217	60	267	365	334	73	63	185	66	45	367	160	26.3	38.1
250	10"	AB 550	8.5	371	251	68	321	420	412	105	69	255	83	71	458	300	51	63
300	12"	AB 550	8.5	399	302	78	372	476	440	105	69	255	83	71	486	300	66	88
350	14"	AB 550	8.5	421	324	78	431	542	462	105	69	255	83	71	508	300	85	107
400	16"	AB 880	9.5	453	358	102	484	606	495	126	100	301	101	86	543	400	114	150
450	18"	AB 880	9.5	522	392	114	534	662	564	126	100	311	101	86	612	500	162	223
500	20"	AB 1250	14	550	427	127	590	722	598	148	110	496	110	105	649	500	213	269
600	24"	AB 1250	14	634	485	154	689	837	682	148	110	496	110	105	733	600	250	332
700	28"	AB 1950/SP4	52	720	547	165	799	947	775	260	143	437	143	211	841	400	317	498
800	32"	AB 1950/SP4	52	771	598	190	900	1070	826	260	143	437	143	211	892	400	563	873
900	36"	IW6	70	878	687	241	1000	-	948	295	188	410	188	242	1007	400	907	-

Type of actuator

	Quarterturn		Multiturn	
	OA	AS/BS	ST	ASM
Travel stops	X	X	on gearbox	on gearbox
Limit switch for open and close position	X	X	X	X
Torque switches		X	X	X
Handwheel for manual action	X	X	X	X

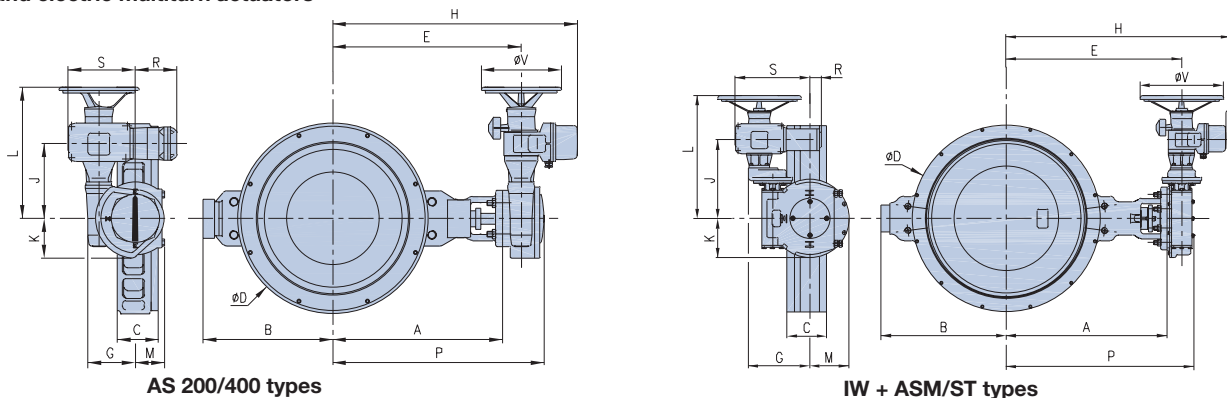
Electric quarter turn actuators



Dimensions

DN (mm)	DN (inch)	Actuator	A	B	C	øD		E	G	K	L	M	N	P	øV	Weights	
						wafer	lugged									wafer	lugged
50	2"	OA3	175	102	43	97	153	228	125	160	90	65	49	390	60	8.5	10.2
50	2"	OA6	175	102	43	97	153	228	125	202	90	65	49	390	60	8.8	10.5
65	2½"	OA3	191	116	46	117	173	244	125	160	90	65	49	406	60	9.9	12.3
65	2½"	OA6	191	116	46	117	173	244	125	202	90	65	49	406	60	10.2	12.6
80	3"	OA6	197	122	46	130	190	250	125	202	90	65	49	412	60	11	13.4
100	4"	OA8	233	149	52	158	225	286	125	202	90	65	49	462	60	16	21
125	5"	OA15	245	160	56	188	261	298	125	260	98	65	49	474	60	18	25
150	6"	AS18	283	193	56	212	294	383	226	312	167	89	59	460	100	29	39
200	8"	AS50	307	217	60	267	351	407	226	340	167	89	59	484	250	40	52
250	10"	AS50	371	251	68	321	420	471	226	340	167	89	59	563	250	59	71
300	12"	AS80	399	302	78	372	476	530	226	340	167	89	59	606	250	75	98
350	14"	BS100	421	324	78	431	542	507	284	455	172	134	96	588	250	100	123
400	16"	BS150	453	358	102	484	606	539	284	455	172	134	96	620	250	126	161

Gearboxes and electric multiturn actuators

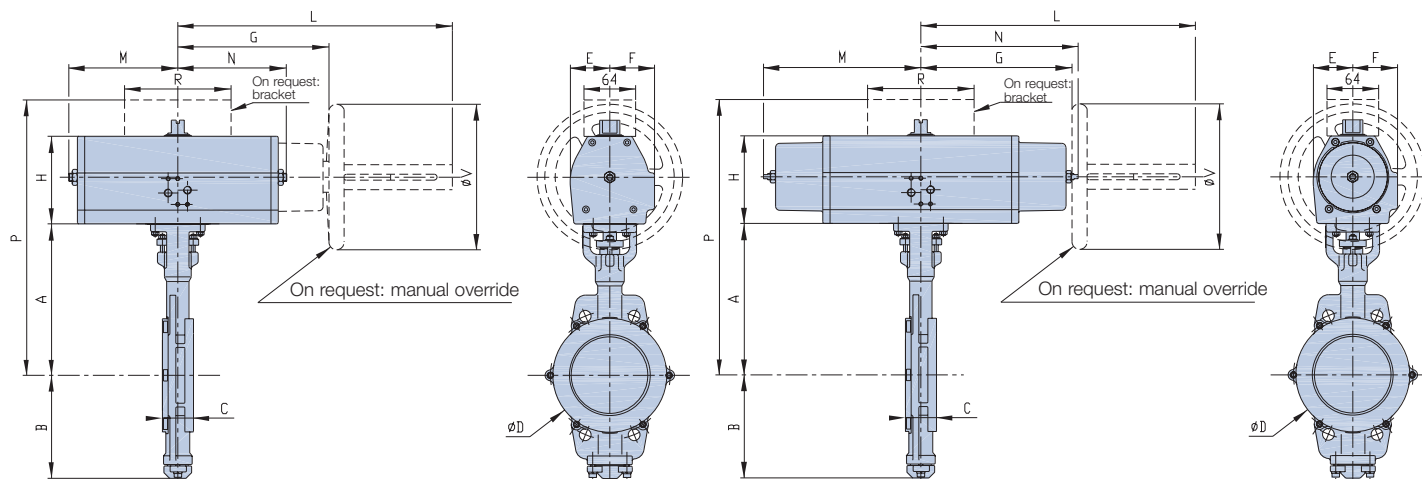


Dimensions

DN (mm)	DN (inch)	Actuator	A	B	C	øD		E	G	H	J	K	L	M	P	R	S	øV	Weights	
						wafer	lugged												wafer	lugged
450	18"	AS 200	522	392	114	534	662	462	218	673	258	188	470	130	541	109	298	300	213	274
500	20"	AS 200	550	427	127	590	722	497	218	708	258	188	470	130	576	109	298	300	256	312
600	24"	AS 400	634	485	154	689	837	555	179	766	280	148	497	120	642	154	253	300	294	376
700	28"	IW52R + ASMO	720	547	165	799	947	785	231	996	377	143	594	143	843	92	315	300	343	524
800	32"	IW6R + ASM1	771	598	190	900	1070	841	273	1052	377	188	594	188	899	50	357	400	612	922
900	36"	IW6R + ASM1	878	687	241	1000		948	273	1159	377	188	594	188	1006	50	357	400	947	

Notes

- Dimensions in mm or inches, weights in kg.
- Dimensions and weights are given as a guide.
- Actuator selection valid for all JHP valves except for HT series.



Dimensions double acting pneumatic actuator: 6 bar air supply

DN (mm)	Actuator	A	B	C	øD		E	F	G	H	L	M	N	P	R	V	Weight	
					Wafer	Lugged											Wafer	Lugged
50	DR 10-2	175	102	43	97	153	33	41	145	86	290	45	98	306	132	180	4.5	6.2
65	DR 10-2	191	116	46	117	173	33	41	145	86	290	45	98	322	132	180	5.9	8.3
80	DR 20-2	197	122	46	130	190	33	41	145	86	290	98	98	328	132	180	6.4	9.2
100	DR 21-4	233	149	52	158	225	33	41	145	86	290	98	98	364	132	180	9.7	15.2
125	DR 30-0	245	160	56	188	261	50	55	190	110	340	65	135	400	132	180	13.5	20.7
150	DR 40-0	283	193	56	212	294	50	55	190	110	340	135	135	438	132	180	17.4	27.4
200	DR 50-0	307	217	60	267	351	70	75	295	148	500	90	190	500	132	320	31.3	43.1
250	DR 60-1	371	251	68	321	420	70	75	295	155	500	190	190	571	132	320	52.9	65
300	DR 60-1	399	302	78	372	476	70	75	295	155	500	190	190	599	132	320	67.1	90
350	DR 71-0	421	324	78	431	542	110	110	515	248	800	145	295	724	156	400	106.4	128.5
400	DR 70-0	453	358	102	484	606	110	110	515	248	800	145	295	756	156	400	129.6	165
450	DR 70-0	522	392	114	534	662	110	110	515	248	800	145	295	825	156	400	177	238
500	DR 82-0	550	427	127	590	722	110	110	490	248	800	295	295	853	156	600	230	286
600	DR 82-0	634	485	154	689	837	110	110	490	248	800	295	295	937	156	600	266	348

Dimensions single acting pneumatic actuator - spring to open: 6 bar air supply

DN (mm)	Actuator	A	B	C	øD		E	F	G	H	L	M	N	P	R	V	Weight	
					Wafer	Lugged											Wafer	Lugged
50	SR 20-2/4	175	102	43	97	153	33	41	145	86	290	145	145	306	132	180	5.8	7.5
65	SR 30-0/4	191	116	46	117	173	50	55	190	110	340	65	195	301	132	180	9.3	11.7
80	SR 30-0/4	197	122	46	130	190	50	55	190	110	340	65	195	352	132	180	9.7	12.5
100	SR 40-0/4	233	149	52	158	225	50	55	190	110	340	195	195	388	132	180	15.4	20.9
125	SR 40-0/4	245	160	56	188	261	50	55	190	110	340	195	195	400	132	180	17	24.2
150	SR 50-0/4	283	193	56	212	294	70	75	295	148	500	90	275	476	132	320	24.9	34.9
200	SR 60-1/4	307	217	60	267	351	70	75	295	155	500	275	275	507	132	320	40.4	52.2
250	SR 71-0/4	371	251	68	321	420	110	110	515	248	800	145	520	674	156	400	85.4	97.5
300	SR 71-0/4	399	302	78	372	476	110	110	515	248	800	145	520	702	156	400	99.6	122.5
350	SR 81-0/3	421	324	78	431	542	110	110	490	248	800	520	520	724	156	600	142.4	164.5
400	SR 80-0/4	453	358	102	484	606	110	110	490	248	800	520	520	756	156	600	165.6	201

Dimensions single acting pneumatic actuator - spring to close: 6 bar air supply

DN (mm)	Actuator	A	B	C	øD		E	F	G	H	L	M	N	P	R	V	Weight	
					Wafer	Lugged											Wafer	Lugged
50	SR 20-2/4	175	102	43	97	153	33	41	145	86	290	145	145	306	132	180	5.8	7.5
65	SR 30-0/5	191	116	46	117	173	50	55	190	110	340	65	195	301	132	180	9.3	11.7
80	SR 30-0/5	197	122	46	130	190	50	55	190	110	340	65	195	352	132	180	9.7	12.5
100	SR 40-0/5	233	149	52	158	225	50	55	190	110	340	195	195	388	132	180	15.4	20.9
125	SR 50-0/5	245	160	56	188	261	70	75	295	148	500	90	275	438	132	320	22.2	29.4
150	SR 60-1/5	283	193	56	212	294	70	75	295	155	500	275	275	483	132	320	31	41
200	SR 60-1/7	307	217	60	267	351	70	75	295	155	500	275	275	507	132	320	40.4	52.2
250	SR 71-0/5	371	251	68	321	420	110	110	515	248	800	145	520	674	156	400	85.4	97.5
300	SR 81-0/5	399	302	78	372	476	110	110	490	248	800	520	520	702	156	600	122.6	145.5
350	SR 81-0/5	421	324	78	431	542	110	110	490	248	800	520	520	724	156	600	142.4	164.5
400	SR 80-0/7	453	358	102	484	606	110	110	490	248	800	520	520	756	156	600	165.6	201

Notes

- Actuator selection valid for all JHP valves except for HT series.

Double or single acting pneumatic actuator

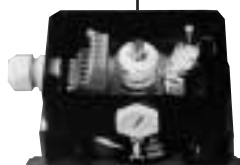


External limit switches

- Protection to IP 67
- Working temperature: -25°C to +70°C
- 300 volts - 6 A

On request:

- Explosion proof switches E Ex "d"



Limit switches or sensors in box

- Box in alloyed aluminium or polycarbonate
- Protection to IP 65
- Working temperature: -25°C to +80°C
- Adjustable cams from 0° to 90°
- Electricity supply all voltages, AC or DC supply

On request:

- Explosion proof switches E Ex "i"

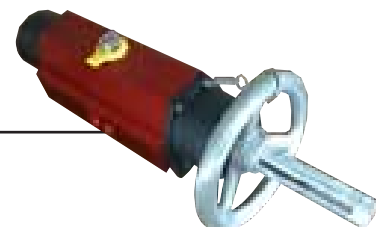


Pneumatic Positioners (standard)

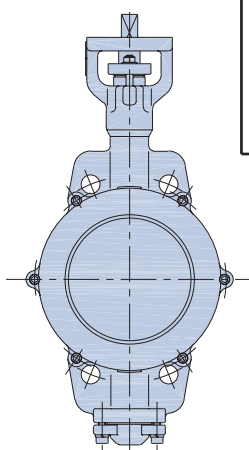
- Working temperature: -15°C to +80°C (-40°C on request)
- Air supply pressure: 1.4 to 6 bar (20 to 50 psi)
- Signal: 0.2 to 1 bar (3 to 50 psi)

Electropneumatic Positioners (standard)

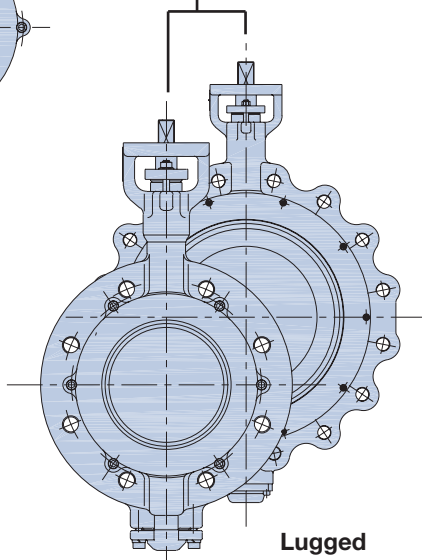
- Protection to IP 54
- Working temperature: -15°C to +80°C
- Input signal: 4-20 mA



Manual acting "CM" type for double or single acting pneumatic actuators



Wafer



Lugged



Accessories such as solenoid valves, speed regulators and silencers.



ISOBOX

- Protection to IP 67
- Working temperatures: -25°C to +100°C
- Available with limit switches or sensors

Size of valve

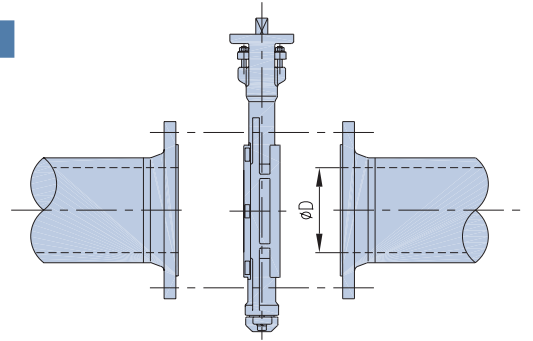
DN50 - DN200 / 2" - 8"
DN250 - DN600 / 10" - 24"

Type

Isobox 1
Isobox 2

Assembly on line

1. Leave sufficient space between the flanges. Be sure that these edges have well aligned, parallel, and erect sealing faces.
2. Put the seals between flanges and body.
3. The valve is closed. Center the valve by bolting the body locator first.
4. Progressively tighten diametrically opposed bolts by alternating sides until contact has been made between body, seals and the flange faces. Tighten bolts fully.
5. Control after mounting: operate the valve from fully open position to fully closed position to make sure that nothing is obstructing the disc.



DN (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
DN (inch)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"
øD mini	49	59	74	97	122	146	194	243	289	333	381	428	477	574	676	770	860

Between flanges and dead end assembly for Wafer type

DN (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
DN (inch)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"
EN 1092	PN 6																
DIN 2501	PN 10																
BS 4504	PN 16																
ISO 2084	PN 25																
	PN40																
EN 1759	Class 150																
	Class 300																
ANSI B 16.5	Class 150																
ANSI B 16.5	Class 300																
ANSI B 16.47 A	Class 150	See ANSI B 16.5															
ANSI B 16.47 A	Class 300	See ANSI B 16.5															
JIS	JIS 10 K																
	JIS 16 K																
	JIS 20 K																
MSS SP 44	Class 150																
MSS SP 44	Class 300																

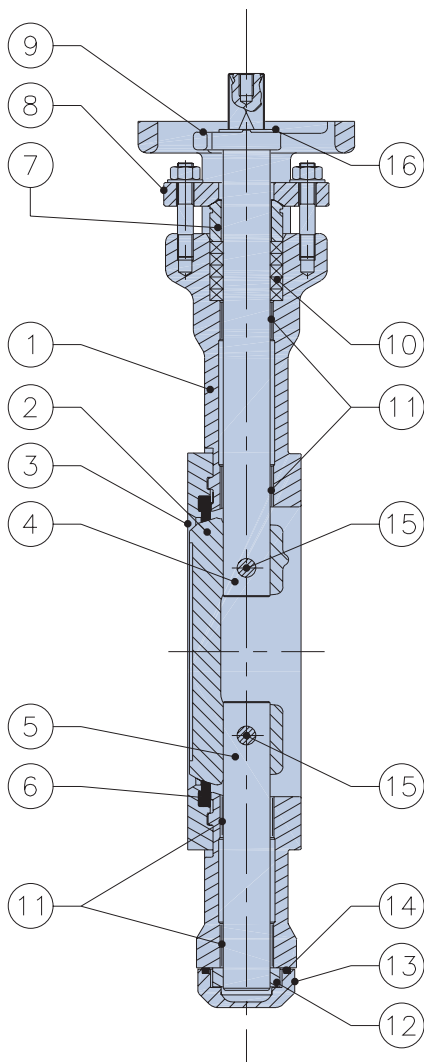
Between flanges and dead end assembly for Lug type

DN (mm)	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900
DN (inch)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"
EN 1092	PN 6																
DIN 2501	PN 10																V
BS 4504	PN 16																V
ISO 2084	PN 25																V
	PN40																
EN 1759	Class 150																
	Class 300																
ANSI B 16.5	Class 150																
ANSI B 16.5	Class 300																
ANSI B 16.47 A	Class 150	See ANSI B 16.5															
ANSI B 16.47 A	Class 300	See ANSI B 16.5															
JIS	JIS 10 K																V
	JIS 16 K																
	JIS 20 K																
MSS SP 44	Class 150																V
MSS SP 44	Class 300																

Notes

- : Possible for all versions
- V : Please contact factory

- These data are valid for raised face flanges only. For flat face flanges, please consult factory.
- Please, specify requested valve drilling when ordering.



Warning:

In all cases, the line must be with the pressure relieved.

Seat replacement

- 1 Remove valve from line (closed disc).
- 2 Remove retaining ring (item 3).
- 3 Extract used seat (item 6).
- 4 Gently clean:
 - disc circle (item 2);
 - seat compartment.
- 5 Put new seat in position (still closed disc).
- 6 Re-screw retaining ring.
- 7 Reset valve between flanges and wait 15 minutes (except "PP") before any operation.
- 8 Valve is now ready to re-install.

Packing replacement

The operation can be done directly on the valve:

- without removing it from line
- 1 Unscrew gland follower (item 8) and lift packing gland (item 7).
 - 2 Extract packing rings (item 10) with tool.
 - 3 Clean upper stem (item 4) and packing space.
 - 4 Refill packing rings.
 - 5 Reset gland follower and packing gland.
 - 6 Adjust packing compression to avoid leakage.

Parts list

Rep.	Number	Designation
1	1	Body
2	1	Disc
3	1	Retaining ring
4	1	Upper stem
5	1	Lower stem
6	1	Seat
7	1	Packing gland
8	1	Gland follower
9	1	Position indicator
10	*	Packing
11	4	Bearing
12	1	Disc locating shoulder
13	1	Bottom end cover
14	1	Bottom seal
15	*	Pin
16	1	Circlips Bolt

* dependent on valve size

Ordering code

A code with the following basis information is marked on the identification plate:

- four characters defining type of body, material of body, disc and seat materials
- one character or more, defining the top works (with option(s)) and type of actuator (if applicable).

For the order, completing the above data with the following information:

- the nominal diameter (DN)
- the flange
- the working pressure
- and if applicable, the valve options

Type

- 37 Wafer
- 77 Lugged

Body and disc

- 0 Steel
- 1 Stainless steel
- 3 Steel body and stainless steel disc

Seat

- 0 Reinforced RTFE
- 1 Fire safe FS
- 2 Metal PP
- 3 Metal HT

Top works

- 0 Bare shaft
- 1 Handle kit, type LC
- 3 Gear box, type MG
- 4 Gear box, type GS
- 5 Gear box, type MR
- 7 Gear box, type MK
- 8 Handle kit, type LF

Options (Top works)

- B Padlock
- T Switches
- M Flange actuator (MG, GS, MR)
- S ISOBOX (switches)
- W Chainwheel

Actuators

- A Pneumatic actuator
- C Electric actuator
- H Hydraulic actuator
- P Counterweight actuator

Options

Consult us

DN (mm)

DN50 (2") - DN900 (36")

Flange: Type

(For class flanges, precise the standard).
See page 16.

PS

Working pressure (CWP)

Valve options

- R Shaft extension

Approvals & Certificates

- FS Fire safe
- M Naval Approved
- T TPED Approved
- X ATEX Approved

Examples

1. JHP butterfly valve with handle type LF, DN150, for mounting between flanges defined by the EN1092 in PN16

JHP 37108 - 150 PN16 PS16:

3 7 1 0 8 - 150 PN16 PS16

- Type (Wafer) ————— ↑
- Stainless steel (body and disc) ————— ↑
- Seat (reinforced RTFE) ————— ↑
- Top works (lockable lever LF) ————— ↑
- Working pressure (16 bar max) ————— ↑
- Flange (EN1092 PN16) ————— ↑
- DN (150) ————— ↑

2. Same valve but with metal seat PP and pneumatic actuator, working pressure of 10 bar

JHP 37120A - 150 PN16 PS10:

3 7 1 2 0 A - 150 PN16 PS10

- Seat (metal, PP) ————— ↑
- Top works (bare shaft) ————— ↑
- Working pressure (10 bar max) ————— ↑
- Actuator (pneumatic actuator) ————— ↑

3. Same valve but with gear box, type MR (option: flange actuator), electric actuator, for mounting between flanges defined by EN1759, Class 150, TPED approved

JHP 37105MC - 150 EN1759 Class 150 PS16T:

3 7 1 0 5 M C - 150 EN1759 Class150 PS16 T

- Top works (gear box, type MR) ————— ↑
- Top works option (flange actuator) ————— ↑
- Actuator (Electric actuator) ————— ↑
- Flange (EN 1759 Class 150) ————— ↑
- TPED approved ————— ↑