



AB VALVES GmbH
Manufacturer of Industrial Valves
and Relevant Equipments

Hollow Jet Valves (HJET)



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Hollow Jet Valves (HJET)

Size: DN500-1800 mm

Pressure: PN 6-25 bar

Product features:

In dam application, control valves such as Hollow jet valves are installed after the butterfly valves on the outlet side. These valves always work as flow regulating or control valves. Hallow jet valves designed to perform regulating or control function in water supply system without any vibration as much as valve opening.

Body: st.37 or ductile cast iron (DIN EN 1563)

Shutter: ductile cast iron (DIN EN 1563)

Stem and shaft: stainless steel 1.4021

Seat ring and orings: EPDM or NBR

Fluid Media	water
Actuator	Manual or Electric

Application:

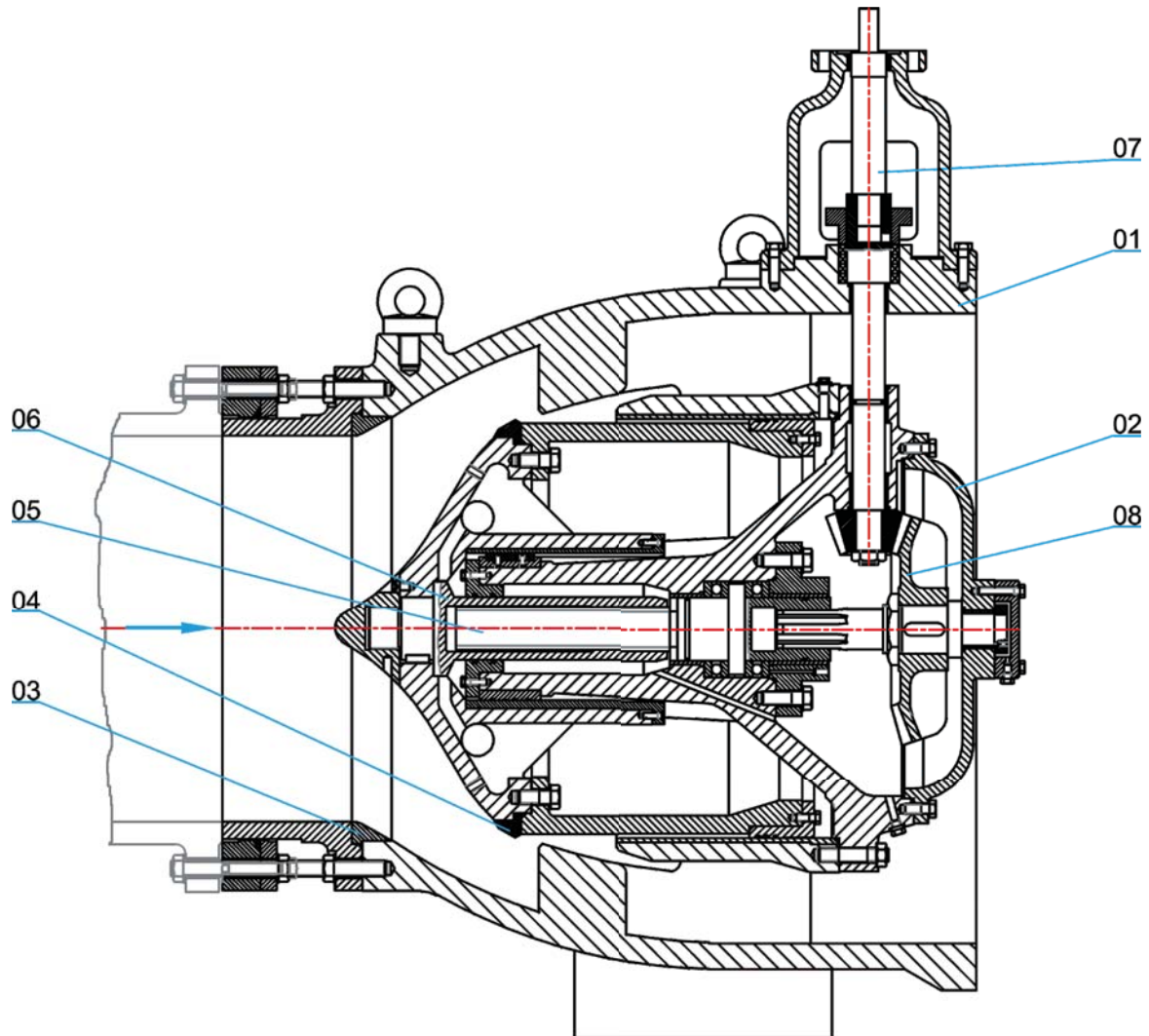
The Hollow jet valves are often used for the discharge into free atmosphere. However in some cases the valves can be used in a submerged condition where the downstream level is above the altitude of the installation. In such cases in order to in ensure proper energy dissipation, a dissipation chamber with a specific hydraulic profile is required so as to properly aerate the flow, avoiding hydraulic instability phenomenon. Reliable and adjustable discharge of large water flows having low or high pressure requires large energy dissipation with causing cavitations or excessive vibrations. The Hollow jet valve or fixed cone valve ensures very efficient control and closure and provide on economic solution for dam bottom discharge or other energy dissipating system. The design of Hollow jet valve, ensures excellent hydraulic performances, which can highlighted by a stable discharge The energy dissipation is achieved with excellent conditions and ensures a symmetrical flow.

Hallow screw type:

These valves are divided into two main groups of manual and Electrical. Both types with a balancer chamber inside of the valve (inside of piston) would be provided. Enter of water to chamber piston would be done through the holes which are located on the face of piston so will reduce the Hydrostatics pressure in opposite surface of piston, this means that pressure adjusting needs less force to obtain the minimum adjustment. In comparative of Hallow jet valves with other valves, the adjustment force in Hallow jet valves is much less than others when the piston is thoroughly closed, all the packing's are absolute sealed. The movement of piston governs by means of a screw which is under control. The Hallow jet screw Type will apply either manual or electrical actuator which works via conic gears (bevel gear), stem and stem nut.

PN (bar)	Permissible Working Pressure (bar)	Permissible Working Temperature	Test pressure according to DIN EN 12266-1 in bar
			Hydrostatic test body and seat
10	10	60°C	17
16	16	60°C	25
25	25	60°C	37.5

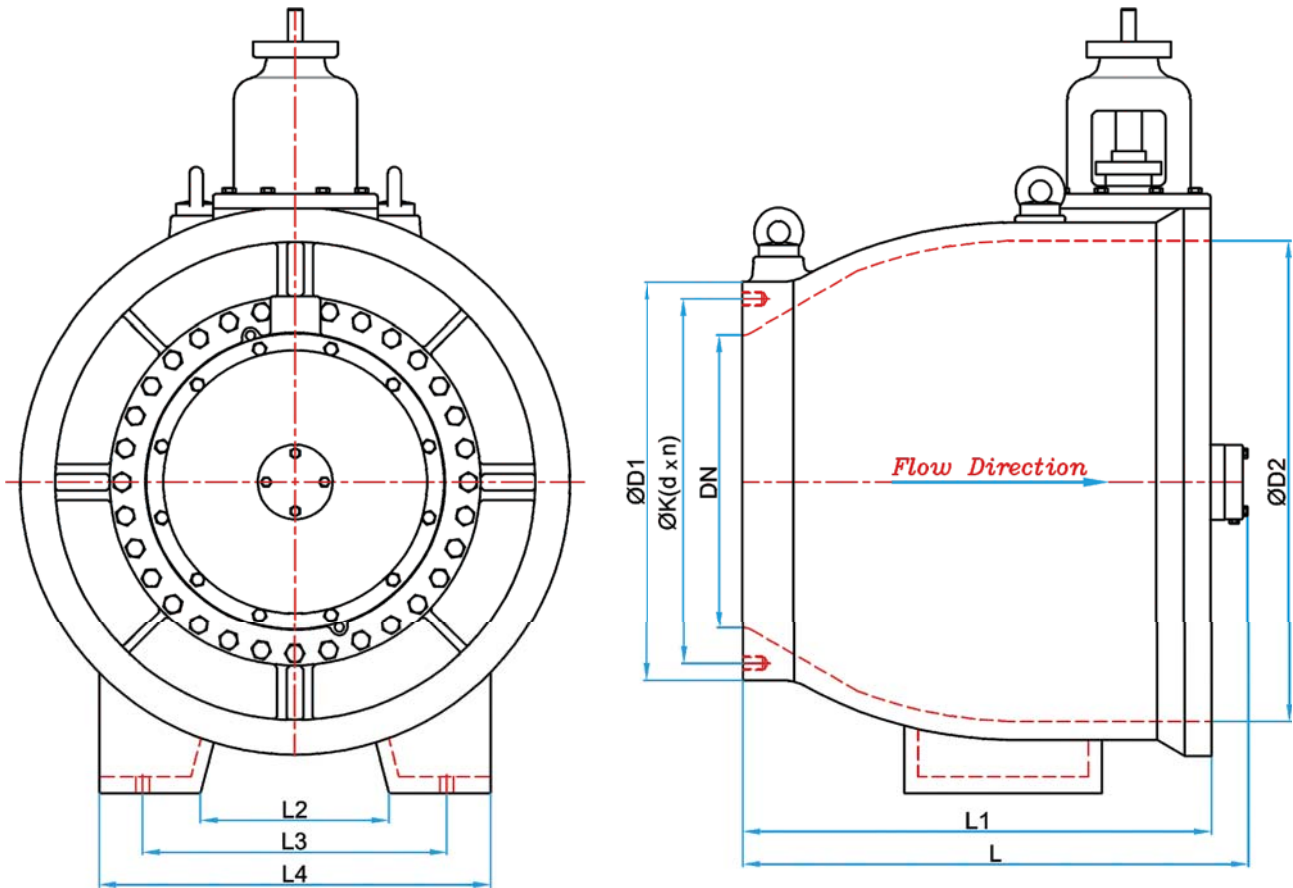
Part list



Part	Description	Material
1	Body	St37-2 or EN-GJS-400-15 (1)
2	Shutter	EN-GJS-400-15 (1)
3	Body seal ring	Welding with Co-Ni- Electrodes(307)
4	Shutter seal ring	Welding with Co-Ni- Electrodes(307)
5	Stem	1.4021
6	Stem nut	Al.Bz.
7	Shaft	1.4021
8	Bevel gear	GS60

(1) EN-GJS-500-7 can be product as requested.

Dimensions & weight



DN mm	L mm	D1 mm	K mm	d mm	n	D2 mm	L1 mm	L2 mm	L3 mm	L4 mm	Wgt. Kg	Stroke mm
500	860	675	620	M24	20	813	755	920	1120	1320	2990	200
600	1045	826	715	M22	31	993	968	390	629	809	3660	203
750	1470	963	895	M30	28	1220	1315	1340	1590	1840	4665	300
900	1610	1120	1050	M30	28	140	1360	1600	1950	2200	5670	360
1200	2110	1465	1380	M36	32	1950	1810	2100	2400	2700	7680	480
1320	1962	1490	1500	M30	36	1985	1605	1920	2300	2550	8500	461
1500	3200	1795	1700	M42	40	2440	2265	2600	2950	3300	9690	600
1800	3200	2115	2020	M48	44	2920	2720	3070	3420	3770	11700	720

Above Dimensions are for PN10 and for other sizes & rating according to order.



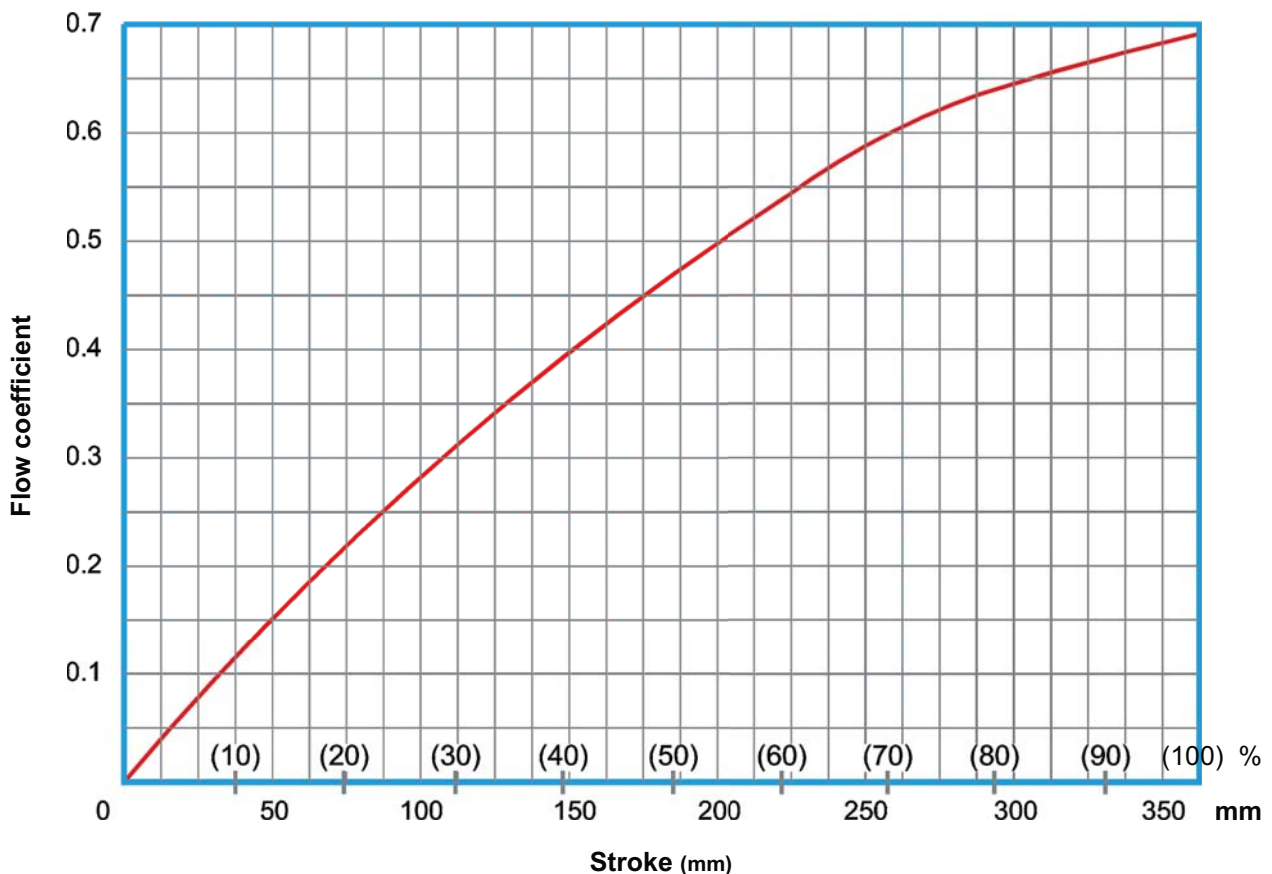
Advantages

- 1- Accurate adjustment
- 2- No cavitations
- 3- No vibration
- 4- Manual operating needs less force. Regardless of piston situation, force required to move the piston extreme of thoroughly open and closed are the same
- 5- Because of discharging to air no cause of turbulence and no need to install anti water hammer in downstream.
- 6- Easy maintenance

The Hollow jet valve operated by a manual or electrical actuator mounted above the bevel gear. The bevel gear transmits Torque to the drive shafts on either side, which operate through the actuator on each side, turning the operating screw which slide the cylinder forward to restrict or shut off flow and back ward to open the valve for full flow in the open or partially open position, flow is directed radials outward around the deflector head.

The resulting spray pattern effectively dissipates hydraulic energy and allows a free flow discharge without erosion damage to the surrounding area.

Flow coefficients of Hollow jet (size DN 900)



Q = (m³/s) Discharge

A = (m²) Entrance valve cross section of Area

C = Flow coefficient

H = (m) Effective Head

g = 9.81(m/s²) Central of gravity

$$Q = CA\sqrt{2gH...}$$



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