Hollow Jet Valves
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

<table>
<thead>
<tr>
<th>Fluid Media</th>
<th>water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuator</td>
<td>Manual or Electric</td>
</tr>
</tbody>
</table>

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 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 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.

<table>
<thead>
<tr>
<th>PN (bar)</th>
<th>Permissible Working Pressure (bar)</th>
<th>Permissible Working Temperature</th>
<th>Test pressure according to DIN EN 12266-1 in bar Hydrostatic test body and seat</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10</td>
<td>60°C</td>
<td>17</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>60°C</td>
<td>25</td>
</tr>
<tr>
<td>25</td>
<td>25</td>
<td>60°C</td>
<td>37.5</td>
</tr>
</tbody>
</table>
### Part list

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

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

\[ Q = CA\sqrt{2gH} \]

- \( Q \) = (m\(^3\)/s) Discharge
- \( A \) = (m\(^2\)) Entrance valve cross section of Area
- \( C \) = Flow coefficient
- \( H \) = (m) Effective Head
- \( g \) = 9.81(m/s\(^2\)) Central of gravity
AB VALVES’ PRODUCTS

Butterfly Valves Flange Type (BVF)
Butterfly Valves Wafer Type (BVW)
Butterfly Valves Wafer Type for Sea Water (BVS)
Gate Valves (GV)
Valves for Special Applications
Air Valves (AV)
Hydrants (HT)
Automatic Control Valves (RV)
Non-Return Valves (NV)
Strainers (STR)
Accessories
Actuators