



**Product**  
 HDPE Flap valve type WA-PTK-BS.

**Application**  
 Non-return flap valve suitable for permanent under water use suitable to connect to inside diameter of concrete / steel pipes.

**Standard pressure**  
 1 Mwc (3ft. 3" Fwc) measured permanent from top of opening,

5 Mwc (16ft. 5" Fwc) flood or high water conditions (72 hours) from bottom of opening.

Higher pressures available on request.

Measure in mm

DIAMETER	12"/300mm	16"/400mm	20"/500mm	24"/600mm	28"/700mm	30"/800mm	36"/900mm	40"/1000mm
X	468	568	668	768	830	930	1030	1130
B	Ø290x10	Ø390x10	Ø490x15	Ø590x15	Ø690x15	Ø790x20	Ø890x20	Ø990x20
K	212	262	311	360	409	458	508	557
L	346	395	444	494	543	592	641	691
Y	558	657	755	854	952	1050	1149	1248
DO	763	859	962	1066	1163	1266	1365	1467
DC	526	547	603	547	582	617	658	677
OA	68°	71°	72°	73°	74°	75°	75°	76°
Weight (Kg)	16	23	36	51	64	77	103	117



## SPECIFICATION FOR HDPE FLAP VALVE TYPE "A" / "BS"

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### Type "A" 10 degree door mount

#### **APPLICATION:**

As a non return flap valve to be installed for regulating a water flow in a single direction and preventing back flow. To be applied practically in all environments with free flow / gravitation.

#### **DESCRIPTION:**

The flap valve shall be provided with a hinged flap/door to close - round, square or rectangular shaped openings. On-seat sealing shall be effected by a special EPDM spherical/lip shaped rubber profile placed around the opening in the door.

After installation the flap valve shall be watertight on one side (on-seating) up to a pressure of 1 meter water column (long time duration for 50 years) above the Valve and 5 meter water column (short time duration) without any visible deformation.

#### **MATERIALS:**

The door of the flap valve shall be of HDPE (high density poly-ethylene) with a minimum thickness of 30 mm, which will be reinforced with HDPE strengthening ribs with a minimum thickness of 30 mm. If necessary and depending upon dimension and pressure the door will be provided with stainless steel AISI 316L strengthening profiles.

The HDPE door shall be provided with an easy replaceable EPDM spherical/lip shaped rubber profile. In this way only the door has to be removed for replacing the seal.

The flap door shall be position under 10 degree for the "A" model

The hinge construction for the flap valve will be of the "confined closed hinge" type. The confined closed hinge consists of two side segments and a cover plate. The cover plate protects the hinge against settling of dirt. The confined hinge increases strength and stability.

These hinge parts are connected both by means of HDPE welding and parker bolts with a length of at least 25 mm. The hinge axes shall be of stainless steel AISI 316L (solid) bar material with a minimal diameter of 12 mm. The horizontal movement of the axle is limited by 2 HDPE cover plates on each side of the hinge segment (which at the same time to ensure easy replacement of the Axle). This design also ensures that the weight of the door is supported equally on each side of the hinge for increased stability.



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Between the moving HDPE parts AISI 316L washers will be applied.

The maximum opening angle of the door is - depending upon dimensions – between 63 – 76 degrees. Upon request the opening angle can be increased to 90 degrees. The limitation of the door movement is controlled by the specific shape of the valve rib(s) and the confined closed hinge, which ensures the door will be automatically closed.

The HDPE flap/door shall be provided with ballast to prevent the door from floating in the water and ensure complete closing of the door under the water line. The ballast applied on the door ensures that the specific weight of the door is being increased to 1100 kg / M3 ensuring full closing of the door below water level and yet maintains differential opening pressures of less than **10 mm water column when completely submerged.**

The valve seating shall be of HDPE with a minimum thickness of 30 mm, which is positioned at an angle 10 degree to the frame/tube material. The frame shall be of HDPE tube in case of circular openings and HDPE plate material in case of rectangular or square openings.

The model suitable for wall mounting (model A) shall have an anchor plate with a minimum thickness of 15 mm, welded onto the frame. The anchor plate for wall mounting shall follow the shape of the opening. The anchor holes for wall mounting will be positioned at a minimum distance of 50 mm from the opening.

The tightening between the wall and the anchor plate shall be of neoprene cell rubber tape to be bonded on the anchor plate according to installation instructions.

### **INSTALLATION:**

The flap valve shall be mounted perpendicularly and free of tension. By preference mounting has to be effected with fixing anchors manufactured from stainless steel AISI 316.