

FLAP VALVES

Protection against back-flow

Function

To allow the water drainage in only one direction, preventing the back-flow. These functions are designed for drainage and flood-prevention systems and reverse surge of flow.

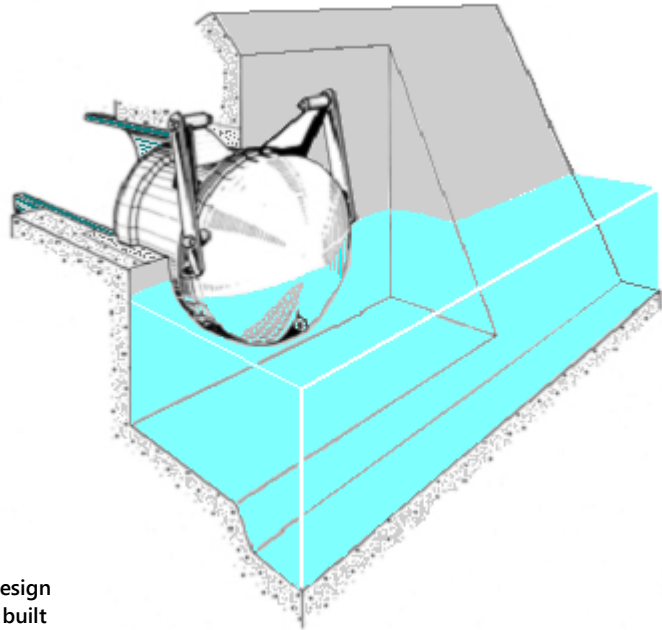
The Flap Valves, according to our Group exclusive design, are the best solution for such problems.

The Flap Valves are installed at the outlets of ducts to protect against back surges during flooding or tidal periods. In drainage Pumping Stations, they reduce the pump head to a minimum while preventing the pumping units from reverse running and the drained area from being flooded by back-flow from downstream.

Qualities

The excellent features that make this equipment ideal for a wide range of applications are:

- No appreciable own cargo head-loss;
- Perfect watertight closure in case of back-flow, as soon as the downstream water level has risen above the



- Simple design
- Strongly built
- Smooth hinge
- Watertight
- Head loss as an orifice

upstream water level;

- Wide range of sizes available.

In addition to the standard range including diameters 100, 150, 200, 250, 300, 400, 500, 600, 800, 1000, 1200mm, the Flap Valves can be supplied with diameters up to 3000mm and over.

Construction

The Flap Valves are welded

assemblies of steel plates.

The machined metallic sealing faces ensures the valves are perfectly watertight. The hinges consist of stainless steel pins lined with bronze sleeves.

Constructions for particularly aggressive environments, such as seawater and others, may be looked into under request.

Specification

The valves are supplied with a wall thimble to be embedded in the concrete or with a flange for a flange connection to embedded metal pipes, or mounted to concrete with expansion anchor bolts.

In order to select the valves, the following information is required:

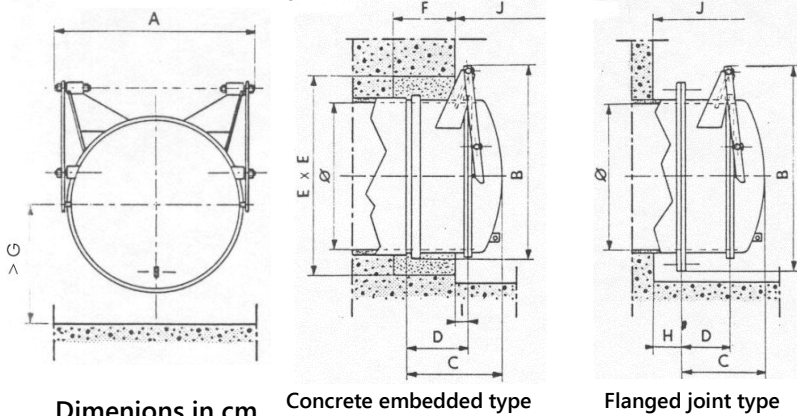
- Diameter;
- The method of installation (with embedded wall thimble or flange mounted);

- Upstream and downstream, (back pressure), maximum heads (standard design head: 10m);
- Particular conditions of use and operation (Installation in pump piping outlet, in seawater, or others).

Specifically for the Flap Valves that have to prevent the reverse running of pump units or sudden reversals of flow direction, the informations as given above shall also include the relationship flow/time during the considered transient phase.



Dimensions and Implementation



Dimensions in cm

Concrete embedded type

Flanged joint type

DN mm	Table of dimensions and layout										Civil engineering structures				
	Concrete embedded type					Flanged joint type **									
	A	B	C	D	J*	A	B	C	D	J*	E	F	G	H	I
100	14	18	11	7	17	22	23	11	8	32	16	7	13	10	3
150	19	25	13	9	25	29	30	14	10	41	24	9	17	10	4
200	25	35	18	11	33	34	39	18	12	51	32	11	20	10	5
250	31	41	20	13	41	40	46	20	14	60	40	13	23	10	6
300	31	41	21	12	39	45	45	19	10	57	48	12	26	10	4
400	48	53	27	16	52	57	58	23	12	71	56	16	33	11	4
500	61	67	33	20	64	67	70	29	16	89	68	20	38	13	4
600	71	79	42	25	80	78	83	37	20	107	80	25	45	14	6
800	93	104	52	32	104	102	110	45	25	140	100	32	58	16	8
1000	117	128	62	40	129	123	136	54	32	172	130	40	70	18	10
1200	136	154	74	50	158	146	161	62	38	205	150	50	85	20	12

(*) Dimension J represents the maximum template of the Flap in fully open position.

(**) Flange drilling pattern in compliance with ISO 2531 (or NBR 7675) or standard required by the customer.

Dimensions of valves of diameter greater than 1200mm can be supplied upon request.

We also provide a standardized line of Flap Valves that are manufactured with nodular cast iron with brass sealing rings, brass hinges and stainless steel pins/rods.

