

SERTÃO BUTTERFLY VALVES

SECTION 1 - GENERAL OPERATING GUIDELINES

- Never use pressurized gases with plastic piping systems.
- Ensure all testing is done using established and secure hydrostatic equipment.
- Certain liquids may be prone to vaporization [off-gassing] which might cause pressure fluctuation. Valves may be damaged.
- Do not apply excessive weight or mass on top of the valve.
- Avoid slurries, this might result in uneven flow.
- Avoid crystallized or gelled substrate, this might result in uneven flow.
- Always operate valves and piping systems within their designed engineering limits and recommended conditions.
- Ensure adequate space is always kept around the valve for inspections and maintenance.
- Ensure the right materials, seats and valve types are used that have adequate chemical resistance to the substrate.
- Keep valves from being exposed to direct sunlight for long periods. UV rays might affect the composition.
- Ensure routine and periodic maintenance and inspection is done to avoid costly problems.

SECTION 2 - TRANSPORTATION AND STORAGE

- When suspending valves use common sense, ensure adequate support and spacing is maintained.
- Thermoplastic may be damaged with impacts and sharp objects. Avoid blunt and sharp trauma.
- Ensure cartons and packages are stored appropriately, excessive cartons being stacked might collapse.
- Avoid contact with paint, tar-sand, insecticides and pesticides, and highly corrosive agents.
- During assembly and handling do not carry valves by their handles.
- Keep valves from being exposed to direct sunlight for long periods. UV rays might affect the composition.
- Prior to assembly ensure a quick and effective visual check is done to ensure items are not defective.

SECTION 3 - INSTALLATION

- Perform a visual check prior to installation.
- Wear adequate protective equipment when working with tools, solvents, power drills etc.
- If using U Clamps or anything similar during assembly make sure not to over-tighten.
- During installation of piping systems ensure adequate spacing and hoops are designed in the system.
- Ensure no unnecessary stresses are caused on the piping system such as tension, compression, impact etc.
- Visually check to determine the direction of flow of valves before installing.
- Before hydrostatic testing ensure that flanges are firmly screwed into position. Take care not to over-tighten.
- When mating flanges to butterfly valves ensure that the disc is partially open during bolt tightening sequence.
- If connecting to metallic systems ensure that no undue stress is caused to valves.
- Never use a pipe wrench on thermoplastic.
- For detailed solvent welding, threading and flanging connections read Hydroseal Canada's Technical Guide.

SECTION 4 - ASSEMBLY

- Do not exert excessive force when opening or closing valves.
- If sand or other large particles are in the piping system ensure to flush these out before operation of valves.
- Ensure that valves are opened and closed only by trained people, never use tools to open/close valves.
- If valve provided is lubricant free ensure that water is flowing before attempting to operate handles.

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SECTION 5 - HANDLE POSITION

CLOCKWISE > to close
 COUNTER CLOCKWISE > to open

CLOSED > should be perpendicular to the pipe
 OPEN > should be parallel to the pipe

SECTION 6 - DISASSEMBLY

- Perform a visual check prior to installation.
- Wear adequate protective equipment when working with tools, solvents, power drills etc.
- Do not attempt maintenance or replacement is there is still any pressure running through the piping system.
- Never use a pipe wrench on thermoplastic.
- Ensure all fluid is completely drained from the piping system.
- Loosen bolts before extraction of valve from line.
- If replacing parts such as seals, seats, balls etc then consult the manufacturer for any specific details.

SECTION 7 - AUTOMATION

- Refer to detailed actuator installation guide in Hydroseal Canada's Technical Guide.

SECTION 8 - MAINTENANCE

- Perform regular and scheduled maintenance. Leakages and tightness of valves may happen due to temperature changes over prolonged periods.
- Check for cracks, deformities on the outside.
- Check for fluids on the outside.
- Check tightness of union nuts and flange bolts.
- Verify the handle mechanism operates smoothly.

SECTION 9 - TROUBLESHOOTING

PROBLEM	CAUSES	SOLUTION
Leakage observed when valve is closed	Flanges may have loosened.	Tighten the valve.
	Seal may be scratched or eroded.	Replace seal or entire valve.
	Valve may have large object within the body.	Clear blockage.
	Disc may be scratched, cracked or eroded.	Replace disc or entire valve.
Leakage observed	Unions or flanges may have loosened.	Tighten the valve.
	Seal or gaskets may be scratched or eroded.	Replace seals/gaskets or entire valve.
Handle not turning smoothly	Valve may have large object within the body.	Clear blockage.
	Deformity in valve or parts of valve.	Replace entire valve.
Handle fails to engage	Shaft may be broken or cracked.	Replace entire valve.
	The mechanism between shaft and disc is broken.	Replace entire valve.

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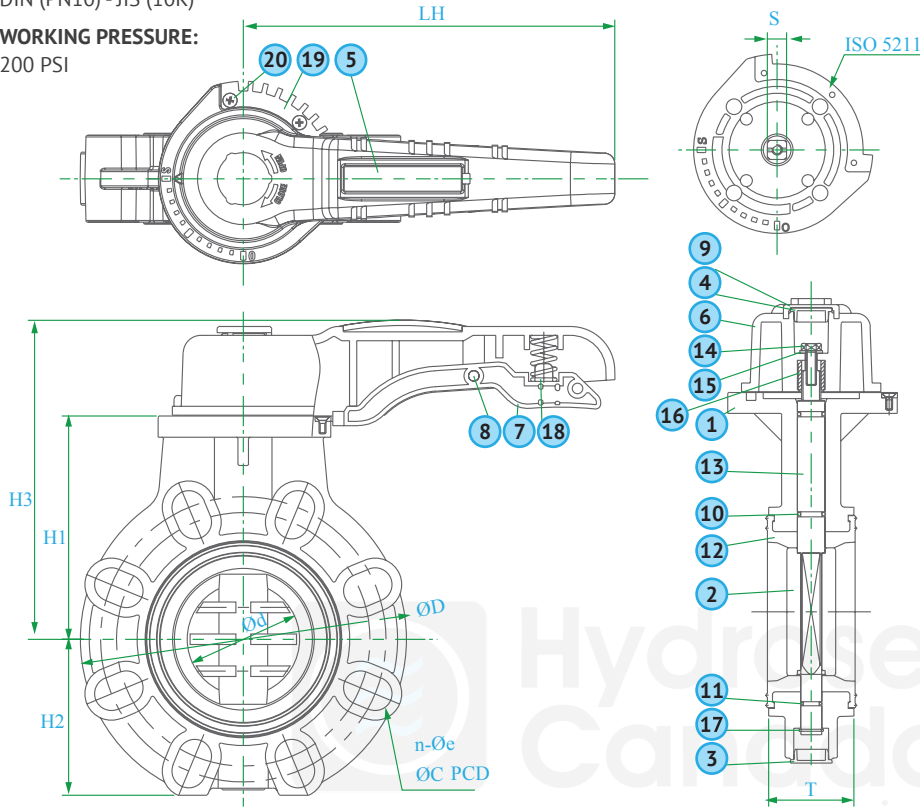
SECTION 10 - TECHNICAL

JOINT END:

FLANGE TYPE - ANSI (150 LBS)
DIN (PN10) - JIS (10K)

WORKING PRESSURE:

200 PSI



CONSTRUCTION			
NO	PARTS	PCS	MATERIALS
1	BODY	1	PVC, CPVC, PP
2	DISC	1	PVC, CPVC, PP
3	BODY CAP	1	ABS
4	HANDLE CAP	1	ABS
5	HANDLE CAP	1	ABS
6	HANDLE	1	ABS
7	SMALL HANDLE	1	NYLON
8	PIN	1	NYLON
9	CLEAR CAP	1	PC
10	STEM O-RING	2	EPDM, VITON
11	STEM O-RING	1	EPDM, VITON
12	SEAT	1	EPDM, VITON
13	STEM	1	SUS410
14	BOLT	1	SUS304
15	WASHER	1	SUS304
16	INSERT	1	SUS304
17	C-RING	1	SUS304
18	SPRING	1	SUS304
19	GEAR	1	SUS304
20	BOLT	3	SUS304

PART	NOMINAL SIZE	FLANGE TYPE	LEVER HANDLE TYPE						UNIT OF MEASURE: MM				TORQUE @ 100 PSI		
			DN	n	e	D	d	T	S	H2	H1	H3	LH	ISO 5211	Open
STEF.0200	2"	DN 50	4	19	156	57	43	11	73	103	158	210	F 05/07	0.80	1.00
STEF.0250	2 1/2"	DN 65	4	19	177	68	46	11	81	114	169	210	F 05/07	1.90	2.00
STEF.0300	3"	DN 80	4	19	191	78	49	11	88	126	181	210	F 05/07	2.50	2.50
STEF.0400	4"	DN 100	8	19	223	98	56	14	103	143	198	210	F 07	3.00	3.00
STEF.0500	5"	DN 125	8	23	253	122	64	17	117	168	235	280	F 07/10	-	-
STEF.0600	6"	DN 150	8	23	279	146	70	17	129	181	248	280	F 07/10	7.50	8.00
STEF.0800	8"	DN 200	12	23	337	196	71	22	162	218	285	330	F 10	10.00	10.50

SELECTION CHART Lever Handle Operator and Gear Box Operator				
SIZE	MATERIAL	CONNECTION	SEALS	PRESSURE RATING
2" ~ 8"	PVC CPVC PP	FLANGE	EPDM or VITON	200 PSI @ 70F Non-Shock

CV FACTORS			
SIZE	FACTOR	SIZE	FACTOR
1 1/2"	-	5"	800
2"	110	6"	1000
2 1/2"	230	8"	2200
3"	280	10"	-
4"	440	12"	-

Pressure Loss Calculation Formula

$$\Delta P = \left[\frac{Q}{Cv} \right]^2$$

ΔP = Pressure Drop
 Q = Flow in GPM
 Cv = Flow Coefficient

