

Resilient Seated Butterfly Valves: 2"-12"

Pneumatic Conveying & Abrasive Applications, Wafer & Lug Bodies

390
SERIES
393

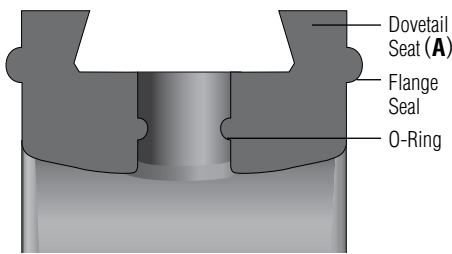


ultraflo®

390/393 SERIES

Ultraflo proudly offers the 390/393 Series butterfly valve – designed specifically for pneumatic conveying and abrasive applications. The valve characteristics include a seat designed specifically for schedule 40 piping, matching the seat ID with the inside diameter of the pipe wall. The result is smoother product flow and less abrasion of valve components. Valve sizes range from **2" – 12"**.

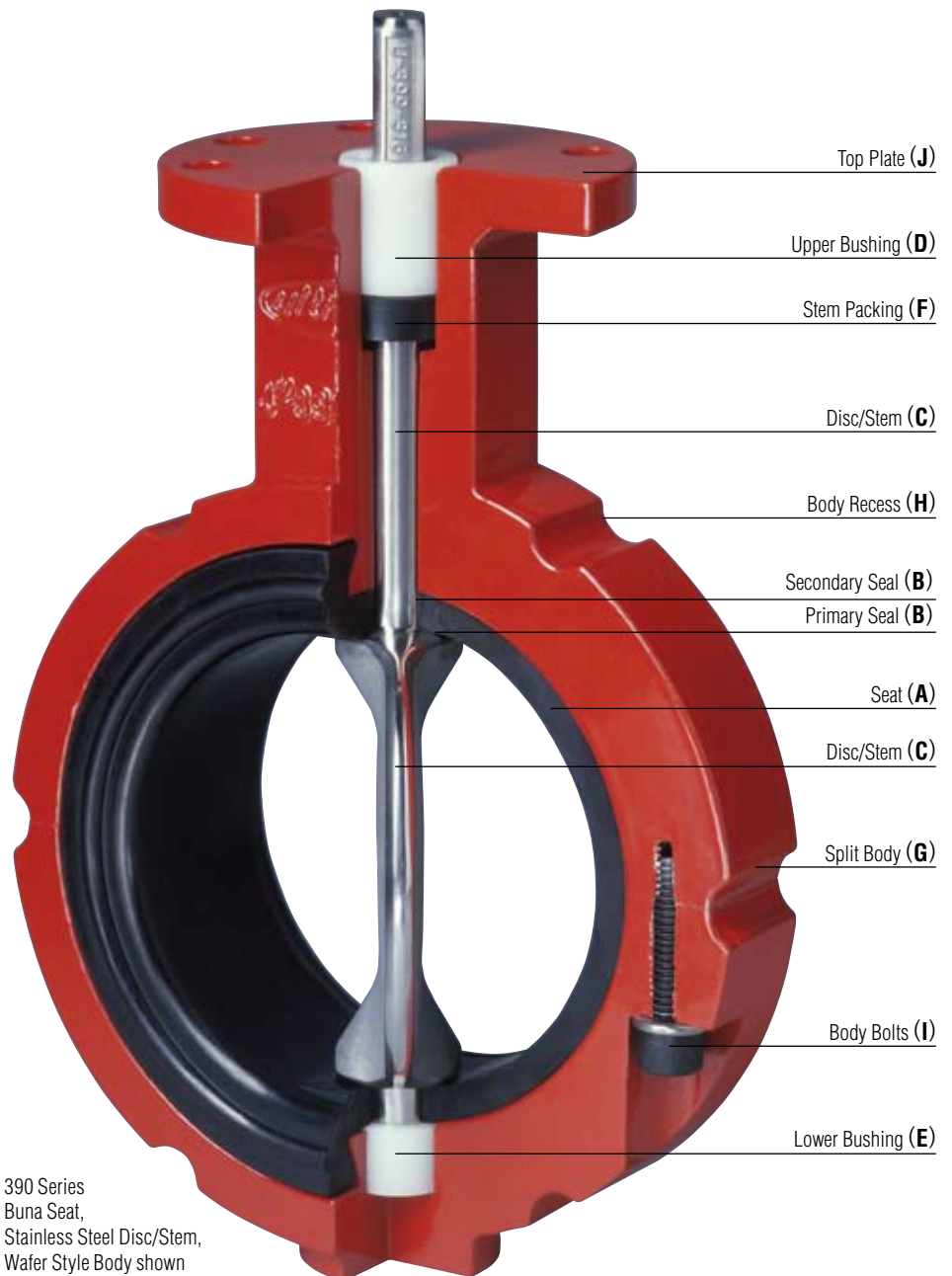
The 390/393 Series provides a bi-directional pressure rating of **150 psi** with stainless steel disc/stems and **100 psi** with encapsulated disc/stems. Undercut disc/stems, rated for **50 psi** and requiring less operating torque, are also available. Valves installed in dead end service (downstream flange removed) are derated to 75 psi. Figure 390 valves are **Wafer** style bodies offered in **Stainless Steel, Cast Iron** and **Aluminum**. Figure 393 valves are **Lug** style bodies offered in **Stainless Steel** and **Nodular Iron**.



Elastomer seat. Section view at stem hole.

Ultraflo's resilient **Seat (A)** is the heart of all 300 Series valves. The seat incorporates a dovetail retention system ensuring positive alignment and ease of assembly. All 300 Series seats include an integral flange seal molded into the seat face providing a positive seal with all popular flanges. In addition, an O-ring is molded into the stem hole of each 300 Series elastomer seat to provide an added level of protection.

Features Primary and Secondary Seals (B) The primary seal is formed by an interference fit between the disc hub and the seat flat. The secondary seal is an interference fit between the stem and seat stem hole. The secondary seal also incorporates a molded O-ring in the stem hole of each elastomer seat providing increased interference and an added level of protection. These seals prevent line media from coming into contact with other valve components. Ultraflo's ultrathin one-piece **Disc/Stem (C)** provides a high flow capacity with smooth flow characteristics that greatly reduce line media pressure drops. The disc edge is CNC machined and hand polished to produce bubble tight shut off, minimum torque and longer seat life. The **Upper Stem Bushing (D)** absorbs operator side thrusts, provides precision alignment to ensure less wear and lowers operating torque. The **Lower Stem Bushing (E)** eliminates gaulding and frozen stems. Both upper and lower bushings are heavy duty non-corrosive thermoplastic polymer. A **Stem Packing (F)** prevents external contaminants from entering the stem bore. The **Split Body (G)** design simplifies field maintenance by eliminating the need for special tools or presses during installation of replacement seats. All 300 Series valve bodies are designed to fit between ASME/ANSI 125 or 150 lb. flanges. **Body Recesses (H)** accommodate lightweight flanges. **Body Bolt (I)** materials are zinc plated carbon steel or stainless steel as standard.



390 Series
Buna Seat,
Stainless Steel Disc/Stem,
Wafer Style Body shown

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Ideally Suited for Pneumatic Conveying & Abrasive Applications

The two-piece split body allows for a thin profile one-piece investment cast disc/stem with a smooth finish free of porosity, voids or cracks. This design provides complete protection from particle entrapment, and in combination with schedule 40 dimensioning, results in minimal line media interference. For severely abrasive applications, Ultraflo offers disc/stems in 17-4 ph as well as full elastomer encapsulation of the disc.

All sizes of Cast Iron, Nodular Iron and Aluminum bodies and 8"-12" Stainless Steel bodies have a CNC machined **Top Plate (J)** with standardized drilling for total actuator and operator interchangeability. A handle notch plate is supplied with the manual handle kit.

2"-6" Stainless Steel valve bodies feature an integrally cast **Throttling Top Plate** with a self draining recess ensuring complete drainage of wash-down media.



Seats are available as standard in Nitrile, White Nitrile, EPDM, Buna and FKM. PTFE lined seats are available in select sizes. Consult factory for availability. All compounds other than FKM are FDA approved. All Ultraflo valves are tested to 110% of pressure rating for bubble tight shut off before shipment.

All 390/393 Series valves are designed to meet MSS SP67 dimensional standards.

Components

Item	Description	Qty.
1	Split Body	1
2	Seat	1
3	Disc	1
4	Upper Bushing	1
5	Stem Packing	1
6	Lower Bushing	1
7	Body Bolt	2
8	Lock Washer	2

Materials of Construction

Bodies: Cast Iron, Nodular Iron and Investment Cast 316 Stainless Steel in both wafer and lug style split bodies. Aluminum bodies are available in wafer only.

Seats: Nitrile, White Nitrile, EPDM, Buna, FKM, PTFE (select sizes).

Disc/Stems: 17-4 Stainless Steel and Investment Cast 316 Stainless Steel. Elastomer encapsulated and other custom disc coatings are available.

Upper and Lower Bushings:

Thermoplastic Polymer

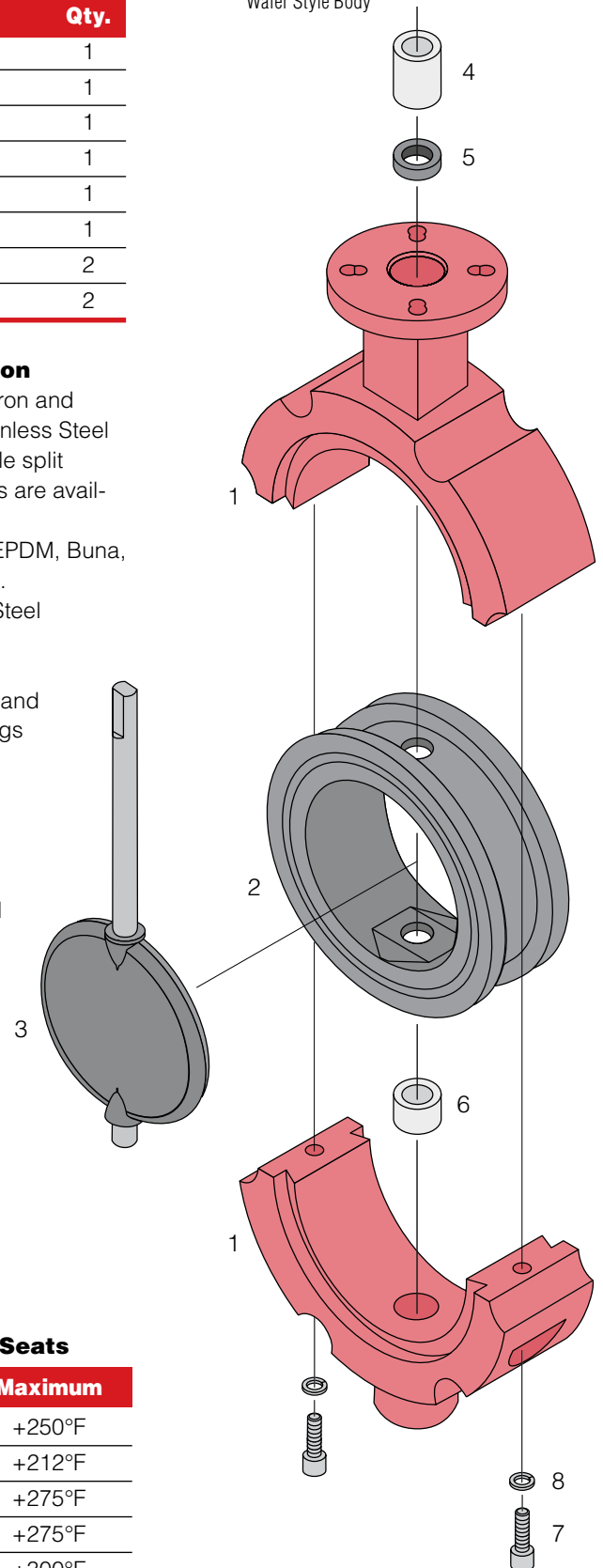
Stem Packing:

Buna-N

Body Bolts and Lock Washers:

Zinc Plated Carbon Steel or Stainless Steel

390 Series Cast Iron Wafer Style Body



Temperature Range of Seats

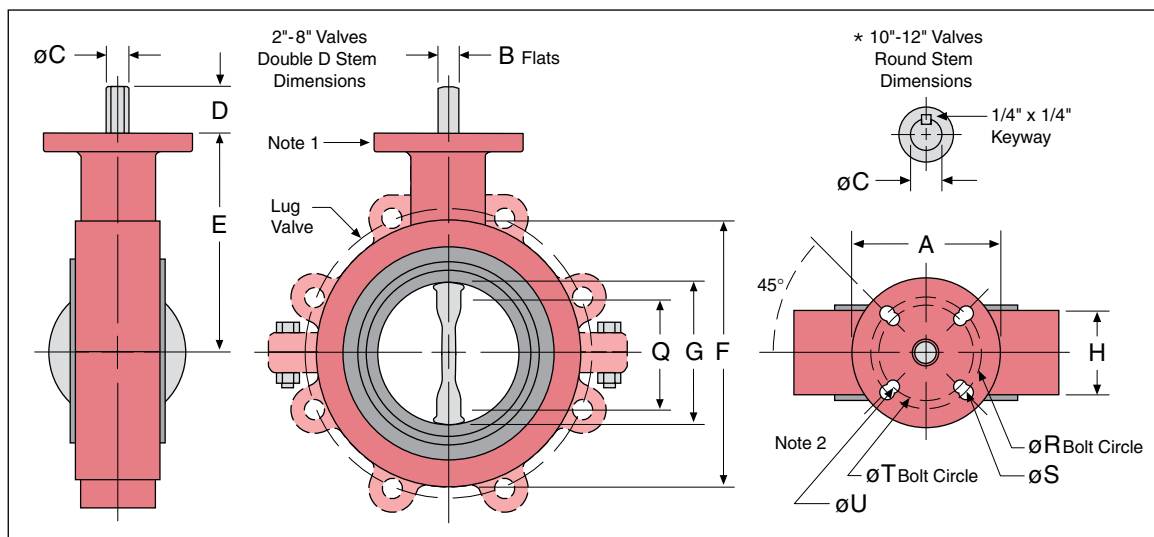
Type	Minimum	Maximum
EPDM	-40°F	+250°F
Buna	0°F	+212°F
Nitrile	-20°F	+275°F
White Nitrile	-20°F	+275°F
PTFE	-20°F	+300°F
FKM	0°F	+400°F

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Dimensions

Valve Size ins	mm	A	B	C	D	E	F	G	H	Q	R	S	T	U	Lug Data	
		BC	Tap													
2	50	4.00	.375	.563	1.250	4.063	4.125	2.125	1.625	1.531	3.250	.438	2.760	.375	4.750	.625-11
2 1/2	65	4.00	.375	.563	1.250	4.625	4.875	2.50	1.750	1.969	3.250	.438	2.760	.375	5.50	.625-11
3	75	4.00	.375	.563	1.250	5.00	5.375	3.125	1.750	2.689	3.250	.438	2.760	.375	6.00	.625-11
4	100	4.00	.438	.625	1.250	6.00	6.875	4.125	2.00	3.719	3.250	.438	2.760	.375	7.50	.625-11
5	125	4.00	.438	.625	1.250	6.00	7.750	5.188	2.125	4.813	3.250	.438	2.760	.375	8.50	.750-10
6	150	4.00	.500	.750	1.250	6.625	8.750	6.125	2.125	5.813	3.250	.438	2.760	.375	9.50	.750-10
8	200	6.00	.625	.875	1.250	8.313	11.00	8.125	2.50	7.813	5.00	.563	4.020	.438	11.750	.750-10
10	250	6.00	—	1.125*	2.00	9.125	13.375	10.125	2.50	9.906	5.00	.563	4.020	.438	14.250	.875-9
12	300	6.00	—	1.125*	2.00	10.645	16.125	12.094	3.00	11.844	5.00	.563	4.020	.438	17.00	.875-9

All 390/393 Series are designed to meet MSS SP67 dimensional standards.



Notes:

- 2"-6" Stainless Steel Valve Bodies have an integral Throttling Top Plate. 8", 10" and 12" SS Valves, and all sizes Cast Iron, Nodular Iron & Aluminum Valves have standard Top Flanges, notch plates are supplied with handle.
- Bolt Circle T and Hole Diameter U meet ISO 5211 standards for Top Flange Drilling: 2"-6" = F7 8"-12" = F12 Not applicable to Aluminum bodies.



Operator and Actuator Mounting

Ultraflo has designed the 300 Series operator mounting Top Flange to ISO 5211 specifications for direct mounting of manual operators and actuators. Designed to recognized industrial standards, the Double D stem connection provides a secure connection with most actuators eliminating the need for brackets.

Ultraflo offers a wide range of automation products including handles, gear operators, rack and pinion pneumatic actuators, pneumatic cylinder and wrench arm assemblies, electric actuators, pneumatic and electro-pneumatic positioners, solenoids, valve position indicators, proximity and limit switches.



Flange Requirements

The valve O.D. and flange bolt circle must share a common center line. The valve is designed to be placed between ASME/ANSI 125 or 150 lb. flanges.

The data represented in this brochure is for general information only. Manufacturer is not responsible for acceptability of these products in relation to system requirements. Consult your Ultraflo representative for specific performance data and proper materials selection for your particular application.

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