
SOLUTIONS FOR THE TRANSPORTATION INDUSTRY

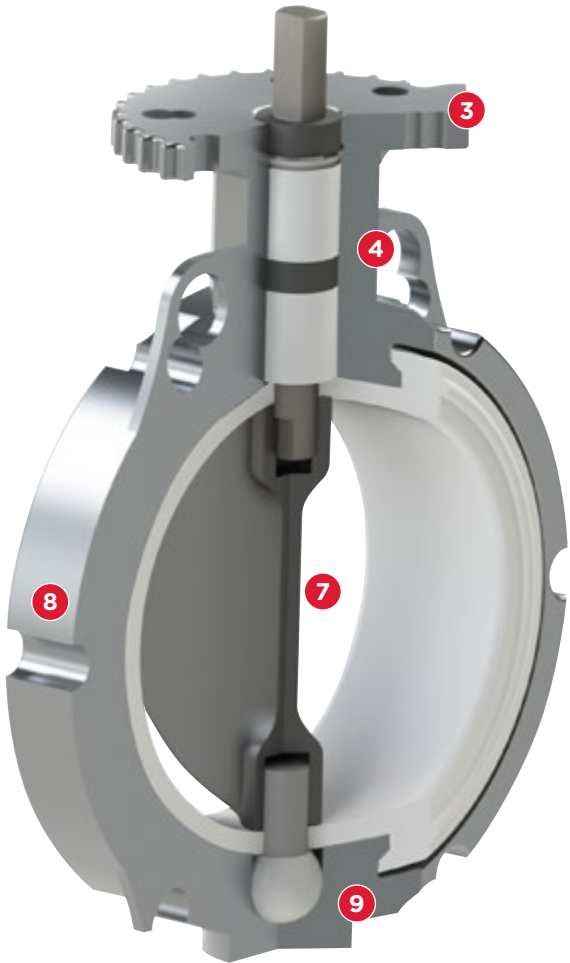


ULTRAFLOVALVE.COM

UltraSphere™
780 Series Butterfly Valves

DESIGN FEATURES

- 1 Available in sizes 3" thru 6"
- 2 One handle fits sizes 3" thru 6"
- 3 Integrated 180° notch plate eliminates mounting hardware
- 4 Extra stem packing seals bushing and stem bore
- 5 No fasteners required to mate the disc to the stem
- 6 Three piece design enables use of dissimilar materials for stem and disc components
- 7 Slim disc profile enhances flow
- 8 One piece body eliminates body hardware
- 9 Spherical lower bushing and pivot-able lower stem eliminates plugs or retainers

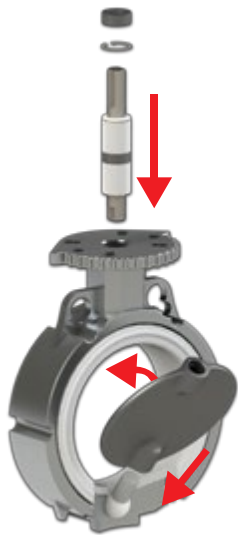


TECHNICAL DATA

Materials of Construction	
Body	Cast Aluminum
Resilient Seat	Food Grade - Carboxylated Nitrile (black or white) Buna-N or EPDM Non Food Grade - FKM
Disc	316SS Ductile Iron
Stems	17-4PH Stainless
Stem Bushings	Upper & Lower - Thermoplastic Polymer
Manual Operator Components	
Handle	High strength aluminum alloy Nodular Iron Stainless Steel
Throttling Plates	Integrated high strength 180° throttle plate accepts either 5 or 10 position handles.
Bidirectional Pressure Ratings	
Disc Type	Rating
Standard Under Cut Disc	50 psi
780 Series bidirectional pressure ratings, disc in closed position.	

RESILIENT SEAT

Ultraflo seats incorporate a dovetail retention system to ensure positive installation alignment and ease of assembly. All Ultraflo seats include an integral flange face seal ring molded into the seat providing a positive seal. Additionally, the seat completely isolates the line media from the valve body, reducing wear and increasing service life.



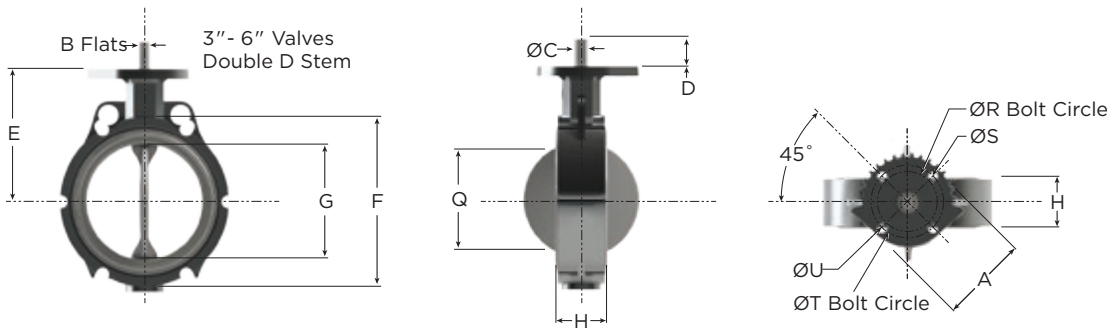
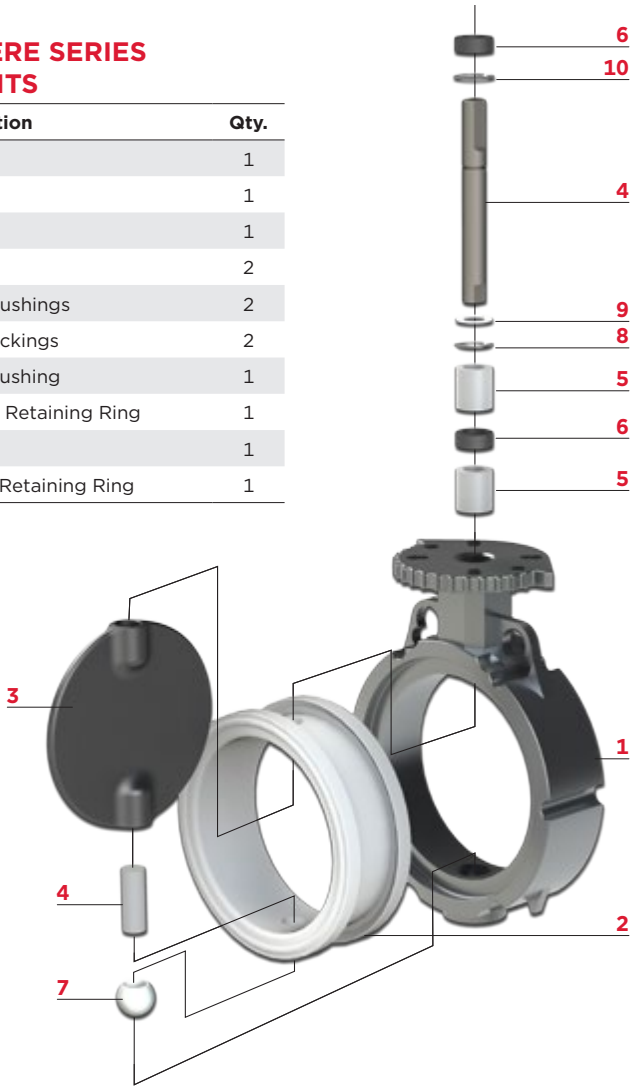
Easy
disassembly for
replacement
of wear
components.

**DIMENSION AND
FLANGING NOTES**

- > H dimension is the installed width.
- > Q dimension is the minimum allowable inside diameter of the pipe or mating flange.
- > 3"- 6" Valves include 2 independent Top Plate Drilling patterns: R/S and T/U.
- > Flange Requirements: The valve O.D. and flange bolt circle must share a common center line.
- > All UltraSphere aluminum valves are designed to fit lightweight and ASME 125/150 flanges.
- > 4", 5" and 6" valves require additional machining to fit TTMA flanges and require an "A" following the size indication in the part number.
- > 3" aluminum bodied Ultraflo valves fit TTMA flanges as standard.

**ULTRASPHERE SERIES
COMPONENTS**

Item	Description	Qty.
1	Body	1
2	Seat	1
3	Disc	1
4	Stems	2
5	Upper Bushings	2
6	Stem Packings	2
7	Lower Bushing	1
8	External Retaining Ring	1
9	Bearing	1
10	Internal Retaining Ring	1



DIMENSIONS

Valve Size		A	B	C	D	E	F	G	H	Q	Top Plate Drilling Dimensions				
In.	mm										R	S	T	U	Holes
3	75	4.00	.438	.625	1.250	4.875	5.275	3.125	1.750	2.689	3.250	.438	2.760	.375	4
4	100	4.00	.438	.625	1.250	6.00	6.775	4.125	2.00	3.719	3.250	.438	2.760	.375	4
5	125	4.00	.438	.625	1.250	6.00	7.650	5.188	2.125	4.813	3.250	.438	2.760	.375	4
6	150	4.00	.438	.625	1.250	6.50	8.650	6.125	2.125	5.813	3.250	.438	2.760	.375	4

SERIES 400 & 480 1 PIECE BODY DESIGN

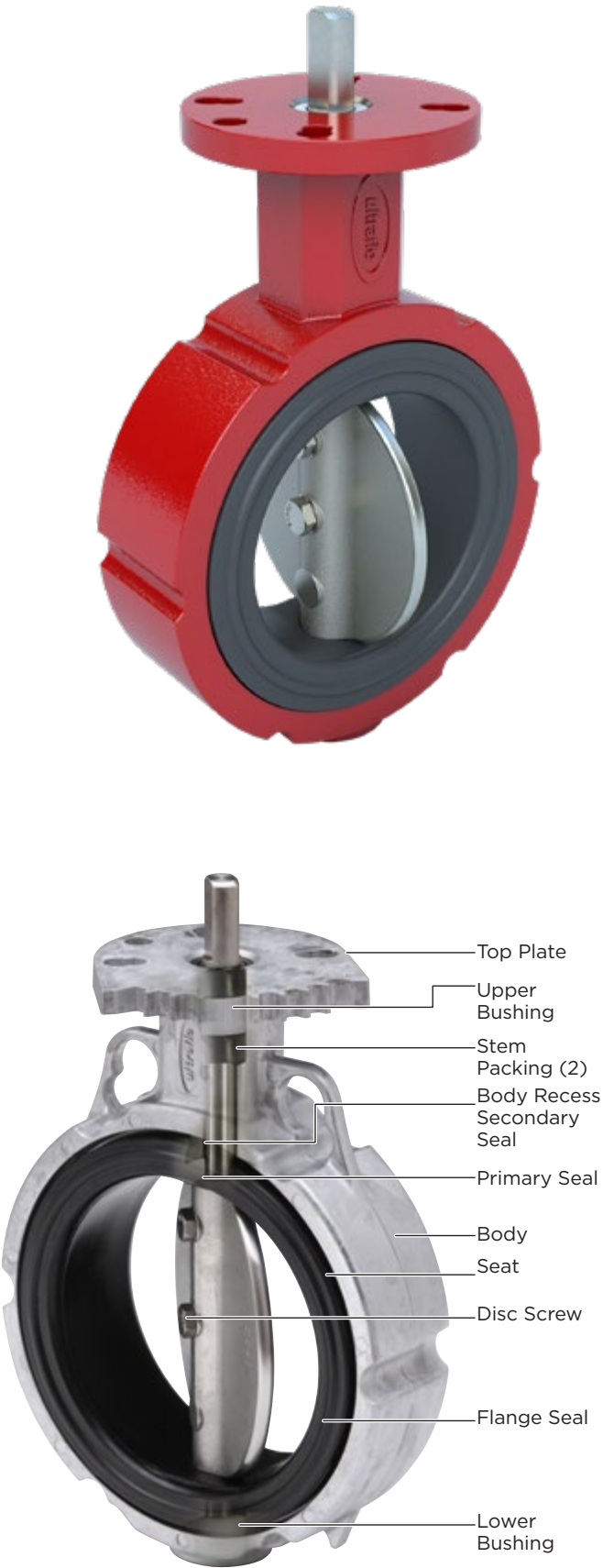
DESIGN FEATURES

- 400 Series available in sizes 2" thru 12"
- 480 Series available in sizes 3" thru 6" (Aluminum body only)
- One piece body design
- Direct mount top plate for easy automation
- Low profile neck increases clearance
- Lightweight, durable construction
- Seat design ensures positive retention and easy replacement

TECHNICAL DATA

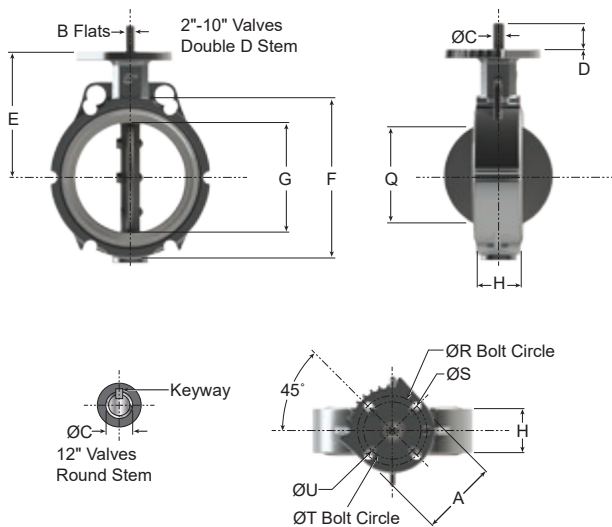
Materials of Construction	
Body	Cast aluminum
	Cast iron epoxy coated
Resilient Seat	Food Grade - Carboxylated Nitrile (black or white)
	Buna-N
	EPDM
	Non Food Grade - FKM
Disc	316 Stainless Steel
	Ductile Iron
	Nylon 11 Coated Ductile Iron
Stem	17-4PH Stainless
Stem Bushings	Upper & Lower - Thermoplastic Polymer
Manual Operator Components	
Handle	High strength aluminum alloy
	Nodular Iron
	Stainless Steel
Series 400 Throttling Plates	5 position high strength aluminum alloy
	10 position high strength aluminum alloy
	10 position stamped steel
Series 480 Throttling Plates	Integrated high strength 9 position throttle plate accepts either 5 or 10 position handles
Bidirectional Pressure Ratings	
Disc Type	Rating
Standard Under Cut Disc	50 psi
Optional Full Cut Disc	150 psi
400 Series bidirectional pressure ratings, disc in closed position.	

Ultraflo's 400 Series valves have set the standard in bulk trailer applications for both performance and economy. Engineered for long service at a low price, this valve incorporates all the advantages of resilient seated butterfly valves plus the features required in bulk trailer transportation applications. The 400 Series offers rugged, lightweight construction, smooth quarter-turn operation, and ease of installation and maintenance.



**DIMENSION AND
FLANGING NOTES**

- > H dimension is the installed width.
- > Q dimension is the minimum allowable inside diameter of the pipe or mating flange.
- > 2" - 6" Valves include 2 independent Top Plate Drilling patterns: R/S and T/U.
- > **Flange Requirements:** The valve O.D. and flange bolt circle must share a common center line.
- > All 400 Series aluminum valves are designed to fit lightweight and ASME 125/150 flanges. 4", 5", 6" and 8" valves require additional machining to fit TTMA flanges and require an "A" following the size indication in the part number.
- > 2" 400 Series and all 3" aluminum bodied Ultraflo valves fit TTMA flanges as standard.
- > 400/480 Series 3" and 5" aluminum body valves feature flange alignment ears to ensure proper positioning and ease of installation.



SERIES 400 & 480 COMPONENTS

Item	Description	Qty.
1	Body	1
2	Seat	1
3	Disc	1
4	Stem	1
5	Upper Bushing	1
6	Stem Packing	2
7	Lower Bushing (4" and larger only)	1
8	O-Ring	2
9	Disc Screw	2



DIMENSIONS

Valve Size		A	B	C	D	E	F	G	H	Q	Top Plate Drilling Dimensions				
In.	mm										R	S	T	U	Holes
2	50	4.00	.375	.563	1.250	3.938	4.025	2.125	1.625	1.531	3.250	.438	2.760	.375	4
2½*	65	4.00	.375	.563	1.250	4.50	4.775	2.50	1.750	1.969	3.250	.438	2.760	.375	4
3	75	4.00	.375	.563	1.250	4.875	5.275	3.125	1.750	2.689	3.250	.438	2.760	.375	4
4	100	4.00	.438	.625	1.250	6.00	6.775	4.125	2.00	3.719	3.250	.438	2.760	.375	4
5	125	4.00	.438	.625	1.250	6.00	7.650	5.188	2.125	4.813	3.250	.438	2.760	.375	4
6	150	4.00	.438	.625	1.250	6.50	8.650	6.125	2.125	5.813	3.250	.438	2.760	.375	4
8	200	6.00	.500	.750	1.250	8.313	10.90	8.125	2.50	7.813	5.00	.563	—	—	4
10	250	6.00	.625	.875	1.250	9.125	13.275	10.125	2.50	9.906	5.00	.563	—	—	4
12	300	6.00	—	1.125	2.00	10.645	16.025	12.093	3.00	11.938	5.00	.563	—	—	4

* 2½" size valves are offered only in cast iron bodies and are not available in aluminum.

SERIES 380 & 390 SPLIT BODY DESIGN

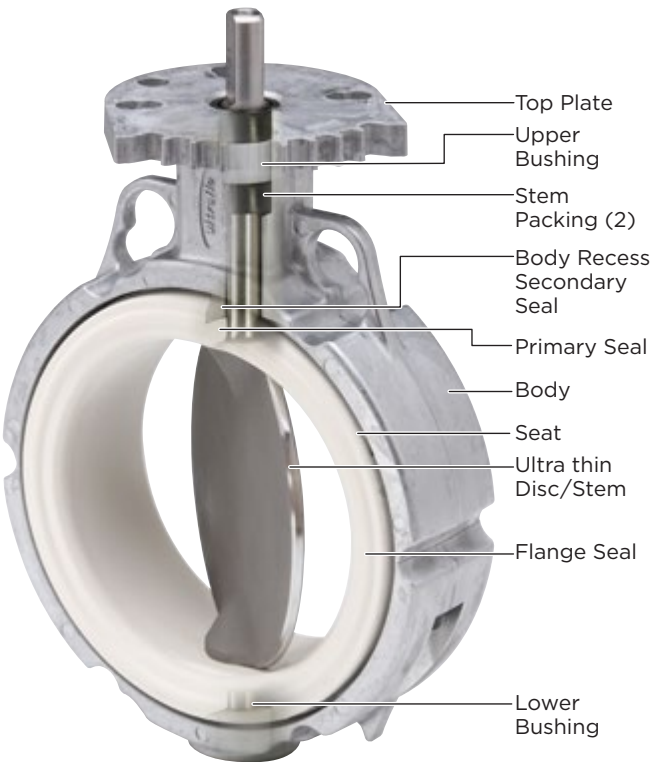
DESIGN FEATURES

- 1 Piece disc/stem meets sanitary requirements
- 390 Series available in sizes 2" thru 12"
- 380 Series available in 3" (aluminum body only)
- Split body construction offers quick and easy cleaning/repairs
- Lightweight, durable construction
- Seat design ensures positive retention and easy replacement
- Hand polished sealing edge on disc
- Direct mount top plate for easy automation
- Low profile neck increases clearance

TECHNICAL DATA

Materials of Construction	
Body	Cast aluminum
	Cast iron epoxy coated
Resilient Seat	Food Grade - Carboxylated Nitrile (black or white)
	Buna-N
	EPDM
	Non Food Grade - FKM
	EPDM backed PTFE
Disc/Stem	316 Stainless Steel
	17-4 PH or 225 Duplex Stainless
Stem Bushings	Upper & Lower - Thermoplastic Polymer
Manual Operator Components	
Handle	High strength aluminum alloy
	Nodular iron
	Stainless Steel
Series 390 Throttling Plates	5 position high strength aluminum alloy
	10 position high strength aluminum alloy
	10 position stamped steel
Series 380 Throttling Plates	Integrated high strength 9 position throttle plate accepts either 5 or 10 position handles
Bidirectional Pressure Ratings	
Disc Type	Rating
Standard Under Cut Disc	50 psi
Optional Full Cut Disc	150 psi

For chemical and acid applications, Ultraflo Series 390 valves offer an epoxy coated cast iron body, and feature a one-piece 316 stainless steel disc/stem standard. For more demanding applications, a variety of disc/stem coatings and encapsulations are offered, including: ECTFE (Halar®), EPDM, or PTFE (Teflon®). Seat materials include EPDM, Carboxylated Nitrile, FKM (Viton®), and Buna, as well as PTFE (Teflon®) lined for the harshest applications.

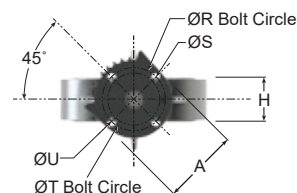
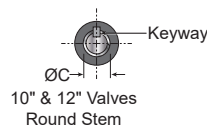
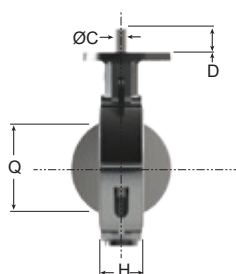
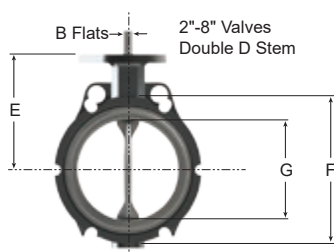


DIMENSIONS AND FLANGING NOTES

- > H dimension is the installed width.
- > Q dimension is the minimum allowable inside diameter of the pipe or mating flange.
- > 2" - 6" Valves include 2 independent Top Plate Drilling patterns: R/S and T/U.
- > **Flange Requirements:** The valve O.D. and flange bolt circle must share a common center line.
- > All aluminum valves are designed to fit lightweight and ASME 125/150 flanges. 4", 5", 6" and 8" valves require additional machining to fit TTMA flanges and require an "A" following the size indication in the part number.
- > 2" 400 Series and all Series 3" aluminum bodied Ultraflo valves fit TTMA flanges as standard.
- > Series 380 3" and Series 390 3" and 5" aluminum body valves feature flange alignment ears to ensure proper positioning and ease of installation.

SERIES 380 & 390 COMPONENTS

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



DIMENSIONS

Valve Size		A	B	C	D	E	F	G	H	Q	Top Plate Drilling Dimensions				
In.	mm										R	S	T	U	Holes
2	50	4.00	.375	.563	1.250	3.938	4.025	2.125	1.625	1.531	3.250	.438	2.760	.375	4
2½*	65	4.00	.375	.563	1.250	4.50	4.775	2.50	1.750	1.969	3.250	.438	2.760	.375	4
3	75	4.00	.375	.563	1.250	4.875	5.275	3.125	1.750	2.689	3.250	.438	2.760	.375	4
4	100	4.00	.438	.625	1.250	6.00	6.775	4.125	2.00	3.719	3.250	.438	2.760	.375	4
5	125	4.00	.438	.625	1.250	6.00	7.650	5.188	2.125	4.813	3.250	.438	2.760	.375	4
6	150	4.00	.500	.750	1.250	6.50	8.650	6.125	2.125	5.813	3.250	.438	2.760	.375	4
8	200	6.00	.625	.875	1.250	8.313	10.900	8.125	2.50	7.813	5.00	.563	—	—	4
10	250	6.00	—	1.125	2.00	9.125	13.275	10.125	2.50	9.906	5.00	.563	—	—	4
12	300	6.00	—	1.125	2.00	10.645	16.025	12.093	3.00	11.938	5.00	.563	—	—	4

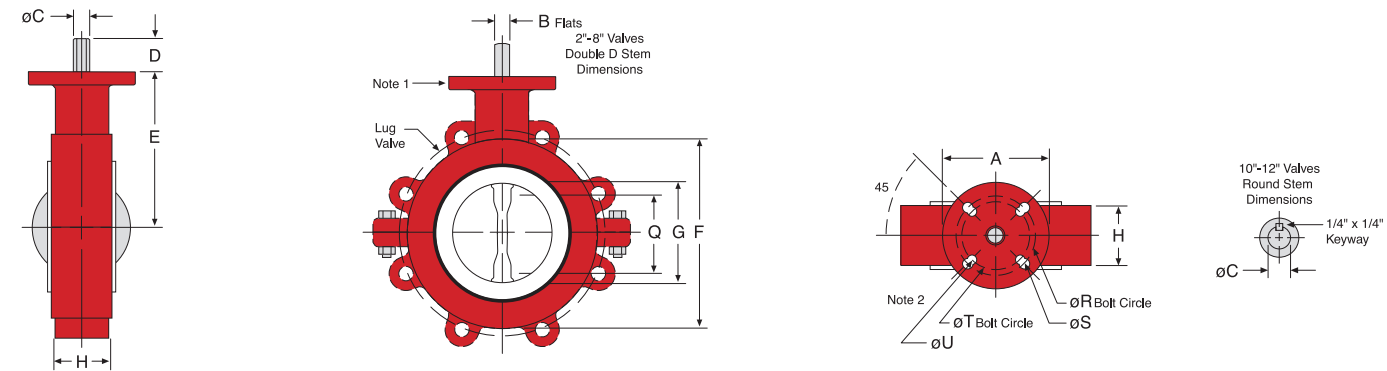
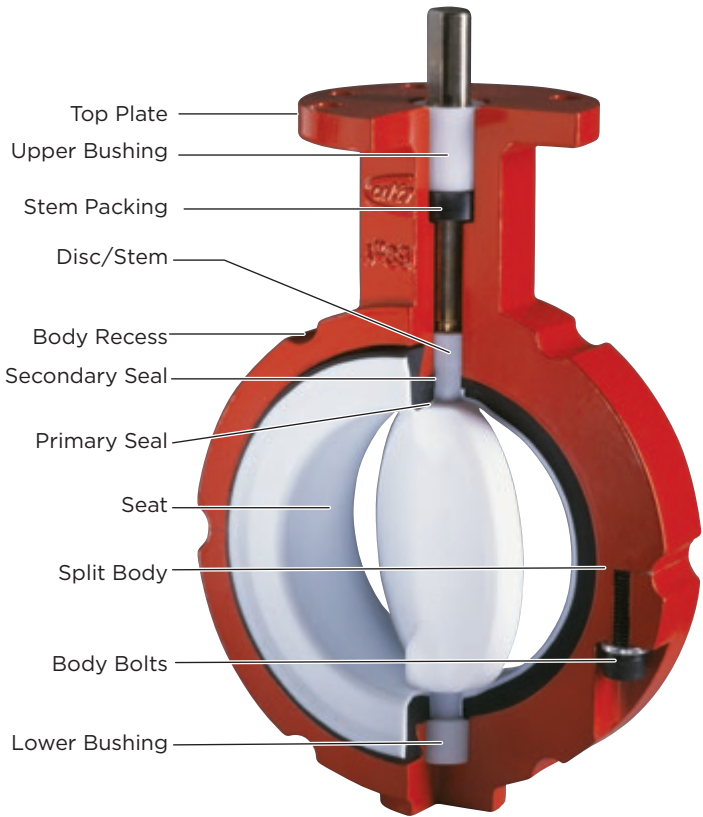
* 2½" size valves are offered only in cast iron bodies and are not available in aluminum.

SERIES 392/399 CHEMICAL VALVE



For chemical and acid applications Ultraflo offers the series 392/399. The Series 392/399 is offered with an epoxy coated cast iron body. Our standard valve features 316 stainless steel disc/stems.

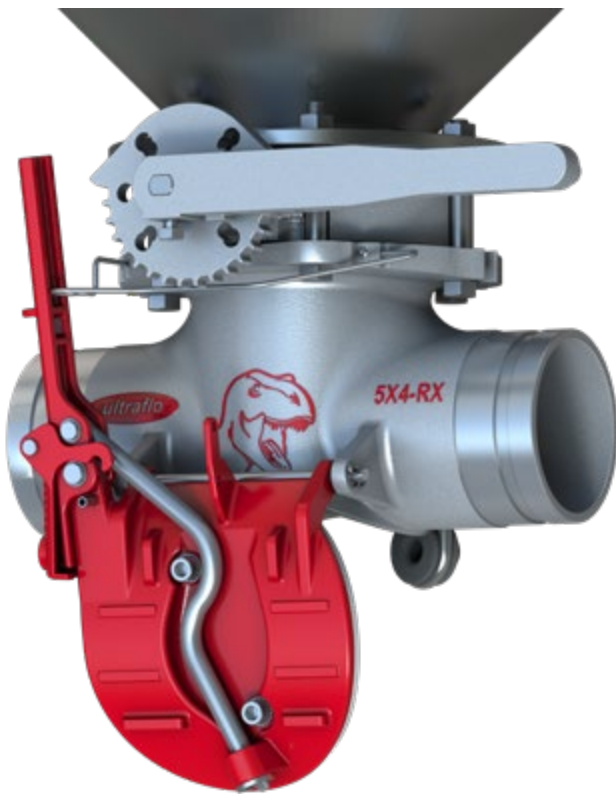
For more demanding applications a variety of disc/stem coatings and encapsulations are offered including Halar®, EPDM, Viton® or PTFE. Seat materials include EPDM, carboxylated nitrile and Buna, as well as FKM and PTFE lined for the most harsh applications.



DIMENSIONS

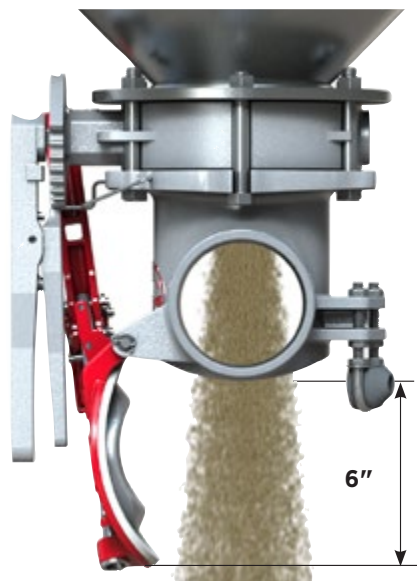
Valve Size															Lug Data	
In.	mm	A	B	C	D	E	F	G	H	Q	R	S	T	U	BC	Tap
2	50	4.00	.375	.563	1.250	4.063	4.125	2.00	1.625	1.313	3.250	.438	2.760	.375	4.750	.625-11
3	75	4.00	.375	.563	1.250	5.00	5.375	3.00	1.750	2.563	3.250	.438	2.760	.375	6.00	.625-11
4	100	4.00	.438	.625	1.250	6.00	6.875	4.00	2.00	3.563	3.250	.438	2.760	.375	7.50	.625-11
5	125	4.00	.438	.625	1.250	6.00	7.750	5.00	2.125	4.531	3.250	.438	2.760	.375	8.50	.750-10
6	150	4.00	.500	.750	1.250	6.625	8.750	5.75	2.125	5.438	3.250	.438	2.760	.375	9.50	.750-10
8	200	6.00	.625	.875	1.250	8.313	11.00	7.75	2.50	7.438	5.00	.563	4.020	.438	11.75	.750-10
10	250	6.00	—	1.125*	2.00	9.125	13.375	9.75	2.50	9.531	5.00	.563	4.020	.438	14.25	.875-9
12	300	6.00	—	1.125*	2.00	10.645	16.125	11.75	3.00	11.50	5.00	.563	4.020	.438	17.00	.875-9

All 392/399 Series are designed to meet MSS SP67 dimensional standards.

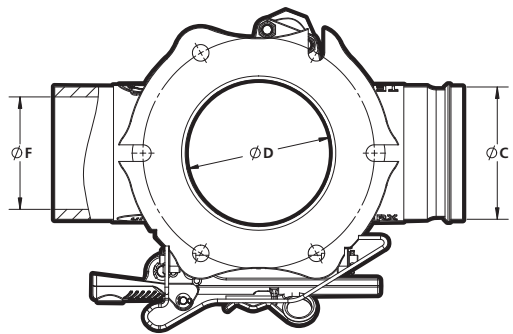
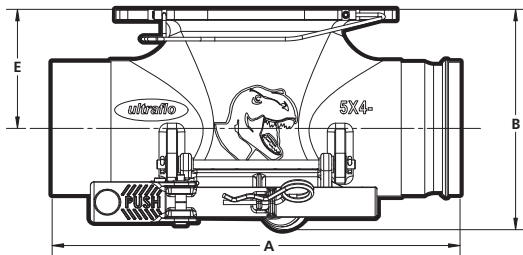


Designed with the Operator in Mind

Ultraflo introduces a revolutionary design in bottom drop tee operation that emphasizes operator safety and ease of use. The Tee-Rx (Patented) is engineered to place all operations necessary to open and close the tee within easy reach of the operator eliminating the need to squat or reach across trailer piping. The Tee-Rx also includes a retainer to assist in keeping the door completely out of the media's path and to conveniently locate the handle for closing the tee. These features enable the operator to both open and close the bottom drop door in one fluid movement with either hand or foot.



Competitor's door assembly extends down nearly 16 inches.



TEE DIMENSIONS

Size	A	B	C	D	E	F	Weight lb.	B. Circ.	Holes	Hole Dia.	Material
5X4RX-UT	13.88	7.50	4.50	5.0	4.05	3.83	28.60	7.875	6	.563	Ultra Tuff
5X4RX-TEE	13.88	7.63	4.50	5.0	4.18	3.83	15.06	7.875	6	.563	Aluminum
6X4RX-UT	13.88	7.50	4.50	6.0	4.05	3.83	28.90	9.00	8	.563	Ultra Tuff
6X4RX-TEE	13.88	7.63	4.50	6.0	4.18	3.83	15.46	9.00	8	.563	Aluminum

Notes: Rx-Ut: Plain By U-Groove Is Shown. U-Groove By Plain And Plain By Plain Are Also Available.
Rx-Tee: Available Only In Groove By Groove (Not U-Groove).

TEES



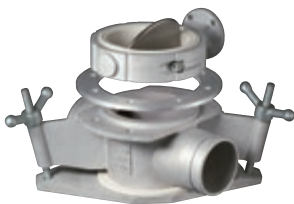
**Cast Aluminum
Straight Tee**



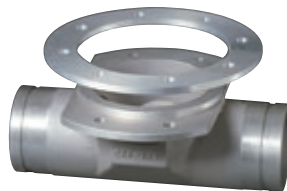
**Cast Aluminum
Bottom Drop Tee**

STANDARD TEE

- > Straight and Bottom Drop units
- > Rugged cast aluminum
- > Smooth, weld free flow paths
- > High unloading rates with reduced flow turbulence
- > Dimensionally interchangeable with industry standards
- > Rigid bottom drop door features increased ground clearance
- > All units are available with abrasion resistant urethane lining
- > Straight Tees available in 4" x 4", 5" x 4", 6" x 5" and 6"x4" sizes
- > Standard Bottom Drop Tees available in 4" x 4" and 8" x 4" sizes
- > See Tee Rx for other sizes



**Dual Flanged Bottom
Drop Tee with Valve**



**Dual Flanged
Straight Tee**

DUAL FLANGED TEES

Ultraflo's unique Dual Flanged Tees offer increased clearance and easy installation/maintenance.

- > Dual flanged design allows removal of Tee while valve remains in place
- > Optimum ground clearance
- > Rugged cast aluminum construction
- > Smooth, weld free flow paths for optimal off loading
- > High unloading rates with reduced flow turbulence
- > Straight and Bottom Drop Tees available in 5" x 4" and 6" x 4" sizes

ACTUATORS



100 SERIES PNEUMATIC ACTUATORS

- > Operates valve sizes 2" - 12"
- > Double Acting and Spring Fail Safe versions are offered
- > Hard anodized aluminum housing
- > Direct mounting to Ultraflo valves
- > ISO mounting compliant
- > NAMUR compliant

These rack and pinion actuators are suitable for both on-off and throttling applications. The Spring Fail Safe units feature a spring cartridge system for easy and safe maintenance. Features include external travel stops and valve position indicator.

MANUAL OPERATORS

- > Direct coupling to the Ultraflo top plate
- > Handles are available in 5 position, 10 position and multiple position configurations
- > Available in aluminum, nodular iron and stainless steel
- > Open and closed stops are built-in
- > Nodular iron and stainless steel handles can be padlocked to prevent operation

3 & 4-WAY SOLENOID VALVES

- > Simple electrical operation of pneumatic actuators
- > Available in NEMA 4 and NEMA 4, 7, 9 enclosures
- > Direct mount to Ultraflo actuators
- > No external tubing required

EXTENSIONS



- > Can be retrofitted to installed valves
- > Mounts to Ultraflo and Competitor's valves
- > Can be purchased and inventoried separately
- > Round profile simplifies field installation of bracing
- > Maintenance free
- > Can be customized to any length
- > Captive design of coupler can't vibrate or work loose
- > Standard stem extension assembly part #'s are SE02T-XXX and SE03T-XXX where "XX" designates the length in inches.
- > See below fitment guide to determine whether SE02 or SE03 Extensions are required
- > Bracing is recommended for lengths of 12" and greater

EXTENSION FITMENT GUIDE

Valve Size in	Ultraflo			BTI	Sure Seal	
	780	400/480	390/380		500	890
3	SE02T-XXX	N/A	N/A	SE02T-XXX/ SE02T-RFPL	N/A	N/A
4	SE02T-XXX	SE02T-XXX	SE02T-XXX	SE03T-XXX/ SE02T-RFPL	SE02T-XXX	SE02T-XXX
5	SE02T-XXX	SE02T-XXX	SE02T-XXX	SE03T-XXX/ SE02T-RFPL	SE02T-XXX	SE02T-XXX
6	SE02T-XXX	SE02T-XXX	SE03T-XXX	SE03T-XXX/ SE02T-RFPL	SE02T-XXX	SE03T-XXX

* SE02T-RFPL is required for mounting to BTI valves

Stem extensions can be customized to any length (up to 48") in full inch increments. Lengths outside the above guidelines are available, consult factory for more information.



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