

# Tangential valves

## Tangential valves

### Features and benefits

- Radial diaphragm, eliminates entrapment for easy cleaning
- Off-centre outlet for full drainability when installed on the slope of a vessel head
- Simple Tri-Clamp assembly makes maintenance 80 % faster
- No readjustment or retightening



### Performance

Tangential valve flow rates		
Size	Cv at 0.07 bar (1 psi)	
inches	LPM	USGPM
1.00	59.8	15.8
1.50 (True)	180	48
1.50	212	56
2.00	272	72
2.50	340	90
3.00	643	170

### Technical specifications

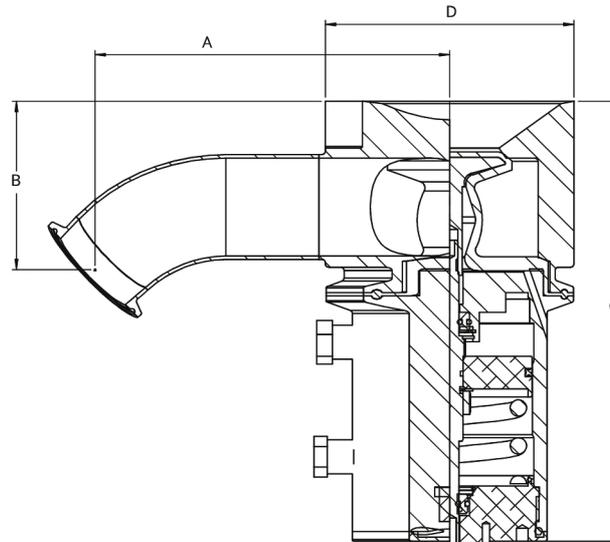
	Tangential valves
Flow rate	59.8 - 643 l/m
Flow rate	15.8 - 170 USGPM
Sizes	1.0", 1.5", 2.0", 2.5", 3.0"
Outlet connections	Hygienic clamp, Tube end
Max. operating pressure	17 bar (250 psi)
Operating temperature	-51 °C to 177 °C (-60 °F to 350 °F)
Compatible actuators	Compact pneumatic, Fail closed, Fail open, Manual
Compatible diaphragms	EPDM, Silicone, Silicone plus, Viton
Surface finish options	Electropolished, Max 10 micro-inch Ra (0.25 µm Ra), Max 15 micro-inch Ra (0.375 µm Ra), Max 20 micro-inch Ra (0.5 µm Ra)
Certification and compliance	ISO 9001
Standards	ASME BPE, CE-PED
Weight	1.63 - 17.5 kg (3.6 - 38.59 lbs)

Temperature range depends on diaphragm material.

### Materials of construction

	Tangential valves
Material	Hastelloy C22, Hastelloy C276, Stainless steel 316L, Stainless steel AL-6XN

## Tangential valves dimensions



TR/TLXX-100-X: Flush-mounted Tangential valve

Size	B		B		C - with Pneumatic Actuator		C - with Manual Actuator		D	
inches	mm	in	mm	in	mm	in	mm	in	mm	in
1.00	111	4.37	52	2.04	173	6.82	134	5.26	76	2.98
1.50	132	5.19	66	2.60	189	7.42	144	5.65	66	2.60
2.00	171	6.72	82	3.22	213	8.40	193	7.59	120	4.71
2.50	192	7.54	102	4.00	274	10.77	214	8.43	125	4.91
3.00	171	6.75	101	3.97	274	10.77	214	8.42	125	4.91

## Weights

Weights						
Size	Valve Body		Total Weight with Manual Actuator		Total Weight with Pneumatic Actuator	
inches	kg	lb	kg	lb	kg	lb
1.00	1.63	3.60	3.5	7.80	3.92	8.65
1.50	2.15	4.75	3.78	8.35	4.44	9.80
2.00	7.43	16.38	10	22.93	11.22	24.73
2.50	17.50	38.59	21	45.59	28.28	62.34
3.00	17.50	38.59	21	45.58	28.27	62.33

## Product codes

Model Code	Part Description
TL10-100-1	Radial valve, 1" Flush Tank, Tangential Left EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 1" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp
TL17-100-1	Radial valve, 1.5" Flush Tank, Tangential Left EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 1.5" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp
TL20-100-1	Radial valve, 2" Flush Tank, Tangential Left EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 2" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp
TL30-100-1	Radial valve, 3" Flush Tank Tangential Left EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 3" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp
TR10-100-1	Radial valve, 1" Flush Tank, Tangential Right EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 1" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp
TR15-100-1	Radial valve, 1.5" Flush Tank, Tangential Right EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 1.5" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp
TR20-100-1	Radial valve, 2" Flush Tank, Tangential Right EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 2" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp
TR30-100-1	Radial valve, 3" Flush Tank Tangential Right EN 1.4435 body/EN1.4404 fittings, Fits 0.375" thick or less head, 3" 45 clamp-end outlet, Flush diaphragm, 20 micro-inch Ra surface finish, electropolished and passivated, includes body/actuator clamp

Note: for additional configurations, please contact Watson-Marlow.

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