

Series 705W VdS FireLock® Butterfly Valve

With Weatherproof Actuator For 16 Bar Service

PRODUCT DESCRIPTION

The Series 705W VdS butterfly valve features a weatherproof actuator housing approved for indoor or outdoor use. It has a ductile iron body and nickel plated disc with EPDM disc coating and nickel plated stem. The body is coated with a heat fused polyphenylene sulfide blend. The Series 705W VdS butterfly valve meets the VdS 2245 shutoff valve specifications and is approved for 16 Bar service.

Weatherproof Actuator

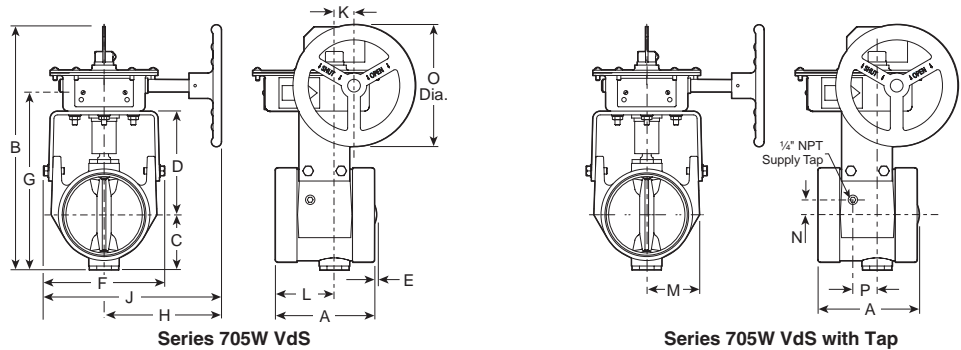
Supervisory switches for valves are all available pre-wired (PW).

Supply-side Tap

Series 705W valves are available with a 1/4" NPT supply side tap designed to allow direct water supply connection to Victaulic FireLock actuated fire protection valves. See separate drawings below. This is an optional feature and must be clearly noted on all orders. Contact Victaulic for additional information on tapped valves.



DIMENSIONS



SIZE millimeters Nominal In.	Dimensions – millimeters/inches															Aprx. Wgt. Ea. kg/lbs
	E to E A	Hgt. B	C	D	E	F	G	H	J	K	L	O	M	N	P	
DN65 2.6 76.1 mm	96 3.77	249 9.80	46 1.80	100 3.92	– –	73 2.88	177 6.97	138 5.45	178 7.02	25 0.97	59 2.31	114 4.50	38 1.50	15 0.60	26 1.03	4.1 9.1
DN80 3	96 3.77	266 10.48	54 2.14	107 4.22	2 0.08	89 3.50	193 7.61	138 5.45	186 7.33	25 0.97	59 2.31	114 4.50	45 1.75	0 0.00*	20 0.80	4.4 9.8
DN100 4	118 4.63	302 11.89	69 2.71	129 5.09	2 0.07	153 6.01	230 9.05	138 5.45	218 8.59	25 0.97	71 2.79	114 4.50	66 2.60	19 0.73	31 1.22	6.9 15.3
DN150 6	149 5.88	349 13.74	92 3.61	154 6.06	25 1.00	183 7.20	277 10.92	138 5.45	230 9.05	25 0.97	101 3.96	201 7.9	84 3.32	32 1.25	38 1.50	11.3 25.0
DN200 8	135 5.33	430 16.92	124 4.88	202 7.94	32 1.27	259 10.20	357 14.06	210 8.28	338 13.30	52 2.05	68 2.66	152 6.00	130 5.10	5 0.18	23 0.91	23.6 52.0
DN250 10	163 6.40	486 19.14	148 5.84	221 8.69	44 1.72	310 12.20	400 15.77	256 10.09	411 16.19	52 2.05	81 3.20	229 9.00	– –	– –	– –	36.3 80.0
DN300 12	165 6.50	547 21.54	179 7.04	254 10.00	68 2.66	362 14.25	464 18.28	256 10.09	437 17.22	52 2.05	83 3.25	229 9.00	– –	– –	– –	46.3 102.0

* On centerline.

- To prevent rotation of valves, it is recommended that Series 705W be installed with Victaulic Style 07 Zero-Flex®, Style 005 FireLock or Style HP-70 Rigid Couplings. If Victaulic flexible couplings are used, additional support may be required.
- Valve **must not** be installed with disc in full open position. Disc must be partly closed so that no part is protruding beyond end of valve body.
- Victaulic grooved end butterfly valves are permitted for use with grooved end pipe (IPS) only. Not permitted for use with plain end (IPS) or grooved end cast ductile iron pipe.
- Series 705W valves are designed for ambient weather conditions as opposed to submersible service.



MATERIAL SPECIFICATIONS

Body: Ductile iron conforming to ASTM A-536, grade 65-45-12, coated with polyphenylene sulfide blend. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

Disc: Ductile iron conforming to ASTM A-536, grade 65-45-12, EPDM coating, nickel plated stem

Disc Coating:

- Grade "E" EPDM
EPDM (Green color code). Temperature range -34°C to +110°C (-30°F to +230°F). Recommended for cold and hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. NOT RECOMMENDED FOR PETROLEUM SERVICES.

Stem Bearings: Teflon impregnated fiberglass with stainless steel backing.

Stem Bearing Nuts: 416 Stainless Steel

Tap Plug: Carbon steel, plated.

Bracket: Carbon steel, painted

Actuator:

- DN65 - DN150 mm: Bronze traveling nut on a steel lead screw, in a steel housing.
- DN200 - DN300 mm: Steel worm and cast iron quadrant gear, in a cast iron housing.

PERFORMANCE

The chart expresses the frictional resistance of Victaulic Series 705W in equivalent feet/meters of straight pipe.

SIZE mm Nom. In.	Equiv. m/ft of Pipe	SIZE mm Nom. In.	Equiv. m/ft of Pipe
DN65 76,1 mm	1,6 5	DN200 8	3,4 11
DN80 3	1,6 5	DN250 10	3,7 12
DN100 4	3,7 12	DN300 12	4,3 14
DN150 6	2,5 8		

K_v Values

K_v values for flow of water at +16°C (+60°F) with a fully open valve are shown in the table below.

For additional details contact Victaulic.

Formulas for KV Values:

$$\Delta P = \frac{Q^2}{K_V^2}$$

$$Q = K_V \times \sqrt{\Delta P}$$

Where:

Q = Flow (m³h)

ΔP = Pressure Drop (Bar)

K_v = Flow Coefficient

SIZE millimeters Nominal Inches	K _v (Full Open)	SIZE millimeters Nominal Inches	K _v (Full Open)
DN65 76,1 mm	281	DN200 8	2341
DN80 3	417	DN250 10	4974
DN100 4	513	DN300 12	7180
DN150 6	1600		

SWITCH AND WIRING

Supervisory Switch

DN65 - DN300 mm sizes: Series 705W PW – Two, single pole, double throw, pre-wired switches. Switches are rated 10A @ 125 or 250 VAC 50/60 Hz and 0.25A @ 250 VDC, 0.50A @ 125 VDC

Supervisory Switch Wiring

A. Pre-wired Switches

- 1) Switches Supervise Open Valve
- 2) One switch has two #18 MTW wires per terminal. Permits complete supervision of leads (see diagrams below). Second switch has one #18MTW wire per terminal. This double circuit provides flexibility to operate two electrical devices at separate locations such as an indicating light and an audible alarm in the area at the valve installation.

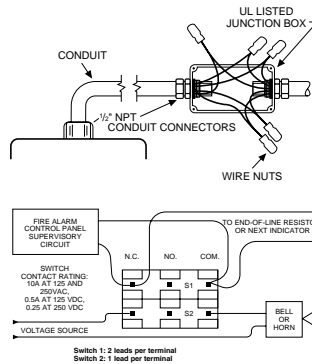
Switch #1 S1

Switch #2 S2

S1 { Normally Closed: (2) Blue
Normally Open: (2) Brown
Common: (2) Yellow

S2 { Normally Closed: Blue with Stripe
Normally Open: Brown with Stripe
Common: Yellow with Stripe

- 3) A ground lead, #14MTW is provided (green)



NOTE: Connecting to Common Terminals (Yellow S1 and Yellow with Orange Stripe - S2), and Normally Closed Terminals (Blue S1 and Blue with Orange Stripe - S2); e.g., indicator light and alarm stays on until valve is fully opened; then indicator light and alarm go out. Cap off unused wire, e.g., Brown and Brown with Orange Stripe.

Actuator Repair

In the unlikely event of an actuator failure, complete actuation replacement is required. ALL REPLACEMENT PARTS MUST BE OBTAINED FROM THE MANUFACTURER TO ASSURE PROPER OPERATION OF THE VALVE.