

# Series 712/Series 713 Swinger® Swing Check Valve

## PRODUCT DESCRIPTION



Series 712



Series 713

Series 712 and 713 Swinger swing check valves are designed for use with standard Victaulic grooved fittings and couplings for fast installation on inlet and outlet ports. The large closure access bonnet permits easy internal coating for corrosive services. A 316 stainless steel clapper features a bonded bumper for coating protection.

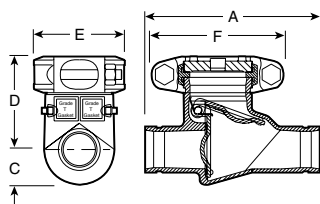
Swing check valves are available with Teflon, EPDM, nitrile or an optional fluoroelastomer seat and EPDM, nitrile or fluoroelastomer bonnet gasket.

Available in 2 - 4" (50 - 100 mm) sizes, Series 712 swing check valves are cast of rugged ductile iron and rated to 300 psi (2065 kPa) service. A 2" (50 mm) size stainless steel model is also available (Refer to Section 12.04). Swinger swing check valves are supplied with bonnet cap drilled and tapped with 1/2" NPT pipe plug for chemical injection or other auxiliary connections.

Series 713 Swinger swing check valves are only available in a 2" (50 mm) size and can be used with high pressure lines (up to 1000 psi/6900 kPa).

*Note: Series 712, Series 712S and Series 713 Swinger check valves should not be installed on vertical pipelines.*

## DIMENSIONS



SERIES 712								
Valve Size		Max. Working Pressure PSI/kPa	Dimensions Inches/millimeters					Approx. Weight Each Lbs./kg
Nominal Diameter In./mm	Actual Outside Diameter In./mm		End to End A	C	D	E	F	
2	2.375	300	9.00	1.81	4.88	4.38	6.38	11.6
50	60.3	2065	229	46	124	111	162	55.3
2½	2.875	300	9.25	2.25	5.50	5.69	7.69	18.0
65	73.0	2065	235	57	140	145	195	8.2
3	3.500	300	10.75	2.50	5.75	6.25	9.00	22.5
80	88.9	2065	273	64	146	159	229	10.2
4	4.500	300	12.00	3.38	7.63	7.96	10.75	38.0
100	114.3	2065	305	86	194	202	273	17.2

SERIES 713								
Valve Size		Max. Working Pressure PSI/kPa	Dimensions Inches/millimeters					Approx. Weight Each Lbs./kg
Nominal Diameter In./mm	Actual Outside Diameter In./mm		End to End A	C	119	E	F	
2	2.375	1000	9.00	1.81	4.88	4.69	6.75	12.0
50	60.3	6900	229	46	4.69	119	172	5.4



## PERFORMANCE

### C<sub>v</sub> Values

C<sub>v</sub> values for flow of water at +60°F (+16°C) with a fully open valve are shown in the table at right.

Formulas for C<sub>v</sub> Values:

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

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

Where:

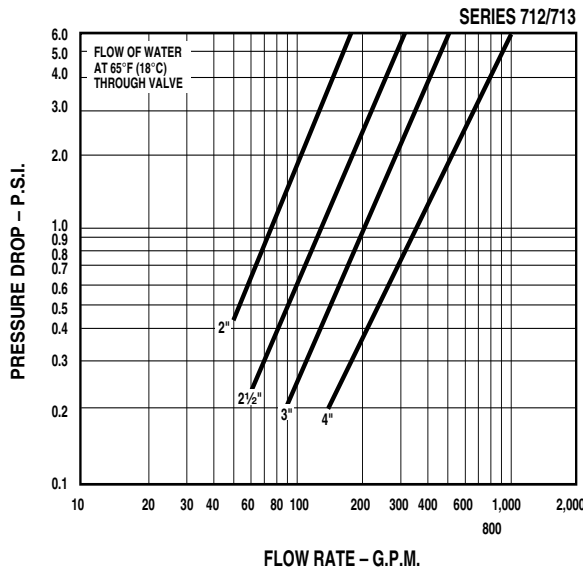
Q = Flow (GPM)

C<sub>v</sub> = Flow Coefficient

ΔP = Pressure Drop (psi)

Valve Size		C <sub>v</sub> (Full Open)	Valve Size		C <sub>v</sub> Full Open)
Nominal Diameter In./mm	Actual Outside Dia. In./mm		Nominal Diameter In./mm	Actual Outside Dia. In./mm	
2	2.375	78	3	3.500	210
50	60,3		80	88,9	
2 1/2	2.875	125	4	4.500	358
65	73,0		100	114,3	

## FLOW CHARACTERISTICS



NOTE: Placement of check valves too close to sources of unstable flow will shorten the life of the valve and potentially may damage the system. To extend valve life, valves should be installed a reasonable distance downstream from pumps, elbows, expanders, reducers or other similar devices. Sound piping practices dictate a minimum of five (5) times the pipe diameter for general use. Distances between three (3) and five (5) diameters are allowable provided the flow velocity is less than eight (8) feet per second (2.4 mps). Distances less than three (3) diameters are not recommended and will violate the Victaulic product warranty.

## MATERIAL SPECIFICATIONS

**Housing:** Ductile iron conforming to ASTM A-536, grade 65-45-12, painted. Series 712S stainless steel Type 316.

**Closure Housing:** Ductile iron conforming to ASTM A-536, grade 65-45-12, electrogalvanized.

**Closure Cap:** Ductile iron conforming to ASTM A-536, grade 65-45-12, painted.

**Cap Plug:** Carbon steel, zinc electroplated.

**Clapper Seat:** See Seat/Closure Gasket.

**Bumper:** See Seat/Closure Gasket.

**Clapper:** Stainless steel Type 316.

**Clapper Pin:** Stainless Steel Type 316.

**Closure Bolt/Nut:** Heat treated carbon steel track-head conforming to ASTM A-183, electroplated.

**Pin Retaining Nut:** Carbon steel (for ductile iron housings) and stainless steel (for stainless steel housings).

**Seat/Closure Gasket:** (Specify choice\*)

- **Grade “E” EPDM**  
EPDM (Green color code). Temperature range  $-30^{\circ}\text{F}$  to  $+230^{\circ}\text{F}$  ( $-34^{\circ}\text{C}$  to  $+110^{\circ}\text{C}$ ). 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. UL classified in accordance with ANSI/NSF 61 for cold  $+86^{\circ}\text{F}$  ( $+30^{\circ}\text{C}$ ) and hot  $+180^{\circ}\text{F}$  ( $+82^{\circ}\text{C}$ ) potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.
- **Grade “T” nitrile**  
Nitrile (Orange color code). Temperature range  $-20^{\circ}\text{F}$  to  $+180^{\circ}\text{F}$  ( $-29^{\circ}\text{C}$  to  $+82^{\circ}\text{C}$ ). Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not recommended for hot water services over  $+150^{\circ}\text{F}$  ( $+66^{\circ}\text{C}$ ) or for hot dry air over  $+140^{\circ}\text{F}$  ( $+60^{\circ}\text{C}$ ).
- **Grade “O” fluoroelastomer**  
(Blue color code). Temperature range  $+20^{\circ}\text{F}$  to  $+300^{\circ}\text{F}$  ( $-7^{\circ}\text{C}$  to  $+149^{\circ}\text{C}$ ). Recommended for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons to  $+300^{\circ}\text{F}$  ( $+149^{\circ}\text{C}$ ).

\*Services listed are General Service Recommendations only. It should be noted that there are services for which these gaskets are not recommended. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service recommendations and for a listing of services which are not recommended.