



Vertically Integrated, Made in the USA  
www.specialtymfg.com

THE SPECIALTY MFG. CO.

5858 Centerville Road  
St. Paul, MN 55127

SMC will quote alternate materials or customize our standard products when quantities ensure competitive pricing.

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## 685 SERIES POPPET CHECK VALVE

1/2" NPT



### Design Considerations

- The 685 Poppet Check Valve incorporates a thin elastomer disc supported by a poppet that seals on the seat
- Pressure in the flow direction moves the seal off the seat at about 1/3 psi before pressure builds enough to move the poppet away from the seat
- Maximum operating pressure of 125 psi covers a wide range of air and fluid applications
- Compact design with a light cracking pressure, high flow rate, and a positive seal at very low back pressure or slight vacuum
- An embedded O-Ring Poppet is supplied for cracking pressure applications 1/2 psi and higher
- Hastelloy® is a superior chemically resistant spring material

### **Example of how to order**

<u>Material</u>	<u>Inlet Port</u>	<u>Outlet Port</u>	<u>Seal</u>	<u>Spring</u>
Black Glass Filled Polypropylene	1/2 Female NPT	1/2 Female NPT	Buna	1/3 psi

**Part Numbers** are a description of the check valve as read left to right, Inlet Port to Outlet Port.  
**FP CHK 685-8F8F-B,DP,1/3#** = Black Glass Filled Polypropylene Check Valve, 1/2 Female NPT Inlet x 1/2 Female NPT Outlet, Disc Poppet, Buna Seals, 1/3 psi Spring

### Specifications

<b>Material</b>	Black Glass Filled Polypropylene, White Glass Filled Polypropylene Black PVDF (Kynar®)
<b>Inlet End</b>	1/2 Male NPT, 1/2 Female NPT
<b>Outlet End</b>	1/2 Male NPT, 1/2 Female NPT
<b>Seal Option</b>	Buna-N, Ethylene Propylene, Fluoroelastomer (Viton®), Silicone, AFLAS® *** Please ask us about Seal Materials not listed above. ***
<b>Spring Option: Cracking Pressure and Material</b>	1/3 psi - 302 Stainless (Disc Poppet) .5 psi - 302 Stainless (O-Ring Poppet) 1 psi - 302 Stainless (O-Ring Poppet) 3 psi - 302 Stainless (O-Ring Poppet) 7 psi - 302 Stainless (O-Ring Poppet) 1/3 psi - Hastelloy® (Disc Poppet) .5 psi - Hastelloy® (O-Ring Poppet) 3 psi - Hastelloy® (O-Ring Poppet) 7 psi - Hastelloy® (O-Ring Poppet) 12 psi - Hastelloy® (O-Ring Poppet) No Spring
<b>Maximum Flow Diameter</b>	0.625 in

<b>Cv</b>	10.2 with 1/2 Female NPT Ends
<b>Maximum Operating Pressure</b>	125 psi
<b>Maximum Operating Temperature</b>	140 °F
<b>Compatibility Statement</b>	<p>It is the sole responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products.</p> <p>Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or product damage.</p>
<b>Pricing and Minimum Order Requirement</b>	<p>Our Minimum Order Requirements are \$100.00 Domestic - \$250.00 International. Pricing is based on the quantity ordered.</p> <p><b>Please indicate a typical order quantity or Estimated Annual Usage when requesting pricing.</b></p>