Cla-Val Rubber-Flex™ Duckbill Check Valves

for wastewater, irrigation and industrial applications
# Cla-Val Rubber-Flex™ Duckbill Check Valves

<table>
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<tr>
<th>Model</th>
<th>Description</th>
<th>Available Sizes</th>
<th>Features</th>
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</thead>
</table>
| RF-DBF | Rubber-Flex Flanged Duckbill Check Valve | 1" - 72" (25mm - 1800mm) | • Available in sizes 1" - 72" (25mm - 1800mm)  
• Standard flange drilling is ANSI 125/150# but can be supplied with ANSI 250/300, DIN, JIS, BS or AS Flange patterns  
• 1" - 2" cracking pressure enables these valves to have the lowest head loss in the industry  
• 316SS retaining rings are supplied as standard |
| RF-DBO | Rubber-Flex Slip-In Duckbill Check Valve | 1" - 72" (25mm - 1800mm) | • Available in sizes 1" - 72" (25mm - 1800mm)  
• Designed to slip directly over an existing pipe  
• Supplied with heavy duty stainless steel clamps  
• Can be installed in either a vertical or horizontal position  
• 1" - 2" cracking pressure enables the lowest head loss in the industry |
| RF-DBF-SB | Rubber-Flex Flanged Sloped Bottom Check Valve | 1" - 72" (25mm - 1800mm) | • Available in sizes 1" - 72" (25mm - 1800mm)  
• Standard flange drilling is ANSI 125/150# but can be supplied with ANSI 250/300, DIN, JIS, BS or AS Flange patterns  
• 1" - 2" (25mm - 50mm) cracking pressure enables these valves to have the lowest head loss in the industry  
• 316SS retaining rings are supplied as standard |
| RF-DBO-SB | Rubber-Flex Slip-On Sloped Bottom Duckbill Check Valve | 1" - 72" (25mm - 1800mm) | • Available in sizes 1" - 72" (25mm - 1800mm)  
• Designed to slip directly over an existing pipe  
• Supplied with heavy duty stainless steel clamps  
• Can be installed in either a vertical or horizontal position  
• 1" - 2" cracking pressure (25mm - 50mm) enables the lowest head loss in the industry |
| RF-DBI | Rubber-Flex Flanged In-Line Duckbill Check Valve | 2" - 72" (50mm - 1800mm) | • Available in sizes 2" - 72" (50mm - 1800mm)  
• This valve can be slipped inside of a pipe and installed between two existing pipe flanges, eliminating the need for a valve body  
• Standard flange drilling is ANSI 125/150# but can be supplied with ANSI 250/300, DIN, JIS, BS or AS Flange patterns |
| RF-DBI-IN | Rubber-Flex Slip-In In-Line Duckbill Check Valve | 2" - 36" (50mm - 900mm) | • Available in sizes 2" - 36" (50mm - 900mm)  
• Ideal for corrosive materials  
• Designed to fit directly inside of an existing pipe  
• Includes Stainless Steel Expansion Clamp to secure valve in place  
• Can be installed in either a vertical or horizontal position |
| RF-DBI-LH | Rubber-Flex Low Head Loss In-Line Duckbill Check Valve | 3" - 72" (80mm - 1800mm) | • Available in sizes 3" - 72" (80mm - 1800mm)  
• Use this valve for airport runway run-offs, railway washouts, highway flood damage prevention and odor control and more  
• Ensures 100% (flush) operation on heavy sewage applications |
| RF-DBJ | Rubber-Flex Jacket Style Duckbill Check Valve | 2" - 36" (50mm - 900mm) | • Available in sizes 2" - 36" (50mm - 900mm)  
• Ideal for heavy duty service, abrasive slurries and sludge  
• An internal valve (RF-DBF) provides low head loss with a full port design  
• Materials include Carbon Steel (Epoxy Coated), Stainless Steel and other materials |

**Notes:** All Cla-Val Duckbill Check Valves can be provided with Internal Vacuum Supports for high pressure/vacuum applications. Consult Factory for material options not listed here.
Overview
Cla-Val Series RF-DB Rubber-Flex Check Valves are a cost effective way to control back pressures from sewage treatment plants, outfalls and tidal operations. They are a fully passive flow device requiring neither maintenance nor any outside sources of power or manual assistance to operate.

Cla-Val Series RF-DB Rubber-Flex Check Valves are offered as direct replacements for ineffective and maintenance ridden flap type check valves, commonly known to seize, rust and bind in unwanted positions. Our Series RF-DB handle large obstructions without jamming while providing protection from:
- Sewage slurries
- Outfalls to ocean fronts from heavy rainfall activity
- Prevention from land erosion due to back flow condition
- Protection from saltwater to fresh water ponds and catch basins and numerous other water based applications.

Design
The simple, one-piece “duckbill” sleeve eliminates moving components and intrusive body structures that create problems with conventional check valve designs. There are no mechanical parts that can freeze, corrode, bind, or otherwise inhibit smooth operation. Unlike conventional check and flap gate valves, the Cla-Val Duckbill Check valve does not require regular maintenance to replace worn seats, hinge pins, balls, or flappers.

Operation
The principal of operation is simple. Upstream pressure in the valve forces the lips or “duckbill” apart to permit flow. As pressure or flow increases, the lips open further, allowing more flow. This feature allows solids to pass unhindered with low pressure loss. When there is backpressure or reverse flow, the lips squeeze tightly together, preventing backflow. Even with some wear, the “duckbill” check sleeve will still function including sealing around entrapped solids.

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<thead>
<tr>
<th>Available Material Combinations and Operating Temperatures</th>
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<tr>
<td>Mat'l Code</td>
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<tr>
<td>BB</td>
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Material Notes
All products are reinforced with polyester tire cord.
1. Check Valve “cover” can be CSM coated on special order.
2. Styles with Neoprene covers meet all requirements of USCG.
3. NSF/ANSI Standard 61 certified products upon request.