Bio-Chem Fluidics Inc
85 Fulton Street, Boonton, NJ 07005 USA
t: 973 263 3001 f: 973 263 2880 e: sales.us@biochemfluidics.com

Bio-Chem Fluidics Technology (Shanghai) Co. Ltd
South Metropolis Industrial Park, Jindu Road, Minhang District, Shanghai, PRC 201108
t: +86 21 61519061 f: +86 21 61519066
www.biochemfluidics.com

CONSTRUCTION

The inert flow path within the valve is achieved by aligning orifices in a CTFE rotor with orifices in the PTFE body. The valve’s rotor and body employ a high-precision press-fit construction which ensures a tightly sealing interface. Motion is provided by an optional stepper motor. An optoelectronic position sensor inside the valve provides the position of the rotor to a control circuit.

AVAILABLE DRIVE CONFIGURATIONS

Bio-Chem Fluidics Electric Rotary Valves are available in one of two drive configurations, regardless of fluidic configuration. The drive configurations are: Valve head only (designated as series RV-EN) and Valve with motor (RV-SN).

VALVE CHARACTERISTICS AND BENEFITS

- A truly chemically resistant, inert valve
  Benefit from the chemical resistance that only TFE polymers can offer. Using a CTFE Rotor and PTFE Body these valves use no metal parts in the fluid path. If chemical resistance or inert sample control is important to you, these valves offer exceptional performance.
- Compact geometry
  The valves have been designed to provide multiple fluid path selection options within a small footprint. The 8, 10 & 12 port valves are only slightly larger than their 4 & 6 port counterparts.
- Simple yet precise control
  Each valve is supplied with an optoelectronic position sensor allowing for referencing the “home” and port positions. The stepper motor provides the precision to ensure that the correct path is selected. (Motor is optional, as is an integrated control board for prototyping).
- Optimize flow rates and minimize internal volumes
  Our Rotary Valves minimize dead volume by offering clean, easily flushed flow paths. The flow paths are optimized to achieve the lowest possible internal volumes. Valves are available in a range of orifice sizes from 0.032” (0.8mm) to 0.096” (2.4mm) - 0.125” (3.2mm) available upon special request.
- Choice of flow paths
  Choose between Selection / Distribution (where the valve has a central common port that mates with one of the available flow paths) or Switching / Loop injection (valve is configured with pairs of adjacent ports) configurations.
- OEM focused
  The flow configurations match commonly found applications and the use of standard 1/4”-28 UNF fluid port connections with stainless steel threaded inserts and NEMA 17 stepper motors allow easy integration into sophisticated systems.

Polymers referenced in the brochure:
CTFE = polychlorotrifluoroethylene
PTFE = polytetrafluoroethylene
<table>
<thead>
<tr>
<th>Flow Configurations</th>
<th>Part numbers</th>
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</thead>
<tbody>
<tr>
<td>RV-EN Series Electric Rotary Valve (valve head only)</td>
<td>RV-SN Series Electric Rotary Valve (valve with motor)</td>
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<tr>
<td>Orifice diameter (ins)</td>
<td>Orifice diameter (ins)</td>
</tr>
<tr>
<td>0.032</td>
<td>0.052</td>
</tr>
<tr>
<td>RV-EN0-J4C-PTHB</td>
<td>RV-EN0-J4C-PTNB</td>
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<tr>
<td>RV-EN0-S4C-PTHB</td>
<td>RV-EN0-S4C-PTNB</td>
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<tr>
<td>RV-EN0-S6B-PTHB</td>
<td>RV-EN0-S6B-PTNB</td>
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<tr>
<td>RV-EN0-S8B-PTHB</td>
<td>RV-EN0-S8B-PTNB</td>
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<tr>
<td>RV-EN0-SAB-PTHB</td>
<td>RV-EN0-SAB-PTNB</td>
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<tr>
<td>RV-EN0-SCB-PTHB</td>
<td>RV-EN0-SCB-PTNB</td>
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* 0.125" orifice valves are available as OEM special order items only. (Please contact factory for details)

RV-EN and RV-SN refer to the two available styles. See page 4 for more details.

All valves provided with 1/4-28 flat bottom ports with stainless steel threaded inserts.