Double-eccentric Rotary Plug Valve
Type 82.7
BENEFITS AND FEATURES

Positioners and Accessories
- SAMSON accessories designed for direct attachment
- NAMUR dimensions for easy attachment of third-party positioners or accessories

Less Flow Disturbance
- Thanks to the free flow path when open, there is less turbulence in the flow and therefore reduced noise as well as less wear and tear on the internal and guiding parts

Longer Service Life
- Only the highest grade materials are used for all internal components to ensure the longest possible service life
Various Actuator Options
- Spring-return diaphragm for the most accurate control
- Rack and pinion for low weight, compact design
- Scotch yoke for maximum shut-off against high differential pressures

Maximum Flow Capacity
- The straight-through flow path allows for much higher flow capacities ($C_v$) than standard globe control valves
- This also allows for a higher rangeability of up to 200:1
Rotary Plug Valves
- The plug is rotated in and out of the flow path to control either the flow rate passing through the valve or the downstream pressure
- Rotary plug valves are typically used for throttling service due to their excellent control abilities; however, they may also be used for isolation (on/off) applications with tight shut-off
- Different types of pneumatic actuators, electric actuators, or manual handwheels/gears may be used to operate the valves

Double-eccentric Design
- The plug shaft is offset from the centerline of the valve
- The face of the plug is offset from the centerline of the plug shaft

Benefits
- Eliminates friction when the valve is opening or closing
- Reduces wear on internal parts
- Reduces the required breakaway torques
- Allows for more accurate control than other rotary valve types
### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td><strong>Valve size</strong></td>
<td>NPS 1 to 12</td>
</tr>
<tr>
<td><strong>Pressure rating</strong></td>
<td>ANSI Class 150 and 300</td>
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<tr>
<td><strong>Material</strong></td>
<td>A216 WCC (carbon steel)</td>
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<td></td>
<td>A351 CF8M (stainless steel)</td>
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<td></td>
<td>A352 LC3 (low-temperature carbon steel)</td>
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<td><strong>Flow capacity (Cv)</strong></td>
<td>4.6 to 3121</td>
</tr>
<tr>
<td><strong>Reduced trim options</strong></td>
<td>0.6, 0.4, and 0.25</td>
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<tr>
<td><strong>Internal leakage rate</strong></td>
<td>Metal seat: Class IV</td>
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<tr>
<td>(according to ANSI/FCI 70-2)</td>
<td>Soft seat: Class VI</td>
</tr>
<tr>
<td><strong>Temperature range</strong></td>
<td>-320 to 1022 °F (−196 to 550 °C)</td>
</tr>
<tr>
<td><strong>Face-to-face dimensions</strong></td>
<td>ANSI/ISA S75.08.02</td>
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<tr>
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<td>(IEC 60534-2-3)</td>
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SPECIAL APPLICATIONS

Cavitation and Flashing
- Industries: all
- Challenges: severe damage caused by the following phenomena
  - Cavitation: formation of vapor bubbles in a liquid flow during throttling
  - Flashing: phase change from liquid to vapor during throttling
- Solution: the straight-through flow path as well as the use of high-quality trim and guiding materials allow the VETEC Type 82.7 to withstand the effects of these phenomena and continue to offer superior service life

Special Trims for Noise Reduction
- Industries: all
- Challenges: high pressure drops in gaseous/vapor flow or cavitation in liquid flows can often cause severe noise emissions, particularly as flow rates get higher
- Solution: VETEC offers several low-noise and anti-cavitation options to reduce the sound pressure level (SPL) of the valves
Fire-safe

- Industries: oil and gas, chemical and petrochemical, refineries, and steel plants
- Challenges:
  - Increased risk of fire in certain areas
  - Control valves must be able to withstand fire without catastrophic failure
- Solution: the VETEC Type 82.7 is fire-safe certified according to API 607 and ISO 10497 for use in these areas

NACE/Sour Gas

- Industries: oil and gas, refineries
- Challenges: when oil and gas are first recovered, hydrogen sulfide (H₂S) may be present, which can cause hydrogen-induced cracking in certain metals
- Solution: the VETEC Type 82.7 NACE version only uses materials in compliance with NACE MR0175/ISO 15156 specifications certified for use with H₂S

Cryogenics

- Industries: oil and gas, LNG, industrial gas production, refineries, food and beverage
- Challenges: extremely low temperatures, typically below -238 °F (-150 °C), can stretch the material properties to their limits and pose many additional leakage challenges that would not exist at standard operating temperatures
- Solution: the strict machining tolerances and high quality materials used in the VETEC Type 82.7 allow the valve to function as designed, even in low temperatures down to -320 °F (-196 °C). Additionally, the Type 82.7 has been type tested and certified according to EN 1626 for use in cryogenic applications
SAWMON AT A GLANCE

STAFF
- Worldwide 4,300
- Europe 3,300
- Asia 500
- Americas 200
- Frankfurt am Main, Germany 1,800

MARKETS
- Chemicals and petrochemicals
- Power and energy
- District heating and cooling, building automation
- General industry
- Industrial gases
- Food and beverages
- Metallurgy and mining
- Oil and gas
- Pharmaceuticals and biotechnology
- Marine equipment
- Water and wastewater
- Pulp and paper

PRODUCTS
- Valves
- Self-operated regulators
- Actuators
- Valve accessories
- Signal converters
- Controllers and automation systems
- Sensors and thermostats
- Digital solutions

SALES SITES
- More than 50 subsidiaries in over 40 countries
- More than 200 representatives

PRODUCTION SITES
- SAMSON Germany, Frankfurt, established 1916
  Total plot and production area: 1,614,587 ft²/150,000 m²
- SAMSON France, Lyon, established 1962
  Total plot and production area: 251,876 ft²/23,400 m²
- SAMSON Turkey, Istanbul established 1984
  Total plot and production area: 118,974 ft²/11,053 m²
- SAMSON USA, Baytown, TX, established 1992
  Total plot and production area: 99,028 ft²/9,200 m²
- SAMSON China, Beijing, established 1998
  Total plot and production area: 109,125 ft²/10,138 m²
- SAMSON India, Pune district, established 1999
  Total plot and production area: 193,750 ft²/18,000 m²
- SAMSON Russia, Rostov-on-Don, established 2015
  Total plot and production area: 53,820 ft²/5,000 m²
- SAMSON AIR TORQUE, Bergamo, Italy
  Total plot and production area: 297,988 ft²/27,684 m²
- SAMSON CERA SYSTEM, Hermsdorf, Germany
  Total plot and production area: 158,230 ft²/14,700 m²
- SAMSON KT-ELEKTRONIK, Berlin, Germany
  Total plot and production area: 11,410 ft²/1,060 m²
- SAMSON LEUSCH, Neuss, Germany
  Total plot and production area: 198,056 ft²/18,400 m²
- SAMSON PFEIFFER, Kempen, Germany
  Total plot and production area: 381,042 ft²/35,400 m²
- SAMSON RINGO, Zaragoza, Spain
  Total plot and production area: 196,657 ft²/18,270 m²
- SAMSON SED, Bad Rappenau, Germany
  Total plot and production area: 111,622 ft²/10,370 m²
- SAMSON STARLINE, Bergamo, Italy
  Total plot and production area: 284,264 ft²/26,409 m²
- SAMSON VDH PRODUCTS, the Netherlands
- SAMSON VETEC, Speyer, Germany
  Total plot and production area: 291,594 ft²/27,090 m²