

**SAMSON**

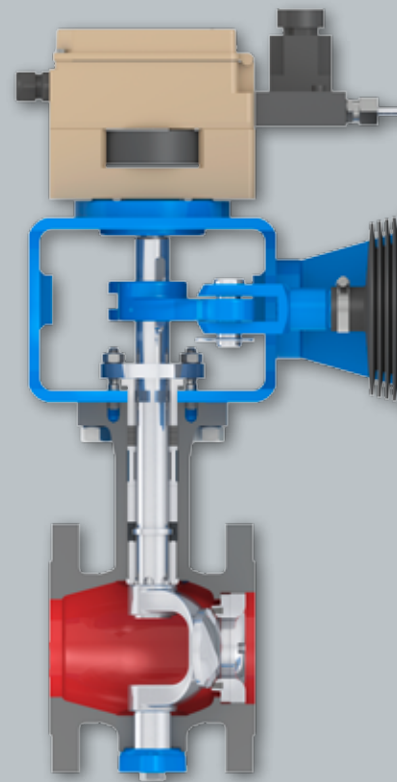
**SAMSON** VETEC



Versatile rotary plug  
valve for standard and  
heavy duty industrial  
applications

# Double-eccentric Rotary Plug Valve

Type 82.7



# Double-eccentric Rotary Plug Valves

## Rotary Plug Valves

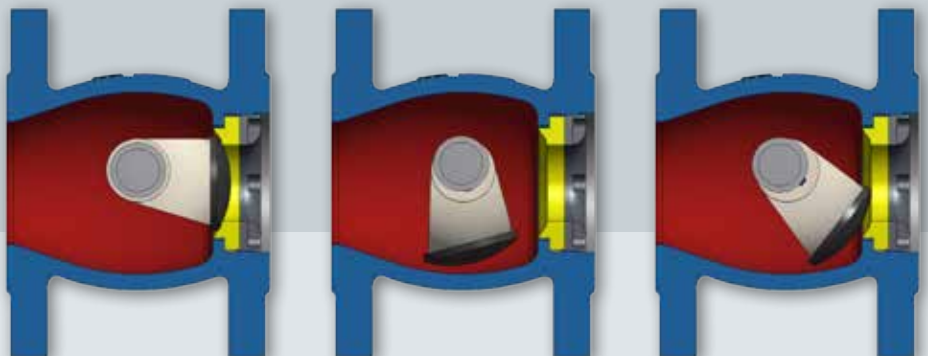
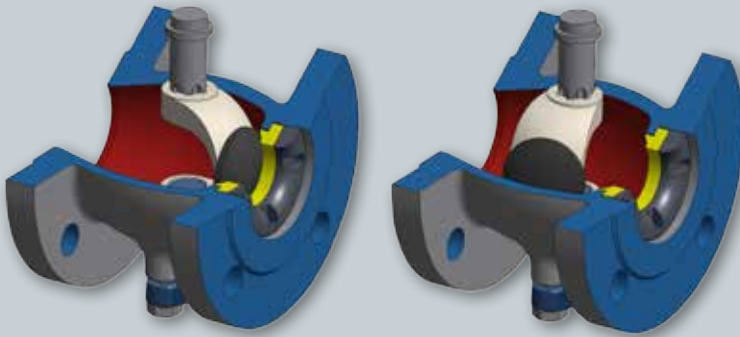
- The plug is rotated in and out of the flow path to control either the flow rate passing through the valve or the downstream pressure
- Rotary plug valves are typically used for throttling service due to their excellent control abilities; however, they may also be used for isolation (on/off) applications 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



# Benefits and Features

## Positioners and Accessories

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

## Various Actuator Options

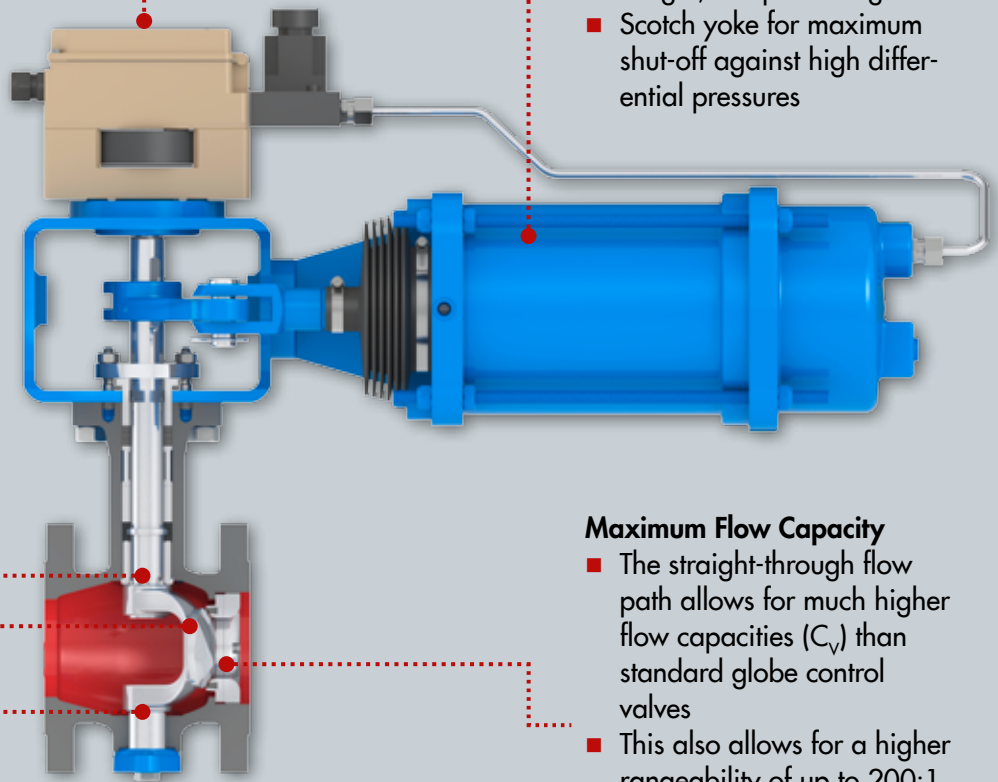
- Spring-return diaphragm for the most accurate control
- Rack and pinion for low weight, compact design
- Scotch yoke for maximum shut-off against high differential pressures

## 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



## 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

# 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

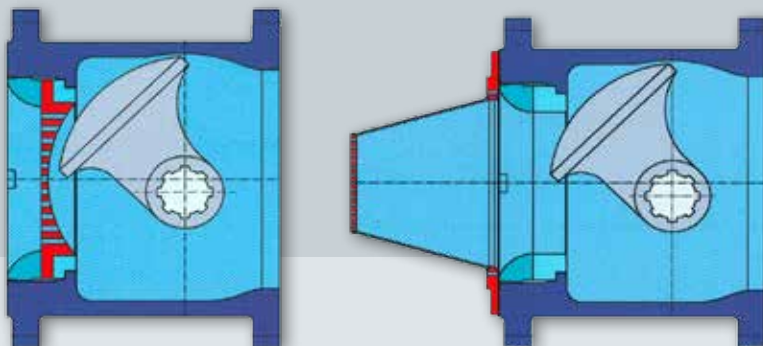


## Special Trims for Noise Reduction

- 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

## NACE/Sour Gas

- Industries: oil and gas, refineries
- Challenges: when oil and gas are first recovered, hydrogen sulfide ( $H_2S$ ) 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  $H_2S$



### 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



### Cryogenics

- Industries: oil and gas, LNG, industrial gas production, refineries, food and beverage
- Challenges: extremely low temperatures, typically

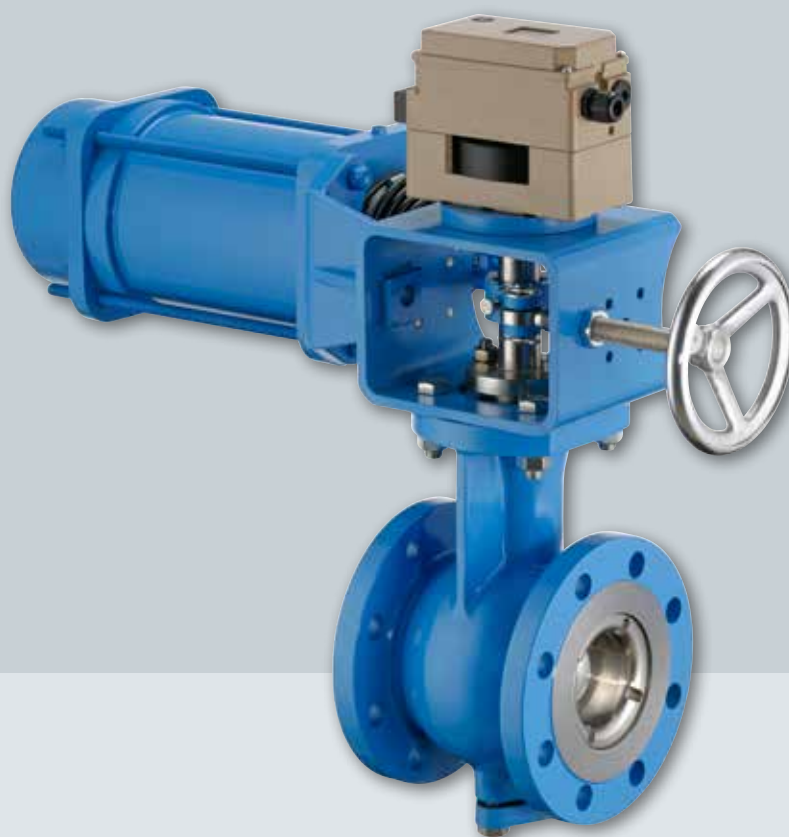


below  $-238^{\circ}\text{F}$  ( $-150^{\circ}\text{C}$ ), can stretch the material properties to their limits and pose many additional leakage challenges that would not exist at standard operating temperatures

- 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  $-320^{\circ}\text{F}$  ( $-196^{\circ}\text{C}$ ). Additionally, the Type 82.7 has been type tested and certified according to EN 1626 for use in cryogenic applications

## Technical Data

Valve size	NPS 1 to 10
Pressure rating	ANSI Class 150 and 300
Material	A216 WCC (carbon steel) A351 CF8M (stainless steel) A352 LC3 (low-temperature carbon steel)
Flow capacity (CV)	4.6 to 2254
Reduced trim options	0.6, 0.4, and 0.25
Internal leakage rate (according to ANSI/FCI 70-2)	Metal seat: Class IV Soft seat: Class VI
Temperature range	-320 to 1022 °F (-196 to 550 °C)
Face-to-face dimensions	ANSI/ISA S75.08.02 (IEC 60534-2-3)



## About VETEC

VETEC Ventiltechnik GmbH is a German company headquartered in Speyer on the Rhine River. The roots of the company date back to 1901. VETEC has been designing, developing, and manufacturing control valves and actuators for industrial processes since 1964.

In 1988, VETEC joined forces with SAMSON, a leading global manufacturer of control valves, actuators, and valve accessories for all industrial processes. VETEC is represented worldwide through the vast network of SAMSON subsidiaries and engineering and sales offices. Flexibility and close proximity to the customer are a vital part of corporate success.

SAMSON subsidiaries comprise VETEC and several other distinguished manufacturers of engineered valves and control equipment: AIR TORQUE, CERA SYSTEM, LEUSCH, PFEIFFER, RINGO VÁLVULAS, SAMSOMATIC, and STARLINE. The wealth of product knowledge and highest regard for quality set SAMSON apart, providing the customer with a single source for all engineered valves.

VETEC designs, develops, and manufactures rotary plug valves in standard and high-alloy materials. Their modularity and flexibility make these valves suitable for many industrial applications. VETEC also offers the VNG high-pressure angle valve for supercritical natural gas applications and the newly developed Type 93.7 Axial Flow Valve for bypass, anti-surge, and pipeline applications.





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