



Rapid Service Valves
60000 Series

Rapid Service

Introduction	Page 176
Specifications	Page 177
50x336-mm 2x13-inch	Page 178





Product Features

- Rapid O-ring service
- Minimal disassembly required for O-ring service
- Minimal downtime for O-ring service
- No links, rollers or other internal parts used for actuation
- Only the O-ring contacts the valve body
- No gate adjustment required
- Welded bellows shaft seal

Description

The Rapid Service Valve is designed to greatly reduce process downtime during routine maintenance and service of the gate O-ring. It allows easy access to the gate assembly by the removal of a service plate as shown in the photo on this page and in the drawings on page 179. This eliminates having to go under the machine and remove the entire actuator assembly for O-ring cleaning or replacement.

The RS Series Slit Valves feature an innovative actuator mechanism that eliminates any moving contact with the valve body. The only body contact is when the gate O-ring is sealed. This construction minimizes particulate generation and vibration. The valve is usually installed in a vertical position to allow for rapid servicing of the gate O-ring.

In the open position, the seal plate O-ring is completely out of sight preventing any particulate or media flow to accumulate on the sealing surface. In the closed position, the one piece solid block design prevents any material buildup on the back side of the valve mechanism dramatically reducing service and maintenance requirements. When maintenance is required, removal of the service plate allows for rapid service of the gate O-ring, minimizing downtime.

The valves incorporate a welded bellows seal on the actuator mechanism. This eliminates the elastomer shaft seal that is subject to constant wear and degradation. The result is a high cycle-life valve with minimal loss of process gases.

The valve body and serviceable parts are made of vacuum compatible aluminum to minimize weight and to tolerate high corrosion clean-up gases. Currently available in one standard MESC compatible size of 300mm nominal width or with custom made sizes. Prices available on request.

Applications

This valve design is especially engineered to meet the mechanical interface and vacuum containment requirements of the industry. The 60000 Series Valve/Interface incorporates a Direct Drive Gate. Direct Drive eliminates mechanical linkages and greatly reduces internal valve components. Significant improvements in the gate valve design have resulted in exceptional uptime cycles and extremely low particulate generation.

In operation, the HVA 60000 Series Valves are quiet and reliable. Because they seal with lower pressure, they last longer, and there is less stress to make a perfect seal. To meet the specific needs of modular integrated processing systems, the HVA valves are designed to isolate vacuum pressure on either side of the gate.

They can be used singly or in pairs to provide appropriate pass through or seal for any part of the system. A narrow profile design, including both actuator and controller, allows tight mounting between central, load-lock, handling and process chambers.



Rapid Service Valve Specifications

Standard Specifications

Materials

Valve body and mechanism	6061-T6 Aluminum
Welded bellows shaft seal	AM-350
Bonnet / gate / service plate seals	Viton® elastomer

Vacuum

Range, standard	1 x 10 ⁻⁹ Torr
Leak rate	2 x 10 ⁻⁹ AtmCC/Sec
Differential pressure	760 Torr in either direction
Maximum Δ pressure before opening	20 Torr

Bakeout Temperature

Elastomer sealed bonnet	150°C
Actuator	55°C
Solenoid is encased and must be removed prior to bakeout	

Position indicator

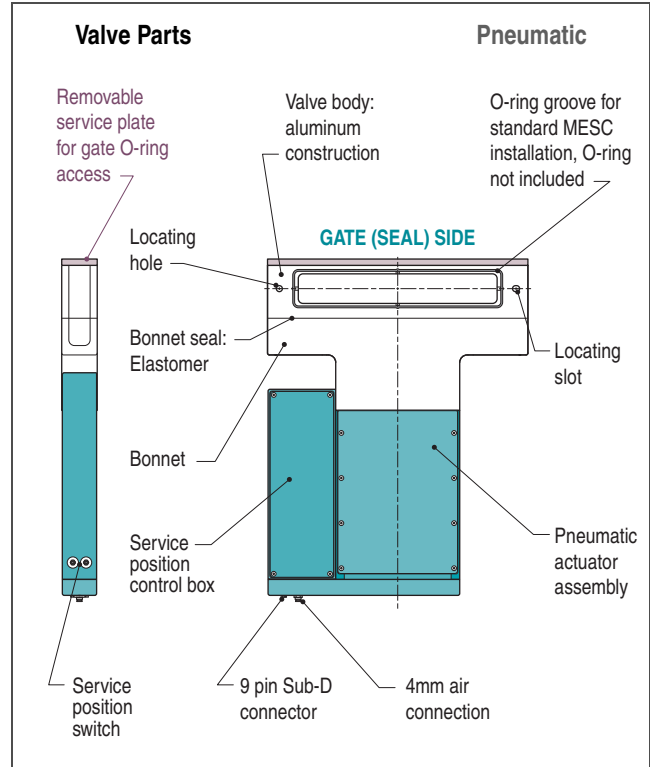
Reed switch	115 VAC, or 28 VDC, 20 mA
-------------	---------------------------

Safety interlock

A safety interlock switch prevents the valve from being actuated into the service position without first removing the service plate.

Mechanism

Air service	80 psig
Solenoid	4.3 Watts
Two (2) latching-type solenoids and one (1) 4-way solenoid, valve to remain in same position in the event of a power loss.	
Supplied voltage	24 VDC
Cycles until service, application dependent	1,000,000



Notes

- Dimensions given in U.S. System and [metric]
- Due to ongoing product development, prices, dimensions and specifications subject to change without notice

Options

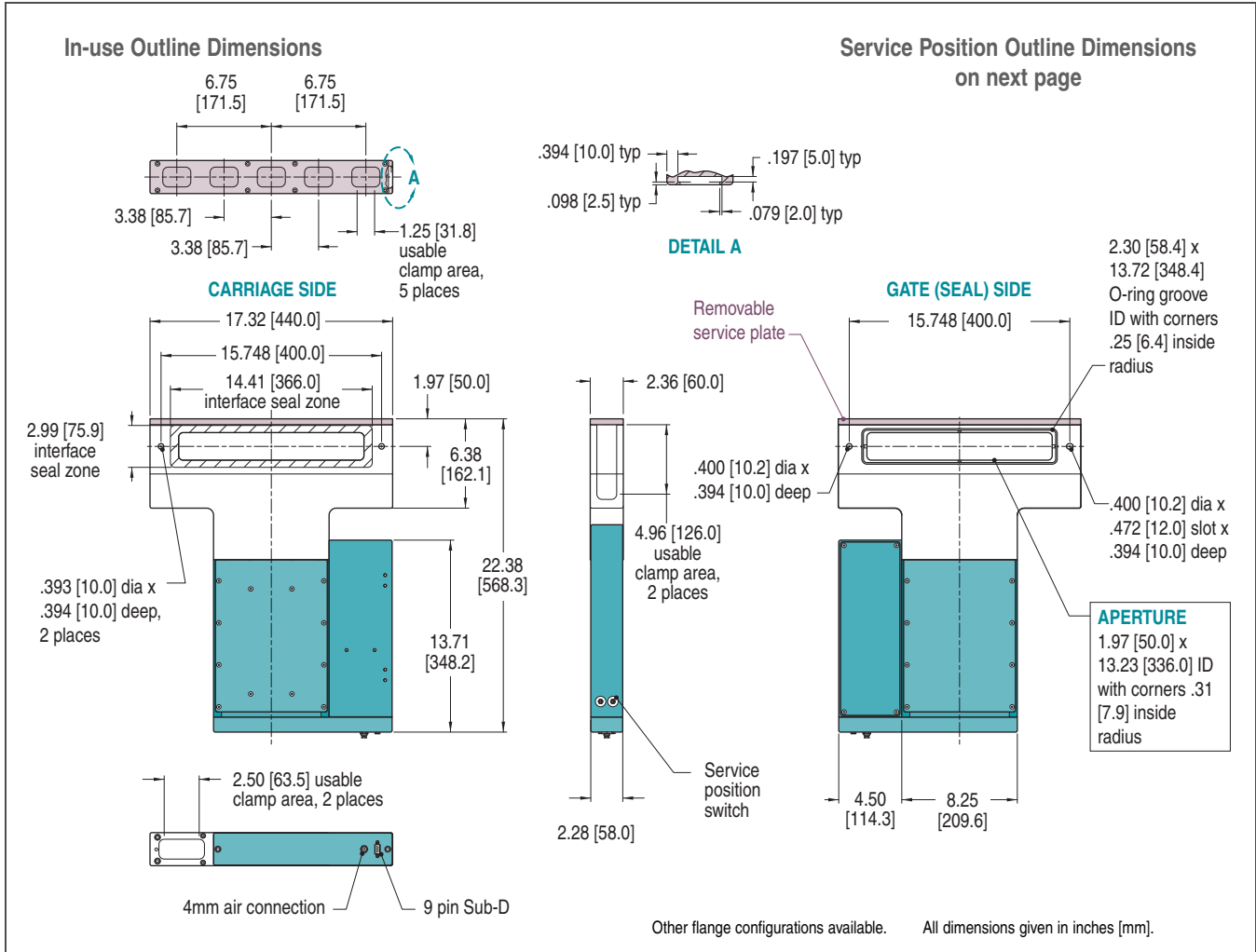
All 60000 Series Valves may be equipped with alternative flanges, solenoids and seals. Contact HVA to discuss your requirements.

- Alternate voltage controls
- Alternate bellows materials
- Custom flanges
- Gauge ports
- Roughing ports
- High temperature components, including O-rings, microswitches and actuator
- Stainless steel construction

Rapid
Service

Rapid Service Valves

50x336-mm 2x13-inch 3 Position

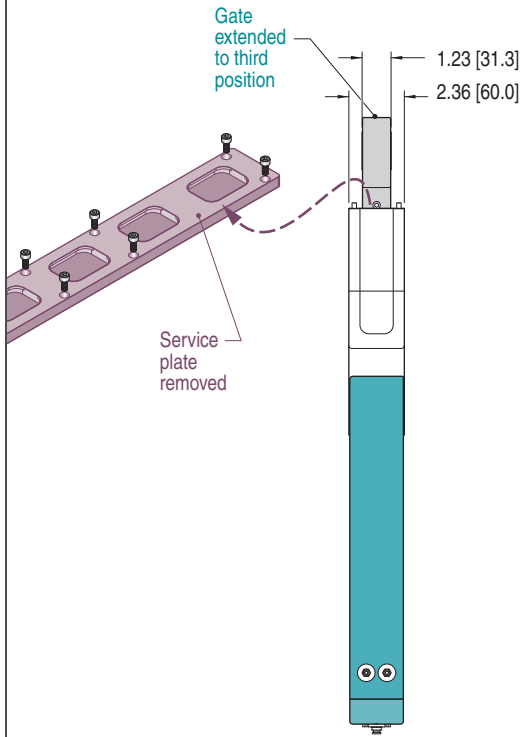


Specifications are listed on page 177.

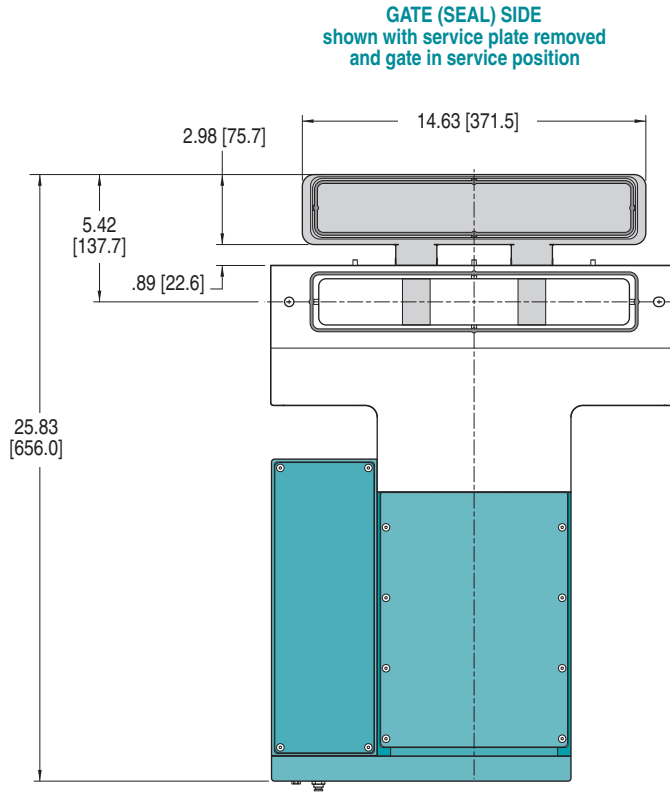


Rapid Service Valves 50x336-mm 2x13-inch 3 Position

Service Position Outline Dimensions

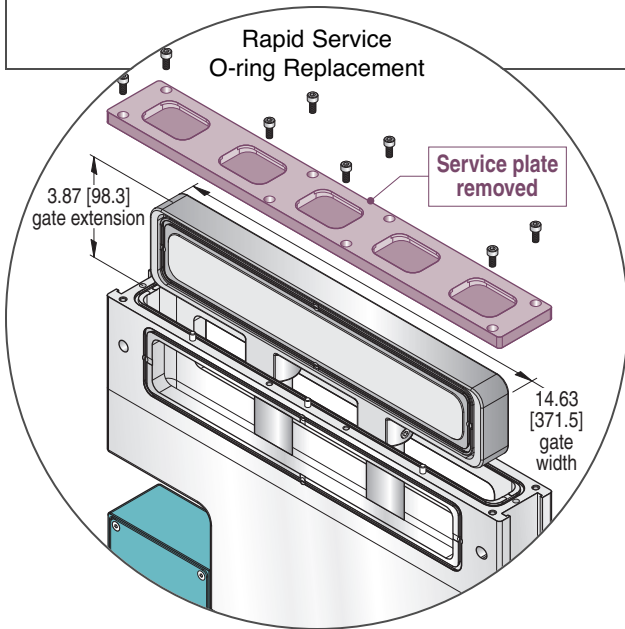


In-use Outline Dimensions on previous page



Other flange configurations available. All dimensions given in inches [mm].

Rapid Service
O-ring Replacement



Specifications are listed on page 177.

MESIC Flanges		50x336-mm 2x13-inch	
Bonnet-Gate	Flange Type	Ship Wt lbs [kg]	Model Number
Pneumatic			
Viton-Viton	Clamp	85 [39]	62212-0213RXK



Rapid Service

Rapid Service Valves
60000 Series

End of Section

