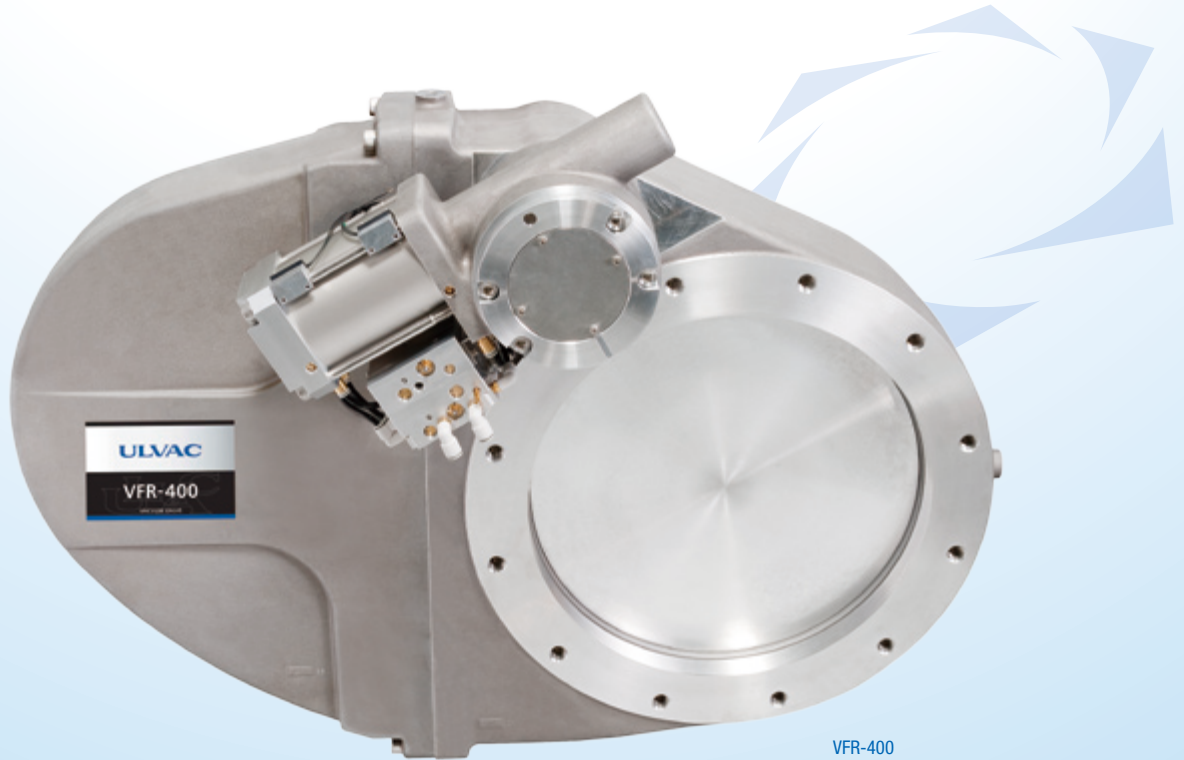


Large Pendulum Valve [VFR Series]

ULVAC's VFR series Large Pendulum Valve offers a compact design with unique technology. Applications include OLED, PV, Glass, FPD, and other manufacturing systems.



VFR-400

Features

- ▶ **ULVAC's Unique Mechanism**
Due to ULVAC's unique differential pressure mechanism the ULVAC VFR pendulum valve minimizes particles, valve wear, and vibration during normal operating conditions.
- ▶ **Excellent Maintainability**
The valve casing is easily removed without removing the valve from vacuum system or pump. After removing the valve casing, the valve plate can be removed only picking a bolt, and the valve is readily maintained.
- ▶ **Flexible Installation**
The ULVAC VFR series valves can be installed anywhere in vacuum system. Free rotation and installment angle is flexible (360-degrees).

Applications

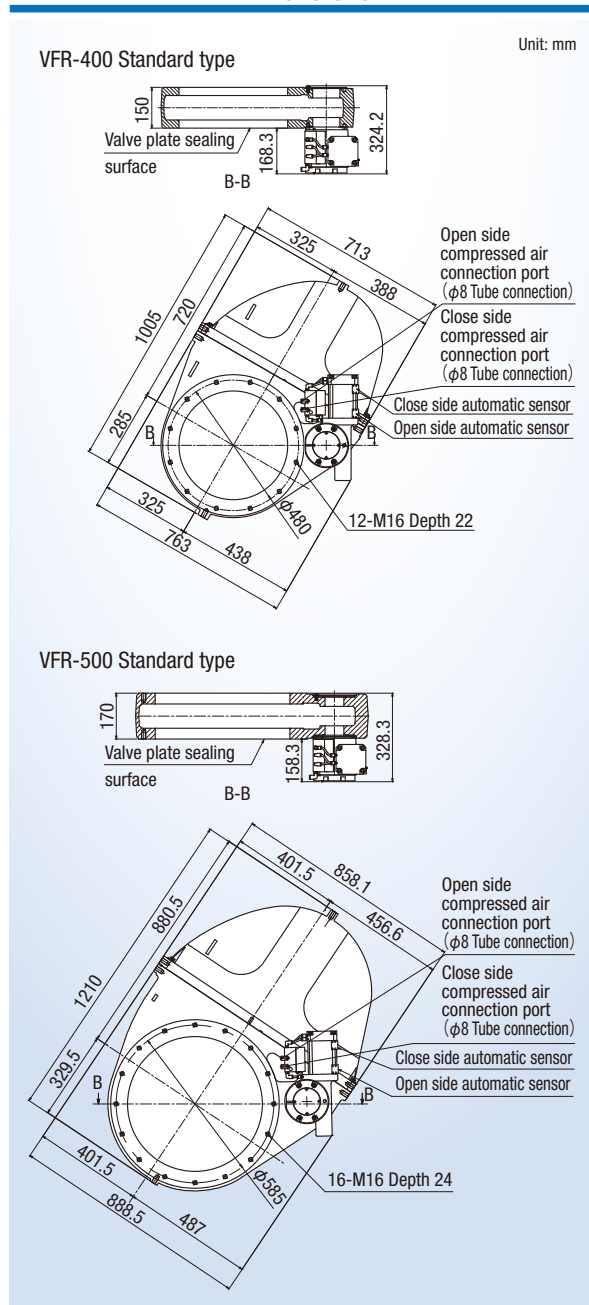
- ▶ Large display manufacturing systems
- ▶ OLED manufacturing systems
- ▶ Other vacuum systems as main valve and isolation valve

Large Pendulum Valve [VFR Series]

Specifications

Model	VFR-400	VFR-500
Common port diameter	A (mm) 400	500
Flange specification (JIS B2290 equivalency)	VF400	VF500
Open/close specification	2 positions	
Open/close operation principle	Pneumatic	
Open/close time	sec 8	12
Valve plate seal	Reverse pressure capable	
Shaft seal	Double O-ring seal intermediate grease	
Valve plate seal	O-ring seal	
Max valve plate seal differential pressure (at positive pressure)	MPa 0.12 psi 17.4 bar 1.2	
Max valve plate seal differential pressure (at reverse pressure)	MPa 0.12 psi 17.4 bar 1.2	
Max differential pressure when opening/closing (at positive pressure)	kPa 0.5 psi 0.073 bar 0.005	
Max differential pressure when opening/closing (at reverse pressure)	kPa 0.5 psi 0.073 bar 0.005	
Opening conductance	L/s 50000 m ³ /s 180000	90000 324000
Leak rate (outside)	Pa·m ³ /s < 1.0×10 ⁻¹⁰ Torr·L/s < 7.5×10 ⁻¹⁰ mbar·L/s < 1.0×10 ⁻⁹	
Leak rate (inside)	Pa·m ³ /s < 1.0×10 ⁻¹⁰ Torr·L/s < 7.5×10 ⁻¹⁰ mbar·L/s < 1.0×10 ⁻⁹	
Pressure range	Pa 1.0×10 ⁻⁵ to 120000 (abs) Torr 7.5×10 ⁻⁸ to 900 mbar 1.0×10 ⁻⁷ to 1200	
Allowable baking temperature (at stopped)	°C Valve body: < 120 Cylinder: < 80 °F Valve body: < 248 Cylinder: < 176	
Allowable ambient temperature	°C 10 to 80 °F 50 to 176	
Allowable Gas temperature	°C 10 to 80 °F 50 to 176	
Compressed air pressure	MPaG 0.50 to 0.70 psi 72.5 to 101.5 bar 5.0 to 7.0	
Compressed air supply port	φ8 tube connection	
Maintenance cycle	100000	
Mounting angle	Free	
Open/close contact capacity	< 100VDC, < 0.5A, < 10W	
Main parts material	Valve body: AC4CH-T6 Seal plate: AC4CH-T6 Other main parts: SUS304 Atmospheric pressure side parts: AC4CH-T6, A5052, A6063	
Seal material	Vacuum side: FPM	
Oil	Z300	
Weight	kg 98	155
Flange to flange dimension	mm 150	170
Standard accessory	Manual, Automatic sensor	
Option	Pneumatic cylinder mounting position : Back side type Valve plate sealing surface : Back side type	

Dimensions



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