

# Series VP3145/3165/3185

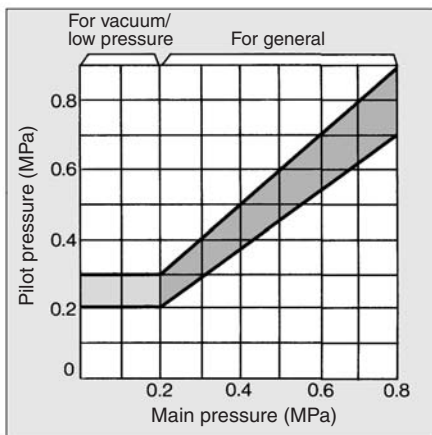
## External Pilot

Use external pilot model in the following cases.

- Vacuum or low pressure (0.2 MPa or less): Vacuum/Low pressure type
- Using the valve with supply port external throttle: General type
- Air pressure of supply port is slow: General type
- Resistance in outlet side is small in case of air blowing or filling an air tank: General type

Note 1) Keep external pilot pressure within the pressure range below.

Note 2) Conversion of internal pilot and external pilot can not be done.



## Specifications

Fluid		Air					
Type of actuation		N.C. or N.O. (Convertible)					
Pilot type		Internal pilot		External pilot			
		For general		For vacuum/low pressure		For general	
Operating pressure range (MPa)	Main pressure	0.2 to 0.8		-101.2 kPa to 0.2		0.2 to 0.8	
	Pilot pressure			0.2 to 0.3		Refer to the graph left.	
Ambient and fluid temperature (°C)		0 (No freezing) to 60					
Response time (ms) <sup>(1)</sup> (at the pressure of 0.5 MPa)		ON	AC	30 or less	OFF	AC	30 or less
			DC	40 or less		DC	30 or less
Max. operating frequency (Hz)		3					
Lubrication <sup>(2)</sup>		Required (Equivalent to turbine oil Class1 ISO VG32)					
Manual override		Yes (Non-locking)					
Mounting orientation		Unrestricted					
Shock/Vibration resistance (m/s <sup>2</sup> ) <sup>(3)</sup>		150/50					



Note 1) Based on dynamic performance test, JIS B 8374-1981. (Coil temperature: 20°C, at rated voltage, without surge voltage suppressor)

Note 2) This solenoid valve requires lubrication. Use turbine oil Class 1 (ISO VG32).

Note 3) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 1000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

## Solenoid Specifications

Electrical entry	Standard	Grommet (G), Conduit terminal (T) DIN terminal (D)
	Option	Conduit terminal with indicator light (TL), Conduit terminal with surge voltage suppressor (TS), Conduit terminal with light/surge voltage suppressor (TZ), DIN terminal with indicator light (DL), DIN terminal with surge voltage suppressor (DS), DIN terminal with light/surge voltage suppressor (DZ)
Coil rated voltage (V)	AC (50/60 Hz)	100, 200, 110 *, 220 *, 240 *
	DC	12 *, 24
Allowable voltage fluctuation		-15 to +10% of rated voltage
Apparent power <sup>Note)</sup>	AC	Inrush 73 VA (50 Hz), 58 VA (60 Hz)
	DC	Holding 28 VA (50 Hz), 17 VA (60 Hz)
Power consumption <sup>Note)</sup>		12 W



\* Option

Note) At rated voltage

## Flow Characteristics/Mass

Valve model	Port size		Flow characteristics						Mass *
			1 → 2 (IN → OUT)			2 → 3 (OUT → EXH)			(kg)
	1(IN), 2(OUT)	3(EXH)	C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	Grommet
VP3145	3/8	3/4	19	0.43	5.5	18	0.47	5.4	1.5
	1/2		23	0.32	6.2	21	0.39	5.8	
	3/4		28	0.36	7.6	26	0.35	7.0	

Valve model	Port size		Effective area (mm <sup>2</sup> )		Mass <sup>*</sup> (kg)
			1 → 2 (IN → OUT)	2 → 3 (OUT → EXH)	
VP3165	1 (IN), 2 (OUT)	3(EXH)	1 → 2 (IN → OUT)	2 → 3 (OUT → EXH)	2.0
	3/4	1 1/4	230	280	
	1		280	310	
VP3185	1 1/4	2	310	330	2.8
	1 1/4		570	650	
	1 1/2		650	670	
	2		650	670	



\* For grommet  
Conduit terminal... +0.2 kg