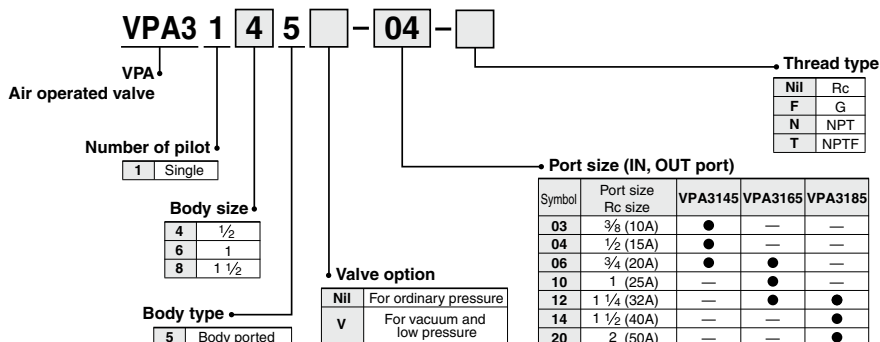


# 3 Port Air Operated Valve

## VPA3145/3165/3185 Series

### How to Order



VPA3165-06



VPA3145-03

### Specifications

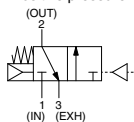
Fluid	Air	
Type of actuation	N.C. only (N.O. only for vacuum)	
Operating pressure range	For vacuum and low pressure	For ordinary pressure
	-101.2 kPa to 0.2 MPa	0.2 to 0.8 MPa
Pilot pressure range	Refer to the graph of pilot pressure.	
Ambient and fluid temperature (°C)	0 (No freezing) to 60	
Lubrication	Required (Turbine oil, Class 1 ISO VG32 equivalent)	
Mounting orientation	Free	
Impact/Vibration resistance (m/s <sup>2</sup> ) <sup>Note</sup>	150/50	

Note) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve, each one time when pilot signal ON and OFF. (Value in the initial stage)

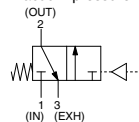
Vibration resistance: No malfunction from test with 45 to 1000 Hz one sweep, to axis and right angle direction of main valve, each one time when pilot signal ON and OFF. (Value in the initial stage)

### Symbol

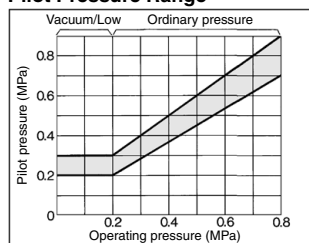
<Positive pressure>



<Vacuum pressure>



### Pilot Pressure Range



### Precautions

**Be sure to read this before handling the products.**  
**Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.**



### Caution

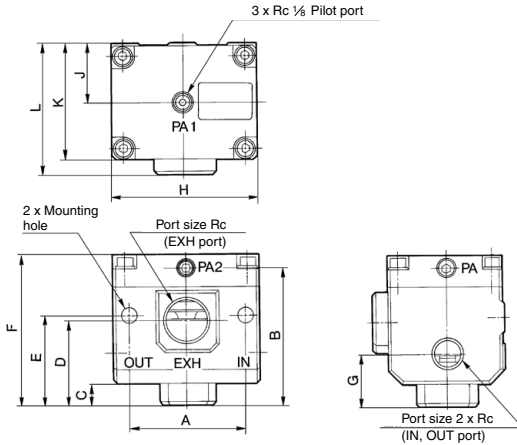
- Lubrication**  
Since this valve needs lubrication, use turbine oil Class 1 (ISO VG32).
- Refer to pages 1309 and 1316 for information about the pressure applied to piping and ports, quality of air and piping for vacuum applications.

## Flow Rate Characteristics/Weight

Valve model	Port size		Flow rate characteristics						Weight (kg)
			1→2(IN→OUT)			2→3(OUT→EXH)			
	1(IN), 2(OUT)	3(EXH)	C[dm <sup>3</sup> /(s·bar)]	b	Cv	C[dm <sup>3</sup> /(s·bar)]	b	Cv	
<b>VPA3145</b>	3/8	3/4	19	0.43	5.5	18	0.47	5.4	
	1/2		23	0.32	6.2	42	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> )		Weight (kg)
	1(IN), 2(OUT)	3(EXH)	1→2(IN→OUT)	2→3(OUT→EXH)	
<b>VPA3165</b>	3/4	1 1/4	230	280	1.5
	1		280	310	
	1 1/4		310	330	
<b>VPA3185</b>	1 1/4	2	570	650	2.3
	1 1/2		650	670	
	2		650	670	

## Dimensions



Model	Port size Rc		A	B	C	D	E	F	G	H	J	K	L	Mounting hole
	IN, OUT	EXH												
<b>VPA3145</b>	3/8	3/4	71	85	14	52	55	93	32	87.4	36	71	80	Ø8.5
	1/2													
	3/4													
<b>VPA3165</b>	1	1 1/4	82.6	110	17	68	75	118	45	113	36	71	95	Ø8.5
	1 1/4													
	1 1/4													
<b>VPA3185</b>	1 1/2	2	118	132	14	80	95	140	52	140	41	81	105	Ø13
	1 1/2													
	2													

SYA

SYJA

VZA

VFA

VFRA

VPA4

SYJA

VZA

VTA

VGA

VPA

VPA3