Directional Control Valves

Air Operated Valves

5 Port Air Operated Valve SYA3000/5000/7000

Rubber seal

● Can be used with the same manifolds as the SY3000/5000/7000 series non plug-in type.

Series	Flow rate characteristics 4/2 → 5/3 (A/B → EA/EB)			Applicable cylinder size
	C [$dm^3/(s\cdot bar)$]	b	Cv	
SYA3000	1.1	0.30	0.26	ø40
SYA5000	2.8	0.29	0.66	ø63
SYA7000	4.5	0.27	1.1	ø80

4/5 Port Air Operated Valve SYJA3000/5000/7000

Rubber seal

● Can be used with the same manifolds as the SYJ3000/5000/7000 series.

Series	Flow rate characteristics 4/2 → 5/3 (A/B → EA/EB)			Applicable cylinder size
	C [$dm^3/(s\cdot bar)$]	b	Cv	
SYJA3000	0.46	0.35	0.12	ø25
SYJA5000	0.83	0.32	0.21	ø40
SYJA7000	2.9	0.35	0.74	ø50

5 Port Air Operated Valve VZA2000/4000

Metal seal

● Can be used with the same manifolds as the VZ2000/4000 series.
● Can be mounted on VQZ2000/3000 manifolds.

Series	Flow rate characteristics 4/2 → 5/3 (A/B → EA/EB)			Applicable cylinder size
	C [$dm^3/(s\cdot bar)$]	b	Cv	
VZA2000	0.90	0.25	0.21	ø40
VZA4000	2.2	0.19	0.54	ø50

5 Port Air Operated Valve VFA1000/3000/5000

Rubber seal

● Can be used with the same manifolds as the VF1000/3000/5000 series.

Series	Flow rate characteristics 4/2 → 5/3 (A/B → EA/EB)			Applicable cylinder size
	C [$dm^3/(s\cdot bar)$]	b	Cv	
VFA1000	0.53	0.28	0.13	ø40
VFA3000	3.1	0.32	0.75	ø80
VFA5000	10.0	0.49	2.9	ø125

5 Port Air Operated Valve VFRA3000/4000

Rubber seal

● Can be used with the same manifolds as the VFR3000/4000 series non plug-in type.

Series	Flow rate characteristics 4/2 → 5/3 (A/B → EA/EB)			Applicable cylinder size
	C [$dm^3/(s\cdot bar)$]	b	Cv	
VFRA3000	8.6	0.37	2.2	ø100
VFRA4000	14	0.30	3.7	ø125

Air Operated Valves

5 Port Air Operated Valve VPA4□50/4□70

Rubber seal

- Can be used with the same manifolds as the VP4□50 series.

Series	Flow rate characteristics			Applicable cylinder size
	4/2 → 5/3 (A/B → EA/EB)			
	C [dm³/(s·bar)]	b	Cv	
VPA4□50	21	0.28	5.6	ø140
VPA4□70	Effective area: 300 mm²			ø300

4/5 Port Air Operated Valve VSA4□20/4□30/4□40

Metal seal

- Metal seal main valve construction

Series	Flow rate characteristics			Applicable cylinder size
	A/B → EA/EB			
	C [dm³/(s·bar)]	b	Cv	
VSA4□20	5.6	0.51	1.4	ø80
VSA4□30	9.6	0.17	2.4	ø100
VSA4□40	16	0.32	4.2	ø140

3 Port Air Operated Valve SYJA300/500/700

Rubber seal

- Can be used with the same manifolds as the SYJ300/500/700 series.
- Manual override is possible.

Series	Flow rate characteristics		
	2 → 3 (A → R)		
	C [dm³/(s·bar)]	b	Cv
SYJA300	0.36	0.31	0.089
SYJA500	1.2	0.48	0.34
SYJA700	2.7	0.34	0.69

3 Port Air Operated Valve VZA200/400

Metal seal

- Metal seal main valve construction

Series	Flow rate characteristics		
	4/2 → 5/3 (A/B → EA/EB)		
	C [dm³/(s·bar)]	b	Cv
VZA200	0.85	0.35	0.22
VZA400	2.2	0.17	0.53

3 Port Air Operated Valve VPA300/500/700

Rubber seal

- Can be used with the same manifolds as the VP300/500/700 series internal pilot type.
- Easy conversion to N.C. or N.O.

Series	Flow rate characteristics		
	2 → 3 (A → R)		
	C [dm³/(s·bar)]	b	Cv
VPA300	4.2	0.26	1.0
VPA500	8.9	0.20	2.1
VPA700	15.3	0.22	3.7

Air Operated Valves

3 Port Air Operated Valve VTA301/315

Rubber seal

- Universal porting
- Can be used with a pressure of 0 MPa or more

Series	Flow rate characteristics		
	2 → 3 (A → R)		
	C [dm³/(s·bar)]	b	Cv
VTA301	0.60	0.29	0.15
VTA315	1.7	0.39	0.45

3 Port Air Operated Valve VGA342

Rubber seal

- Easy conversion to N.C. or N.O.

Series	Flow rate characteristics		
	2 → 3 (A → R)		
	C [dm³/(s·bar)]	b	Cv
VGA342	38	0.32	9.8

3 Port Air Operated Valve VPA3145/3165/3185

Rubber seal

- High flow capacity, small exhaust resistance

Series	Flow rate characteristics		
	2 → 3 (OUT → EXH)		
	C [dm³/(s·bar)]	b	Cv
VPA3145	42	0.39	10
VPA3165	Effective area: 330 mm²		
VPA3185	Effective area: 670 mm²		

Mechanical Valves/Hand Valves

Mechanical Valve VM/VZM/VFM

- A wide variety of valves are available for all types of air systems.
- Small mounting space with a compact body

Description	Series	Number of ports
Mechanical valve	VM1000	2/3 ports
	VM100, VM200	2/3 ports
	VM400	3 ports
	VZM500, VZM400	5 ports
	VFM300, VFM200	5 ports
	VM800	3 ports

Mechanical Valves/Hand Valves

Blow Gun VMG

- A reduction of 2,000 m³ per annum is possible. (Energy saving)
- Pressure loss: 1% or less (Nozzle size: ø2.5)
- Available nozzles:
  Male thread nozzle, High efficiency nozzle with male thread, Low noise nozzle with male thread, Copper extension nozzle

Series	Port size	Operating pressure range [MPa]	Effective area [mm²]	Nozzle port size
VMG	Rc, NPT, G 1/4, 3/8	0 to 1.0	30	Rc1/4

Transmitters VR

- Air transmitters used for a variety of All-Air Systems

Description	Series
Relay valve	VR4151, 4152
Shuttle valve	VR1210, 1220 VR1210F, VR1220F
AND valve	VR1211F
Time delay valve	VR2110
Pneumatic indicator	VR3100, 3110
Pneumatic-electric relay	VR3200, 3201

Two Hand Control Valve VR51

- Equipment featuring a safety circuit
- When starting an operation, accidents, such as fingers being caught, can be prevented by requiring both hands to start push button operated valves.
- An output requires synchronized two-handed operation. (within 0.5 s)

Series	Sonic conductance: C	Port size		Applicable tubing material
		Metric size	Inch size	
VR51	0.3 dm³/(s·bar)	ø6	ø1/4	Nylon Soft nylon Polyurethane FR soft nylon FR double layer FR double layer polyurethane

Finger Valve VHK

- The valve direction clearly indicates whether the valve is open or closed.
- Small knob operating force (0.04 to 0.14 N·m)

Description	Series	Type	Port size
Finger valve	VHK2	2 port valve	ø4 to ø12 M5, 1/8 to 1/2
	VHK3	3 port valve	

Hand Valve VH200/300/400/600

- The direction of air flow can be confirmed at a glance by the orientation of the handle.

Description	Series	Max. operating pressure	Port size
Hand valve	VH200	1.0 MPa	1/4
	VH300		1/4, 3/8
	VH400		1/4, 3/8, 1/2, 3/4
	VH600	0.7 MPa	3/4, 1

Directional Control Valves

Mechanical Valves/Hand Valves

Conforming to OSHA Standard: Pressure Relief 3 Port Valve with Locking Holes VHS20/30/40/50

For pressure relief

- Compliant with OSHA Standards (Occupational Safety and Health Administration Department of Labor)
- This manually operated valve can be used to prevent accidents caused by residual pressure in pneumatic lines.
- The supply and exhaust status of air flow can be confirmed at a glance.
- When in the exhaust position, the valve may be padlock secured. This can prevent accidental start-ups while personnel are cleaning or servicing equipment.
- Push the knob and then turn. This 2-step action can prevent malfunctions.

Series	Description	Knob operation	Port size
VHS20	**Pressure relief 3 port valve with locking holes**	Single action	1/8, 1/4
VHS30			1/4, 3/8
VHS40			1/4, 3/8, 1/2, 3/4
VHS50			3/4, 1
VHS2510		Double action	1/8, 1/4
VHS3510			1/4, 3/8
VHS4510			1/4, 3/8, 1/2, 3/4
VHS5510			3/4, 1

Residual Relief 3 Port Valve VHS400/500

For pressure relief

- Easy to operate
- The direction of air flow can be confirmed at a glance by the orientation of the knob.

Description	Series	Port size
Residual relief 3 port valve	**VHS400**	1/4, 3/8, 1/2
	VHS500	3/4

Power Valves

3 Port 3 Position Valve VEX3

- The intermediate stopping of cylinders up to ø125 is possible.
- Power consumption: 1 W
- 4 Manual override options:
  Non-locking push type
  Locking slotted type
  Push-turn locking slotted type
  Push-turn locking lever type

Description	Series	Function
3 port 3 position valve	**VEX3**	Directional control valve

Power Valve VEX

- Extensive size variations, port sizes 1/8 to 2
- VEX1: Large capacity exhaust regulator
- VEX3: 3 port, 3 position valve
- VEX5: 3 functions (pressure regulator, directional control valve, and speed controller) are provided by a single valve.

Description	Series	Function
Regulator valve	**VEX1**	Regulator + Directional control valve
3 position valve	**VEX3**	Directional control valve
Economy valve	**VEX5**	Reduced pressure supply + ON/OFF exhaust + Speed control