## **Series Variations/Selection Procedure**

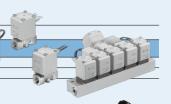
Direct Operated 2 Port Solenoid Valve

#### Series VX21/22/23

N.C., N.O./Single Unit, Manifold

For Air, Medium vacuum, Water, Oil, Steam

P.27



Direct Operated 2 Port Solenoid Valve with Built-in Y-strainer

#### Series VXK21/22/23

N.C., N.O./Single Unit

For Air, Water, Oil, Steam

P.73



Pilot Operated 2 Port Solenoid Valve

#### Series VXD

N.C., N.O./Single Unit

For Air, Water, Heated water, Oil, High temperature oil

P.101



Zero Differential Pressure Type Pilot Operated 2 Port Solenoid Valve

#### Series VXZ

N.C., N.O./Single Unit

For Air, Water, Heated water, Oil, High temperature oil

P.154



Zero Differential Pressure Type Pilot Operated 2 Port Solenoid Valve

#### Series VXS22/23

For Steam

P.172



Energy Saving Type 2 Port Solenoid Valve

#### Series VXE

N.C.

For Air, Water, Oil

P.190



#### Series Variations/Selection Procedure



#### Series VXP21/22/23

For Air, Gas, Steam, Water, Oil

P.243



Water Hammer Relief/Pilot Operated 2 Port Solenoid Valve

### Series VXR21/22/23

For Water and Oil

P.255

h Pressure

Diaphragm Type Pilot Operated 2 Port Solenoid Valve for High Pressure

#### Series VXH

Max. operating pressure: 2.0 MPa

P.265

2 Port Solenoid Valve/Air Operated Valve for Dust Collector

#### Series VXF2/VXFA2

For Dust collector

P.267



Direct Operated 3 Port Solenoid Valve

#### Series VX31/32/33

N.C., N.O., COM./Single Unit, Manifold

For Air, Water, Oil, Steam

P.306



Direct Air Operated 2 Port Valve

#### Series VXA21/22

For Air, Water, Oil

P.335



Selection Procedure for 2/3 Port Valves for Fluid Control

1. Selection of the series

Select series by referring to the number of ports, valve type (N.C., N.O., C.O.), port size and applied fluid.

## 2. Check by the applicable fluids check list

Use the tables for each series to check the compatibility of the applicable fluid with the solenoid valve.

## 3. Confirmation of the working pressure differential

There are two types of pressure differentials. The high pressure differential is the highest pressure difference allowable between the inlet side and the outlet side in an open and closed state. The minimum pressure differential is the lowest pressure required to hold the main valve fully open. Refer to the following pages for each series as the pressure differential varies with the orifice size, power supply, pressure and fluid.

## 4. Reference to the flow characteristic table

To obtain the flow rate of fluid, refer to the flow characteristic table.

## 5. Choice of the power supply voltage and electrical entry

Select the AC/DC power source and choose the electrical entry.

VX2

VXK

VXD VXZ

VXS

VXE

VXP

VXR

VXH VXF2

VX3

VXA

## **Solenoid Valves/Air Operated Valves List**

#### **Solenoid Valves List**

Number of ports			2 port									
Action		Direct operated			Direct Diaphragm		Zero pressure differential operation, Pilot operated, Diaphragm type	Pilot operated, <energy saving="" td="" typ<=""><td></td><td></td></energy>				
Se	Series			VX21	/22/23	VXK21/22/23	VXD	VXZ	VXS22/23	VXE21/22/23		
Body type			Single unit Manife		Manifold	Single unit	Single unit	Single unit	Single unit	Single unit Manifold		
Valve type		N.C.	N.O.	N.C. N.O.	N.C. N.O.	N.C. N.O.	N.C. N.O.	N.C.	N.C.	N.C.		
(0	Air			•	•	•	•	•	_	•	•	
ğ	Me	dium vacuum, non-leak, oil-free	•	•	•	•	_	_	_	•	•	
□	Wa	ater	•	)	•	•	•	•	_	•	•	
ap	He	ated water		)	•	•	•	•	_	_	_	
Applicable fluids	Oil		•		•	•	•	•	_	•	•	
Ap	Ste	eam	•	•	•	•	_	_	•	_	_	
Т	Sf	ø6		•	_	_	_	_	_	_	_	
	ij	ø8		•	_	_	_	_	_	_	_	
	One-touch fittings	ø10		)	-	_	•	_	_	_	_	
	e-to	ø12	•	)	_	_	•		_	_	_	
	ŏ	ø3/8	_	-	_	_	•	_	_	_	_	
		1/8 (6A)	•		•	•	_		_	•	•	
		1/4 (8A)	•	)	•	•	•	•	•	•	•	
	2	3/8 (10A)	•		•	•	•	•	•	•	•	
	"	1/2 (15A)	•		_	_	•	•	•	•	_	
σ.		3/4 (20A)		-	_	_	•	•	•	_	_	
size		1 (25A)			_	_	•	•	•	_	_	
Port size		1 1/4 (32A)	_	-	_	_	Flange	_	_	_	_	
		1 1/2 (40A)	-	-	_	_	● Flange	_	_	_	_	
	9, Rc	2 (50A)	_	-	_	_	Flange	_	_	_	_	
	Flange,	2 1/2 (65A)	-	-	_	_	_	_	_	_	_	
		3 (80A)	-	-	_	_	_	_	_	_	_	
		3 1/2 (90A)	_	-	_	_	_	_	_	_	_	
		4 (100A)	_	-	_	_	_	_	_	_	_	
Page				P.	30	P.75	P.103	P.152	P.174	P.193	P.193	

#### **Air Operated Valves List**

(Nu	umber of ports	2 port							
Ac	tion	Direct operated							
Se	eries	VXA	21/22	VXFA2					
Во	ody type	Single unit	Manifold	Singl	e unit				
Va	alve type	N.C.	N.O.	N.C.	N.O.				
န	Air			•					
Applicable fluids	Medium vacuum, non-leak, oil-free			_					
<u>e</u> [	Water			_					
g	Heated water								
흥	Oil		)	_					
¥	Steam			_					
		1/8	(6A)	3/4 (20A) to 4 (100A)					
	Port size	1/4	(8A)						
	Rc	3/8 (	10A)						
		1/2 (	15A)						
Pa	age	P.3	335	P.272					

# Best Pneumatics Solenoid Valves List/Air Operated Valves List

									3 port		
Pilot operated, Diaphragm type <energy saving="" type=""></energy>	Zero pressure differential operation, Pilot operated, Diaphragm type <energy saving="" type=""></energy>	Pilot op Disk		Pilot op <water< td=""><td>hammer</td><td>Pilot operated, Diaphragm type</td><td>Pilot operated</td><td colspan="2">Direct operated</td></water<>	hammer	Pilot operated, Diaphragm type	Pilot operated	Direct operated			
VXED21/22/23	VXEZ22/23	VXP21/22/23		VXR21/22/23		VXH22	VXF2	VX31/32/33			
Single unit	Single unit	Single	e unit	Single unit		Single unit	Single unit	Single unit	Manifold		
N.C.	N.C.	N.C.	N.O.	N.C.	N.O.	N.C.	N.C.	N.C. N.O.	N.C. N.O.		
•	•					_	•	•	•		
1	-	_		_		_	_	•	•		
•	•	_		_		_	_	•	_		
-	_	_		_		_	_	•	_		
•	•	_		_		_	_	•	•		
_	_	-		_		_	_	(Max. 183°C)			
_	_	_	_	_	_	_	_	_	_		
1		_	_	_	_	_	_	_	_		
_	_	_	_	_	_	_	_	_			
_	_	_	_	_		_	_				
		_		_		_					
_	_	_	_	_	_	_		•	•		
•	•	•	_			•	_	•	•		
•	•	•	_		_	•	_	•			
•	•	•	•	•	•	•	_	_			
•	•	•	•	•	•	_	•				
Flange		Flange, Rc	•	Rc	e Rc	_					
Flange		Flange, Rc	•	e Rc	e Rc	_	•	_	_		
Flange		Flange, Rc	•	e Rc	e Rc	_	•	_	_		
_	_	_	_	_	_	_	•	_			
_	_	_	_	_	_	_	•	_	_		
_	_	_	_	_	_	_	•	_	_		
		_	_	_	_		•	_			
P.215	P.229	P.2	243	P.2	255	P.265	P.270	P.307	P.307		

#### **⚠** Caution

**SMC** 

Be sure to read before handling. Refer to front matter 41 for I Safety Instructions, and pages 17 to 19 for 2 Port Solenoid I Valves for Fluid Control Precautions.

VX2

VXK

VXD VXZ

VXS

VXE

VXP VXR

VXH

VXF2 VX3

VXA