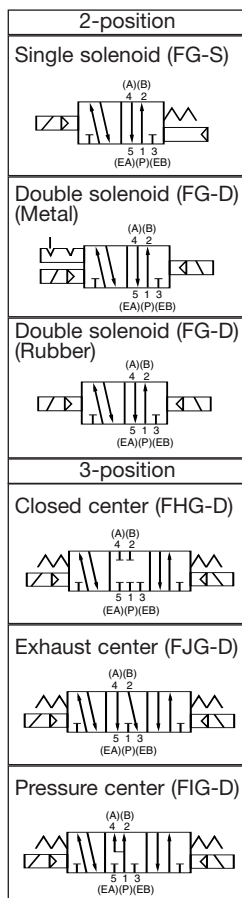




Size	Model	Seal	Effective area (mm ²) (Cv)	Response time (ms) ^{Note2)}			Weight ^{Note3)} g (lb)	Port size
				Single	Double	3 position		
1	VSR8-6	Rubber	36 (2.0)	30	30	50	552 (1.21)	1/4, 3/8, 1/2
	VSS8-6	Metal	32 (1.8)	25	20	45		
2	VSR8-8	Rubber	72 (4.0)	50	50	70	824 (1.81)	3/8, 1/2, 3/4
	VSS8-8	Metal	65 (3.6)	40	20	55		
3	VSR8-10	Rubber	97 (5.4)	80	50	95	1000 (2.21)	1/2, 3/4, 1
	VSS8-10	Metal	90 (5.0)	50	25	60		

Note 3) Single solenoid type without base



			Rubber Seal	Metal Seal
Valve operation			Pilot operated, 5 port	
Fluid			Air, Inert gas	
Operating pressure range MPa (psi)			0.1~1.0 (14.5~145)	0.1~1.6 (14.5~230) ^{Note1)}
Proof pressure MPa (psi)			1.5 (217)	2.4 (348)
Ambient and fluid temperature C° (°F) ^{Note2)}			-5~50 (23~122)	-20~60 (-4~140)
Maximum operating ^{Note3)} frequency cycle/Sec.	2-position		8-6:5, 8-8:5, 8-10:5	8-6:20, 8-8:15, 8-10:10
	3-position		8-6:3, 8-8:3, 8-10:2	8-6:10, 8-8:10, 8-10:20
Lubrication			Not required	
Manual override			non-locking push type	
Protection structure			NEMA 4/IP65	
Coil rated voltage			24VDC, 12VDC	
Allowable voltage range %			-15~10% of rated voltage	
Coil insulation			Class B or equivalent	
Apparent power VA ^{Note3)} For 12 VDC	Inrush	50Hz	5.6	
		60Hz	5.0	
	Holding	50Hz	3.4	
		60Hz	2.3	
Apparent power VA ^{Note3)} For 24 VDC	Inrush		N/A	
	Holding		.075 AMPS	
Power consumption W			1.8	
Surge voltage suppressor and indicator light			Available as option	

Note 3) Subject to JISB8375-1975.

HOW TO ORDER VALVE

VS R 8 - 6 - FG - S - 3EZ - V1 A03T - X1

Type of seal

R	Rubber
S	Metal

Size

6	Size 1
8	Size 2
10	Size 3

Configuration

FG	2-position
FHG	3-position, Closed center
FJG	3-position, Exhaust center
FIG	3-position, Pressure center
YHZ	3-position, Dual Closed center
* YIZ	3-position, Dual Pressure center
* YJZ	3-position, Dual Exhaust center
YZ	2-position, Dual Pressure

* YIZ - 3 Position, Dual Exhaust Center
* YJZ - 3 Position, Dual Pressure Center
Note: When used with Dual Sandwich Regulator

Number of Solenoid

S	Single
D	Double

Rated voltage

3EZ	24VDC
4EZ	12VDC

* Consult an SMC representative for other voltage options.
Note: Blue Colour Coded Coil for 24VDC

Special Options

NIL	Standard
X1	External Pilot Supply

Subplate (NPTF)

NIL	Without Subplate
A02T	Side 1/4 For VSR/S8-6
A03T	Side 3/8 For VSR/S8-6, 8-8
A04T	Side 1/2 For VSR/S8-6, 8-8, 8-10
A06T	Side 3/4 For VSR/S8-8, 8-10
A10T	Side 1 For VSR/S8-10
B02T	Bottom 1/4 For VSR/S8-6
B03T	Bottom 3/8 For VSR/S8-8
B04T	Bottom 1/2 For VSR/S8-10

Pilot Exhaust Options

NIL	Pilot Exh. through footprint
V1	External Individual Pilot Exhaust

HOW TO ORDER ISO SUB-BASES

VS8 - 1 - A03 T - XG

ISO SIZE

1	ISO 1
2	ISO 2
3	ISO 3

4-PIN EURO CONNECTOR

X6
X11
X53

* For wiring options, please refer to page 13 for more information.

OPTIONS

NIL	
XG	ISO 1179-1 THREAD SPEC

PORT THREAD

NIL	RC(PT)
T	NPTF
F	G(PF)

P, EXH. PORT LOCATION

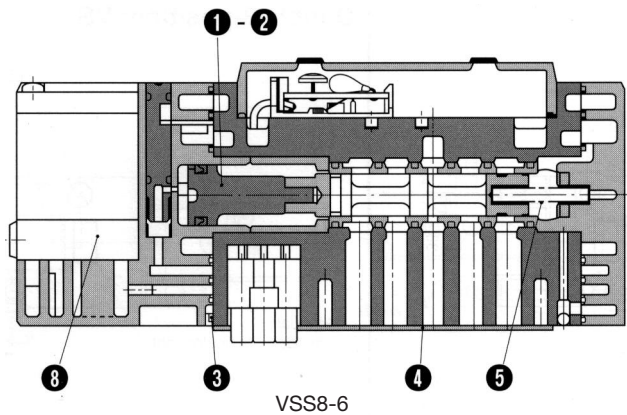
P, EXH. PORT	LOCATION
A02	1/4" SIDE
B02	1/4" BOTTOM
A03	3/8" SIDE
B03	3/8" BOTTOM
A04	1/2" SIDE
B04	1/2" BOTTOM
A06	3/4" SIDE
A10	1" SIDE

ISO SUB BASES WITH 4-PIN CONNECTORS

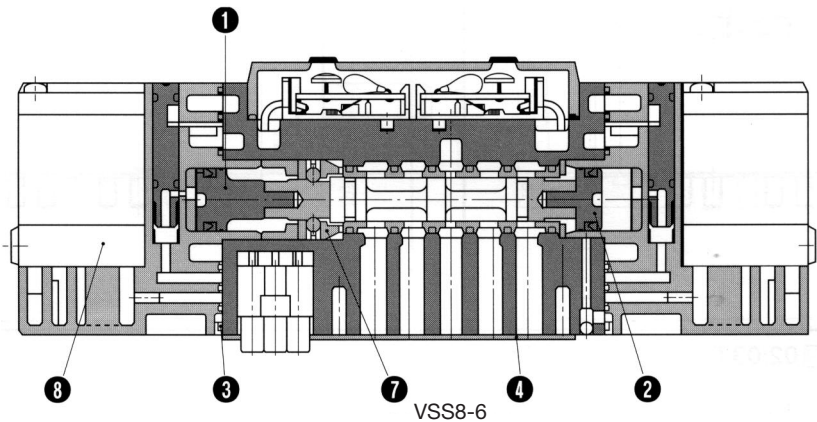
DESCRIPTION	PART#
VS8-1-A03T with 4 pin micro-connector	US15893
VS8-2-A04T with 4 pin micro-connector	US2249
VS8-3-A06T with 4 pin micro-connector	US18552

CONSTRUCTION

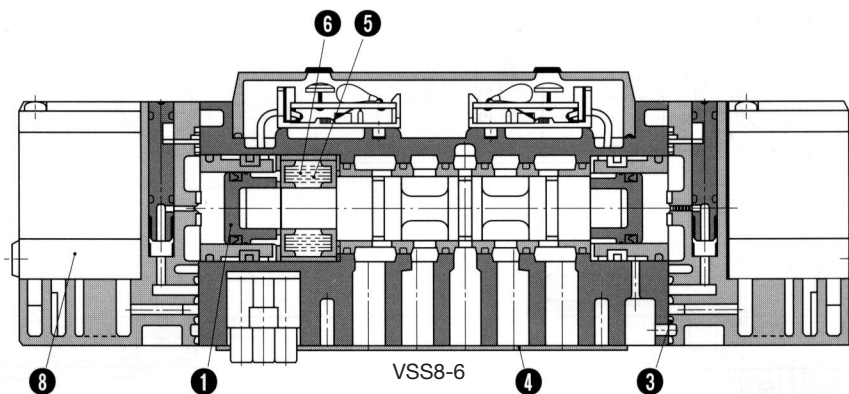
SERIES VSS (METAL SEAL TYPE)
SINGLE SOLENOID



DOUBLE SOLENOID



3-POSITION

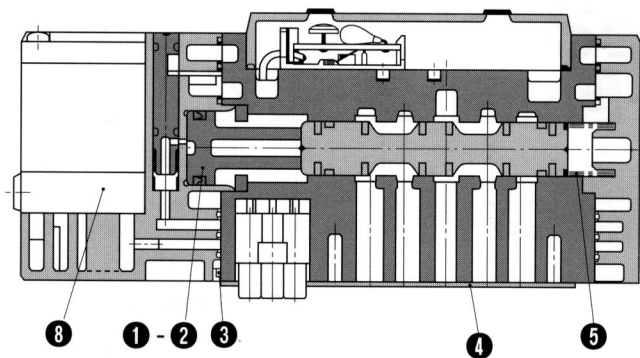


PART LIST

Description	Single solenoid			Double solenoid			3 position		
	VSS8-6	VSS8-8	VSS8-10	VSS8-6	VSS8-8	VSS8-10	VSS8-6	VSS8-8	VSS8-10
1. Piston assembly A	-	-	-	-	-	-	-	-	-
2. Piston assembly B	-	-	-	-	-	-	-	-	-
3. Gasket	-	-	-	-	-	-	-	-	-
4. Gasket	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1
5. Return spring A	-	-	-	-	-	-	-	-	-
6. Return spring B	-	-	-	-	-	-	-	-	-
7. Detent assembly	-	-	-	-	-	-	-	-	-
8. Pilot valve assembly	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30

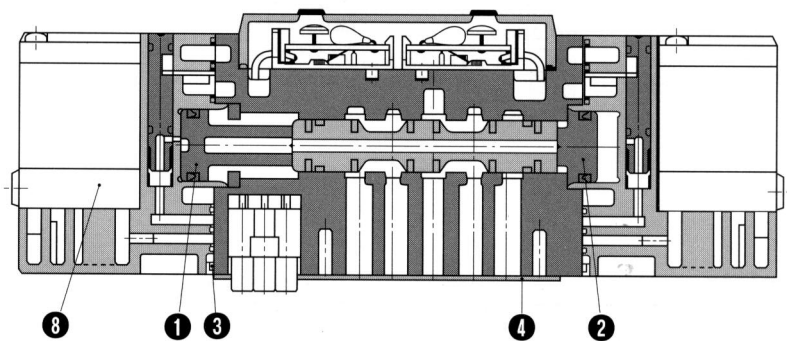
CONSTRUCTION

SERIES VSR (RUBBER SEAL TYPE)
SINGLE SOLENOID



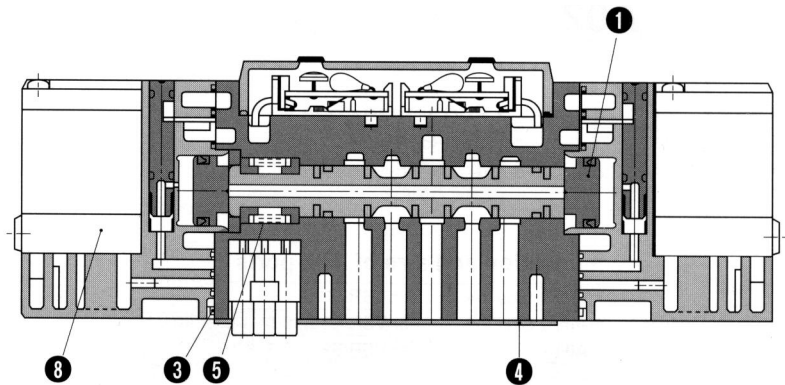
VSR8-6

DOUBLE SOLENOID



VSR8-6

3-POSITION

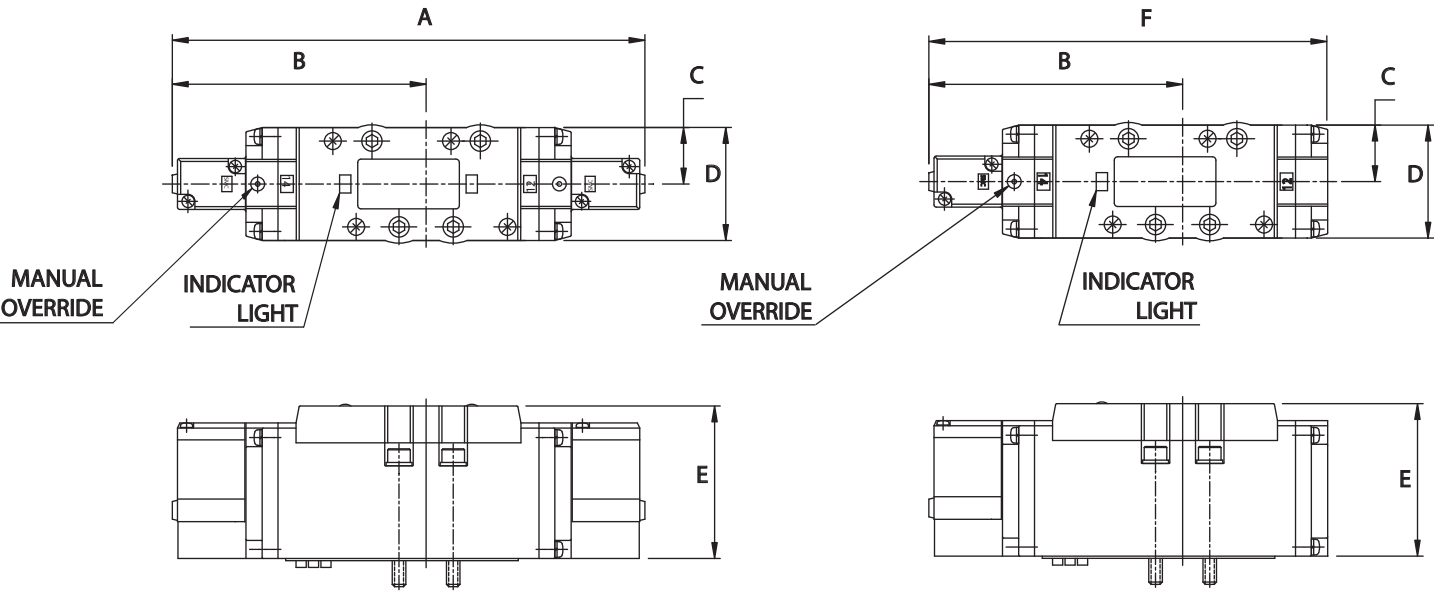


VSR8-6

PART LIST

Description	Single solenoid			Double solenoid			3 position		
	VSS8-6	VSS8-8	VSS8-10	VSS8-6	VSS8-8	VSS8-10	VSS8-6	VSS8-8	VSS8-10
1. Piston assembly A	-	-	-	-	-	-	-	-	-
2. Piston assembly B	-	-	-	-	-	-	-	-	-
3. Gasket	-	-	-	-	-	-	-	-	-
4. Gasket	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1	VS8060-19-1
5. Return spring A	-	-	-	-	-	-	-	-	-
6. Return spring B	-	-	-	-	-	-	-	-	-
7. Detent assembly	-	-	-	-	-	-	-	-	-
8. Pilot valve assembly	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30	SF4-□ F-30

VALVES

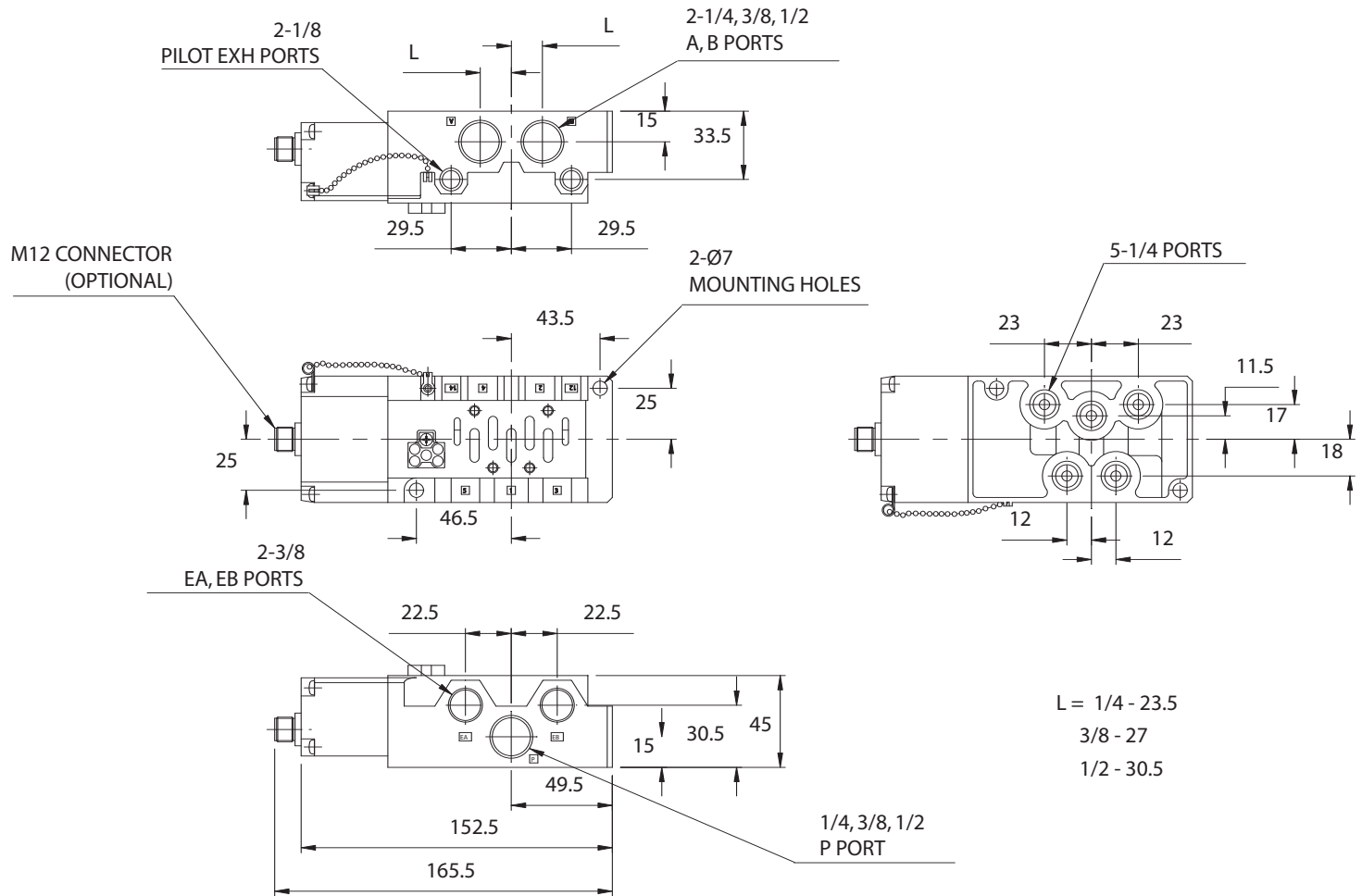


ALL DIMENSIONS ARE IN MILLIMETERS

	A	B	C	D	E	F
SIZE 1	188.5	103	19	38	65	150.5
SIZE 2	205	110.5	25	50	67.5	175
SIZE 3	228	122	32	64	71	198

ISO SIZE 1 SUB-BASE

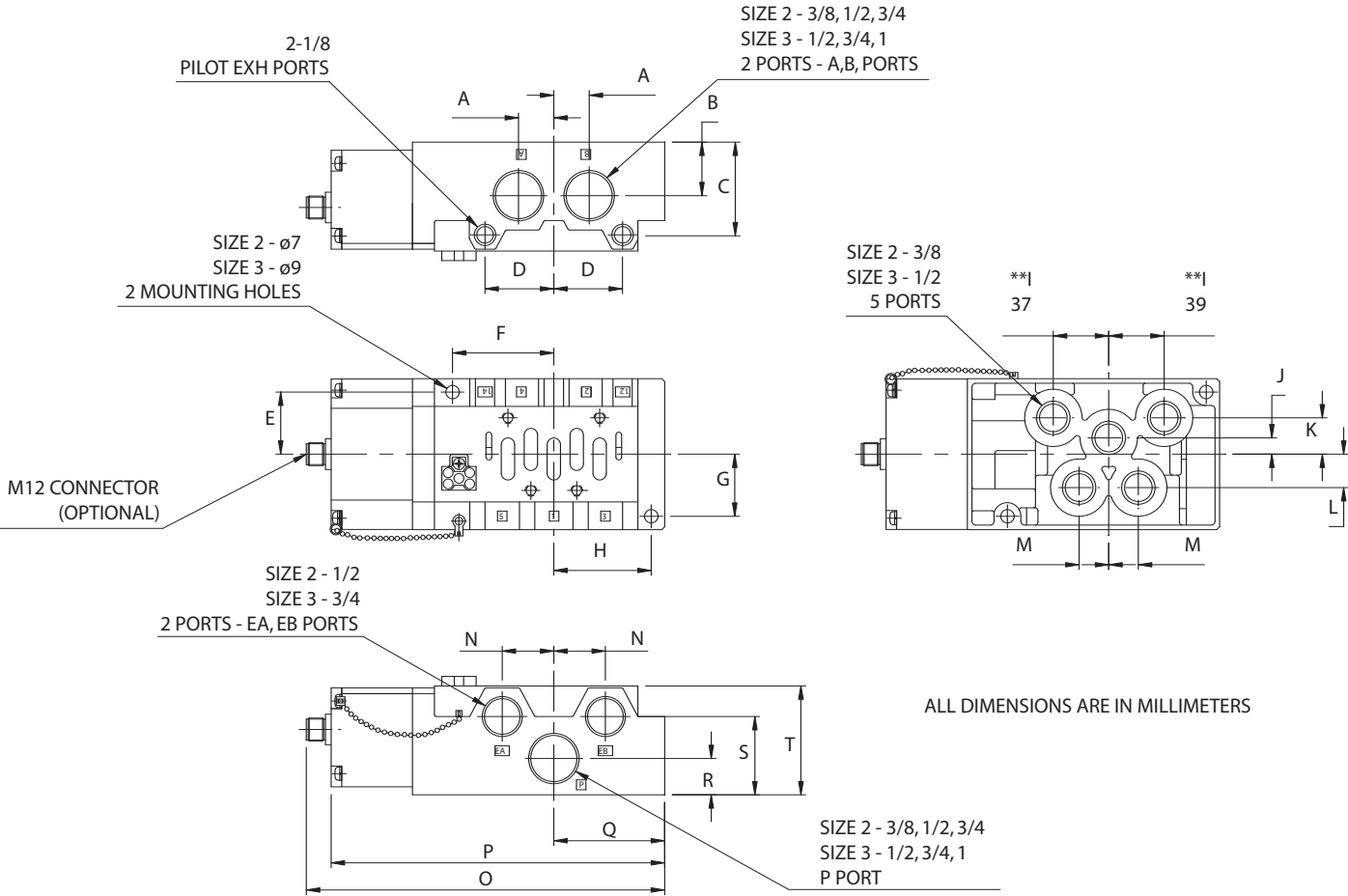
VS8-1-□ 02/03/04□



ALL DIMENSIONS ARE IN MILLIMETERS

ISO SIZE 2-3 SUB-BASE

VS8- ☐ 03/04/06/10 ☐



	A	B	C	D	E	F	G	H	I	J
SIZE 2	*	28	48.5	36	32.5	52	32.5	47.5	29	8.5
SIZE 3	22	27	47	45	40	65	40	71	**	22

* 3/8 - 14.5
1/2 - 16
3/4 - 18.5

	K	L	M	N	O	P	Q	R	S	T
SIZE 2	19	17.5	15.5	27	187.5	174.5	58	19	41	57
SIZE 3	14	26	19	40	234	221	76	27	39	65

Series VSR/VSS8-4

How to Order Valve (ISO15407-2)

VS **R** **8** — **4** — **FG** — **S** — **3** **V** **Z** **B** **R**

Type of seal

R	Rubber
S	Metal

Size

4	Size 01
----------	---------

Configuration

FG	2-position
FHG	3-position, Closed center
FJG	3-position, Exhaust center
FIG	3-position, Pressure center

Number of solenoids

S	Single
D	Double

Pilot air

Nil	Internal pilot
R	External pilot

Manual override

Nil	Non-locking push type (Tool required)
B	Locking push type (Tool required)

Light/Surge voltage suppressor

Nil	None
Z	With indicator light/surge voltage suppressor

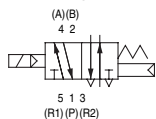
Individual pilot exhaust

Rated voltage

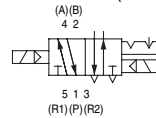
3	24VDC
4	12VDC
9	Others

Symbol

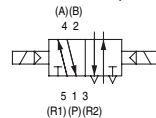
2-position single



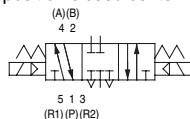
2-position double (metal)



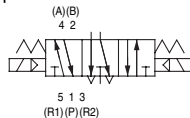
2-position double (rubber)



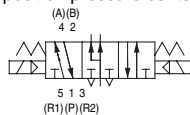
3-position closed center



3-position exhaust center



3-position pressure center



Standard Specifications

Valve specifications	Valve type			Metal seal		Rubber seal			
	Fluid			Air, Inert gas					
	Inlet pilot Operating pressure range		Single		0.1 to 1.0 MPa		0.15 to 1.0 MPa		
			Double		0.1 to 1.0 MPa		0.1 to 1.0 MPa		
			3-position		0.15 to 1.0 MPa		0.2 to 1.0 MPa		
	External pilot Operating/Pilot pressure range		Operating pressure range		-100 kPa to 1.0 MPa				
			Pilot pressure range	Single		0.1 to 1.0 MPa		0.15 to 1.0 MPa	
				Double		0.1 to 1.0 MPa		0.1 to 1.0 MPa	
				3-position		0.15 to 1.0 MPa		0.2 to 1.0 MPa	
	Ambient and fluid temperature			-10 to 60C ^{Note 2)}		-5 to 60C ^{Note 2)}			
Lubrication			Not required (non-lube type)						
Manual override			Push type (tool required)						
Impact resistance/Vibration resistance			150, 30ms ² ^{Note 3)}						
Enclosure			IP65 (Dust/Splashproof type)						
Electric specifications	Rated coil voltage			12VDC, 24VDC					
	Allowable voltage fluctuation			10% of rated voltage					
	Type of coil insulation			Equivalent to class B					
	Power consumption (Current)	24VDC		1W DC (42mA)					
		12VDC		1W DC (83mA)					

Note 1) Operating pressure Pilot pressure

Note 2) Use dry air to prevent condensation at low temperatures.

Note 3) **Impact resistance:** No malfunction resulted during an impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature for both energized and de-energized conditions.

Vibration resistance: No malfunction resulted during an one-sweep test between 8.3 and 2000Hz. The test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized conditions.

Flow Rate Characteristics

Position		Seal	VSR/S8-4					
			1→4, 2 (P→A, B)			4, 2→5, 3 (A, B→EA, EB)		
			C	b	Cv	C	b	Cv
2-position	Single	Metal	3.10	0.10	0.60	3.40	0.10	0.70
		Rubber	3.60	0.28	0.90	4.20	0.20	1.00
	Double	Metal	3.10	0.10	0.60	3.40	0.10	0.70
		Rubber	3.60	0.28	0.90	4.20	0.20	1.00
3-position	Closed center	Metal	3.10	0.10	0.60	3.20	0.10	0.60
		Rubber	3.20	0.34	0.80	4.20	0.30	1.00
	Exhaust center	Metal	2.70	0.10	0.60	3.30	0.10	0.70
		Rubber	3.10	0.26	0.80	4.00	0.25	1.10
	Pressure center	Metal	3.20	0.10	0.70	3.20	0.10	0.60
		Rubber	4.40	0.25	1.00	3.60	0.25	1.00