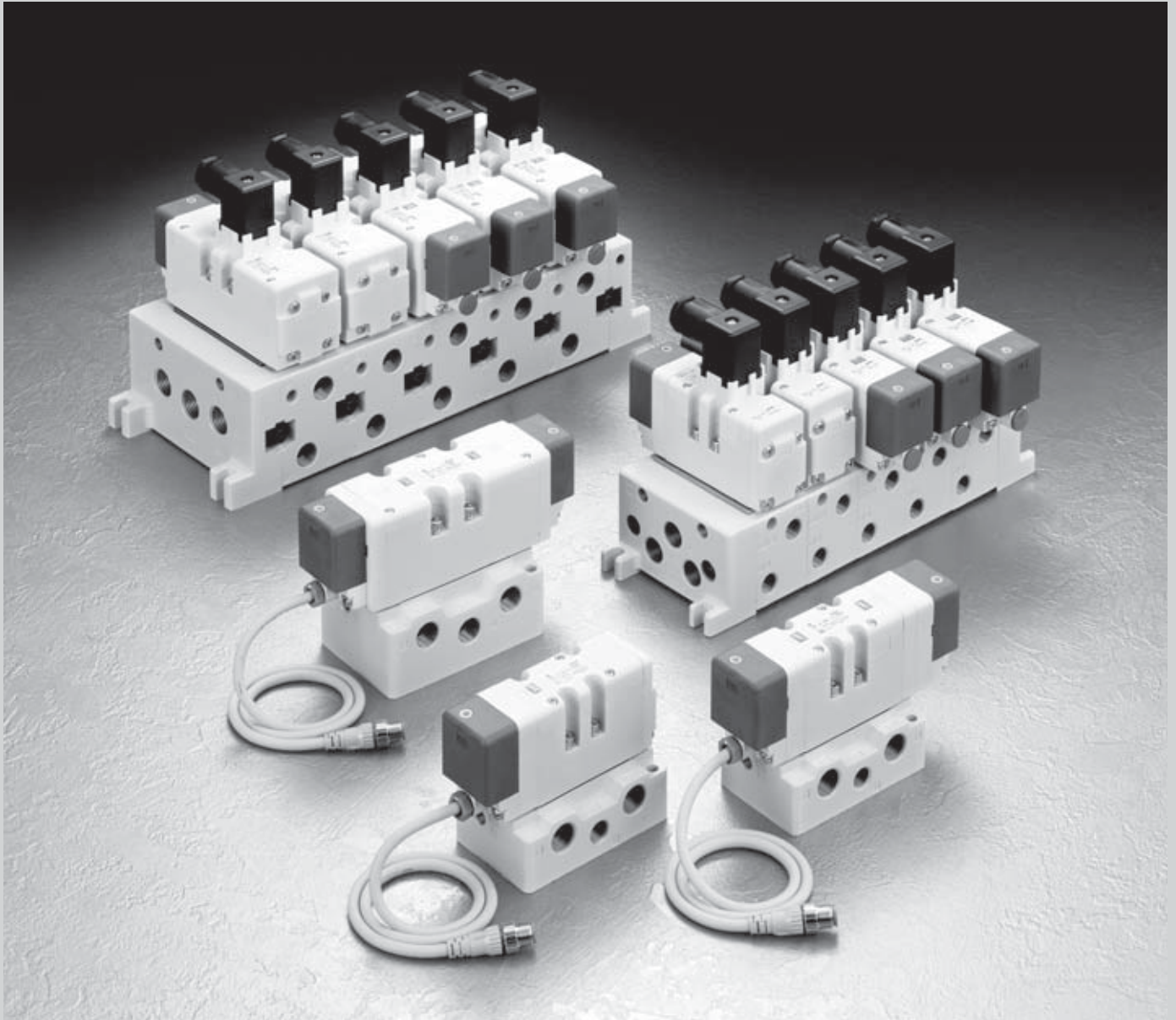


ISO Standard Solenoid Valve

# Series *VQ7-6/7-8*

(Size 1)

(Size 2)



Conforms to ISO Standard 5599/1

# Series VQ7-6, (Size 1)

## Large flow capacity

Ideal for driving cylinders up to  
ø100 (VQ7-6, Size 1)  
ø160 (VQ7-8, Size 2)  
Nl/min VQ7-6: 1668.55  
VQ7-8: 3140.80

## Conforms to ISO standard 5599/I

Interfaces conform to ISO standard  
Size 1 (VQ7-6) and Size 2 (VQ7-8).

## High speed response and long life

## IP65 enclosure is dust tight and splash proof

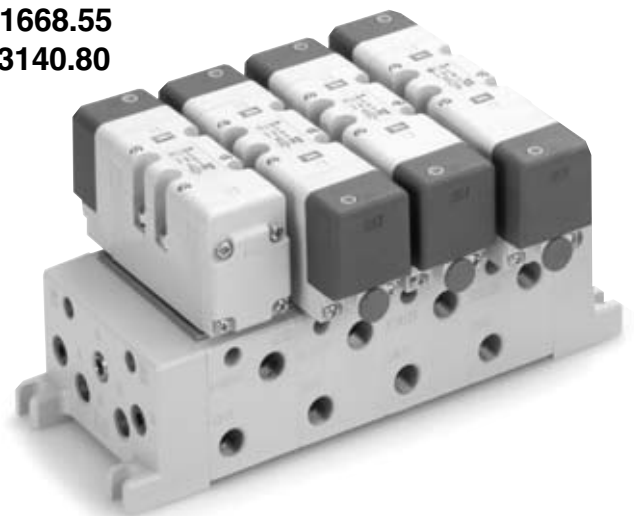
## A wide variety of manifold options

Manifolds can be configured with a wide range of interface options to meet a variety of application requirements.

- Interface regulator
- Double check spacer
- Double check spacer with residual pressure release valve
- Individual supply spacer
- Supply spacer with residual pressure release valve
- Individual exhaust spacer

- Blocking plate
- Adapter plate with release valve
- Reverse pressure spacer
- R1, R2 individual exhaust spacer
- Throttle valve spacer
- Locking cylinder adapter plate
- Main exhaust back pressure check plate

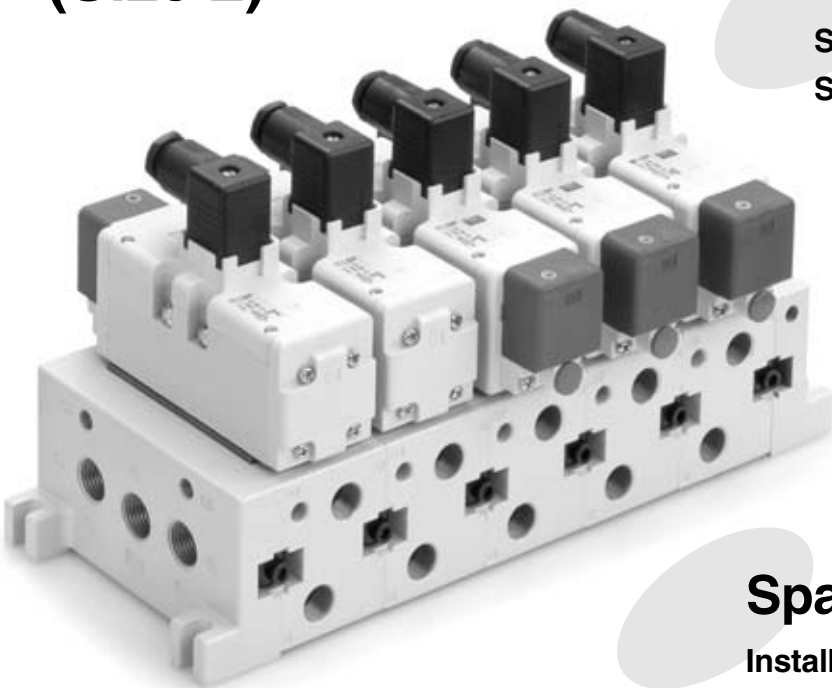
- Control unit
- Silencer box



## Adopted colour tone contributes to brighter factory environments

# VQ7-8

## (Size 2)



### Lighter weight

Size 1 (3 position) 0.48kg .... 24% less

Size 2 (3 position) 0.75kg .... 15% less

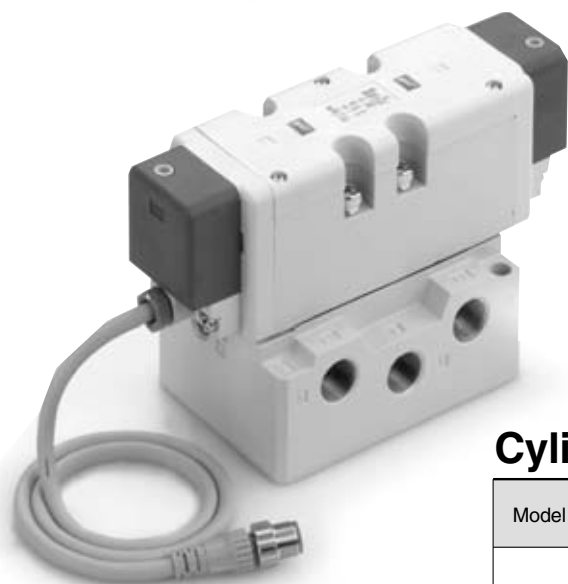
(Compared to previous series)

### Space saving profile

Installation space ..... 13% reduction

Installation volume ... 10% reduction

(Compared to previous series)



**Choice of metal or rubber seal increases compatibility with various operating and environmental conditions.**

### Cylinder Speed Chart

Model	N/min Metal seal (Rubber seal)	Cylinder speed mm/s	Cylinder bore size mm							
			40	50	63	80	100	125	140	160
VQ7-6	1472.25 (1668.55)	150								
		300								
		450								
		600								
		750								
VQ7-8	3140.80 (3140.80)	150								
		300								
		450								
		600								
		750								

Pressure 0.5MPa, Load factor 50%

Note) Use as a guide for selection, as cylinder speeds will vary depending on the piping equipment.



## Models



Series	Positions		Model		Note 1)	Note 2)	Note 3)
					Effective area mm <sup>2</sup> (N/min)	Response time ms	Weight kg
VQ7-6	2 position	Single	Metal seal	VQ7-6-FG-S-□	27.0 (1472.25)	20 or less	0.40
			Rubber seal	VQ7-6-FG-S-□R	31.0 (1668.55)	25 or less	
		Double	Metal seal	VQ7-6-FG-D-□	27.0 (1472.25)	12 or less	0.45
			Rubber seal	VQ7-6-FG-D-□R	31.0 (1668.55)	15 or less	
	3 position	Closed centre	Metal seal	VQ7-6-FHG-D-□	25.5 (1374.10)	40 or less	0.48
			Rubber seal	VQ7-6-FHG-D-□R	27.0 (1472.25)	45 or less	
		Exhaust centre	Metal seal	VQ7-6-FJG-D-□	27.0 (1472.25)	40 or less	0.48
			Rubber seal	VQ7-6-FJG-D-□R	31.0 (1668.55)	45 or less	
		Double check	Metal seal	VQ7-6-FPG-D-□	20.0 (1079.65)	50 or less	0.84
			Rubber seal	VQ7-6-FPG-D-□R	20.0 (1079.65)	50 or less	
		Pressure centre	Metal seal	VQ7-6-FIG-D-□	27.0 (1472.25)	40 or less	0.48
			Rubber seal	VQ7-6-FIG-D-□R	31.0 (1668.55)	45 or less	

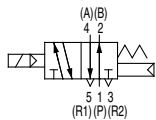
Note 1) Port size 1/4: Value when mounted on sub plate.

Note 2) Based on JIS B 8375-1981 (Value for supply pressure of 0.5MPa, with light/surge voltage suppressor, when using clean air.) Response time values will change depending on pressure and air quality.  
The value when ON for the double type.

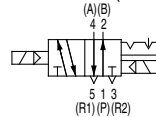
Note 3) The weight without sub plate. (Sub plate: 0.37kg)

## Symbols

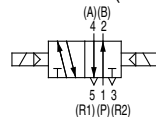
2 position single



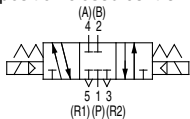
2 position double (metal)



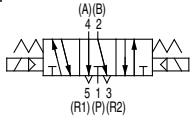
2 position double (rubber)



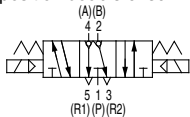
3 position closed centre



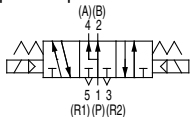
3 position exhaust centre



3 position double check



3 position pressure centre



## Standard Specifications

Valve specifications	Valve construction	Metal seal	Rubber seal	
	Fluid	Air/Inert gas		
	Maximum operating pressure	1.0MPa		
	Minimum operating pressure	Single	0.15MPa	0.20MPa
		Double	0.15MPa	0.15MPa
		3 position	0.15MPa	0.20MPa
	Ambient and fluid temperature	-10 to 60°C Note 1)	-5 to 60°C Note 1)	
	Lubrication	Not required		
	Manual operation	Push type (tool required)		
	Impact/Vibration resistance	150/30 m/s <sup>2</sup> Note 2)		
Enclosure	IP65 (splash proof/jet proof)			
Electrical specifications	Rated coil voltage	12VDC, 24VDC, 100VAC, 110VAC, 200VAC, 220VAC (50/60Hz)		
	Allowable voltage fluctuation	±10% of rated voltage		
	Coil insulation type	Class B equivalent		
	Power consumption (current)	24VDC	DC1W (42mA)	
		12VDC	DC1W (83mA)	
		100VAC	Inrush 1.2VA (12mA), Holding 1.2VA (12mA)	
		110VAC	Inrush 1.3VA (11.7mA), Holding 1.3VA (11.7mA)	
200VAC		Inrush 2.4VA (12mA), Holding 2.4VA (12mA)		
220VAC	Inrush 2.6VA (11.7mA), Holding 2.6VA (11.7mA)			

Note 1) For low temperature, use dry air with no condensation.

Note 2) Impact resistance: No malfunction when tested with a drop tester in the axial direction and at a right angle to the main valve and armature, one time each in both energized and deenergized states. (initial value)

Vibration resistance: No malfunction when tested with one sweep of 8.3 to 2000Hz in the axial direction and at a right angle to the main valve and armature, one time each in both energized and deenergized states. (initial value)



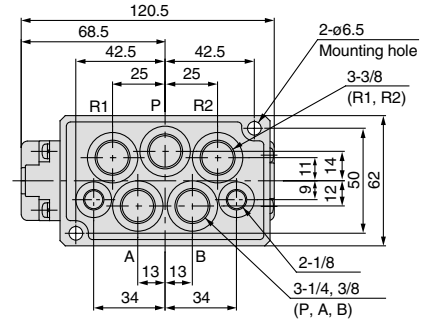
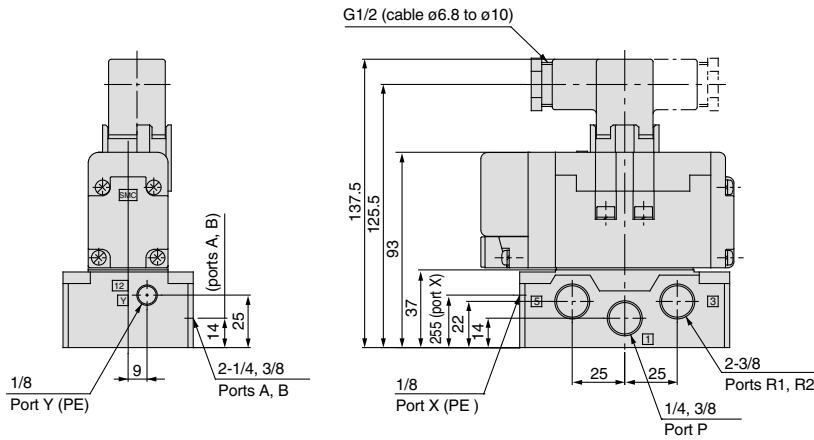
# Series VQ7-6

## DIN Connector Type

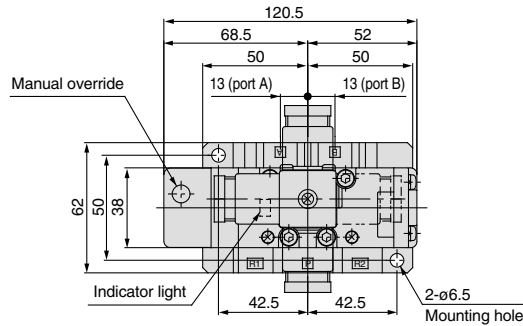
2 position/Single

: VQ7-6-FG-S

Single (reverse pressure): VQ7-6-YZ-S



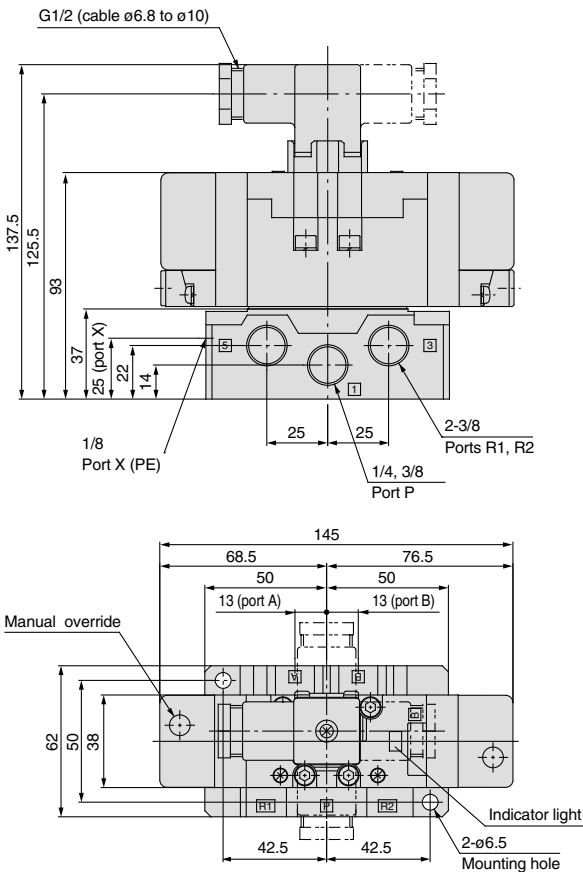
Bottom port drawing



2 position/Double

: VQ7-6-FG-D

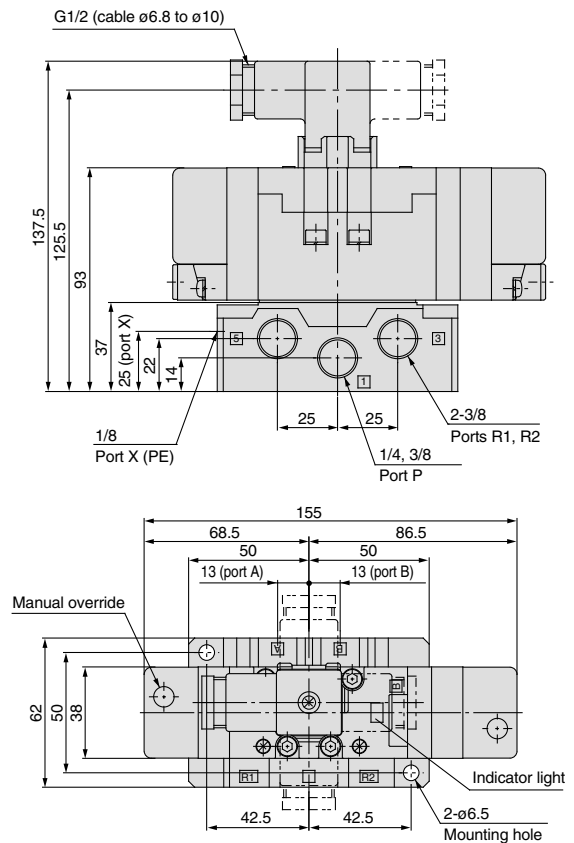
Double (reverse pressure): VQ7-6-YZ-D



3 position/Closed centre : VQ7-6-FHG-D

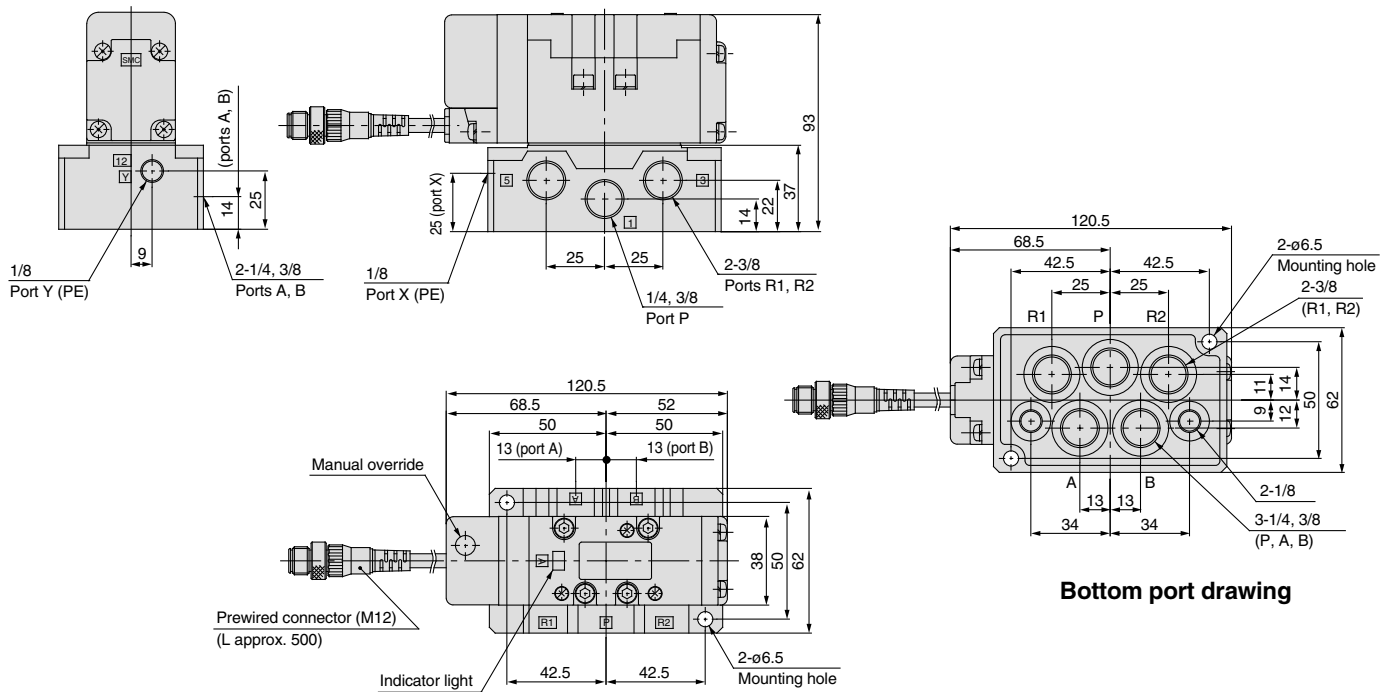
Exhaust centre : VQ7-6-FJG-D

Pressure centre : VQ7-6-FIG-D

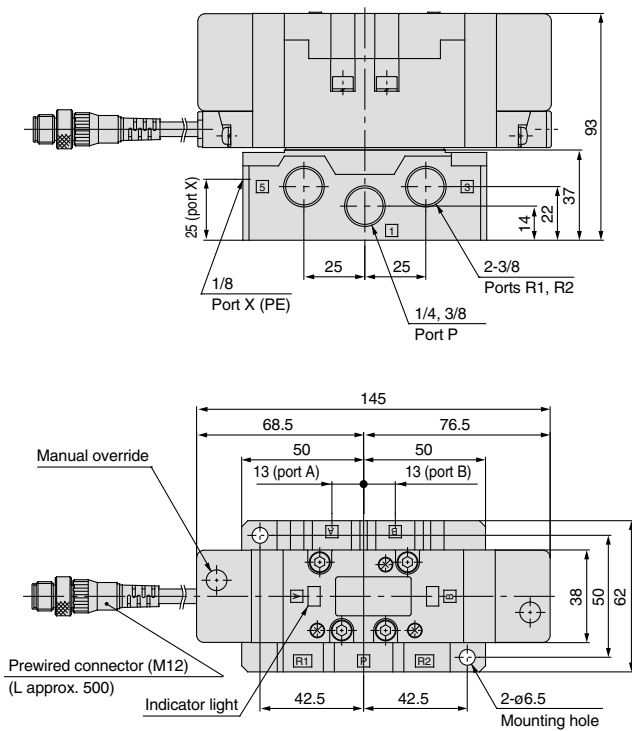


## Prewired Connector Type

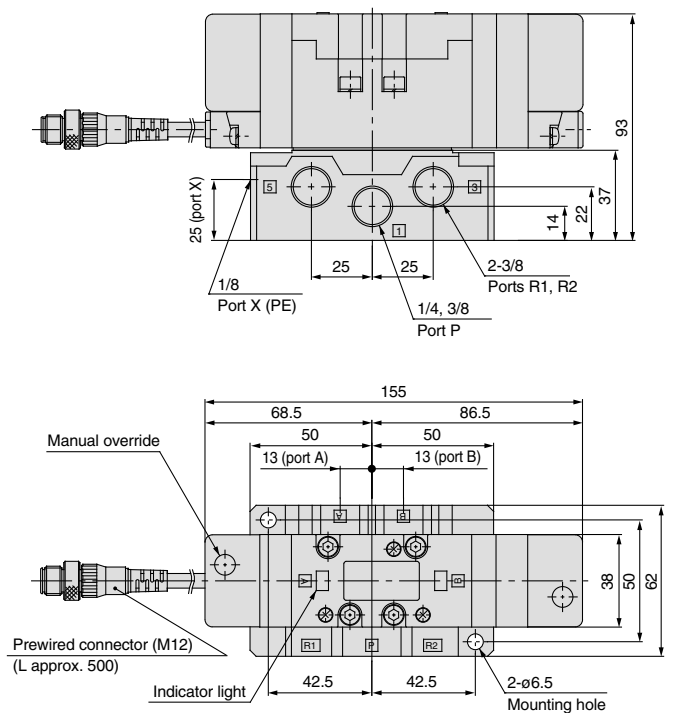
2 position/Single : VQ7-6-FG-S□□□□SC  
 Single (reverse pressure): VQ7-6-YZ-S□□□□SC



2 position/Double : VQ7-6-FG-D-□□□□SC  
 Double (reverse pressure): VQ7-6-YZ-D-□□□□SC



3 position/Closed centre : VQ7-6-FHG-D-□□□□SC  
 Exhaust centre : VQ7-6-FJG-D-□□□□SC  
 Pressure centre : VQ7-6-FIG-D-□□□□SC

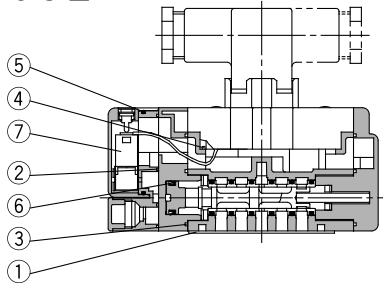


# Series VQ7-6 Construction

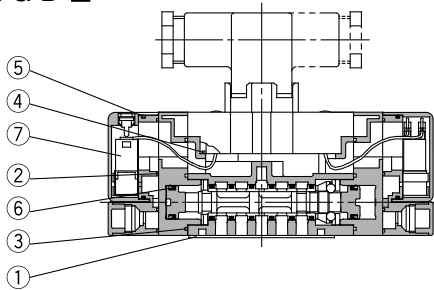
## DIN Connector Type

### Metal seal type

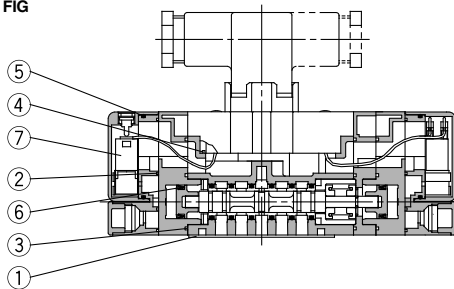
#### VQ7-6-FG-S-□



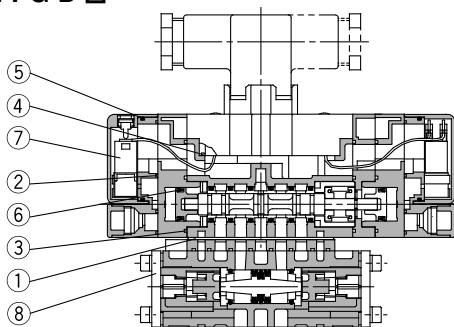
#### VQ7-6-FG-D-□



#### VQ7-6-<sup>FHG</sup> FJG-D-□ FIG

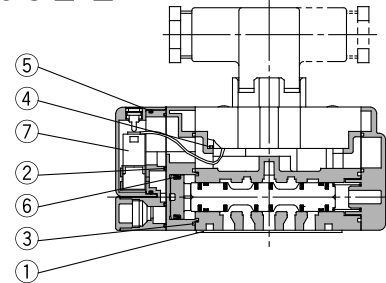


#### VQ7-6-FPG-D-□

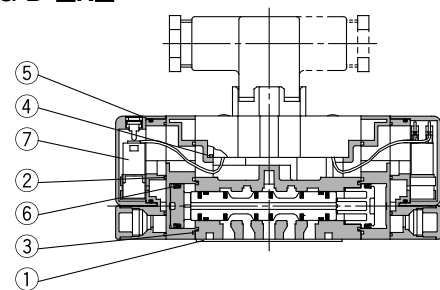


### Rubber seal type

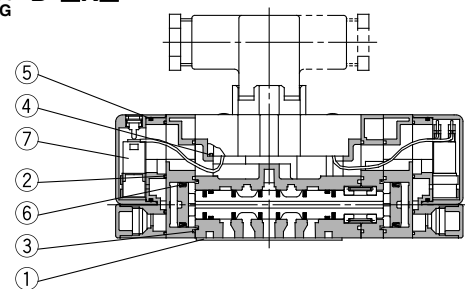
#### VQ7-6-FG-S-□R□



#### VQ7-6-FG-D-□R□



#### VQ7-6-<sup>FHG</sup> FJG-D-□R□ FIG



### Valve replacement parts

No.	Description	Material	VQ7-6-FG-S-□	VQ7-6-FG-D-□	VQ7-6- <sup>FHG</sup> FJG-D-□ FIG	VQ7-6-FPG-D-□	VQ7-6-FG-S-□R□	VQ7-6-FG-D-□R□	VQ7-6- <sup>FHG</sup> FJG-D-□R□ FIG
1	Gasket	NBR				AXT500-13			
2	Gasket A	NBR				VQ7060-13-2			
3	Gasket B	NBR				VQ7060-13-1			
4	Gasket C	NBR				VQ7060-13-3			
5	O-ring	NBR				37 x 1.6			
6	Mini Y seal	NBR		MYN-11				MYN-16	
7	Pilot valve assembly					VQZ110Q-□			
8	Double check spacer			—		VV71-FPG		—	



# Series VQ7-6 Manifold Series VV71

## How to order Manifolds

**E** **VV71** **6** - **02R** - **02D** - **Q**

### Stations

1	1 station
⋮	⋮
10	10 stations

Note) When equipped with control unit, 1 or 2 stations are used for mounting.

### Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

### 2(B), 4(A) port piping connection

02R	1/4 (right side)
03R	3/8 (right side)
02L	1/4 (left side)
03L	3/8 (left side)
02Y	1/4 (bottom)
03Y	3/8 (bottom)
C6R	One-touch fitting ø6 (right side)
C8R	One-touch fitting ø8 (right side)
C10R	One-touch fitting ø10 (right side)
C6L	One-touch fitting ø6 (left side)
C8L	One-touch fitting ø8 (left side)
C10L	One-touch fitting ø10 (left side)
*	Mixed

Note) When ports are mixed, indicate piping specifications using the instructions and manifold specification sheet.

Note) Manifold spliced view, see page 1.20-34 for details.



Contact SMC for other voltages (9)



Protective class class I (Mark: ⚡)..... DIN terminal type

### Air release valve coil rating

Nil	None
1	100VAC 50Hz/60Hz
2	200VAC 50Hz/60Hz
3	24VDC
4	12VDC
9	Other (less than 240V)

### Silencer box

Nil	Without
SB	With

Note) The silencer box mounting position corresponds to piping connection at ports 3 (R2) and 5 (R1).

### 1 (P), 3 (R2), 5 (R1) port piping connection

02D	Rc1/4 (bottom)
02U	Rc1/4 (top)
02B	Rc1/4 (both sides)
03D	Rc3/8 (bottom)
03U	Rc3/8 (top)
03B	Rc3/8 (both sides)
C12D	One-touch fitting ø12 (bottom)
C12U	One-touch fitting ø12 (top)
C12B	One-touch fitting ø12 (both sides)
*	Mixed

Note) When ports are mixed, indicate piping specifications using the instructions and manifold specification sheet.

### Control unit type (see pages 1.20-16 and 1.20-17 for details)

Control equipment	Symbol	Nil	A	AP	M	MP	F	G	C	E
Air filter with auto drain			○	○			○			
Air filter with manual drain					○	○		○		
Regulator			○	○	○	○	○	○		
Air release valve			○	○	○	○			○	○
Pressure switch				○		○				
Blank plate (air release valve)							○	○		
Blank plate (filter, regulator)									○	
Number of manifold blocks required for mounting (stations)			2	2	2	2	2	2	2	1

## Manifold Specifications

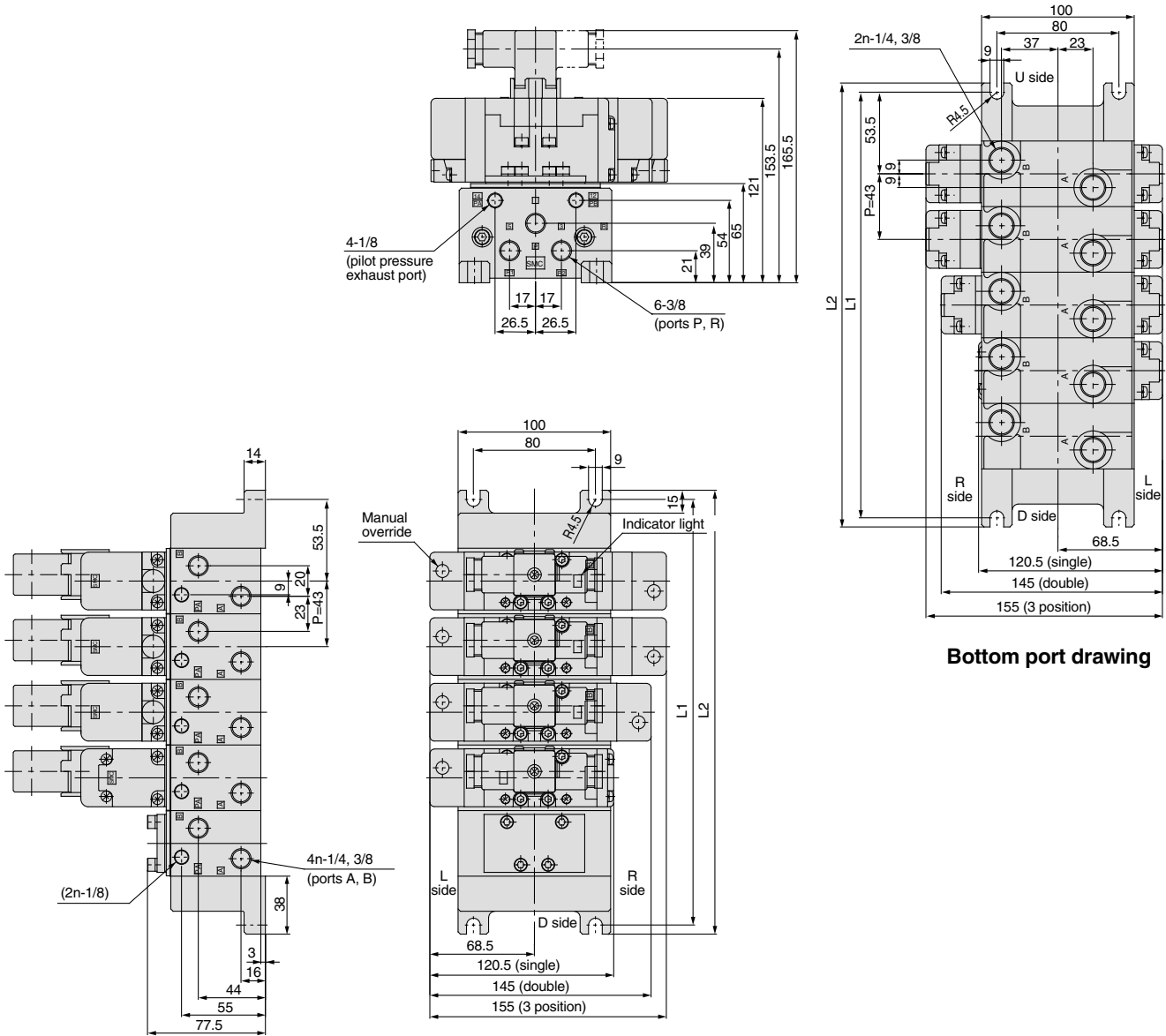
Manifold block size	Applicable solenoid valve	Piping specifications			Stations	Weight kg
		Ports 2 (B), 4 (A)		1 (P), 3 (R2) 5 (R1) port size		
		Piping direction	Size			
ISO size 1	VQ7-6 ISO size 1 series	Right, Left	1/4 3/8 C6 (for ø6) C8 (for ø8) C10 (for ø10)	1/4 3/8 C12 (for ø12)	Note) 10 stations max.	0.43n + 0.49 (n: Stations)
		Bottom	1/4 3/8			

Note) When equipped with control unit, 1 or 2 stations are used for mounting.

# Series VQ7-6

## DIN Connector Type

VV71□-□-□□□

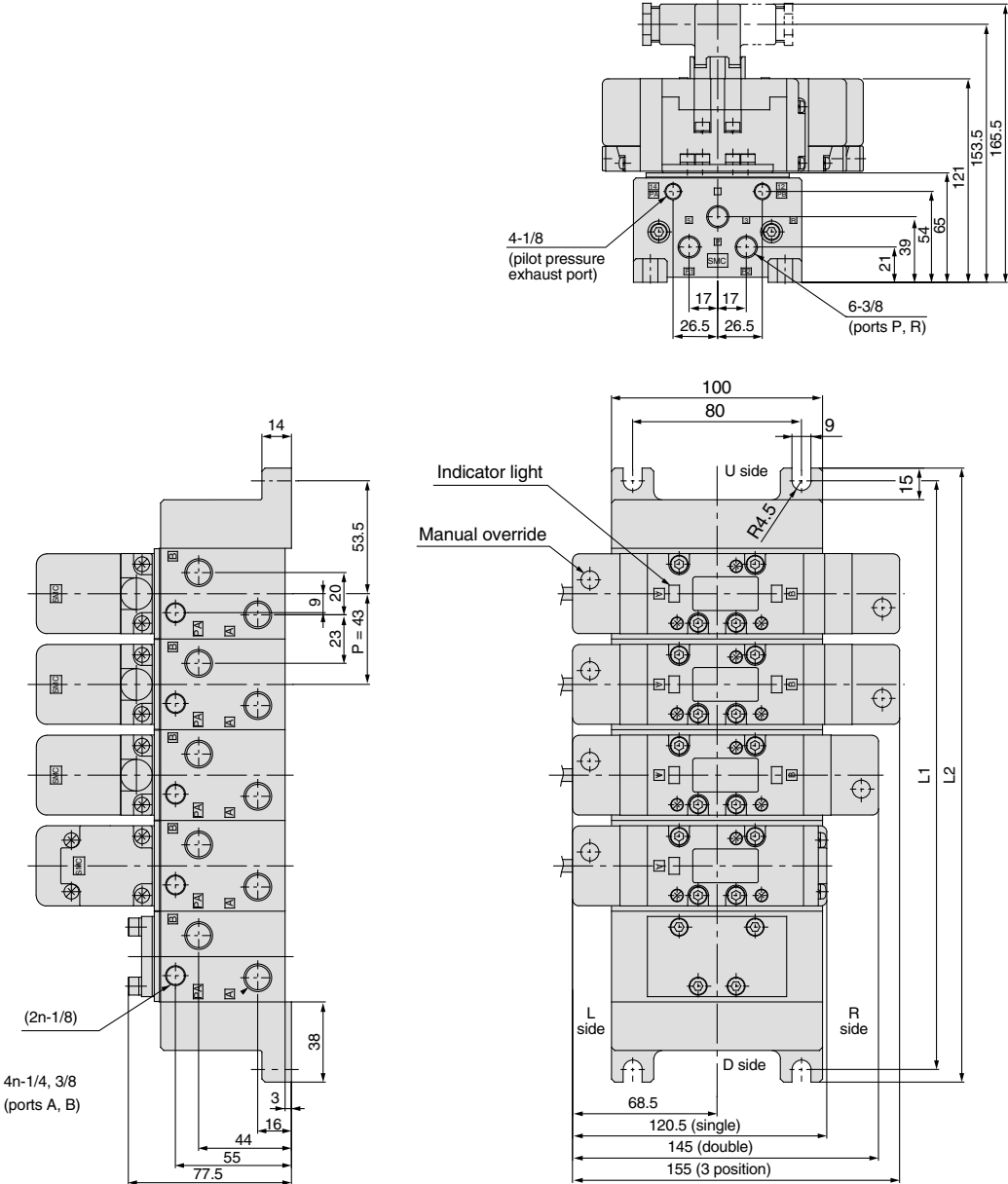


Bottom port drawing

L: Dimensions	n: Stations										
	1	2	3	4	5	6	7	8	9	10	Formula
L1	107	150	193	236	279	322	365	408	451	494	$L1 = 43n + 64$
L2	119	162	205	248	291	334	377	420	463	506	$L2 = 43n + 76$

Prewired Connector Type

VV71□-□-□□□



L: Dimensions										n: Stations	
	1	2	3	4	5	6	7	8	9	10	Formula
L1	107	150	193	236	279	322	365	408	451	494	$L1 = 43n + 64$
L2	119	162	205	248	291	334	377	420	463	506	$L2 = 43n + 76$

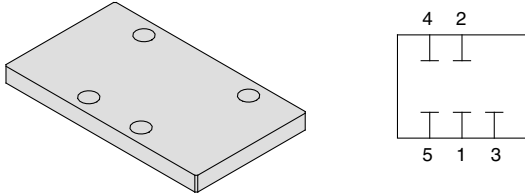
# Series VQ7-6

## Optional Manifold Parts

### Blank plate assembly

#### AXT502-9A

This is used by mounting it on a manifold block when a valve is removed for maintenance or when it is planned to install an additional valve in the future, etc.

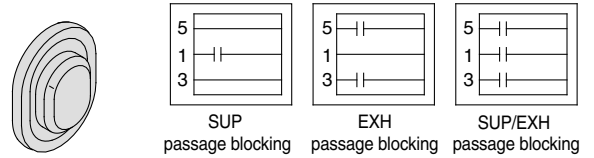


### Blocking plate (for SUP/EXH passages)

#### AXT502-14

When two or more different high pressures are supplied to one manifold, blocking plates are installed between stations having different pressures.

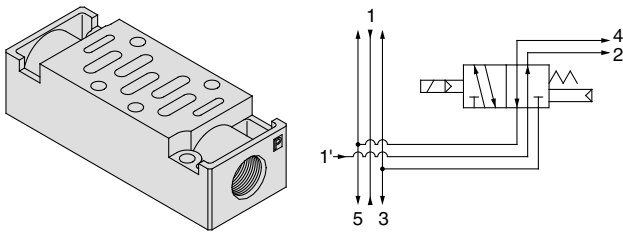
Also, in cases such as when valve exhaust effects other stations in a circuit, blocking plates are used for exhaust at stations where the exhaust is to be separated.



### Individual SUP spacer

#### VV71-P-<sup>02</sup><sub>03</sub> C10

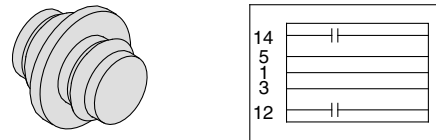
By mounting individual supply spacers on a manifold block, supply ports can be provided individually for each valve.



### Blocking plate (for pilot EXH passage)

#### AZ503-53A

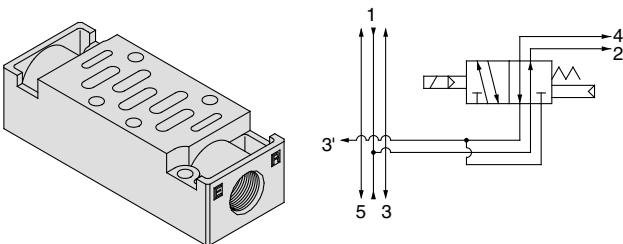
When a valve's pilot valve exhaust effects other valves in a circuit, blocking plates are used between stations where the pilot exhaust passages are to be separated.



### Individual EXH spacer

#### VV71-R-<sup>02</sup><sub>03</sub> C12

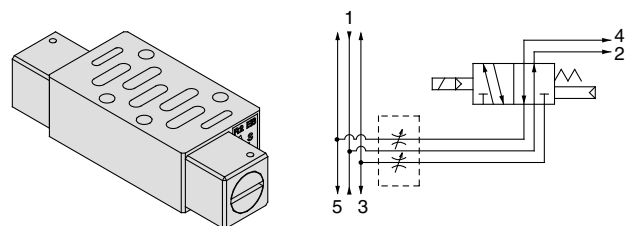
By mounting individual exhaust spacers on a manifold block, exhaust ports can be provided individually for each valve. (3, 5 common exhaust type)



### Throttle valve spacer

#### AXT503-23A

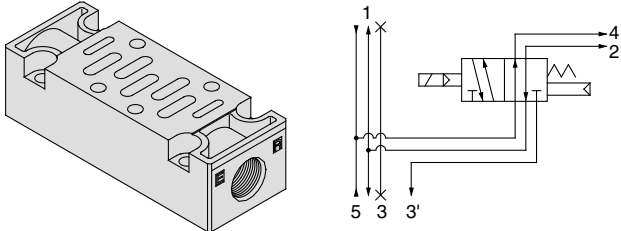
By mounting a throttle valve spacer on a manifold block, a cylinder's speed can be controlled by throttling the exhaust.



## Reverse pressure spacer

### AXT502-21A-1

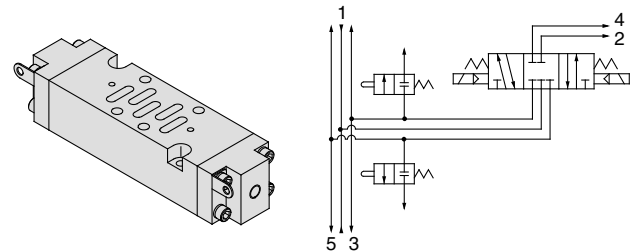
With reverse pressure control manifold specifications, when pressure is changed individually on one side (ex. high speed cylinder return), pressure can be supplied individually to the R2 side by mounting a reverse pressure spacer.  
{port 3 (R2) is individual and 5 (R1) is common}



## Residual pressure release valve spacer

### VV71-R-AB

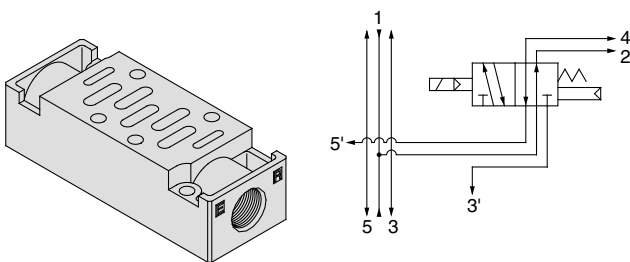
This is used by mounting on a manifold block in order to exhaust the residual pressure trapped inside of a cylinder, etc., during an intermediate stop with a 3 position closed centre or perfect type valve. Residual pressure at ports A and B is exhausted individually to the outside by manual operation.



## R1, R2 individual EXH spacer

### VV71-R2-03

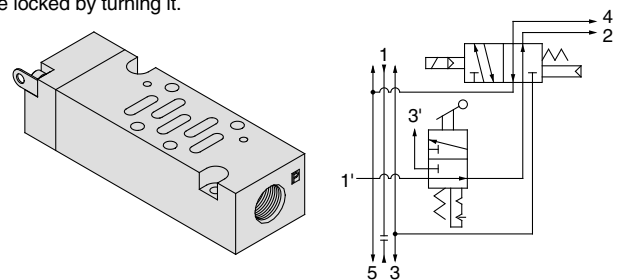
By mounting an individual exhaust spacer on a manifold block individual exhaust is possible from both R1 and R2.  
{3 (R2) and 5 (R1) are individual ports}



## Individual SUP spacer with residual pressure release valve

### VV71-PR-<sup>02</sup><sub>03</sub>

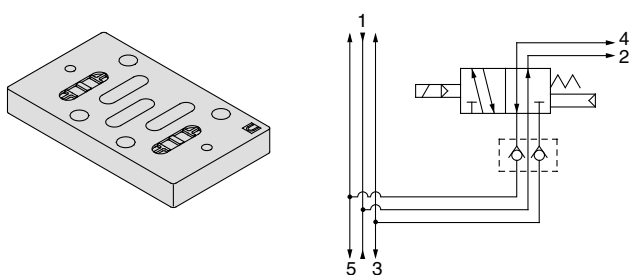
This is used by mounting on a manifold block in order to stop the primary side supply pressure in an individual supply spacer, while at the same time exhausting the residual pressure on the secondary side. Stopping the supply and exhausting the residual pressure are performed by pressing the manual override, which can be locked by turning it.



## Main EXH back pressure check plate

### AXT503-37A

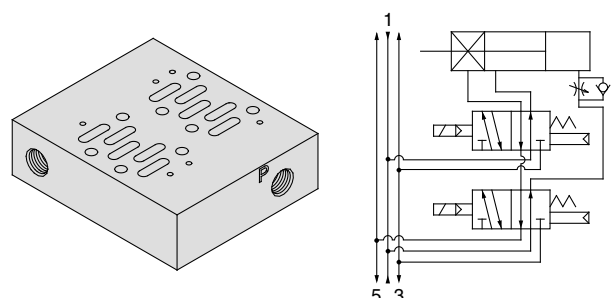
In cases where back pressure effects actuator operation due to simultaneous operation of manifold valves, etc., this effect can be eliminated by installing a plate between the manifold block and the valve from which back pressure is to be prevented.



## Adapter plate for locking cylinder

### AXT502-26A

When using a locking cylinder with 2 valves for control, this spacer can be used by mounting on a manifold block. It consists of a circuit equipped with a function to prevent lurching during release.



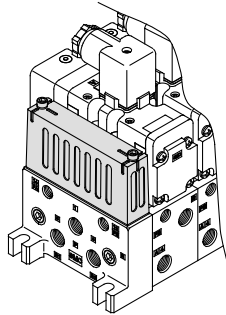
# Series VQ7-6

## Optional Manifold Parts

### Silencer box

VV71-□□□-□□-SB

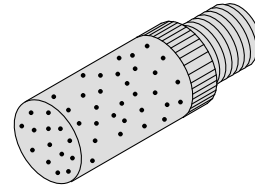
This can be provided as a unit on the end plate to reduce manifold exhaust noise and piping labour.



### Pilot EXH silencer

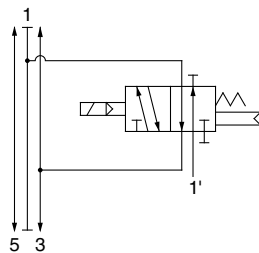
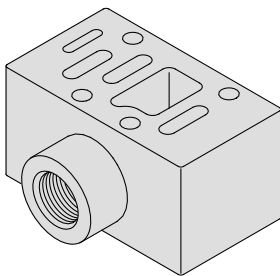
AN110-01

This is used by mounting on the pilot exhaust port in order to reduce manifold and single type pilot exhaust noise, and to prevent the entry of dust.



### Release valve spacer

AXT502-17A

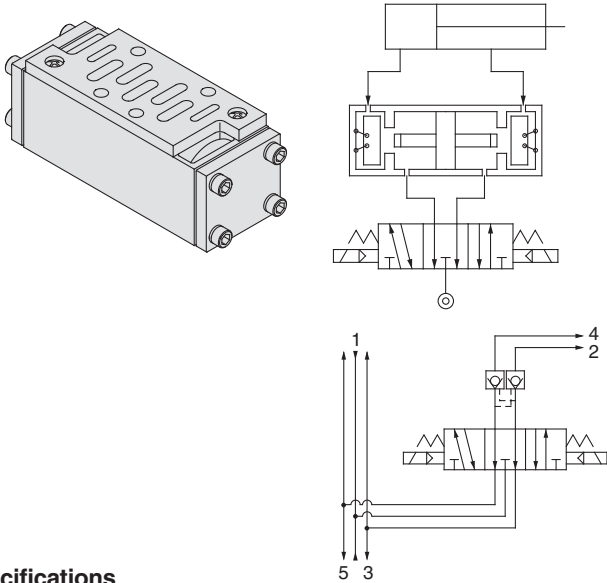




## Double check spacer

### VV71-FPG

By combining a 3 position exhaust centre valve with a double check spacer, an intermediate stopping position of a cylinder can be held for an extended period. It can also be used for drop prevention at the cylinder stroke end when releasing residual supply pressure, by combination with a 2 position single or double valve.



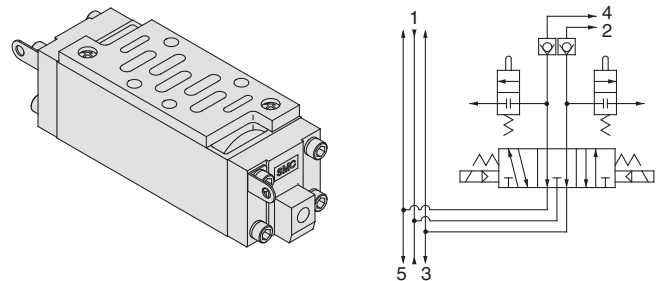
### Specifications

Double check spacer part no.		VV71-FPG		
Applicable solenoid or air operated valve		Series VQ7-6		
Leakage cm <sup>3</sup> /min (ANR)	One solenoid energized (One pilot pressurized)	P	R1	130
			R2	
	Both solenoids unenergized (Both pilots unpressurized)	P	R1	130
			R2	
		B	R1	0
		A	R2	

## Double check spacer with residual pressure release valve

### VV71-FPGR

This is a double check spacer equipped with a residual pressure release function, to release residual pressure inside a cylinder during maintenance or adjustment, etc.



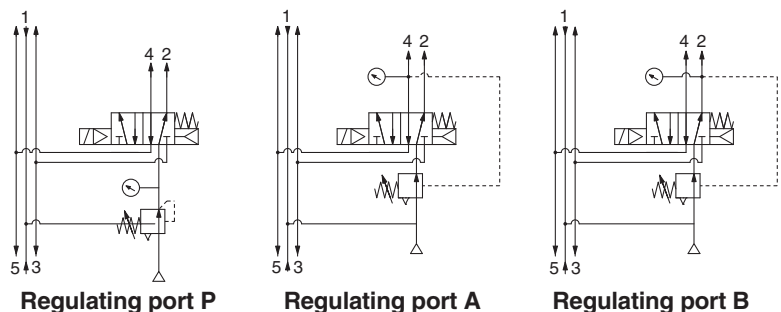
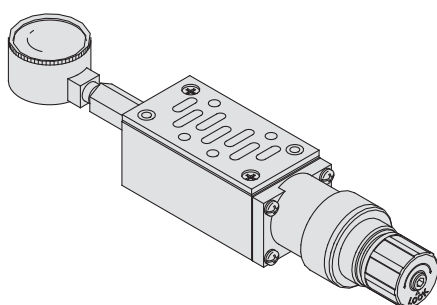
### ⚠ Handling precautions

- Since extended cylinder stops are not possible if there are leaks from piping between the valve and cylinder or from fittings, etc., check for leakage using a neutral liquid detergent.
- Since One-touch fittings allow for some air leakage, threaded piping is recommended in cases of extended intermediate cylinder stops.
- This spacer cannot be combined with a 3 position closed centre valve.
- Set the load weight so that the cylinder side pressure is less than two times the supply side pressure.
- When using the residual pressure release function, confirm the action of actuators, etc., and operate after providing for safety measures.

## Interface regulator

### ARB250-00-A<sup>P</sup> B

By mounting an interface regulator on a manifold block, it is possible to regulate each valve.



### Part No.

P reduced pressure	ARB250-00-P
A reduced pressure	ARB250-00-A
B reduced pressure	ARB250-00-B

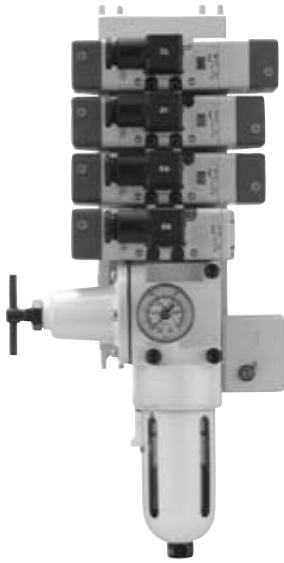
### ⚠ Handling precautions

- When combining a pressure centre valve and interface regulator with reduced pressure at ports A and B, use model ARB210-<sup>A</sup><sub>B</sub>.
- When combining a reverse pressure valve and interface regulator, use model ARB210-<sup>A</sup><sub>B</sub>. Further, it cannot be used with reduced pressure at port P.
- When combining a double check valve and interface regulator, use a manifold or sub plate as a base, and assemble by stacking in the order of double check spacer, interface regulator and valve.
- When combining a closed centre valve and interface regulator with reduced pressure at ports A and B, it cannot be used for intermediate cylinder stops because of air leakage from the regulator's relief port.

# Series VQ7-6

## Control Units

Control equipment (filters, regulators, pressure switches, air release valves) has been made into standardized units which can be mounted on manifolds without any modifications.



### Control unit specifications

<b>Air filter (with auto drain/with manual drain)</b>	
Filtration degree	5 $\mu$ m
<b>Regulator</b>	
Set pressure (downstream pressure)	0.05 to 0.85MPa
<b>Pressure switch</b>	
Pressure adjustment range	0.1 to 0.7MPa
Contact	1ab
Rated current	(induction load) 125VAC 15A, 250VAC 15A
<b>Air release valve (single only)</b>	
Operating pressure range	0.15 to 1.0MPa

### Options

<b>Blank plate</b>	AXT502-9A (for manifold)
	AXT502-18A (for release valve adapter plate)
	MP2 (for control equipment/filter regulator)
	MP3 (for pressure switch)
<b>Release valve adapter plate</b>	AXT502-17A
<b>Control equipment</b>	VAW-A (adapter plate, filter with auto drain cock, regulator)
	VAW-M (adapter plate, filter with manual drain cock, regulator)
<b>Pressure switch</b>	IS3100-X230

### Control unit types

Ordering symbol	Nil	A	AP	M	MP	F	G	C	E
<b>Control equipment</b>									
<b>Air filter with auto drain</b>		○	○			○			
<b>Air filter with manual drain</b>				○	○		○		
<b>Regulator</b>		○	○	○	○	○	○		
<b>Air release valve</b>		○	○	○	○			○	○
<b>Pressure switch</b>			○		○				
<b>Blank plate (air release valve)</b>						○	○		
<b>Blank plate (filter, regulator)</b>								○	
<b>Number of manifold blocks required for mounting (stations)</b>		2	2	2	2	2	2	2	1

### Use of control units

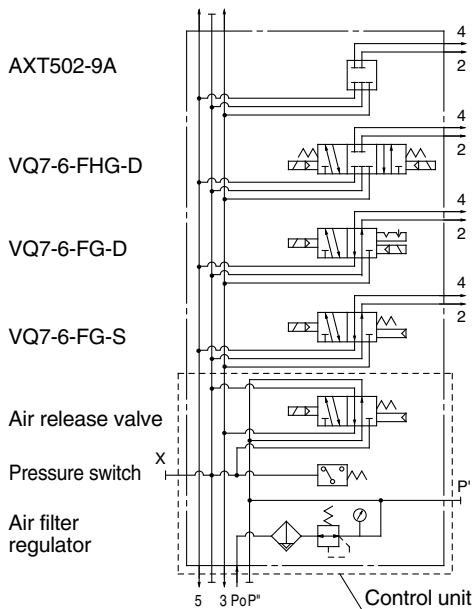
#### <Construction and piping >

- 1) The supply pressure (Po) passes through the regulator with filter ① and is adjusted to the prescribed pressure. Next, it goes through the release valve ② (downstream residual pressure switching function used as normally ON) and is supplied to the manifold base side (P).
- 2) When the release valve ② is OFF, the supply pressure from port Po is blocked, and the air which was being supplied to the manifold side port P passes through the release valve ② and is discharged from port R1.
- 3) The pressure switch is piped into the downstream side of the release valve ②. (It operates when the release valve ② is energized.) Also, since there is an internal voltage drop of 4V, it may not be possible to confirm the OFF and ON states with a tester, etc.

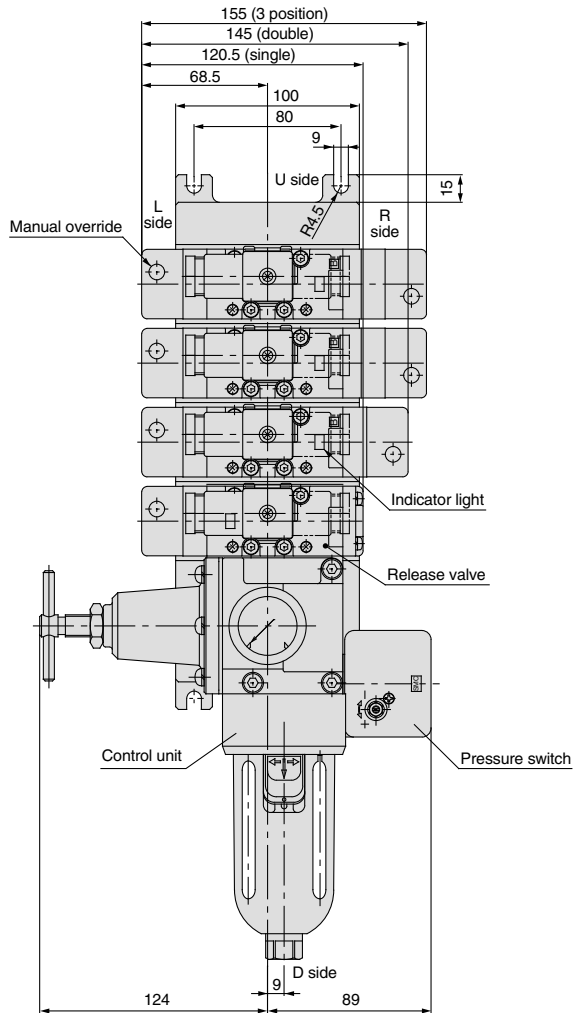
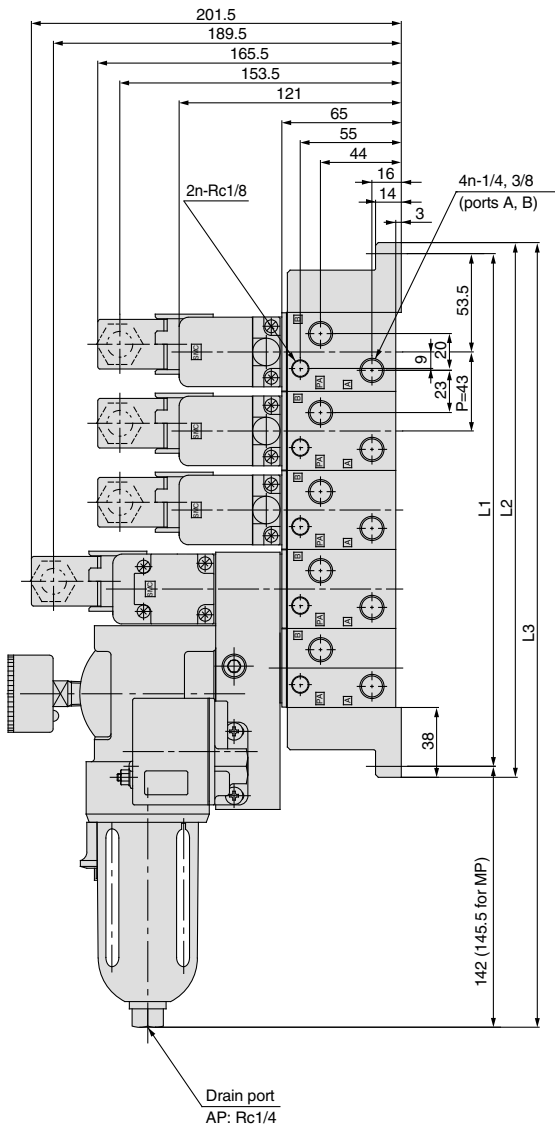
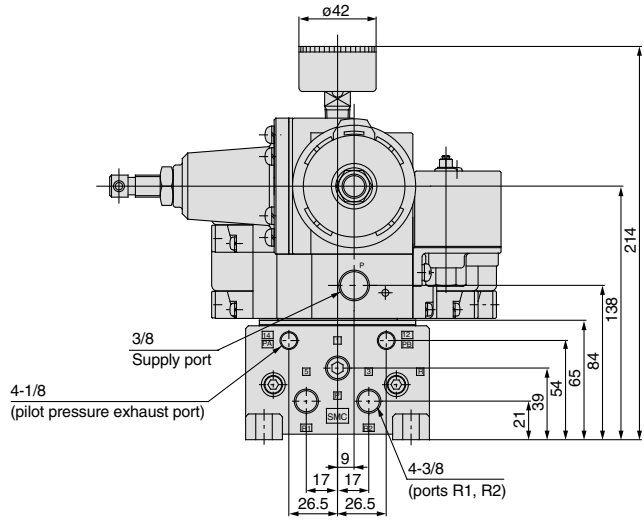
#### ⚠ Caution

- In the case of air filters with auto drain or manual drain, mount so that the air filter is at the bottom.

Manifold specification example



## Manifold with control unit



L: Dimensions										n: Stations	
	1	2	3	4	5	6	7	8	9	10	Formula
L1	107	150	193	236	279	322	365	408	451	494	$L1 = 43n + 64$
L2	119	162	205	248	291	334	377	420	463	506	$L2 = 43n + 76$
L3	255	298	341	384	427	470	513	556	599	642	$L3 = 43n + 212 (215.5)$
	(258.5)	(301.5)	(344.5)	(387.5)	(430.5)	(473.5)	(516.5)	(559.5)	(602.5)	(645.5)	

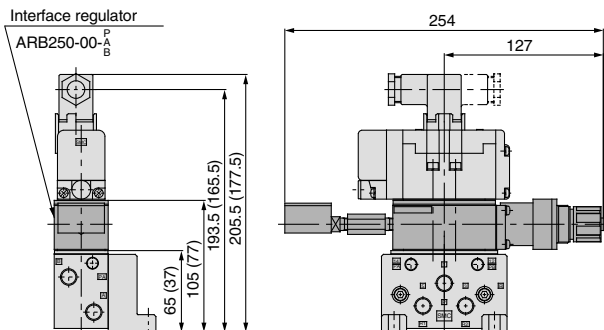
L3 dimensions inside ( ) are for MP

# Series VQ7-6

## Manifold Options

### Interface regulator

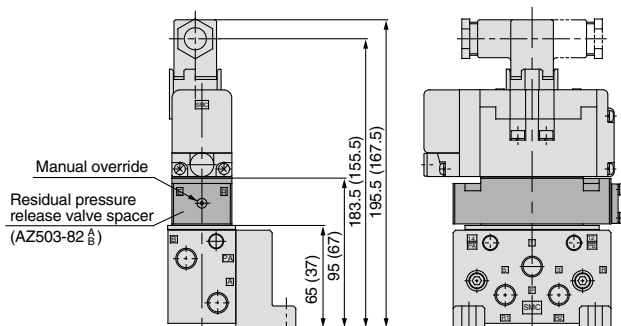
ARB250-00-<sup>P</sup><sub>A</sub>  
<sub>B</sub>



Dimensions inside ( ) are for sub plate

### Residual pressure release valve spacer

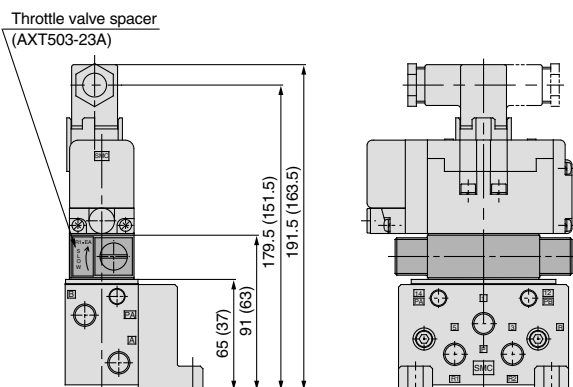
AZ503-82-<sup>A</sup>  
<sub>B</sub>



Dimensions inside ( ) are for sub plate

### Throttle valve spacer

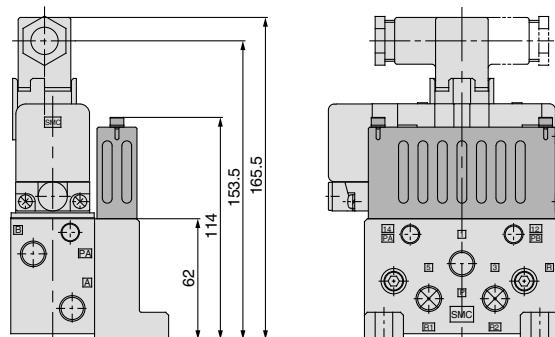
AXT503-23A



Dimensions inside ( ) are for sub plate

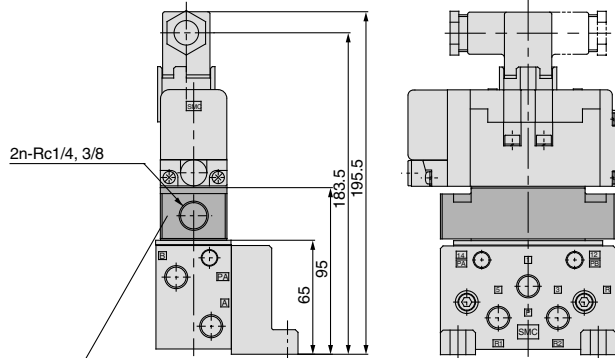
### Silencer box

AXT503-60A



Individual SUP spacer  
 Individual EXH spacer  
 R1, R2 individual EXH spacer  
 Reverse pressure spacer

VV71-P-□  
 VV71-R-□  
 VV71-R2-03  
 AXT502-21A-1

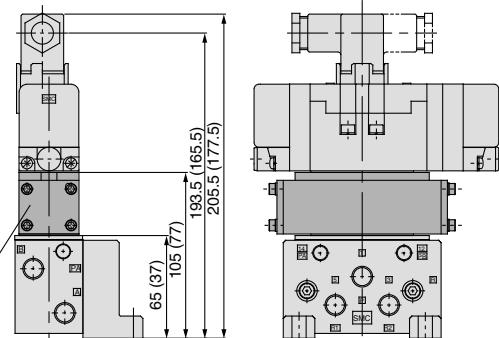


Individual SUP spacer: VV71-P-□  
 2-Rc1/2, 3/8, C10  
 Individual EXH spacer: VV71-R-□  
 2-Rc1/2, 3/8, C12  
 R1, R2 individual EXH spacer: VV71-R2-03  
 2-Rc3/8  
 Reverse pressure spacer: AXT502-21A-1  
 Rc3/8 (right side only)

Double check spacer

VV71-FPG

Double check spacer  
 with residual pressure release valve VV71-FPGR



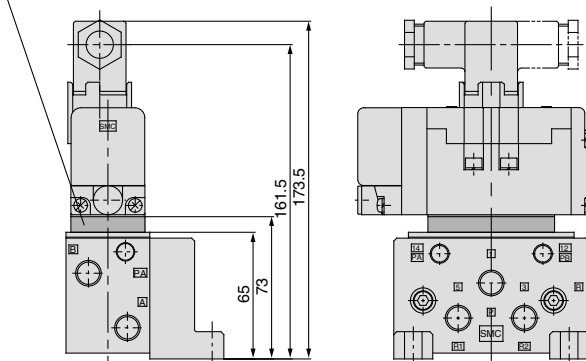
Double check spacer  
 (VV71-FPG)  
 Double check spacer with residual pressure release valve  
 (VV71-FPGR)

Dimensions inside ( ) are for sub plate

Main EXH back pressure check plate

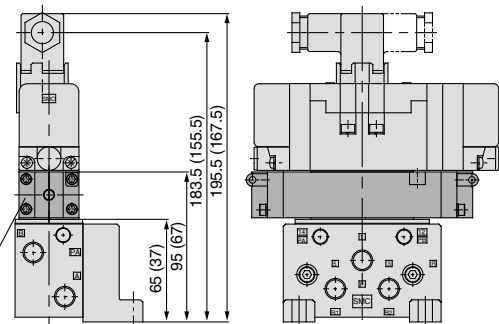
AXT503-37A

Main EXH back pressure check plate  
 (ATX503-37A)



Residual pressure release valve spacer VV71-R-AB

Individual SUP spacer  
 with residual pressure release valve VV71-PR-□



Residual pressure exhaust valve spacer  
 (VV71-R-AB)  
 Individual SUP spacer with residual pressure release valve  
 (VV71-PR-□)

Dimensions inside ( ) are for sub plate

# Series VQ7-8 ISO Standard Solenoid Valve Size 2/Single Unit

## How to Order Valves

**VQ7-8-FG-S-3- - - - - Q**

**Passage symbol**

FG	
* YZ	
FHG	
FJG	
FPG	
FIG	

\* Optional

**Connector**

Nil	DIN terminal block (with connector)
O	DIN terminal block (without connector)
SC	Prewired connector

**Sub plate port size**

Nil	Without sub plate
A03	Side port 3/8
A04	Side port 1/2
A06	Side port 3/4
B03	Bottom port 3/8
B04	Bottom port 1/2
B06	Bottom port 3/4

**Thread**

-	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

**Seal type**

Nil	Metal seal
R	Rubber seal

**Pilot exhaust**

Nil	Common exhaust
V	Individual exhaust

**Options**

Nil	None
N	Indicator light
Z	Indicator light with surge voltage suppressor

**Number of solenoids**

S	Single
D	Double

**Coil rating**

1	100VAC
2	200VAC
3	24VDC
4	12VDC
9*	Other voltage (less than 240V)

\* Contact SMC for other voltages (9)

Protective class class I (Mark: )..... DIN terminal type

## How to Order Sub Plates

**E VS7-2-A03- -**

**Ordering source area code**

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

**Port size**

A03	Side port 3/8
A04	Side port 1/2
A06	Side port 3/4
B03	Bottom port 3/8
B04	Bottom port 1/2
B06	Bottom port 3/4

**Thread**

-	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

**Specifications**

Model	Piping specifications		Weight kg
	Piping direction	Port size	
VS7-2-A03	Side	3/8	0.68
VS7-2-A04		1/2	
VS7-2-A06		3/4	
VS7-2-B03	Bottom	3/8	0.68
VS7-2-B04		1/2	
VS7-2-B06		3/4	



## Models



Series	Number of positions	Models	Note 1)	Note 2)	Note 3)		
			Effective area mm <sup>2</sup> (N <sub>l</sub> /min)	Response time ms	Weight kg		
VQ7-8	2 position	Single	Metal seal	<b>VQ7-8-FG-S-□</b>	58.0 (3140.80)	40 or less	0.64
			Rubber seal	<b>VQ7-8-FG-S-□R</b>	58.0 (3140.80)	45 or less	
		Double	Metal seal	<b>VQ7-8-FG-D-□</b>	58.0 (3140.80)	15 or less	0.70
			Rubber seal	<b>VQ7-8-FG-D-□R</b>	58.0 (3140.80)	20 or less	
	3 position	Closed centre	Metal seal	<b>VQ7-8-FHG-D-□</b>	50.4 (2748.20)	45 or less	0.75
			Rubber seal	<b>VQ7-8-FHG-D-□R</b>	50.4 (2748.20)	50 or less	
		Exhaust centre	Metal seal	<b>VQ7-8-FJG-D-□</b>	54.0 (2944.50)	45 or less	0.75
			Rubber seal	<b>VQ7-8-FJG-D-□R</b>	58.0 (3140.80)	50 or less	
		Double check	Metal seal	<b>VQ7-8-FPG-D-□</b>	40.0 (2159.30)	60 or less	1.98
			Rubber seal	<b>VQ7-8-FPG-D-□R</b>	40.0 (2159.30)	60 or less	
		Pressure centre	Metal seal	<b>VQ7-8-FIG-D-□</b>	54.0 (2944.50)	45 or less	0.75
			Rubber seal	<b>VQ7-8-FIG-D-□R</b>	58.0 (3140.80)	50 or less	

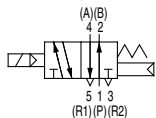
Note 1) Port size 3/8: Value when mounted on sub plate

Note 2) Based on JIS B 8375-1981 (Value for supply pressure of 0.5MPa, with light and surge voltage suppressor and using clean air.) Response time values will change depending on the pressure and air quality. Value when ON for double type.

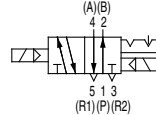
Note 3) Weight without sub plate (Sub plate: 3/8, 1/2: 0.68kg, 3/4: 1.29kg)

## Symbols

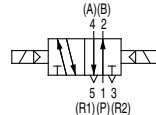
2 position single



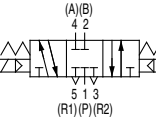
2 position double (metal)



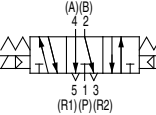
2 position double (rubber)



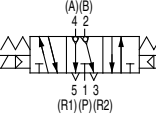
3 position closed centre



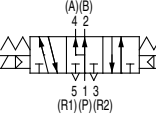
3 position exhaust centre



3 position double check



3 position pressure centre



## Standard Specifications

Valve specifications	Valve structure	Metal seal	Rubber seal	
	Fluid	Air, Inert gas		
Maximum operating pressure	1.0MPa			
Minimum operating pressure	Single	0.15MPa	0.20MPa	
	Double	0.15MPa	0.15MPa	
	3 position	0.15MPa	0.20MPa	
Ambient and fluid temperature	- 10 to 60° Note 1)	- 5 to 60° Note 1)		
Lubrication	Not required			
Manual operation	Push type (tool required)			
Impact/Vibration resistance	150/30 m/s <sup>2</sup> Note 2)			
Enclosure	IP65 (splash proof, jet proof)			
Electrical specifications	Rated coil voltage	12VDC, 24VDC, 100VAC, 110VAC, 200VAC, 220VAC (50/60Hz)		
	Allowable voltage fluctuation	±10% of rated voltage		
	Coil insulation type	Class B equivalent		
	Power consumption (current)	24VDC	DC1W (42mA)	
		12VDC	DC1W (83mA)	
		100VAC	Start-up 1.2VA (12mA), Holding 1.2VA (12mA)	
		110VAC	Start-up 1.3VA (11.7mA), Holding 1.3VA (11.7mA)	
200VAC		Start-up 2.4VA (12mA), Holding 2.4VA (12mA)		
220VAC	Start-up 2.6VA (11.7mA), Holding 2.6VA (11.7mA)			

Note 1) For low temperature, use dry air with no condensation.

Note 2) Impact resistance: No malfunction when tested with a drop tester in the axial direction and at a right angle to the main valve and armature, one time each in both energized and deenergized states. (initial value)

Vibration resistance: No malfunction when tested with one sweep of 8.3 to 2000Hz in the axial direction and at a right angle to the main valve and armature, one time each in both energized and deenergized states. (initial value)



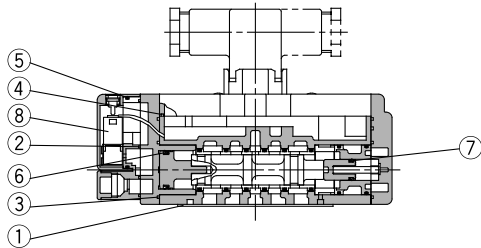


# Series VQ7-8 Construction

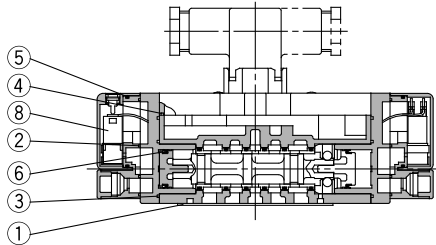
## DIN Connector Type

Metal seal type

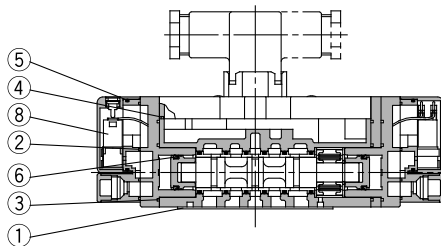
VQ7-8-FG-S-□



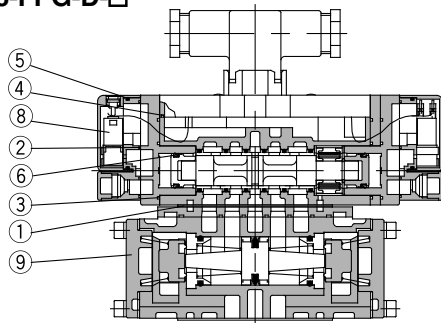
VQ7-8-FG-D-□



VQ7-8-<sup>FHG</sup>  
FJG -D-□  
FIG

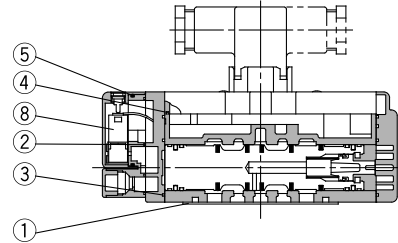


VQ7-8-FPG-D-□

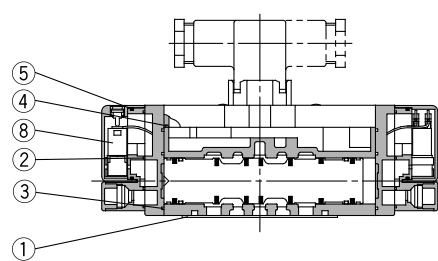


Rubber seal type

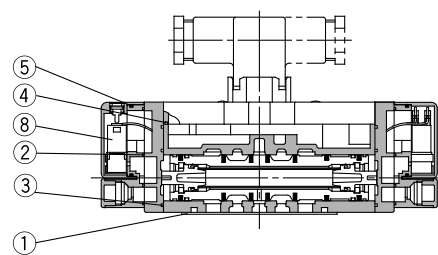
VQ7-8-FG-S-□R□



VQ7-8-FG-D-□R□



VQ7-8-<sup>FHG</sup>  
FJG -D-□R□  
FIG

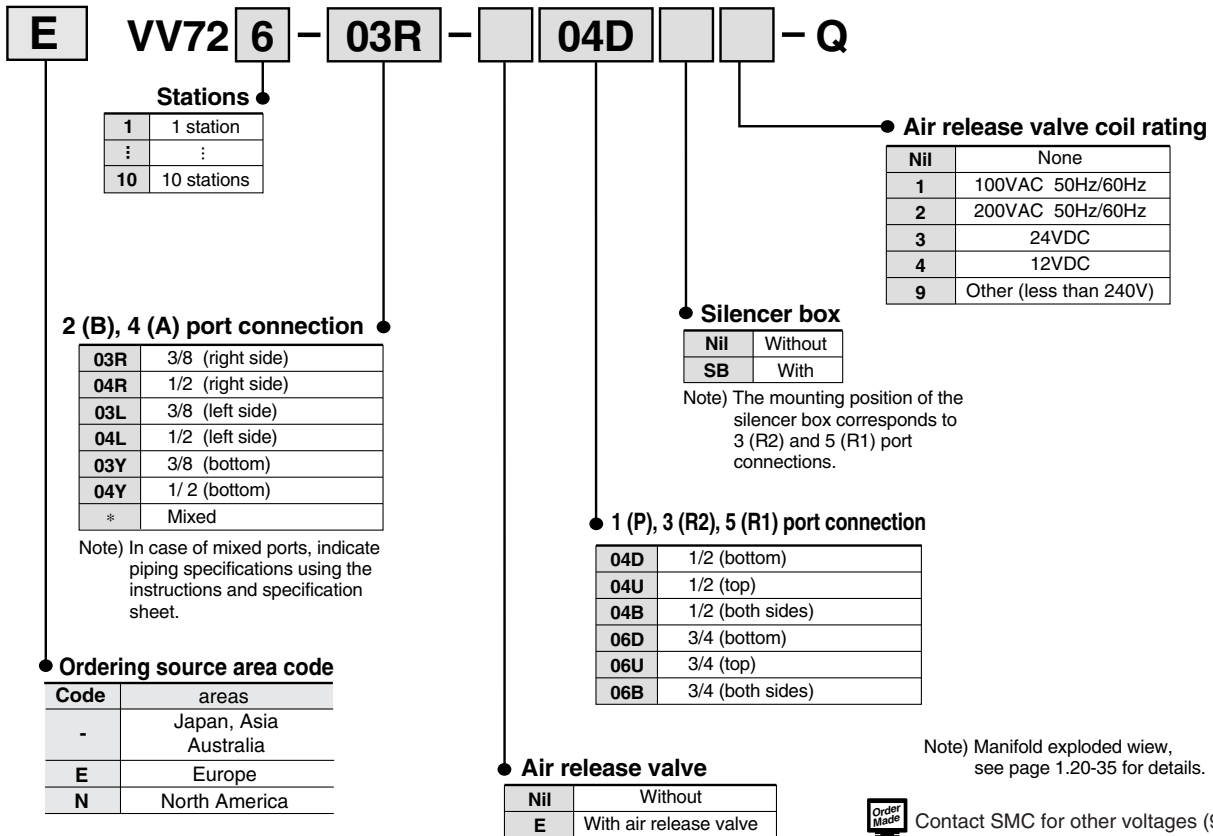


### Valve replacement parts

No.	Description	Material	VQ7-8-FG-S-□	VQ7-8-FG-D-□	VQ7-8- <sup>FHG</sup> FJG -D-□ FIG	VQ7-8-FPG-D-□	VQ7-8-FG-S-□R□	VQ7-8-FG-D-□R□	VQ7-8- <sup>FHG</sup> FJG -D-□R□ FIG
1	Gasket	NBR				AXT510-13			
2	Gasket A	NBR				VQ7060-13-2			
3	Gasket B	NBR				VQ7080-13-1			
4	Gasket C	NBR				VQ7080-13-3			
5	O-ring	NBR				37 x 1.6			
6	Mini Y seal	NBR	MYN-16		MYN-14				
7	Mini Y seal	NBR	MYN-8						
8	Pilot valve assembly					VQZ110Q-□			
9	Double check spacer					VV72-FPG			

# Series VQ7-8 Manifold Series VV72

## How to Order Manifolds



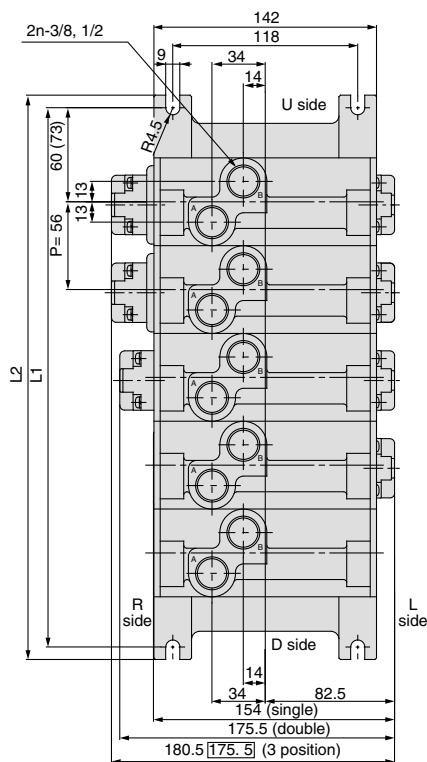
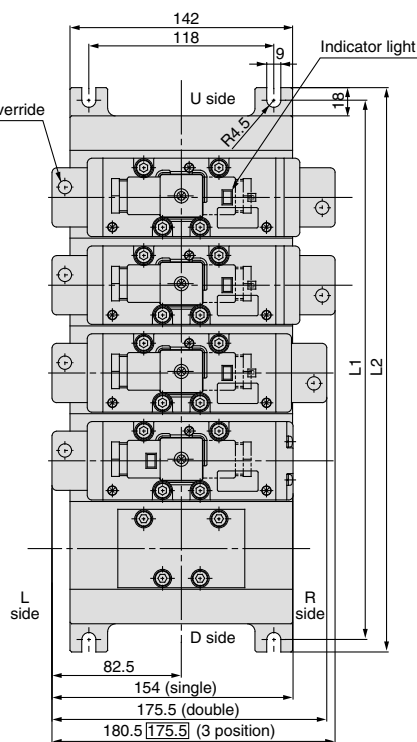
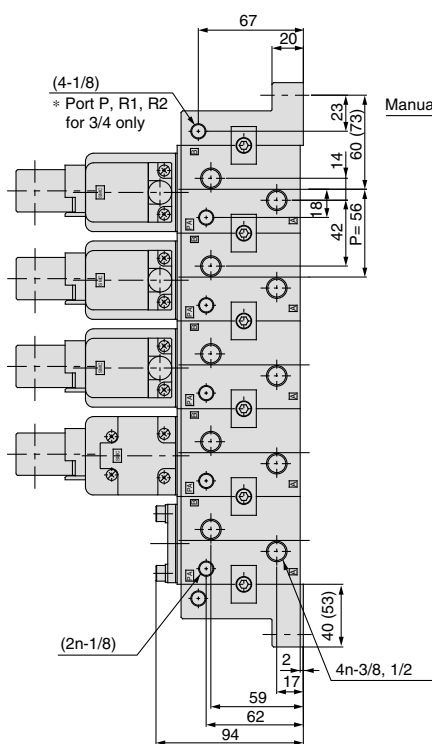
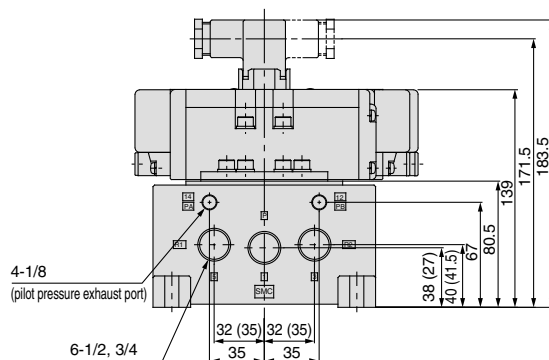
### Manifold specifications

Manifold block size	Applicable solenoid valves	Piping specifications		Stations	Weight kg
		2 (B), 4 (A) port size	1 (P), 3 (R2) 5 (R1) port size		
<b>ISO size 2</b>	VQ7-8 ISO size 2 series	3/8 1/2	1/2 3/4	Max. 10 stations	0.96n + 0.77 (n: stations)

# Series VQ7-8

## DIN Connector Type

VV72□-□-□□□



Bottom port drawing

L: Dimensions

Port P, R1, R2	L	n	n										Formula
			1	2	3	4	5	6	7	8	9	10	
1/2	L1		120	176	232	288	344	400	456	512	568	624	n: stations L1 = 56n + 64 L2 = 56n + 80
	L2		136	192	248	304	360	416	472	528	584	640	
3/4	L1		146	202	258	314	370	426	482	538	594	650	n: stations L1 = 56n + 90 L2 = 56n + 106
	L2		162	218	274	330	386	442	498	554	610	666	

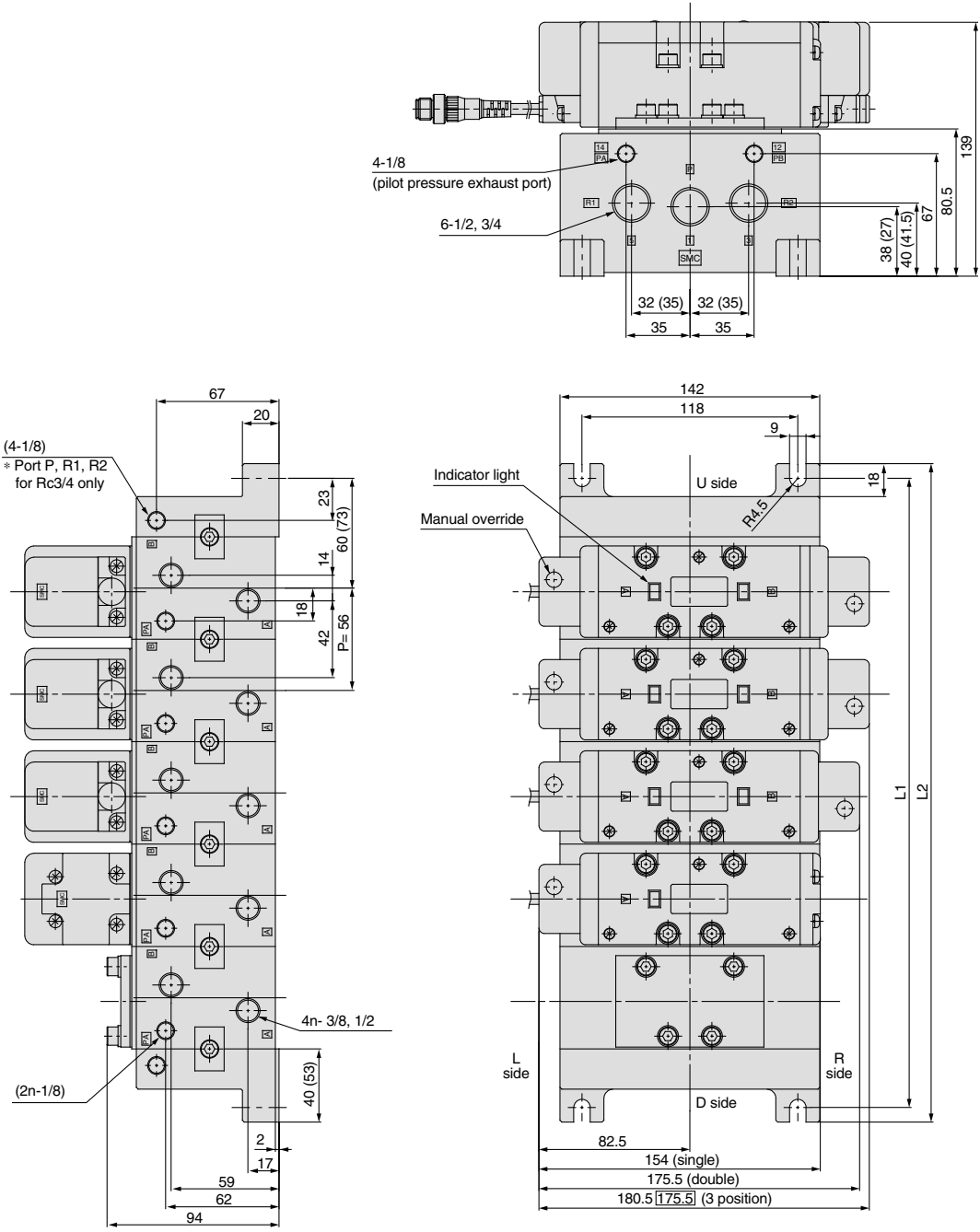
Dimensions inside ( ) are for 3/4

Dimensions inside □ are for rubber seals



Prewired Connector Type

VV72□-□-□□□



L: Dimensions

Port P, R1, R2	L	n	1	2	3	4	5	6	7	8	9	10	Fomula
1/2	L1		120	176	232	288	344	400	456	512	568	624	n: stations L1 = 56n + 64
	L2		136	192	248	304	360	416	472	528	584	640	L2 = 56n + 80
3/4	L1		146	202	258	314	370	426	482	538	594	650	n: stations L1 = 56n + 90
	L2		162	218	274	330	386	442	498	554	610	666	L2 = 56n + 106

Dimensions inside ( ) are for 3/4  
 Dimensions inside □ are for rubber seals

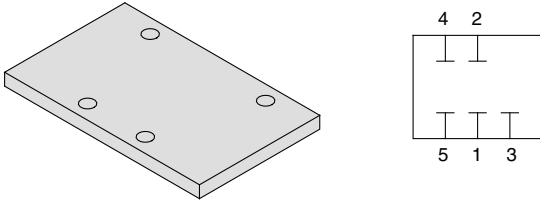
# Series VQ7-8

## Optional Manifold Parts

### Blank plate assembly

#### AXT512-9A

This is used by mounting it on a manifold block when a valve is removed for maintenance or when it is planned to install an additional valve in the future, etc.

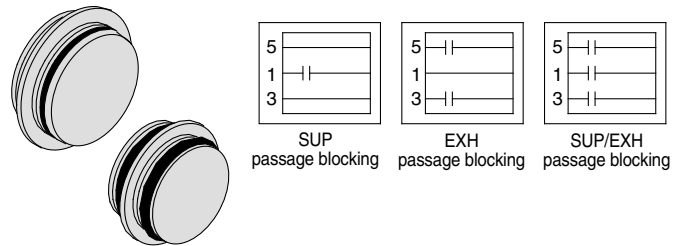


### Blocking plate (for SUP/EXH passages)

#### AXT512-14-1A (for SUP)

#### AXT512-14-2A (for EXH)

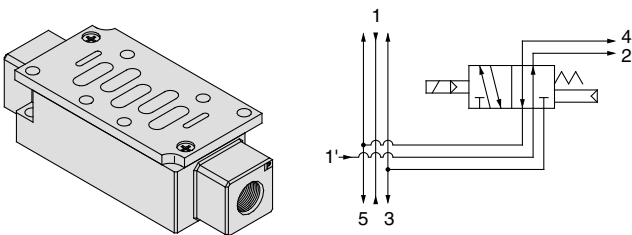
When two or more different high pressures are supplied to one manifold, blocking plates are installed between stations having different pressures. Also, in cases such as when valve exhaust effects other stations in a circuit, blocking plates are used for exhaust at stations where the exhaust is to be separated.



### Individual SUP spacer

#### VV72-P-<sup>03</sup>/<sub>04</sub>

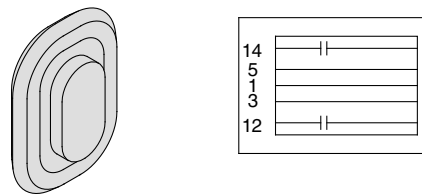
By mounting individual supply spacers on a manifold block, supply ports can be provided individually for each valve.



### Blocking plate (for pilot EXH passage)

#### AZ512-49A

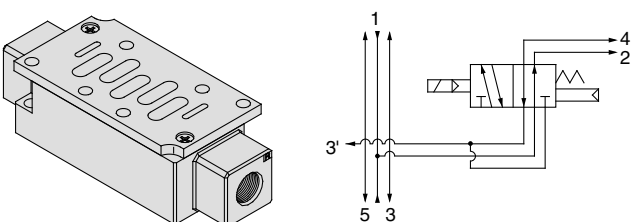
When a valve's pilot valve exhaust effects other valves in a circuit, blocking plates are used between stations where the pilot exhaust passages are to be separated.



### Individual EXH spacer

#### VV72-R-<sup>03</sup>/<sub>04</sub>

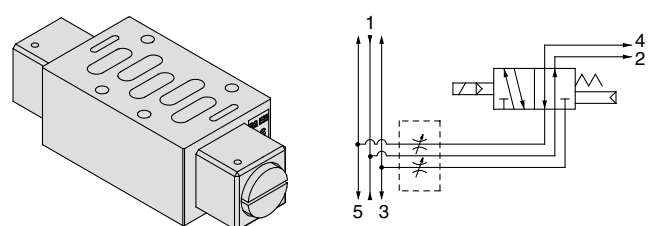
By mounting individual exhaust spacers on a manifold block, exhaust ports can be provided individually for each valve. (3, 5 common exhaust type)



### Throttle valve spacer

#### AXT510-32A

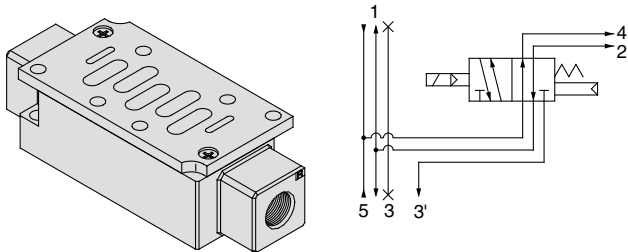
By mounting a throttle valve spacer on a manifold block, a cylinder's speed can be controlled by throttling the exhaust.



## Reverse pressure spacer

### AXT512-19A-2

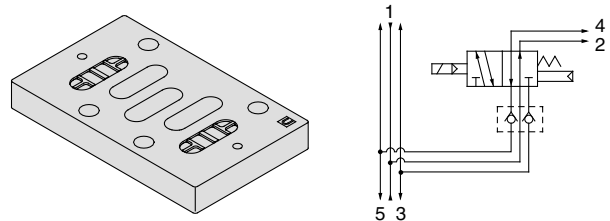
With reverse pressure control manifold specifications, when pressure is changed individually on one side (ex. high speed cylinder return), pressure can be supplied individually to the R2 side by mounting a reverse pressure spacer. {port 3 (R2) is individual and 5 (R1) is common}



## Main EXH back pressure check plate

### AXT512-25A

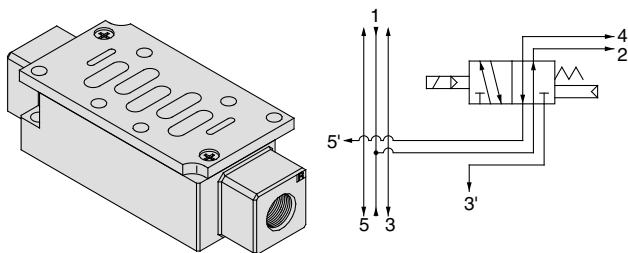
In cases where back pressure effects actuator operation due to simultaneous operation of manifold valves, etc., this effect can be eliminated by installing a plate between the manifold block and the valve from which back pressure is to be prevented.



## R1, R2 individual EXH spacer

### VV72-R2-04

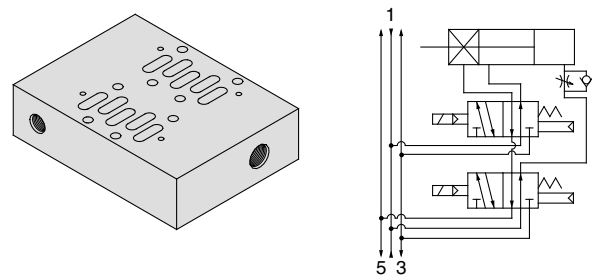
By mounting an individual exhaust spacer on a manifold block, individual exhaust is possible from both R1 and R2. {3 (R2) and 5 (R1) are individual ports}



## Adapter plate for locking cylinder

### AXT602-6A

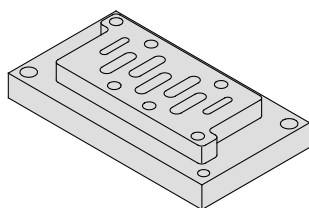
When using a locking cylinder with 2 valves for control, this spacer can be used by mounting on a manifold block. It consists of a circuit equipped with a function to prevent lurching during release.



## Conversion adapter plate

### VV72-V-1

This conversion adapter plate allows a VQ7-6 (size 1) valve to be mounted on a VQ7-8 manifold base. (V type)



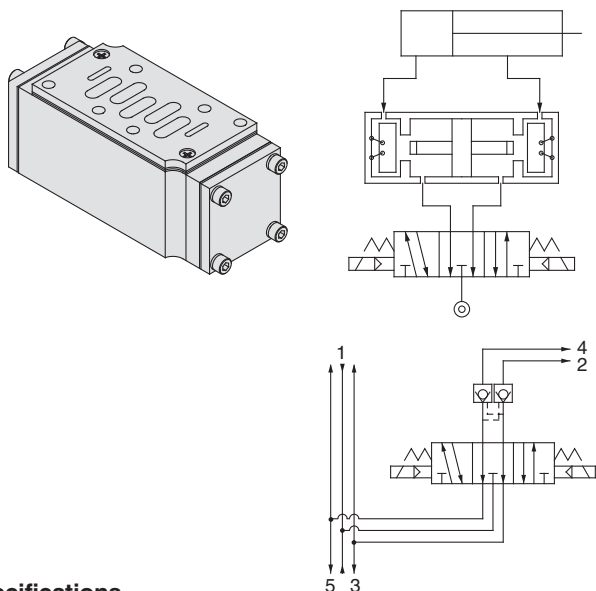
# Series VQ7-8

## Optional Manifold Parts

### Double check spacer

#### VV72-FPG

By combining a 3 position exhaust centre valve with a double check spacer, an intermediate stopping position of a cylinder can be held for an extended period. It can also be used for drop prevention at the cylinder stroke end when releasing residual supply pressure, by combination with a 2 position single or double valve.



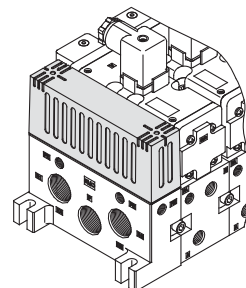
#### Specifications

Double check spacer part no.		VV72-FPG		
Applicable solenoid or air operated valve		Series VS7-8, VSA7-8		
Leakage cm <sup>3</sup> /min (ANR)	One solenoid energized (One pilot pressurized)	P	R1	280
			R2	280
	Both solenoids unenergized (Both pilots unpressurized)	A	R1	0
		B	R2	0

### Silencer box

#### VV72-□□□-□□-SB

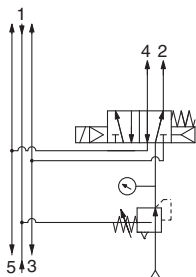
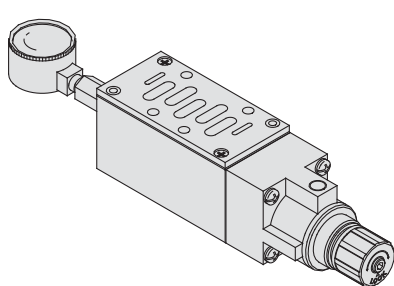
This can be provided as a unit on the end plate to reduce manifold exhaust noise and piping labour.



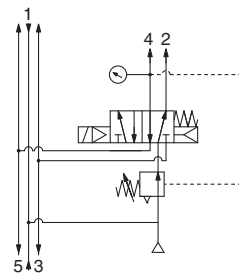
### Interface regulator

#### ARB350-00-<sup>P</sup><sub>A</sub><sub>B</sub>

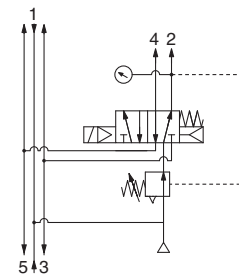
By mounting an interface regulator on a manifold block, it is possible to regulate each valve.



Regulating port P



Regulating port A



Regulating port B

#### Part No.

P reduced pressure	ARB350-00-P
A reduced pressure	ARB350-00-A
B reduced pressure	ARB350-00-B

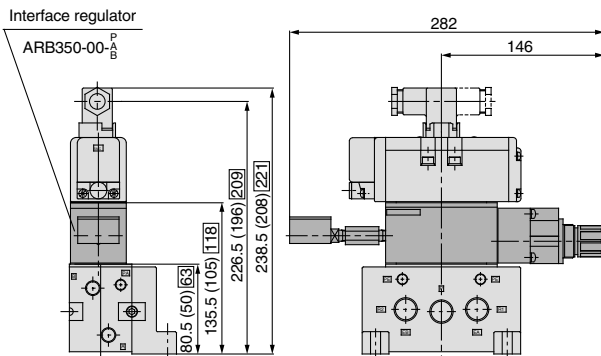
#### ⚠ Caution

- When combining a pressure centre valve and interface regulator with reduced pressure at ports A and B, use model ARB310-<sup>A</sup><sub>B</sub>.
- When combining a reverse pressure valve and interface regulator, use model ARB310-<sup>A</sup><sub>B</sub>. Further, it cannot be used with reduced pressure at port P.
- When combining a double check valve and interface regulator, use a manifold or sub plate as a base, and assemble by stacking in the order of double check spacer, interface regulator and valve.
- When combining a closed centre valve and interface regulator with reduced pressure at ports A and B, it cannot be used for intermediate cylinder stops because of air leakage from the regulator's relief port.

## Manifold Options

### Interface regulator

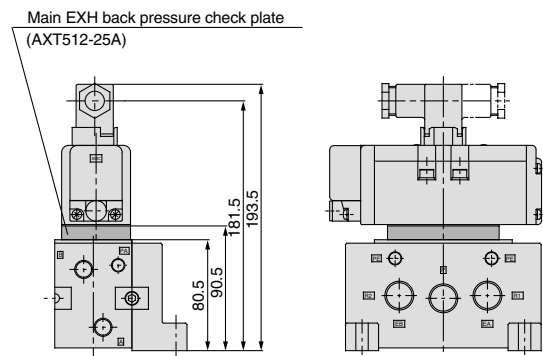
ARB350-00-<sup>P</sup>  
-A  
-B



Dimensions inside ( ) are for sub plate apertures 3/8 and 1/2  
Dimensions inside [ ] are for sub plate aperture 3/4

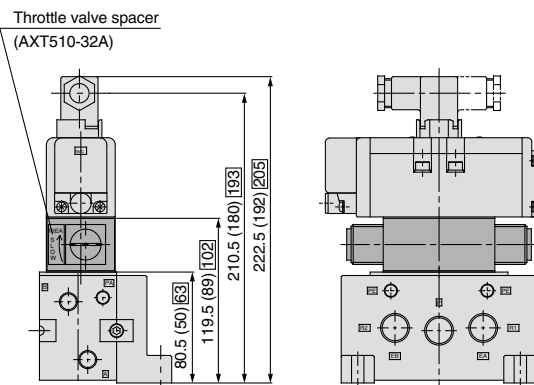
### Main EXH back pressure check plate

AXT512-25A



### Throttle valve spacer

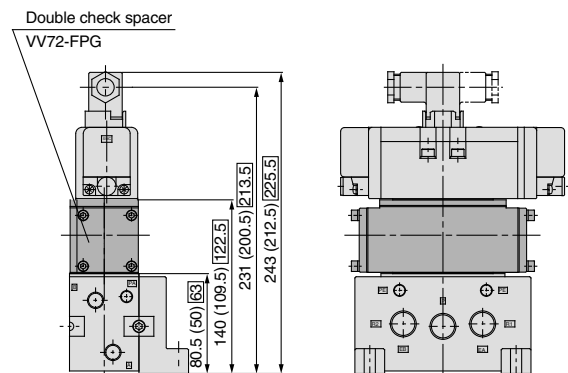
AXT510-32A



Dimensions inside ( ) are for sub plate apertures 3/8 and 1/2  
Dimensions inside [ ] are for sub plate aperture 3/4

### Double check spacer

VV72-FPG



Dimensions inside ( ) are for sub plate apertures 3/8 and 1/2  
Dimensions inside [ ] are for sub plate aperture 3/4

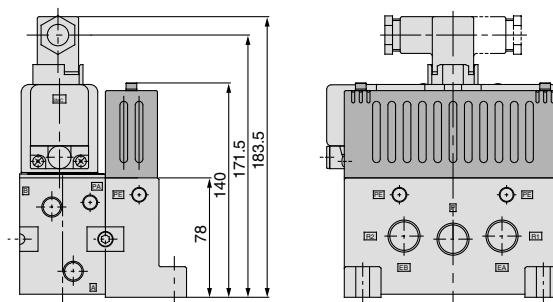
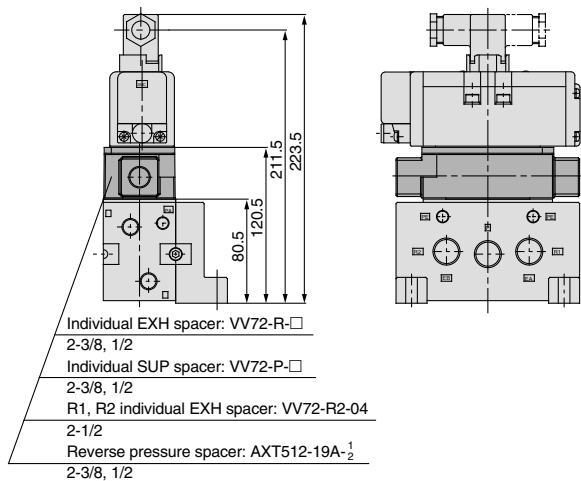
# Series VQ7-8

## Manifold Options

Individual EXH spacer  
 Individual SUP spacer  
 R1, R2 individual EXH spacer  
 Reverse pressure spacer

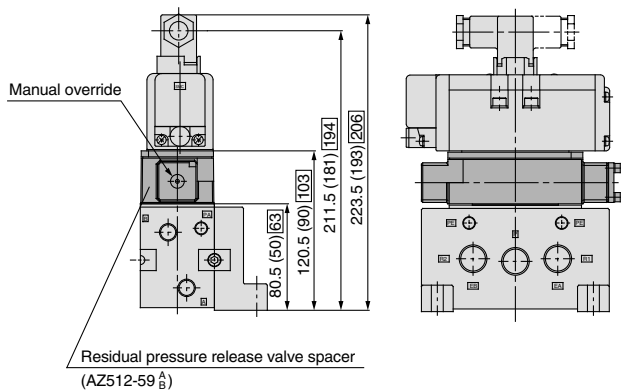
VV72-R-03, 04  
 VV72-P-03, 04  
 VV72-R2-04  
 AXT512-19A-<sup>1</sup>/<sub>2</sub>

Silencer box  
 AXT512-26A



### Residual pressure release valve spacer

AZ512-59 <sup>A</sup>/<sub>B</sub>



Dimensions inside ( ) are for sub plate apertures 3/8 and 1/2  
 Dimensions inside □ are for sub plate aperture 3/4

## Manifold Options/Mounting Bolt Part Numbers

### VQ7-6 mounting bolt part numbers

Number of options		0		Single stack					Double stack				
Mounting bolt	Part No.	AXT632-45-1	AXT632-45-2	AXT632-45-4	AXT632-45-5	AXT632-45-6	AXT632-45-7	AXT632-45-8	AXT632-45-9	AXT632-45-10	AXT632-45-11	AXT632-45-12	AXT632-45-13
	Size	M5 X 35 with SW	M5 X 15 with SW	M5 X 45 with SW	M5 X 60 with SW	M5 X 65 with SW	M5 X 70 with SW	M5 X 75 with SW	M5 X 90 with SW	M5 X 95 with SW	M5 X 100 with SW	M5 X 105 with SW	M5 X 115 with SW
Option mounting diagram													

Number of options		Triple stack				
Mounting bolt	Part No.	AXT632-45-14	AXT632-45-16	AXT632-45-17	AXT632-45-18	AXT632-45-19
	Size	M5 X 120 with SW	M5 X 130 with SW	M5 X 135 with SW	M5 X 140 with SW	M5 X 145 with SW
Option mounting diagram						

The installation position of spacer 1 in the option mounting diagrams is limited only by the precautions given below.

#### Spacers

- Main exhaust back pressure check plate
- Throttle valve spacer
- Release valve spacer
- Spacer 1
  - Individual supply spacer
  - Individual exhaust spacer
  - R1, R2 individual exhaust spacer
  - Reverse pressure spacer
  - Residual pressure release valve spacer
  - Individual supply spacer with residual pressure release valve
- Spacer 2
  - Interface regulator (P reduced pressure)
  - Interface regulator (A reduced pressure)
  - Interface regulator (B reduced pressure)
  - Double check spacer
  - Double check spacer with residual pressure release valve

Note 1) A throttle valve spacer and double check spacer (including those with residual pressure release valve) cannot be combined.

Note 2) When a double check spacer (**Top**) (including those with residual pressure release valve) and individual exhaust spacer (**Bottom**) are combined with a R1, R2 individual exhaust spacer (**Bottom**), be careful regarding the installation position.

Note 3) When an interface regulator (**Top**) and double check spacer (**Bottom**) (including those with residual pressure release valve) (**Bottom**) are combined, be careful regarding the installation position.

### VQ7-8 mounting bolt part numbers

Number of options		0		Single stack				Double stack			
Mounting bolt	Part No.	AXT632-54-1	AXT632-54-2	AXT632-54-3	AXT632-54-5	AXT632-54-6	AXT632-54-7	AXT632-54-8	AXT632-54-9	AXT632-54-10	AXT632-54-11
	Size	M6 X 45 with SW	M6 X 18 with SW	M6 X 55 with SW	M6 X 85 with SW	M6 X 100 with SW	M6 X 105 with SW	M6 X 125 with SW	M6 X 140 with SW	M6 X 145 with SW	M6 X 160 with SW
Option mounting diagram											

Number of options		Triple stack			
Mounting bolt	Part No.	AXT632-54-12	AXT632-54-13	AXT632-54-14	AXT632-54-15
	Size	M6 X 165 with SW	M6 X 180 with SW	M6 X 185 with SW	M6 X 200 with SW
Option mounting diagram					

#### Spacers

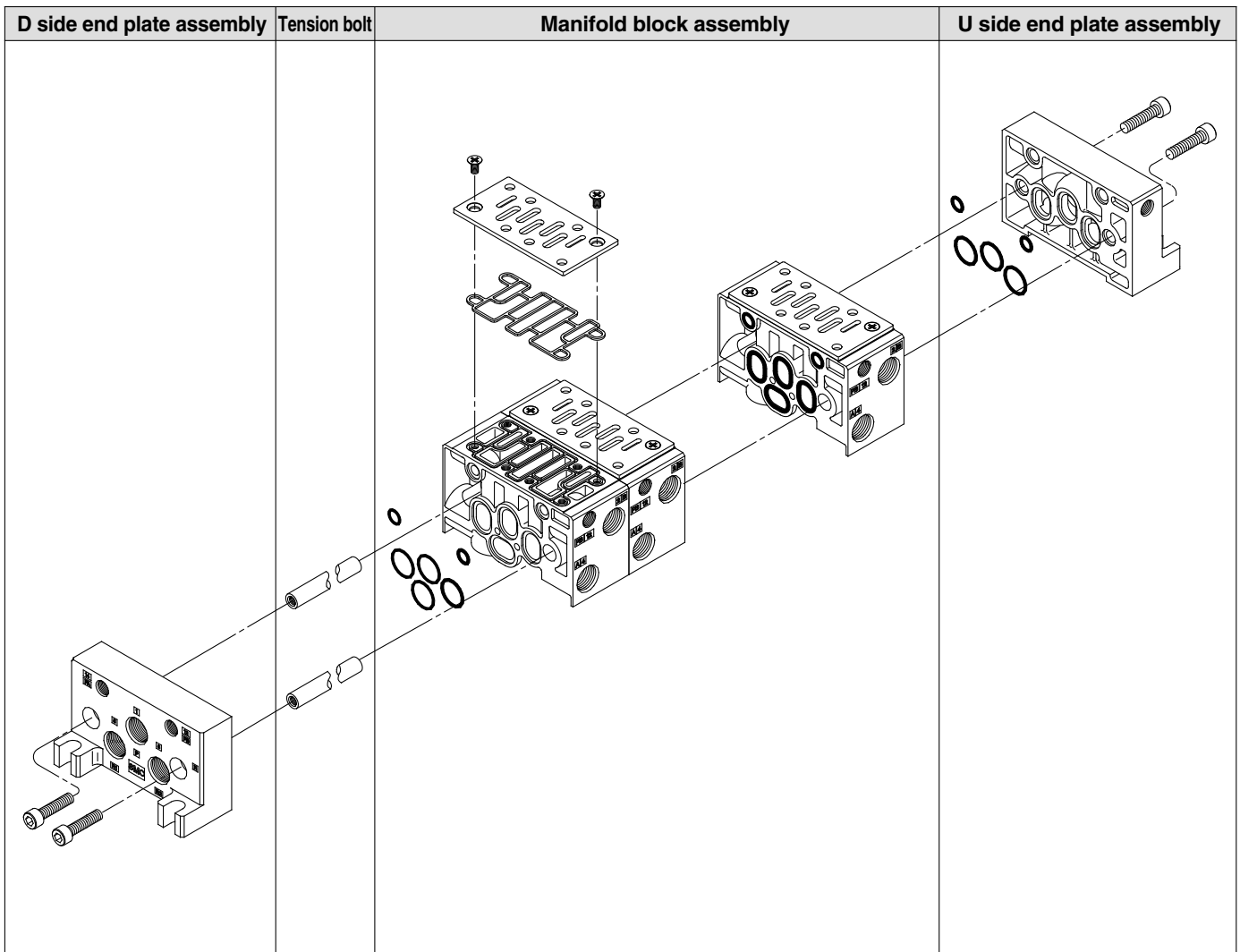
- Main exhaust back pressure check plate
- Interface regulator (P reduced pressure)
- Interface regulator (A reduced pressure)
- Interface regulator (B reduced pressure)
- Double check spacer
- Spacer 1
  - Individual supply spacer
  - Individual exhaust spacer
  - R1, R2 individual exhaust spacer
  - Reverse pressure spacer
  - Residual pressure release valve spacer
- Throttle valve spacer

Note 1) A throttle spacer and double check spacer cannot be combined.

Note 2) There is no limitation on the mounting position for spacer 1.

# Series VQ7-6

## Manifold Exploded View



### < End plate assembly >

**E** AXT502 -  **A** -

End plate position

L	L side
R	R side

Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

P, R port size

02	1/4
03	3/8
C12	ø12 One-touch fitting

### <Tension bolt part number >

AXT502 - 34 -

Number of stations

2	For 2 stations
3	For 3 stations
⋮	⋮
10	For 10 stations

Note) These tie-rods are solid pieces for each number of stations.

### < Manifold block assembly >

**E** AXT502 - 1A -   -

Wiring specification

A	Side
B	Bottom

Cylinder port position

L	L side
R	R side

Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

Cylinder port size

02	1/4
03	3/8
C6 Note 1)	ø6 One-touch fitting
C8 Note 1)	ø8 One-touch fitting
C10 Note 1)	ø10 One-touch fitting

Note 1) Side ported only

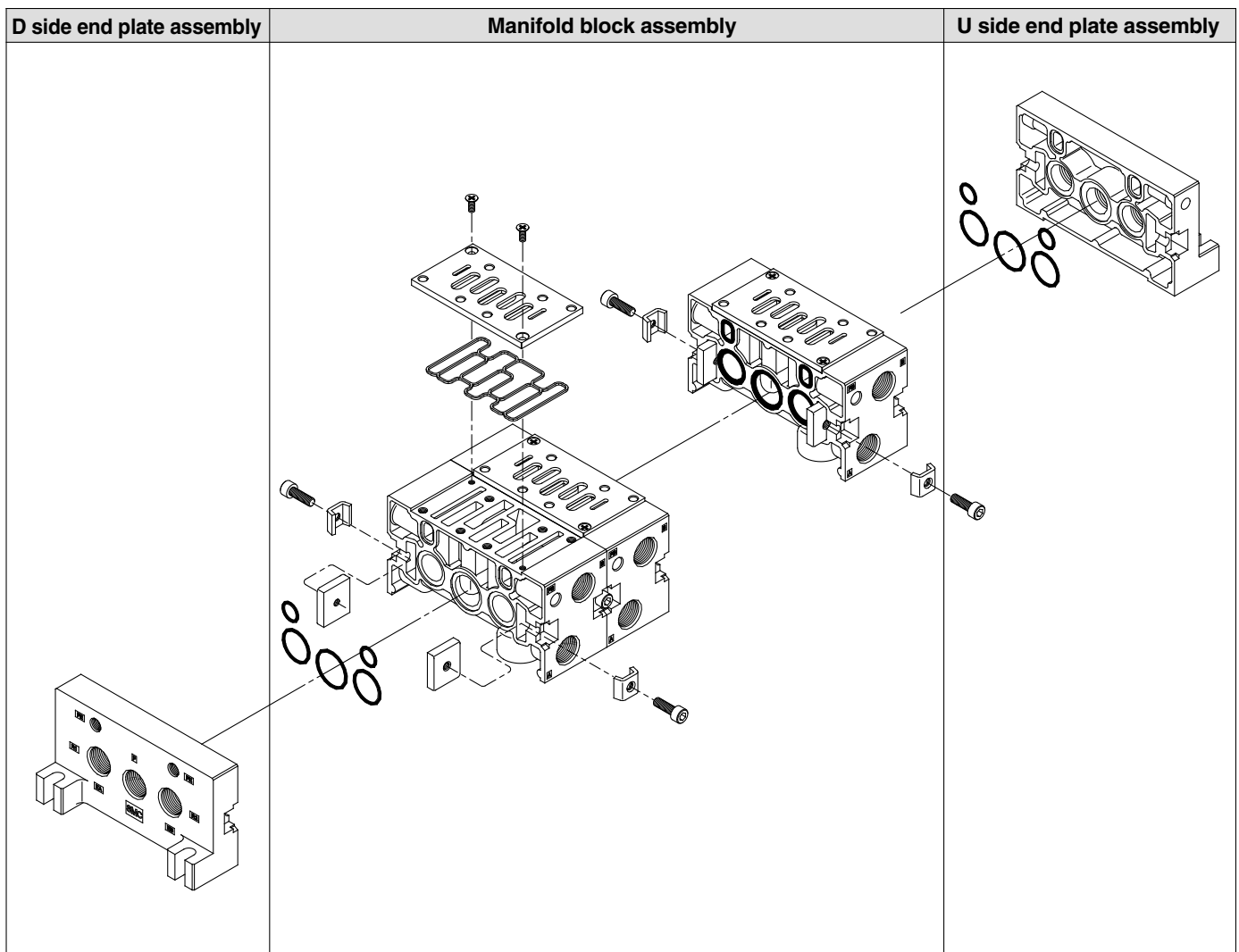
\* This manifold block assembly includes tension bolts for a single station addition.

### < Manifold block replacement parts >

Part No.	Description	Qty.	Material
AXT502-19	O-ring	4	NBR
AXT502-20	O-ring	2	NBR
AXT502-22-2	Plate	1	SPCC
AXT502-31	Gasket	1	NBR
M4 X 8	Oval countersunk head screw	2	SWRH3



**Manifold Exploded View**



< End plate assembly >

**E** AXT512 -  **A** -

● End plate position

L	L side
R	R side

● P, R port size

04	1/2
06	3/4
C12	ø12 One-touch fitting

● Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

<Manifold block assembly>

**E** AXT512 - 1A -   -

● Wiring specification

A	Side
B	Bottom

● Cylinder port position

L	L side
R	R side

● Ordering source area code

Code	areas
-	Japan, Asia Australia
E	Europe
N	North America

● Cylinder port size

03	3/8
04	1/2

< Manifold block replacement parts >

Part No.	Description	Qty.	Material
AXT512-13	O-ring	2	NBR
AS568-022	O-ring	1	NBR
AS568-020	O-ring	2	NBR
AXT512-5	Gasket	1	NBR
AXT512-4	Plate	1	SPCC
M4X10	Oval countersunk head screw	2	SWRH3
AXT512-6-1	Connection fitting A	2	
AXT512-6-4	Connection fitting B	2	
AXT512-6-3	Hexagon socket head screw	2	



# Series VQ7-6/7-8 Specific Product Precautions 1

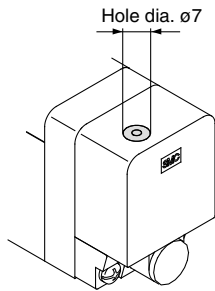
## ⚠ Warning

### Manual Override Operation

Since connected equipment will be actuated when the manual override is operated, first confirm that conditions are safe.

The push type is standard (tool required).

#### Push type (tool required)



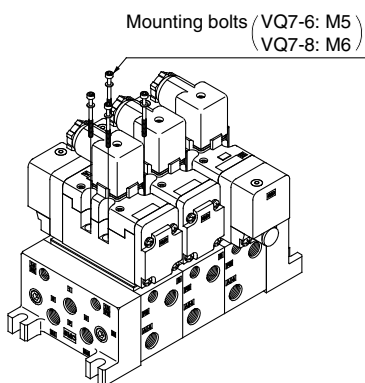
Press the manual override all the way down with a small screw driver, etc. The manual override resets when released.

## ⚠ Caution

### Mounting Valves

After confirming installation of the gasket, securely tighten the bolts with the proper torque shown in the table below.

Series	Proper tightening torque N·m
VQ7-6	2.3 to 3.7
VQ7-8	4.0 to 6.0



## ⚠ Caution

### Installation and Removal of Pilot Valve cover

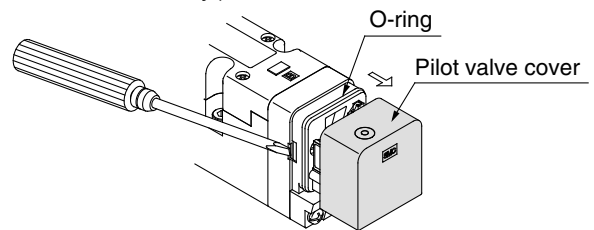
#### • Removal

To remove the pilot valve cover, spread the cover's hook outward about 1mm with a flat head screw driver, and pull the cover straight off.

If it is pulled off at an angle, the pilot valve may be damaged or the protective O-ring may be scratched.

#### • Installation

Put the cover back on straight without touching the pilot valve, and push it all the way until the cover's hook locks, without twisting the protective O-ring. (When pushed in, the hook opens and locks automatically.)



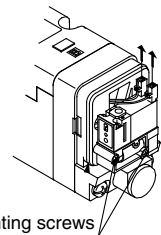
## ⚠ Caution

### Replacement of Pilot Valve

#### • Removal

1) Take off the sockets which are installed on the pilot valve pins by pulling them straight upward.

2) Remove the pilot valve mounting screws with a small screw driver.

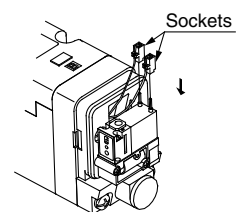


#### • Installation

1) After confirming installation of the gasket, securely tighten the mounting screws with the proper torque shown in the table below.

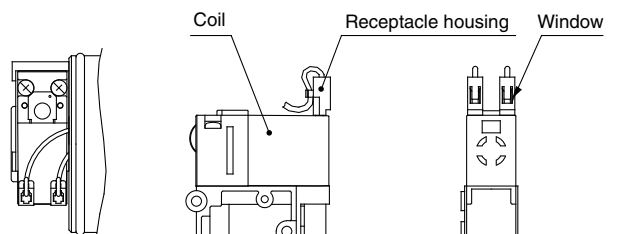
2) Put the sockets on straight and install them securely so that the receptacle housings touch the coil surface as shown in the drawing below.

If they are pushed in with excessive force, there is a danger of the sockets coming off of the receptacle housings. Confirm that the sockets do not protrude from the windows on the side of the receptacle housings.



Proper tightening torque N·m

0.8 to 1.2





# Series VQ7-6/7-8 Specific Product Precautions 2

## Caution Using a DIN Connector

ISO# : DIN 43650 A compatible

### Connections

1. Loosen the holding screw and pull the connector off of the solenoid valve terminal block.
2. After removing the holding screw, insert a flat head screw driver, etc., into the notch at the bottom of the terminal block and pry it up, separating the terminal block and housing.
3. Loosen the terminal screws on the terminal block, insert the cores of the lead wires into the terminals in accordance with the connection method, and fix securely with the terminal screws.
4. Secure the cord by screwing in the ground nut.

### Changing the cord entry

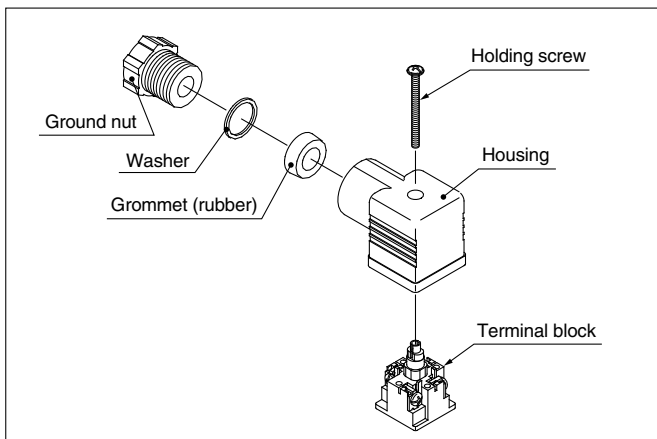
After separating the terminal block and housing, the cord entry direction can be changed by attaching the housing in the desired direction (4 directions at 90° intervals).

### Precautions

Insert and pull out the connector in a straight line so that it does not tilt at an angle.

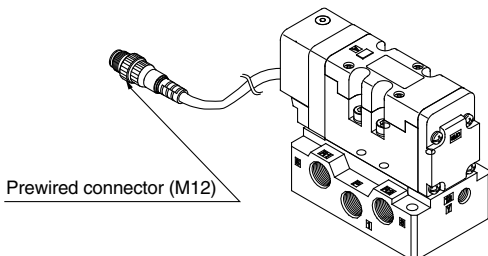
### Compatible cable

Cord outside diameter:  $\phi 6.8$  to  $\phi 10$



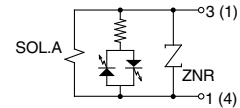
## Using a Prewired Connector

4 wire round type connector (M12) conforming to NECA (Nippon Electric Control Equipment Industries Association) standard 4202

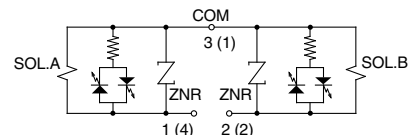


Prewired connector (M12)

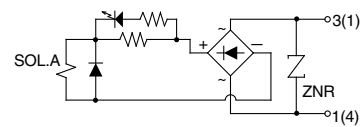
## Caution Internal Wiring Specifications



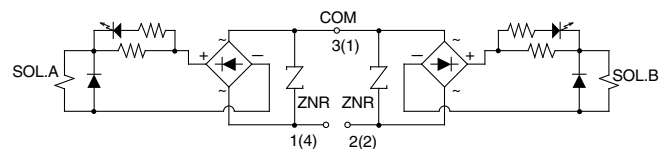
DC: Single



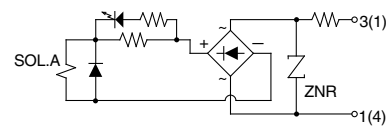
DC: Double



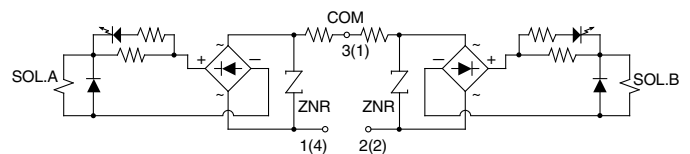
100VAC: Single



100VAC: Double



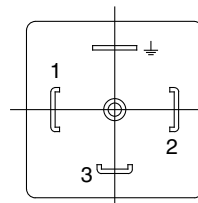
200VAC or more: Double



200VAC or more: Double

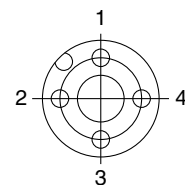
Terminal numbers in the circuits are for a DIN connector.  
Numbers inside ( ) are prewired connector pin numbers.

### DIN connector wiring specification



Terminal Nos.  
1: A side SOL.  
2: B side SOL.  
3: COM terminal

### Prewired connector wiring specification



Pin Nos.  
1: COM. pin  
2: B side SOL.  
3: Not in use  
4: A side SOL.

