Manifold Specifications

How to Order Manifold

VV71 6 — 02R — — 02D — — —

Stations

1	1 station
⋮	⋮
10	10 stations

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

2 (B), 4 (A) port connection

02R	Rc 1/4 (Right side)
03R	Rc 3/8 (Right side)
02L	Rc 1/4 (Left side)
03L	Rc 3/8 (Left side)
02Y	Rc 1/4 (Bottom side)
03Y	Rc 3/8 (Bottom side)
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 by means of the manifold specification sheet.

Thread type

Nil	Rc
F	G
T	NPTF

Note) It is not applicable to One-touch fittings.

Silencer box

Nil	None
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 connection

02D	Rc 1/4 (Bottom side)
02U	Rc 1/4 (Top side)
02B	Rc 1/4 (Both sides)
03D	Rc 3/8 (Bottom side)
03U	Rc 3/8 (Top side)
03B	Rc 3/8 (Both sides)
C12D	One-touch fitting ø12 (Bottom side)
C12U	One-touch fitting ø12 (Top side)
C12B	One-touch fitting ø12 (Both sides)
*	Mixed

Note) When ports are mixed, indicate piping specifications by means of the manifold specification sheet.

Thread type

Nil	Rc
F	G
T	NPTF

Note) It is not applicable to One-touch fittings.

Air release valve coil rating

Nil	None
1	100 VAC, 50/60 Hz
2	200 VAC, 50/60 Hz
3	24 VDC
4	12 VDC
9	Other

Control unit type (See pages 3-10-18 and 19 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			○		○				
Blanking plate (Air release valve)						○	○		
Blanking plate (Filter, Regulator)								○	
Blanking plate (Pressure switch)		○		○		○	○	○	
Number of manifold blocks required for mounting (stations)		2	2	2	2	2	2	2	1

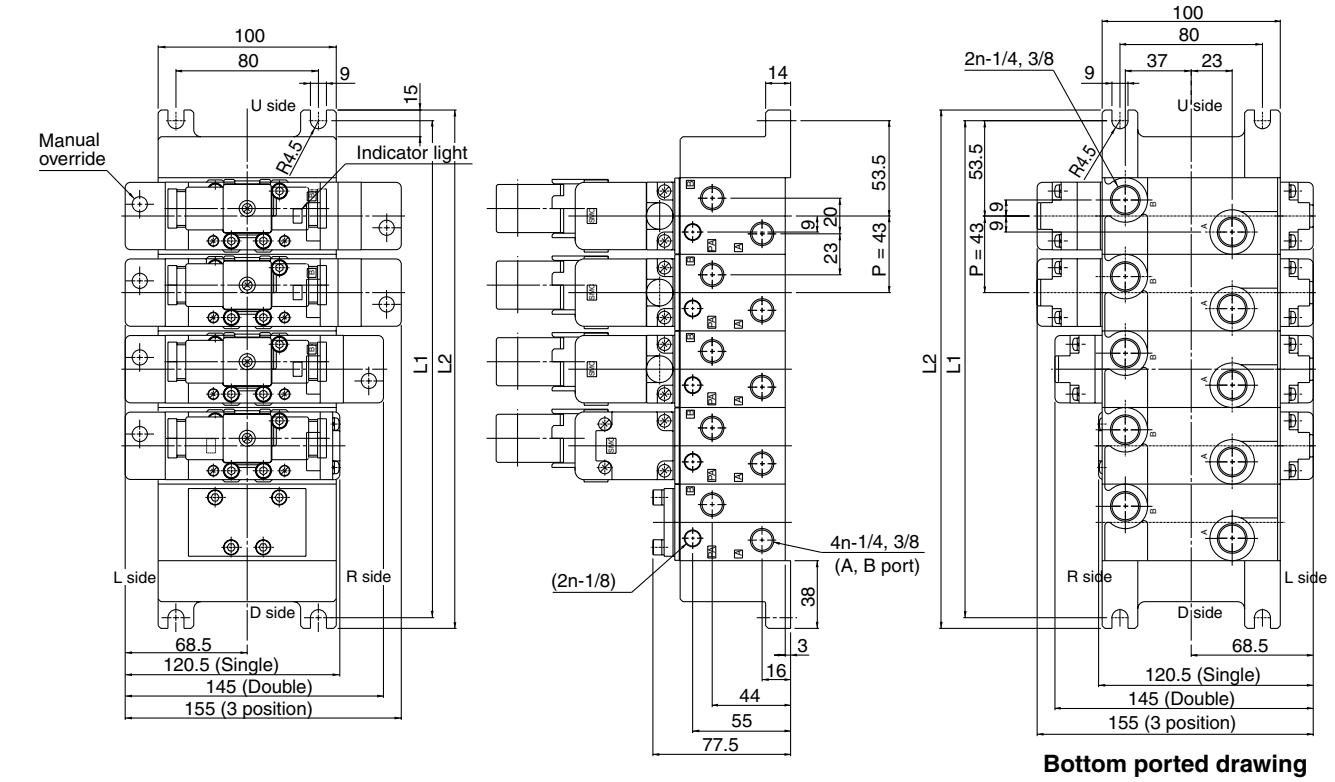
Manifold Specifications

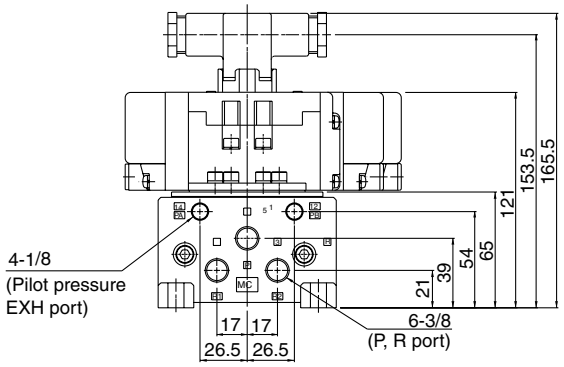
Manifold block size	Applicable solenoid valve	Porting specifications: 2(B), 4(A) port — Port location	Porting specifications: 2(B), 4(A) port — Port size	Porting specifications: 1(P), 3(R2) 5(R1) port size	Stations	Weight (kg)
ISO size 1	Series VQ7-6 ISO size 1	Right, Left	1/4 3/8 C6 (ø6) C8 (ø8) C10 (ø10)	1/4 3/8 C12 (ø12)	Note) Max. 10 stations	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.

DIN Terminal Type

VV71□-□-□□□





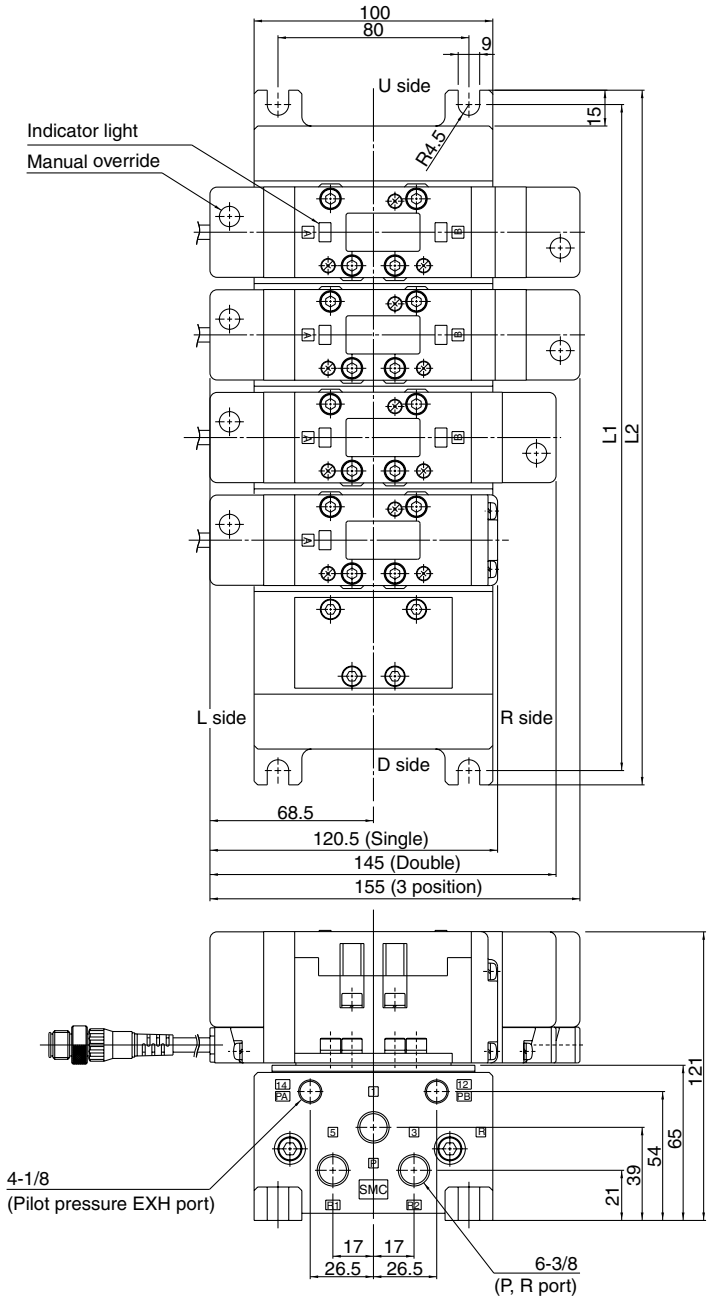
L Dimension

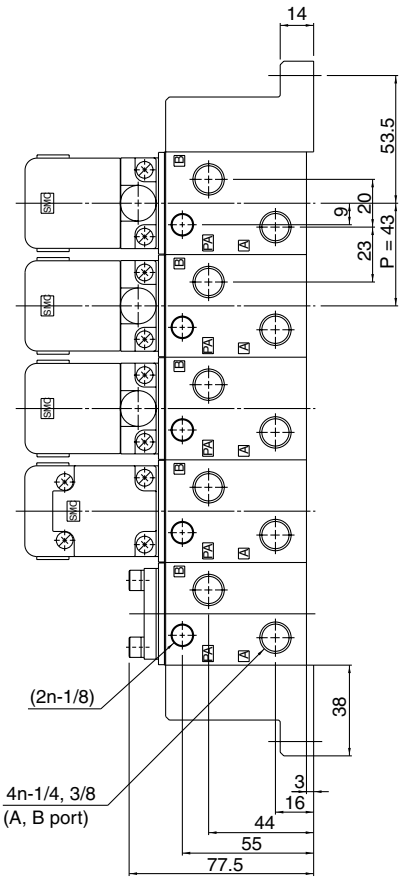
n: Stations

	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 Dimension

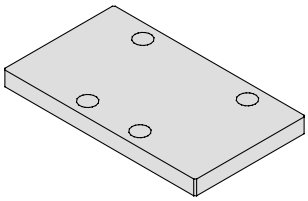
n: Stations

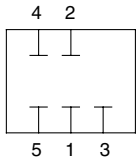
	1	2	3	4	5	6	7	8	9	10	Formula
L1	107	150	193	236	279	322	365	408	451	494	L1 = 43n + 64
L2	119	162	205	248	291	334	377	420	463	506	L2 = 43n + 76

Manifold Option Parts

Blanking plate assembly
AXT502-9A

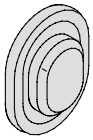
It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.

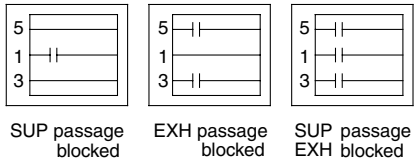




Block disk (For SUP/EXH passages)
AXT502-14

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





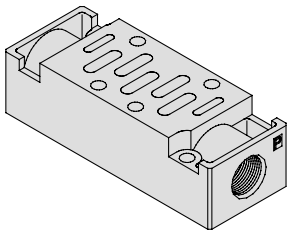
Individual SUP spacer
VV71-P-$^{02}_{03}$$^{}_{C10}$ □

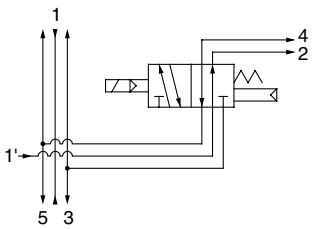
Thread type

Nil	Rc
F	G
T	NPTF

Note) It is not applicable to One-touch fittings.

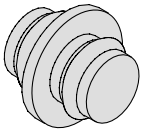
By mounting individual SUP spacers on a manifold block, it is possible to provide individual supply ports for each valve.

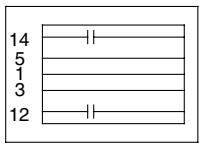




Block disk (For pilot EXH passage)
AZ503-53A

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





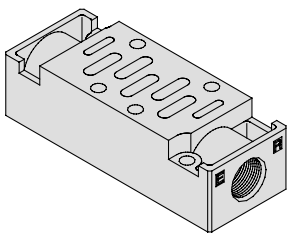
Individual EXH spacer
VV71-R-$^{02}_{03}$$^{}_{C12}$ □

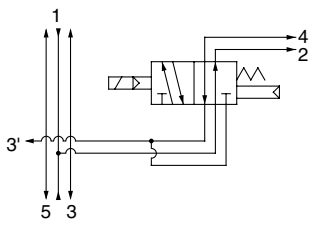
Thread type

Nil	Rc
F	G
T	NPTF

Note) It is not applicable to One-touch fittings.

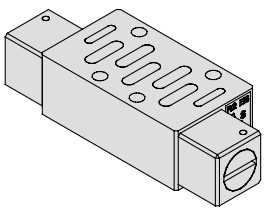
By mounting individual EXH spacers on a manifold block, exhaust ports can be provided individually for each valve. (3, 5 common EXH type)

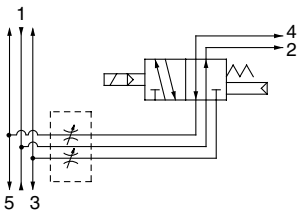




Throttle valve spacer
AXT503-23A

A throttle valve spacer is mounted on a manifold block to control cylinder speed by throttling exhaust air flow.



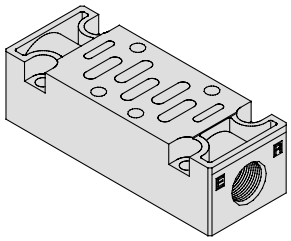


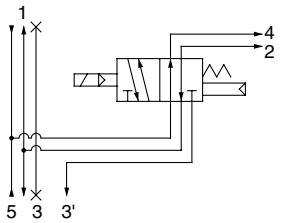
Reverse pressure spacer
AXT502-21A-1□

●Thread type

Nil	Rc
F	G
T	NPTF

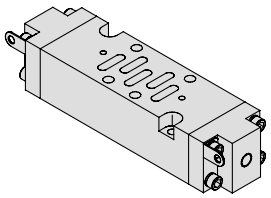
With reverse pressure control manifold specifications, when pressure is changed individually on one side (ex. high speed cylinder return), pressure can be supplied individually to the R2 side by mounting a reverse pressure spacer. {Port 3 (R2) is individual and 5 (R1) is common.}

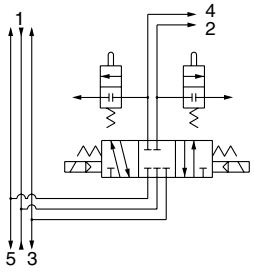




Residual pressure release valve spacer
VV71-R-AB

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 center or perfect type valve. Residual pressure at ports A and B is exhausted individually to the outside by manual operation.



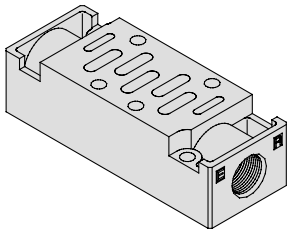


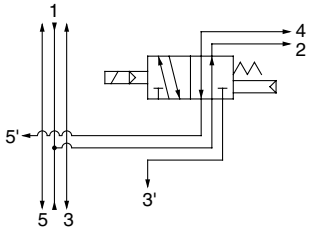
R1, R2 individual EXH spacer
VV71-R2-03□

●Thread type

Nil	Rc
F	G
T	NPTF

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



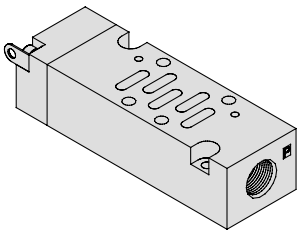


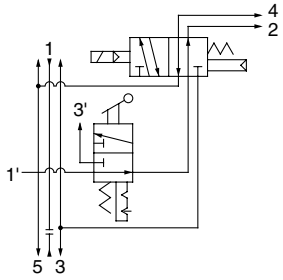
Individual SUP spacer with residual pressure release valve
VV71-PR-$^{02}_{03}$□

●Thread type

Nil	Rc
F	G
T	NPTF

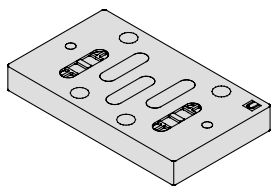
This is used by mounting on a manifold block in order to stop the inlet side supply pressure in an individual supply spacer, while at the same time exhausting the residual pressure are performed by pressing the manual override, which can be locked by turning it.

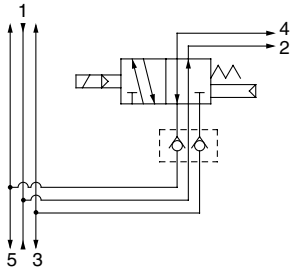




Main EXH back pressure check plate
AXT503-37A

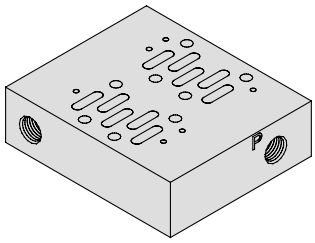
In cases where back pressure effects actuator operation due to simultaneous operation of manifold valves, etc., this effect can be eliminated by installing a plate between the manifold block and the valve from which back pressure is to be prevented.

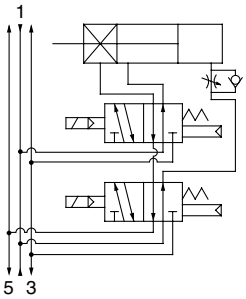




Adapter plate for locked-up cylinder
AXT502-26A

When using a locked-up 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.

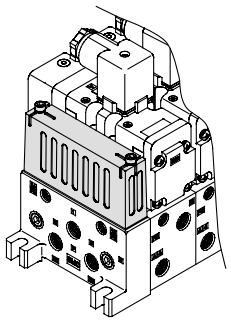




Manifold Option Parts

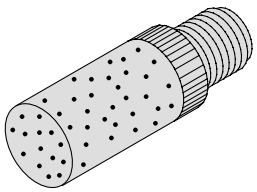
Silencer box
VV71-□□□-□□-SB

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



Pilot EXH silencer
AN110-01

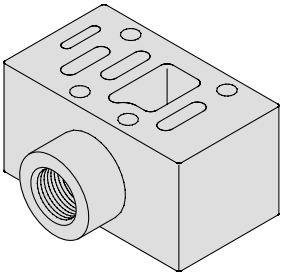
This is used by mounting on the pilot exhaust port in order to reduce manifold and single type pilot exhaust noise, and to prevent the entry of dust.

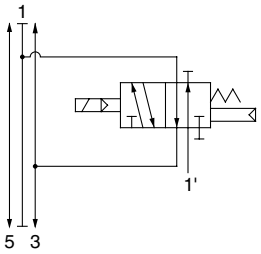


Release valve spacer
AXT502-17A□

Thread type

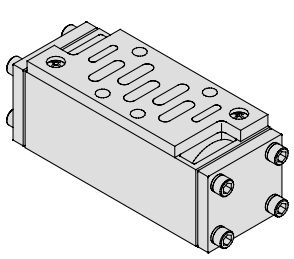
Nil	Rc
F	G
T	NPTF

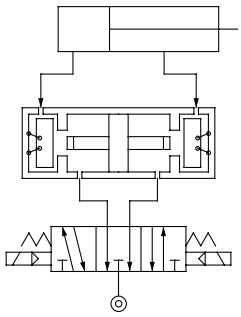


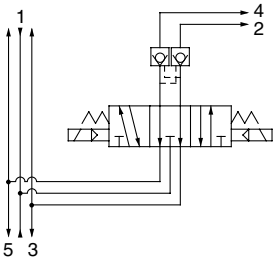


Double check spacer VV71-FPG

By combining a 3 position exhaust center 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 combining it with a 2 position single or double valve.





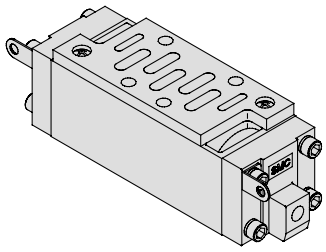


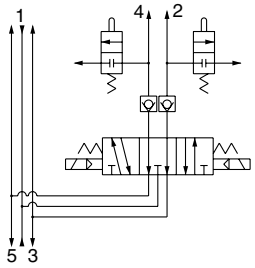
Specifications

Double check spacer part no.		VV71-FPG		
Applicable solenoid or air operated valve		Series VQ7-6		
Leakage (cm^3/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.



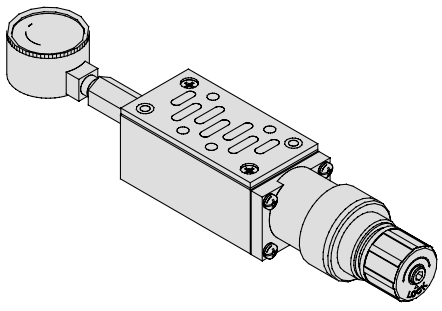


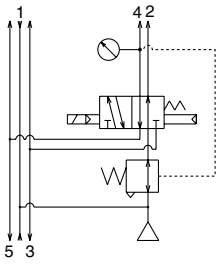
⚠ Caution

- 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 slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in the middle for a long time.
- This spacer cannot be combined with a 3 position closed center 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.

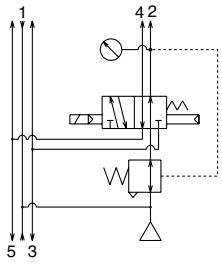
Interface regulator ARB250-00-$\frac{P}{A}_{B}$

Spacer Interface regulators can be placed on top of the manifold block to reduce the pressure of each of the valves.

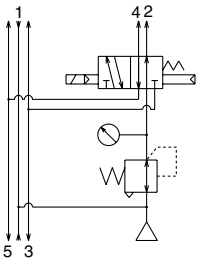




Regulating port A



Regulating port B



Regulating port P

Part No.

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

⚠ Caution

- When combining a pressure center valve and interface regulator with reduced pressure at ports A and B, use model ARB210-$\frac{A}{B}$.
- When combining a reverse pressure valve and interface regulator, use model ARB210-$\frac{A}{B}$. Further, it cannot be used with reduced pressure at port P.
- When combining a double check valve and an interface regulator, use a manifold or sub-plate as a basis, and stack them in the following order; the perfect spacer → the interface regulator → the valve.
- When a closed center valve is combined with the interface regulator's A, B port regulation, note that it cannot be used for intermediate stops of a cylinder because there is leakage from relief port on the regulator.

Control Unit

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

Air filter (With auto-drain/With manual drain)	
Filtration degree	5 μm
Regulator	
Set pressure (Outlet pressure)	0.05 to 0.85 MPa
Pressure switch	
Pressure adjustment range	0.1 to 0.7 MPa
Contact	1 ab
Rated current	(Induction load) 125 VAC 15 A, 250 VAC 15 A
Air release valve (Single only)	
Operating pressure range	0.15 to 1.0 MPa

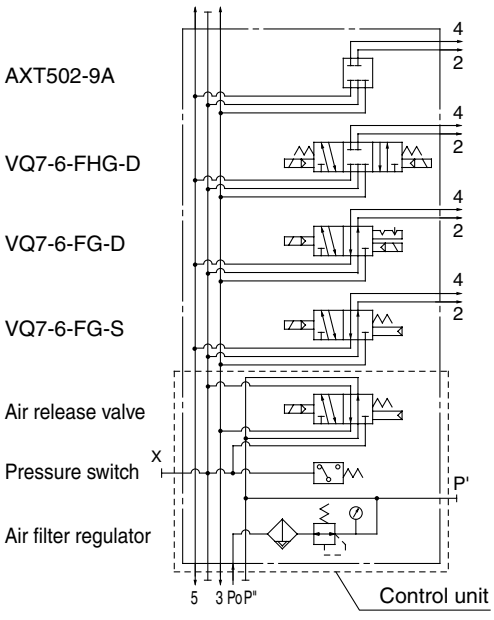
Option

Blanking plate	AXT502-9A (For manifold)
	AXT502-18A (For release valve adapter plate)
	MP2 (For control equipment/filter regulator)
	MP3 (For pressure switch)
Release valve adapter plate	AXT502-17A
Control equipment	VAW-A (Adapter plate, Filter with auto-drain cock, Regulator)
	VAW-M (Adapter plate, Filter with manual drain cock, Regulator)
Pressure switch	IS3100-X230

Control Unit Type

Control equipment \ Ordering 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			○		○				
Blanking plate (Air release valve)						○	○		
Blanking plate (Filter, Regulator)								○	
Blanking plate (Pressure switch)		○		○		○	○	○	
Number of manifold blocks required for mounting (stations)		2 stations	2 stations	2 stations	2 stations	2 stations	2 stations	2 stations	1 station

Manifold specifications example



Use of Control Unit

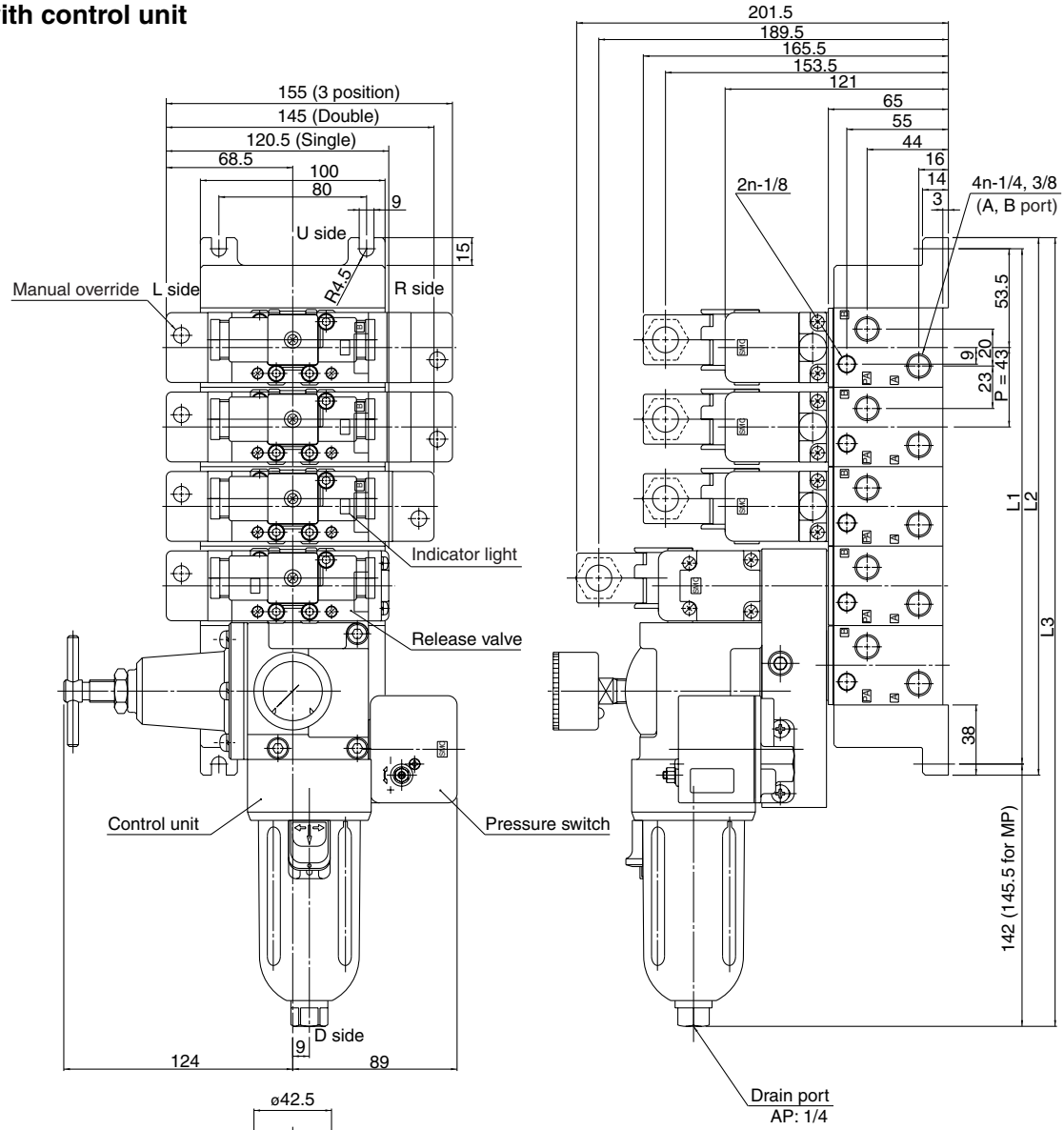
<Construction and piping >

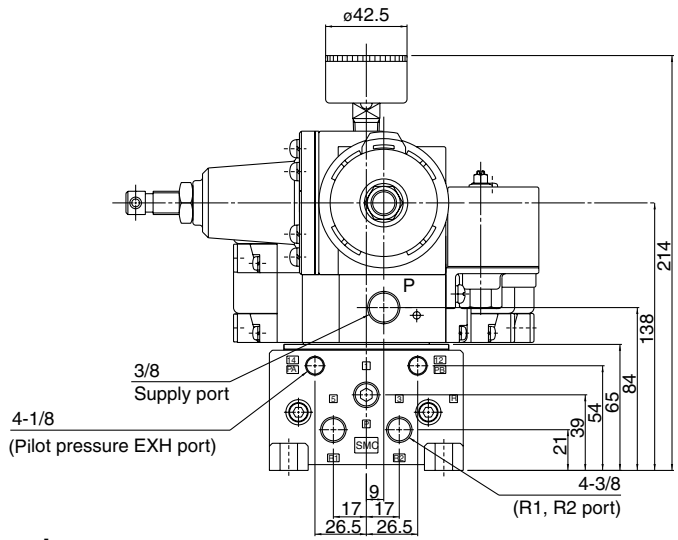
1. The supply pressure (Po) passes through the regulator with filter and is adjusted to the prescribed pressure. Next, it goes through the release valve (downstream residual pressure switching function used as normally ON) and is supplied to the manifold base side (P).
2. When the release valve ② is 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 and is discharged from port R1.
3. The pressure switch is piped into the outlet 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 with control unit





L Dimension

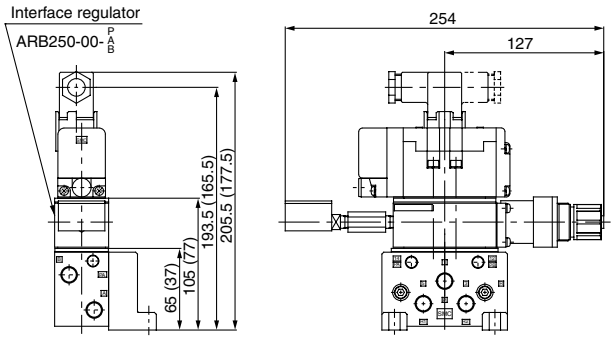
n: Stations

	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.

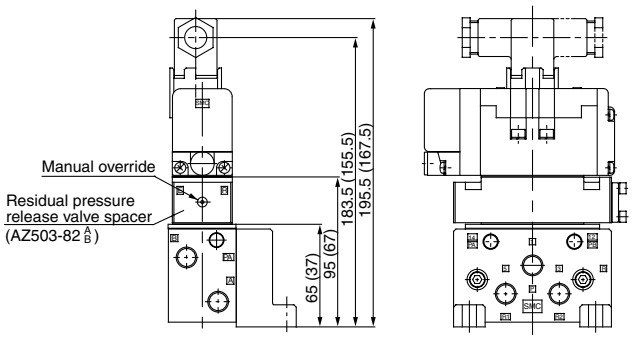
Manifold Option Parts

Interface regulator
ARB250-00-$\frac{P}{A}_{B}$



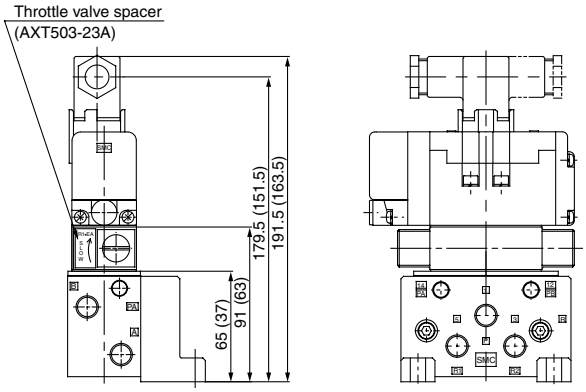
Dimensions inside ( ) are for sub-plate.

Residual pressure release valve spacer
AZ503-82$\frac{A}{B}$



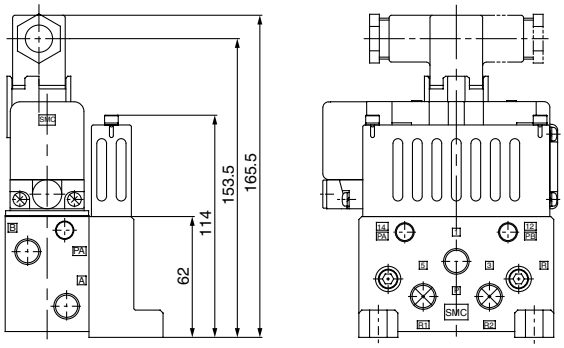
Dimensions inside ( ) are for sub-plate.

Throttle valve spacer
AXT503-23A

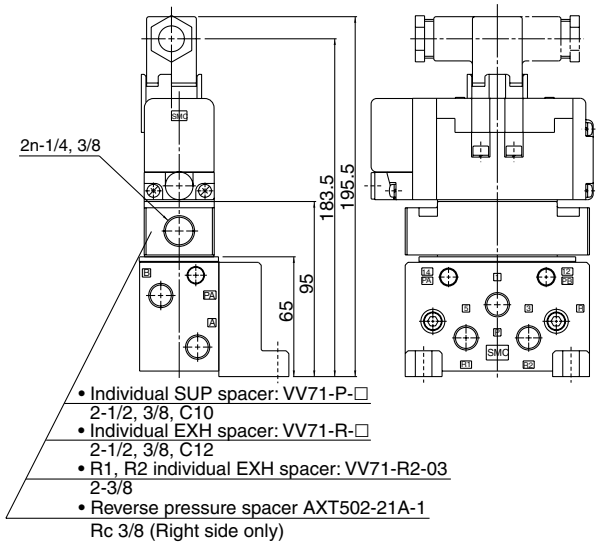


Dimensions inside ( ) are for sub-plate.

Silencer box
AXT503-60A

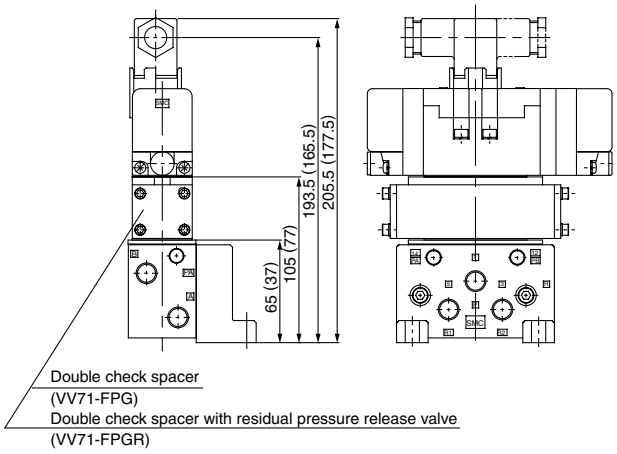


Individual SUP spacer **VV71-P-□**
Individual EXH spacer **VV71-R-□**
R1, R2 individual EXH spacer **VV71-R2-03**
Reverse pressure spacer **AXT502-21A-1**



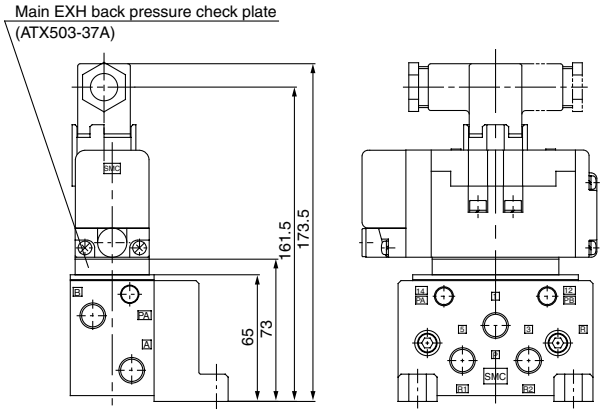
Double check spacer **VV71-FPG**

Double check spacer with residual pressure release valve **VV71-FPGR**



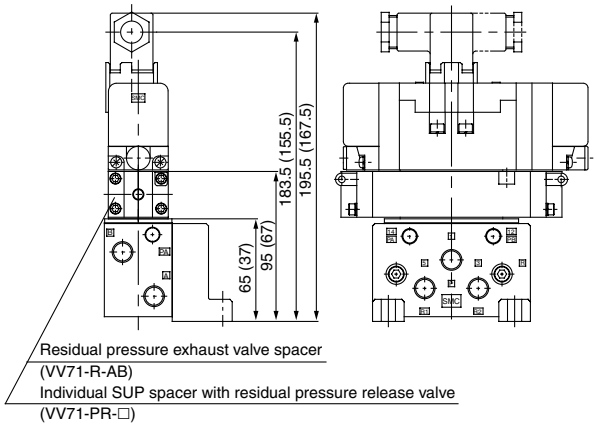
Dimensions inside ( ) are for sub-plate.

Main EXH back pressure check plate
AXT503-37A



Residual pressure release valve spacer **VV71-R-AB**

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



Dimensions inside ( ) are for sub-plate.