

Shuttle Valve/AND Valve with One-Touch Fittings

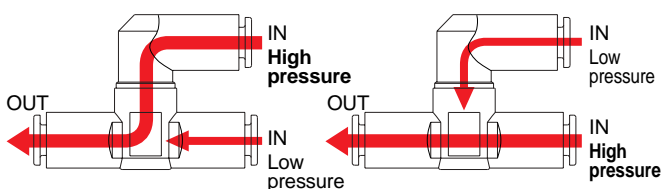
Serie **VR12□□F**



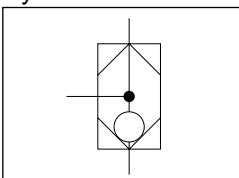
For control of air pressure signal system lines

Shuttle valve/VR12□0F

The high pressure air is always output to the OUT side.



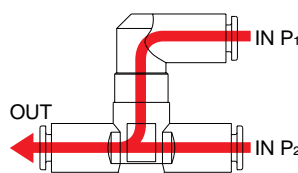
Symbol



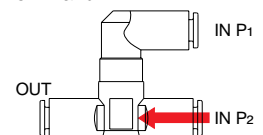
AND valve/VR1211F

There is output to the OUT side only when air is supplied to both P₁ and P₂.

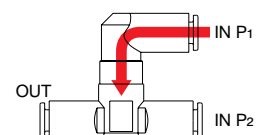
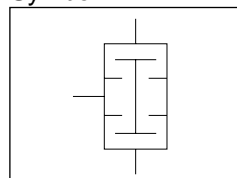
In case of different pressures, the lower pressure is output to the OUT side.



There is no output to the OUT side if air is supplied to only one of P₁ and P₂.



Symbol



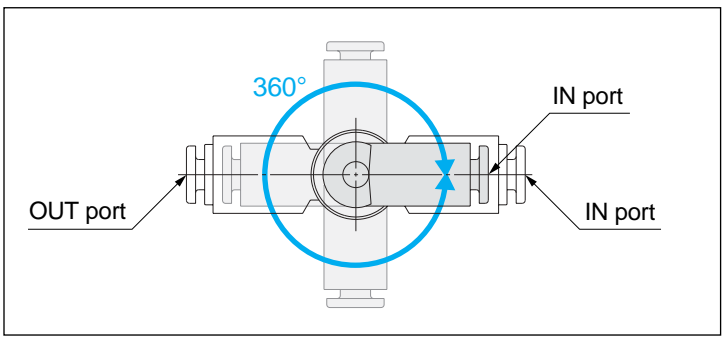


Shuttle Valve/AND Valve with One-Touch Fittings Series VR12□□F

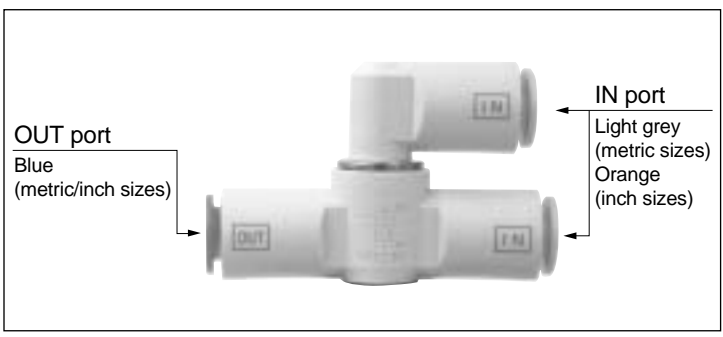


Interrupters for control of air pressure signal system lines

IN port can be rotated 360°
Piping is possible in any position. In addition, One-touch fittings make piping connections easy.

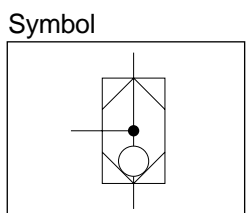
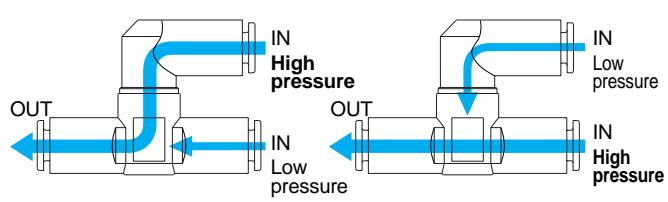


IN and OUT ports can be easily distinguished
Since the One-touch fitting colours are different, IN and OUT can be confirmed at a glance to prevent mispiping.



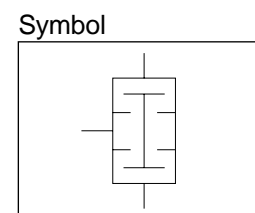
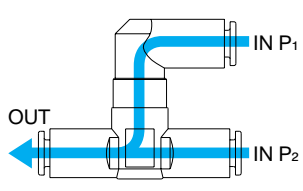
Metric and inch sizes standardized

Shuttle valve/VR12□0F
The high pressure air is always output to the OUT side.

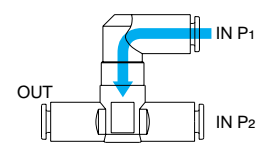
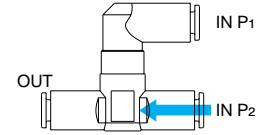


Features 1

AND valve/VR1211F
There is output to the OUT side only when air is supplied to both P₁ and P₂.
In case of different pressures, the lower pressure is output to the OUT side.



There is no output to the OUT side if air is supplied to only one of P₁ and P₂.



Shuttle Valve with One-Touch Fittings Series VR1210F, VR1220F



Models

Model	Applicable tubing outside diameter									
	Metric size					Inch size				
	3.2	4	6	8	10	1/8"	5/32"	1/4"	5/16"	3/8"
VR1210F	●	●	●	●		●	●	●	●	
VR1220F			●	●	●			●	●	●

Specifications

Proof pressure	1.5MPa
Maximum operating pressure	1MPa
Minimum operating pressure	0.05MPa
Ambient and fluid temperature	-5 to 60°C (with no freezing)
Applicable tubing material ^{Note 1)}	Nylon, Soft nylon, Polyurethane

Note 1) Use caution regarding the maximum operating pressure with soft nylon and polyurethane. (Refer to "Air Fittings and Tubing" CAT.E501-B.)

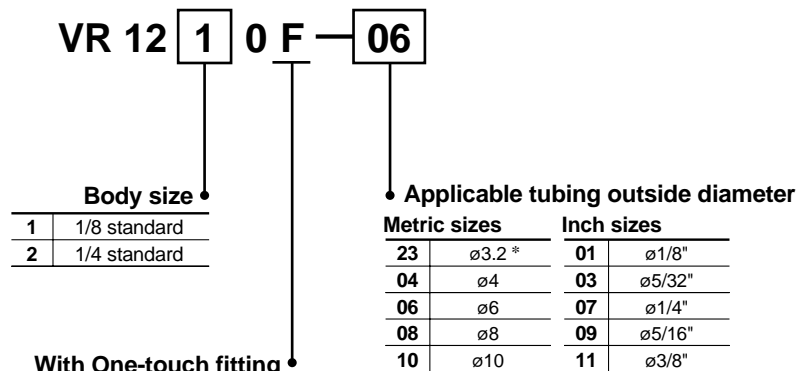
Note 2) On standard products all brass parts are electroless nickel plated. (Suitable for copper free applications.)

Flow Rate and Effective Area

Model		VR1210F				VR1220F		
Applicable tubing O.D.	Metric size	ø3.2	ø4	ø6	ø8	ø6	ø8	ø10
	Inch size	ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø1/4"	ø5/16"	ø3/8"
IN→OUT	Flow rate /min (ANR)	150	210	420	480	440	680	1000
	Effective area mm ²	2.3	3.2	6.4	7.3	6.7	10.4	15.2

Note 1) Flow rate values are at a pressure of 0.5MPa and temperature of 20°C.

How to Order



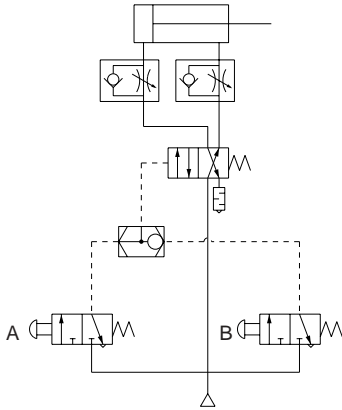
* Use ø1/8" tubing for ø3.2.

Series VR12□0F

Application Circuit Examples

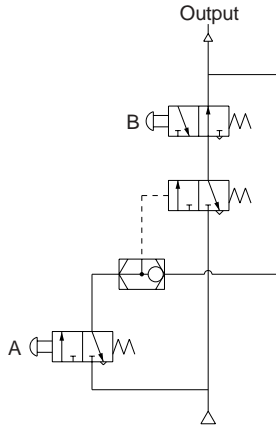
OR circuit

- The cylinder operates if either "A" or "B" is ON.



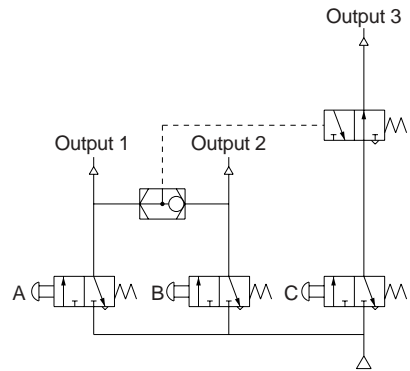
Self holding circuit

- When "A" is turned ON, output goes ON.
- The output ON state is maintained even if "A" is turned OFF.
- The output goes OFF when "B" is turned ON in condition 2.

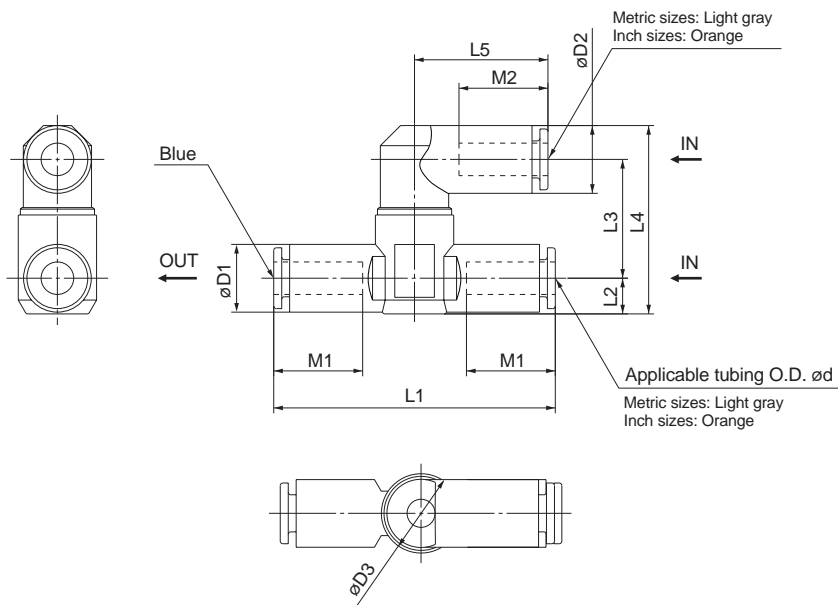


Interlock circuit

- When either "A" or "B" are ON, output 3 does not go ON even if "C" is turned ON.
- Output 3 goes ON if "C" is turned ON, only when both "A" and "B" are OFF.



Dimensions



Metric sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1210F-23	3.2	11.4	8.4	14.8	52	6.2	19.4	29.8	17.5	12.7	12.9	21.4
VR1210F-04	4	12.8	10.4		56	6.8	20.3	32.2	21.9	15.7	15.8	25.2
VR1210F-06	6	12.8	12.8		53.2	22.5	35.6	25.2	16.8	16.8	23.0	
VR1210F-08	8	15.2	15.2		60.4		8.1	38.2	28.2	18.7	18.7	24.0
VR1220F-06	6	12.8	12.8	19.8	59	7.4	23.9	37.7	25.2	16.8	16.8	27.2
VR1220F-08	8	15.2	15.2		65	8.2		39.7	28.2	18.7	18.7	31.9
VR1220F-10	10	18.5	18.5		71.6	9.8	25.8	44.8	31	20.8	20.8	43.2

Inch sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1210F-01	1/8"	11.4	8.4	14.8	52	6.2	19.4	29.8	17.5	12.7	12.9	21.4
VR1210F-03	5/32"	12.8	10.4		56	6.8	20.3	32.2	21.9	15.7	15.8	25.2
VR1210F-07	1/4"	13.2	13.2		54.4	7.1	22.5	36.2	25.6	16.8	16.8	23.5
VR1210F-09	5/16"	15.2	15.2		60.4	8.1		38.2	28.2	18.7	18.7	24.0
VR1220F-07	1/4"	13.2	13.2	19.8	59	7.4	23.9	37.9	25.6	16.8	16.8	31.4
VR1220F-09	5/16"	15.2	15.2		65	8.2		39.7	28.2	18.7	18.7	31.9
VR1220F-11	3/8"	17.9	18.5		69.8	9.5	25.8	44.5	31	20.8	20.8	53.0

AND Valve with One-Touch Fittings Series VR1211F



Models

Model	Applicable tubing outside diameter					
	Metric size			Inch size		
	3.2	4	6	1/8"	5/32"	1/4"
VR1211F	●	●	●	●	●	●

Specifications

Proof pressure	1.5MPa
Maximum operating pressure	1MPa
Minimum operating pressure	0.05MPa
Ambient and fluid temperature	-5 to 60°C (with no freezing)
Applicable tubing material ^{Note 1)}	Nylon, Soft nylon, Polyurethane

Note 1) Use caution regarding the maximum operating pressure with soft nylon and polyurethane.
(Refer to "Air Fittings and Tubing" CAT.E501-B.)

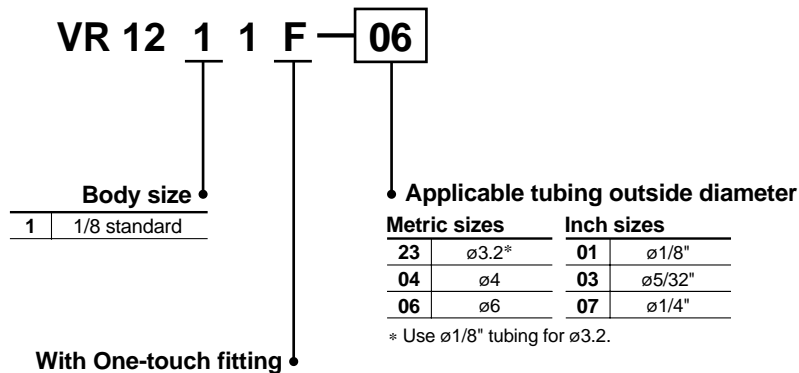
Note 2) On standard products all brass parts are electroless nickel plated.
(Suitable for copper free applications.)

Flow Rate and Effective Area

Model		VR1211F			
Applicable tubing O.D.	Metric size	ø3.2	ø4	ø6	-
	Inch size	ø1/8"	ø5/32"	-	ø1/4"
IN→OUT	Flow rate /min (ANR)	100	120	150	170
	Effective area mm ²	1.5	1.8	2.3	2.6

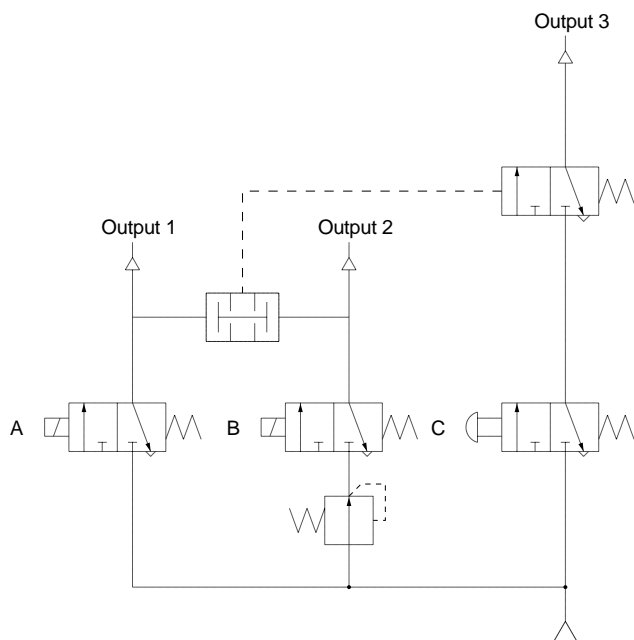
Note 1) Flow rate values are at a pressure of 0.5MPa and temperature of 20°C.

How to Order



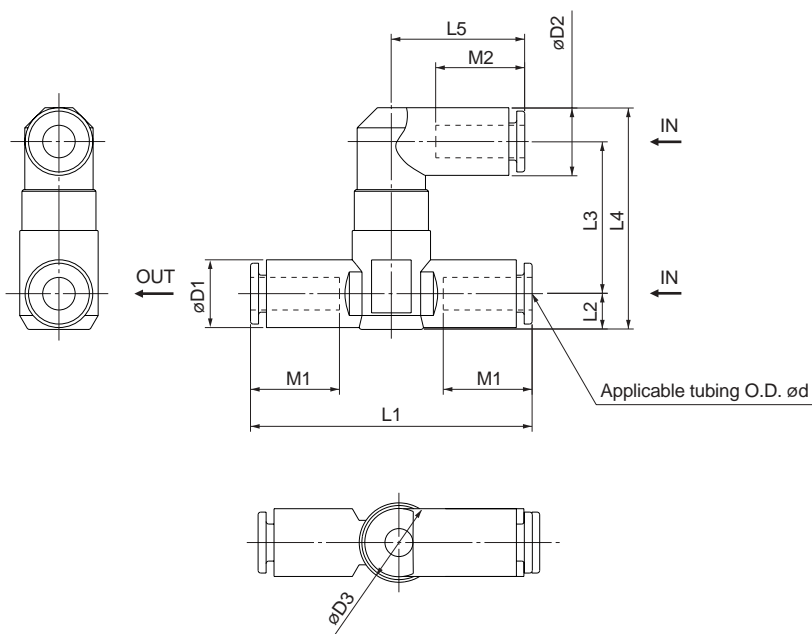
Series VR1211F

Application Circuit Example



- When "A" and "B" having different pressure conditions are turned ON, output 1 and output 2 go ON.
- Output 3 goes ON if "C" is turned ON, only when output 1 and output 2 are in an ON state.
- If either "A" or "B" is OFF, output 3 does not go ON even if "C" is turned ON.

Dimensions



Metric sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1211F-23	3.2	11.4	8.4	14.8	52	6.2	25.7	36.1	17.5	12.7	12.9	26.4
VR1211F-04	4	12.8	10.4		56	6.8	26.6	38.5	21.9	15.7	15.8	30.4
VR1211F-06	6	12.8	12.8		53.2		28.8	41.9	25.2	16.8	16.8	25.0

Inch sizes

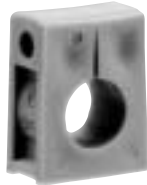
Model	d	D1	D2	D3	L1	L2	L3	L4	L5	M1	M2	Weight g
VR1211F-01	1/8"	11.4	8.4	14.8	52	6.2	25.7	36.1	17.5	12.7	12.9	26.4
VR1211F-03	5/32"	12.8	10.4		56	6.8	26.6	38.5	21.9	15.7	15.8	30.4
VR1211F-07	1/4"	13.2	13.2		54.4		7.1	28.8	42.5	25.6	16.8	16.8

Related Products

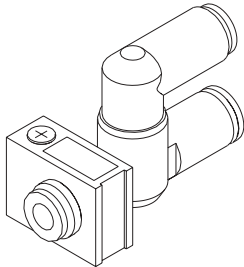
Holder Series TMH

This holder is used to secure the AND valve and shuttle valve with One-touch fittings.

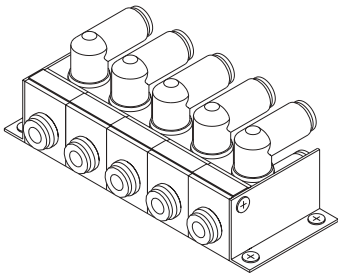
Allows highly flexible mounting.



Single unit secured using holder

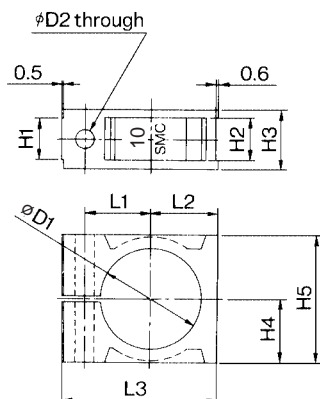


Manifolding is possible



Note) Mounting brackets are not available. This is an application example only.

Dimensions



Specifications

Ambient temperature	-20 to 60°C
Material	Polypropylene
Color	White

Accessories/Round head Phillips mounting screw (black zinc chromated)

Model		Size (nominal size x length)	Qty.
Metric size	Inch size		
—	TMH-05	M3 x 20	1
TMH-06	TMH-07	M4 x 25	
TMH-08	TMH-09		
TMH-10	TMH-11	M4 x 35	

Shuttle Valve/AND Valve and Holder Compatibility

Metric sizes

Model		Applicable tubing outside diameter				
Shuttle valve	AND valve	$\phi 3.2$	$\phi 4$	$\phi 6$	$\phi 8$	$\phi 10$
VR1210F	VR1211F	TMH-05	TMH-06	TMH-06	TMH-08	—
VR1220F	—	—	—	—	—	TMH-10

Inch sizes

Model		Applicable tubing outside diameter				
Shuttle valve	AND valve	$\phi 1/8$ "	$\phi 5/32$ "	$\phi 1/4$ "	$\phi 5/16$ "	$\phi 3/8$ "
VR1210F	VR1211F	TMH-05	TMH-06	TMH-07	—	—
VR1220F	—	—	—	—	TMH-09	TMH-11

Model		D1	D2	H1	H2	H3	H4	H5	L1	L2	L3
Metric size	Inch size										
—	TMH-05	11.7	3.3	6.3	6.4	9.3	7.7	15.4	8.5	8.3	21
TMH-06	—	13.1	4.3	7.1	7.2	11	10	20	11	10.6	26.5
TMH-07	TMH-08	13.5									
TMH-08	TMH-09	15.5									
TMH-10	—	18.5	4.3	9.5	9.6	14	14	28	14.2	14.6	34
—	TMH-11	18.8									

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