

# Shuttle Valve/AND Valve with One-Touch Fittings

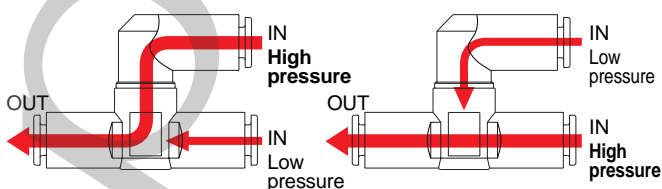
## Series **VR12□□F**



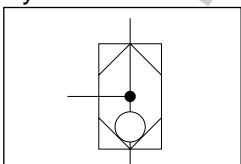
### For control of air pressure signal system lines

#### Shuttle valve/VR12□0F

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



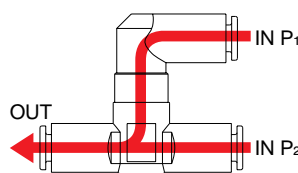
Symbol



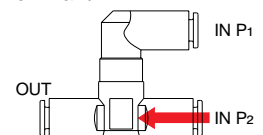
#### AND valve/VR1211F

There is output to the OUT side only when air is supplied to both P<sub>1</sub> and P<sub>2</sub>.

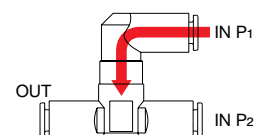
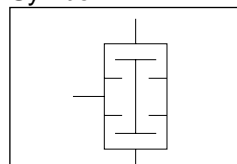
In case of different pressures, the lower pressure is output to the OUT side.



There is no output to the OUT side if air is supplied to only one of P<sub>1</sub> and P<sub>2</sub>.



Symbol



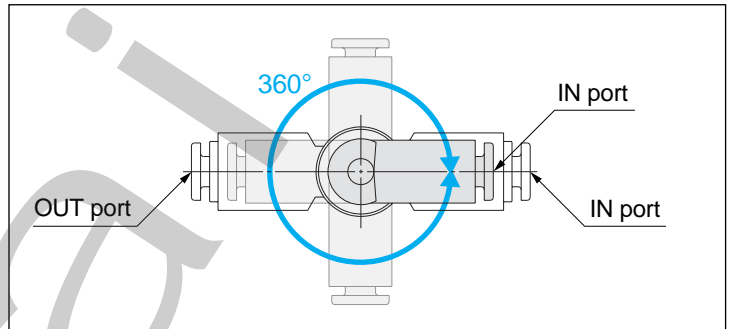
# Shuttle Valve/AND Valve with One-Touch Fittings Series VR12□□F



## 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

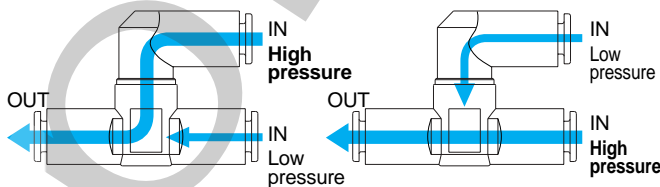
Since the One-touch fitting colours are different, IN and OUT can be confirmed at a glance to prevent mispiping.



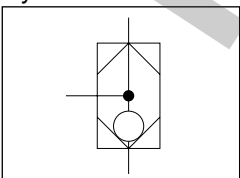
## Metric and inch sizes standardized

### Shuttle valve/VR12□0F

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



Symbol

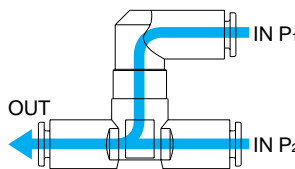


Features 1

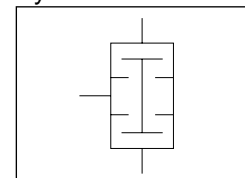
### AND valve/VR1211F

There is output to the OUT side only when air is supplied to both P<sub>1</sub> and P<sub>2</sub>.

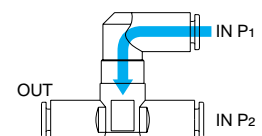
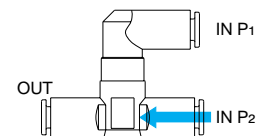
In case of different pressures, the lower pressure is output to the OUT side.



Symbol



There is no output to the OUT side if air is supplied to only one of P<sub>1</sub> and P<sub>2</sub>.



# 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 <sup>Note 1)</sup>	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 <sup>2</sup>	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

VR 12 1 0 F — 06

### Body size

1	1/8 standard
2	1/4 standard

### Applicable tubing outside diameter

Metric sizes		Inch sizes	
23	ø3.2 *	01	ø1/8"
04	ø4	03	ø5/32"
06	ø6	07	ø1/4"
08	ø8	09	ø5/16"
10	ø10	11	ø3/8"

\* Use ø1/8" tubing for ø3.2.

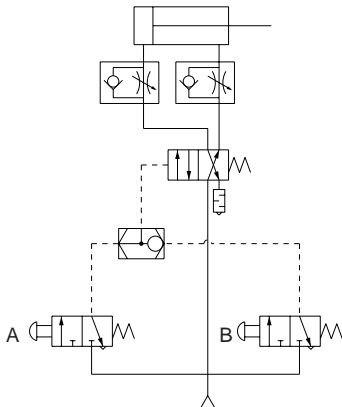
With One-touch fitting

# Series VR12□0F

## Application Circuit Examples

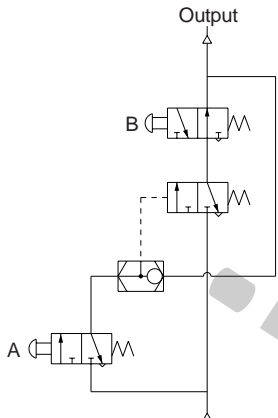
### OR circuit

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



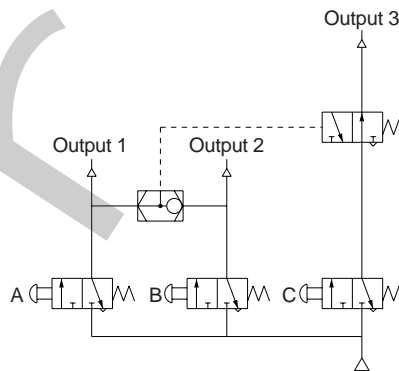
### Self holding circuit

- 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.

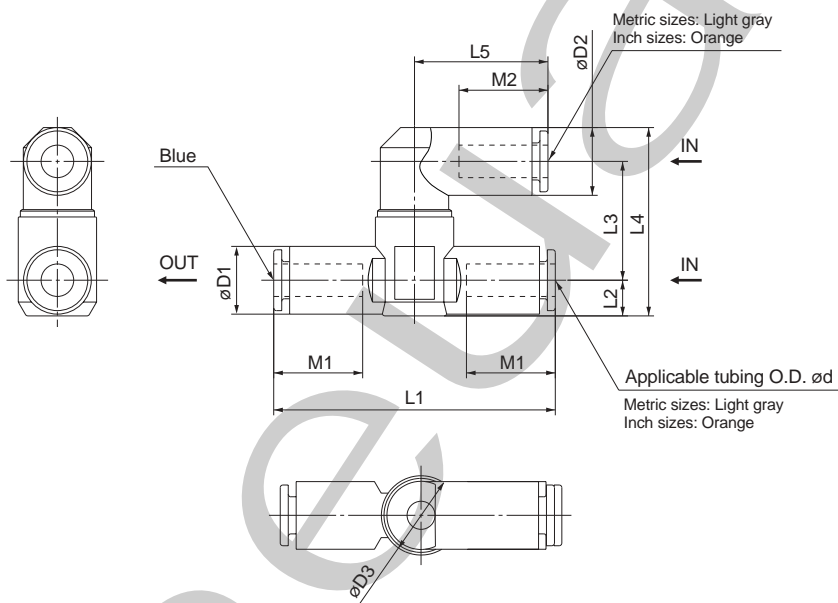


### Interlock circuit

- 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 <sup>Note 1)</sup>	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				
	Metric size	ø3.2	ø4	ø6	-
Applicable tubing O.D.	Inch size	ø1/8"	ø5/32"	-	ø1/4"
	Flow rate /min (ANR)	100	120	150	170
IN→OUT	Effective area mm <sup>2</sup>	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

VR 12 1 1 F — 06

Body size ●

1	1/8 standard
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● Applicable tubing outside diameter

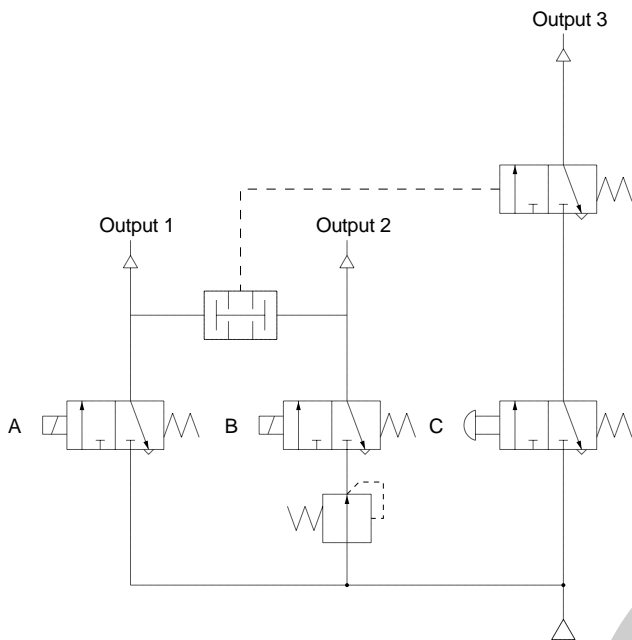
Metric sizes		Inch sizes	
23	ø3.2*	01	ø1/8"
04	ø4	03	ø5/32"
06	ø6	07	ø1/4"

\* Use ø1/8" tubing for ø3.2.

With One-touch fitting ●

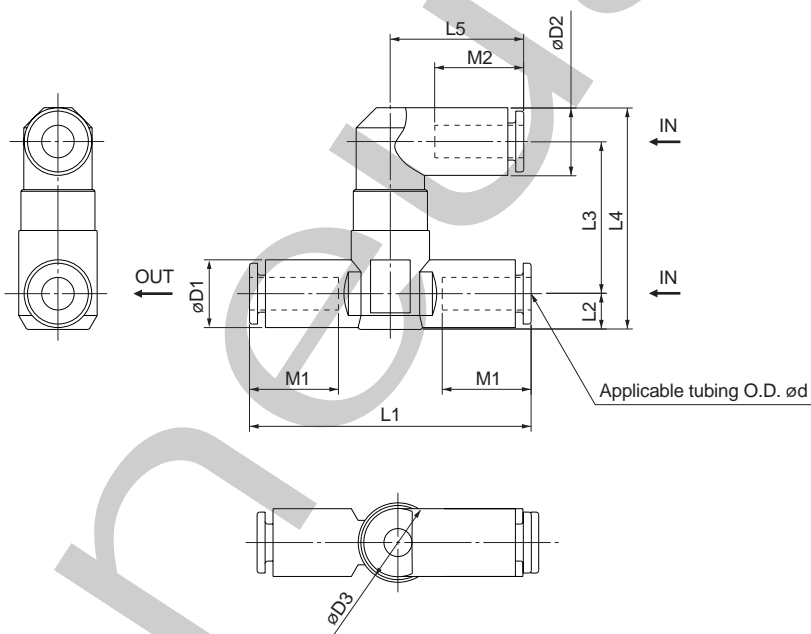
# Series VR1211F

## 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	27.0

# Related Products

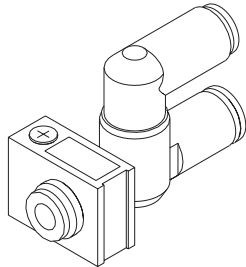
## Holder Series TMH

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

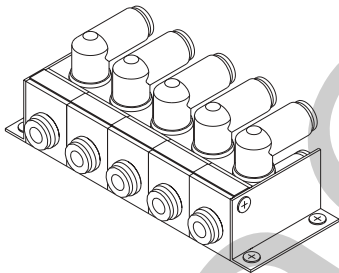
Allows highly flexible mounting.



Single unit secured using holder

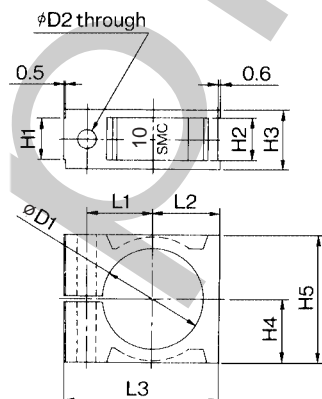


Manifolding is possible



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		
—	<b>TMH-05</b>	M3 x 20	1
<b>TMH-06</b>	<b>TMH-07</b>	M4 x 25	
<b>TMH-08</b>	<b>TMH-09</b>		
<b>TMH-10</b>	<b>TMH-11</b>	M4 x 35	

### Shuttle Valve/AND Valve and Holder Compatibility

#### Metric sizes

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

#### Inch sizes

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

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