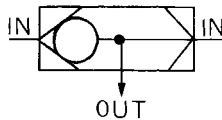


# Transmitters: Shuttle Valve VR1210/1220

3 ported check valve with one output and 2 pneumatic signal input ports. Output always supplied by high pressure inlet.



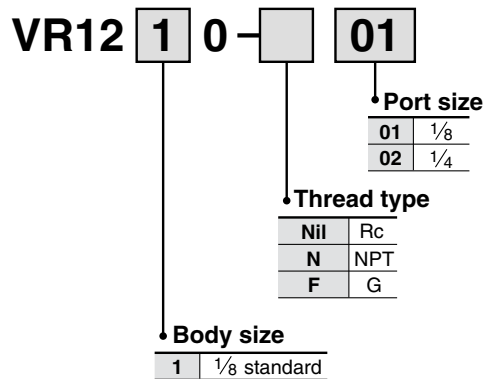
JIS Symbol



## Model/Specifications

Model	VR1210-01	VR1220-02
Max. operating pressure	1.0 MPa	
Min. operating pressure	0.05 MPa	
Min. pressure differential	0.05 MPa	
Ambient and fluid temperature	-5 to 60°C (No freezing)	
Effective area	7 mm <sup>2</sup>	15 mm <sup>2</sup>
Port size	1/8	1/4
Weight	24 g	45 g

## How to Order



□A

V□A

□A

V□A

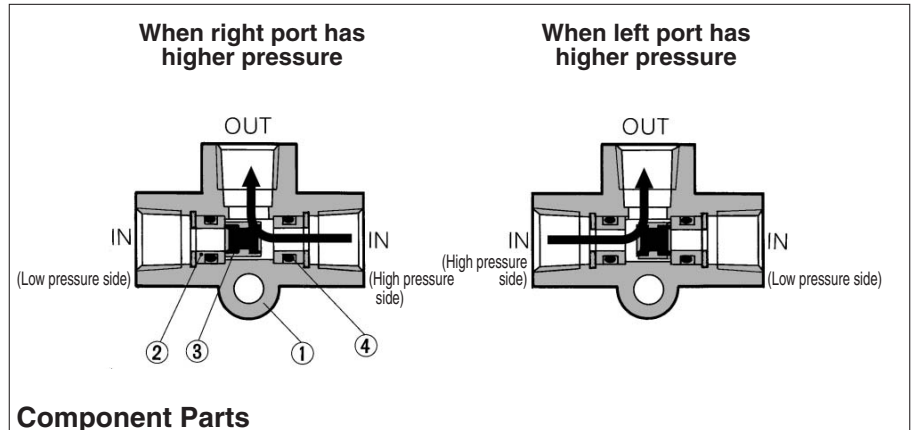
VM

**VR**

VH

VHS

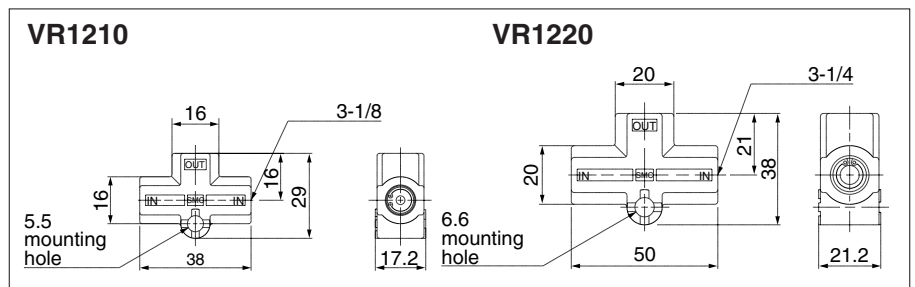
## Construction



## Component Parts

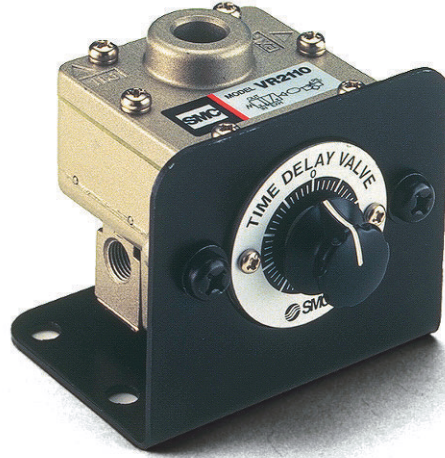
No.	Description	Material	Note	No.	Description	Material	Note
①	Body	ADC	Metallic plated	③	Valve	Brass, NBR	
②	Valve seat	Brass		④	O-ring	NBR	

## Dimensions

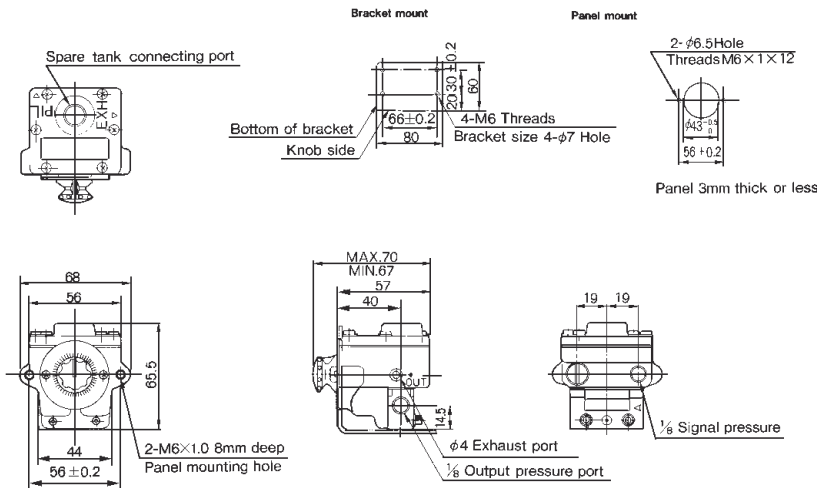


## TIME DELAY VALVE SERIES (N)VR2110

A combination of adjustable orifice and fixed flow allows transmission of a pneumatic signal after a fixed time period.



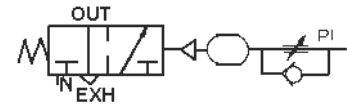
### DIMENSIONS TIME DELAY VALVE



### TECHNICAL SPECIFICATIONS

Supply Pressure	0 ~ 1MPa / 0 ~ 145 PSI
Signal Pressure	0.25 ~ 0.8MPa / 32 ~ 116PSI
Time Delay	0.5 ~ 60 Sec
Effective Orifice (Cv Factor)	2.5mm <sup>2</sup> (0.14)
Port Size	1/8 PT / NPT

### SYMBOLS



### HOW TO ORDER

#### TIME DELAY VALVE

NVR2110-N01 (1/8 NPT)  
VR2110-01 (1/8 PT)

## SHUTTLE VALVE SERIES (N)VR1210, (N)VR1220

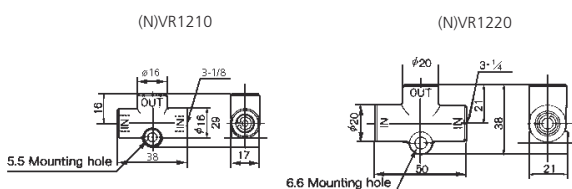
3 ported Check Valve with one output and 2 pneumatic signal input ports



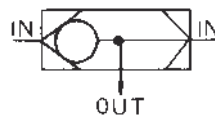
### TECHNICAL SPECIFICATIONS

Series	(N)VR1210-01	(N)VR1220-02
Max Operating Pressure	1MPa / 145 PSI	
Min Operating Pressure	0.05MPa / 8 PSI	
Effective Orifice (Cv Factor)	7mm <sup>2</sup> (0.38)	15mm <sup>2</sup> (0.81)
Port Size	1/8 PT / NPT	1/4 PT / NPT

### DIMENSIONS SHUTTLE VALVE



### SYMBOLS



### HOW TO ORDER

#### SHUTTLE VALVE

NVR1210-N01 (1/8 NPT)  
NVR1220-N02 (1/4 NPT)  
VR1210-01 (1/8 PT)  
VR1220-02 (1/4 PT)

SEE INSIDE FRONT COVER FOR  
DETAILS OF YOUR LOCAL SALES OFFICE



FOR FURTHER TECHNICAL  
DETAILS ON THIS  
PRODUCT REQUEST  
CATALOG REFERENCE  
E104

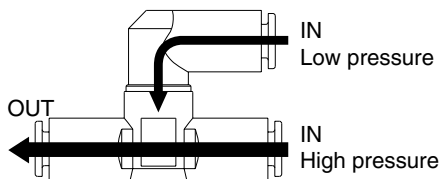
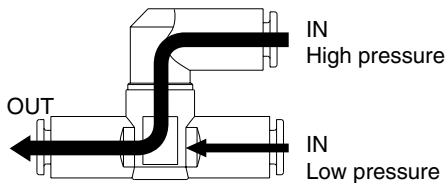
# Transmitters: Shuttle Valve with One-touch Fittings VR1210F/1220F



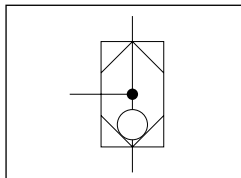
## Relay valves for controlling pneumatic signal lines



The air of higher pressure side constantly flows to the OUT side.



### JIS Symbol



## Model

Model	Applicable tubing 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	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.05 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Applicable tubing material <sup>(1)</sup>	Nylon, Soft nylon, Polyurethane

Note 1) Use caution about the maximum operating pressure when soft nylon and polyurethane is used. (Refer to "Best Pneumatics Vol. 15".)

Note 2) Brass components are all electroless nickel plated as standard. (Copper-free)

## 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 (l/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) Flow rate is the value measured under a pressure of 0.5 MPa and a temperature of 20°C.

## How to Order

VR 12 **1** 0 F — **06**

Body size

1	1/8 standard
2	1/4 standard

Shuttle valve

With One-touch fittings

Applicable tubing diameter

Metric size		Inch size	
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"

\* For ø3.2, use ø1/8" tubing.

S□A

V□A

S□A

V□A

VM

VR

VH

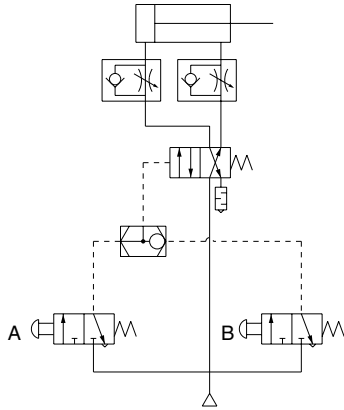
VHS

# Series VR1210F/1220F

## Example of Operating Circuit

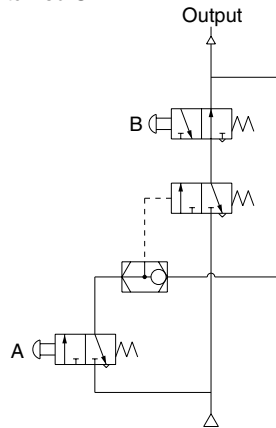
### OR circuit

- If either A or B is turned ON, cylinder is actuated.



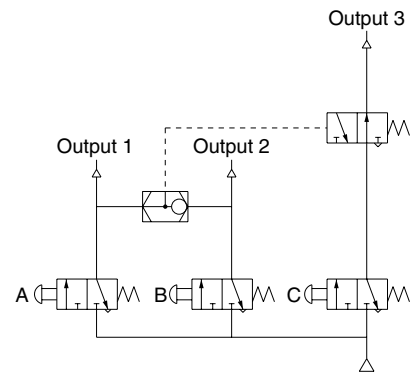
### Self-hold circuit

1. If A is turned ON, the output turns ON.
2. Even though A is turned OFF, the output remains in ON state.
3. If B is turned ON in 2. state, the output is turned OFF.

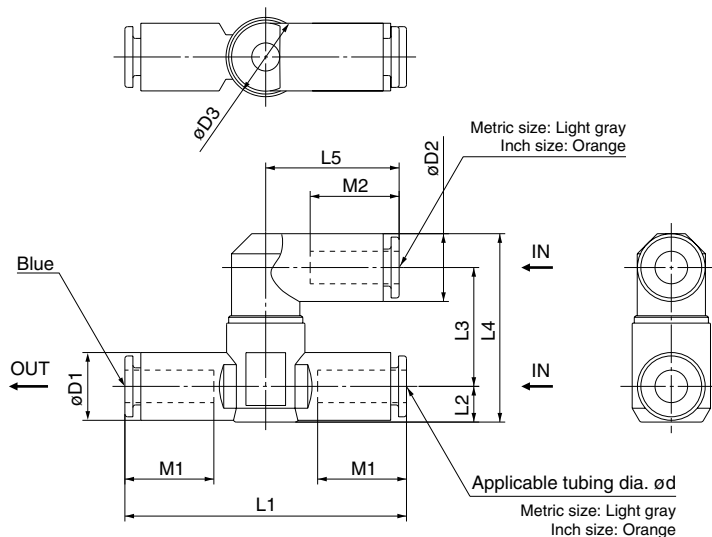


### Interlock circuit

- When either A or B is turned ON, even though C turns ON, the output 3 will not be turned ON.



## Dimensions



### Metric Size

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	8.1	22.5	35.6	25.2	16.8	16.8	23.0
VR1210F-08	8	15.2	15.2		60.4			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

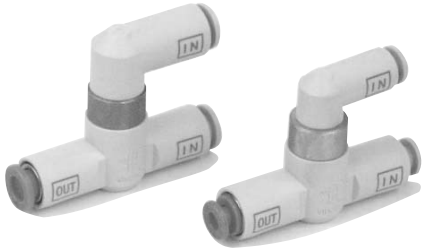
### Inch Size

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

# Transmitters: AND Valve with One-touch Fittings VR1211F

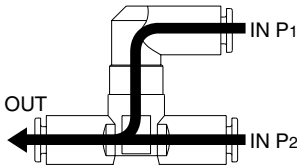


## Relay valves for controlling pneumatic signal lines

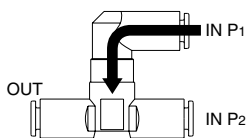
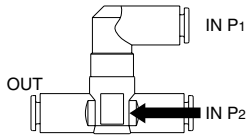


Only when air is supplied to both P<sub>1</sub> and P<sub>2</sub> does air flow to the OUT side.

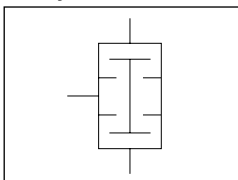
When air pressure differs, pressure in the lower amount flows to the OUT side.



If air is only supplied only to either P<sub>1</sub> or P<sub>2</sub> it, does not flow to the OUT side.



JIS Symbol



## Model

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

## Specifications

Proof pressure	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.05 MPa
Ambient temperature and operating fluid temperature	-5 to 60°C (No freezing)
Applicable tubing material <sup>(1)</sup>	Nylon, Soft nylon, Polyurethane

Note 1) Use caution about the maximum operating pressure when soft nylon and polyurethane is used. (Refer to "Best Pneumatics Vol. 15".)

Note 2) Brass components are all electroless nickel plated as standard. (Copper-free)

## 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 (l/min(ANR))	100	120	150	170
	Effective area (mm <sup>2</sup> )	1.5	1.8	2.3	2.6

Note) Flow rate is the value measured under a pressure of 0.5 MPa and a temperature of 20°C.

## How to Order

**VR 12 1 1 F — 06**

- VR**: Valve type
- 12**: Body size
- 1**: AND valve
- 1**: With One-touch fittings
- F**: Applicable tubing diameter
- 06**: Applicable tubing diameter

Body size	
1	1/8 standard

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

\* For ø3.2, use ø1/8" tubing.

S□A

V□A

S□A

V□A

VM

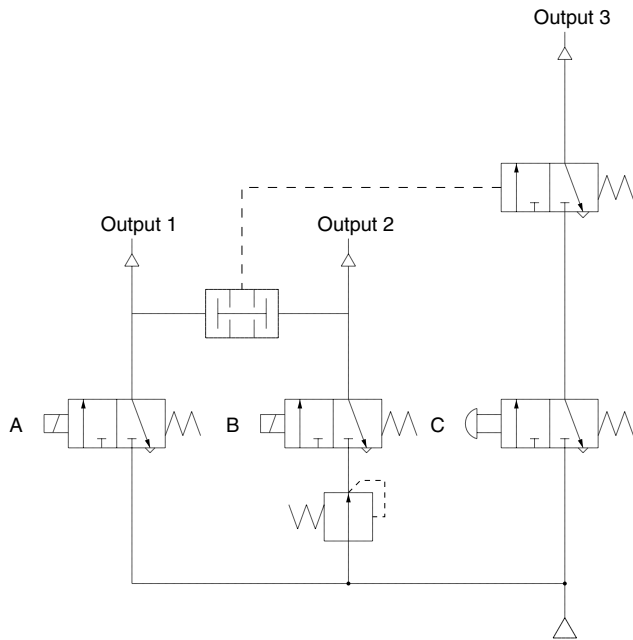
VR

VH

VHS

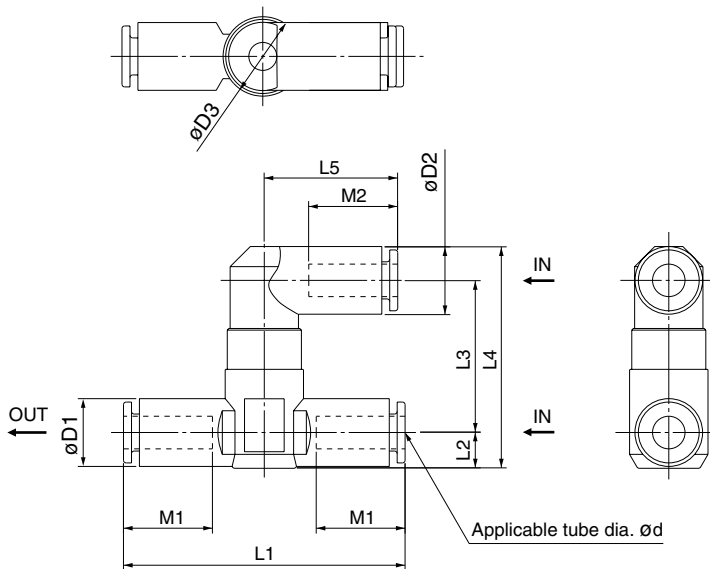
# Series VR1211F

## Example of Operating Circuit



- If both A and B are turned ON, which are in different pressure conditions, both output 1 and 2 will turn ON.
- Only when output 1 and 2 are in the ON state, and C turns ON, will output 3 turn ON.
- If either A or B is turned OFF, output 3 will not be turned ON, even if C is turned ON.

## Dimensions



### Metric Size

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 Size

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	7.1	26.6	38.5	21.9	15.7	15.8	30.4
VR1211F-07	1/4"	13.2	13.2		54.4		28.8	42.5	25.6	16.8	16.8	27.0