

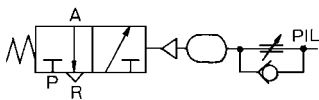
# Related Products *VR2110*

## Time Delay Valve

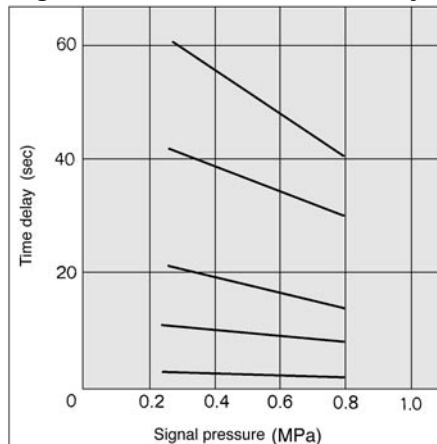
Combination of adjustable orifice and fixed flow allows transmission of a pneumatic signal after a fixed time period.



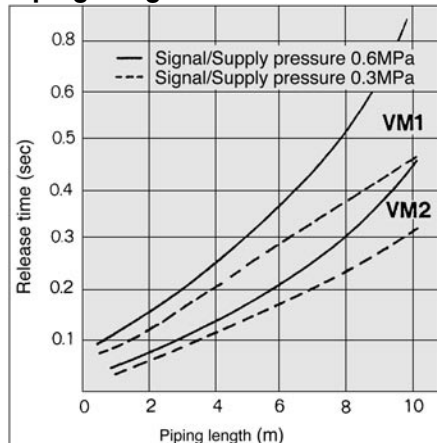
Symbol



### Signal Pressure vs. Time Delay



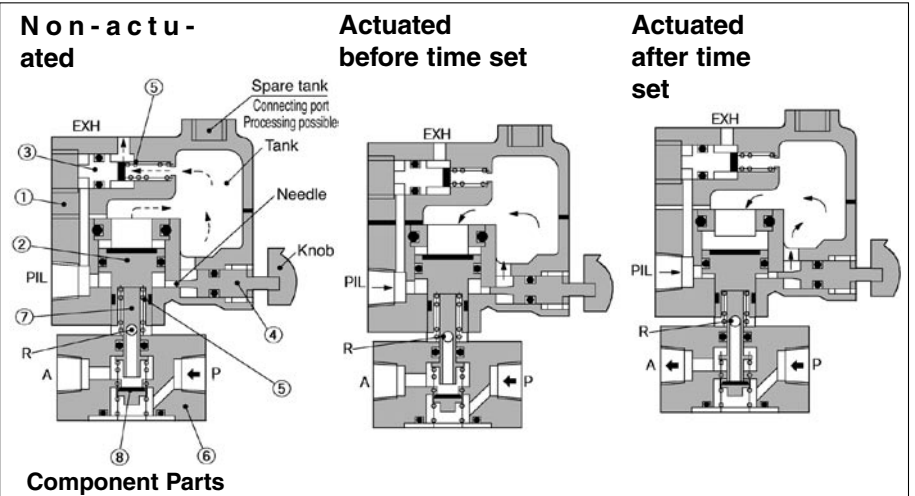
### Piping Length vs. Release Time



### Model/Specifications

EVR2110-01	
Supply pressure	0 to 1.0MPa
Signal pressure	0.25 to 0.8MPa
Time delay	0.5 to 60s
Repeatability	±10% F.S.
Operating and fluid temperature	-5 to 60°C (No freezing)
Effective area(Nl/min)	2.5mm <sup>2</sup> (124.81)
Port size	1/8
Weight	500g

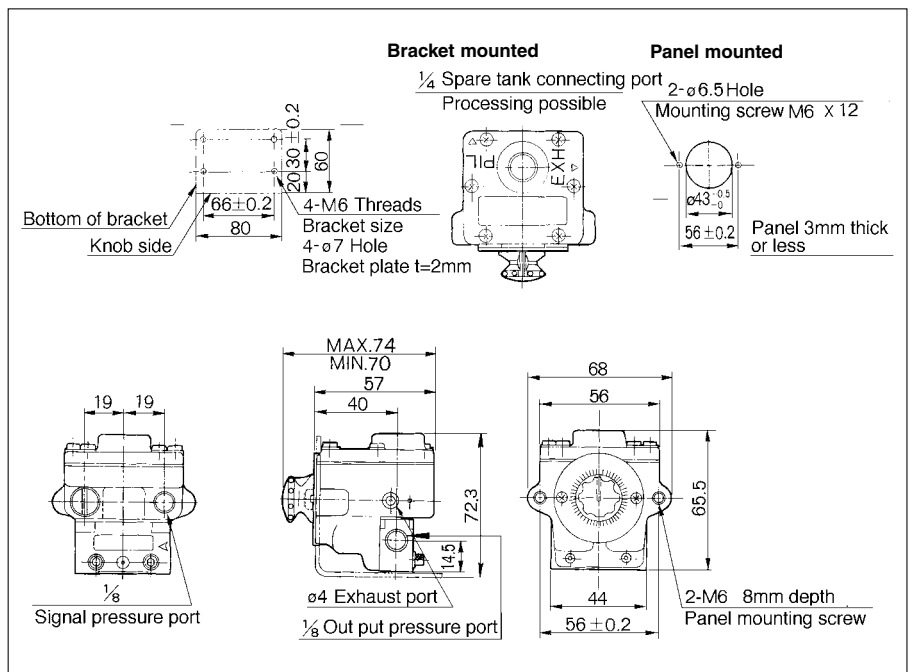
### Construction



### Component Parts

No.	Description	Material	Notes	No.	Description	Material	Notes
①	Body	Aluminum alloy	Metallic plated	⑤	Spring	Steel	
②	Piston	Brass, NBR	Rubber lined	⑥	Body	Zinc alloy	Metallic plated
③	Piston	Brass, NBR	Rubber lined	⑦	Plunger	Stainless steel	
④	Needle	Brass		⑧	Valve	Brass, NBR	Rubber lined

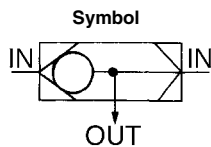
### Dimensions



# Related Products *VR1210/1220*

## Shuttle Valve

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



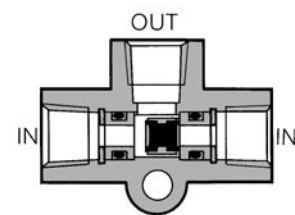
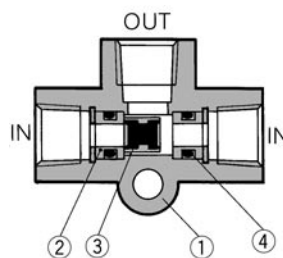
### Model/Specifications

	EVR1210-01	EVR1220-02
Max. operating pressure	1.0MPa	
Min. operating pressure	0.05MPa	
Min. pressure differential	0.05MPa	
Ambient and fluid temperature	-5 to 60°C (No freezing)	
Effective area(Nl/min)	7mm <sup>2</sup> (338.77)	15mm <sup>2</sup> (722.12)
Port size	1/8	1/4
Weight	48g	95g

### Construction

When right port has higher pres-

When left port has higher pressure



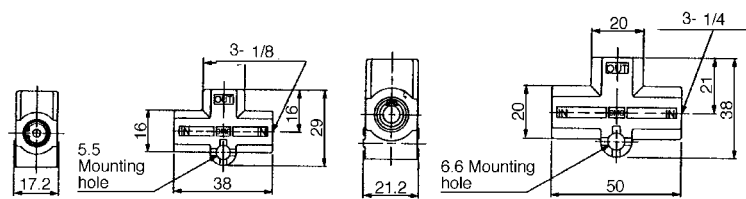
### Component Parts

No.	Description	Material	Notes	No.	Description	Material	Notes
①	Body	Aluminum alloy	Metallic alloy	③	Valve	Brass, NBR	
②	Valve seat	Brass		④	O ring	NBR	

### Dimensions

VR1210

VR1220

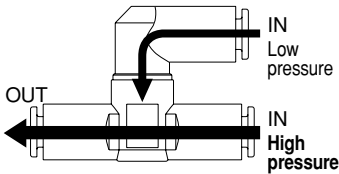
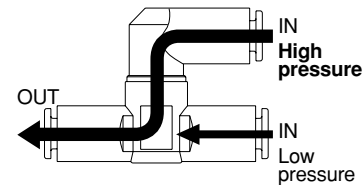


# Shuttle Valve with One-Touch Fittings Series VR1210F, VR1220F

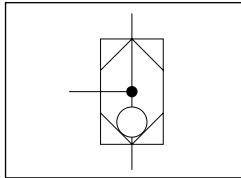


## Shuttle valve/VR12□0F

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



### Symbol



## 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.

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

## Flow Rate and Effective Area

Applicable tubing O.D.	Model	VR1210F				VR1220F		
	Metric size	ø3.2	ø4	ø6	ø8	ø6	ø8	ø10
IN→OUT	Inch size	ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø1/4"	ø5/16"	ø3/8"
	Flow rate Nl/min	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 *
04	ø4
06	ø6
08	ø8
10	ø10
01	ø1/8"
03	ø5/32"
07	ø1/4"
09	ø5/16"
11	ø3/8"

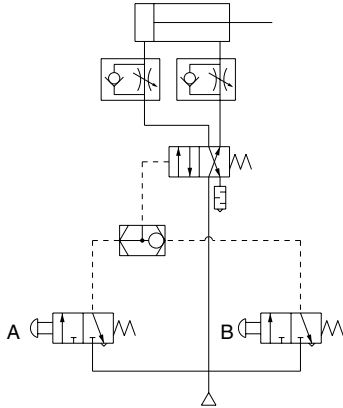
\* Use ø1/8" tubing for ø3.2.

With One-touch fitting

## Application Circuit Examples

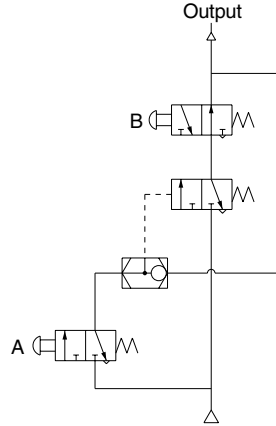
### OR circuit

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



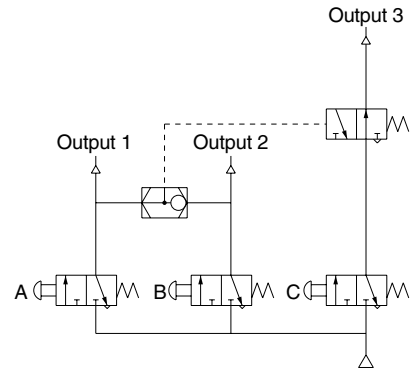
### Self holding circuit

- 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.

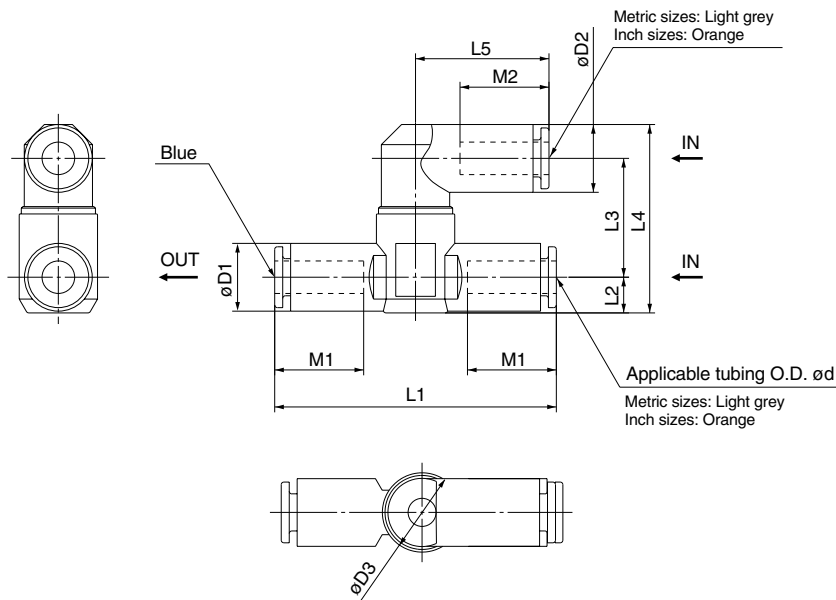


### Interlock circuit

- 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	11	10.4		53	6.8	20.3	31.5	21.9	15.7	15.8	15.6
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"	11	10.4		53	6.8	20.3	31.5	21.9	15.7	15.8	15.6
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

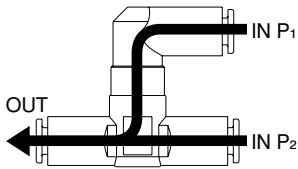
# AND Valve with One-Touch Fittings Series VR1211F



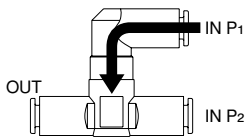
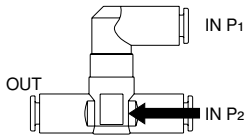
## AND valve/VR1211F

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

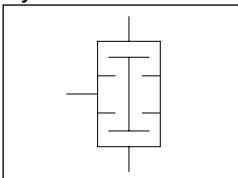
In case of different pressures, the lower pressure is output to the OUT side.



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



## 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.

Note 2) On standard products all brass parts are electroless nickel plated.

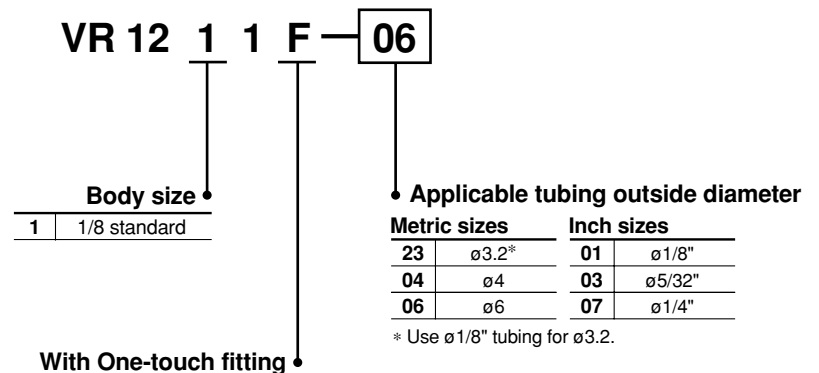
(Suitable for copper free applications.)

## Flow Rate and Effective Area

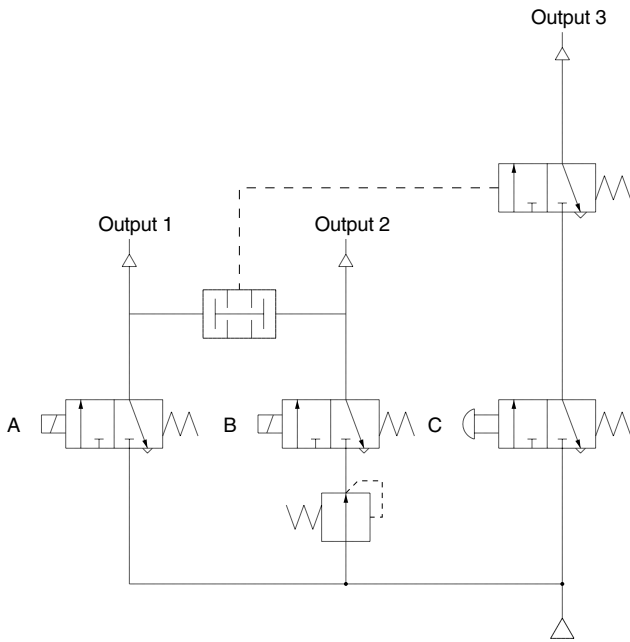
Model	VR1211F				
	Metric size	ø3.2	ø4	ø6	-
Applicable tubing O.D.	Inch size	ø1/8"	ø5/32"	-	ø1/4"
	Flow rate Nl/min	100	120	150	170
IN→OUT	Effective area mm <sup>2</sup>	1.5	1.8	2.3	2.6

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

## How to Order

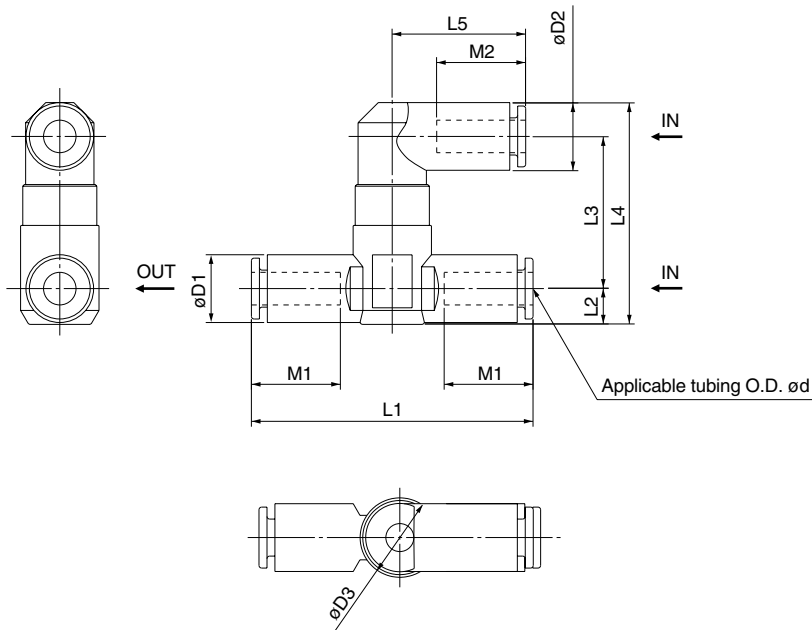


## Application Circuit Example



- 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	11	10.4		53							
VR1211F-06	6	12.8	12.8		53.2	6.8	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"	11	10.4		53							
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

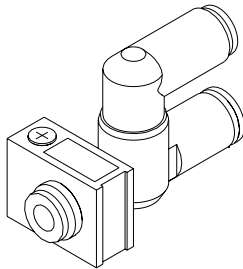
## Holder Series TMH

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

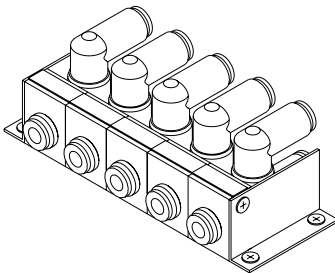
Allows highly flexible mounting.



Single unit secured using holder

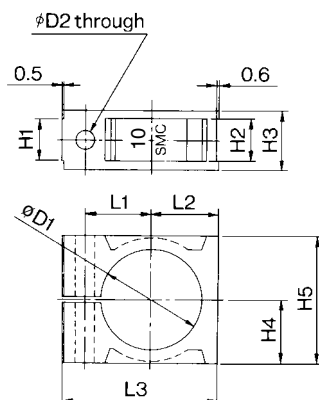


Manifolding is possible



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		
—	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

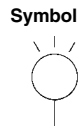
#### Inch sizes

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	13.5									
TMH-08	TMH-09	15.5	4.3	9.5	9.6	14	14	28	14.2	14.6	34
—	TMH-10	18.5									
—	TMH-11	18.8									

# Related Products VR3100 Pneumatic Indicator

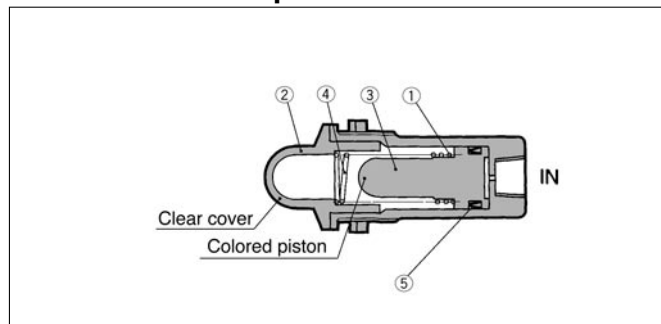
Indicates the presence of pneumatic pressure. It is equivalent to the pilot lamp of an electrical system.



## Model/Specifications

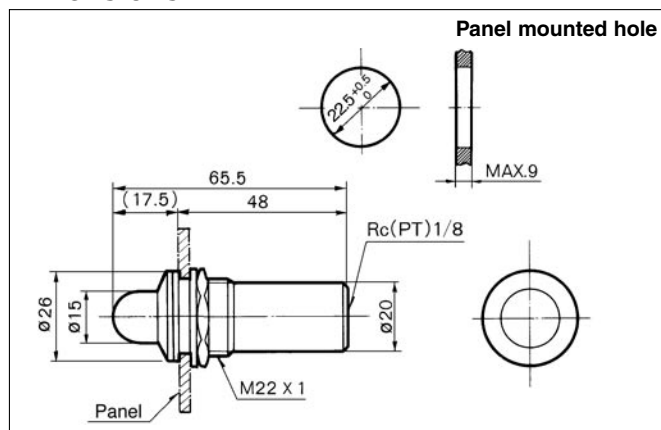
	VR3100-01R	VR3100-01G	VR3100-01O
Operating pressure	0.1 to 0.8MPa		
Ambient and fluid temp.	-5 to 60°C (No freezing)		
Frequency	100 c.p.m or less		
Color of indicator	Red	Green	Orange
Port size (Nominal size)	Rc(PT) 1/8 (6A)		
Weight	40g		

## Construction/Component Parts



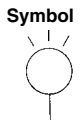
No.	Description	Material	Notes
①	Body	Aluminum alloy	
②	Indicator window	Acrylic	
③	Piston	Polyacetal	
④	Spring	Stainless steel	
⑤	Packing	NBR	

## Dimensions



# Related Products VR3110 Miniature Pneumatic Indicator

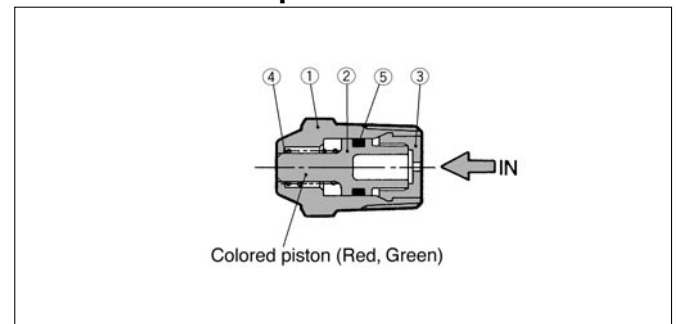
This is an ultra-compact air indicator light to monitor the presence of air pressure. It is equivalent to the pilot lamp of an electrical system.



## Model/Specifications

	VR3110-01R	VR3110-01G
Color of indicator	Red	Green
Operation	Piston style	
Operating pressure	0.15 to 1.0MPa	
Ambient and fluid temp.	-5 to 60°C (No freezing)	
Frequency	300 c.p.m or less	
Port size (Nominal size)	R(PT) 1/8 (6A)	
Weight	6g	

## Construction/Component Parts



No.	Description	Material	Notes
①	Body	Brass	
②	Piston A	Polyacetal	
③	Plug	Polyethelene	
④	Spring	Stainless steel	
⑤	O ring	NBR	

## Dimensions

