



1. SAFETY RECOMMENDATION

⚠ General Information

- Please ensure to read and understand the manual before installation and maintenance of the products.
- The manual should be passed to the End-User.
- When the product is not used within its description range, it may cause the product to malfunction so please follow the product manual instructions.

⚠ Handling Precautions

- Do not install, operate or maintain without being fully trained and qualified in Valve and accessory installation.
- When exceeding the permitted air pressure range, it may cause injury or property damage due to compressed air explosion. So it is very important to carefully read, understand and follow all of the contents of the relevant product manual.

⚠ User Environment

- When used in environments that are a higher temperature than the specified temperature range, it may cause a lower life cycle of the product. So please ensure to use within the specified temperature range.

2. LIMITED WARRANTY AND DISCLAIMER

- The manufacturer warranty period of the product is 18 months after the product is shipped from TISSIN in Korea.
- For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- Using the device in a manner that does not fall within the scope of its intended use, disregarding this manual, using under unqualified personnel, or making unauthorized alterations releases the manufacturer from liability for any resulting damage. This renders the manufacturer's warranty null and void.

3. DESCRIPTION

Snap Acting Relay is a device that moves the control valve to the desired position in case of an emergency by switching or locking OUT port of pneumatic pipe when the signal pressure is lower than the set pressure.

4. FEATURES

- Quick Response and high precision
- Easy set-up of switching signal air pressure
- Can be performed Lock up valve
- Options available (High & Low Temperature)

5. SPECIFICATION

Model	TS250	TS260	TS255	TS265
Signal Pressure	0.14~0.7 MPa			
Max Supply Pressure	1 MPa			
Hysteresis	Below 0.01 MPa			
Flow Capacity (CV)	0.9	1.8	0.9	1.8
In/Out Connection	PT(NPT) 1/4	PT(NPT) 3/8	PT(NPT) 1/4	PT(NPT) 3/8
Signal Connection	PT(NPT) 1/4			
Operating Temperature	-20°C ~70°C (Standard type)			
Material	Aluminum die casting		Stainless steel 316	
Weight	Single	0.6kg	1.2kg	1.2kg
	Double	1.1kg	2.1kg	3.3kg
		5.6kg		

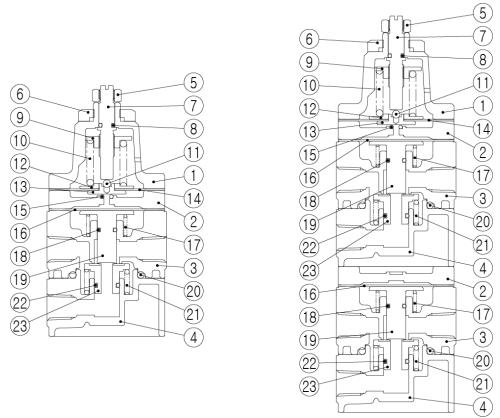
6. PRODUCT CODE

Model	TS2					
In/Output port size	1/4"	5				
	3/8"	6				
Material	Aluminum	0				
	Stainless steel 316	5				
Acting Type	Single		S			
	Double		D			
Air connection	PT		P			
	NPT		N			
Ambient Temp.	-20°C~70°C		S			
	-20°C~120°C		H			
	-40°C~70°C		L			
	-60°C~70°C		U			

7. LABEL

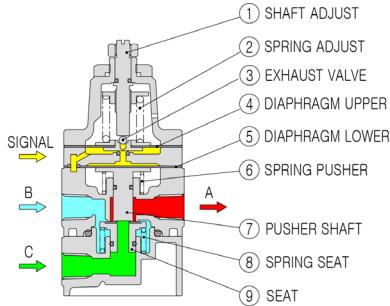


8. MATERIALS OF CONSTRUCTION



NO	TITLE	TS250/TS260	TS255/TS265
1	COVER	ALDC12	SCS14
2	RING	ALDC12	STS316
3	BODY UPPER	ALDC12	STS316
4	BODY LOWER	ALDC12	STS316
5	NUT(M8*1.0P)	STS304	STS304
6	MOUNTING NUT	STS304	STS316
7	ADJUST SHAFT	STS303	STS316
8	O-RING(P5)	NBR/SILICONE	NBR/SILICONE
9	ADJUST NUT	STS303	STS316
10	SPRING ADJUST	HSW3	HSW3
11	BALL	STS440C	STS440C
12	SEAT SPRING	STS303	STS316
13	EXHAUST SEAT	C3604BD	STS316
14	DIAPHRAGM UPPER	NBR/SILICONE	NBR/SILICONE
15	O-RING(P3)	VITON	VITON
16	DIAPHRAGM PUSHER	NBR/SILICONE	NBR/SILICONE
17	SPRING PUSHER	STS304	STS304
18	PUSHER	C360BD	STS316
19	O-RING(P10)	NBR/SILICONE	NBR/SILICONE
20	O-RING(P36)	NBR/SILICONE	NBR/SILICONE
21	SPRING SEAT	STS304	STS304
22	O-RING(AN015)	NBR/SILICONE	NBR/SILICONE
23	SEAT	C360BD	STS316

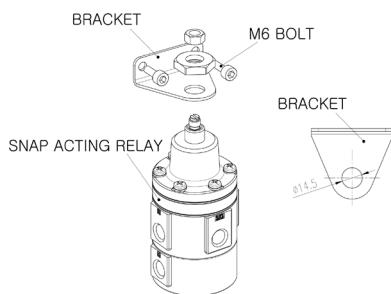
9. PRINCIPLE OF OPERATION



When signal pressure is greater than setting pressure level, upper diaphragm(4) moves upward, the exhaust valve(3) is closed, the signal pressure pushes the lower diaphragm(5), lower diaphragm(5) pushes shaft push(7) and shaft push(7) pushes seat(9), and the flow can go from B to A. When signal pressure is less than setting pressure level, upper diaphragm(4) is being pushed downward and the pressure of lower diaphragm is exhausted from the exhaust valve(3). Therefore, lower diaphragm(5) moves upward, and the flow can go from C to A. The spring(2) force can be adjusted by shaft adjust(1).

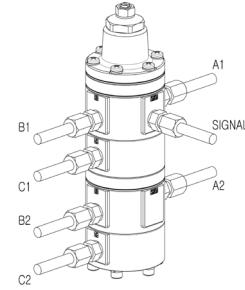
10. BRACKET INSTALLATION

If you need to install bracket, you can make the bracket by referring to product dimension drawings, and please install it as below.



11. PNEUMATIC CONNECTION

- ① Connect the Positioner's Output Port with the IN(B1, B2) Port.
- ② Connect the OUT(A1, A2) port with the Actuator.
- ③ Connect C1 or C2 port with Air tank.
- ④ Connect Signal port with the signal airline that want to detect.

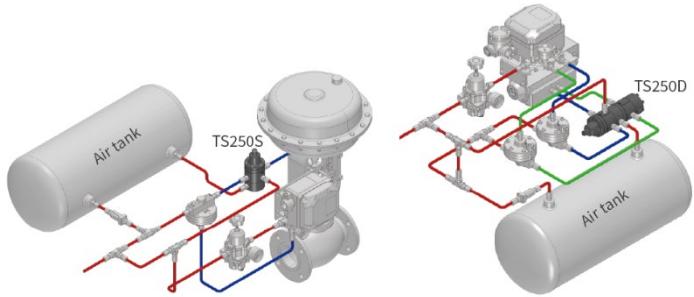


12. SIGNAL PRESSURE SETTING

- ① Through the regulator equipped with the pressure gauge, supply the 0.14~0.7MPa air pressure that you want to set to the signal port.
- ② When supply 0.14~0.7MPa air pressure Signal port, it is released B to A port. So please regulate Shaft Adjust, then stop regulation at the point when C to A port air discharge stops.

Note: The factory setting signal pressure is 0.3Mpa.

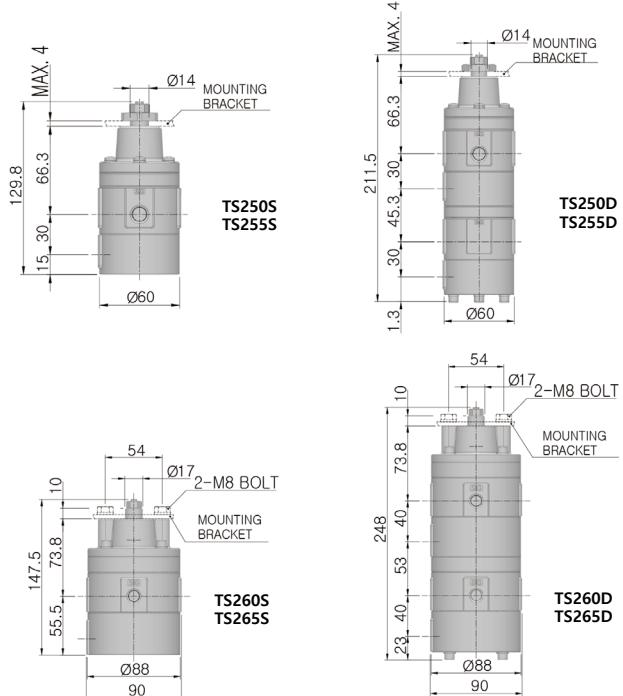
13. INSTALLATION EXAMPLE



<Single Acting Linear Actuator>

<Double Acting Rotary Actuator>

14. DIMENSION (Unit : mm)



Tissin Co., Ltd.

16-5, Hagunsandan 5-ro da-gil, Yangchon-eup,
Gimpo-si, Korea 10049
Tel.+82-31-9970311 Fax.+82-31-9974573
www.tissin.co.kr

