Lock-Up Valve
IL201/211/220 Series

- **The lock-up valve is used if any air source or air supply piping line failure occurs in the air operated process control line.**

Single acting, Double acting: Retains pressure at the operating area as emergency operation until the air source is recovered to its normal state.
3 Port: Changes the supply port if a trouble occurs.

How to Order

IL 201 – □ 02 □ – □

Action

201	Single acting
211	Double acting
220	3 Port

Thread type

Nil	Rc
N	NPT*
F	G*

* Semi-standard

Port size

02	1/4

Accessories

Nil	None
B	With bracket

Suffix

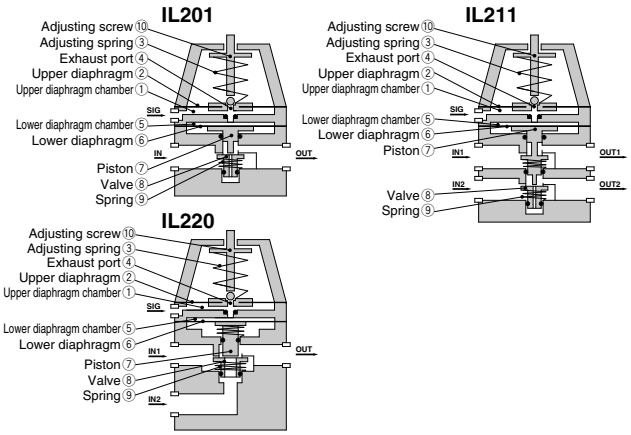
Nil	Standard
T	High temperature (–5 to 100°C)
L	Low temperature (–30 to 60°C)
S	External parts copper-free
ST	External parts copper-free/ High temperature (–5 to 100°C)
SL	External parts copper-free/ Low temperature (–30 to 60°C)

Standard Specifications

Model	IL201	IL211	IL220
Action	Single acting	Double acting	3 Port
Signal pressure	Max. 1.0 MPa Note 1)		
Set pressure range	0.14 to 0.7 MPa Note 1)		
Shut-off pressure	Max. 0.7 MPa		
Ambient and fluid temperature	–5 to 60°C		
Port size	Rc1/4		
Differential Note 2)	0.01 MPa		
Weight	0.45 kg	0.64 kg	0.7 kg

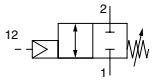
Note 1) Provide a differential pressure of 0.1 MPa or more between the signal pressure and set pressure. If the differential pressure is small, the internal part is worn out due to the structure of this product and the bleed amount from the exhaust port increases, which may affect the characteristics.
Note 2) Pressure difference between lock activated and lock released

Principle of Operation

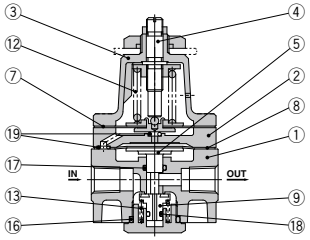


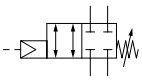
The signal air pressure enters the upper diaphragm chamber ① to generate a force. When this force is larger than the force generated by compressing the adjusting spring ③, the upper diaphragm ② is pushed up, the exhaust port ④ is closed, and the signal air pressure enters the lower diaphragm chamber ⑤ and acts the lower diaphragm ⑥. This pushes down the piston ⑦ to open the valve.
IL201 and IL211 enter the status, in which the flow path between IN and OUT is opened. IL220 enters the status, in which the flow path between IN1 and OUT is opened. If the signal air pressure drops to a level below the set pressure for some reason, the upper diaphragm ② is pushed down, the pressure inside the lower diaphragm ⑤ is exhausted from the exhaust port ④, and the valve ⑧ is closed by the force of the spring ⑨. At this time, IN and OUT are shut down in IL201 and IL211. In IL220, IN1 and OUT are shut down, and the flow path between IN2 and OUT is opened. The set pressure is adjusted with the adjusting screw ⑩.

Construction

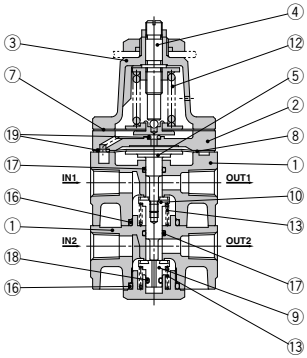


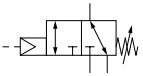
IL201



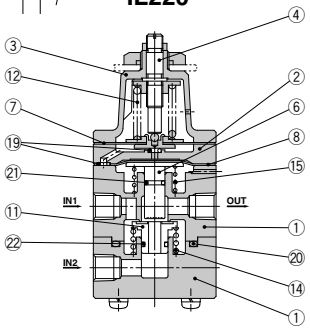


IL211





IL220



Component Parts

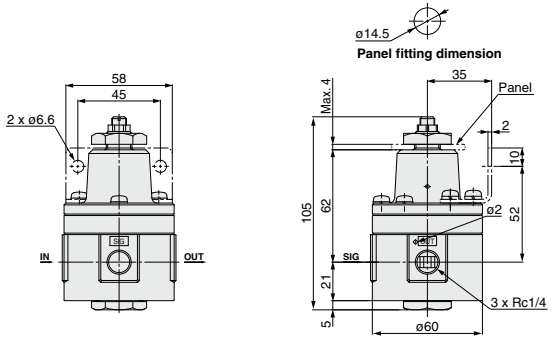
No.	Description	Material	Note
1	**Body**	Aluminum alloy	Silver baking finish
2	**Pilot body**	Aluminum alloy	Silver baking finish
3	**Bonnet**	Aluminum alloy	Silver baking finish
4	**Adjusting screw**	Stainless steel	
5	**Piston**	Brass	
6	**Piston rod**	Brass	
7	**Diaphragm assembly**	Aluminum alloy/Brass/NBR	Chromated
8	**Diaphragm**	NBR	
9	**Piston valve**	Brass/NBR	
10	**Piston valve**	Brass/NBR	
11	**Valve**	Brass/NBR	
12	**Adjusting spring**	Steel wire	Zinc chromated
13	**Valve spring**	Stainless steel	
14	**Valve spring**	Stainless steel	
15	**Piston spring**	Stainless steel	
16	**O-ring**	NBR	
17	**O-ring**	NBR	
18	**O-ring**	NBR	
19	**O-ring**	NBR	
20	**O-ring**	NBR	
21	**O-ring**	NBR	
22	**O-ring**	NBR	

Replacement Parts

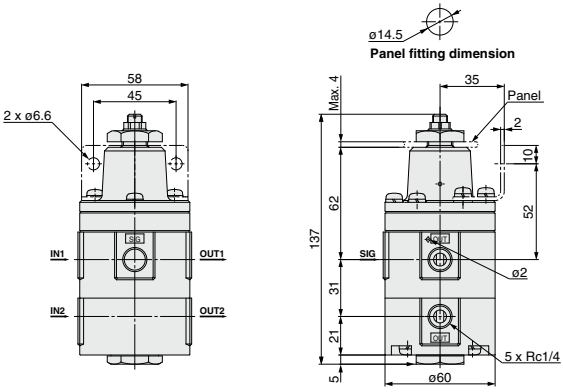
Model	Order no.	Contents
IL201	KT-IL201	Set of left nos. ⑦, ⑧, ⑨, ⑫, ⑬, ⑯, ⑰, ⑱, ⑲
IL211	KT-IL211	Set of left nos. ⑦, ⑧, ⑨, ⑩, ⑫, ⑬, ⑯, ⑰, ⑱, ⑲
IL220	KT-IL220	Set of left nos. ⑦, ⑧, ⑪, ⑫, ⑭, ⑮, ⑲, ⑳, ㉑, ㉒

Dimensions

IL201



IL211



IL220