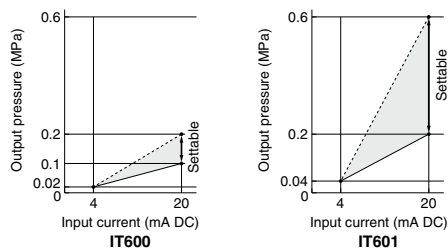


Electro-Pneumatic Transducer

IT600 Series

- **The air pressure in proportion to the current signal can be output.**
Can be used as input pressure signal in combination with the pneumatic-pneumatic positioner.
- **Wide output pressure range/0.02 to 0.6 MPa**
The maximum pressure can be set freely through the span adjustment.
- **Independent electric unit/Explosion-proof (flameproof) construction**
The span adjustment, zero-point adjustment, and inspection maintenance can be performed with the body cover removed even in a hazardous place where the explosion or fire may occur.
- **Easy span adjustment**
As the span adjustment mechanism uses a vector mechanism, the span adjustment can be performed smoothly.

Output pressure setting range



Precautions

1. Avoid impact to electro-pneumatic transducers while transporting and handling.
2. Operate within specified temperature range to prevent deterioration of seals.
3. Attach a body cover to the positioner when it is in use or left in the field in order to avoid rain water.
4. Take measures to avoid dew condensation if the positioner is exposed to high temperature and humidity during transportation or storage or when it is left on the site.
5. The zero point is subject to the mounting position. Adjust zero point after installation on the site.
6. The electro-pneumatic transducer contains extra-fine air-line parts. If drain or dust is included in the supply pressure line, this may cause malfunction (*1). The use of an air filter (AM and AFM series) and a micro mist separator (AMD and AFD series) is recommended. Also, please refer to "SMC Air Preparation System" for air quality.
7. Never use a lubricator, as this can cause a malfunction (*1).

*1 If the restrictor is clogged, the OUT1 port may output continuously, or hunting or overshoot may occur.

How to Order

IT60 0 - 0 0 0 - 0

Output pressure

0	0.02 to 0.2 MPa
1	0.04 to 0.6 MPa

Input current

0	4 to 20 mA DC
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Pressure gauge*

0	None
1	0.2 MPa
2	0.3 MPa
3	1 MPa
4	0.4 MPa
6	0.6 MPa

*(SUP, OUT1)

External wiring connection

0	Flameproof threaded-joint metal conduit and normal joint not requiring explosion-proof design
1	Flameproof packing type cable gland

Options

NII	None
B	Bracket (2 nd pipe installation)
J	Hexagon wrench (for tightening terminal cover)

Seal type

0	None
1	Applicable cable O.D. 7 to 7.9 mm
2	Applicable cable O.D. 8 to 8.9 mm
3	Applicable cable O.D. 9 to 9.9 mm
4	Applicable cable O.D. 10 to 10.9 mm
5	Applicable cable O.D. 11 to 11.5 mm
6	A complete set of 5 types of flameproof packing

Specifications

Note 1)

Item	Model	IT600	IT601
		Low pressure	High pressure
Input current		4 to 20 mA DC	
Input impedance		235 Ω ±15 Ω (4 to 20 mA DC)	
Supply air pressure		0.14 to 0.24 MPa	0.24 to 0.7 MPa
Output pressure		0.02 to 0.1 MPa (Max. 0.2 MPa)	0.04 to 0.2 MPa (Max. 0.6 MPa)
Linearity		Within ±1.0% F.S.	
Hysteresis		Within 0.75% F.S.	
Repeatability		Within ±0.5% F.S.	
Air consumption Note 2)		7 L/min (ANR) (SUP = 0.14 MPa)	22 L/min (ANR) (SUP = 0.7 MPa)
Ambient and fluid temperature		-10 to 60°C	
Air connection port		Rc1/4 female thread	
Electrical connection		G1/2 female thread	
Explosion-proof construction		Explosion-proof (flameproof) construction d2G4 (Certificate no. T28926)	
Material		Aluminum die-cast body	
Weight		3 kg	

Note 1) Specification values are given at normal temperature (20°C).

Note 2) Air consumption is due to exhaust from nozzle. And (ANR) indicates JIS B0120 standard air.

Replacement Parts

Part no.	Description	Note
P255010-1	Pilot valve unit	IT600
P255010-19	Pilot valve unit	IT601

Principle of Operation

When the input current increases, armature ① in the torque motor will be subjected to a clockwise torque, pushing flapper lever ② to the left. As a result, the clearance of nozzle flapper ③ will increase and the nozzle back pressure will decrease. This moves exhaust valve ⑩ of pilot valve ⑤ to the left, causing the output air pressure of OUT1 to increase.

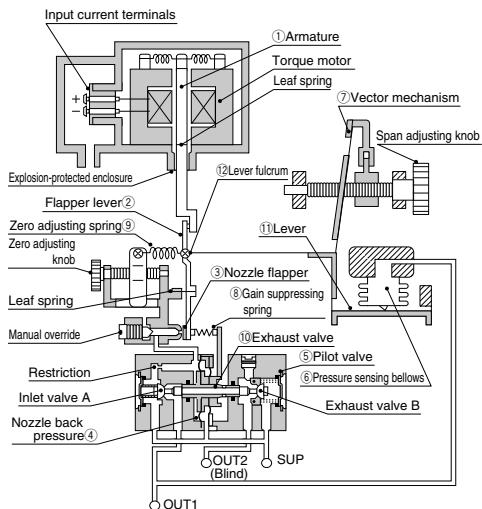
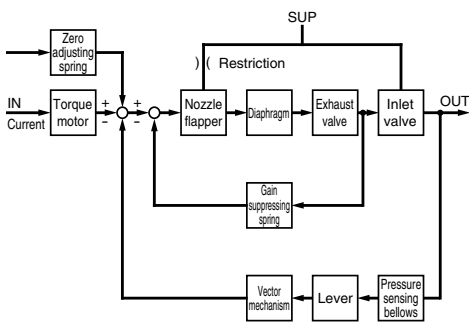
The output pressure thus increased is passed through the path inside the pilot valve to pressure sensing bellows ⑥, where it is converted to the force. This force acts on vector mechanism ⑦ via lever ⑪. Because the force will balance the force

generated by means of the input current at lever fulcrum ⑫, the output air pressure proportional to the input current will be obtained.

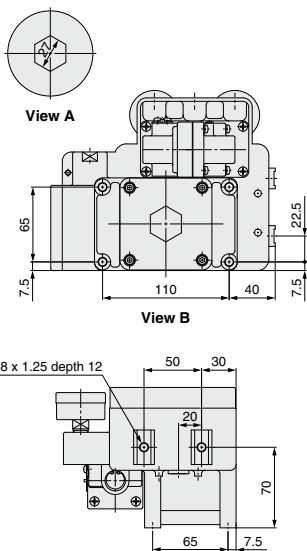
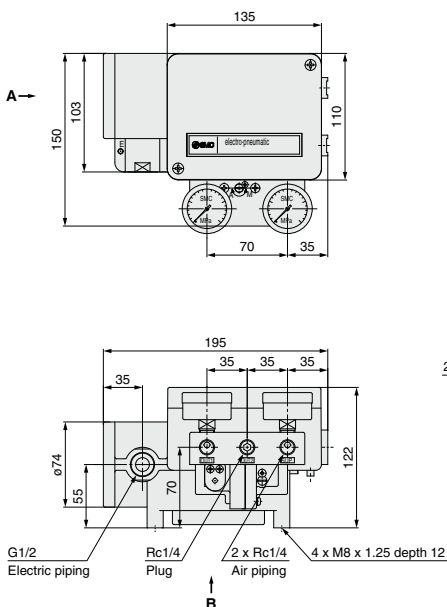
Gain suppression spring ⑧ functions to immediately feedback the movement of the exhaust valve to the flapper lever, thereby contributing to loop stability.

Zero point and span adjustments are performed by varying the tension force of zero adjusting spring ⑨ and the angle of the vector mechanism, respectively.

Block diagram illustrating operating principle



Dimensions



IP
IW
1301
AW
IL1 <input type="checkbox"/>
IL2 <input type="checkbox"/>
IT
CP <input type="checkbox"/>
IS
VFN
IN- <input type="checkbox"/>
T <input type="checkbox"/>