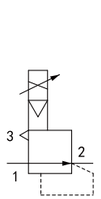
ITV Series Electro-Pneumatic Regulator





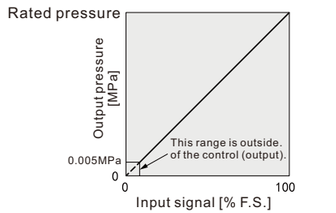


Fig.1 Input/output characteristics chart

Ordering Code

ITV Series Electro-Pneumatic Regulator

ITV 3 0 1 0 - 0 1 □ 2 □ S □ - □

- Model: 1: 1000 types, 2: 2000 types, 3: 3000 types
- Supply voltage: 0: DC24V, 1: DC12 to 15V
- Input signal model:

0	Current type DC4 to 20mA (Sink type)
1	Current type DC0 to 20mA (Sink type)
2	Voltage type DC0 to 5V
3	Voltage type DC0 to 10V
40	4 points preset input
52	16 points preset input (Switch output/NPN output)
53	16 points preset input (Switch output/PNP output)
MB	RS-485 communication
IO	IO-Link

- Monitor output:

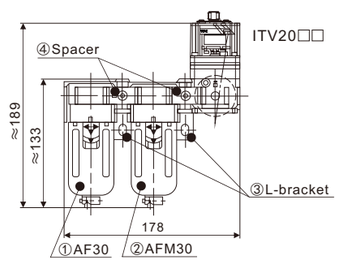
1	Analog output DC1 to 5V
2	Switch output/NPN output
3	Switch output/PNP output
4	Analog output DC4 to 20mA (Sink type)
Nil	None

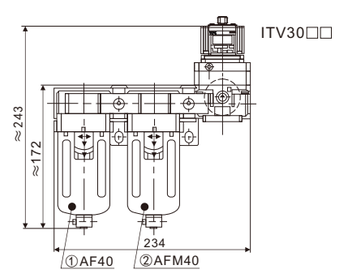
- Thread type: Nil: Rc, N: NPT, T: NPTF, F: G
- Cable type: S: Straight type 3m, L: Right angle type 3m, N: Without cable connector
- Made to order
- Bracket: Nil: Without bracket, B: Flat bracket, C: L-bracket (* The bracket is included.)
- Pressure unit: Nil: MPa, 2: kgf/cm², 3: bar, 4: psi, 5: kPa
- Pressure range: 1: 0.1MPa, 3: 0.5MPa, 5: 0.9MPa
- Port size: 1: 1/8(1000 type), 2: 1/4(1000,2000,3000 type), 3: 3/8(2000,3000 type), 4: 1/2(3000 type)

Modular Products and Accessory Combinations

Applicable products and accessories	Applicable model	
	ITV20□□	ITV30□□
① Air filter	AF30	AF40
② Mist separator	AFM30	AFM40
③ L-bracket	B310L	B410L
④ Spacer	Y30	Y40
⑤ Spacer with L-bracket(③+④)	Y30L	Y40L
⑥ Spacer with T-bracket	–	Y40T

* For ITV10□□, use a modular adapter.





ISO9001 CE

ITV Series Electro-Pneumatic Regulator

Specifications

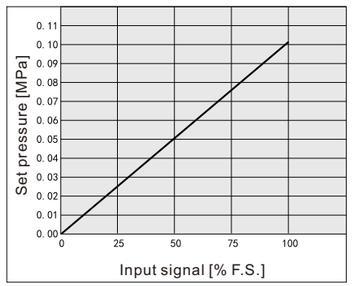
Model		ITV101□ *6)	ITV103□ *6)	ITV105□ *6)
		ITV201□	ITV203□	ITV205□
		ITV301□	ITV303□	ITV305□
Min. supply pressure		Set pressure+0.1MPa		
Max. supply pressure		0.2MPa	1.0MPa	
Set pressure range		0.005 to 0.1MPa	0.005 to 0.5MPa	0.005 to 0.9MPa
Power supply	Voltage	DC24V±10%, DC12 to 15V		
	Current consumption	Power supply voltage DC24V type: 0.12A or less Power supply voltage DC12 to 15V type: 0.18A or less		
Input signal	Current type *1)	DC4 to 20mA, DC0 to 20mA(Sink type)		
	Voltage type	DC0 to 5V, DC0 to 10V		
	Preset input	4 points(Negative common), 16points(No common polarity)		
Input impedance	Current type	250Ω or less *5)		
	Voltage type	Approx. 6.5 kΩ		
	Preset input	Power supply voltage DC24V type: Approx. 4.7 kΩ Power supply voltage DC12V type: Approx. 2.0 kΩ		
Output signal (Monitor output) *2)	Analog output	DC1 to 5V(Output impedance: Approx. 1 kΩ) DC4 to 20mA (Sink type)(Output impedance: 250Ω or less) Output accuracy ±6% F.S. or less		
	Switch output	NPN open collector output : Max.30V, 80mA PNP open collector output: Max.80mA		
Linearity		±1%F.S. or less		
Hysteresis		0.5%F.S. or less		
Repeatability		±0. 5%F.S. or less		
Sensitivity		0.2%F.S. or less		
Temperature characteristics		±0.12%F.S./℃ or less		
Output pressure display *3)	Accuracy	±2%F.S.±1 digit or less		
	Min.unit	MPa: 0.001, kgf/cm²: 0.01, bar: 0.01, psi: 0.1 *4), kPa: 1		
Ambient and fluid temperatures		0 to 50℃ (No condensation)		
Enclosure		IP65		
Weight	ITV10□□	Approx.250g (Without options)		
	ITV20□□	Approx.350g (Without options)		
	ITV30□□	Approx.645g (Without options)		

*1) 2-wire type DC4 to 20mA is not available. Power supply voltage(DC24V or DC12 to 15V) is required.
*2) Select either analog output or switch output. Further, when switch output is selected, select either NPN output or PNP output. When measuring ITV analog output from DC1 to 5V, if the load impedance is less than 100kΩ, the analog output monitor accuracy of within ±6% (full span) may not be available. The product with the accuracy of within ±6% is supplied upon your request. Output pressure remains unaffected.
*3) Adjustment of numerical values such as the zero/span adjustment or preset input type is set based on the min. units for output pressure display(e.g. 0.001 to 0.500MPa). Note that the unit cannot be changed.
*4) The min. unit for 0.9MPa(130psi) types is 1psi.
*5) Value for the state with no over current circuit included. If an allowance is provided for an over current circuit, the input impedance varies depending on the input current. This is 350Ω or less for an input current of DC20mA.
*6) The ITV1000 series is a grease-free specification (parts in contact with fluid).
*7) The above characteristics are confined to the static state. When air is consumed on the output side, the pressure may fluctuate.

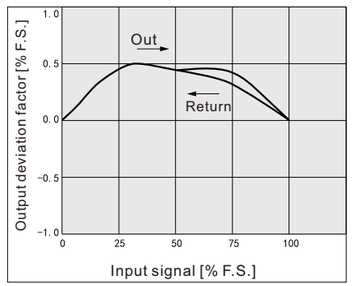
ITV Series Electro-Pneumatic Regulator

ITV101□Series

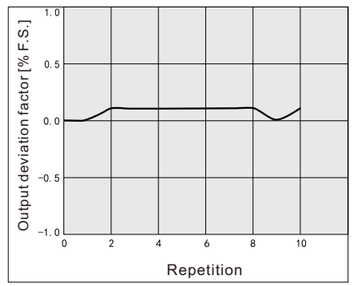
Linearity



Hysteresis

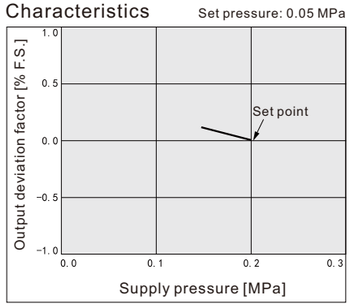


Repeatability



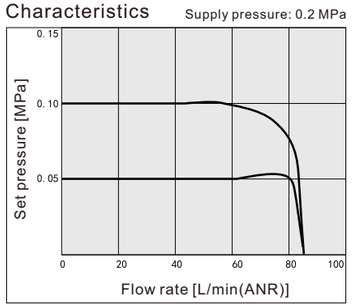
Pressure Characteristics

Set pressure: 0.05 MPa



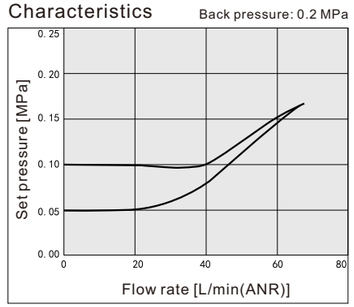
Flow Rate Characteristics

Supply pressure: 0.2 MPa



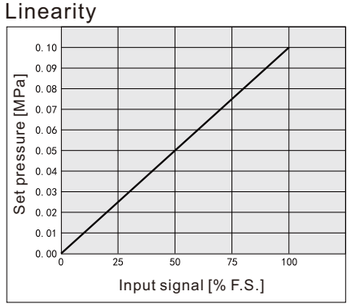
Relief Characteristics

Back pressure: 0.2 MPa

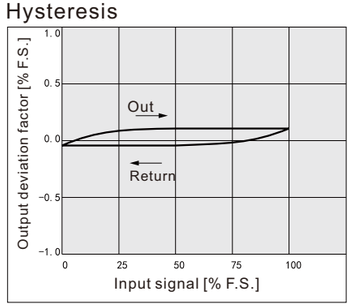


ITV201□Series

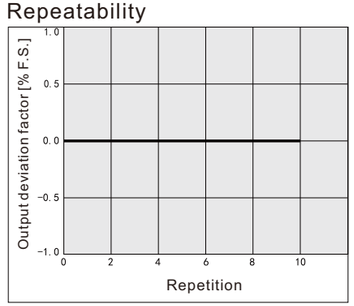
Linearity



Hysteresis

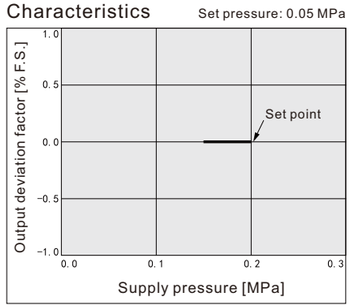


Repeatability



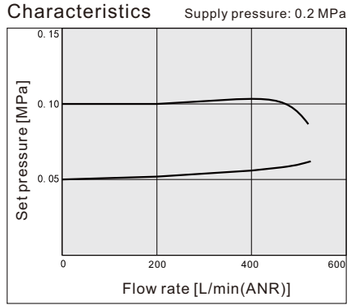
Pressure Characteristics

Set pressure: 0.05 MPa



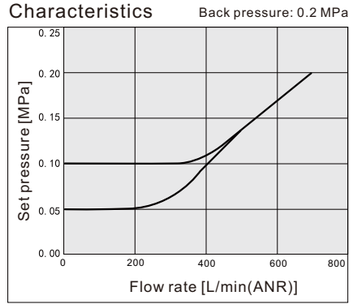
Flow Rate Characteristics

Supply pressure: 0.2 MPa



Relief Characteristics

Back pressure: 0.2 MPa

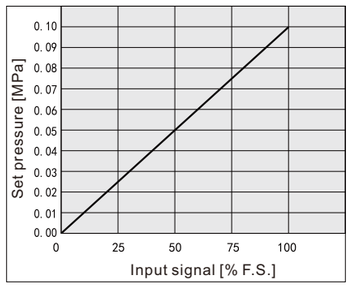


ISO9001 CE

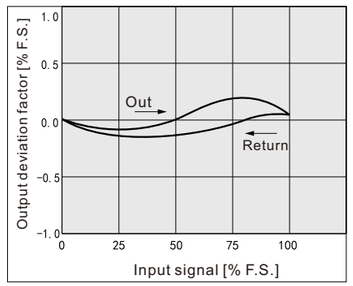
ITV Series Electro-Pneumatic Regulator

ITV301□Series

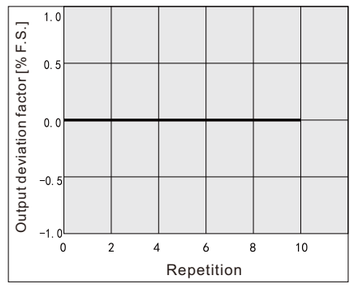
Linearity



Hysteresis

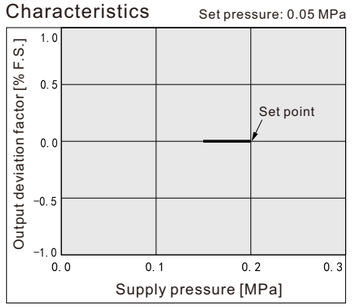


Repeatability



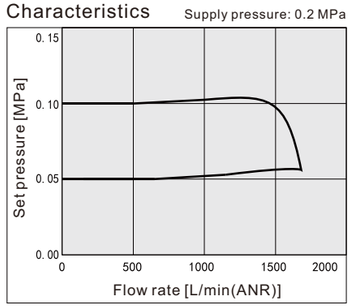
Pressure Characteristics

Set pressure: 0.05 MPa



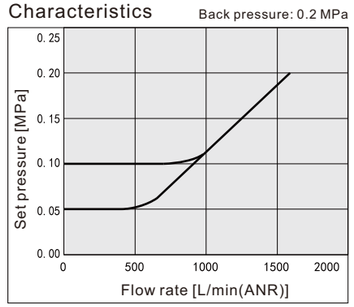
Flow Rate Characteristics

Supply pressure: 0.2 MPa



Relief Characteristics

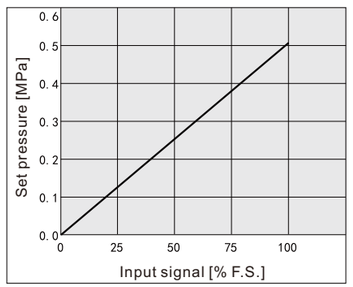
Back pressure: 0.2 MPa



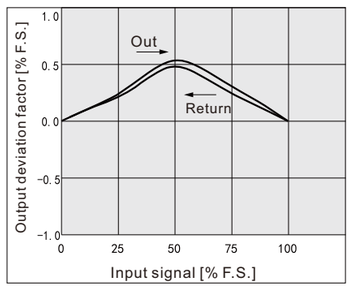
ITV Series Electro-Pneumatic Regulator

ITV103□Series

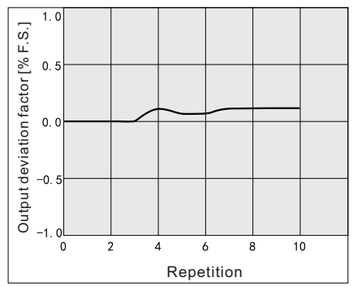
Linearity



Hysteresis

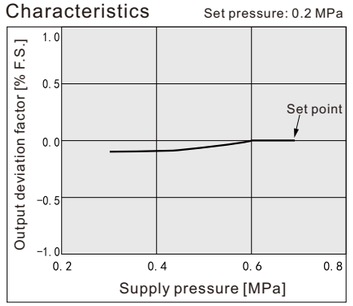


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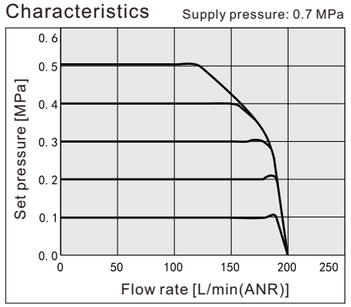
Pressure Characteristics

Set pressure: 0.2 MPa



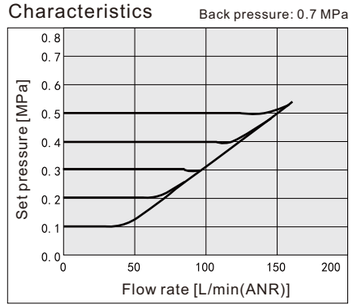
Flow Rate Characteristics

Supply pressure: 0.7 MPa



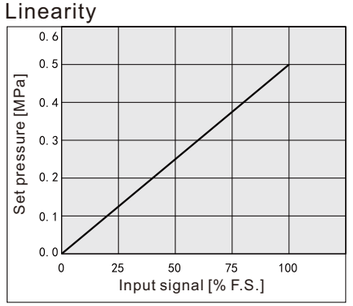
Relief Characteristics

Back pressure: 0.7 MPa

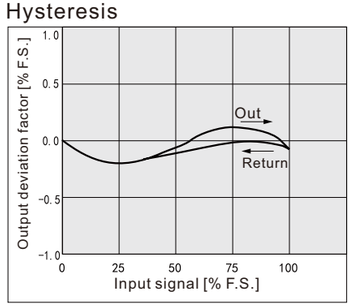


ITV203□Series

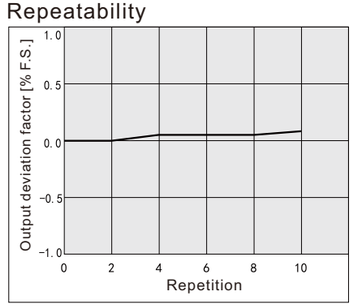
Linearity



Hysteresis

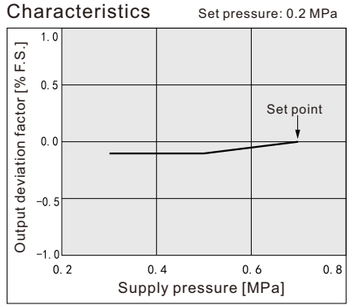


Repeatability



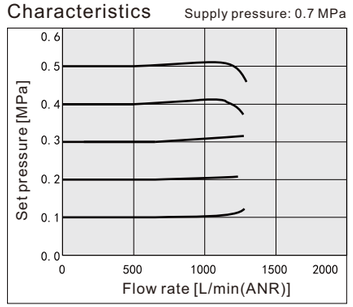
Pressure Characteristics

Set pressure: 0.2 MPa



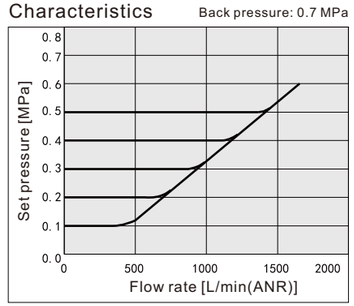
Flow Rate Characteristics

Supply pressure: 0.7 MPa



Relief Characteristics

Back pressure: 0.7 MPa

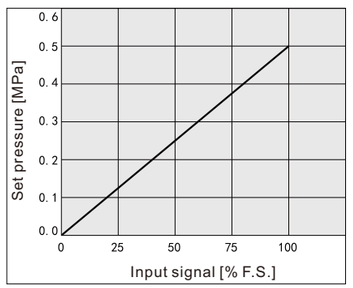


ISO9001 CE

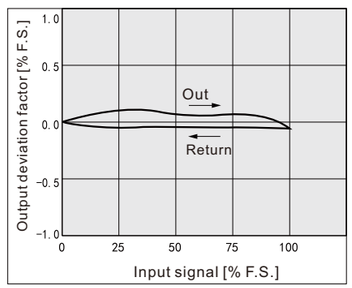
ITV Series Electro-Pneumatic Regulator

ITV303□Series

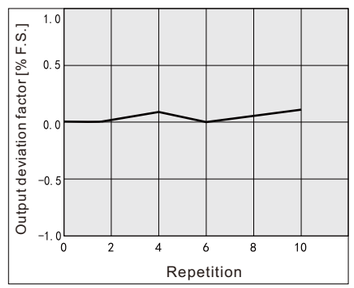
Linearity



Hysteresis

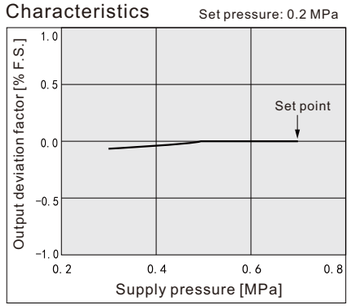


Repeatability



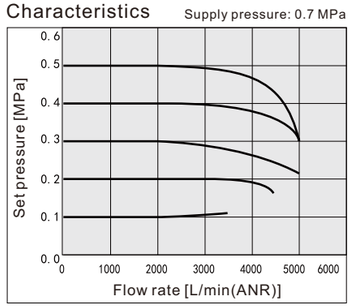
Pressure Characteristics

Set pressure: 0.2 MPa



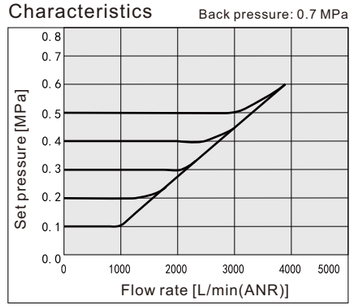
Flow Rate Characteristics

Supply pressure: 0.7 MPa



Relief Characteristics

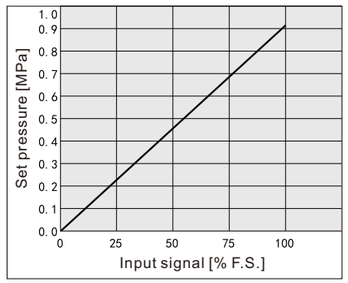
Back pressure: 0.7 MPa



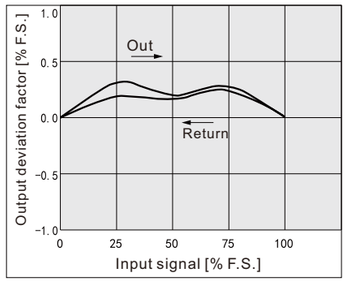
ITV Series Electro-Pneumatic Regulator

ITV105□Series

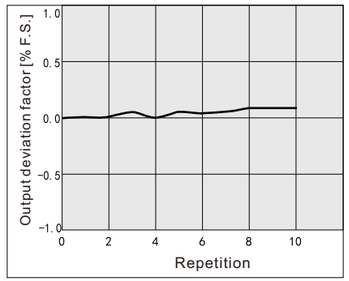
Linearity



Hysteresis

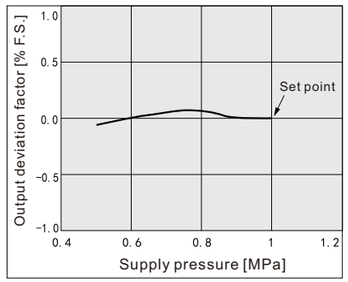


Repeatability



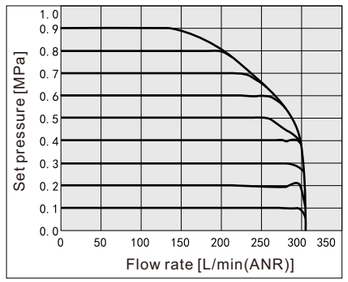
Pressure Characteristics

Set pressure: 0.4 MPa



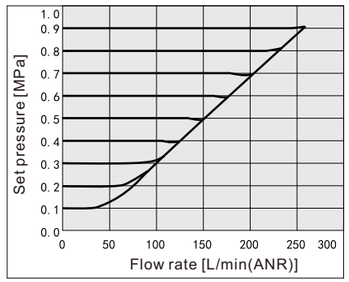
Flow Rate Characteristics

Supply pressure: 1.0 MPa



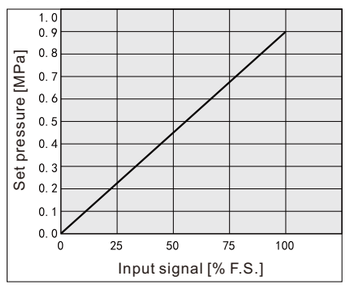
Relief Characteristics

Back pressure: 1.0 MPa

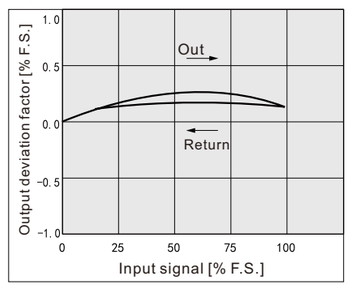


ITV205□Series

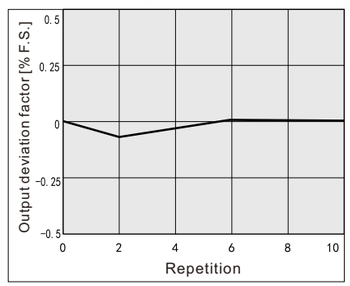
Linearity



Hysteresis

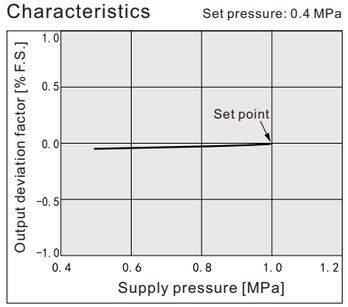


Repeatability



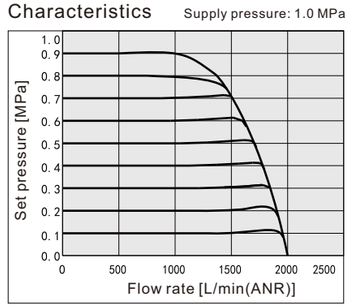
Pressure Characteristics

Set pressure: 0.4 MPa



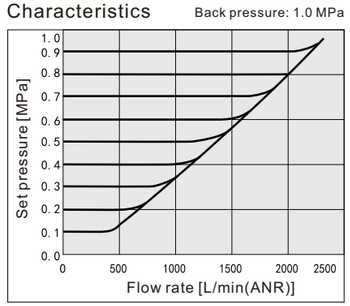
Flow Rate Characteristics

Supply pressure: 1.0 MPa



Relief Characteristics

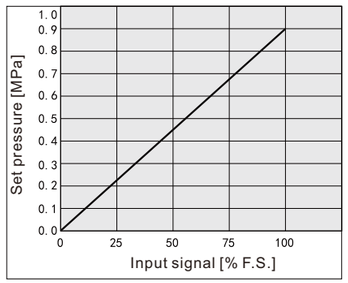
Back pressure: 1.0 MPa



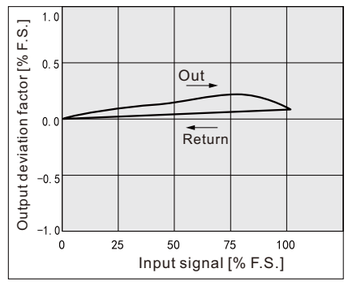
ITV Series Electro-Pneumatic Regulator

ITV305□Series

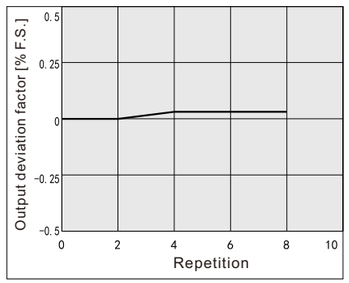
Linearity



Hysteresis

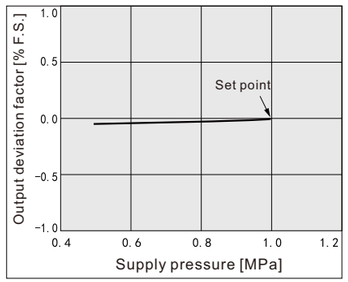


Repeatability



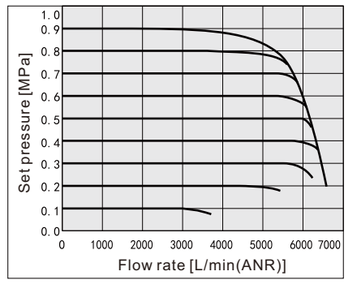
Pressure Characteristics

Set pressure: 0.4 MPa



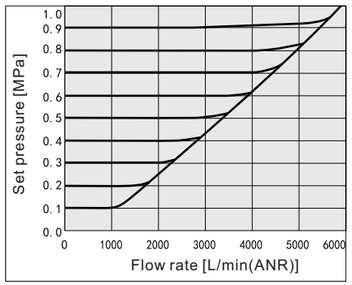
Flow Rate Characteristics

Supply pressure: 1.0 MPa



Relief Characteristics

Back pressure: 1.0 MPa

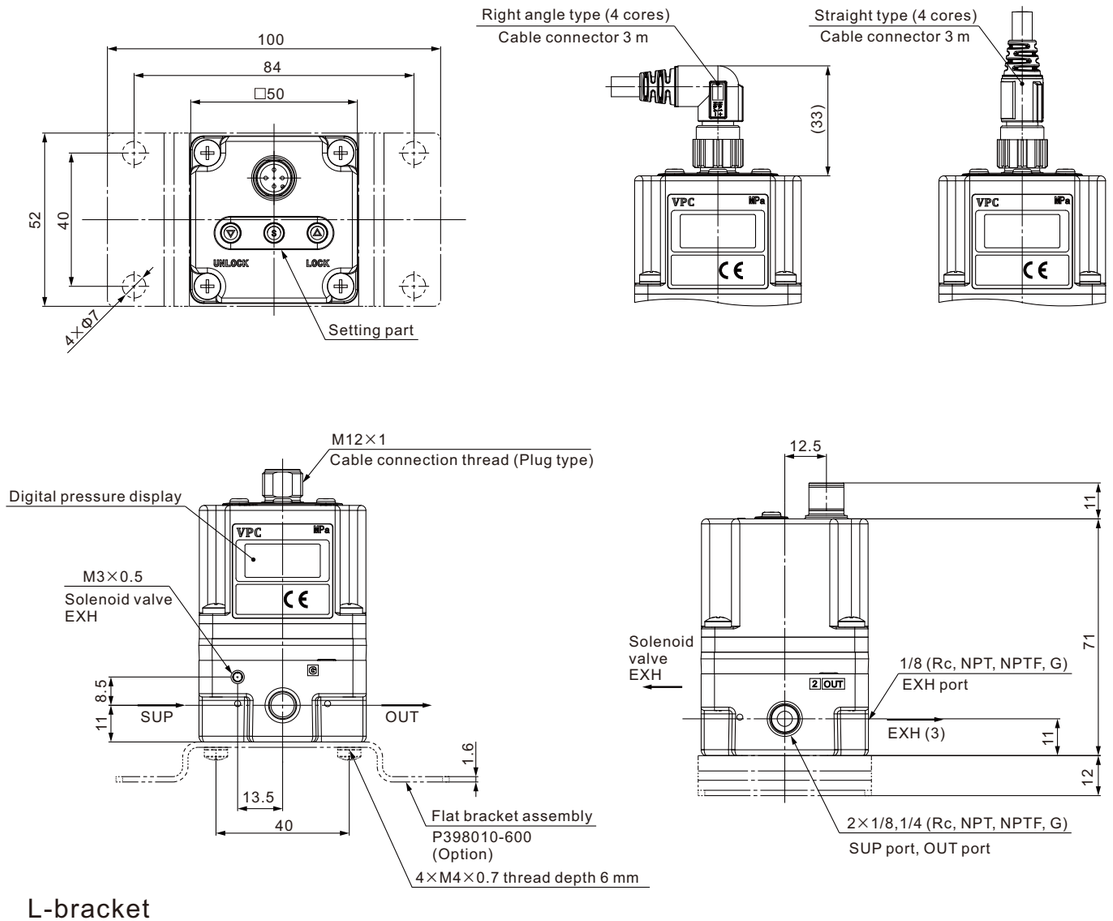


ITV Series Electro-Pneumatic Regulator

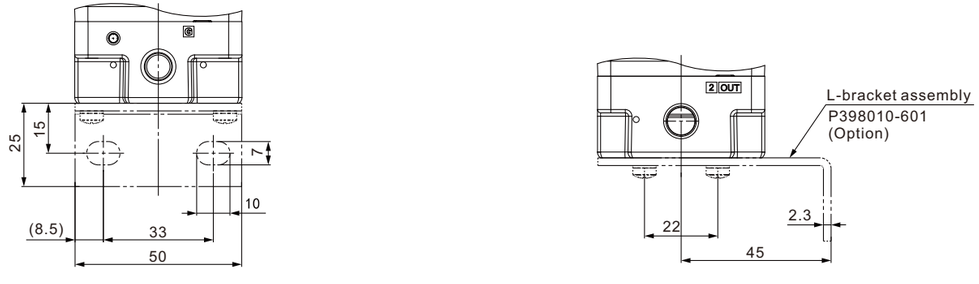
Main Dimensions

ITV10□□ Flat bracket

* Do not attempt to rotate, as the cable connector does not turn.



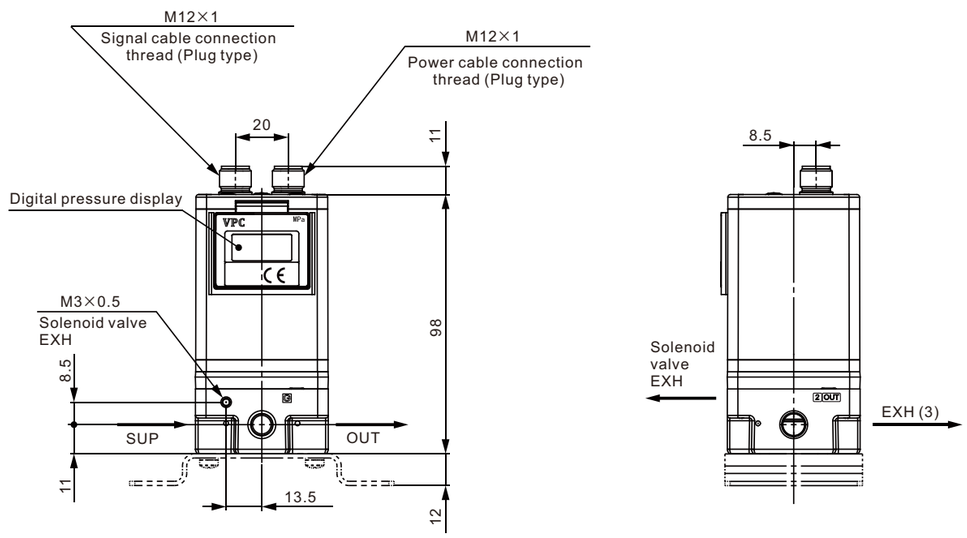
L-bracket



ITV Series Electro-Pneumatic Regulator

Main Dimensions

ITV10□□ 16 points preset input

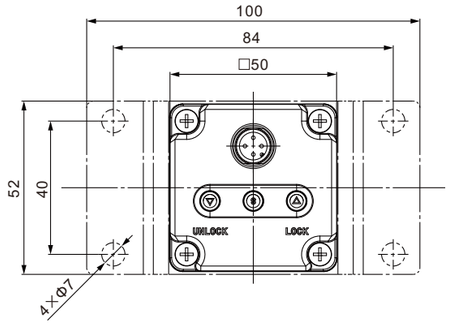


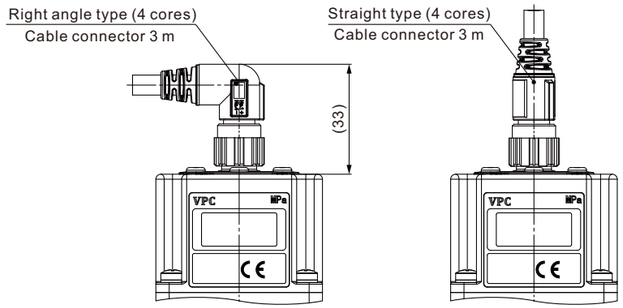
ITV Series Electro-Pneumatic Regulator

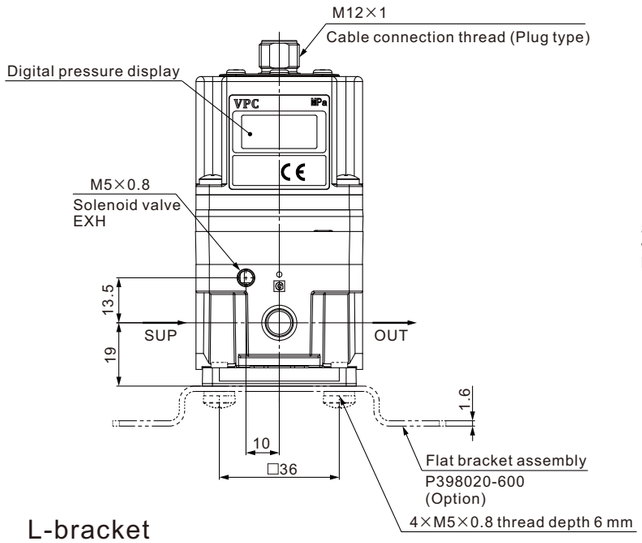
Main Dimensions

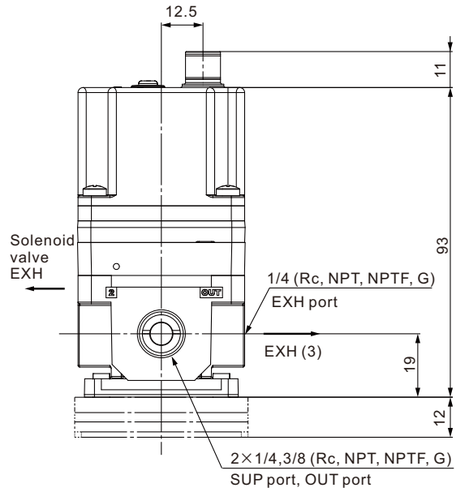
ITV20□□ Flat bracket

* Do not attempt to rotate, as the cable connector does not turn.

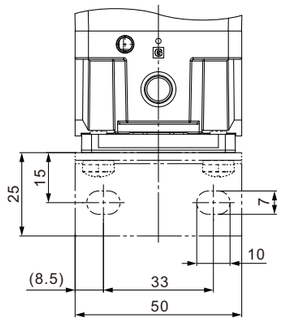


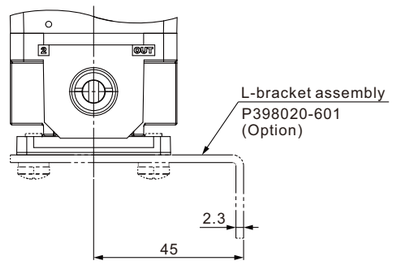






L-bracket



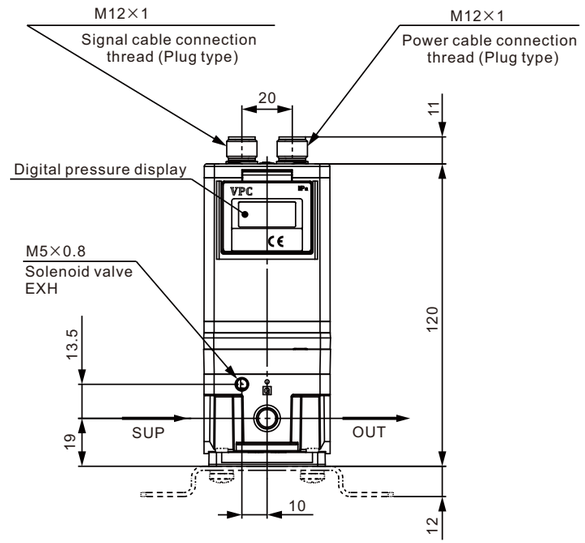


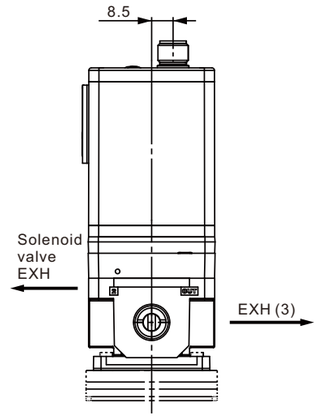
ISO9001 CE

ITV Series Electro-Pneumatic Regulator

Main Dimensions

ITV20□□ 16 points preset input





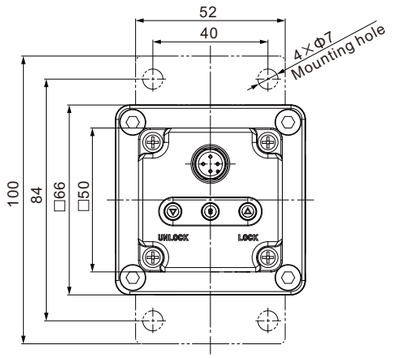
IV

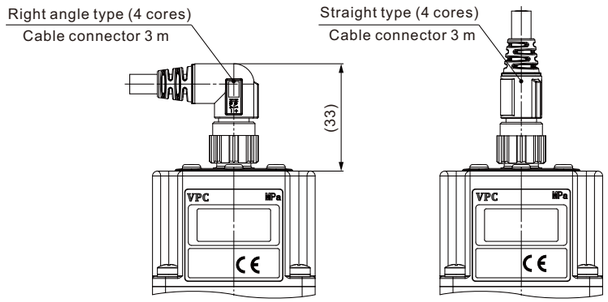
ITV Series Electro-Pneumatic Regulator

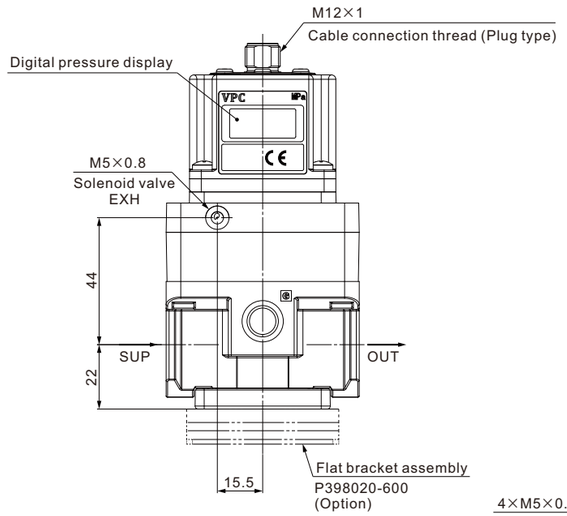
Main Dimensions

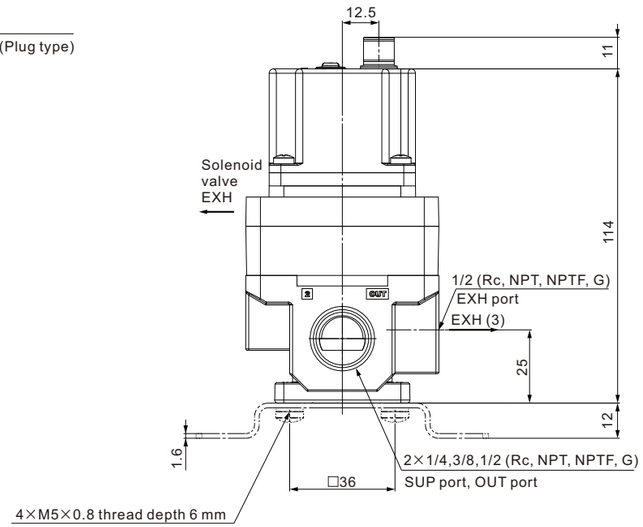
ITV30□□ Flat bracket

* Do not attempt to rotate, as the cable connector does not turn.

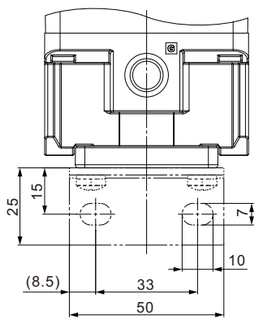


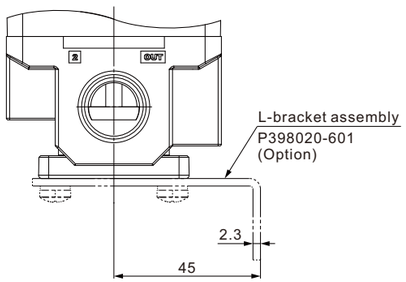






L-bracket





ITV Series Electro-Pneumatic Regulator

Main Dimensions

ITV30□□ 16 points preset input

