

# ERX series - Precision Regulator (Energy Saving-No Overflow)

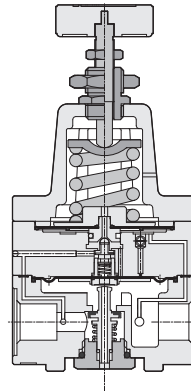
Product features/ Code of order

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## Internal structure



Symbol:



## Specification

Item	Model	ERX-200	ERX-300	ERX-400
Fluid		Air		
Max. supply pressure	kgf/cm <sup>2</sup> (kPa)	10 (1,000)		
Min. supply pressure	kgf/cm <sup>2</sup> (kPa)	Setting pressure +0.05 (50)		Setting pressure +1.0 (100)
Pressure range	kgf/cm <sup>2</sup> (kPa)	ERX-200: 0.1~8.2 (10~800)	ERX-300: 0.1~8.2 (10~800)	ERX-400: 0.1~8.2 (10~800)
		ERX-200-L4: 0.1~4.2 (10~400)	ERX-300-L4: 0.1~4.2 (10~400)	ERX-400-L4: 0.1~4.2 (10~400)
		ERX-200-L2: 0.1~2.2 (10~200)	ERX-300-L2: 0.1~2.2 (10~200)	ERX-400-L2: 0.1~2.2 (10~200)
Repeatability		F.S. ±1% within		
Air consumption	L/min(ANR)	0		
Port size	Rc	1/8	1/4	1/4, 3/8, 1/2
Pressure gauge port size	Rc	1/8 ( 2 sides )		
Ambient and fluid temperature	°C	5 ~ 60°C		
Weight	kg	0.21	0.41	0.51

## Code of order

ERX series Precision regulator (Energy Saving)

ERX - 300 - 02 - G - PG10A - L4 - Bracket

**Model**

200 - 200 series	300 - 300 series	400 - 400 series
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**Port size**

Mark	Port size	Model		
		200	300	400
01	1/8	●	—	—
02	1/4	—	●	●
03	3/8	—	—	●
04	1/2	—	—	●

**Thread type**

None	Rc
G	G
N	NPT

**Pressure gauge**

PG-10A : Pressure gauge (option)

**Pressure range**

Mark	Max. supply pressure (kgf/cm <sup>2</sup> )	Model		
		200	300	400
None	8	●	●	●
L4	4	●	●	●
L2	2	●	●	●

**Bracket**

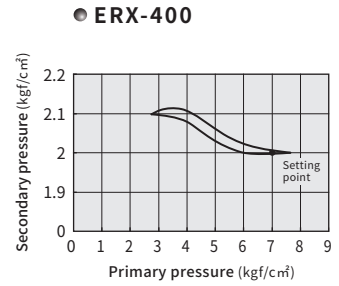
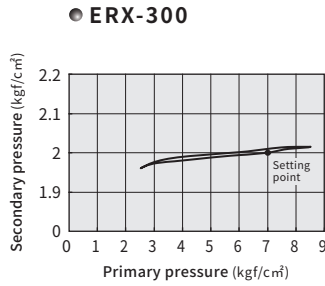
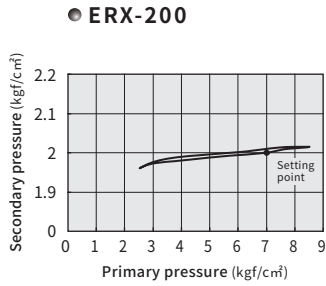
None : With bracket (standard)

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## Characteristics graph

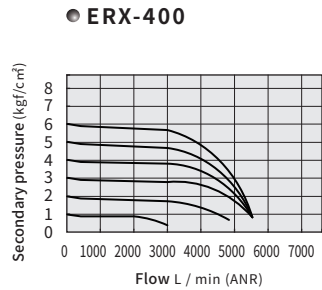
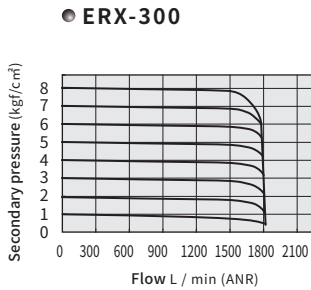
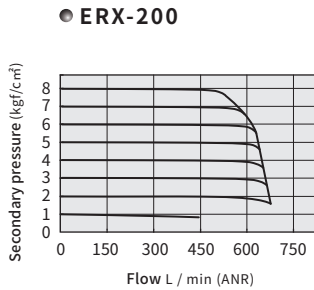
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### Pressure characteristics graph

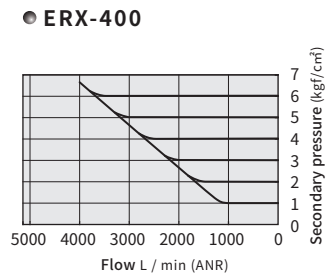
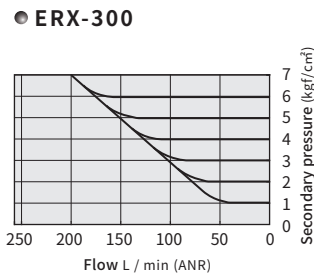
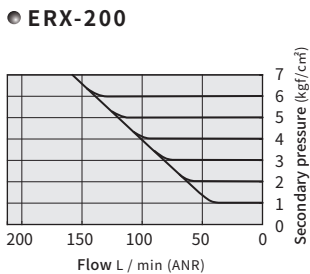


Flow L / min (ANR)

### Flow rate characteristic graph



### Relief characteristics graph



NC

NFC

PSN-10  
30,41

NFR

MFR

MFRD

NF

MF

MFD

NR

ARX

NPR

NL

N

DM

ERX

ERP

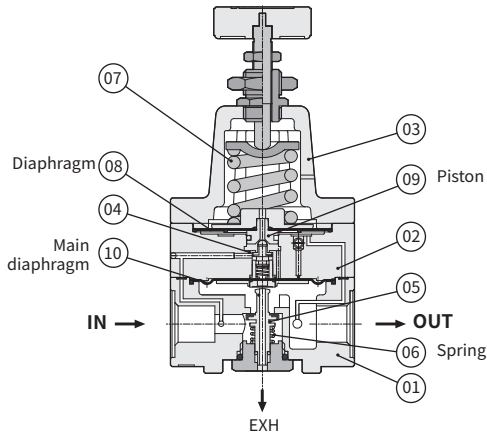
PG/AFB  
NDV/AD

# ERX series - Precision Regulator (Energy Saving-No Overflow)

## Product features

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### Components and Material list



### Working principle

When the setting knob is turned, the nozzle is opened by the rod allowing the supply air that flows in from the upstream side to pass through the fixed throttle. It then acts on the main diaphragm as nozzle back pressure, the main valve is pushed down by the generated force, and the supply pressure flows out to the downstream side. The air pressure that flows in acts on the main diaphragm. While opposing that force generated by the main diaphragm, it also acts on the diaphragm, opposing the compression force of the setting spring and becomes that set pressure. If the set pressure rises too high, the diaphragm is pushed up, the interval between the rod and the piston widens, the nozzle back pressure drops, the balance of the main diaphragm and diaphragm is broken, the main valve closes, the exhaust valve opens, and the excess pressure from the downstream side is discharged to the atmosphere. In this way, fine pressure variations are detected by the nozzle/rod and piston type pilot mechanism, and precise pressure adjustment is performed.

### Components and material list

No.	Item	Material	Quantity	No.	Item	Material	Quantity
01	Body	Aluminum alloy	1	06	Spring	Stainless steel	1
02	Base	Aluminum alloy	1	07	Main spring	Piano string	1
03	Top cover	Aluminum alloy	1	08	Diaphragm	NBR	1
04	Shaft	Copper(With rubber)	1	09	Piston	Stainless steel	1
05	Tube	Copper(With rubber)	1	10	Main diaphragm	NBR	1

### ⚠ Specific Product Precautions

#### Air Supply

#### ⚠ WARNING

- ① If the drain removal from the air filter and mist separator is missed, the drain will be blown out to the outlet side and may result in a malfunction of the pneumatic equipment.
- ② Operating with an auto drain filter is suggested to keep the qualities of pressure air.

#### ⚠ CAUTION

- ① If the supply pressure line contains drain or particulate, etc., the fixed throttle can become clogged, leading to a malfunction, and therefore, in addition to Chelic's NF or MF series mist separator.
- ② Never use a lubricator on the supply side of the regulator, as this will positively cause the fixed throttle to become clogged and result in a malfunction. If a lubricator is required for terminal devices, connect a lubricator on the output side of the regulator.

#### Operation

#### ⚠ CAUTION

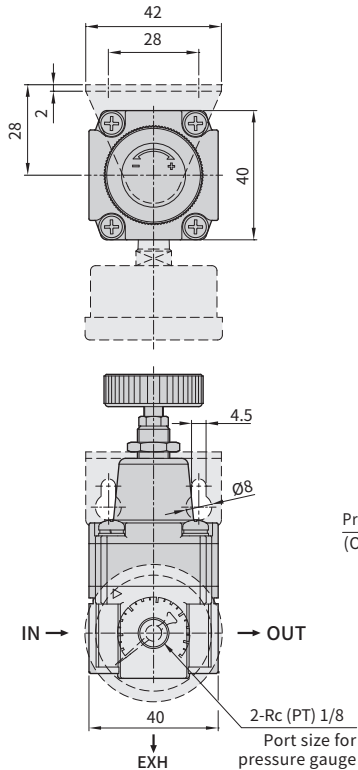
- ① Never operate a precision regulator out of the range of its specifications or it could cause failure. (Refer to specifications.)
- ② Make sure not to clog up the bleed hole when a precision regulator is mounted. Air releasing is normal to make the pressure balance inside.
- ③ Mounting a directional switching valve (solenoid valve, mechanical valve) on the supply side could cause unbalanced pressure and wear and tear on the nozzle/flapper section; therefore, do not use a directional switching valve.
- ④ It is a necessary consumption to release air from the bleed hole (the hole on the bottom of the body) based on the construction of the precision regulator and is not an abnormality.
- ⑤ After pressure adjustment, make sure to tighten the lock nut to avoid unstable pressure.

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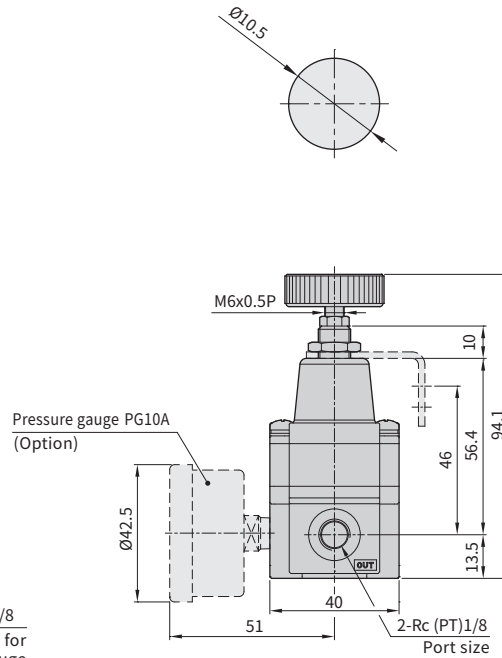
## Dimensions

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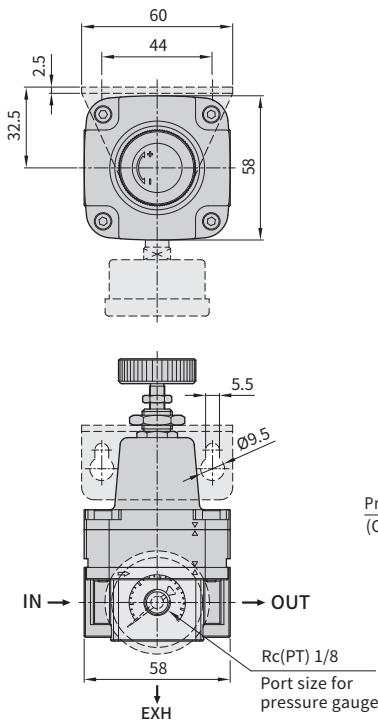
### ERX - 200



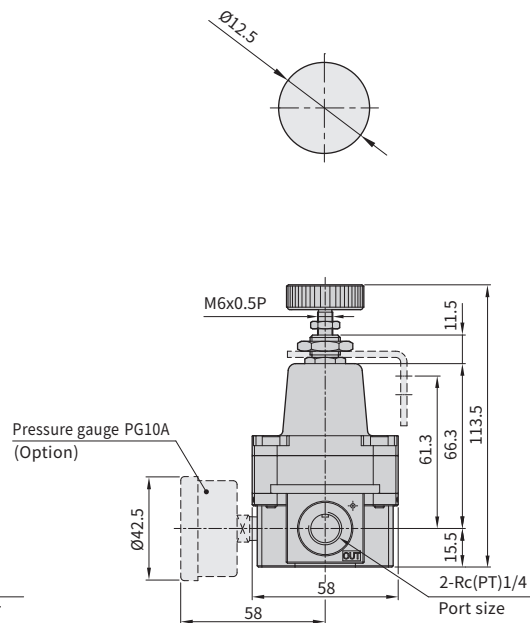
### Panel mounting dimensions



### ERX - 300



### Panel mounting dimensions



NC

NFC

PSN-10  
30,41

NFR

MFR

MFRD

NF

MF

MFD

NR

ARX

NPR

NL

N

DM

ERX

ERP

PG/AFB  
NDV/AD

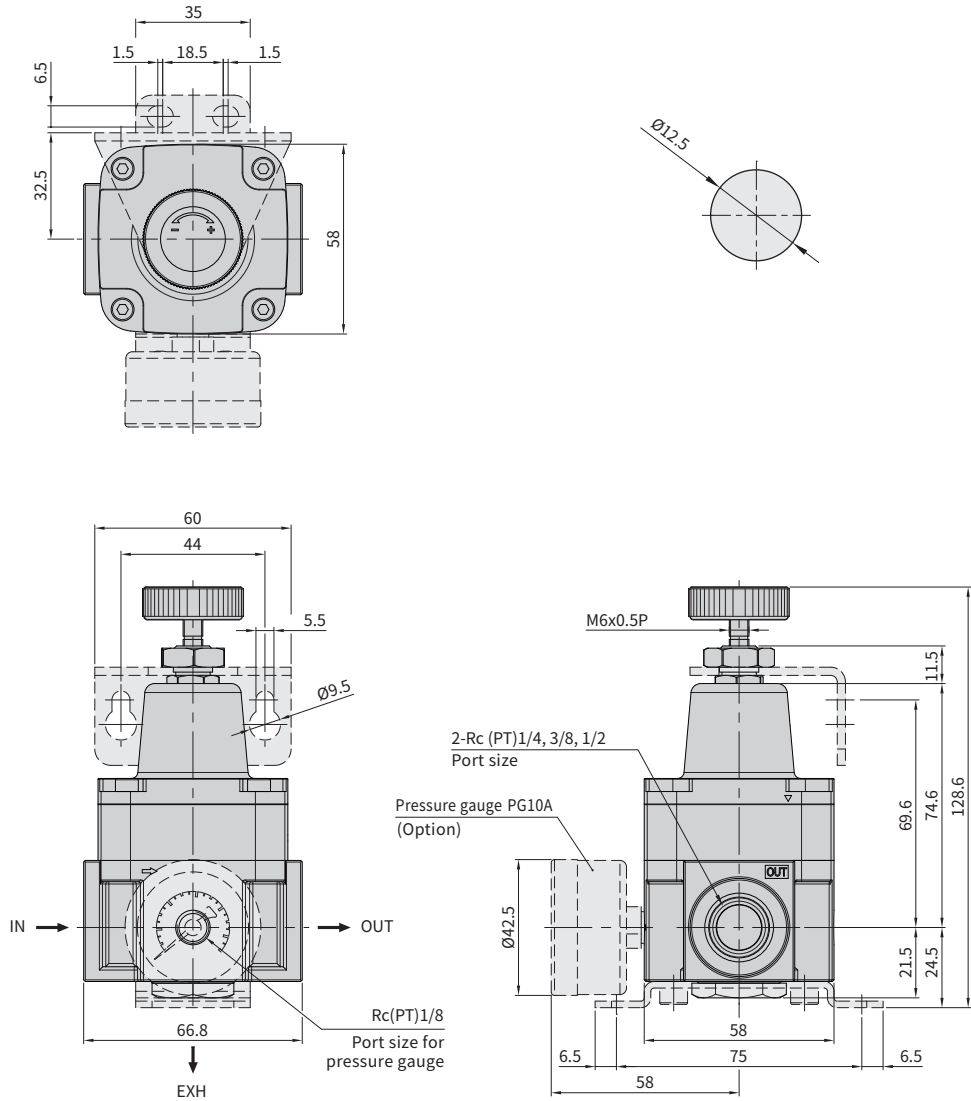
# ERX series - Precision Regulator (Energy Saving-No Overflow)

## Dimensions

CHELIC

### ERX-400

### Panel mounting dimensions



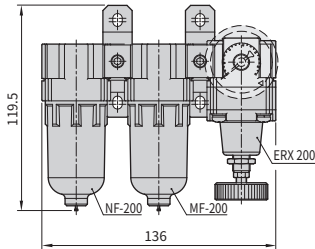
# ERX series - Precision Regulator (Energy Saving-No Overflow)

## Instructions

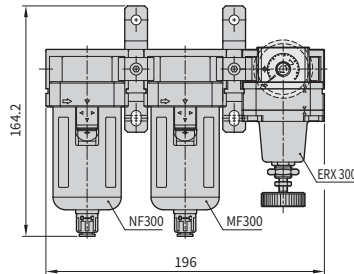
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### Combination example

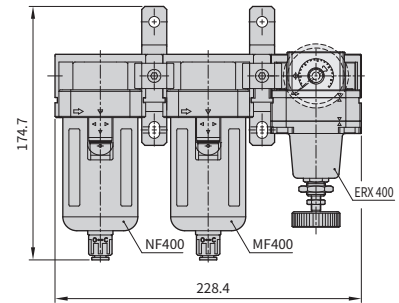
#### ● ERX-200



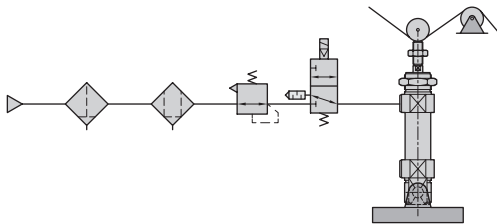
#### ● ERX-300



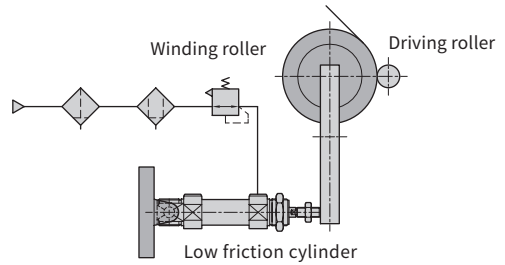
#### ● ERX-400



### Tension control

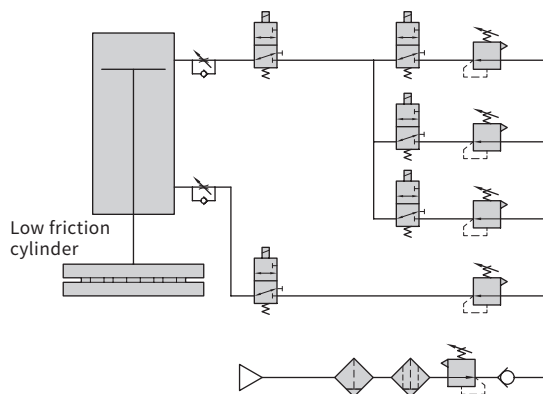


### Contact pressure control

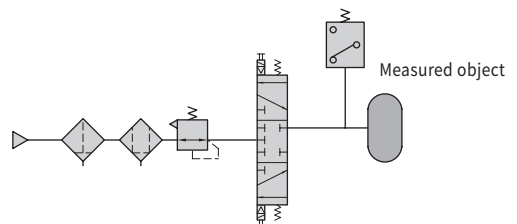


- Adapts to the cylinder's piston displacement, maintaining a certain pressure.

### Multistage control of pressing force for workpiece (Grinder)



### Leakage test circuit



NC

NFC

PSN-10  
30,41

NFR

MFR

MFRD

NF

MF

MFD

NR

ARX

NPR

NL

N

DM

ERX

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