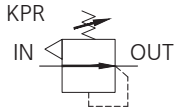
KPR series

KPR201-02BT

Symbol



Feature

- Compact design (body width 50mm)
- Smooth pressure adjustment
- Can be combined with KAF201 and KAFM201 products)

How to order

KPR201 - ① ② 02 ③ B ④ T ⑤ - 8 ⑥

① Model

KPR101	Rc(PT) 1/8"(Developing)
KPR201	Rc(PT) 1/4"
KPR301	Rc(PT) 1/4", 3/8", 1/2"(Developing)

② Thread type

Nil	Rc(PT) (Standard)
G	G
N	NPT

③ Port size

		KPR		
		101	201	301
01	Rc(PT)1/8"	●		
02	Rc(PT)1/4"		●	●
03	Rc(PT)3/8"			●
04	Rc(PT)1/2"			●

④ Bracket

Nil	None (Standard)
B	Bracket

⑤ Pressure gauge

Nil	None
T	External gauge (1.0 / 0.4 / 0.2 MPa)
P	Digital pressure switch

⑥ Regulating range

8	0.01 ~ 0.8MPa
4	0.01 ~ 0.4MPa
2	0.005 ~ 0.2MPa

Specifications

Model		KPR201
Fluid		Compressed air
Proof pressure		1.5MPa
Max. operating pressure		1.0MPa
Min. operating pressure		Set pressure + 0.1MPa
Regulating range	For 0.8MPa	0.01 ~ 0.8MPa
	For 0.4MPa	0.01 ~ 0.4MPa
	For 0.2MPa	0.005 ~ 0.2MPa
Sensitivity		≤0.2% of Full span
Repeatability		≤ ±0.5% of Full span
Air consumption		1.7 L/min(ANR)
Port size		Rc(PT) 1/4
Pressure gauge port		Rc(PT) 1/8(2 locations)
Ambient & fluid temperature		5 ~ 60℃ / Digital pressure switch: 0~50℃(No freezing)
Weight(kg)		0.32

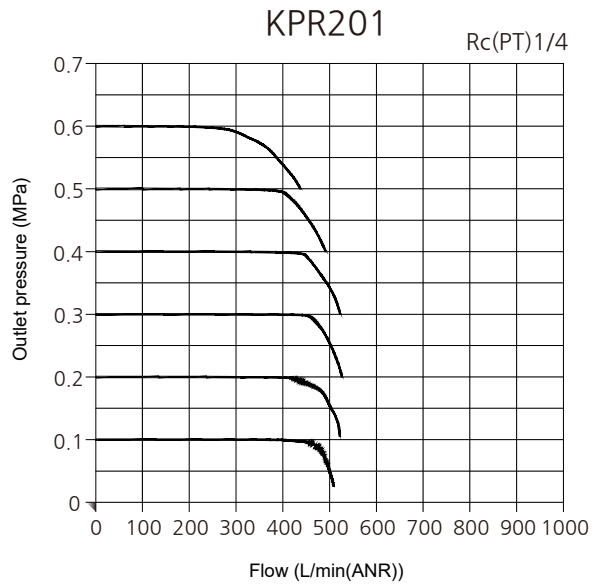
⚠ Safety precaution

- Do not use in an atmosphere having corrosive gases, chemicals, sea water, water, water steam, or where there is direct contact with any of these.
- Use clean and dry compressed air that is free from oil and foreign substances.
- It is recommended to attach an oil mist filter to the supply side these.

※ The data shown below are representative values, and are not guarantted.

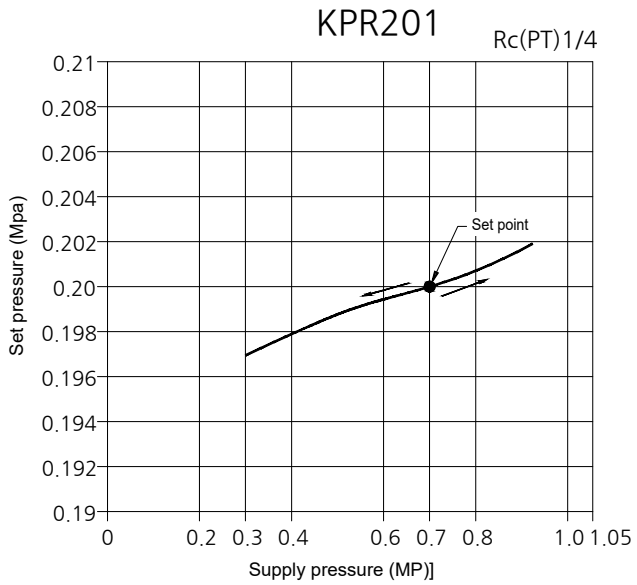
Flow Rate

Supply pressure: 0.7MPa

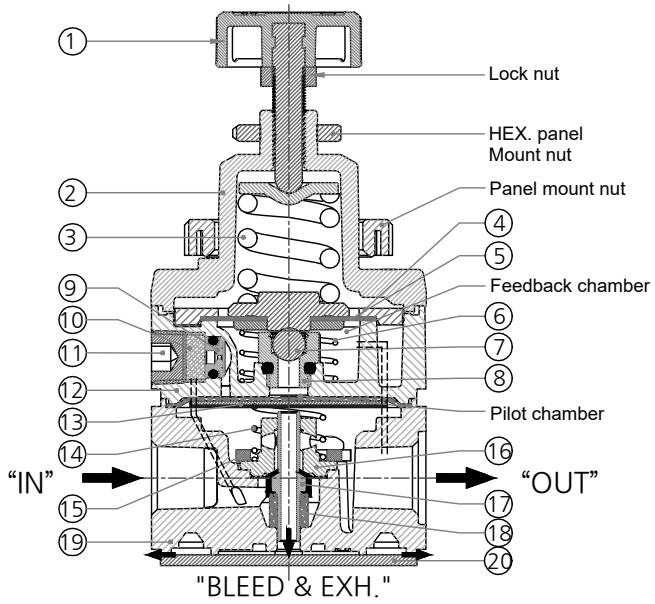


Pressure

Supply pressure: 0.3~0.95MPa, Set pressure: 0.2MPa, Flow rate: 0 L/min(ANR)



Structure



Operation description

Air supplied from IN side is blocked by ⑰(Valve), and the flow of OUT side is waiting, and is supplied to ⑨(Orifice) through branch passage connected to IN side.

The supply air that passed through the orifice fills the pilot room, and the fine pressure that has passed through the gap between the ⑦(Steel ball) and ⑧(Nozzle) passes through the feedback chamber and bleeds into the gap between ⑬ (Main diaphragm) and ⑰(Valve) through the branch passage connected to the OUT port.

If you press ⑦(Steel ball) by turning the pressure adjustment handle, the gap with ⑧(Nozzle) is reduced and the pressure in the pilot chamber increases, the increased pressure, press ⑬ (Main diaphragm) and at the same time press ⑰(Valve) to open the pressure waiting in the IN PORT to the required pressure. The pressure passing through this open gap becomes the set pressure.

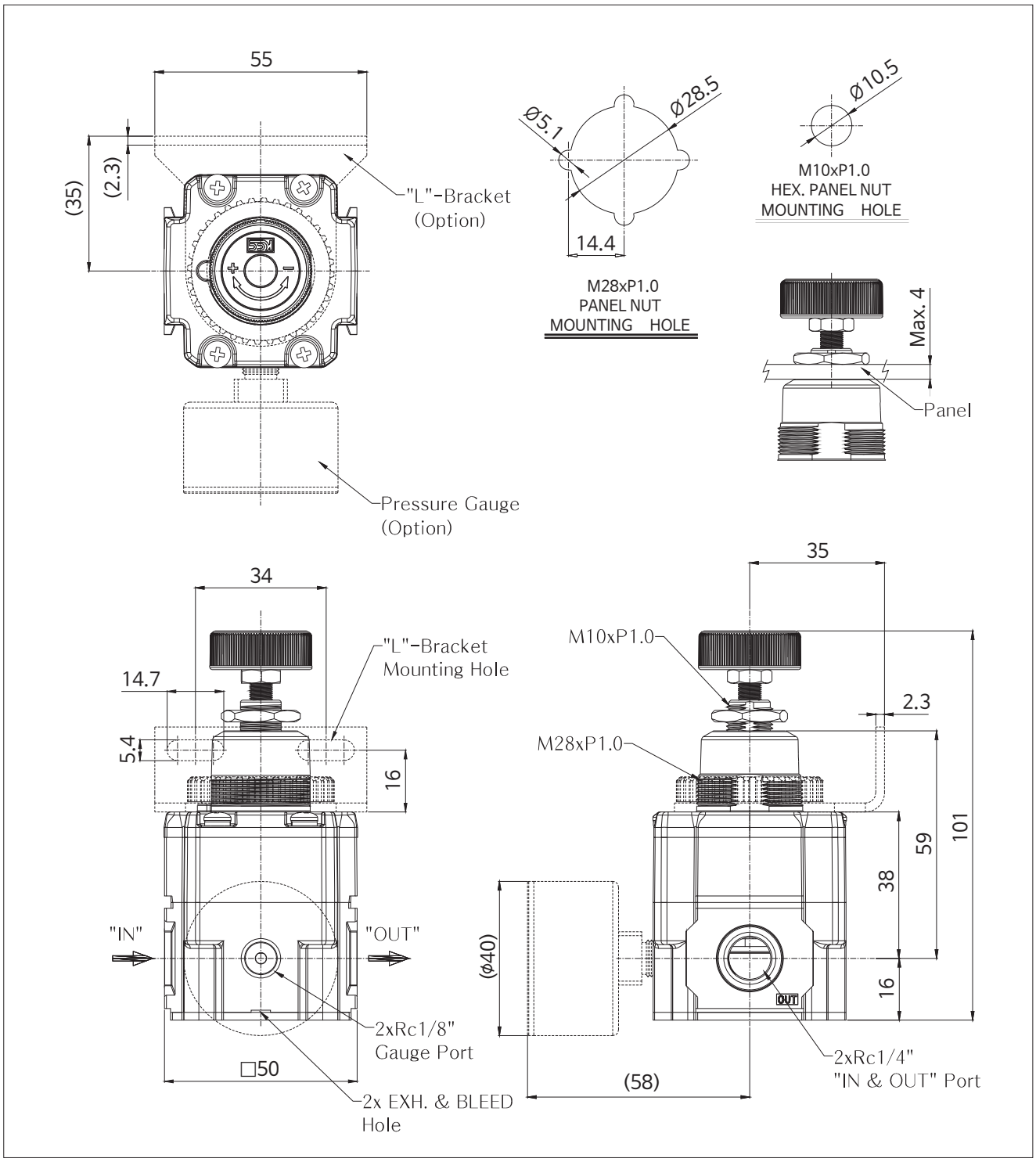
This set pressure is supplied to the feedback chamber through the branch passage of the OUT port to maintain equilibrium, when air consumption occurs in the OUT port part, the pressure in the feedback chamber decreases, and the set pressure and force are balanced, and this causes the regulating spring force to become greater than the reduced pressure in the feedback chamber, and the regulating spring force again press ⑦(Steel ball) to narrow the gap with ⑧(Nozzle) increase the pressure in the pilot chamber and open ⑰(Valve) again to compensate for the reduced pressure in the feedback chamber.

The pressure is maintained by repeating this mutual equilibrium operation, and the secondary side surplus pressure continues to be bleed into the minute gap between the ⑬(Main diaphragm) and ⑰ (Valve).

If the second side pressure is instantaneously excessively increased than the set pressure, the ⑬(Main diaphragm) is lifted by the increased second side pressure, increasing the gap between the ⑬ (Main diaphragm) and the ⑰(Valve), and discharging momentarily.

No	Parts	Materials	No	Parts	Materials
1	Handle	Polyacetal	11	Plug bolt	Steel
2	Bonnet	Aluminum	12	Space body	Aluminum
3	Pressure regulator spring	Spring steel	13	Diaphragm Ass'y	Stainless steel, NBR etc.
4	Diaphragm ring	Aluminum	14	Spring	Stainless steel
5	Diaphragm Ass'y	Stainless steel, NBR, etc.	15	Plate	Stainless steel
6	Spring	Stainless steel	16	Valve gate	Brass
7	Steel ball	Steel	17	Valve Ass'y	Brass, NBR
8	Nozzle ASS'Y	Brass, Stainless steel, NBR	18	NBR bush	NBR
9	Orifice ASS'Y	Brass, Ceramic, NBR	19	Body	Aluminum
10	Orifice filter	Wool	20	Plate	Steel

Dimensions


55
(35)
(2.3)
"L"-Bracket
(Option)
Pressure Gauge
(Option)
Ø5.1
Ø28.5
14.4
M28xP1.0
PANEL NUT
MOUNTING HOLE
Ø10.5
M10xP1.0
HEX. PANEL NUT
MOUNTING HOLE
Max. 4
Panel
34
"L"-Bracket
Mounting Hole
14.7
5.4
16
"IN"
"OUT"
2xRc1/8"
Gauge Port
□50
2x EXH. & BLEED
Hole
35
M10xP1.0
2.3
M28xP1.0
(ø40)
38
59
101
16
OUT
(58)
2xRc1/4"
"IN & OUT" Port