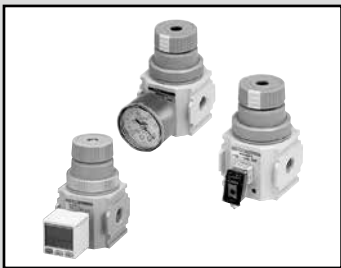


F.R.L.  
F.R.  
F (Filtr)  
R (Reg)  
L (Lub)  
Drain  
Separ  
Mech  
Press SW  
Res press  
exh valve  
SlowStart  
Anti-bac/Bac-  
remove Filt  
Film  
Resist FR  
Oil-ProhrR  
Med  
Press FR  
No Cu/  
PTFE FRL  
Outdrs FRL  
Adapter  
Joiner  
Press  
Gauge  
CompFRL  
LgFRL  
PrecsR  
VacF/R  
Clean FR  
ElecPneUR  
AirBoost  
Speed Ctrl  
Silncr  
CheckV/  
other  
Fit/Tube  
Nozzle  
Air Unit  
PrecsCompn  
Electro  
Press SW  
ContactSW  
AirSens  
PresSW  
Cool  
Air Flo  
Sens/Ctrl  
WaterRtSens  
TotAirSys  
(Total Air)  
TotAirSys  
(Gamma)  
Gas  
generator  
RefrDry  
DesicDry  
HiPolymDry  
MainFiltr  
Dischrg  
etc  
Ending

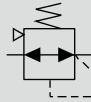


## Vacuum regulator

# VRA2000 Series

- Port size: Rc1/4, Rc3/8, G1/4, G3/8, 1/4NPT, 3/8NPT

JIS symbol



## Specifications

1 MPa = 10 bar

Model No.	VRA2000-8	VRA2000-10
Set pressure	kPa -100 (≈-15 psi) to -1 (≈-0.2 psi)	
Ambient / fluid temperatures	°C 5 (41°F) to 50 (122°F)	
Balance leak flow rate	ℓ/min(ANR) 1 *3	
Max. flow rate	ℓ/min(ANR) 200 *1	
Port size	IN/OUT	1/4 3/8
	Gauge	1/8
Weight	kg 0.29	

- \*1: The max. flow rate is the flow rate when the secondary side is completely closed and the primary pressure is at -101.3 kPa, and then after adjusting the secondary pressure to -100kPa, the secondary side is fully opened.  
\*2: Available only for port size Rc.  
\*3: Flow rate when primary pressure is set to -95 kPa or less and secondary pressure to -45 kPa while closed.

Specifications for rechargeable battery (Catalog No. CC-1226A)

- Structure compatible with rechargeable battery manufacturing process

VRA2000-.....- P4

## How to order

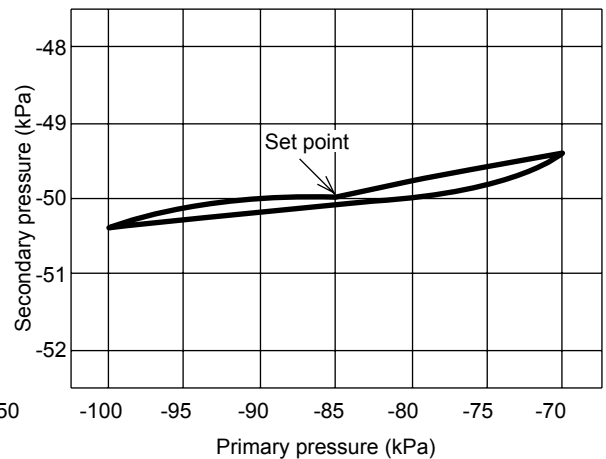
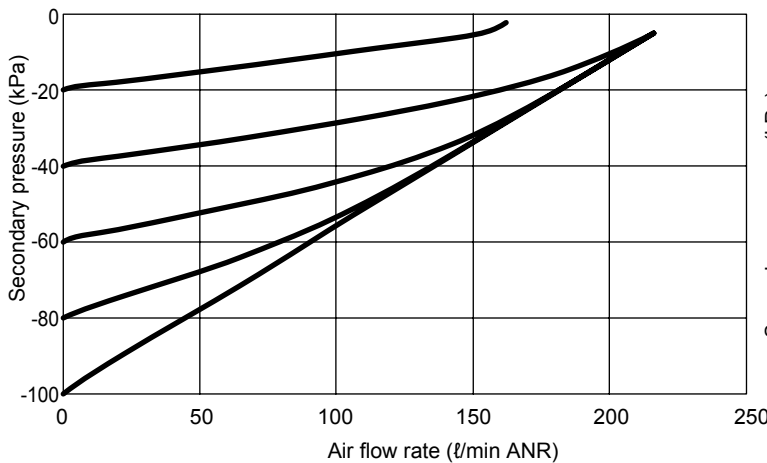
VRA2000 - 8 - GB

A Port size

B Option  
(Enclosed product)

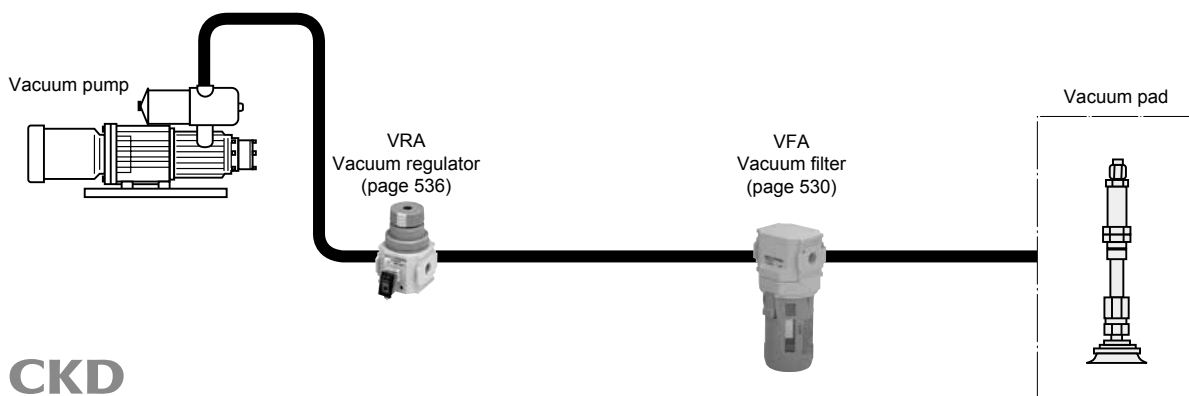
Code	Description
<b>A Port size</b>	
8	Rc1/4
10	Rc3/8
8G	G 1/4
10G	G 3/8
8N	1/4NPT
10N	3/8NPT
<b>B Option</b>	
Blank	None
G	Pressure gauge *2
P	Pressure switch *2
B	C type bracket
B3	L type bracket
B4	B type bracket
R2	Digital pressure sensor *2

## Characteristic curve

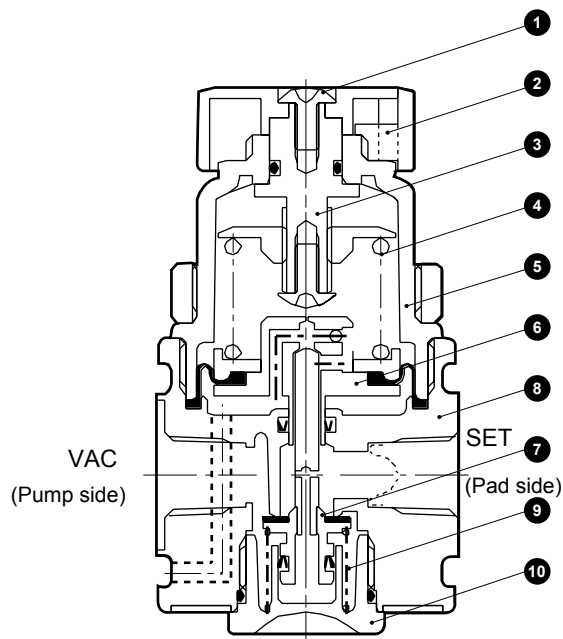


\*1: The primary side vacuum pump is measured with using discharge rate 500 ℓ/min.

## Applications



## Internal structure and parts list



### Parts list

No.	Part name	Material
1	Cross-recessed truss machine screw	Steel
2	Knob assembly	Polybutylene terephthalate
3	Adjusting screw assembly	Copper alloy/steel/nitrile rubber
4	Adjusting spring	Stainless steel
5	Cover assembly	Aluminum alloy/PBT
6	Diaphragm assembly	Aluminum alloy/steel/nitrile rubber
7	Valve assembly	Aluminum alloy/copper alloy/hydrogenated nitrile rubber
8	Body assembly	Aluminum alloy/stainless steel/nitrile rubber
9	Bottom spring	Stainless steel
10	Bottom plug assembly	Polybutylene terephthalate/nitrile rubber

### Repair parts list

Part name	Model No.
Diaphragm assembly	VRA2000-D
Valve assembly	VRA2000-V

F.R.L.  
F.R.  
F (Filtr)  
R (Reg)  
L (Lub)  
Drain  
Separ  
Mech  
Press SW  
Res press  
exh valve  
SlowStart  
Anti-bac/Bac-  
remove Filtr  
Film  
Resist FR  
Oil-ProhR  
Med  
Press FR  
No Cu/  
PTFE FRL  
Outdrs FRL  
Adapter  
Joiner  
Press  
Gauge  
CompFRL  
LgFRL  
PrecsR  
VacF/R  
Clean FR  
ElecPneuR  
AirBoost  
Speed Ctrl  
Silncr  
CheckV/  
other  
Fit/Tube  
Nozzle  
Air Unit  
PresCompn  
Electro  
Press SW  
ContactSW  
AirSens  
PresSW  
Cool  
Air Flo  
Sens/Ctrl  
WaterRISens  
TotAirSys  
(Total Air)  
TotAirSys  
(Gamma)  
Gas  
generator  
RefrDry  
DesicDry  
HiPolymDry  
MainFiltr  
Dischrg  
etc  
Ending

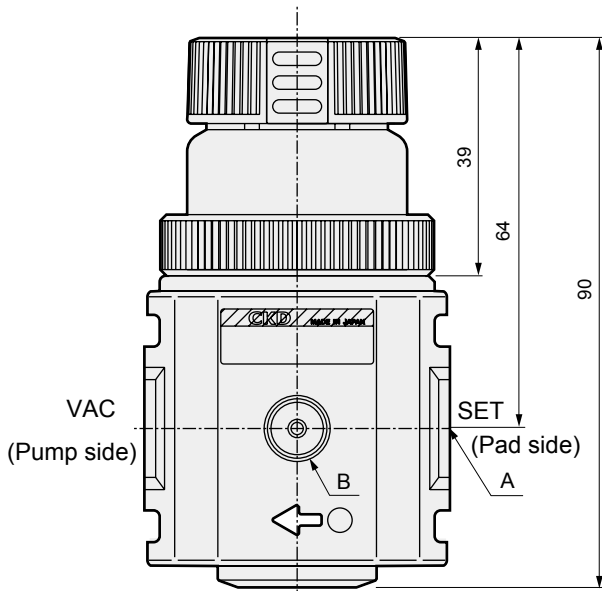
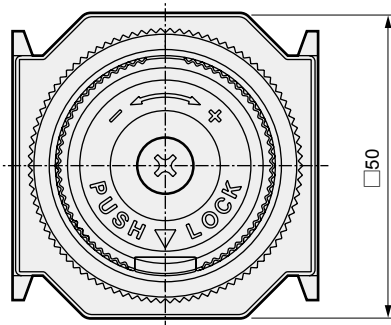
# VRA2000 Series

- F.R.L.
- F.R.
- F (Filtr)
- R (Reg)
- L (Lub)
- Drain Separ
- Mech Press SW
- Res press exh valve
- SlowStart
- Anti-bac/Bac-remove Filt
- Film Resist FR
- Oil-ProhR
- Med Press FR
- No Cu/ PTFE FRL
- Outdrs FRL
- Adapter Joiner
- Press Gauge
- CompFRL
- LgFRL
- PrecsR
- VacF/R
- Clean FR
- ElecPneuR
- AirBoost
- Speed Ctrl
- Silncr
- CheckV/ other
- Fit/Tube
- Nozzle
- Air Unit
- PrecsCompn
- Electro Press SW
- ContactSW
- AirSens
- PresSW Cool
- Air Flo Sens/Ctrl
- WaterRtSens
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Gas generator
- RefrDry
- DesicDry
- HiPolymDry
- MainFiltr
- Dischrg etc
- Ending

## Dimensions



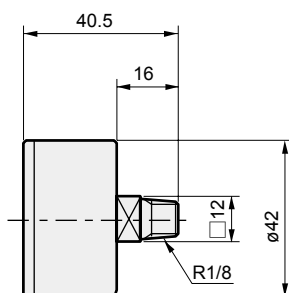
### ● VRA2000-8/VRA2000-10



Hole dimension for panel mount:  $\phi 38.5$

Model No.	A	B
VRA2000-8	Rc1/4	Rc1/8
VRA2000-10	Rc3/8	Rc1/8

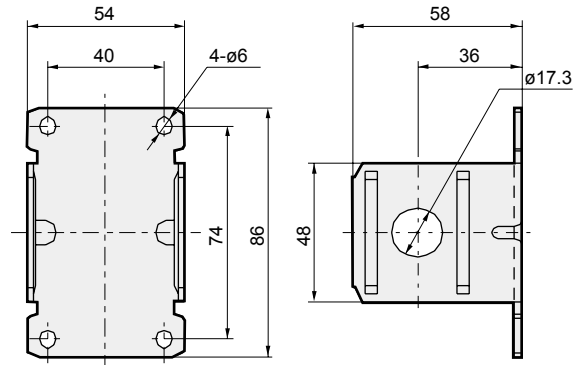
### ● Pressure gauge (G) VG41D-6-P01



With limit marker  
-100 to 0 kPa

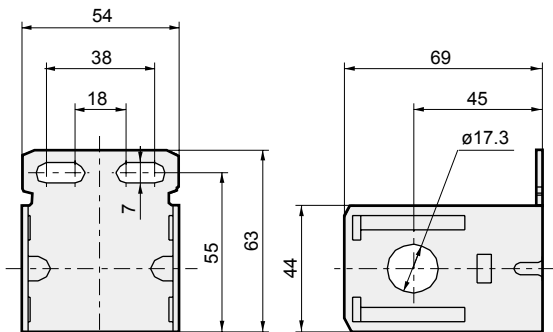
Weight: 82g

### ● B type bracket (B4) B240



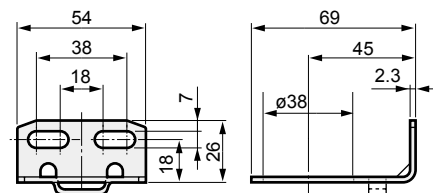
Weight : 0.16kg  
Material : Steel  
Zinc plated

### ● C type bracket (B) B220



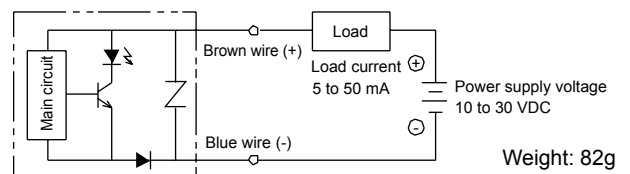
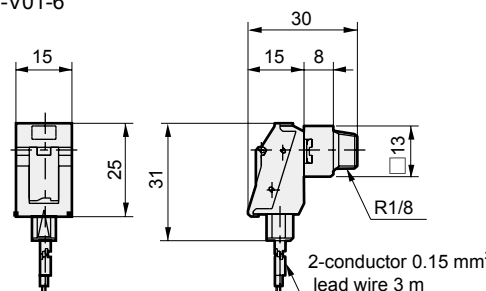
Weight : 0.15kg  
Material : Steel  
Zinc plated

### ● L type bracket (B3) B230



Weight : 60g  
Material : Steel  
Zinc plated

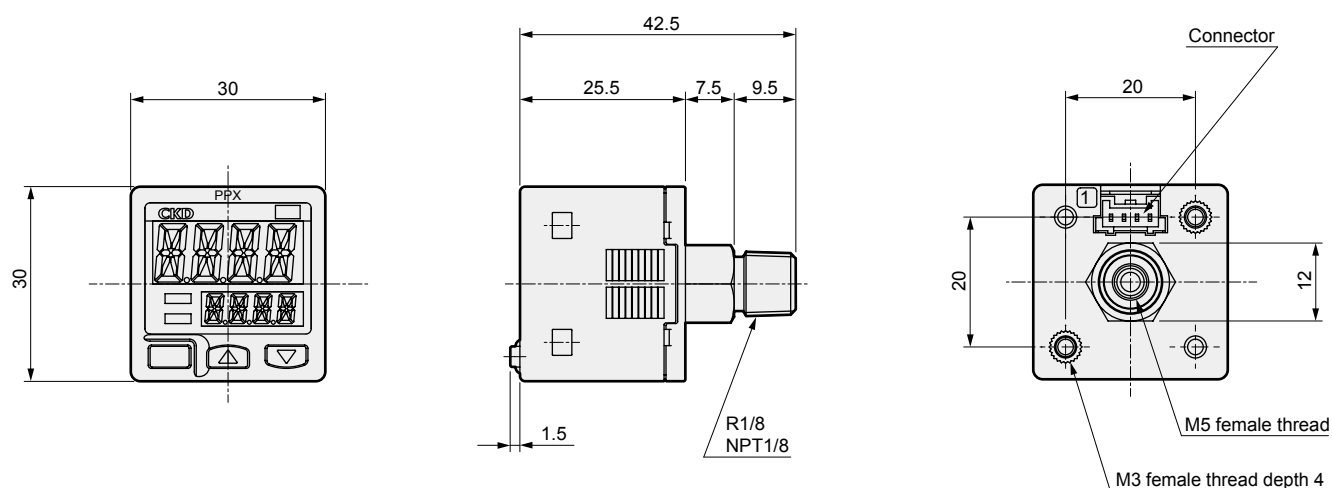
### ● Pressure switch (P) PPE-V01-6



Weight: 82g

### Dimensions

- Digital pressure sensor  
PPX-R01N-6M



Note: Refer to page 1150 for details of digital pressure sensor PPX Series.

Weight: 40g

### ⚠ Safety precautions

### ⚠ WARNING

- 1 Use the product within specifications.
- 2 The product is a regulator for vacuum. Do not use in a pressurized state.
- 3 Install the product where it is not exposed to direct sunlight.
- 4 Do not use this product in an atmosphere containing corrosive gas, chemicals, or sea water, or where these could come in contact with it, and do not use as a vacuum circuit for these substances.
- 5 Do not install this product in a location where it may be subject to vibrations or shocks.
- 6 Tighten pipes with the appropriate torque.
- 7 Limit bending moment arising from the weight of pipelines to 50 N·m or less when installing.
- 8 Turning the knob in the + direction from the set pressure 0 activates the stopper and the knob does not turn.  
Note that if torque is forcibly applied in the + direction, the knob may lock and become inoperable.

Port thread	Tightening torque N·m
Rc1/4	6 to 8
Rc3/8	13 to 15

### ⚠ CAUTION

- 1 Install this product vertically with the knob facing upward or downward.
- 2 Before connecting to devices, flush piping with air blow to remove foreign matter.
- 3 The set pressure changes from the initial set point based on working environment and conditions, as well as aging of part materials. Check the pressure regularly, and reset if conditions have changed.
- 4 When screwing in piping or fittings, check that swarf from port threads or sealant does not get inside.
- 5 Check IN and OUT side direction before piping.
- 6 This product is adjusted with constant air leakage, so vacuum pressure may not rise if the vacuum pump capacity is too small. Please be careful.
- 7 The product has an O-ring groove for modular connection on its pump side. Select piping that can be sealed at or below the O-ring groove diameter.

Series	VRA2000
Groove diameter	ø25.4

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdrs FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PrecsCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg etc
Ending