

Modular Type CONVUM

RoHS



Popular unit type CONVUM

Aluminum body

Long life

Simple construction

Long-seller

Flexible combinations are selectable

Customizable

- Free selection of CONVUM body, pressure sensor, blow-off valve
- Pressure sensor, blow-off valve can be mounted afterwards
- Silencer is standard mounted



How to Order

CVA2 – 05 H S AB DN 4 B L

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① NozzleType

Symbol	Nozzle size [mm]
05	0.5
10	1.0
15	1.5

② Maximum Vacuum Pressure[kPa]

Symbol	Type	Vacuum pressure
H	High vacuum type	-87
L	High flow type	-53
Q		-46

※①②③ Applicable Models

①	②	③	
		S	R
05	H	○	×
	L	○	×
	Q	×	×
10	H	○	○
	L	○	×
	Q	○	○
15	H	○	○
	L	○	×
	Q	○	○

Specifications by Nozzle

Nozzle type	Rated pressure [MPa]	Maximum vacuum pressure [kPa]	Suction flow [L/min (ANR)]	Air consumption [L/min (ANR)]
05HS	0.5	-87	6	13
05LS		-57	9	
10HS		-92	27	
10LS	0.35	-57	36	44
10QS		-47	54	
10HR		-91	25	
10QR	0.5	-47	50	100
15HS		-92	63	
15LS		-57	95	
15QS	0.35	-47	136	100
15HR		-91	54	
15QR		-47	123	

③ Rated Pressure [MPa]

S	0.5
R	0.35

④ Pressure Sensor

Symbol	Sensor type	Pressure range [kPa]	Display	Switch output	Analog output
AB	MVS-030AB	-101 ~ 0	LED	NPN 1 point	N/A
V	CVA-V	-73.2 ~ -33.3	N/A	Reed switch 1 point	N/A
Blank	Without sensor				

※Please consult with us for PNP output type.

⑤ Blow-off valve

Symbol	Specifications
Blank	N/A
DN	Blow-off flow adjustable

⑥ Valve Voltage [V]

Symbol	Voltage
4	DC24
100	AC100
200	AC200

⑦ Vacuum Generation Valve Type

A	Normally opened
B	Normally closed

⑧ Valve Connection

L	Lead wire with connector (with lamp and surge killer)
D	DIN type ^{Note1} (with lamp, without lead wire)

※Note1) AC100, AC200 only.

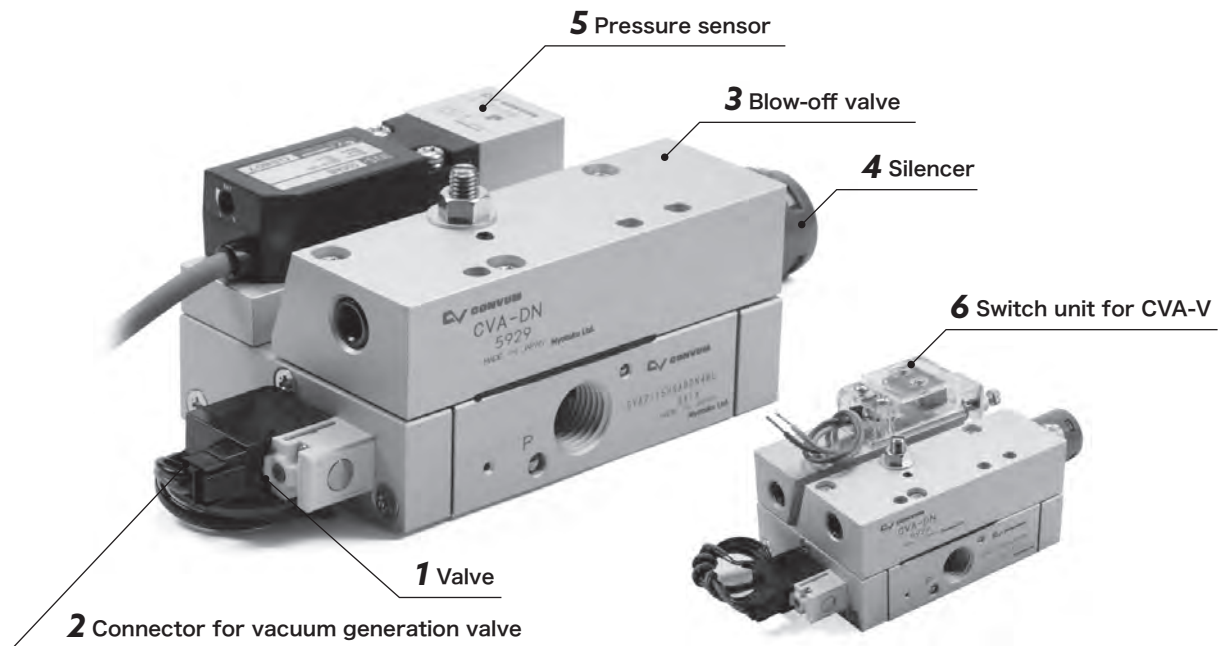


These model number below satisfy general needs and functions with product advantages.

※Please feel free to contact us.

Product code	Model number	Specifications			
		Nozzle size (mm)	Pressure sensor	Blow-off valve	Vacuum generation valve type
202500013	CVA2-05HS4BL	0.5	N/A	N/A	Normally closed
202500015	CVA2-10HS4BL	1.0	N/A	N/A	Normally closed
202500020	CVA2-15HS4BL	1.5	N/A	N/A	Normally closed
202500058	CVA2-05HSABDN4BL	0.5	Electronic pressure sensor	With	Normally closed
202500064	CVA2-10HSABDN4BL	1.0	Electronic pressure sensor	With	Normally closed
202500087	CVA2-15HSABDN4BL	1.5	Electronic pressure sensor	With	Normally closed

Maintenance Parts



1 Valve

•DC24V

CKV010-4E
For vacuum generation

- ※ Lead wire length 300mm
- ※ Gasket and mounting screw are included



•AC100V, AC200V

CVA — 100 L

100	AC100
200	AC200

L	Lead wire with connector (with lamp and surge killer)
D	DIN type (with lamp, without lead wire)

2 Connector for Vacuum Generation Valve(CKV010-4E) ※With lead wire

CA2 — V4 — 6

Lead wire length (mm)

Blank	300
6	600
10	1000
20	2000
30	3000



3 Blow-off Valve

Model number	Specifications
CVA-DN	Blow-off flow adjustable



5 Pressure Sensor

Model number

MVS-030AB-CVA

CVA-V

4 Silencer

Model number	Applicable body
MSS-01	CVA2-05, 10H/L
MSS-03	CVA2-10Q
MSM-01	CVA2-15H/L
MSM-02	CVA2-15Q

6 Switch Unit for CVA-V

CV — CK

CONVUM Specifications

Description \ Model number	Unit	CVA2-05		CVA2-10					CVA2-15				
		HS	LS	HS	LS	QS	HR	QR	HS	LS	QS	HR	QR
Nozzle size	mm	0.5		1.0					1.5				
Fluid		Non-lubricated compressed air											
Ambient temperature	℃	0~60(No Freezing)											
Operating pressure range	MPa	0.2~0.6											
Vacuum generation valve type		Normally opened (A) · normally closed (B)											
Rated pressure	MPa	0.5					0.35		0.5			0.35	
Maximum vacuum pressure	kPa	-87	-57	-92	-57	-47	-91	-47	-92	-57	-47	-91	-47
Suction flow	L/min(ANR)	6	9	27	36	54	25	50	63	95	136	54	123
Air consumption	L/min(ANR)	13		44					100				

Blow-off valve specifications

Description \ Model number	Unit	CVA-DN
Fluid		Non-lubricated compressed air
Operating pressure range	MPa	0.3~0.6
Blow-off time	S	0.3~3 ^{Note1}
Ambient temperature	°C	0~60 ^{Note2}
Blow-off flow	L/min (ANR)	MAX.50
Weight	g	140

Note1) In case of 0.5 Mpa supply pressure.

Note2) Under 5°C, there is a risk of freezing, please use an air dryer to prevent it.

Valve Specifications

Description \ Model number	Unit	CKV010-4E	CVA-100L/D	CVA-200L/D
Valve structures		3 port, direct operated poppet valve	3 port, pilot poppet valve	
Rated voltage	V	DC24	AC100	AC200
Allowable voltage fluctuation	%	±10		
Frequency	Hz	-	50/60	
Power consumption (current value)	W(mA)	1 (42)	2.0(20)/1.6(16)	2.3(12)/1.8(9)
Insulation type		Class B		
Manual override operation		Non-lock		
Display / Surge killer		LED/diode	L : with lamp and surge killer/D : with lamp	
Lead wire		Lead wire with connector (300mm)	L : lead wire 300mm/D : without lead wire	
Weight (with lead wire)	g	15.3	53	52

Pressure Sensor Specifications

Description \ Model number		Unit	MVS-030AB-CVA	CVA-V
Fluid			Air (vacuum), Non-corrosive gas, Non-flammable gas	
Diaphragm			Silicon diaphragm	-
Rated pressure range		kPa	-101 ~ 0	-
Setting pressure range		kPa	-101.2 ~ -2.7	-73.2 ~ -33.3
Withstand pressure		MPa	0.5	
Ambient temperature range		°C	0~50 (No freezing)	0~60 (No freezing)
Ambient humidity range		%RH	35~85(No condensation)	
Power supply voltage		V	DC12~24±10%, ripple (Vp-p)10% or less	AC125, 250
Current consumption		mA	20	-
Switch type			-	Reed switch, normally opened
Switch output	Type		NPN open collector 1 output	-
	Maximum load current	mA	80	AC125:5, AC250:3
Repeatability		%	±3F.S.	-
Response time		ms	2 or less	-
Display			Red color LED (ON lighting)	-
IP class			IP40	-
Cable			Grommet	Grommet
Cable specifications			Φ4 3 lead wires X0.15mm 2m	100mm

Weight (g)

24V Valve (lead wire with connector)

Specifications			
Nozzle size	Sensor	Blow-off valve(DN)	
		with	N/A
05.10 type	N/A	388	224
	With MVS-030AB	491	328
	With CVA-V	522	358
15 type	N/A	435	271
	With MVS-030AB	538	375
	With CVA-V	569	405

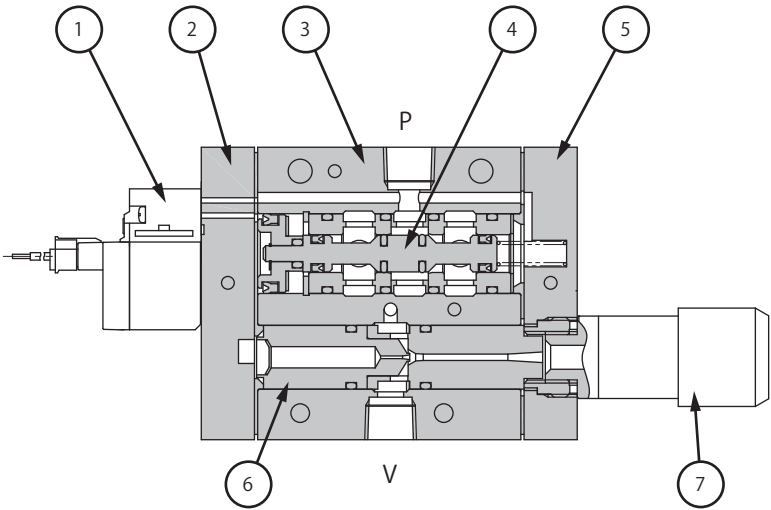
100V, 200V Valve (lead wire with connector)

Specifications			
Nozzle size	Sensor	Blow-off valve(DN)	
		with	N/A
05.10 type	N/A	425	261
	With MVS-030AB	528	364
	With CVA-V	559	395
15 type	N/A	472	308
	With MVS-030AB	575	411
	With CVA-V	606	442

100V, 200V DIN Type Valve

Specifications			
Nozzle size	Sensor	Blow-off valve(DN)	
		with	N/A
05.10 type	N/A	428	264
	With MVS-030AB	531	367
	With CVA-V	562	398
15 type	N/A	475	311
	With MVS-030AB	578	414
	With CVA-V	609	445

Construction



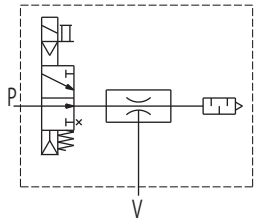
Component Parts

No.	Parts name	Material
1	Vacuum generation valve	-
2	Lateral plate A	Aluminum, NBR
3	CVA2 body	Aluminum
4	Spool Assy's	-
5	Lateral plate B	Brass, aluminum, NBR
6	Nozzle Assy's	Brass, aluminum, NBR
7	Silence	POM, felt

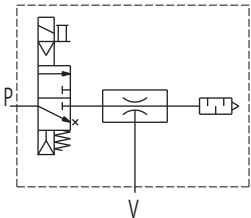
Symbol

Without Sensor, Blow-off Valve

Normally Opened

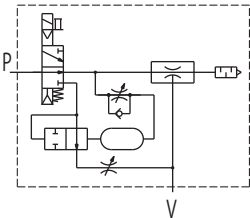


Normally Closed

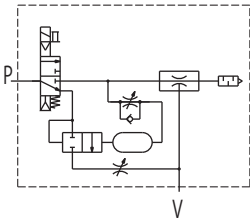


With Blow-off Valve

Normally Opened

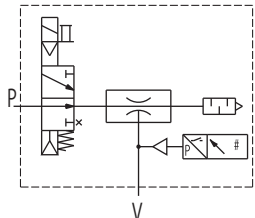


Normally Closed

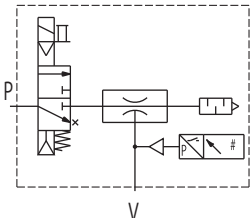


With Sensor

Normally Opened

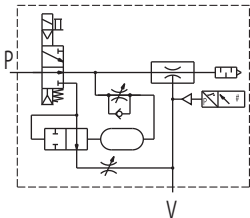


Normally Closed



With Sensor, Blow-off Valve

Normally Opened



Normally Closed

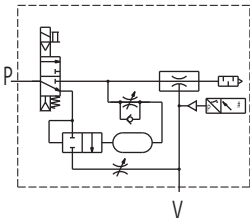
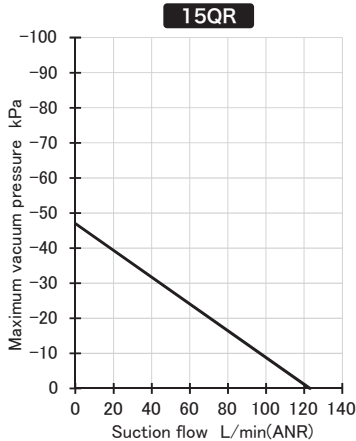
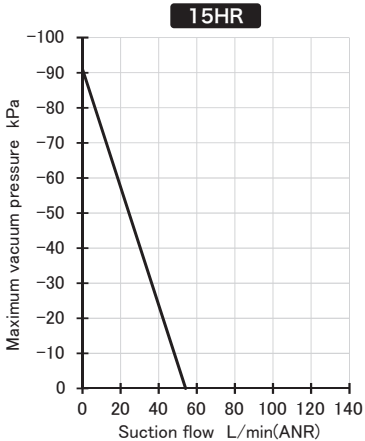
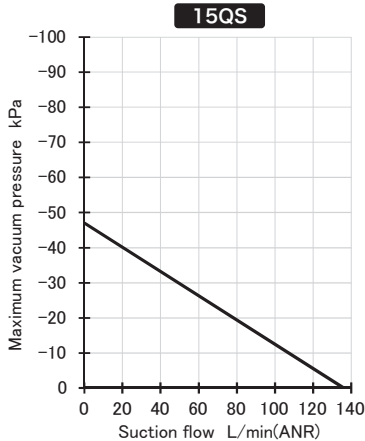
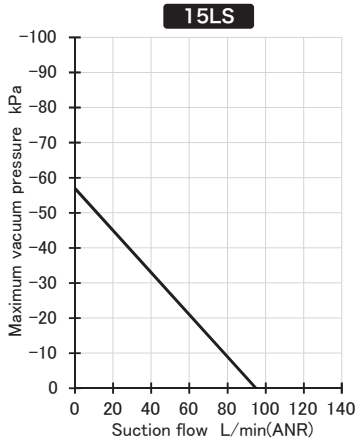
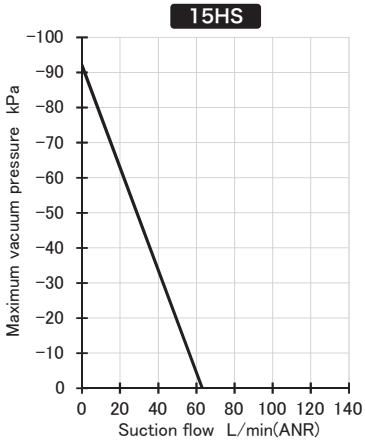
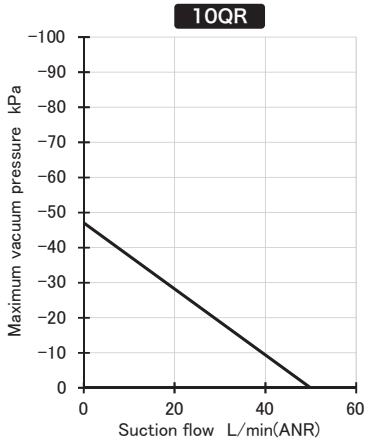
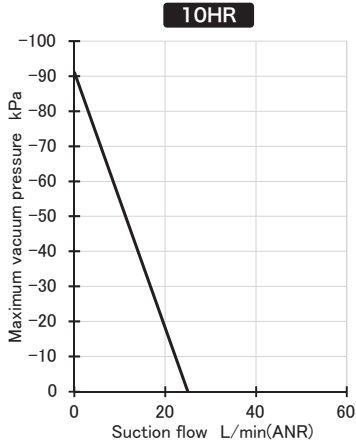
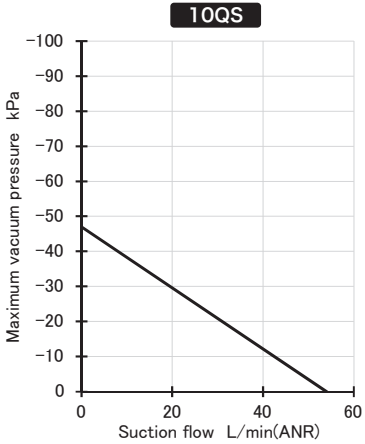
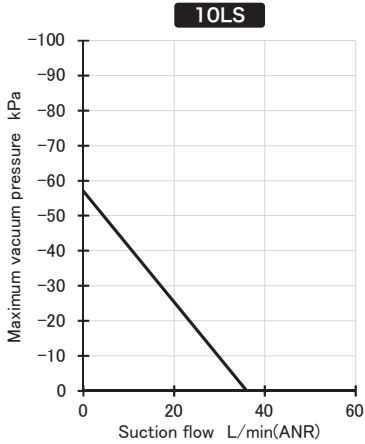
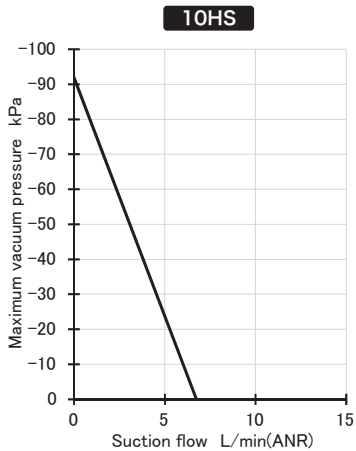
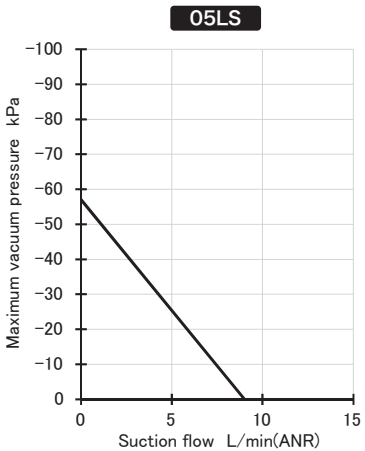
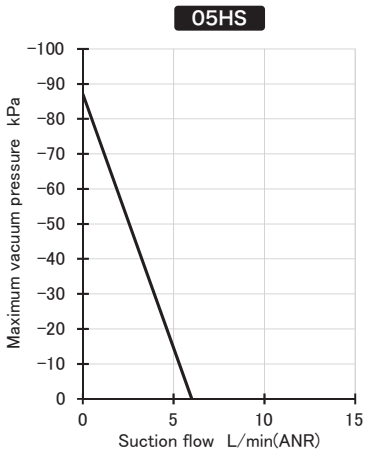


Figure 10 is a graph for the 15QR model. The x-axis represents Supply pressure in MPa, ranging from 0 to 0.6. The left y-axis represents Maximum vacuum pressure in kPa, ranging from 0 to -100. The right y-axis represents Air consumption in L/min (ANR), ranging from 0 to 140. Three curves are plotted: Suction flow (dashed line), Air consumption (dashed line), and Maximum vacuum pressure (solid line). The Suction flow curve starts at approximately -45 kPa at 0.1 MPa and rises to about -85 kPa at 0.6 MPa. The Air consumption curve starts at approximately 40 L/min at 0.1 MPa and rises to about 125 L/min at 0.6 MPa. The Maximum vacuum pressure curve starts at approximately -10 kPa at 0.1 MPa and rises to about -75 kPa at 0.6 MPa.

Supply pressure (MPa)	Suction flow (kPa)	Air consumption (L/min (ANR))	Maximum vacuum pressure (kPa)
0.1	-45	40	-10
0.2	-65	75	-25
0.3	-75	105	-40
0.4	-80	115	-50
0.5	-82	120	-60
0.6	-85	125	-75

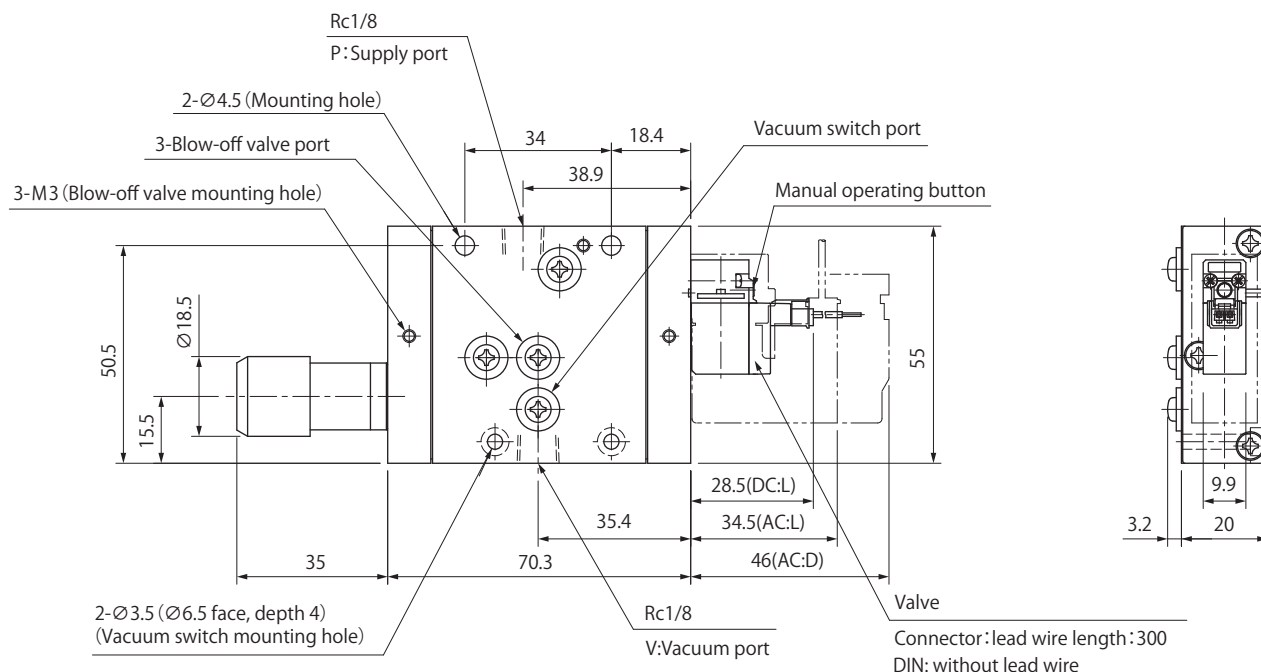
Suction Flow / Vacuum Pressure Characteristics



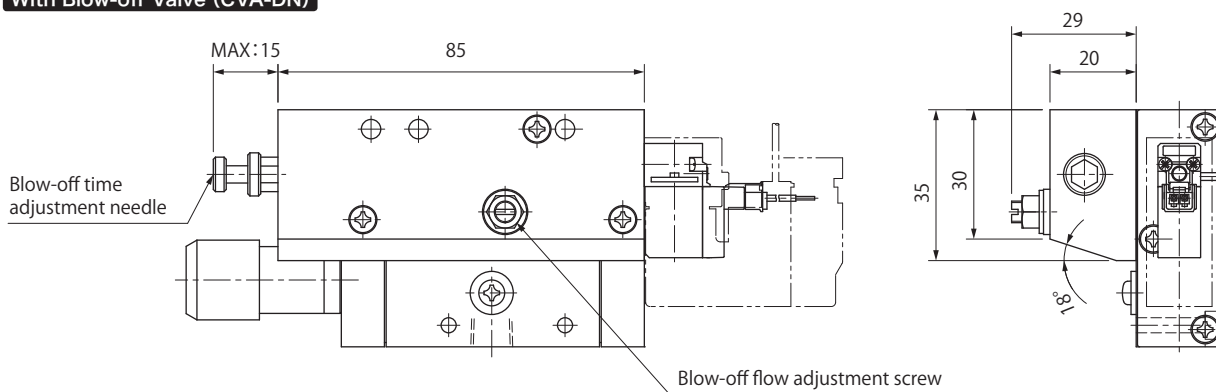
Dimensions

CVA2-05,10

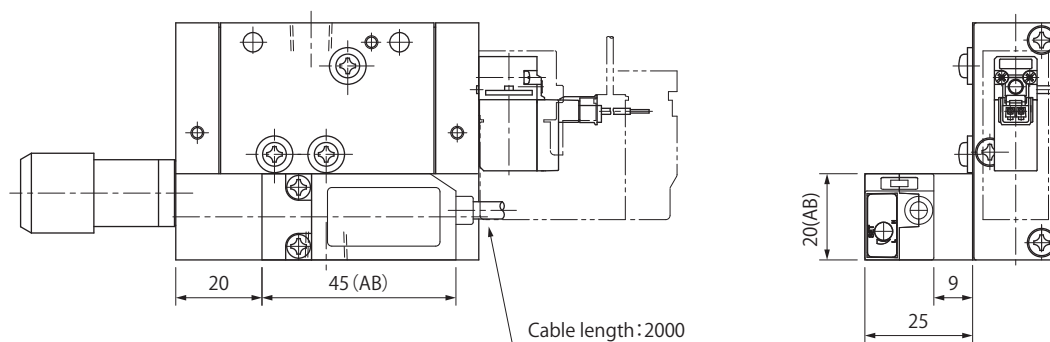
Without Sensor, Switch, Blow-off Valve



With Blow-off Valve (CVA-DN)

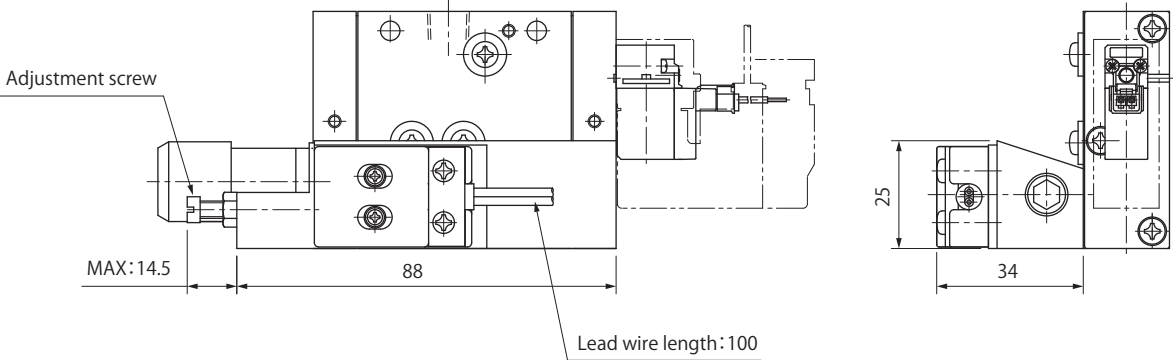


With Sensor (MVS-030AB-CVA)

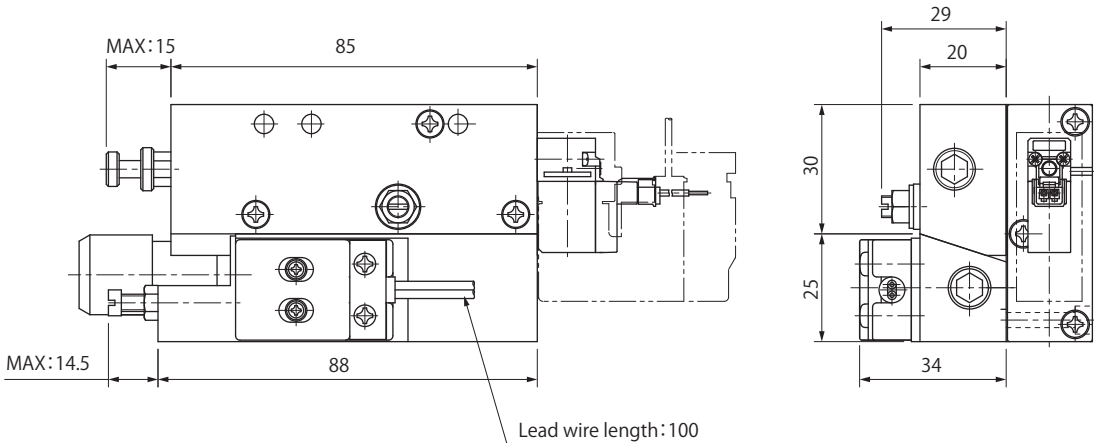


(mm)

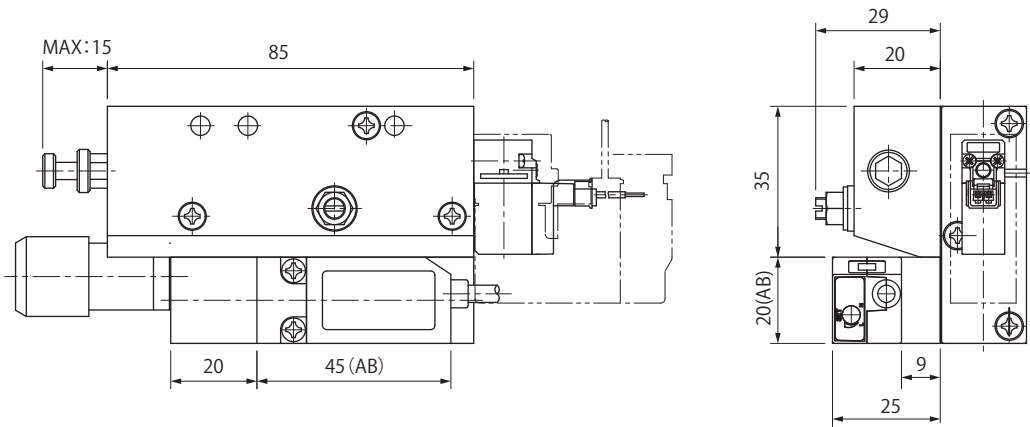
With Switch (CVA-V)



With Switch (CVA-V), Blow-off Valve (CVA-DN)



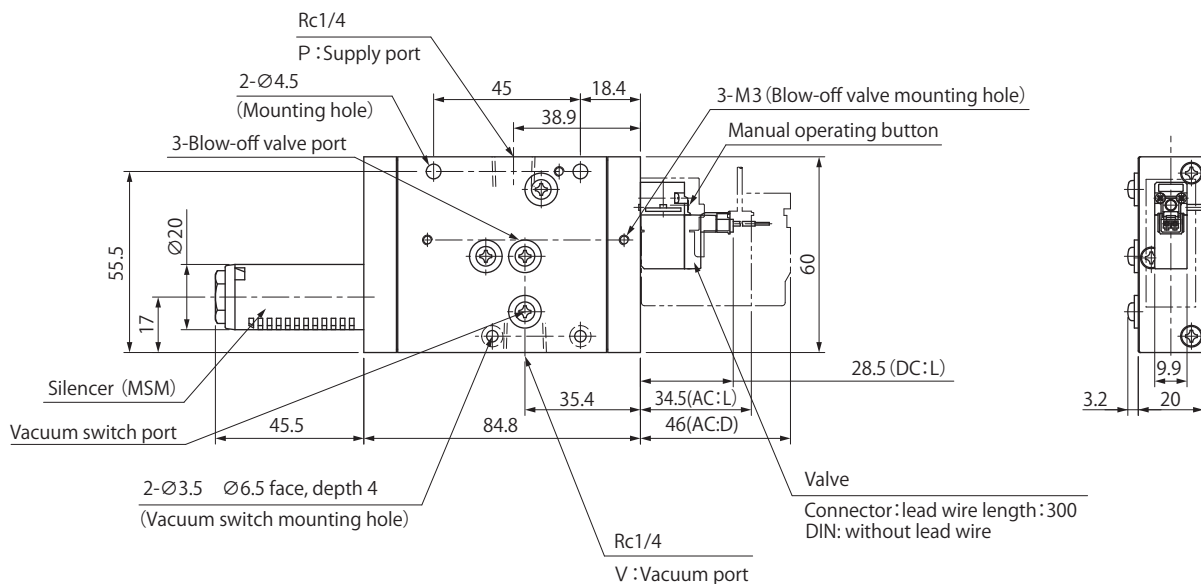
With Sensor (MVS-030AB-CVA), Blow-off Valve (CVA-DN)



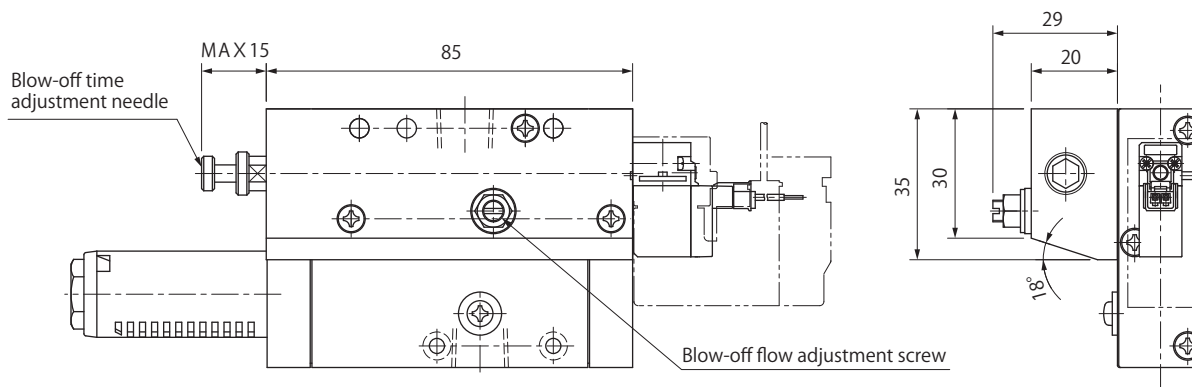
Dimensions

CVA2-15

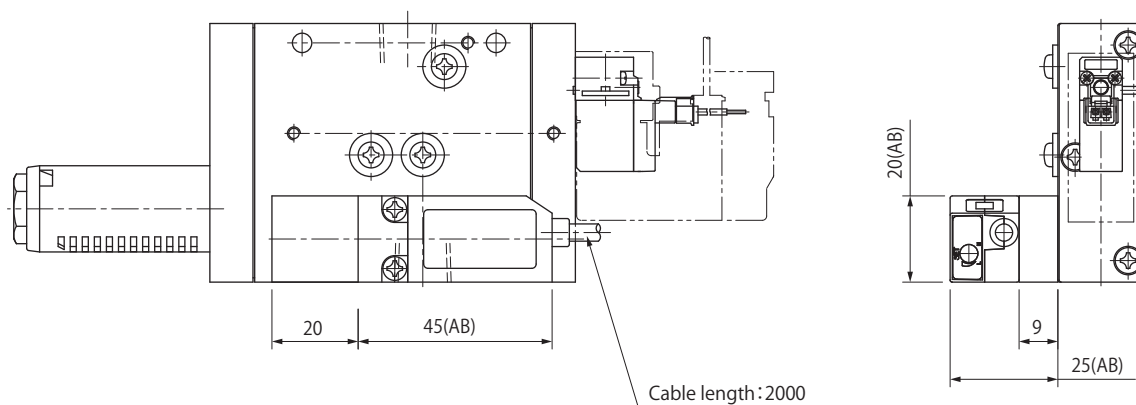
Without Sensor, Switch, Blow-off Valve



With Blow-off Valve (CVA-DN)

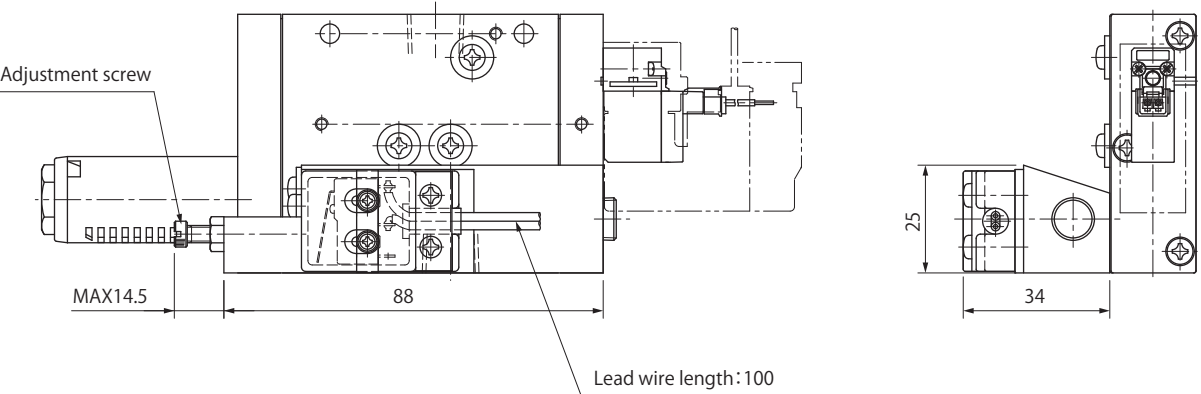


With Sensor (MVS-030AB-CVA)

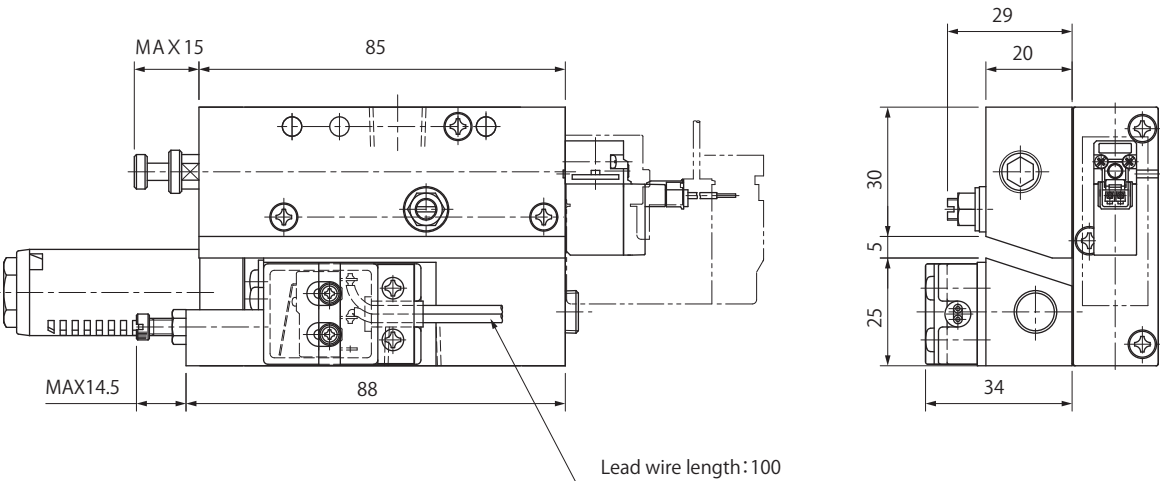


(mm)

With Switch (CVA-V)



With Switch (CVA-V), Blow-off Valve (CVA-DN)



With Sensor (MVS-030AB-CVA), Blow-off Valve (CVA-DN)

