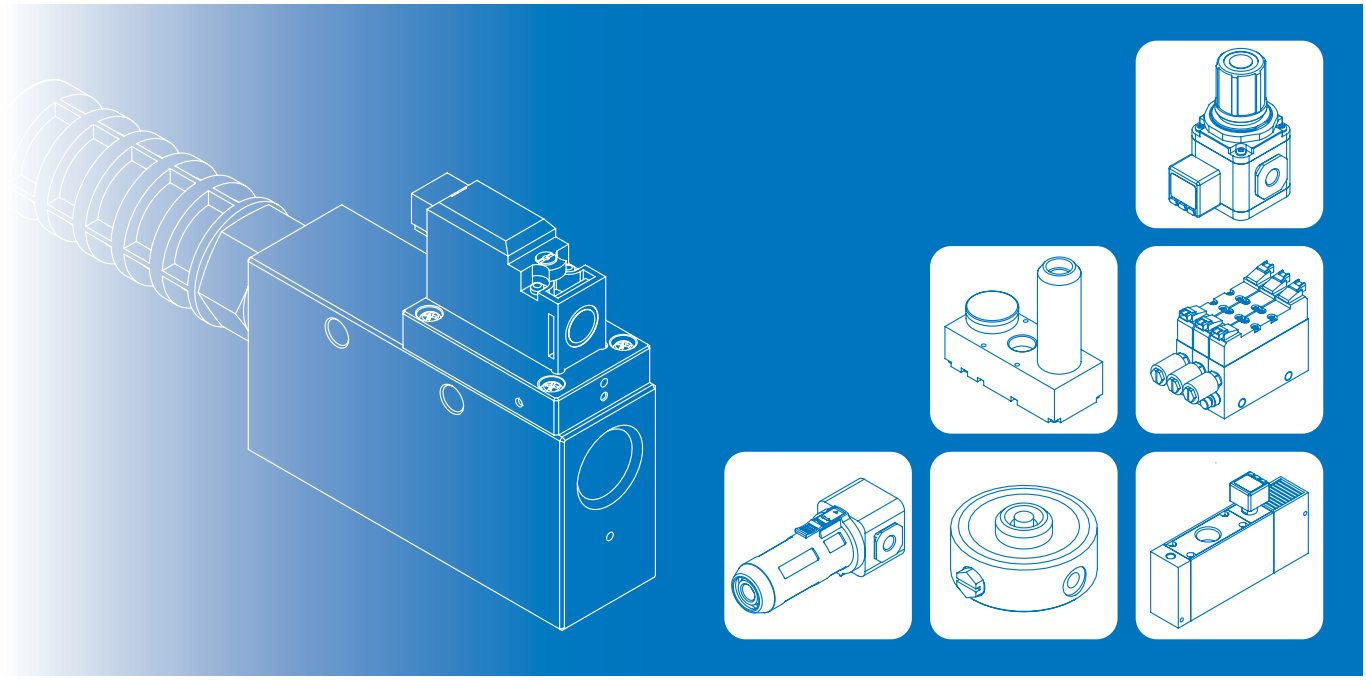
VACUUM COMPONENT



VACUUM GENERATOR

MVVA 2
MVVB 7
MVVZA 9
MZL 112 11
212 14

NO CONTACT TRANSFER

MHPSC 16

VACUUM FILTER

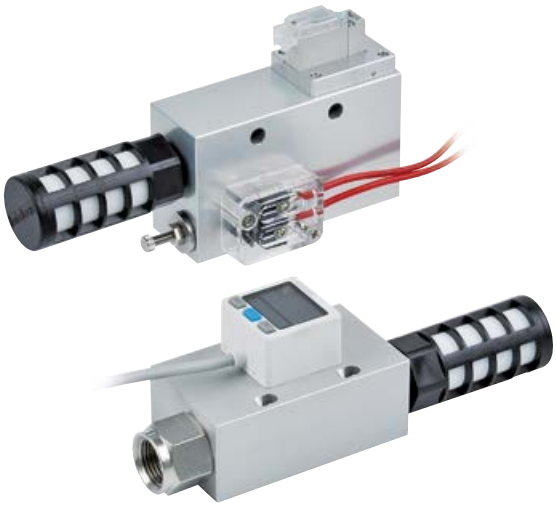
MAFV302 19

VACUUM PRESSURE REGULATOR

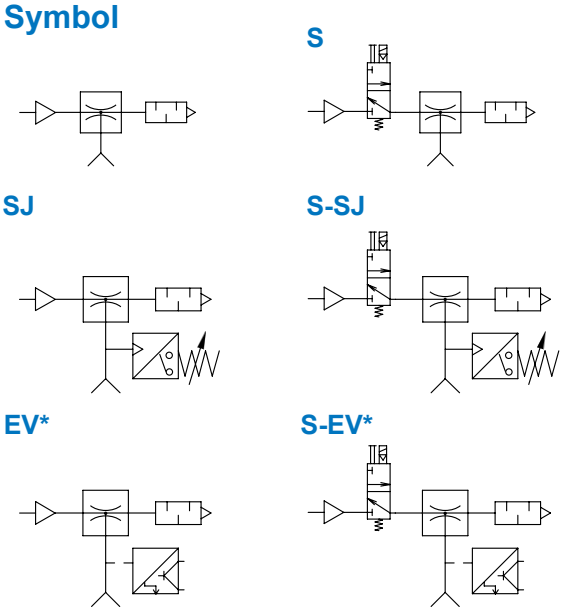
MARV302 20

MVVA series

VACUUM GENERATOR



Symbol



Order example

MVVA — 10S — SJ — G

MODEL

NOZZLE DIA. / TYPE

10	1.0 mm	Blank	Standard
15	1.5 mm		
20	2.0 mm		
25	2.5 mm		
30	3.0 mm		
10	1.0 mm	S	Solenoid valve control
15	1.5 mm		
20	2.0 mm		

PORT THREAD
Blank: Rc thread
G: G thread

VACUUM SWITCH TYPE

Blank	Standard type
SJ	Adjustable switch
EV*	Pressure switch

EV1: MP41C-022
EV5: MP41C-042
EV6: MP41C-042-QD**

* SJ, EV* only for nozzle dia. 10~20.
** MOQ required. Please contact us.

Specification

Model		MVVA				
Nozzle dia. (mm)		1.0	1.5	2.0	2.5	3.0
Port size		Refer to dimensions				
Medium		Air				
Operating pressure range		0.1~0.6 MPa				
Ambient temperature		0~+60°C (No freezing)				
Final vacuum		–91.8 kPa (–690mmHg)				
Suction flow (ℓ/min)		32	63	130	160	225
Air consumption (ℓ/min)		76	100	185	265	385
Supply pressure		0.5 MPa				
Lubricator		Not required				
Weight (g)	Standard	84	126	294	672	787
	SJ type	110	158	321	–	–
	EV type	162	197	353	–	–

Model		MVVA-S		
Nozzle dia. (mm)		1.0	1.5	2.0
Port size		Refer to dimensions		
Medium		Air		
Operating pressure range		0.15~0.6 MPa		
Ambient temperature		0~+60°C (No freezing)		
Final vacuum		–91.8 kPa (–690mmHg)		
Suction flow (ℓ/min)		21	65	99
Air consumption (ℓ/min)		50	142	187
Supply pressure		0.5 MPa		
Lubricator		Not required		
Solenoid valve		MVDY-100-3E1-DC24-SR (wire length 500mm)		
Weight (g)	**S** type	117	150	368
	S-SJ type	178	204	400
	S-EV type	186	226	427

* The rated pressure of the generator in the specifications is the value when the generator is activated. Please consider the pressure drop and ensure the specification value; If it does not meet specifications, it may cause noise, unstable characteristics, and malfunction of the sensor at a certain pressure. If this happens, please reset the rated pressure.
* The range of noise will change due to air pressure.

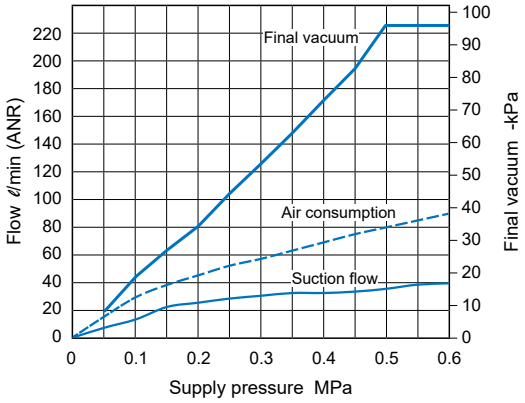
Vacuum switch

Model		SJ	EV*
Medium		Air	
Pressure setting range	kPa	– 20.0 ~ – 53	– 100 ~ 100
	(mm Hg)	(– 150 ~ – 400)	(– 757.5 ~ 757.5)
Proof pressure	(MPa)	0.5	0.3
Ambient temperature		0~+60°C (No freezing)	–10~+50°C (No freezing)
Ambient humidity		35~+85%RH (No condensation)	
Switch type		Reed switch, N.O	PNP, NPN open collector
Rated voltage		AC125V, AC250V	DC12~24V ±10%
Max load current	(A)	5	0.125
Repeatability		±5.3 kPa	≤± 0.2% F.S. ±1 digit
Hysteresis	(kPa)	4.0~13.3	–
Cable length	(mm)	400	2000

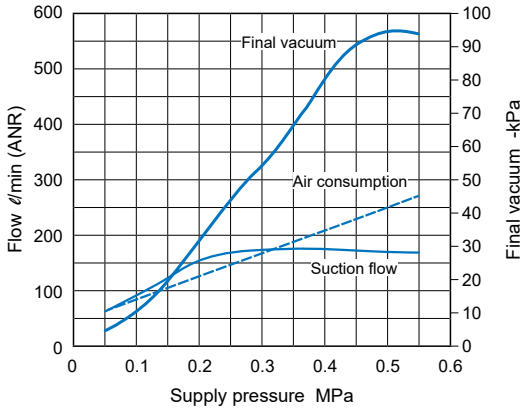
* For the detailed specifications of EV* type (MP41).

Vacuum characteristics

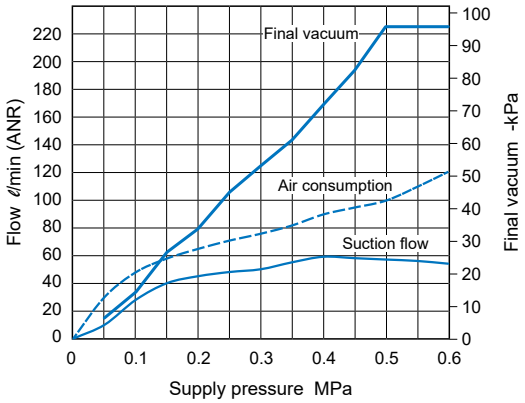
MVVA-10



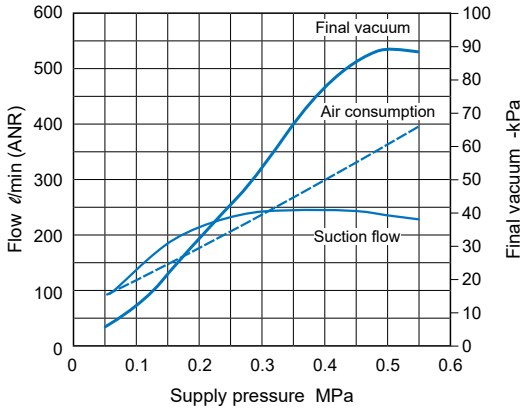
MVVA-25



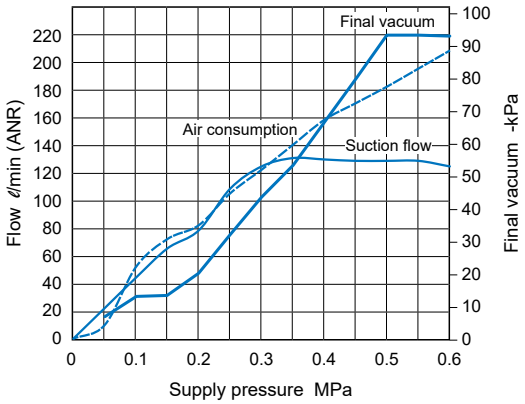
MVVA-15



MVVA-30

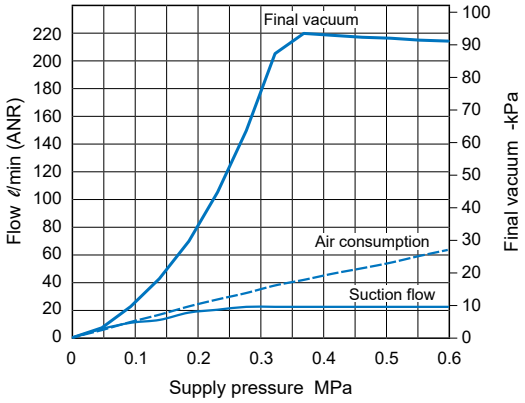


MVVA-20

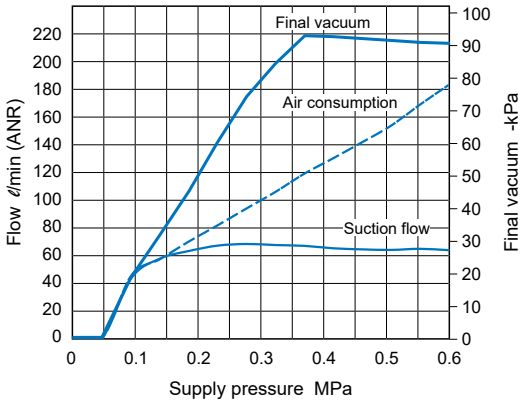


Vacuum characteristics

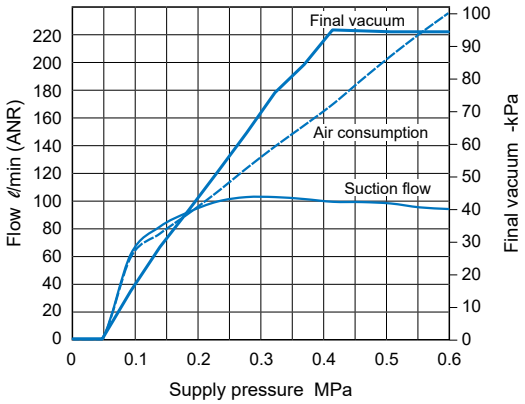
MVVA-10S



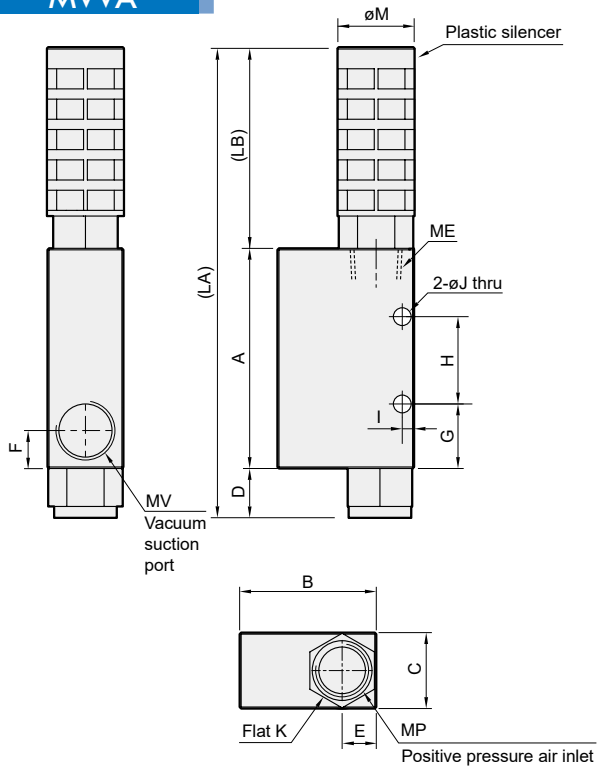
MVVA-15S



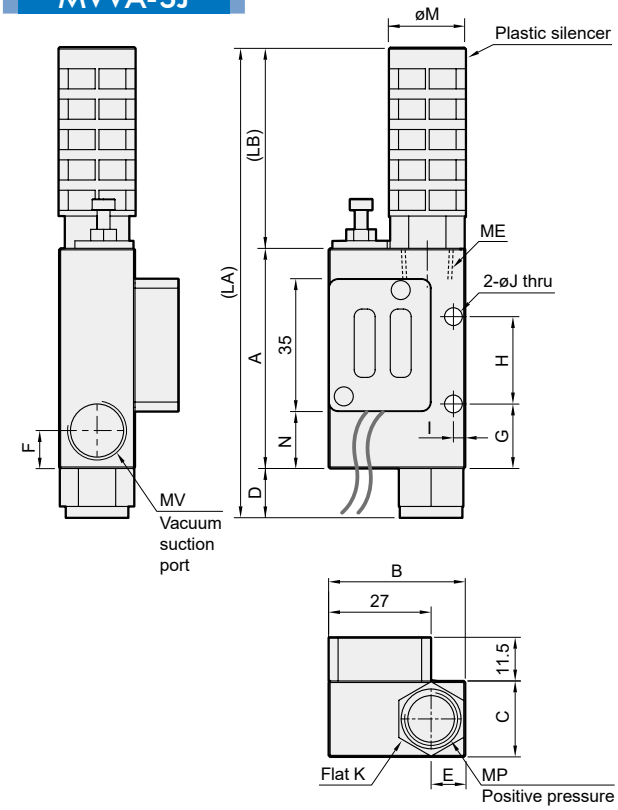
MVVA-20S



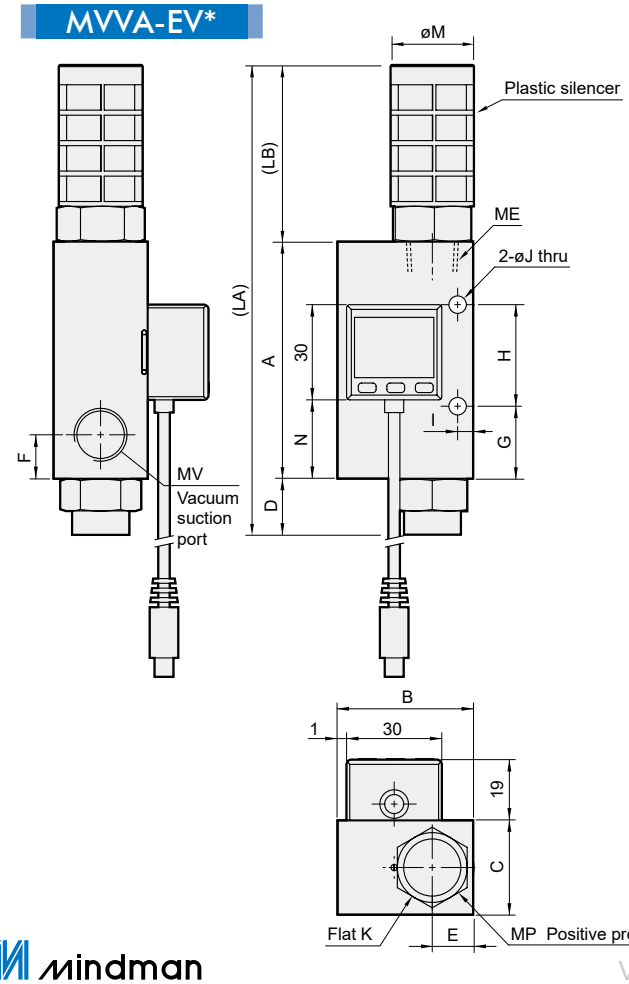
MVVA



MVVA-SJ



MVVA-EV*



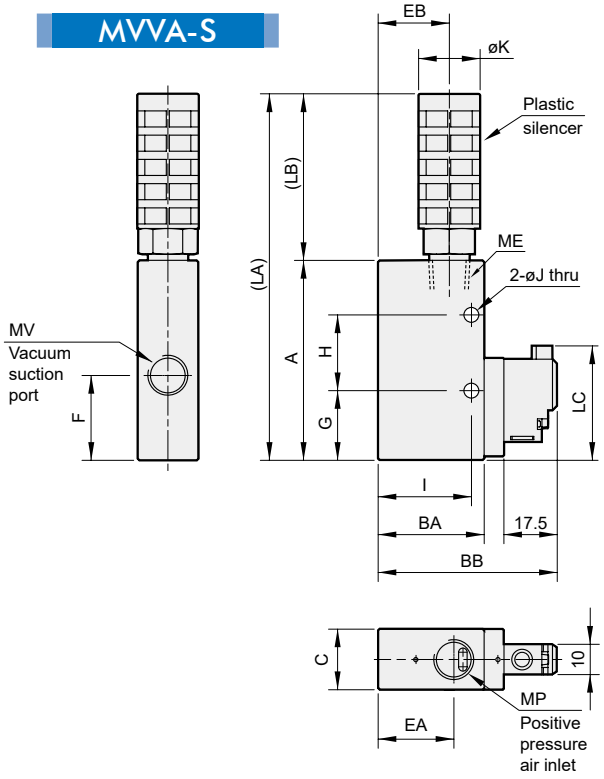
Code / Model	A	B	C	D	E	F	G	H	I	J	K	LA
MVVA-10	55	34	15.5	10	9	8	13	18	3	4.3	14	91
MVVA-10-SJ	55	34	15.5	10	9	8	13	18	3	4.3	14	91
MVVA-10-EV*	55	40	16	10	9	8	13	18	3	4.3	14	91
MVVA-15	58	36	20	13	10.5	10	17	23	3.5	4.3	17	126
MVVA-15-SJ	58	36	20	13	10	10	17	23	3.5	4.3	17	126
MVVA-15-EV*	58	39	20	13	10.5	10	17	23	3.5	4.3	17	126
MVVA-20	75	43	29.5	18	13	14	23	32	5	5.5	22	151.8
MVVA-20-SJ	75	43	29.5	18	13	14	23	32	5	5.5	22	151.8
MVVA-20-EV*	75	43	29.5	18	13	14	23	32	5	5.5	22	151.8
MVVA-25	100	60	40	17	20	16	20	50	5.5	6	28	235.5
MVVA-30	115	60	40	20	20	20	33	50	5.5	6	30	235.5

Applicable silencer

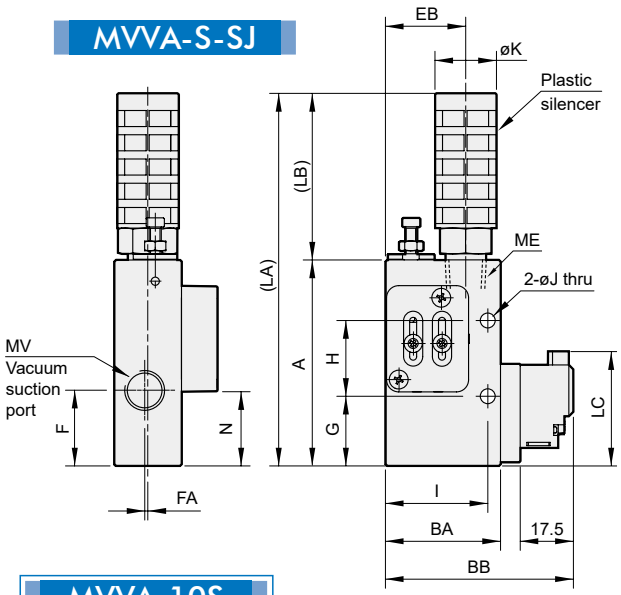
Code / Model	LB	M	ME	MP	MV	N	Silencer
MVVA-10(S)	26	16	Rc1/8	Rc1/8	Rc1/8	–	**MSR01-B**
MVVA-10(S)-SJ	26	16	Rc1/8	Rc1/8	Rc1/8	10.5	**MSR01-B**
MVVA-10(S)-EV*	26	16	Rc1/8	Rc1/8	Rc1/8	20	**MSR01-B**
MVVA-15(S)	55	20.3	Rc1/4	Rc1/4	Rc1/4	–	**MSR02-B**
MVVA-15(S)-SJ	55	20.3	Rc1/4	Rc1/4	Rc1/4	14	**MSR02-B**
MVVA-15(S)-EV*	55	20.3	Rc1/4	Rc1/4	Rc1/4	20	**MSR02-B**
MVVA-20(S)	58.8	26.3	Rc3/8	Rc3/8	Rc3/8	–	**MSR03-B**
MVVA-20(S)-SJ	58.8	26.3	Rc3/8	Rc3/8	Rc3/8	30.5	**MSR03-B**
MVVA-20(S)-EV*	58.8	26.3	Rc3/8	Rc3/8	Rc3/8	25	**MSR03-B**
MVVA-25	118.5	38	Rc3/4	Rc3/8	Rc1/2	–	**MSLE-06**
MVVA-30	118.5	38	Rc3/4	Rc1/2	Rc3/4	–	**MSLE-06**

* Silencer specifications .

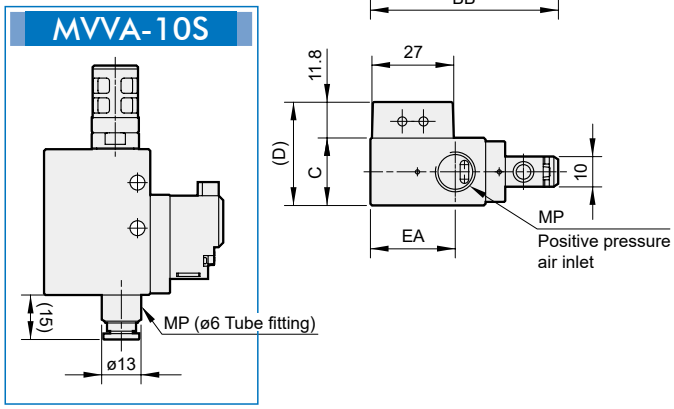
MVVA-S



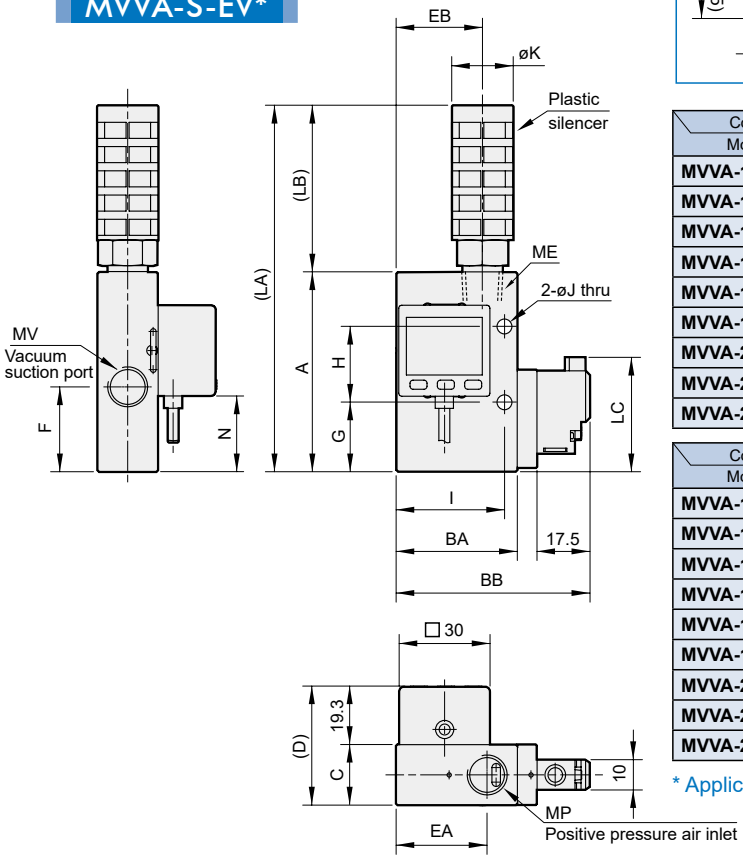
MVVA-S-SJ



MVVA-10S



MVVA-S-EV*

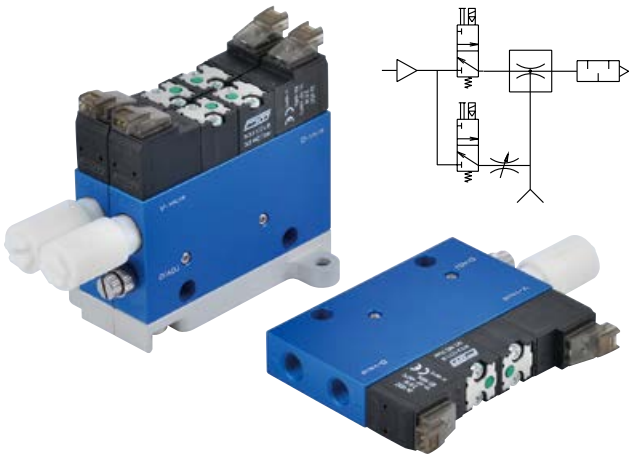


Code / Model	A	BA	BB	C	D	EA	EB	F	FA	G	H
MVVA-10S	48	35	59	16	–	25.5	23.5	25	–	22	15
MVVA-10S-SJ	68	36	60	16	27.8	26.5	24.5	24	1	22	25
MVVA-10S-EV*	48	40	64	16	35.3	30.5	28.5	29	–	22	15
MVVA-15S	66	35	59	20	–	25	23.5	28	–	23	24
MVVA-15S-SJ	68	38	62	22	34.8	28	26.5	25	1.2	23	24
MVVA-15S-EV*	66	40	64	20	39.3	30	28.5	28	–	23	24
MVVA-20S	85	50	74	29.5	–	36.5	32	33.5	–	28	32
MVVA-20S-SJ	85	50	74	29.5	41.3	36.5	32	33.5	–	28	32
MVVA-20S-EV*	85	50	74	29.5	48.8	36.5	32	33.5	–	28	32

Code / Model	I	J	K	LA	LB	LC	N	ME	MP	MV
MVVA-10S	30.8	4.3	16	94	31	37.2	–	Rc1/8	ø6	Rc1/8
MVVA-10S-SJ	31.8	4.3	16	114	31	37.2	24.5	Rc1/8	ø6	Rc1/8
MVVA-10S-EV*	35.8	4.3	16	96	31	37.2	2.5	Rc1/8	ø6	Rc1/8
MVVA-15S	30.8	4.3	20.3	121	55	37.9	–	Rc1/4	Rc1/4	Rc1/4
MVVA-15S-SJ	33.8	4.3	20.3	123	55	37.9	24.5	Rc1/4	Rc1/4	Rc1/4
MVVA-15S-EV*	35.8	4.3	20.3	121	55	37.9	25	Rc1/4	Rc1/4	Rc1/4
MVVA-20S	43	6	26.3	144	58.8	40.7	–	Rc3/8	Rc3/8	Rc3/8
MVVA-20S-SJ	43	6	26.3	144	58.8	40.7	40.5	Rc3/8	Rc3/8	Rc3/8
MVVA-20S-EV*	43	6	26.3	144	58.8	40.7	21	Rc3/8	Rc3/8	Rc3/8

* Applicable silencer please refer to the previous page.

Symbol



Specification

Model	MVVB
Nozzle dia.	0.7 mm
Port size	Rc1/8
Medium	Air
Operating pressure range	0.1~0.6 MPa
Ambient temperature	0~+60°C (No freezing)
Final vacuum	-90 kPa (-675 mmHg)
Suction flow	9 L/min
Air consumption	23 L/min
Supply pressure	0.5 MPa
Lubrication	Not required
Weight	A: 247 g (without base) B: 289 g (with base)

Order example

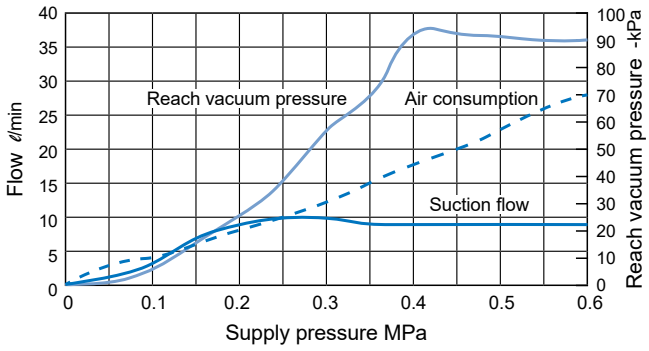
MVVB — 07HS — VD — A 1

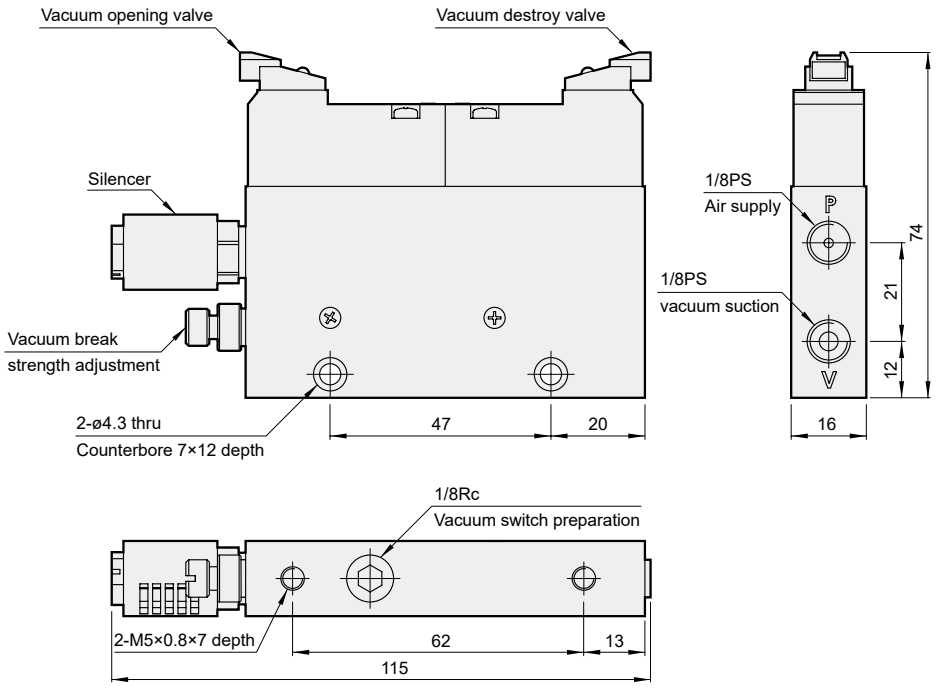
- MODEL
- NOZZLE DIA. — **07**: 0.7mm
- VACUUM LEVEL/ SUPPLY PRESSURE — **HS**: Above -85kPa/ 0.5 MPa
- Vacuum start-up valve/ Vacuum breaker valve
- MOUNTING — Blank: without accessories; **A**: Body bolt mounting; **B**: Base bolt mounting
- MANIFOLD NUMBER — **1,2,3...10**

Specification of solenoid valve

Voltage	DC24V
Power consumption	2.5 W
Allowable Voltage Variation	±10%
Acting type	Normally closed (N.C.)
Insulation class	F class
manual operation	Push type (no lock)
Display	LED
Wire	300 mm (plug with wire)

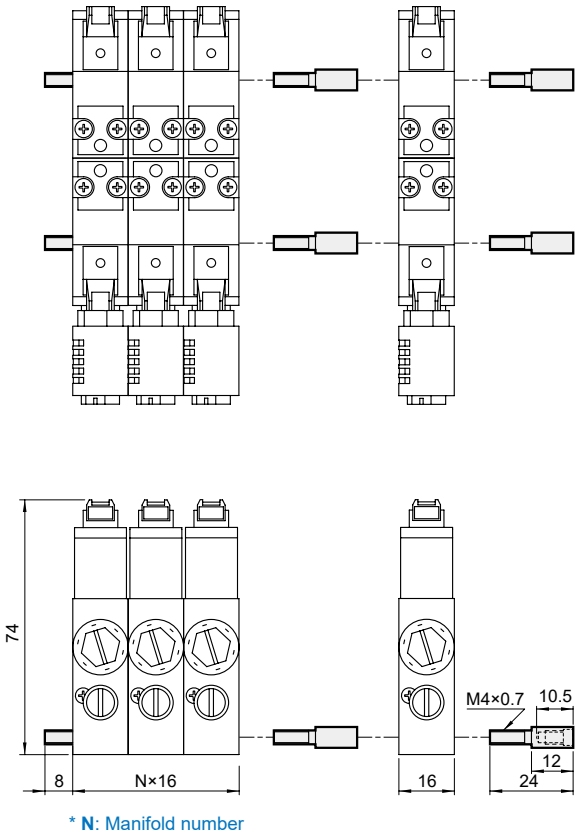
Flow features





MVVB-A

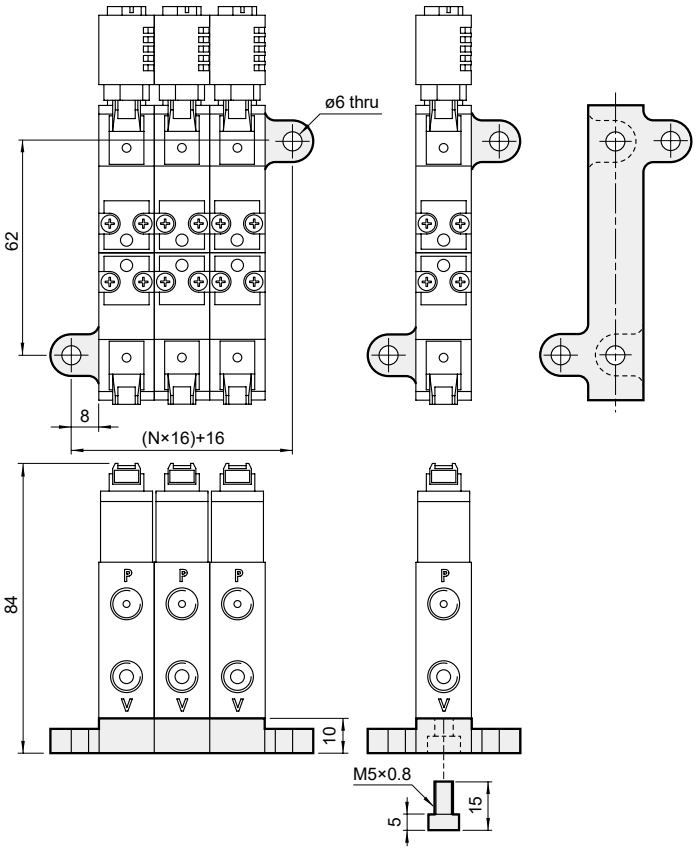
Body bolt mounting



* **N**: Manifold number

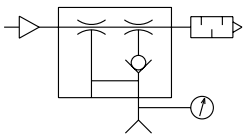
MVVB-B

Base bolt mounting





Symbol



Specification

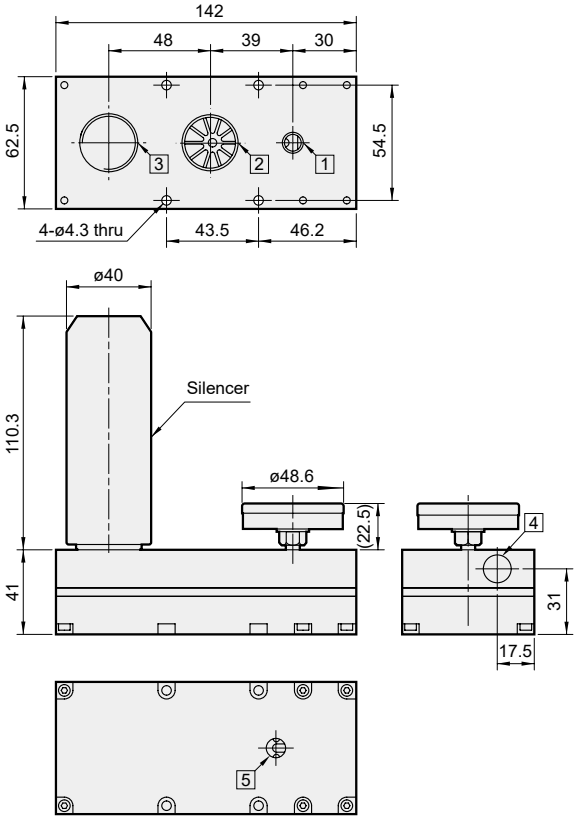
Model	MVVZA	
Nozzle number	2	4
Nozzle dia.	1.5 mm	
Port size	Please refer to dimensions	
Medium	Air	
Operating pressure range	0.1~0.6 MPa	
Ambient temperature	0~+60°C (No freezing)	
Final vacuum	-92 kPa (-690 mmHg)	
Suction flow	350 L/min	500 L/min
Air consumption	310 L/min	550 L/min
Supply pressure	0.6 MPa	
Lubrication	Not required	
Weight	775 g	826 g

Order example

MVVZA — 15 — 2 — G

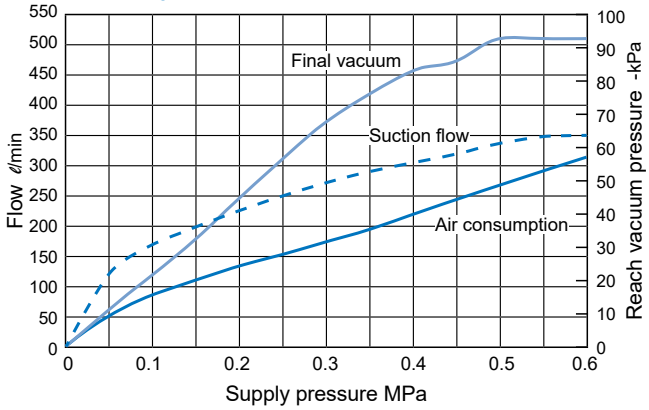
- MODEL
- NOZZLE DIA. — **15**: 1.5mm
- NOZZLE NUMBER — **2**: 2 sets; **4**: 4 sets
- DIGITAL VACUUM GAUGE — Blank: None; **G**: With gauge

Dimensions

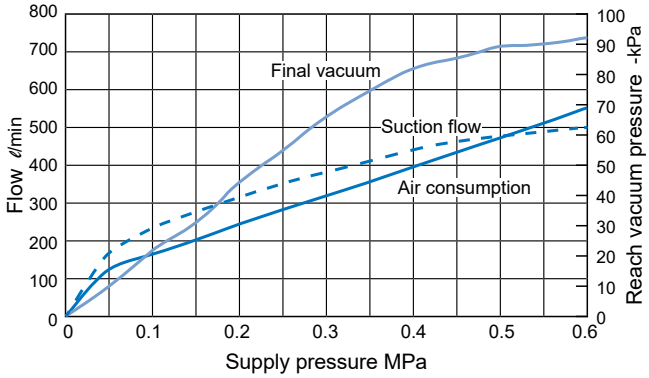


Flow features

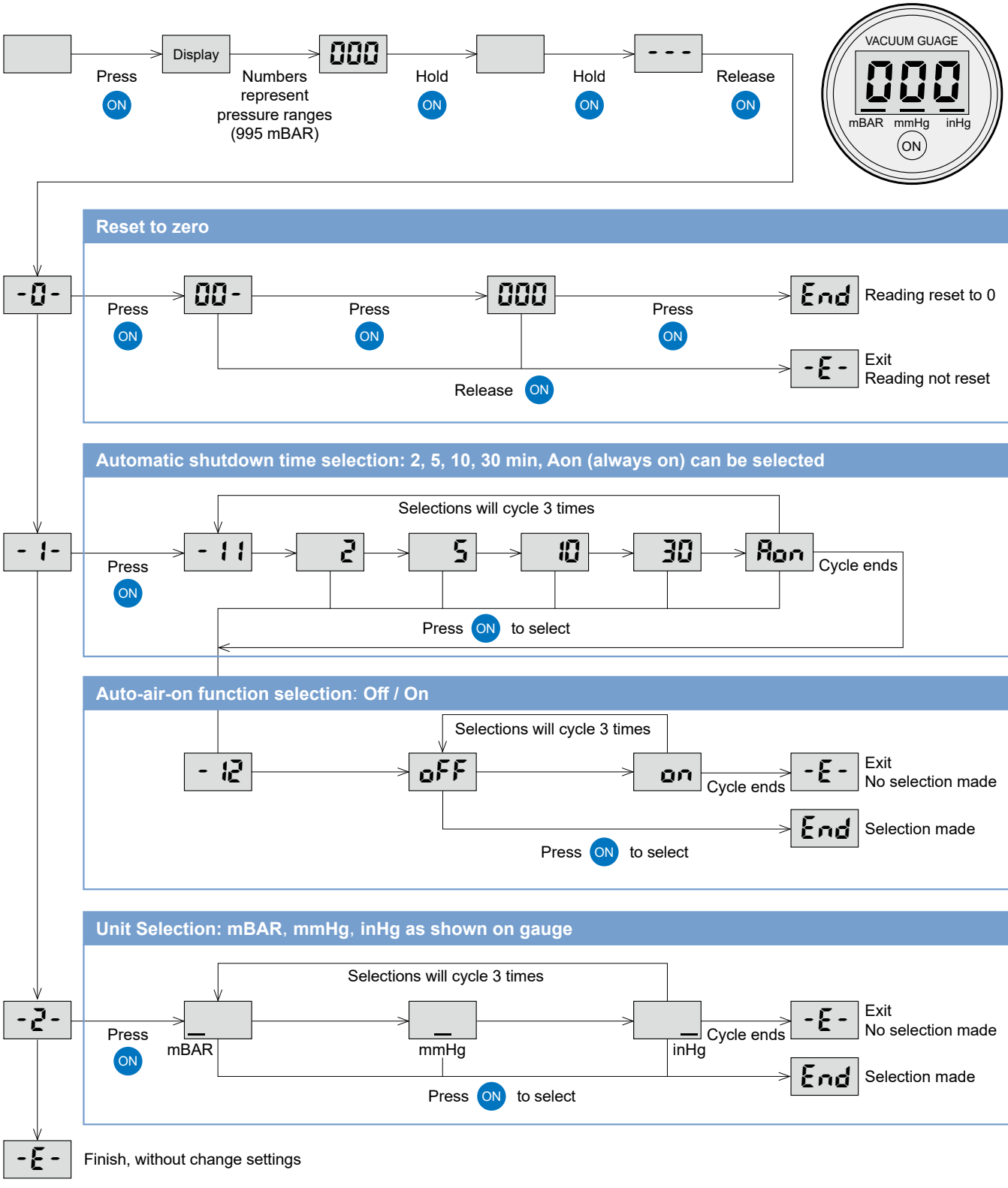
MVVZA-15-2



MVVZA-15-4



No.	Part name	Nozzle number	
		2 sets	4 sets
1	Vacuum display interface	PS1/8"	PS1/8"
2	Vacuum suction port	PS3/4"	PS3/4"
3	Exhaust port	PS3/4"	PS3/4"
4	Inlet port	PS1/4"	PS1/4"
5	Vacuum suction backup port	PS1/8"	PS1/8"


Display
Press
ON
Numbers represent pressure ranges (995 mBAR)
000
Hold
ON
Hold
ON
- - -
Release
ON
VACUUM GUAGE
000
mBAR mmHg inHg
ON
Reset to zero
-0-
Press
ON
00-
Press
ON
000
Press
ON
End
Reading reset to 0
Release
ON
-E-
Exit
Reading not reset
Automatic shutdown time selection: 2, 5, 10, 30 min, Aon (always on) can be selected
-1-
Press
ON
Selections will cycle 3 times
-11
2
5
10
30
Aon
Cycle ends
Press
ON
to select
Auto-air-on function selection: Off / On
-12
Selections will cycle 3 times
oFF
on
Cycle ends
-E-
Exit
No selection made
End
Selection made
Press
ON
to select
Unit Selection: mBAR, mmHg, inHg as shown on gauge
-2-
Press
ON
Selections will cycle 3 times
mBAR
mmHg
inHg
Cycle ends
-E-
Exit
No selection made
End
Selection made
Press
ON
to select
-E-
Finish, without change settings

MZL112 series

MULTISTAGE VACUUM PUMP



Features

- Adopt 3-stage cartridge, enhancing vacuum flow and saving air consumption.
- Optional solenoid valve and vacuum pressure switch.
- Internal vacuum filter and vacuum silencer. The filter element is replaceable.
- A variety of installation directions are available.

Specification

Model	MZL112
Nozzle dia.	1.2 mm
Max. suction flow	100 ℓ/min
Air consumption	63 ℓ/min
Max. vacuum pressure	–84 kPa
Max. operating pressure	0.7 MPa
Supply pressure range	0.2~0.5 MPa
Standard supply pressure	0.4 MPa
Operating temperature range	+5~+50°C
Noise	70 decibel
Weight	450 g

Order example

MZL112 – □ – □

- MODEL
- NOZZLE DIA.
  12: 1.2 mm
- VALVE COMBINATION
  Blank: Without valve
  A: With supply and release valves
- HIGH PRECISION DIGITAL PRESSURE SWITCH
  Blank: None
  NP: Vacuum adapter port Rc1/8
  E1: MP48E-010-F1
  E2: MP48E-011-F1
  E3: MP48E-02R-F1
  * MP48E series .

Supply / Release valve specifications

Type of valve actuation	Internal pilot type N.C.
Operating pressure range	0.2~0.5 MPa
Ambient and fluid temperature	+5~+50°C (No freezing)
Response time (for 0.5 MPa)	25ms or less
Max. operating frequency	5Hz
Manual operation	Push and swing lock type (operate with a screwdriver)
Pilot exhaust type	Pilot valve individual exhaust type, Main valve / Pilot valve common exhaust.
Rated voltage	DC24V
Lead wire	L plug connector, lead wire length 0.3m
Lubrication	Not required
Mounting position	Unrestricted
Impact / Vibration resistance	150 / 30 m/s^2
Enclosure	Dust proof

* Without indicator light and surge voltage suppressor.

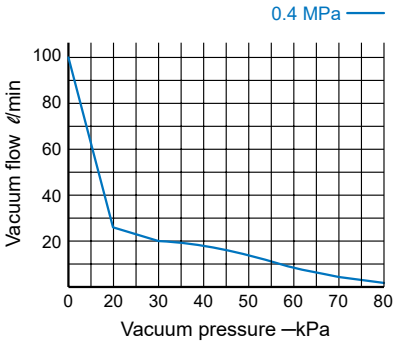
Vacuum flow(ℓ/min) at different vacuum levels (–kPa)

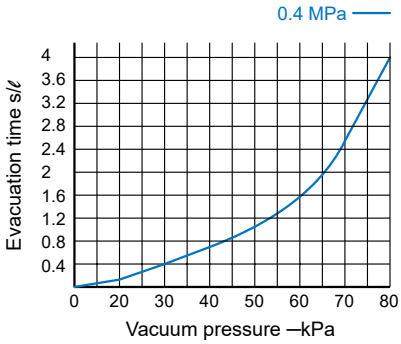
Supply pressure	Air consumption	Vacuum flow(ℓ/min) at different vacuum levels (–kPa)									Max. vacuum level
0.4 MPa	63 ℓ/min	0	10	20	30	40	50	60	70	80	–84 kPa
		100	65	26	20	18.5	13	8	5	2.8	

Evacuation time(s/ℓ) to reach different vacuum levels (–kPa)

Supply pressure	Air consumption	Evacuation time(s/ℓ) to reach different vacuum levels (–kPa)								Max. vacuum level
0.4 MPa	63 ℓ/min	10	20	30	40	50	60	70	80	–84 kPa
		0.05	0.17	0.4	0.67	1.07	1.63	2.46	3.9	

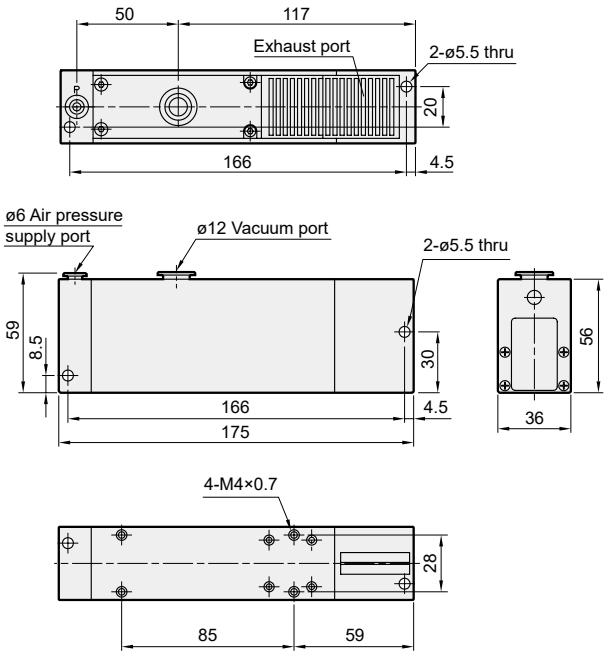
Vacuum characteristics





MZL112

Standard

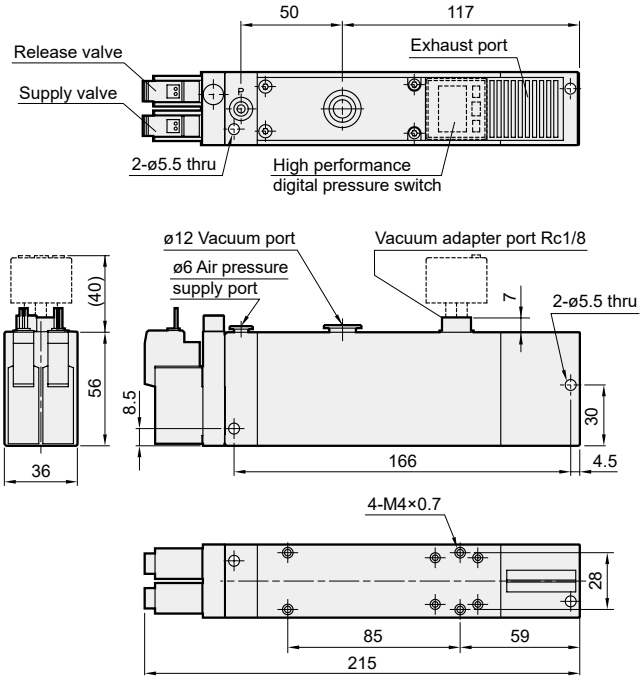


MZL112-A-NP

Vacuum adapter port

MZL112-A-E*

With high performance digital pressure switch

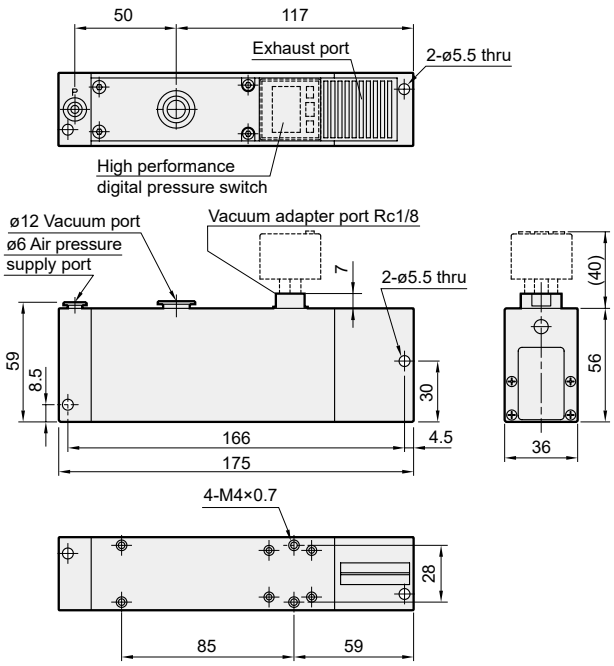


MZL112-NP

Vacuum adapter port

MZL112-E*

With high performance digital pressure switch



MZL212 series

MULTISTAGE VACUUM PUMP



Features

- Adopt 3-stage cartridge, enhancing vacuum flow and saving air consumption.
- Optional solenoid valve and vacuum pressure switch.
- Internal vacuum filter and vacuum silencer. The filter element is replaceable.
- A variety of installation directions are available.

Specification

Model	MZL212
Nozzle dia.	1.2 mm × 2
Max. suction flow	200 ℓ/min
Air consumption	126 ℓ/min
Max. vacuum pressure	–84 kPa
Max. operating pressure	0.7 MPa
Supply pressure range	0.2~0.5 MPa
Standard supply pressure	0.4 MPa
Operating temperature range	+5~+50°C
Noise	77 decibel
Weight	700 g

Order example

MZL212 – □

- MODEL
- NOZZLE DIA.
  - **12**: 1.2 mm
- VACUUM PRESSURE SENSOR
  - Blank: None
  - **NP**: Vacuum adapter port Rc1/8
  - **E1**: MP48E-010-F1
  - **E2**: MP48E-011-F1
  - **E3**: MP48E-02R-F1

* MP48E series.

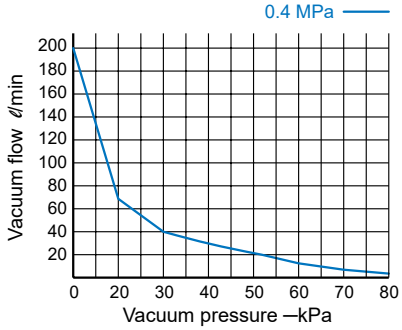
Vacuum flow(ℓ/min) at different vacuum levels (–kPa)

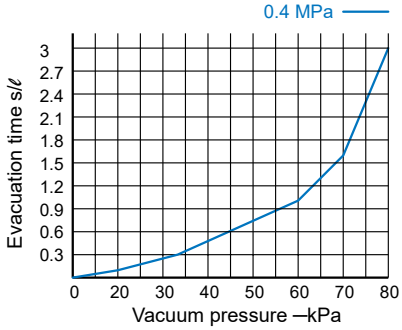
Supply pressure	Air consumption	Vacuum flow(ℓ/min) at different vacuum levels (–kPa)									Max. vacuum level
0.4 MPa	126 ℓ/min	0	10	20	30	40	50	60	70	80	–84 kPa
		200	150	52	40	30	25	15	8	3	

Evacuation time(s/ℓ) to reach different vacuum levels (–kPa)

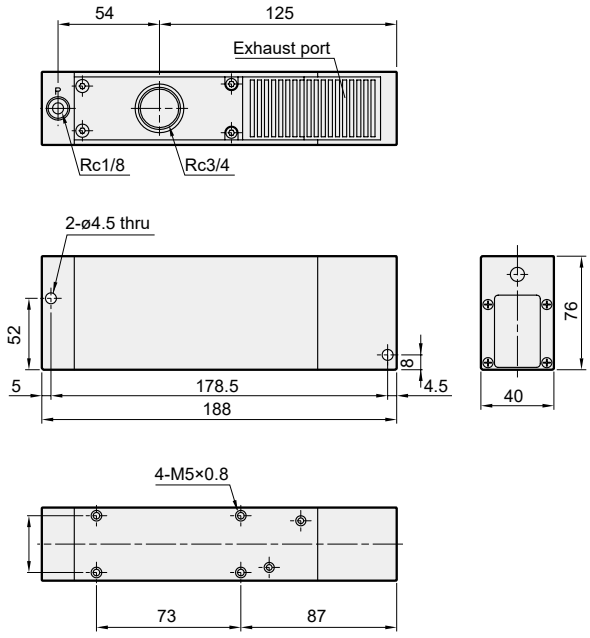
Supply pressure	Air consumption	Evacuation time(s/ℓ) to reach different vacuum levels (–kPa)								Max. vacuum level
0.4 MPa	126 ℓ/min	10	20	30	40	50	60	70	80	–84 kPa
		0.02	0.08	0.25	0.42	0.65	0.98	1.52	2.46	

Vacuum characteristics



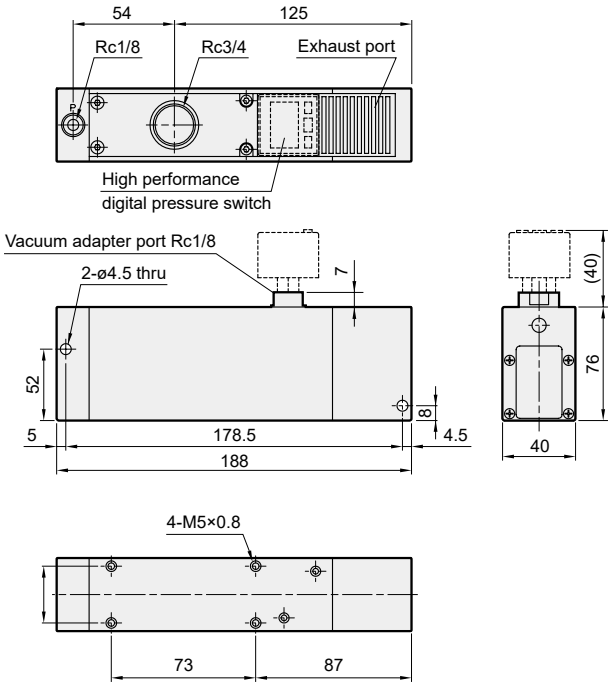


MZL212
Standard



MZL212-NP
Vacuum adapter port

MZL212-E*
With high performance digital pressure switch

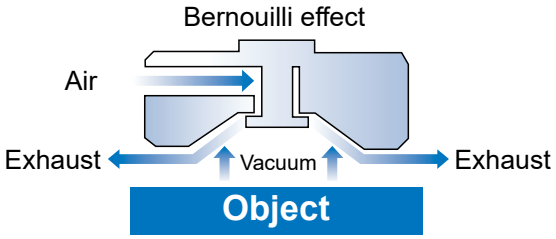


MHPSC series

NO CONTACT TRANSFER



Principle



The principle of these prehension is based on the exploitation of the Bernouilli effect. A positive pressure is applied through form adequate (Insert + curve). The exhaust of this air goes through of low pressure and gets a vacuum aspiring any kind of object.

Order example

MHPSC — 20 — CI

- MODEL
- SIZE
  - **20**
  - **30**
  - **40**
  - **60**
- TYPE
  - **CI**: With 3 rubber absorber
  - **U**: Smooth surface (Only for size 40)

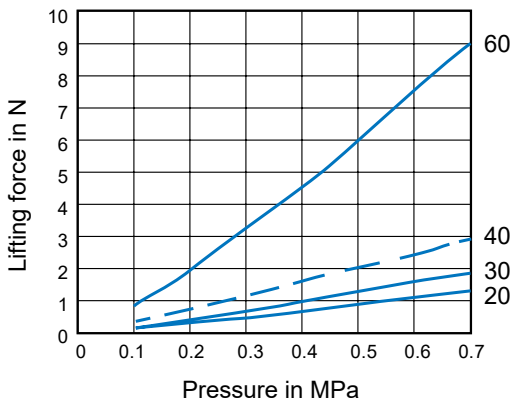
Specification

Model	MHPSC			
Size	20	30	40	60
Port size	M3	M5	M5	M5
Medium	Dry air filter 40μ			
Consumption in air (*) l/min	100	100	110	210
Lifting force (*) in N	0.9	1.3	2	6
Operating pressure range	0.2~0.7 MPa			
Ambient temperature	+5~+60°C			
Level of noise	25dB			
Material	Aluminum A5056 and stainless steel			
Weight	10 g	30 g	54 g	124 g

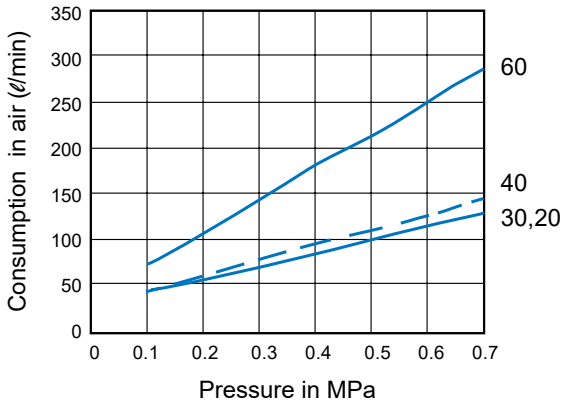
* Indicative value for sizes 20 and 30: Pressure of 0.5 MPa with an air supply by tube ø2,5×4 length: 1m. for sizes 40 and 60: Pressure of 0.5 MPa with an air supply by tubeø4×6 length: 1m.

Capacity

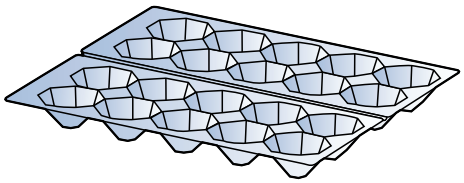
Lifting force



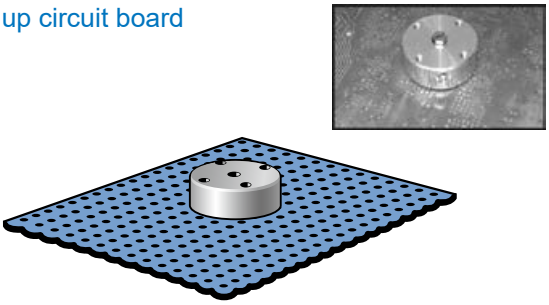
Consumption in air



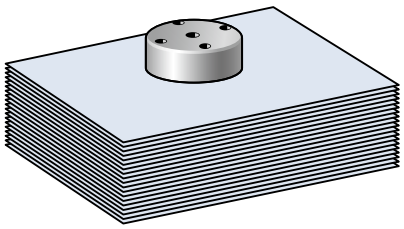
■ Eggs or fruits packaging



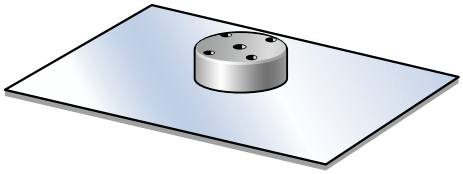
■ Pick up circuit board



■ Paper sheet with small thickness.
(Transfer sheet by sheet)



■ Glass sheet leave
(no mark on the face)



■ Handling of object on concave or convex surface. Handling of biscuit, wafer, paste, pastry making, membrane, sponge, textile, mirror, etc...

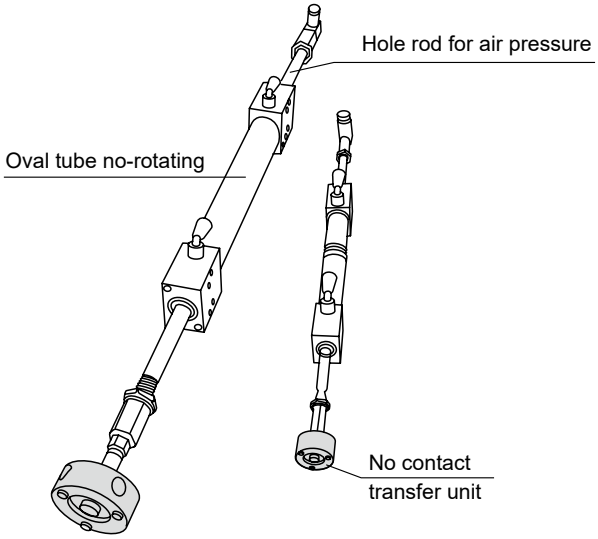
Type



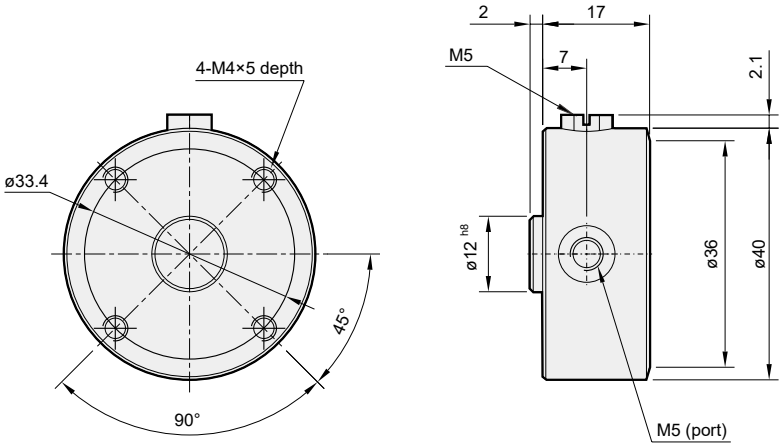
CI



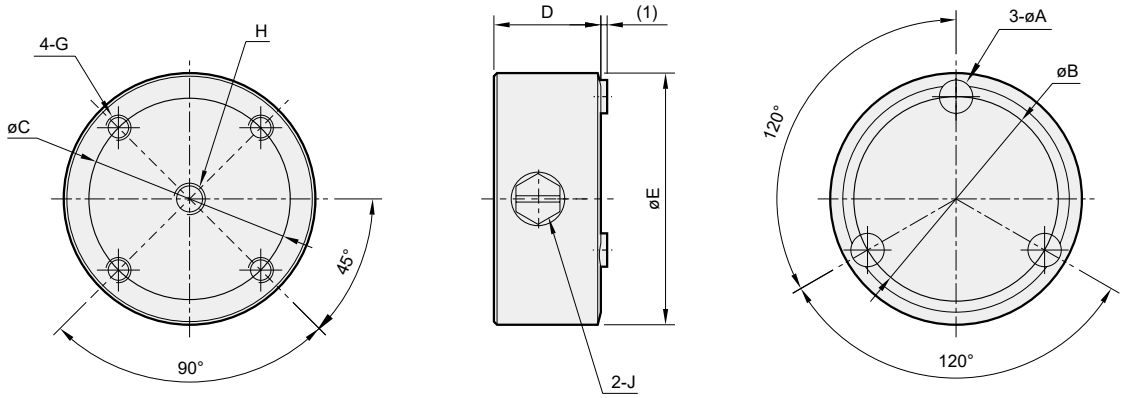
U



MHPSC-40U Smooth surface with treatment



MHPSC-**CI Prehensor with three points of contact



Code / Model	A	B	C	D	E	G	H	J
20	2.2	16.6	14	12	20	M4x5	M3	Plug M3
30	3.4	24.4	22	17	30	M4x10	M5	Plug M5
40	5.3	32.5	32	17	40	M4x10	M5	Plug M5
60	5.3	48.8	44	17	60	M4x10	M5	Plug M5

MAFV302 series

VACUUM FILTER

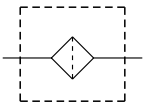
Technical data

Filter element

Caution for safety
(Read before installing)



Symbol



Features

- Remove water droplets and pollutants to ensure the quality of the vacuum gas supply system.
- The maximum flow rate is 240 L/min when the initial pressure loss is 4 kPa.
- Nylon cup body to adapt to a variety of environment needs.

Specification

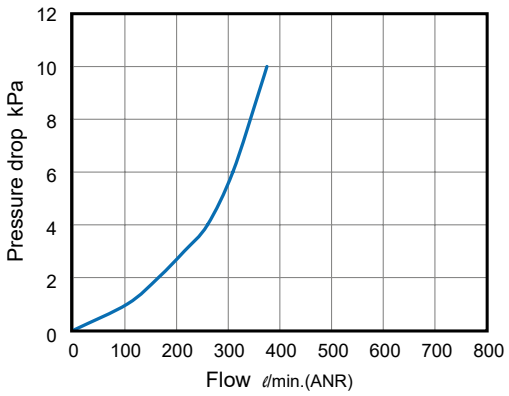
Model	MAFV302		
Bore No.	8A	10A	15A
Port size	1/4	3/8	1/2
Medium	Air		
Operating perssure range	-100~0 kPa		
Proof pressure	0.5 MPa		
Ambient temperature	– 5~+60°C (No freezing)		
Drain capacity	35 cm^3		
Filter element	5μm		
Optional attachment	C type bracket		
Weight	333 g		

Order example

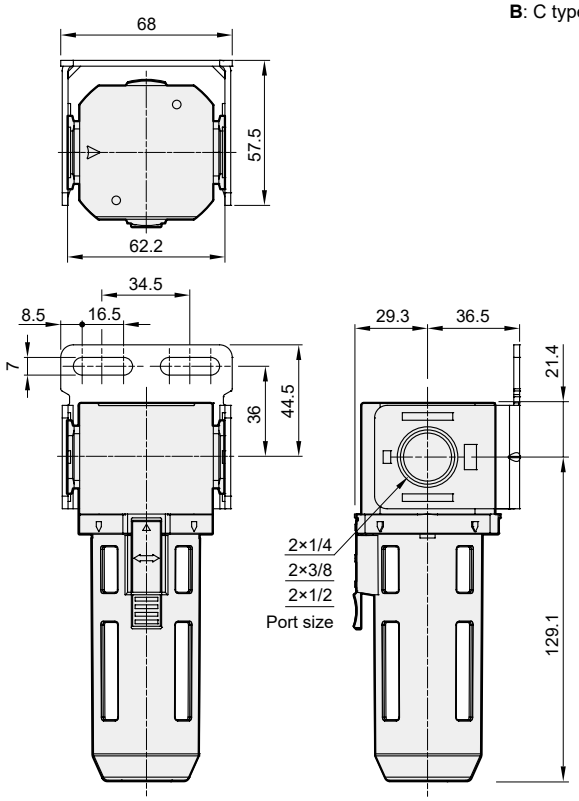
MAFV302 – 8A – N – □ – □ – □

- MODEL
- PORT SIZE: **8A**: 1/4, **10A**: 3/8, **15A**: 1/2
- BOWL: **N**: Nylon bowl
- FILTER ELEMENT: Blank: 5μm
- BRACKET: Blank: without, **B**: C type bracket
- PORT THREAD: Blank: Rc thread, **G**: G thread, **NPT**: NPT thread

Flow feature

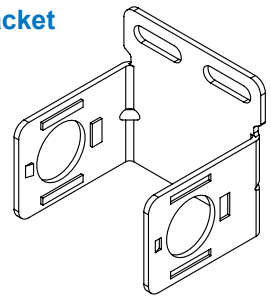


Dimensions



Optional

C type bracket



MARV302 series

VACUUM PRESSURE REGULATOR

Technical data

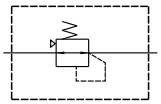
Caution for safety
(Read before installing)





Option: **MP48E**

Symbol



Features

- Installed after vacuum pump and used to adjust the vacuum pressure for operational requirements of the machine.
- Can be assembled with MAFV302 to achieve modular design.
- High flow rate up to 310 ℓ/min (ANR).
- Accurate vacuum control(resolution within 0.13 kPa) and high stability.

Specification

Model	MARV302		
Bore No.	8A	10A	15A
Port size	1/4	3/8	1/2
Medium	Air		
Proof pressure (*1)	100 kPa		
Setting pressure range (*2)	-100 ~ -1.3 kPa		
Atmospheric intake consumption (*3)	0.6 ℓ/min(ANR) or less		
Knob resolution	0.13 kPa or less		
Ambient temperature	–5~+60°C (No freezing)		
Max. flow rate (*4) ℓ/min(ANR)	275	310	
Optional attachment	Pressure gauge (PGV-40S), L type bracket		
Weight	470 g		

*1. For vacuum regulator with pressure gauge, the gauge will be damaged if positive pressure is supplied.
*2. Use caution it varies depending on the pressure in vacuum pump side.
*3. Take air from atmosphere all the time.
*4. It is the flow rate when the secondary side is completely close and primary pressure is at -101kPa, and then adjusting secondary pressure at -80kPa, the secondary side is fully opened.

Order example

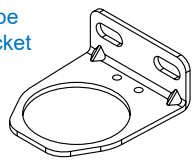
MARV302 – 8A – C – □ – □

- MODEL
- PORT SIZE
  - **8A**: 1/4
  - **10A**: 3/8
  - **15A**: 1/2
- PRESSURE GAUGE
  - Blank: without guage
  - **C**: Pressure gauge (PGV-40S)
  - **E5**: Digital pressure switch (MP48E-010)
  - **E6**: Digital pressure switch (MP48E-011)
  - **E7**: Digital pressure switch (MP48E-02R)
- BRACKET
  - Blank: without
  - **B**: L type
- PORT THREAD
  - Blank: Rc thread
  - **G**: G thread
  - **NPT**: NPT thread

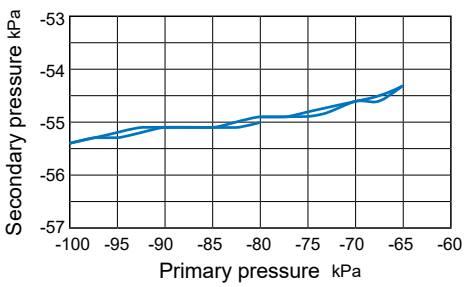
* For piping ports with NPT threads, please contact us if digital pressure sensor (E*) is required.

Option accessories

L type bracket

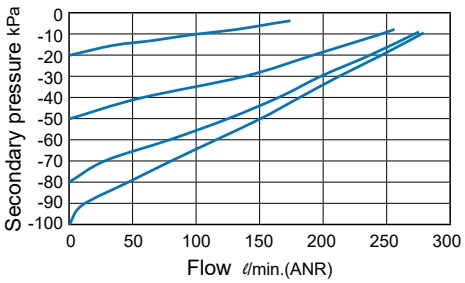


Pressure feature

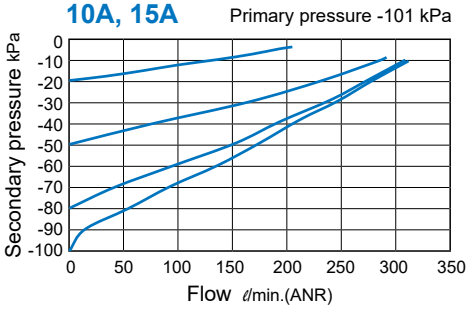


Flow feature

8A Primary pressure -101 kPa

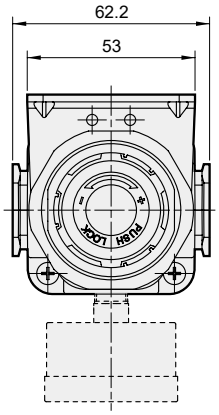


10A, 15A Primary pressure -101 kPa

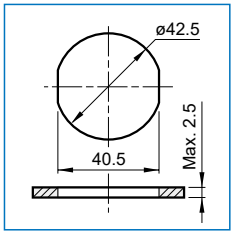


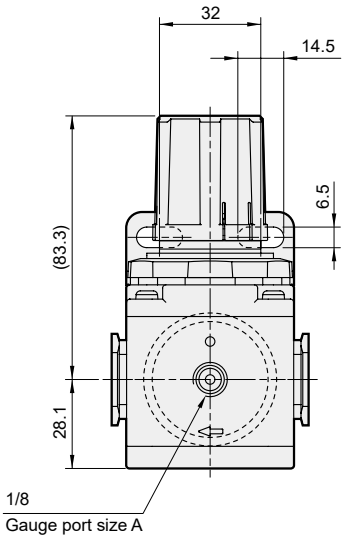
MARV302

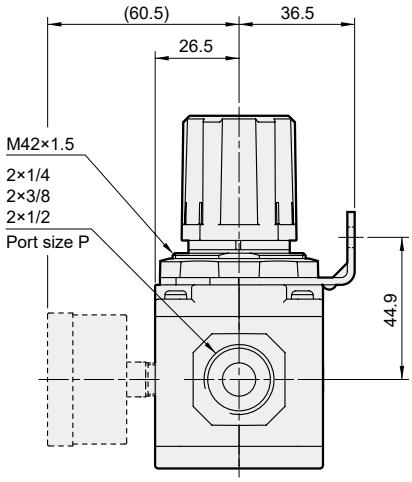
PGV-40S pressure guage + L type bracket



Panel mounting hole







P Port thread	A Gauge port thread
Rc	Rc
G	
NPT	NPT

MARV302-E*

MP48E digital pressure switch

