Vacuum ejector unit

MC72 CONVUM

- Successor of MC7series
- High vacuum flow type
  Suitable for porous workpiece handling
- Blow–off solenoid valve and check valve option available
- Can be mounted on manifold
  Up to 5 units

How to order

In case of manifold

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
MC72	S	15	H	S	VG	C	4	B	L	R	1

① Body type

S	Single unit
M	Manifold unit

② Nozzle size

15	ϕ1.5
20	ϕ2.0
25	ϕ2.5

③ Maximum vacuum pressure (kPa)

H	–87
L	–53

④ Supply pressure (MPa)

S	0.5
R	0.35

Note : ②③④ applicable models

②	③	④ S	④ R
15	H	○	○
	L	○	×
20	H	○	○
	L	○	×
25	H	○	×
	L	×	×

⑤ Pressure sensor

	Sensor type	Pressure	Display	Switch output	Analog output	Input specification
AB	MVS–030AB	Vacuum	LED	NPN1 point	Without	Without
ABP	MVS–030AB	Vacuum	LED	PNP1 point	Without	Without
VG	MPS–V23	Vacuum	Digital	NPN2 point	DC1 ~ 5V	Without
VGP	MPS–V23	Vacuum	Digital	PNP2 point	DC1 ~ 5V	Without
21	MVS–201	Compound	Digital	NPN1 point	Without	Sink
21P	MVS–201	Compound	Digital	PNP1 point	Without	Sink
ZZ	Without sensor, without base					
ZS	Without sensor, with base					

⑥ Body type

Type	Blow–off solenoid vale	Check valve	Filter
C	with	with	with
D	with	without	
E	without	without	
F	with	with	without
G	with	without	
Z	without	without	

⑦ Solenoid valve voltage

4	DC24V

⑧ Solenoid valve air passage

A	Normally open (N.O)
B	Normally closed (N.C)
W	Self–holding solenoid valve (note1)

Note1) The energy-saving function of a sensor cannot work if the self-holding valve is selected.

⑨ Solenoid valve connection

L	Connector type

⑩ Port size

R	Rc (BSPT) 1/4
N	NPT1/4–27
G	G (BSPP)1/4

Note) G and NPT thread are made to order

⑪ Number of manifold units

1	1 unit
2	2 units
3	3 units
4	4 units
5	5 units

Maintenance parts

- Solenoid valve (with gasket and mounting screws)
- Solenoid valve common for vacuum and blow–off
  CKV010–4E
  Note) Refer to P61 for details
- Self–holding solenoid valve (with gasket and mounting screws)
  LV290–4E
  Note) Please check P61 for details.
- Manifold
  MC7 – MB – R

Supply port thread	
R	Rc1/2
N	1/2NPT
G	G1/2

- Manifold base
  MC7–MB
  Note) Set including setting screws, spacer and O–ring.
- Silencer
  CVK–S

- Pressure sensor (with O ring, setting screws)

MVS–030AB–MC7
MVS–030ABP–MC7
MPS–V23C–NGA–MC7
MPS–V23C–PGA–MC7
MVS–201–MC72–A (Normally open)
MVS–201–MC72–B (Normally closed)
MVS–201–MC72–W (Self–holding)
MVS–201P–MC72–A (Normally open)
MVS–201P–MC72–B (Normally closed)
MVS–201P–MC72–W (Self–holding)

Note) Please check P349 for details.

- Filter

MC7 – E

MC7–E	Element

MC7 – F

MC7–F	Filter kit (with element)
MC7–U	Filter unit (with base)

Specifications

Description		Unit	MC72□–15			MC72□–20			MC72□–25
			HS	LS	HR	HS	LS	HR	HS
Fluid			Non–lubricated air / non–corrosive gas						
Ambient temperature		℃	0 ~ 60(without freezing)						
Operating pressure range		MPa	0.2 ~ 0.6						
Blow–off flow		ℓ/min(ANR)	100						
Solenoid valve air passage			Normally closed (N.C), normally open (N.O), self–holding						
Filter element filtration		μm	130						
Nozzle size		ϕ mm	1.5			2.0			2.5
Nominal pressure		MPa	0.5		0.35	0.5		0.35	0.5
Vacuum (air) flow		ℓ/min(ANR)	55	90	46	95	130(110)Note)	80	140(120)Note)
Max. vacuum pressure		kPa	–87	–53	–87	–87	–53	–87	–87
Air consumption		ℓ/min(ANR)	100	100	100	180	180	180	265
Mass	Single type (without sensor)	g	460						
	Manifold type (1unit, without sensor)	g	400						

Note) Figure in ( ) is when MC72 check valve option is selected.

Solenoid valve specifications

Description	Unit	CKV010–4E	LV290–4E Note
Solenoid valve air passage		normally closed(N.C), normally open(N.O)	self–holding
Operating voltage	V	DC24	
Allowable voltage tolerance	%	± 10	
Power consumption	W	1	
Grade of insulation		B class	
Manual override operation		Non–lock push button	
Display - Surge killer		LED・diode	
Cable		Lead wire with connector (300mm)	

Note)Please check common cautions in regard to CONVUM vacuum ejector "self-holding valve"(P22).

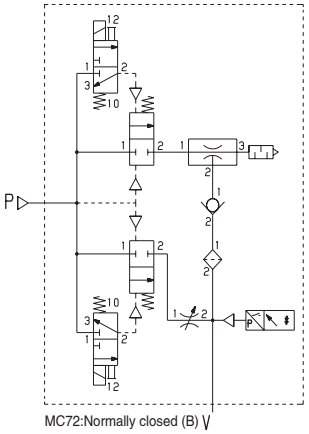
Vacuum sensors specifications

Item	Unit	MVS–030	MPS–V23	MVS–201
Fluid		Non–lubricated air / non–corrosive gas		
Pressure range settings	kPa	–10 ~ –101	–0 ~ –101	500 ~ –101
Ambient temperature	℃	0 ~ 50 (without freezing)		
Output type		Output 1 point	Output 1 point Analog output	Output 1 point Input 1 point
Display		LED	Digital	Digital
Operating voltage	V	DC12 ~ 24		DC10.8 ~ 30

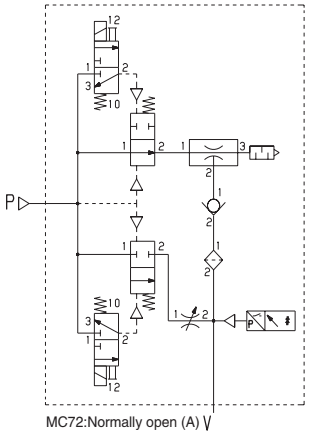
Note: Please check P349 for sensor details.

Note: Air flow condition of MVS–201 sensor is set as normally open (N.O.). For normally closed (N.C.), please check the manual and change the settings manually.

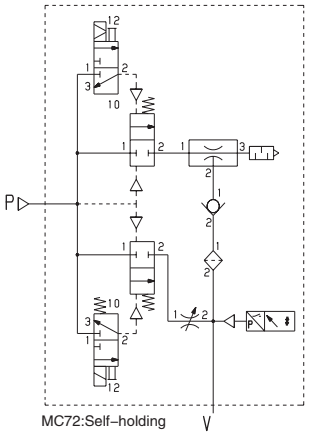
Symbol



MC72:Normally closed (B)



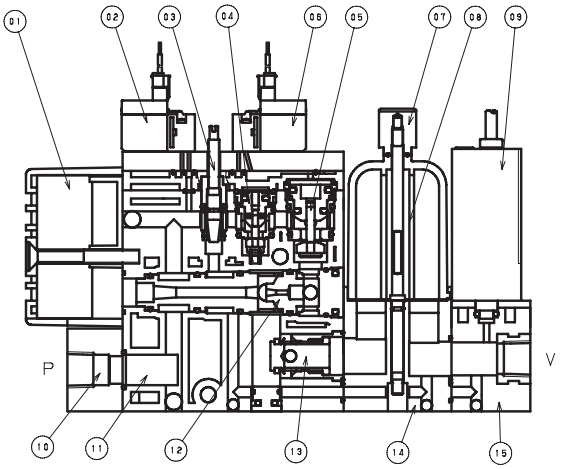
MC72:Normally open (A)



MC72:Self–holding

∗With sensor, check valve and filter unit

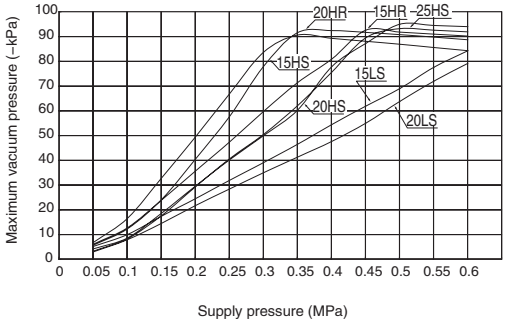
Construction



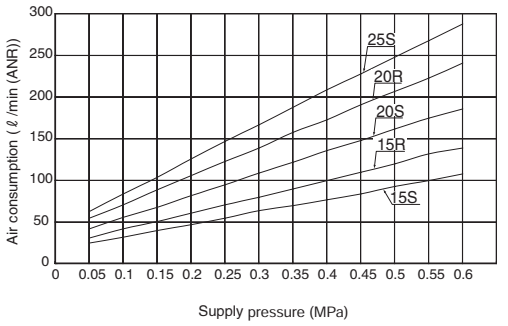
Parts	Part name	Material
01	Silencer	PBT, PVF
02	Solenoid valve	–
03	Blow–off needle	SUS, aluminium, NBR
04	Blow–off poppet valve	Aluminium, NBR, SUS, FKM
05	Vacuum poppet valve	Aluminium, NBR, SUS, FKM
06	Solenoid valve	–
07	Filter assembly	PA, brass, NBR
08	Filter element	PVF
09	Pressure sensor	–
10	Air supply base	PBT
11	Body	PA
12	Nozzle	Aluminimum, NBR
13	Check valve	Aluminimum, NBR, brass
14	Fitler base	PA
15	Sensor base	PA

Performance charts

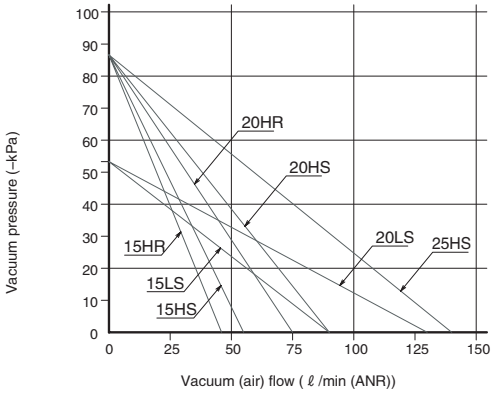
— Maximum vacuum pressure characteristic —



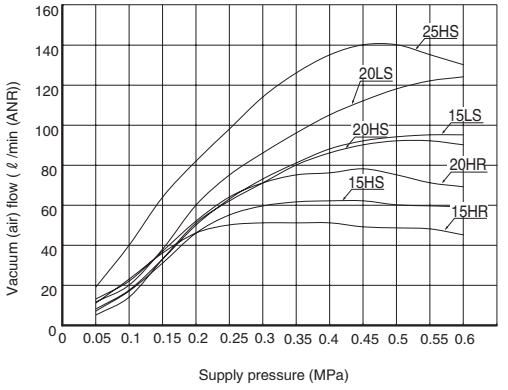
—— Air consumption characteristics ——



– Vacuum (air) flow – vacuum pressure characteristic –



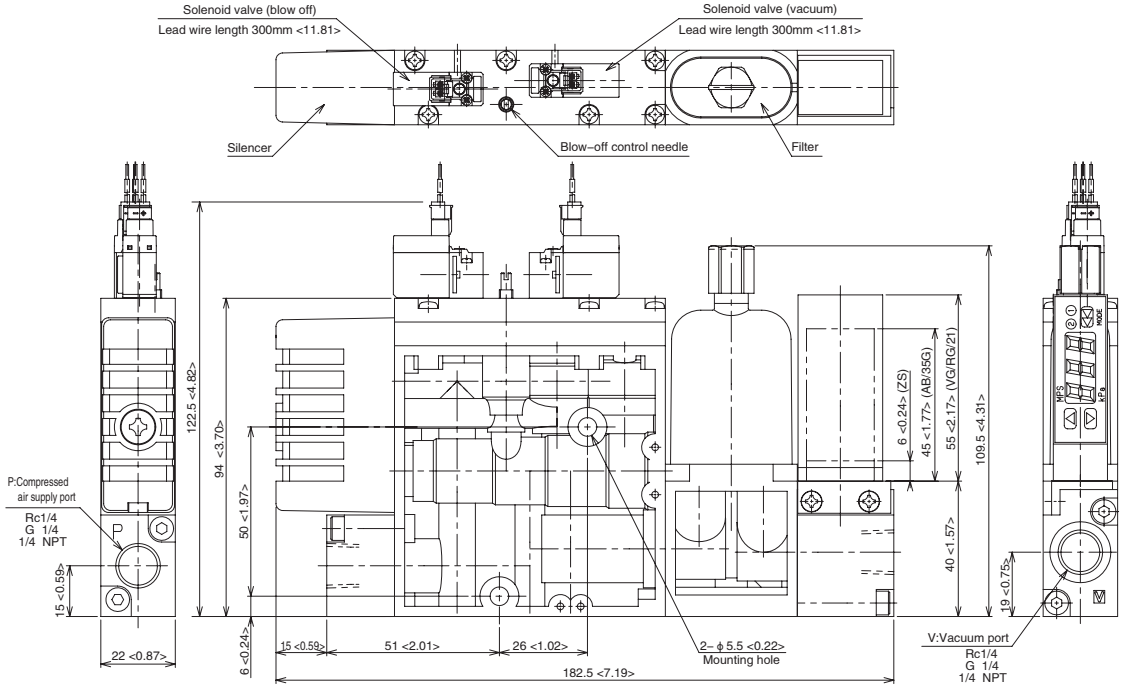
— Maximum vacuum (air) flow characteristic —



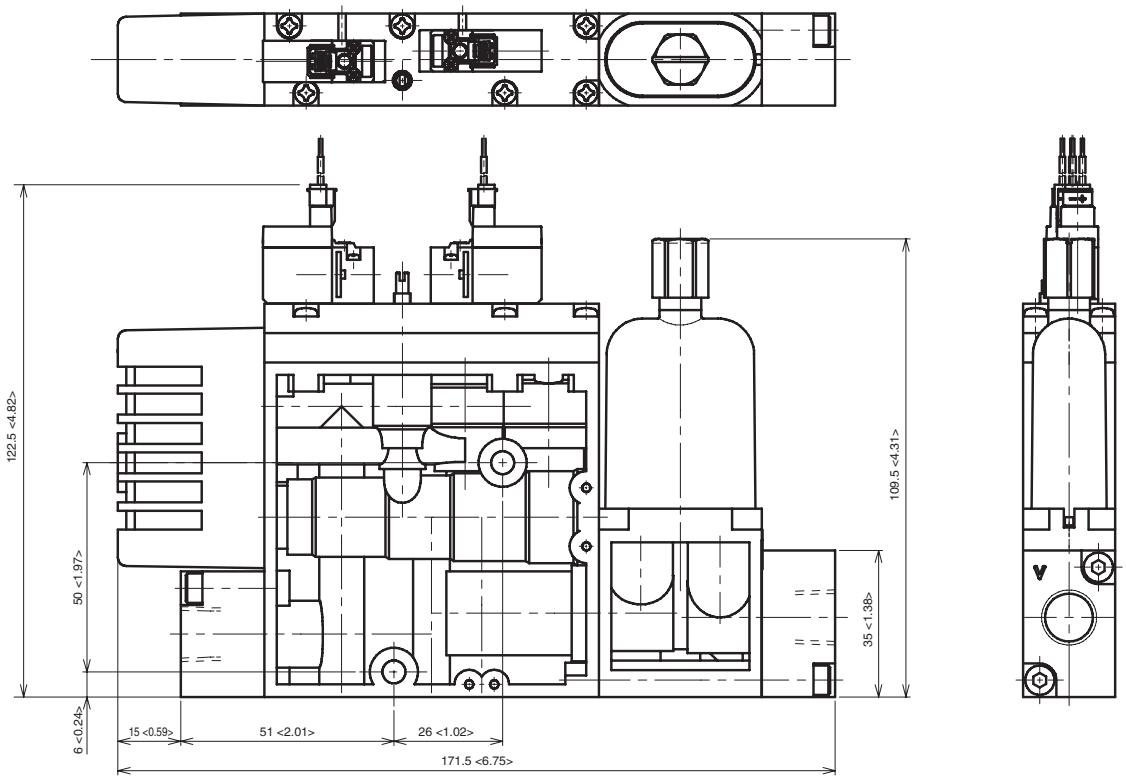
Dimensions

Unit : mm <inch>

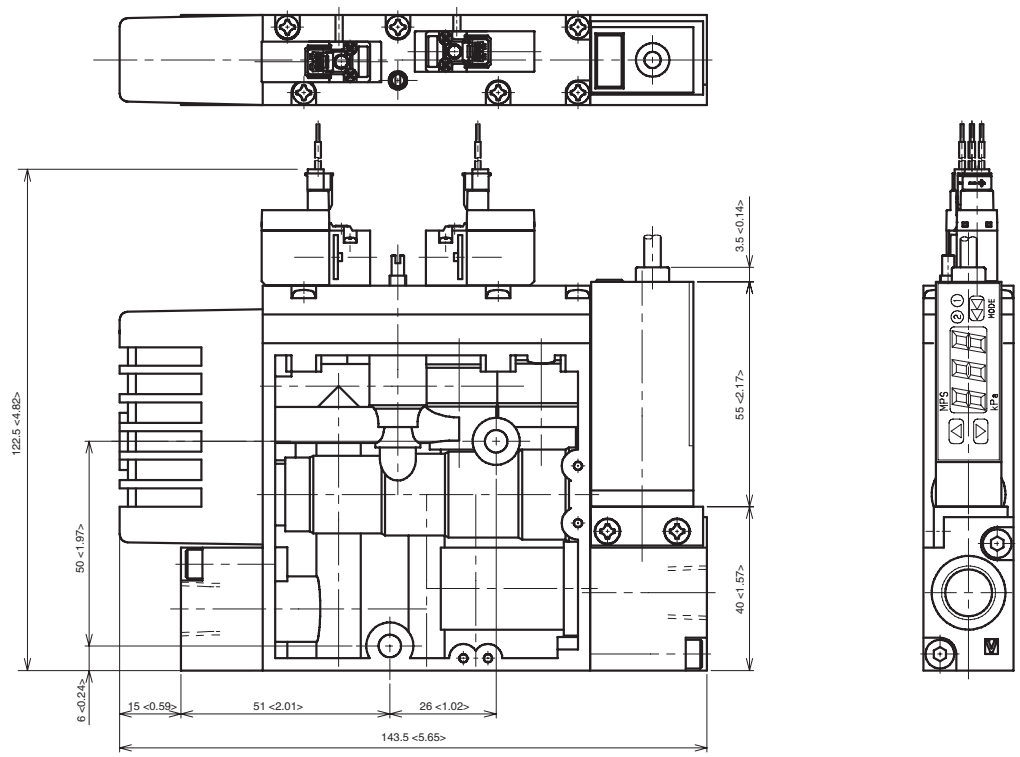
Single unit type



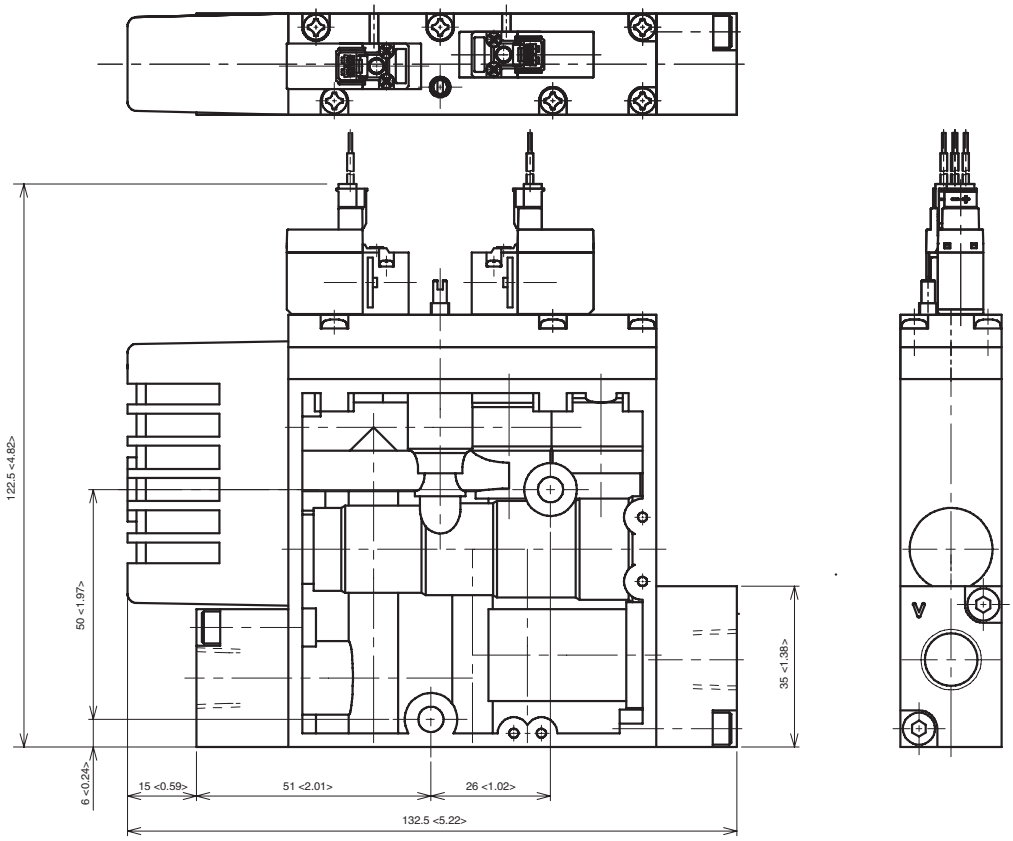
Without sensor



Without filter unit



Without filter, without sensor



Manifold type

n (number of units)	1	2	3	4	5
A	60 <2.36>	82.5 <3.25>	105 <4.13>	127.5 <5.02>	150 <5.91>
B	42 <1.65>	64.5 <2.54>	87 <3.43>	109.5 <4.31>	132 <5.20>