

## AUTOVAC MFE (Multi Function Ejector)

### Basic features:

- > 85 % vacuum at 5 bar
- Built-in vacuum holding valve to delay vacuum drop in case of pressure loss
- Solenoid valves for vacuum generation / blow-off
- Large adjustable blow-off for quick and smooth expulsion
- Built-in silencer alternatively G1/2 connection
- Compact design
- Robust design with ejector body in aluminium
- Stackable on multiple manifolds
- Protection class IP65

### Control system characteristics:

- Programmable vacuum range and safety level
- Programmable alternatively self-teaching blow-off
- Indication of predictive maintenance like detection of worn vacuum cups
- Simple communication via a standard M12 connector alternatively cable with M8 connector

### Simple interaction man-machine

The AUTOVAC MFE is equipped with a display which shows the current vacuum level and gives visual feedback at programming. The device has push buttons and LEDs for visual indication and programming. Electrical communication is made via an M12 connector alternatively cable with M8 connector.

### Predictive Maintenance

Possible preventive supervision of functionality. Detection of worn vacuum cups for preventive maintenance.

### Safety

Built-in vacuum holding valve provides secure handling of heavy objects.

### Integrated air saving system and increased safety

The external start signal initiates vacuum generation. The vacuum generation is maintained for as long as the start signal is enabled.

The internal control system switches off the vacuum generation when the set upper limit (70%) is reached and restarts if the lower limit (65%) is reached. This process continues until the start signal is disconnected, resulting in an air saving potential of >95%.

A feedback signal is given when the vacuum level reaches the preset security level (60%) and is interrupted when the vacuum level falls below this level. The signal may be used to e.g. start or stop a process.



### Options to ensure efficient expulsion of material with blow-off:

#### 1. Time set blow-off

When the external start signal for vacuum generation is disconnected, the blow-off automatically starts for a pre-set time (0.5 s). The blow-off time is programmable.

#### 2. Adaptive blow-off

When the external start signal for vacuum generation is disconnected, the ejector automatically blows-off for a preset time (0.5 s). The blow-off time is programmable. If any vacuum would remain, additional blow-off pulses will be given until the blow-off has been completed.

The blow-off time of the previous cycle also adjusts the time in the following cycle.

Adaptive blow-off is primarily intended for dynamic applications where this self-learning function contributes to minimize blow-out time and thus air consumption.

#### 3. Manual / External blow-off

The blow-off is initiated by an external signal and continues as long as this signal is active.

#### Adjustable blow-off

The adjustable blow-off makes it possible to release the object smooth and gentle or the time for blow-off can be optimized.

#### Silencing

The ejector can be delivered with an integrated silencer or with a G1/2 thread to collect the exhaust air.

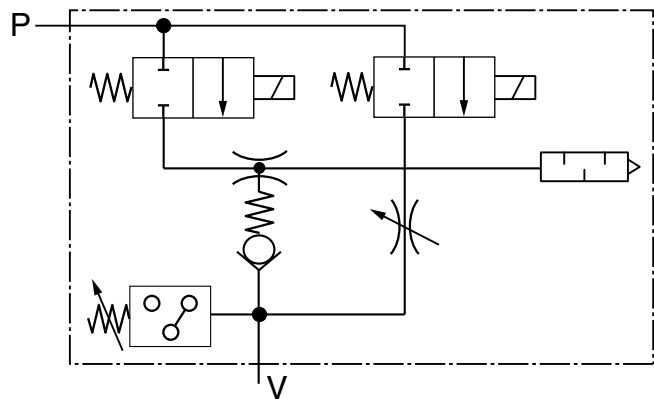
*The given values in brackets are example values*

## Controlling/ Programming / Overview

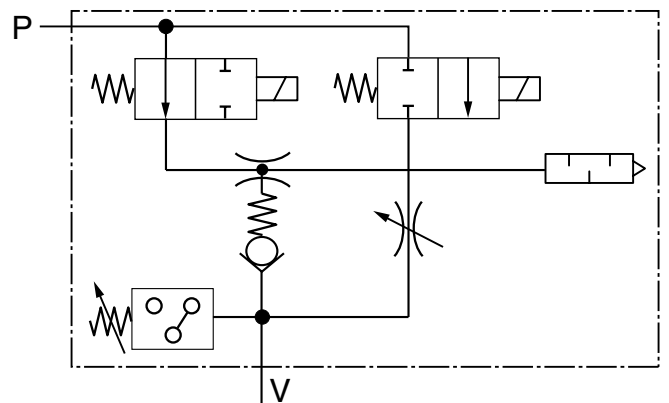


- LED indications**  
Status/programming feedback
- Display**  
Vacuum/programming feedback
- Buttons**  
Programming/parameter settings
- Electrical connection**  
M12 male contact alt. cable with M8 female contact.

### AUTOVAC MFE NC ejector



### AUTOVAC MFE NO ejector



### Electrical specification

Supply voltage 24 VDC  
 Outputs 24 VDC (PNP) max. 100 mA  
 Inputs 24 VDC (PNP)

### Temperature

Temperature range 0 to +50 °C

### Compressed air

Pressure max 8 bar  
 Optimum supply pressure 5 bar

### Materials

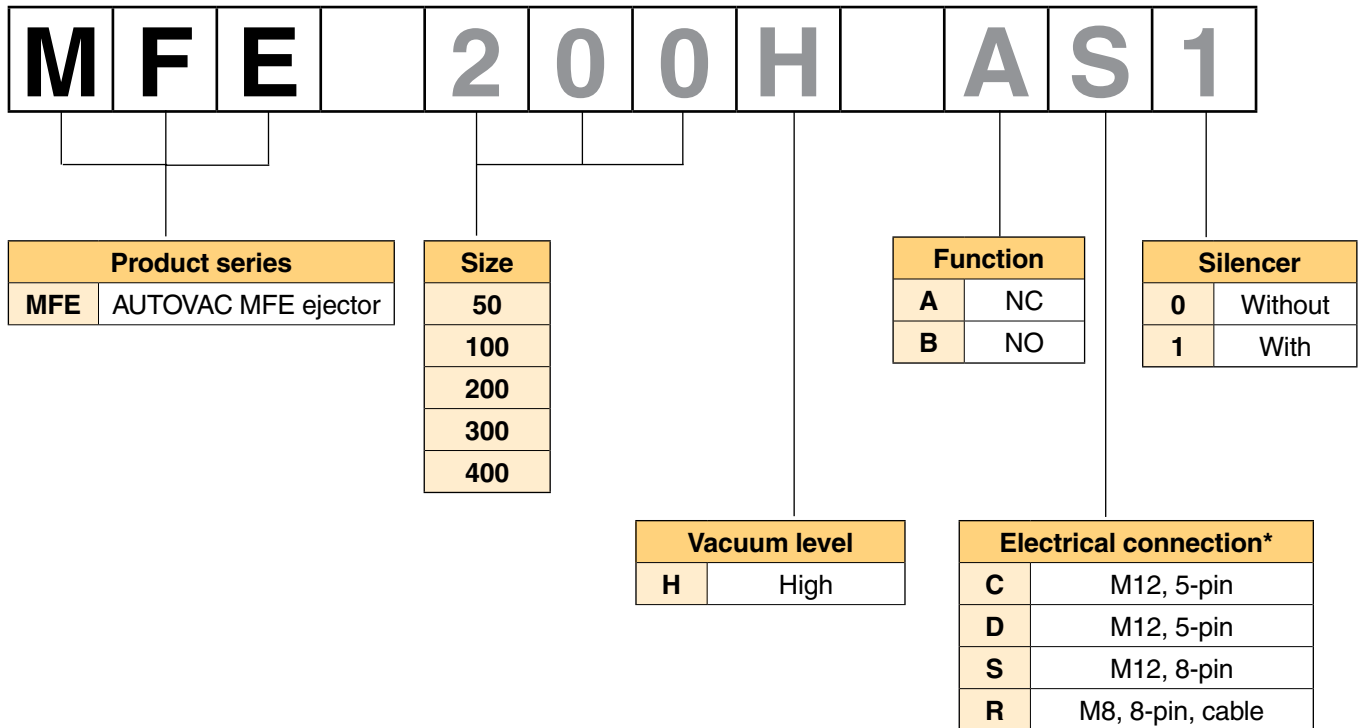
Ejector housing Black anodized aluminium  
 Nozzle Brass  
 Cover and silencer: PC/ABS  
 Cable PUR

	Version C, M12 5-pin	Version D, M12 5-pin	Version S, M12 8-pin	Version R, M8 8-pin**
Time set blow-off	X	X	X	X
Adaptive blow-off	X	X	X	X
Manual / External blow-off	-	X	X	X
Feedback, Vacuum OK/Blow-off OK	X	X	X	X
Feedback, Predictive Maintenance*	X	-	X	X

\* Feedback when deviations in vacuum generation, e.g. when leakage occur.

\*\* The cable length for version R is 210 mm

## Ordering key



\*See table page 21

Designation	Primary nozzle(s) Ø mm	Max Vacuum flow NI/min	Connecting threads			Air consumption NI/min.	Evacuation time (s)*	Weight g	Air consumption Blow-off l/min
			P	V	R				
AUTOVAC MFE 50H	1,0	43	G1/4	G1/2	G1/2	53	2,30	360	25-400
AUTOVAC MFE 100H	1,5	80	G1/4	G1/2	G1/2	110	1,25	360	25-400
AUTOVAC MFE 200H	2,0	145	G1/4	G1/2	G1/2	200	0,65	360	25-400
AUTOVAC MFE 300H	2,5	195	G1/4	G1/2	G1/2	300	0,55	360	25-400
AUTOVAC MFE 400H	3,0	245	G1/4	G1/2	G1/2	430	0,40	360	25-400

All measurements are made at a supply pressure of 5 bar and without silencer.

\* Time to evacuate 1litre air from atmospheric pressure to 70% vacuum.

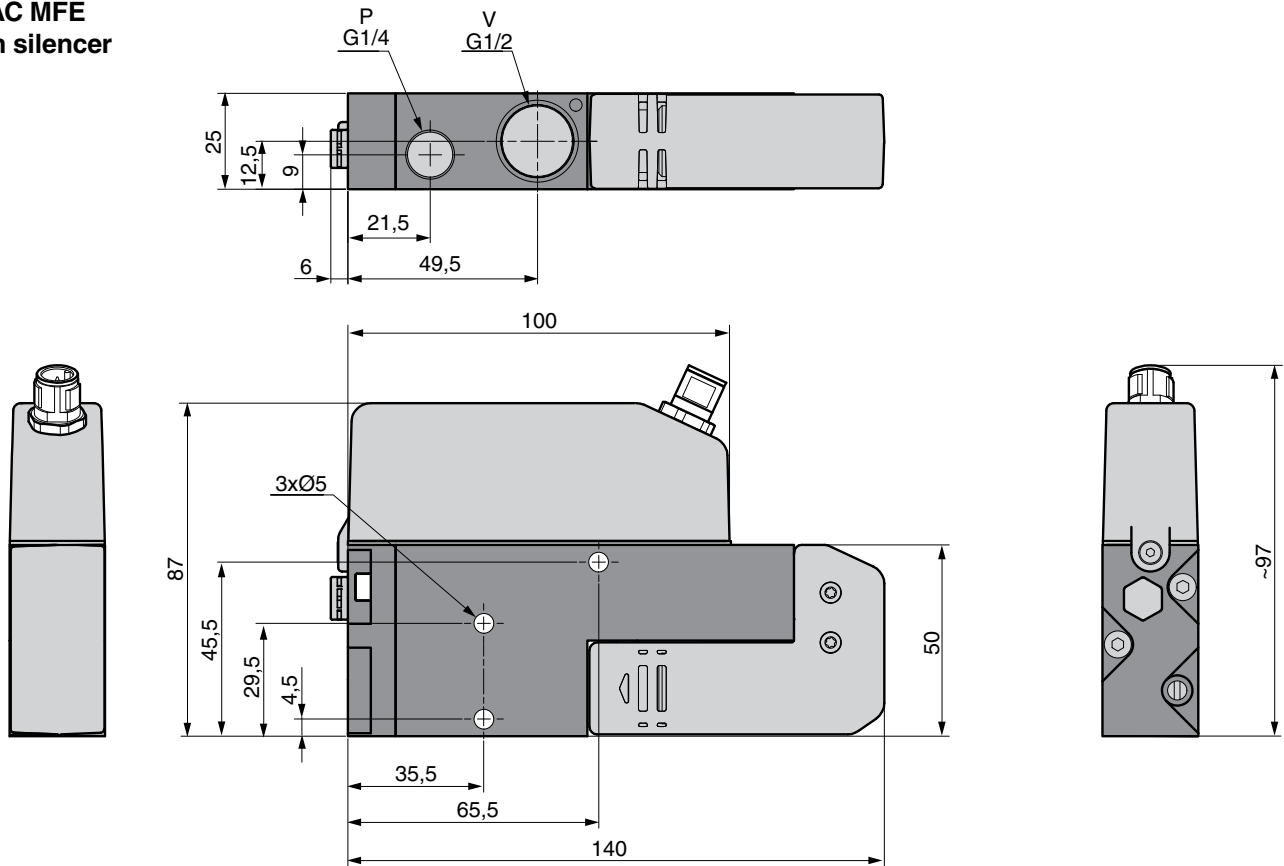
## Vacuum flow of the ejector

Designation	Vacuum flow at different vacuum level [NI/min]								
	0%	10%	20%	30%	40%	50%	60%	70%	80%
AUTOVAC MFE 50H	43	40	36	30	22	16	13	6	2
AUTOVAC MFE 100H	80	74	67	55	41	29	25	11	3
AUTOVAC MFE 200H	145	130	113	91	66	48	36	20	5
AUTOVAC MFE 300H	195	172	153	127	96	70	52	29	8
AUTOVAC MFE 400H	245	220	195	165	128	101	77	43	11

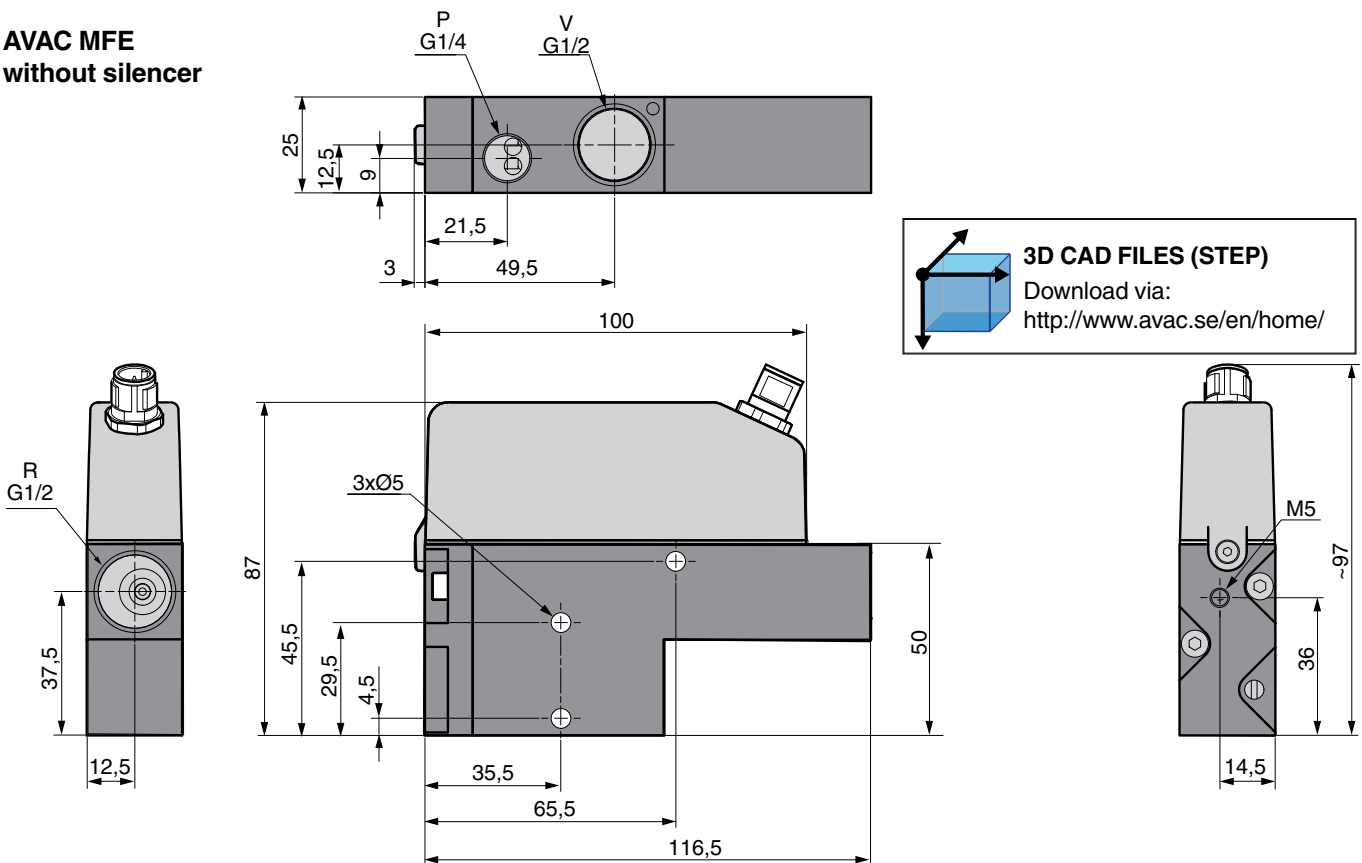
**Operating Instructions**  
<http://www.avac.se/pdf/l-MFE.pdf>



## AVAC MFE with silencer



## AVAC MFE without silencer



 **3D CAD FILES (STEP)**  
 Download via:  
<http://www.avac.se/en/home/>

## Multiple manifolds

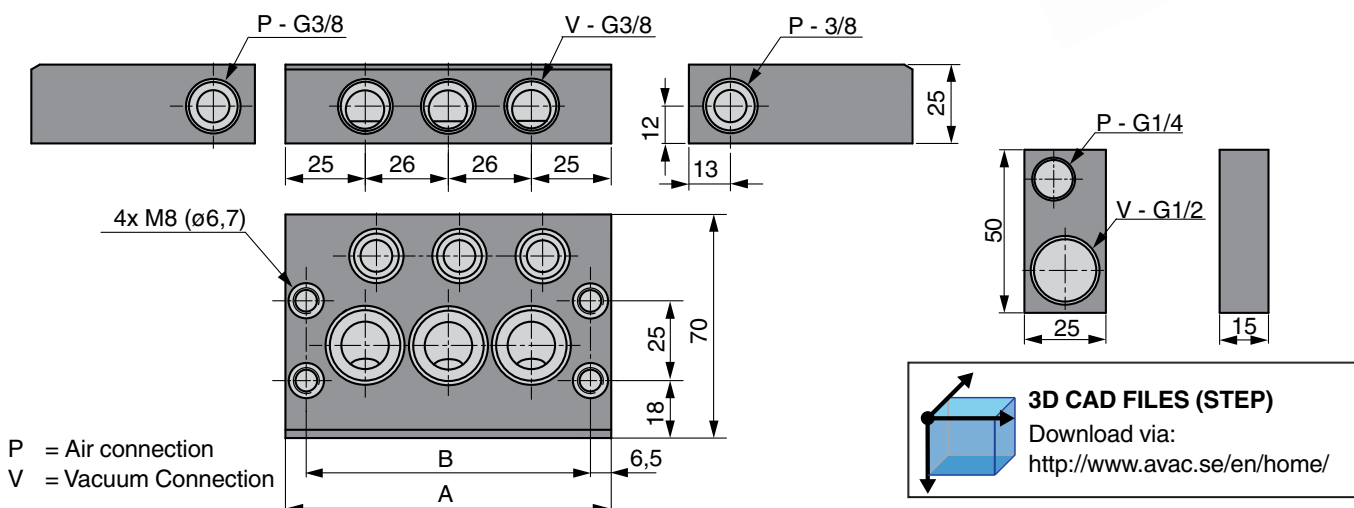
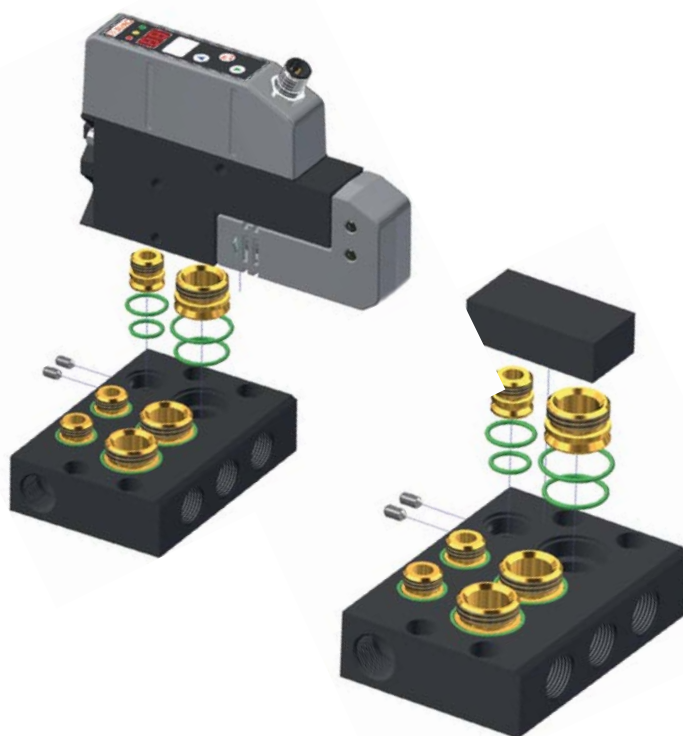
### for AUTOVAC MFE

- Compact block mounting
- For all AUTOVAC MFE sizes
- Excellent overview
- Easy exchange of units
- Easy installation
- To prepare for a potential increase in the number of ejectors on the multiple manifolds, a blind plate is available to reserve one position for this purpose.

The units can also be supplied manifold mounted with two to five ejectors in any size.

1. The ejector is easily mounted onto the manifold by first fastening the brass nipples gently into the ejector or blind plate connections.
2. Then place the attached O-rings in the manifold carefully and push the ejector/blind plate gently together with manifold without damaging the O-rings.
3. Thereafter, tighten the set screws step by step to fix the ejector to the manifold.

The manifold can be connected to the air supply (G3/8) on either side.



Multiple manifold for quantity of AUTOVAC MFE	A (mm)	B (mm)	Vacuum - connection (V)	Weight g	Order no.
2	76	63	G3/8 (x2)	325	410 000 02*
3	102	89	G3/8 (x3)	445	410 000 03*
4	128	115	G3/8 (x4)	560	410 000 04*
5	154	141	G3/8 (x5)	680	410 000 05*
Blind plate				40	410 000 00

\* Screws and O-rings supplied



Multiple manifold

Operating Instructions  
<http://www.avac.se/pdf/l-MFE.pdf>

