Vacuum generators OVEM

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New

Vacuum generators OVEM

Key features

At a glance

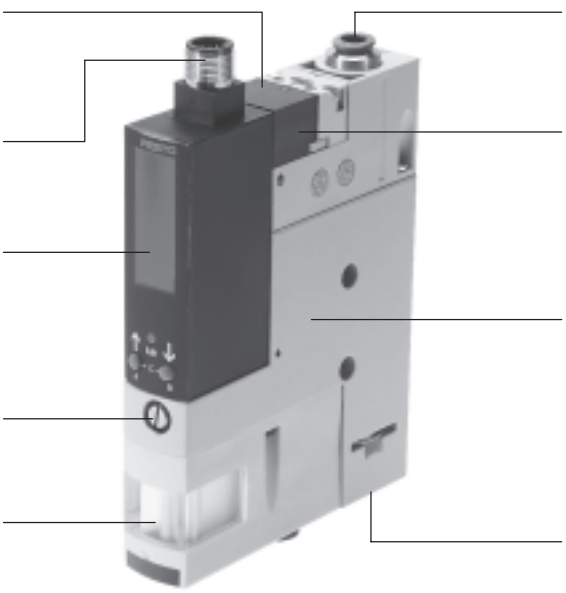
Accelerated vacuum reduction for placing the workpiece safely, through the use of an integrated solenoid valve to control the ejector pulse

Central electrical connection with M12 plug

Monitoring and visualisation of the vacuum by means of a vacuum sensor with LCD display (bar)

Adjustment of the ejector impulse via a flow control screw

An integrated filter prevents contamination of the vacuum generator



Quick and secure installation thanks to a QS fitting

Fast vacuum build-up through integrated solenoid valve for controlling the compressed air supply

Pressure drop is prevented by an integrated non-return valve

Maintenance-free operation and reduced noise level through integrated, open silencer

The innovative vacuum generator

Wide range of configuration options

The modular vacuum generator series OVEM offers a wide range of individual selectable functions, making it possible to find a solution for the most varied of applications.

- 3 nominal sizes 0.45 ... 0.95 mm
- Generator characteristics in two versions: high vacuum and high suction rate
- Integrated solenoid valve for controlling the ejector pulse
- Integrated solenoid valve for controlling the compressed air using two different switching functions
  - NC – normally closed
  - NO – normally open
- Electrical switching output of the vacuum sensor can be selected
- Alternatively selectable vacuum display (inchHg)
- Different pneumatic connection options (QS fitting or female thread)

Economical

- Short switching times thanks to integrated solenoid valves
  - Vacuum ON/OFF
  - Ejector pulse
- Quick, precise and safe placement of the workpiece via the ejector pulse
- Cost saving through integrated air saving function
- Cost saving through preventive maintenance/service thanks to maintenance indicator
- High-performance supply to several vacuum generators via a common supply manifold (➔ Page 14)

User-friendly

- Simple installation with M12 plug and QS fittings
- Simple mounting via screws
- All control elements on one side
- Vacuum is displayed numerically and as a bar chart on the LCD display
- Important parameters and diagnostic information are displayed on the LCD display
- Quiet operation due to integrated silencers

Reliable

- Constant monitoring of the entire vacuum system via a vacuum sensor with LCD display to reduce downtimes (condition monitoring)
- Prevention of pressure loss by means of an integrated air saving function in conjunction with an integrated non-return valve

Space-saving

All functions are compactly integrated in one unit.

- No protruding elements such as valves or vacuum sensors
- Space-optimised installation is possible as all the control elements can be accessed from one side

Easy to maintain

- Integrated filter with inspection window for maintenance display
- Reduced contamination of the vacuum generator thanks to an open silencer

Variable mounting options

- Direct mounting or with mounting bracket
- Simple mounting on H-rail with accessories
- Forming a block of several vacuum generators on a common supply manifold (➔ Page 14)

Vacuum generators OVEM

Key features

Operational principle of OVEM

Vacuum ON/OFF

The compressed air supply is controlled by an integrated solenoid valve. The solenoid valve can be supplied in two different switching functions NC/NO.

- NC – normally closed:
  The vacuum is generated when the vacuum generator is pressurised with compressed air and the solenoid valve has been switched.
- NO – normally open:
  The vacuum is generated when the vacuum generator is pressurised with compressed air and the solenoid valve is in the normal position.

Vacuum sensor

The set reference value for the generated vacuum is monitored by an integrated vacuum sensor. If the reference value is reached or if it is not reached due to malfunctions (e.g. leakages, dropped workpiece), the vacuum sensor emits an electrical signal. Vacuum monitoring is the basis for the vacuum generator's air saving function.

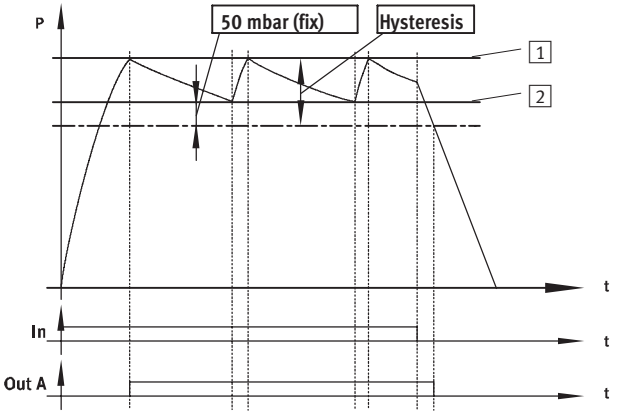
Switching outputs/Switching input

The vacuum generator can be connected to higher-order systems by means of two digital switching outputs or one digital switching output and one analogue input, and by means of one digital switching input. The switching outputs can be configured as normally open or normally closed contacts. The switching function of the outputs can be stipulated as a threshold or window comparator. In the case of vacuum generators with two switching outputs, the outputs can be configured independently of one another. This makes it possible to use one generator to perform several tasks in parallel and thus to reduce production time, e.g. for quality sorting of parts.

Ejector pulse

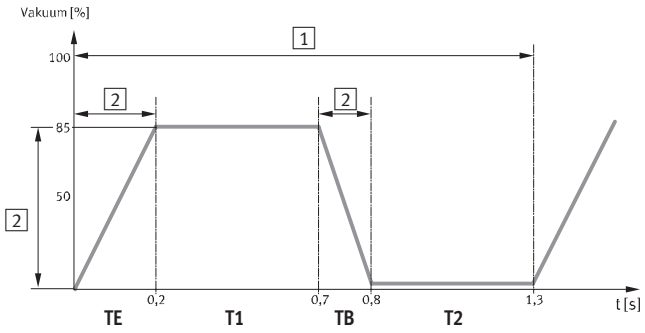
With a second integrated solenoid valve, an ejector pulse is activated and generated after the vacuum is switched off to release the workpiece safely from the suction cup and to reduce the vacuum quickly.

Air saving function LS (-CE, -OE)



If the desired threshold 1 is reached for the vacuum, vacuum generation is automatically switched off. A non-return valve prevents the reduction of the vacuum.
Nonetheless, leakages (due to e.g. rough workpiece surfaces) will slowly reduce the vacuum. If the pressure drops below the threshold value 2 vacuum generation is switched on automatically. Vacuum is generated until the set threshold value 1 is reached again.

Condition monitoring and diagnosis



1 Cycle time
2 Monitoring
TE Evacuation time
T1 Transport time
TB Air supply time
T2 Return time

The most important operating parameters:

- vacuum
- evacuation time
- air supply time

are constantly measured in the vacuum generator and compared to the individually set reference values (condition monitoring). Any deviations from the reference values are determined by the vacuum generator and displayed (diagnostics). In addition, an electrical signal is transmitted to the master controller.
This makes it possible to take preventive action:

- performing timely maintenance in order e.g. to prevent machine failure or downtimes
- and to guarantee process reliability (adherence to the cycle time).

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Peripherals overview

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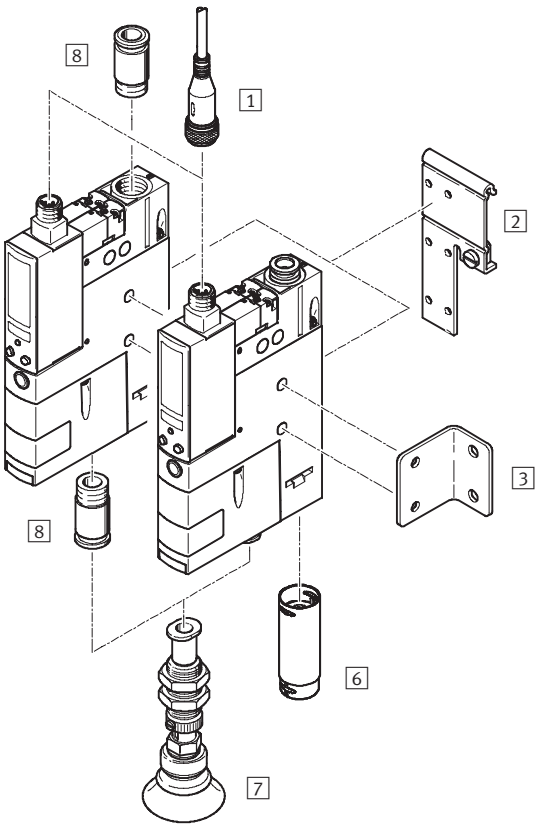
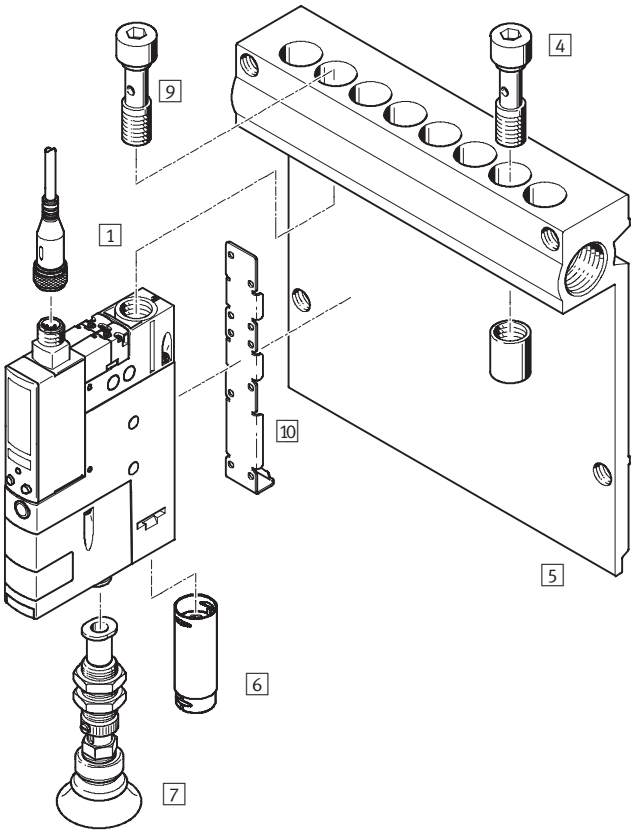
OVEM-...-QS/QO/GN/GO-...



OVEM-...-PL/PO-...[1)]



1) Hollow bolt 9 and mounting bracket 10 are included in the scope of delivery of the OVEM-...-PL/PO-....

Mounting attachments and accessories								
		OVEM-...-QS/QO/GN/GO-...				OVEM-...-PL/PO-...		➔ Page/Internet
		QS	QO	GN	GO	PL	PO	
1	Connecting cable NEBU-M12G5	■				■		nebu
2	H-rail mounting OABM-H	■				–		15
3	Mounting bracket HRM-1	■				–		hrm-1
4	Blanking plug OASC-G1-P	–				■		15
5	Common supply manifold OABM-P...	–				■		14
6	Silencer extension UOMS-¼	–	■	–	■	–	■	uoms
7	Suction gripper ESG	■				■		esg
8	Push-in fitting QS	–		■		–		quick star
–	Suction cup holder ESH	■				■		esh
–	Suction cup ESS	■				■		ess

Vacuum generators OVEM

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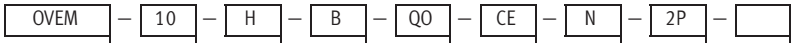
Type codes



Type	
OVEM	Vacuum generator

Nominal size of Laval nozzle [mm]	
05	0.45
07	0.7
10	0.95

Ejector characteristic	
H	High vacuum
L	High suction rate

Housing width	
B	Grid dimension 20 mm

Pneumatic connections	
QS	P-V-R via QS fitting
QO	P-V via QS fitting, R with open silencer
GN	P-V-R via female thread
GO	P-V via female thread, R with open silencer
PL	Common supply manifold prepared, V-R with QS fitting
PO	Common supply manifold prepared, V with QS fitting, R with open silencer

Normal position of the vacuum generator	
ON	NO, normally open (vacuum generation)
OE	NO, normally open with ejector pulse
CN	NC, normally closed (vacuum generation)
CE	NC, normally closed with ejector pulse

Electrical connection	
N	M12 plug (5-pin)

Vacuum sensor, electrical switching output	
2P	2 switching outputs PNP
2N	2 switching outputs NPN
PU	1 switching output PNP, 1 analogue output 0 ... 10 V
PI	1 switching output PNP, 1 analogue output 4 ... 20 mA
NU	1 switching output NPN, 1 analogue output 0 ... 10 V
NI	1 switching output NPN, 1 analogue output 4 ... 20 mA

Vacuum display	
–	bar
H	inchHg

Vacuum generators OVEM

Technical data

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Function

NC, normally closed:
- Ejector pulse
- QS fitting or female G thread
- With open silencer
- Prepared for common supply manifold

NO, normally open:
- Ejector pulse
- QS fitting or female G thread
- With open silencer
- Prepared for common supply manifold

Temperature range
0 ... +50 °C

Operating pressure
2 ... 8 bar

General technical data																				
Type		OVEM-05			OVEM-07			OVEM-10			OVEM-05			OVEM-07			OVEM-10		
Pneumatic connections		QO	GO	PO	QO	GO	PO	QO	GO	PO	QS	GN	PL	QS	GN	PL	QS	GN	PL
Nominal size of Laval nozzle	[mm]	0.45			0.7			0.95			0.45			0.7			0.95		
Grid dimension	[mm]	20																	
Ejector characteristic		High vacuum/Standard H																	
		High suction rate/Standard L																	
Grade of filtration	[µm]	40																	
Duty cycle	[%]	100																	
Constructional design		Modular																	
Mounting position		Any																	
Type of mounting		Via through-holes																	
		Via female thread																	
		Via accessories																	
Pneumatic connection 1		QS6	G⅛	–	QS8	G¼	–	QS8	G¼	–	QS6	G⅛	–	QS8	G¼	–	QS8	G¼	–
Vacuum port		QS6	G⅛	QS6	QS8	G¼	QS8	QS8	G¼	QS8	QS6	G⅛	QS6	QS8	G¼	QS8	QS8	G¼	QS8
Pneumatic connection 3		Open silencer, integrated									QS8	G⅛	QS8	QS8	G⅜	QS8	QS8	G⅜	QS8
Design, silencer		Open									–								
Integrated function	ON/CN	On-off valve, electrical																	
		Vacuum sensor																	
		Filter																	
		Open silencer									–								
	OE/CE	On-off valve, electrical																	
		Ejector pulse, electrical																	
		Flow control valve																	
		Vacuum sensor																	
		Air saving function, electrical																	
		Non-return valves																	
		Filter																	
		Open silencer									–								
Valve function	ON/OE	Open																	
	CN/CE	Closed																	
Manual override		Non-detenting (pushing)																	
		Additionally via operating buttons																	

Vacuum generators OVEM

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Operating and environmental conditions			
Type		OVEM-05/07/10-...-QO/PO/GO	OVEM-05/07/10-...-QS/GN/PL
Operating pressure	[bar]	2 ... 8	2 ... 6
Nominal operating pressure	[bar]	6	
Operating medium		Filtered compressed air, unlubricated, grade of filtration 40 µm	
Ambient temperature	[°C]	0 ... +50	
Temperature of medium	[°C]	0 ... +50	
Corrosion resistance class CRC[1)]		2	
CE mark (see declaration of conformity)		To EU EMC Directive	
Certification		C-Tick	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Performance data – High vacuum													
Type		OVEM-05				OVEM-07				OVEM-10			
Normal position of the vacuum generator		ON	OE	CN	CE	ON	OE	CN	CE	ON	OE	CN	CE
Max. vacuum	[%]	93											
Operating pressure for max. vacuum	[bar]	5.1				4.1				3.5			
Max. suction rate with respect to atmosphere	[l/min]	6				16				19.5			
Suction rate at p_1 = 6 bar	[l/min]	5.9				15.1				16.8			
Pressurisation time[1)] for 1 l volume, at p_1 = 6 bar	[s]	4.8	2	4.8	2	1.9	0.4	1.9	0.4	1.2	0.2	1.2	0.2
Noise level at p_1 = 6 bar	db(A)	51				58				73			

1) Time required to build up vacuum to –0.05 bar.

Performance data – High suction rate													
Type		OVEM-05				OVEM-07				OVEM-10			
Normal position of the vacuum generator		ON	OE	CN	CE	ON	OE	CN	CE	ON	OE	CN	CE
Max. suction rate with respect to atmosphere	[l/min]	13				31.5				45			
Suction rate at p_1 = 6 bar	[l/min]	12.8				31.5				45			
Pressurisation time[1)] for 1 l volume, at p_1 = 6 bar	[s]	2	1.3	2	1.3	1	0.2	1	0.2	0.8	0.2	0.8	0.2
Noise level at p_1 = 6 bar	db(A)	45				53				64			

1) Time required to build up vacuum to –0.05 bar.

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Technical data

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Technical data – Vacuum sensor							
Electrical switching output		2P	2N	PU	NU	PI	NI
Mechanical							
Measured variable		Relative pressure					
Measuring principle		Piezoresistive					
Pressure measuring range	[bar]	–1 ... 0					
Accuracy FS[1)]	[%]	3					
Repetition accuracy switching value FS[1)]	[%]	0.6					
Setting options		Via display and keys					
Threshold value setting range	[bar]	–0.999 ... 0					
Hysteresis setting range	[bar]	–0.9 ... 0					
Type of display		4-character alphanumerical, backlit LCD					
Displayable units	–	bar					
	H	inchHg					
Indicating range	[bar]	–0.999 ... 0					
	[inchHg]	–29.5 ... 0					
Switching status display		Optical					
Switching position display		LCD					
Electrical connection		Plug M12x1, 5-pin					
Electrical							
Switching output		2x PNP	2x NPN	1x PNP	1x NPN	1x PNP	1x NPN
Standard switching input		IEC 61131-2					
Switching element function		NO contact					
		NC contact					
Switching function		Window comparator					
		Threshold comparator					
Operating voltage range	[V DC]	20.4 ... 27.6					
Idle current	[mA]	< 70					
Coil characteristics 24 V DC	[W]	Low current phase: 0.3					
		High current phase: 2.55					
Residual current	[mA]	0.1					
Max. output current	[mA]	100					
Voltage drop	[V]	≤ 1.5					
Inductive protective circuit		Adapted to MZ, MY, ME coils					
Switch-on suppression		Yes					
Analogue output	[V]	–		0 ... 10		–	
	[mA]	–		–		4 ... 20	
Permitted load resistance analogue output	[Ohm]	–		Min. 2000		Max. 500	
Accuracy of analogue output FS[1)]	[%]	–		4			
Protection against short circuit		Yes					
Protection against overloading		Yes					
Protection against polarity reversal		For all electrical connections					
Protection class		IP65					
Electrical protection class		III					

1) %FS = % of the measuring range final value (full scale)

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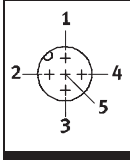
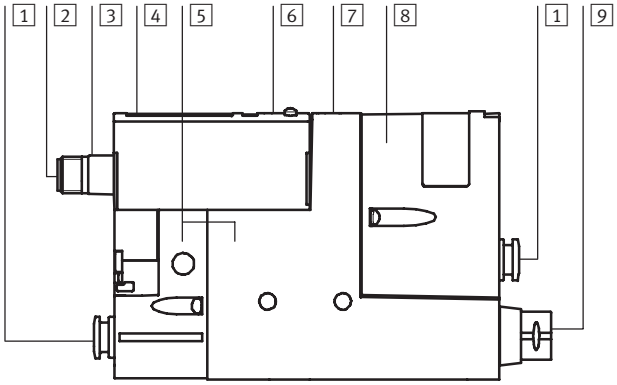
Pin allocation		
Plug M12x1, 5-pin	Pin	Description
	1	Supply voltage +24 V DC
	2	Output B (function depending on variant)
	3	0 V
	4	Output A (switching output for vacuum sensor)
	5	Switching input In (vacuum ON/OFF and ejector pulse)

Materials

Sectional view



Vacuum generator OVEM-05/07/10			
1	Fitting		Nickel-plated brass
2	Plug contacts		Gold-plated brass
3	Plug housing		Nickel-plated brass
4	Inspection window		Polyamide
5	Housing		Die-cast aluminium, reinforced polyamide
6	Key pad		Thermoplastic polyurethane elastomer
7	Adjusting screw	CE OE	Steel
8	Filter housing		Reinforced polyamide
9	Silencer	QO GO PO	Wrought aluminium alloy, PU foam
–	Jet nozzle		Wrought aluminium alloy
–	Receiver nozzle		Polyacetal
–	Filter		Fabric, polyamide, sintered steel
–	Seals		Nitrile rubber
–	Hollow bolt	PL PO	Wrought aluminium alloy
–	Mounting bracket	PL PO	Stainless steel
	Note on materials	QO GO PO	Contains PWIS (paint-wetting impairment substances)

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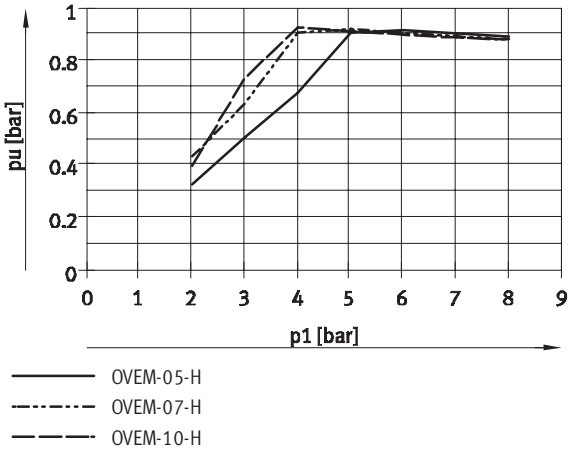
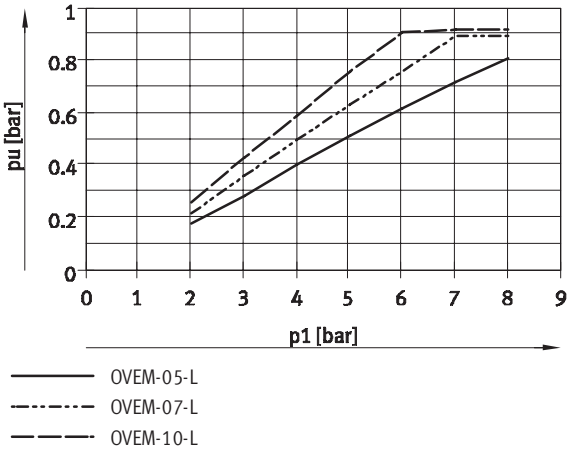
Vacuum p_u as a function of operating pressure p_1

High vacuum



OVEM-05-H
OVEM-07-H
OVEM-10-H

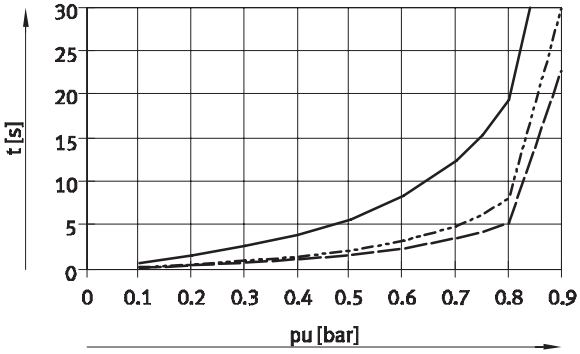
High suction rate



OVEM-05-L
OVEM-07-L
OVEM-10-L

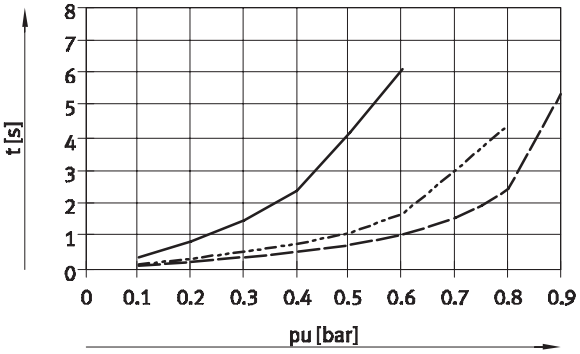
Evacuation time t as a function of vacuum p_u for 1 l volume at 6 bar operating pressure

High vacuum



OVEM-05-H
OVEM-07-H
OVEM-10-H

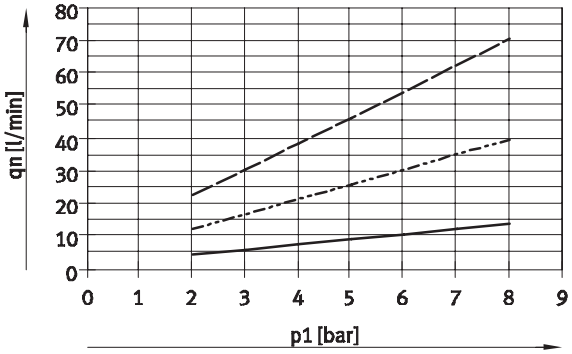
High suction rate



OVEM-05-L
OVEM-07-L
OVEM-10-L

Air consumption q_n as a function of operating pressure p_1

High vacuum/high suction rate



OVEM-05
OVEM-07
OVEM-10

Vacuum generators OVEM

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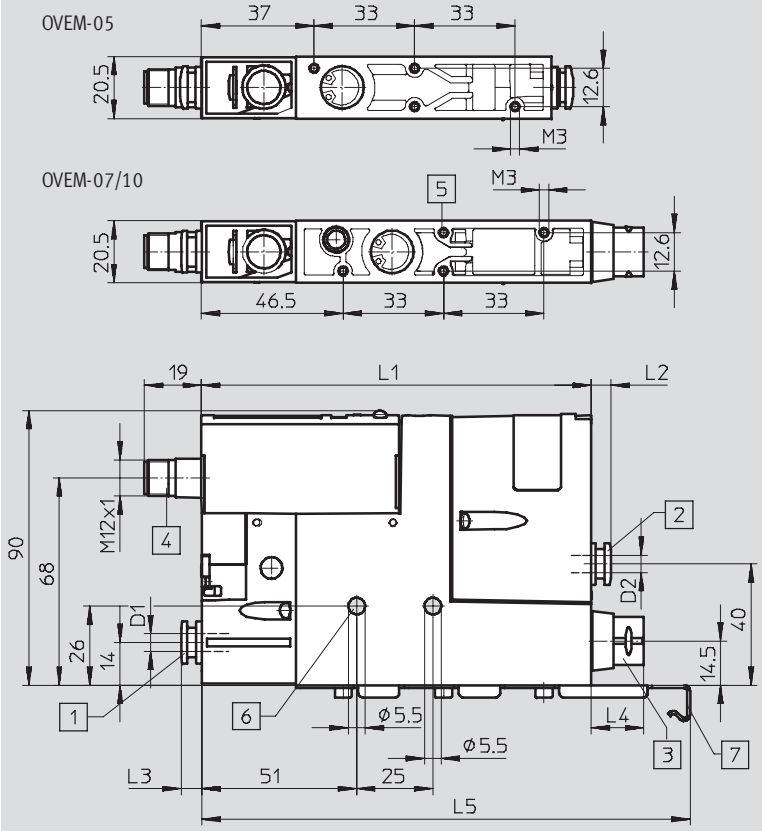
Dimensions Download CAD data ➔ **www.festo.com**



1 Supply port
2 Vacuum port
3 Silencer (SD)/Exhaust port
4 Electrical connection to fit NEBU-M12G5-K-...
5 Mounting thread M3
Max. tightening torque 0.8 Nm
6 Mounting hole
Max. tightening torque 2.5 Nm
7 Mounting bracket only for OVEM-...-PL/PO

Type	Pneumatic connections			L1	L2	L3	L4	L5
	P D1	V D2	R					
OVEM-05-...-QS-...	QS6	QS6	QS8	115	6.5	6.5	12	–
OVEM-05-...-QO-...			SD				–	
OVEM-05-...-PL-...	G¼		QS8			–	12	160.5
OVEM-05-...-PO-...			SD				–	
OVEM-05-...-GN-...	G⅛	G⅛	G⅛		8.2	8.2	8.2	–
OVEM-05-...-GO-...			SD				–	
OVEM-07/10-...-QS-...	QS8	QS8	QS8	128	6.5	6.5	12	–
OVEM-07/10-...-QO-...			SD				17.3	
OVEM-07/10-...-PL-...	G¼		QS8			–	12	160.5
OVEM-07/10-...-PO-...			SD				17.3	
OVEM-07/10-...-GN-...	G¼	G¼	G⅜		17.2	17.2	–	–
OVEM-07/10-...-GO-...			SD				17.3	

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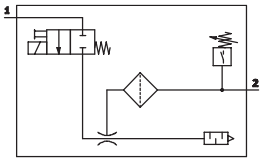
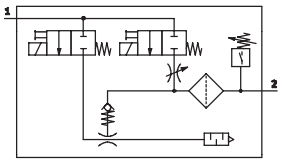
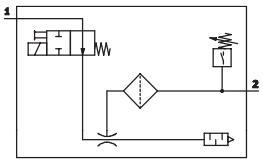
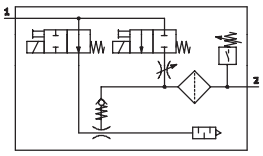
Ordering data and weight						
Circuit symbol	Description	Electrical switching output	Nominal size [mm]	Weight [g]	Part No.	Type
Normally closed						
	With open silencer	2x PNP	0.45	317	**538834**	**OVEM-05-H-B-QO-CN-N-2P**
			0.7	322	**538835**	**OVEM-07-H-B-QO-CN-N-2P**
			0.95		**538836**	**OVEM-10-H-B-QO-CN-N-2P**
	With ejector pulse and open silencers	2x PNP	0.45	325	**538831**	**OVEM-05-H-B-QO-CE-N-2P**
			0.7	331	**538832**	**OVEM-07-H-B-QO-CE-N-2P**
			0.95		**538833**	**OVEM-10-H-B-QO-CE-N-2P**
		2x NPN	0.7	331	**540018**	**OVEM-07-H-B-QO-CE-N-2N**
			0.95		**540019**	**OVEM-10-H-B-QO-CE-N-2N**
		2x PNP	0.7	334	**540015**	**OVEM-07-H-B-GO-CE-N-2P**
			0.95		**540016**	**OVEM-10-H-B-GO-CE-N-2P**
		2x NPN	0.7	334	**540012**	**OVEM-07-H-B-GO-CE-N-2N**
			0.95		**540013**	**OVEM-10-H-B-GO-CE-N-2N**
Normally open						
	With open silencer	2x PNP	0.45	317	**538828**	**OVEM-05-H-B-QO-ON-N-2P**
			0.7	322	**538829**	**OVEM-07-H-B-QO-ON-N-2P**
			0.95		**538830**	**OVEM-10-H-B-QO-ON-N-2P**
	With ejector pulse and open silencers	2x PNP	0.45	325	**538825**	**OVEM-05-H-B-QO-OE-N-2P**
			0.7	331	**538826**	**OVEM-07-H-B-QO-OE-N-2P**
			0.95		**538827**	**OVEM-10-H-B-QO-OE-N-2P**
		2x NPN	0.7	331	**540009**	**OVEM-07-H-B-QO-OE-N-2N**
			0.95		**540010**	**OVEM-10-H-B-QO-OE-N-2N**
		2x PNP	0.7	334	**540006**	**OVEM-07-H-B-GO-OE-N-2P**
			0.95		**540007**	**OVEM-10-H-B-GO-OE-N-2P**
		2x NPN	0.7	334	**540003**	**OVEM-07-H-B-GO-OE-N-2N**
			0.95		**540004**	**OVEM-10-H-B-GO-OE-N-2N**

Vacuum generators OVEM

Ordering data – Modular products

FESTO

M Mandatory data												O Options	
Module No.		Nominal size of Laval nozzle		Housing size/width		Normal position of the vacuum generator		Vacuum sensor electrical switching output	
Vacuum generator		Ejector characteristics		Pneumatic connections		Electrical connection		Alternative vacuum display	
539074	OVEM	05 07 10	H L	B	QS QO GN GO PL PO	ON OE CN CE	N	2P PU PI 2N NU NI	H
Order example													
539074	OVEM	– 05	– H	– B	– QO	– ON	– N	– 2P	– H

Ordering table

Size		20	Conditions	Code		Enter code
M	Module No.	**539074**				
	Vacuum generator	Vacuum generator with solenoid valve for vacuum on/off and manual override		**OVEM**		OVEM
	Nominal size of Laval nozzle [mm]	0.45		**-05**		
		0.7		**-07**		
		0.95		**-10**		
	Ejector characteristic	High vacuum		**-H**		
		High suction rate		**-L**		
	Housing size/width [mm]	20		**-B**		-B
	Pneumatic connections	All ports with QS fittings		**-QS**		
		Supply/vacuum port with QS fittings, exhaust port with open silencer		**-QO**		
		All ports with female G thread		**-GN**		
		Supply/vacuum port with female G threads, exhaust port with open silencer		**-GO**		
		Prepared for supply strip, vacuum port and exhaust port with QS fittings		**- PL**		
		Prepared for supply strip, vacuum port with QS fittings, exhaust port with open silencer		**-PO**		
	Normal position of the vacuum generator	NO, normally open (vacuum generation)		**-ON**		
		NO, normally open (vacuum generation) with ejector pulse		**-OE**		
		NC, normally closed (no vacuum generation)		**-CN**		
		NC, normally closed (no vacuum generation) with ejector pulse		**-CE**		
	Electrical connection	M12 plug (5-pin)		**-N**		-N
O	Vacuum sensor, electrical switching output (gauge in bar, not for P1, N1)	Switching output 2x PNP		**-2P**		
		Switching output 1 x PNP + U		**-PU**		
		Switching output 1 x PNP + I		**-PI**		
		Switching output 2 x NPN		**-2N**		
		Switching output 1 x NPN + U		**-NU**		
		Switching output 1 x NPN + I		**-NI**		
	Alternative vacuum display	inchHG		**-H**		

Transfer order code

539074	OVEM	–	–	– B	–	–	– N	–	–

Vacuum generators OVEM

Accessories

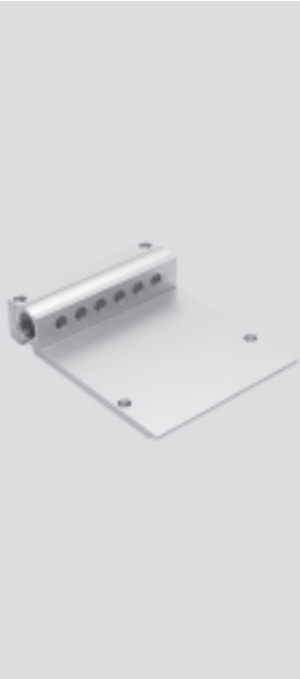
FESTO

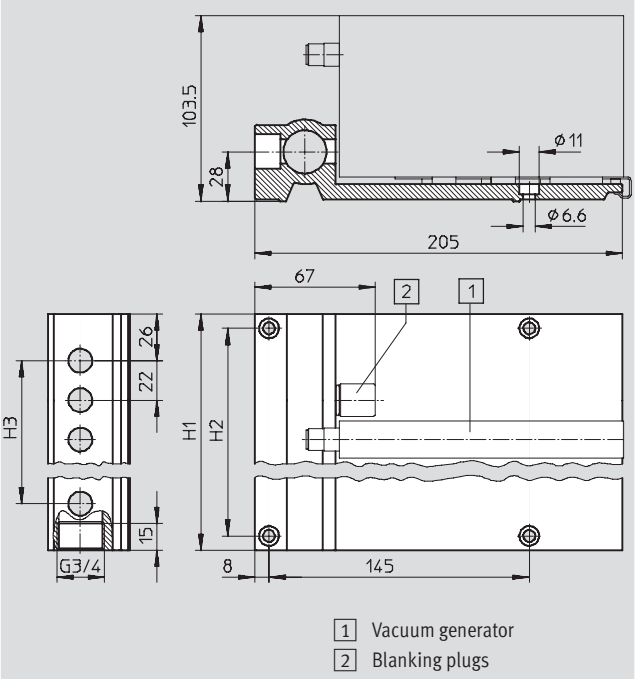
Common supply manifold OABM-P
for vacuum generators
OVEM-...-PL/PO

Pneumatic connection 1: G¾
Type of mounting: Via through-holes

Material: Wrought aluminium alloy

Note on material:
RoHS-compliant





Dimensions			
Number of device positions	H1	H2	H3
4	118	102	66
6	162	146	110
8	206	190	154

Tubing inner diameter d_i as a function of total air consumption q_{nN}																	
Total air consumption [l/min]																	
50	75	154	175	225	310	400	480	500	750	890	1000	1190	1340	1850	2240	2300	2900
Tubing inner diameter[1] [mm]																	
≥ 2.5	≥ 2.9	≥ 3.8	≥ 4	≥ 4.4	≥ 5	≥ 5.5	≥ 5.9	≥ 6	≥ 7	≥ 7.5	≥ 8	≥ 8.4	≥ 8.8	≥ 10	≥ 10.8	≥ 11	≥ 12
Recommended tubing													Technical data → Internet: pun, pan				
PUN-4	PUN-6		PUN-8			PUN-10				PUN-12		PUN-16					PAN-16

1) With a tubing length of 3 m

Note

The total air consumption of the completely equipped common supply manifold can be determined by adding up the individual consumption values of the generators used. It should be noted that in the case of vacuum generators with ejector pulse (OE, CE) the individually set values for the ejector pulse (duration and intensity) can lead to a significantly higher level of air consumption.

Ordering data and weight					
	Number of device positions	CRC[1]	Weight [g]	Part No.	Type
Common supply manifold	4	2	767	**549456**	**OABM-P-4**
	6	2	1045	**549457**	**OABM-P-6**
	8	2	1330	**549458**	**OABM-P-8**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Vacuum generators OVEM

Accessories

Blanking plug OASC-G1-P
for common supply manifold
OABM-P-...

Type of mounting: Threaded
Max. tightening torque: 10 Nm

Material:
Hollow bolt: Wrought aluminium alloy
Blanking cap: Steel
Seals: Steel, nitrile rubber
Note on material:
RoHS-compliant

Ordering data

	CRC[1]	Weight [g]	Part No.	Type
Blanking plug	2	53	**549460**	**OASC-G1-P**

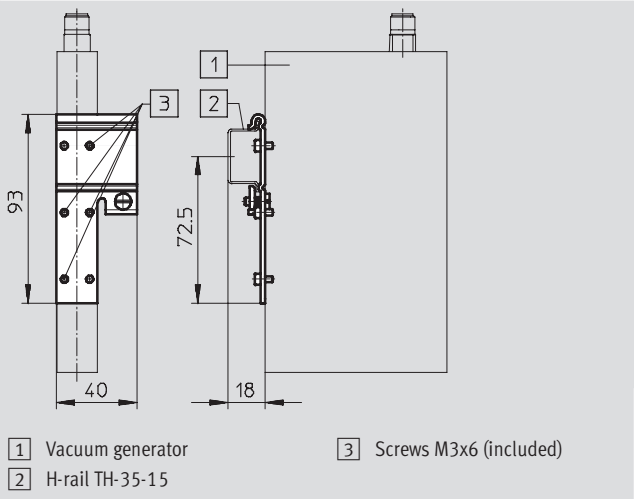
1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

H-rail mounting
OABM-H
for vacuum generator OVEM

Max. tightening torque for H-rail mounting: 0.8 Nm

Material: Galvanised steel

Note on material:
RoHS-compliant



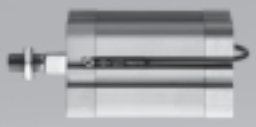
1 Vacuum generator
2 H-rail TH-35-15
3 Screws M3x6 (included)

Ordering data

	Weight [g]	Part No.	Type
H-rail mounting	52	**549461**	**OABM-H**

Products and services – everything from a single source

Products incorporating new ideas are created when enthusiasm for technology and efficiency come together. Tailor-made service goes without saying when the customer is the focus of attention.



Pneumatic and electrical drives

- Pneumatic cylinders
- Semi-rotary drives
- Handling modules
- Servopneumatic positioning systems
- Electromechanical drives
- Positioning controllers and controllers

Valves and valve terminals

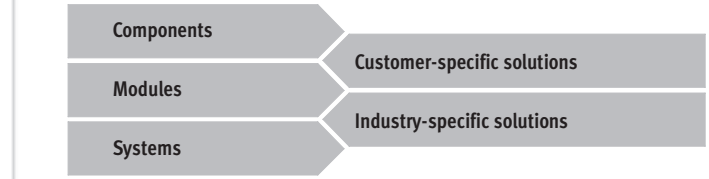
- Standard valves
- Universal and application-optimised valves
- Manually and mechanically actuated valves
- Shut-off, pressure control and flow control valves
- Proportional valves
- Safety valves

Fieldbus systems/ electrical peripherals

- Fieldbus Direct
- Installation system CP/CPI
- Modular electrical terminal CPX

Compressed air preparation

- Service unit combinations
- Filter regulators
- Filters
- Pressure regulators
- Lubricators
- On-off and soft-start valves
- Dryers
- Pressure amplifiers
- Accessories for compressed air preparation



Services from Festo to increase your productivity – across the entire value creation sequence

Engineering – for greater speed in the development process

- CAD models
- 14 engineering tools
- Digital catalogue
- FluidDRAW®
- More than 1,000 technical consultants and project engineers worldwide
- Technical hotlines

Supply chain – for greater speed in the procurement process

- E-commerce and online shop
- Online order tracking
- Euro special manufacturing service
- Logistics optimisation

Gripping and vacuum technology

- Vacuum generators
- Vacuum grippers
- Vacuum security valves
- Vacuum accessories
- Standard grippers
- Micro grippers
- Precision grippers
- Heavy-duty grippers

Sensors and monitoring units

- Proximity sensors
- Pressure and flow sensors
- Display and operating units
- Inductive and optical proximity sensors
- Displacement encoders for positioning cylinders
- Optical orientation detection and quality inspection

Controllers/bus systems

- Pneumatic and electropneumatic controllers
- Programmable logic controllers
- Fieldbus systems and accessories
- Timers/counters
- Software for visualisation and data acquisition
- Display and operating units

Accessories

- Pipes
- Tubing
- Pipe connectors and fittings
- Electrical connection technology
- Silencers
- Reservoirs
- Air guns

All in all, 100% product and service quality

A customer-oriented range with unlimited flexibility:
Components combine to produce ready-to-install modules and systems. Included in this are special designs – since at Festo, most industry-specific products and customer-specific solutions are based on the 23,000 plus catalogue products. Combined with the services for the entire value creation sequence, the end result is unbeatable economy.

Assembly – for greater speed in the assembly/commissioning process

- Prepack
- Preassembly
- Turnkey pneumatics
- Handling solutions

Operation – for greater speed in the operational process

- Spare parts service
- Energy saving service
- Compressed air consumption analysis
- Compressed air quality analysis
- Customer service

What must be observed when using Festo components?

Specified limit values for technical data and any specific instructions must be adhered to by the user in order to ensure recommended operating conditions.
When pneumatic components are used, the user shall ensure that they are operated using correctly prepared compressed air without aggressive media.
When Festo components are used in safety-oriented applications, the user shall ensure that all applicable national and local safety laws and regulations, for example the machine directive, together with the relevant references to standards are observed.
Unauthorised conversions or modifications to products and systems from Festo involve a safety risk and are thus not permissible.
Festo does not accept any liability for resulting damages.
You should contact Festo's advisors if one of the following apply to your application:

- The ambient conditions and conditions of use or the operating medium differ from the specified technical data.
- The product is to perform a safety function.
- A risk or safety analysis is required.
- You are unsure about the product's suitability for use in the planned application.
- You are unsure about the product's suitability for use in safety-oriented applications.