Vacuum generators VADM/VADMI

FESTO
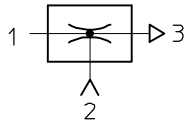
Vacuum generators

Key features

Product overview

Vacuum generator

1 —[⊲]— ▷ 3

2

All Festo vacuum generators have a single-stage design and operate according to the venturi principle. The product families described below have been designed for a wide range of applications. The different performance classes of the individual product families make it possible to select vacuum generators tailored to suit specific requirements.

Standard and inline ejectors

VN-...

- Nominal size
  0.45 ... 3 mm
- Max. vacuum
  93%
- Temperature range
  0 ... +60 °C

- A range of extremely effective generators suitable for use directly in the workplace
- Available as straight or T-shaped housing
- Low space requirement

- Low-cost
- No wearing parts
- Extremely fast evacuation time
- Vacuum switch (optional)

- Optional with additional functions:
  – integrated eject pulse
  – electric control for vacuum ON/OFF
  – combination of eject pulse and control

VAD-.../VAK-...

- Nominal size
  0.5 ... 1.5 mm
- Max. vacuum
  80%
- Temperature range
  −20 ...+80 °C

- Range of vacuum generators with sturdy aluminium casing
- VAK-...: Built-in reservoir
  VAD-...: Connection for additional external reservoir

- Maintenance-free
- VAK-...: Reliable setting down of workpieces

Vacuum generators

Key features

Compact ejectors	
VADM-…/VADMI-…	→ 8

- Nominal size
  0.45 … 3 mm
- Max. vacuum
  84%
- Temperature range
  0 … +60 °C

- Compact design
- Minimal installation work required
- Short response times
- Built-in solenoid valve (on/off)
- VADMI-…: Additional built-in
  solenoid valve for ejector pulse
- Filter with display

- Air-saving circuit (optional)
- Vacuum switch (optional)
- Reliable setting down of workpieces

VAD-M-…/VAD-M…-I-…	Technical data → Internet: vad-m

- Nominal size
  0.7 … 2 mm
- Max. vacuum
  85%
- Temperature range
  0 … +40 °C

- Compact design
- Minimal installation work required
- Short response times
- Built-in solenoid valve (on/off)

- VAD-M-I-…: Additional built-in
  solenoid valve for ejector pulse
- Reliable setting down of workpieces

Vacuum generators VADM/VADMI

Features

At a glance

- Compact and sturdy design
- Components with numerous individual functions form a single unit
- Extremely short switching times thanks to integrated solenoid valves
- No external or additional components required

- Easily fitted thanks to compact dimensions and therefore particularly suitable for handling operations
- Cost effective assembly as the solenoid valve, vacuum generator and silencer are all in a single unit.
- Protection class IP65

- With manual override
- With integrated silencer for reducing exhaust noise
- With integrated filter for the air to be evacuated and a display window which shows the degree of filter contamination

- With or without integrated vacuum switch to monitor the vacuum with PNP or NPN output
- With 2 vacuum ports, optional

Vacuum generator VADM-…/-…-P/-N

The compressed air supply of these vacuum generators is controlled by the built-in solenoid valve.
When the electrical power supply is switched on, the valve is actuated and the flow of compressed air from 1 (P) to 3 (R) generates a vacuum at port 2 (V), operating on the ejector principle. Suction stops when the supply power to the valve is switched off.
The integrated silencer reduces exhaust noise to a minimum.

- Built-in solenoid valve for:
  – Vacuum ON/OFF

With the vacuum generators VADM-…-P/N the vacuum can be monitored by means of a vacuum switch.

VADM-…

VADM-…-P/-N
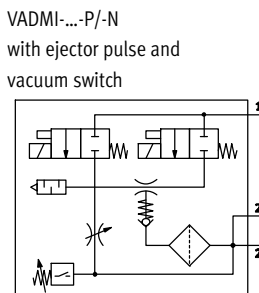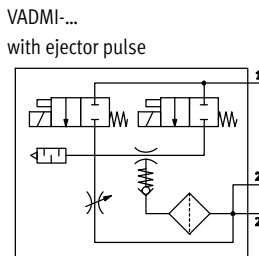with vacuum switch
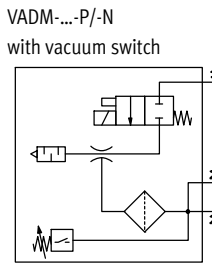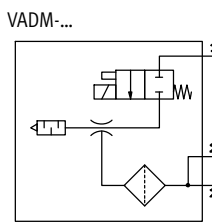
1 = Pressure supply port
2 = Vacuum port

Vacuum generator VADMI-…/-…-P/-…-N with ejector pulse and vacuum switch

Compressed air enters the vacuum generator following the application of a voltage signal to the integrated solenoid valve, thereby creating a vacuum.
Once the voltage is switched off at the vacuum valve and switched on at the ejector valve, the vacuum is rapidly purged at port 2 as a result of the application of pressure.
The integrated silencer reduces exhaust noise to a minimum.

- Two built-in solenoid valves for:
  – Vacuum ON/OFF
  – Ejector pulse
- With sensing interface
- With integrated non-return valve as safety function

With the vacuum generators VADMI-…-P/-N the vacuum can be monitored by means of a vacuum switch.

VADMI-…
with ejector pulse

VADMI-…-P/-N
with ejector pulse and
vacuum switch

1 = Pressure supply port
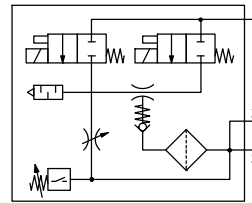2 = Vacuum port

Vacuum generators VADM/VADMI

Features

| **Vacuum generator VADMI-…-LS-P/N with ejector pulse, vacuum switch and air-saving circuit** |

This vacuum generator is identically constructed to the other VADMI types. In addition, however, this ejector has a built-in vacuum switch with air-saving circuit:

If the vacuum level falls below the required range, vacuum generation is activated automatically (operating principle of vacuum switch for VADMI-…-LS-P/N ➔ 13).

- Solenoid valve for vacuum generation
- Integrated silencer
- Integrated 40 µm filter with contamination indication
- With sensing interface for vacuum fault signal
- With integrated non-return valve as safety function
- With vacuum switch for pressure monitoring
- With 2 vacuum ports

VADM-…-LS-P/N
with air-saving circuit
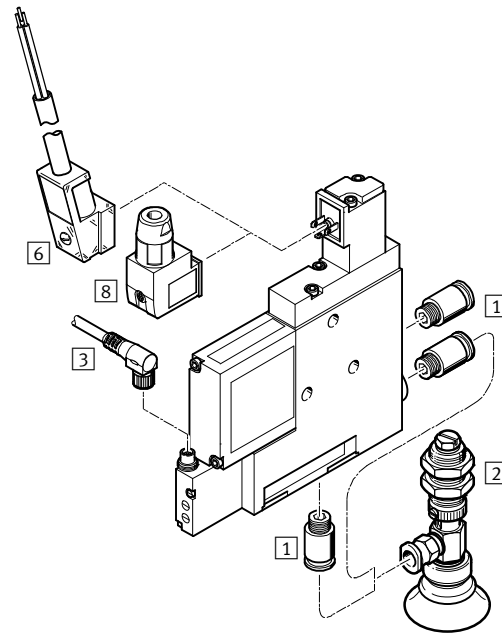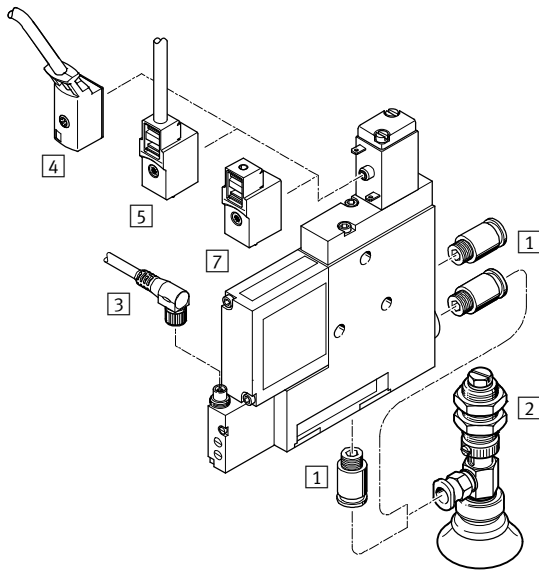PNP output

1 = Pressure supply port
2 = Vacuum port

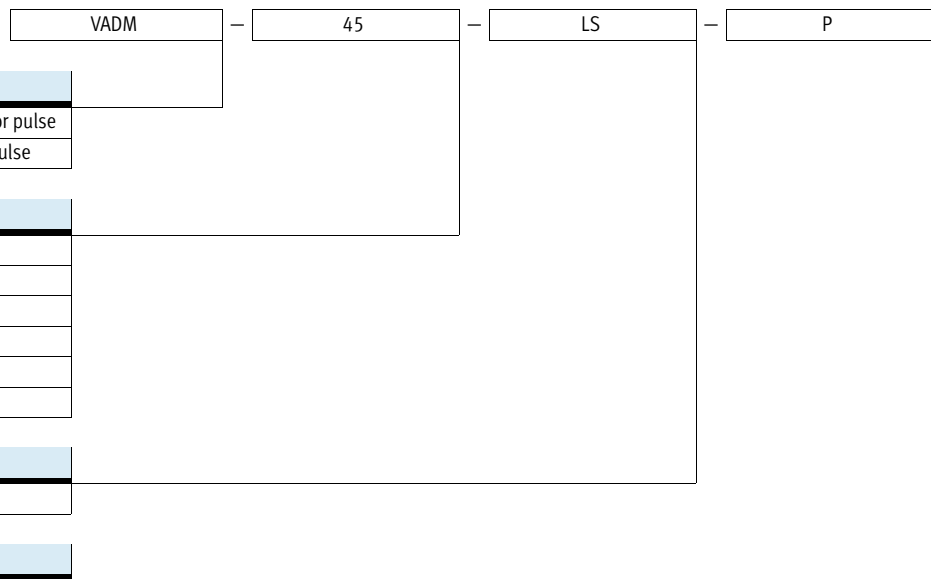# Vacuum generators VADM/VADMI

Peripherals overview

VADM/VADMI-45/70

VADM/VADMI-95/140/200/300

Mounting attachments and accessories				
		VADM/VADMI-45/70	VADM/VADMI-95/140/200/300	➔ Page/Internet
1	Push-in fitting QS	■	■	quick star
2	Suction gripper ESG	■	■	esg
3	Connecting cable NEBU-M8	■	■	nebu-m8
4	Connecting cable KMYZ-2	■	–	kmyz-2
5	Plug socket with cable KMYZ-4	■	–	kmyz-4
6	Plug socket with cable KMEB-1/2	–	■	kmeb
7	Plug socket MSSD-ZBZC	■	–	mssd-zbzc
8	Plug socket MSSD-EB	–	■	mssd-eb
–	Suction cup holder ESH	■	■	esh
–	Suction cup ESS	■	■	ess
–	Illuminating seal MEB-LD	–	■	meb-ld

➔ Internet: www.festo.com/catalogue/...

Subject to change – 2015/09

Vacuum generators VADM/VADMI

Type codes

	VADM	—	45	—	LS	—	P

Type	
VADM	Vacuum generator without ejector pulse
VADMI	Vacuum generator with ejector pulse

Nominal laval nozzle size [mm]	
45	0.45
70	0.70
95	0.95
140	1.40
200	2.00
300	3.00

Functions	
LS	With air-saving circuit

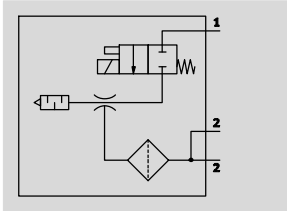| **Switching type**	
P	PNP design (vacuum switch, output potential)
N	NPN design (vacuum switch, output potential)

- ◌ -   Note

Possible combinations can be found
in the ordering data.

→ **Internet: www.festo.com/catalogue/…**
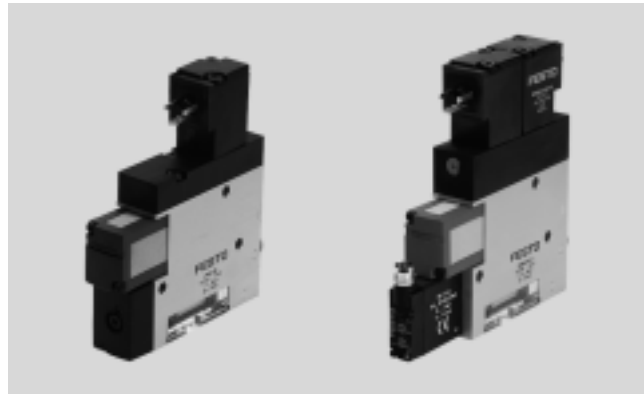
Vacuum generators VADM/VADMI

Technical data

Function
VADM-...

VADMI-...

- ❚ - Temperature range
−0 ... +60 °C

- ⟂ - Operating pressure
1.5 ... 8 bar

General technical data						
Nominal size	45	70	95	140	200	300
Design	Slim rectangular					
Mounting position	Any					
Ejector features	High vacuum					
Type of mounting	Either: Via female thread, via through-holes					
Pneumatic connection 1/2	M5/M5	M5/G⅛	G⅛/G⅛	G⅛/G¼	G¼/G⅜	G¼/G⅜
Nominal size of laval nozzle [mm]	0.45	0.7	0.95	1.4	2.0	3.0
Duty cycle [%]	100					
Power consumption [W]	1.4		1.5 piloted			
Protection class	IP65					

- ❚ - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating and environmental conditions						
Nominal size	45	70	95	140	200	300
Operating pressure [bar]	1.5 ... 8		2 ... 8			
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium	Operation with lubricated medium not possible					
Ambient temperature [°C]	0 ... +60					
Corrosion resistance class CRC[1]	2					
Note on materials	Free of copper and PTFE					
Certification	c UL us - Recognized (OL)					

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
   Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmo-
   sphere typical for industrial applications.

Weights [g]						
Nominal size	45	70	95	140	200	300
VADM-...	60	140	210	290	320	340
VADM-...-P/-N	65	145	220	300	330	350
VADMI-...	85	170	240	320	350	370
VADMI-...-P/-N/-LS-P	90	180	250	330	360	380

Technical data

Vacuum Δp_u as a function of operating pressure p
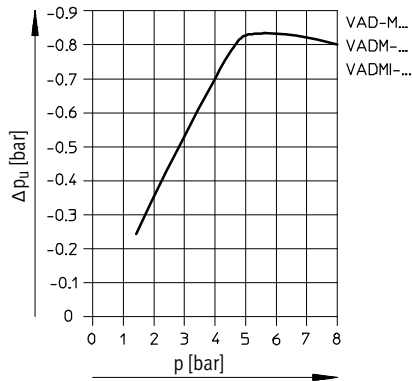
Evacuation time t [s] for 1 litre volume at 6 bar operating pressure
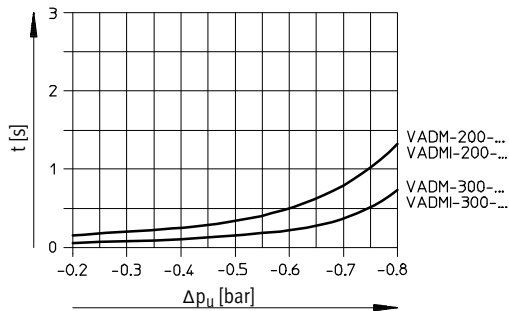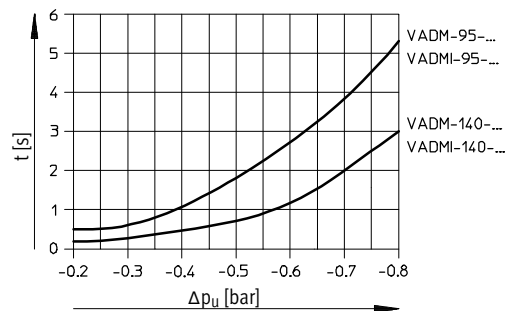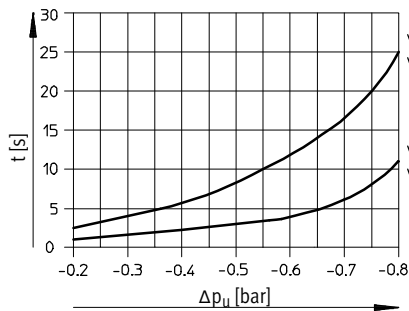
Air supply time for 1 litre volume at 6 bar operating pressure[1]

Type	With ejector pulse [s]	Without ejector pulse [s]	Max. flow rate [l/min]
VADM-45-...	–	5.9	–
VADMI-45-...	1.9	–	21
VADM-70-...	–	2.2	–
VADMI-70-...	0.59	–	48
VADM-95-...	–	1.18	–
VADMI-95-...	0.24	–	104
VADM-140-...	–	0.69	–
VADMI-140-...	0.19	–	265
VADM-200-...	–	0.29	–
VADMI-200-...	0.15	–	260
VADM-300-...	–	0.26	–
VADMI-300-...	0.2	–	250

1) Time required to build up vacuum from –0.75 to –0.05 bar.

Air consumption Q as a function of operating pressure p
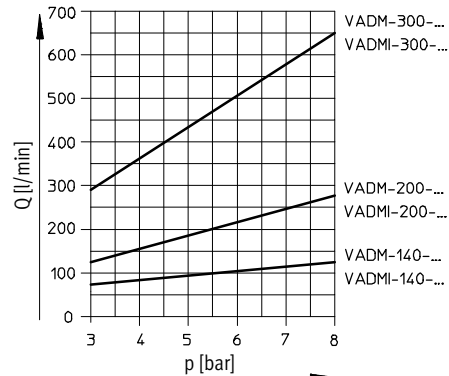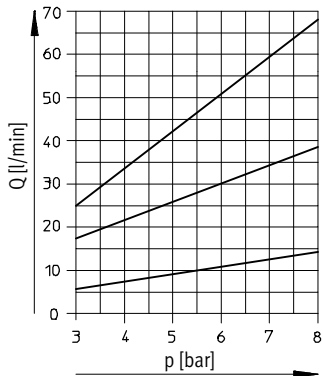
Noise level Lp as a function of operating pressure p (without suction flow)
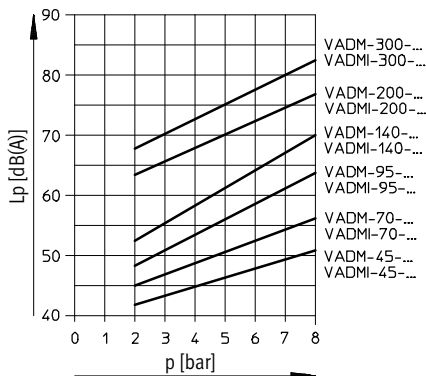
Efficiency η as a function of vacuum Δp_u at P_nom 6 bar
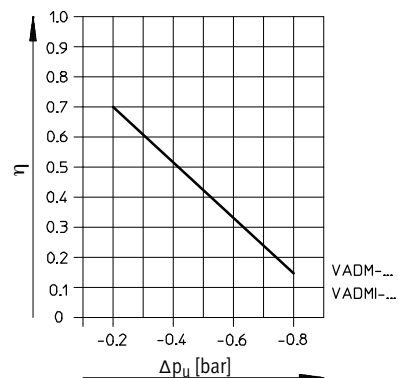
Suction rate qn as a function of vacuum Δp_u

1	VADM-45
	VADMI-45
2	VADM-70
	VADMI-70
3	VADM-95
	VADMI-95
4	VADM-140
	VADMI-140
5	VADM-200
	VADMI-200
6	VADM-300
	VADMI-300

Vacuum generators VADM/VADMI

Technical data

Vacuum switch for vacuum generators
VADM...-...-P/N

Circuit diagram

- Piezo-resistive vacuum switch with adjustable switching point and adjustable hysteresis
- Switching status display, yellow LED
- Electrical connection, polarity safe

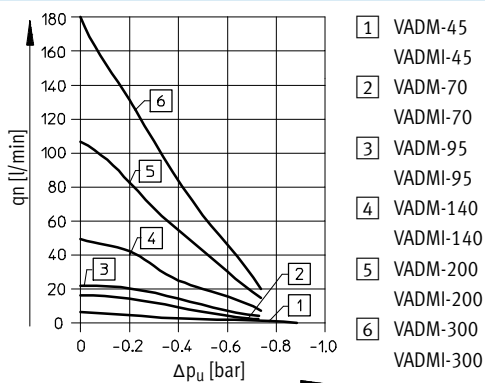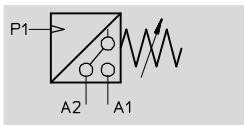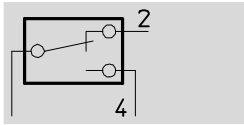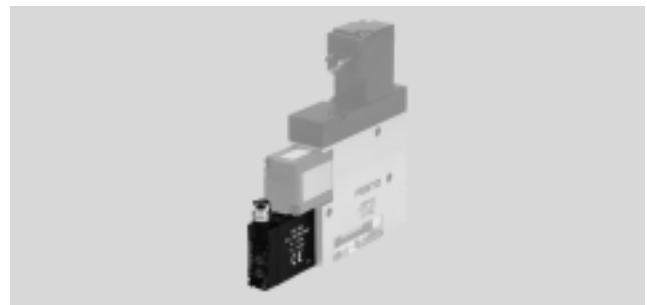| General technical data		
Pneumatic data		
Max. operating pressure	[bar]	0 ... −0.95
Switching point	[bar]	0 ... −0.9 (adjustable)
Hysteresis	[bar]	0.05 ... 0.5 (adjustable)
Temperature influence		≤ ±5 mbar/10K (on switching point)
Electrical data		
Operating voltage	[V DC]	24 (15 ... 30)
Voltage drop	[V]	1.2 (at switch output)
Switch output current	[mA]	130
Max. intrinsic current consumption	[mA]	25
Max. switching delay	[ms]	5
Connection		Reverse polarity protected
Mechanical data		
Design		Piezo-resistive vacuum switch with adjustable switching point and hysteresis
Ambient conditions		
Protection class		IP65

Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +60
Note on materials		Free of copper and PTFE
CE mark (see declaration of conformity)		To EU EMC Directive[1]
Certification		c UL us - Recognized (OL)
		RCM Mark

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp ➜ User documentation.
   If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Vacuum switch control panel
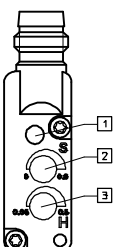
[1] Switching status display, yellow LED

[2] Switching point adjustment

[3] Hysteresis adjustment

Vacuum generators VADM/VADMI
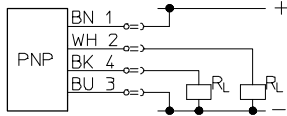
Technical data

Terminal allocation

PNP output

NPN output
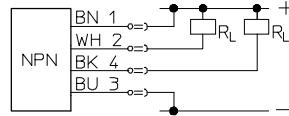
BN = Brown
WH = White
BK = Black
BU = Blue
R_L = Load

Pin allocation
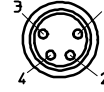
1 Brown: Positive terminal
2 White: NC contact
3 Blue: Negative terminal
4 Black: NO contact

Energy-saving function with VADMI-…-P/N

The conventional vacuum switch ➔ A cost-effective energy-saving measure

With the vacuum generators VADMI a maximum value is first set and then the hysteresis is regulated (reliable operating range). The lower limit defines the minimum value.

Once the vacuum level is within this range, reliable workpiece transport is guaranteed.

The vacuum generator VADMI is only activated by the external controller if the level drops below the minimum value and is deactivated again once that minimum value is regained.

A non-return valve prevents the vacuum level from being purged during the inactive phase of vacuum generation.

The functional sequence

Optimum vacuum curve
Actual vacuum curve

Vacuum on

1 External controller F switches on the VG solenoid
   ➔ Valve for compressed air supply B is opened
   ➔ Vacuum generation E is activated

Vacuum stop

2 The specified maximum level is achieved:
   ➔ Pressure sensor A sends a signal to the external controller
   ➔ Controller switches the VG solenoid off
   ➔ Vacuum generation is interrupted
   ➔ Non-return valve D prevents the vacuum level from being purged

Vacuum on

3 Leakage causes the vacuum level to drop to the minimum value
   ➔ Pressure sensor A sends a signal to the external controller F
   ➔ Controller F switches the VG solenoid B back on
   ➔ Vacuum generation E is active again
   ➔ Constant repetition of points 2 and 3

Cycle ended: Vacuum off

4 Transport process ended
   ➔ External controller (PLC) F deactivates VG solenoid B
   ➔ Vacuum generation E is ended
   ➔ External controller switches on ejector RP solenoid C
   ➔ Vacuum level at 0
   ➔ Workpiece is released

RP   Ejector pulse
VG   Vacuum on/off
E   Vacuum generator

D   Non-return valve
A   Vacuum switch

Vacuum generators VADM/VADMI

Technical data

FESTO

Vacuum switch and cable set for
vacuum generators with air-saving
circuit VADMI-...-LS-P/N

Circuit diagram
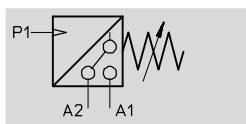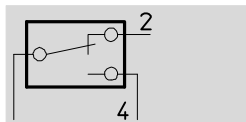
- Piezo-resistive vacuum switch with
  adjustable switching point and
  adjustable hysteresis
- Air-saving circuit only in
  conjunction with supplied cable
- Switching status display, yellow LED
- Electrical connection, polarity safe
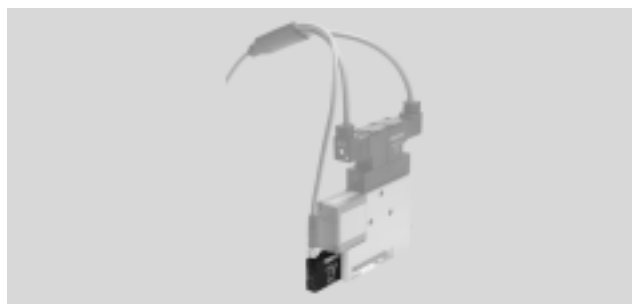
General technical data		
Pneumatic data		
Max. operating pressure	[bar]	0 ... 1
Max. overload pressure	[bar]	5 (for t <1 min)
Switching point	[bar]	0 ... −0.9 (adjustable)
Hysteresis	[bar]	0.1 ... 0.6 (adjustable)
Temperature influence		≤ ±10 mbar/10K (on switching point)
Electrical data		
Operating voltage	[V DC]	24 V (±10%, at VADMI-70-LS-P +10%−5%)
Voltage drop	[V]	1.2 (at switch output)
Switch output current	[mA]	130
Max. intrinsic current consumption	[mA]	25
Max. switching delay	[ms]	2 (with NPN cable distribution: 20 ms)
Connection		Reverse polarity protected
Mechanical data		
Design		Piezo-resistive vacuum switch with integrated air-saving circuit
Ambient conditions		
Protection class		IP65

Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +60
Note on materials		Free of copper and PTFE
CE mark (see declaration of conformity)		To EU EMC Directive[1]
Certification		c UL us - Recognized (OL)
		RCM Mark

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp ➔ User documentation.
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Vacuum generators VADM/VADMI

Technical data

Function principle

In conjunction with the supplied cable set, the vacuum generator VADMI-…-LS-P/N contains an air-saving circuit. The vacuum range to be used to hold the workpiece is set on the switch using both potentiometers. The switch generates a pulsating signal A2 which only actuates the solenoid for vacuum ON/OFF in the vacuum generator when the vacuum pressure has fallen below the selected upper limit value due to leakage etc.

At all other times, the vacuum is maintained with the help of the non-return valve, even when the vacuum generator is not switched on. In addition to this, status signal A1 can be interrogated which is connected to +24 V during normal operation, but which is switched to 0 whenever vacuum pressure falls below the critical value by 150 mbar due to a malfunction.
This is the case, for example, if the workpiece has dropped off from the suction cup and it is no longer possible to generate the selected vacuum.

Accessories (included in scope of delivery):
- Connecting cable
  The switch may only be operated with the included cable set. Connections 1, 2 and 4 can nevertheless be interchanged with one another without damaging the device.

Vacuum switch control panel
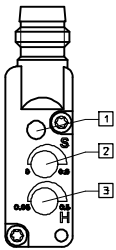
|1| Switching status display, yellow LED
|2| Switching point adjustment
|3| Hysteresis adjustment

Terminal allocation
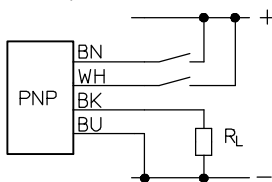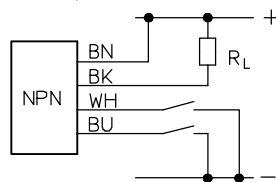
PNP output

NPN output

BN = Brown
WH = White
BK = Black
BU = Blue
R_L = Load

Pin allocation
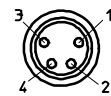
1	Brown:	Positive terminal
2	White:	NC contact
3	Blue:	Negative terminal
4	Black:	NO contact

Switching points/hysteresis

Signal A1, "suction process"

Signal A2, "solenoid P ON"

Signal "pick up workpiece"

0 bar

150 mbar

Hysteresis

Hysteresis

Switching point 1

Switching point 2

Normal operation
Acknowledgement to controller:
Suction process OK

Error, e.g. workpiece has dropped off
Acknowledgement to controller:
Suction process not OK
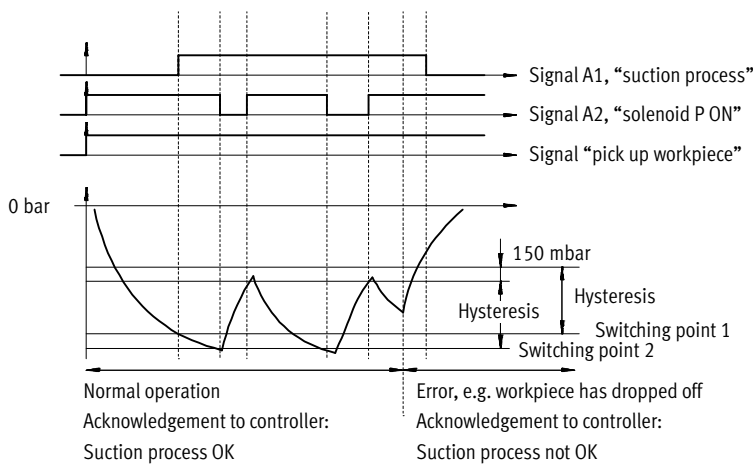
Vacuum generators VADM/VADMI

Technical data

Energy-saving function and error reporting with VADMI-…-LS-P/N
The further development of the vacuum switch

In addition to the described functions, error reporting is also used as an additional energy-saving measure. This like the vacuum circuit is controlled via the vacuum switch.

If a suction cup does not pick up a workpiece properly or a tube bursts, the vacuum switch can report such an event to the external control unit (PLC) F so that this or the user can take the necessary steps.

Given the decentrally controlled switching function, external actuation of the vacuum circuit (air-saving circuit) would be superfluous. As a result there is significantly less wiring.

The functional sequence

Start signal
1 External controller F activates the pressure sensor
→ Pressure sensor A checks the vacuum status
→ No vacuum present

Vacuum on
2 Pressure sensor activates the VG solenoid B
→ Valve for compressed air supply is opened
→ Vacuum generation E is activated
3 Vacuum level 150 mbar below the maximum level is exceeded
→ Pressure sensor sends an enable signal to external controller (PLC) F BK
→ Transport process can start

Vacuum stop
4 The specified maximum level is achieved
→ Pressure sensor A switches the VG solenoid off
→ Compressed air supply stopped
→ Vacuum generation E interrupted
→ Non-return valve D prevents the vacuum level from being purged

Vacuum on
5 Leakage causes the vacuum level to drop to the minimum value
→ Pressure sensor A switches the VG solenoid on again
→ Vacuum generation E is active again

Fault: Transport stopped
6 Major leakage causes an overly large drop in the vacuum level
→ Vacuum generator E cannot compensate for the drop in level
7 Vacuum level is 150 mbar below the minimum value
→ Pressure sensor A sends an error message to the external controller (PLC) F BK
→ External controller interrupts the transport process
→ Vacuum generation E is ended

Cycle ended: Vacuum off
8 Transport process ended
→ External controller (PLC) F deactivates VG solenoid
→ Vacuum generation E is ended
→ External controller F switches on ejector RP solenoid C WH
→ Ejector pulse activated
→ Workpiece is released

Control signal: Vacuum on/off — BN, BK

Report signal: Suction process OK/not OK

Vacuum curve

Vacuum generator active/inactive

Optimum vacuum curve
Actual vacuum curve
Curve after fault

RP	Ejector pulse	C	Ejector pulse
VG	Vacuum on/off	G	Branching
E	Vacuum generator	A	Vacuum switch
D	Non-return valve		

Connection to PLC

PNP and NPN switching of the VADMI-…-LS-P/N

The three control and supply cable harnesses are combined in a branching directly via the vacuum generator so that only one cable containing one signal wire and three voltage supply wires need to be conducted from the branching to the PLC.

In principle there are two different signal characteristics with external control units (PLC) for the vacuum generator VADMI-LS, which differ only slightly in their mode of operation. As both versions are identical in terms of the vacuum generator and the vacuum switch, the signal flow is only converted in the branching, as this is the only difference between the models.

The labelled plug-in connectors for the wiring harness are connected to the relevant elements of the VADMI-LS. The four-wire cable splice of the branching is connected to the control unit in the manner depicted below.

VADMI-…

VADMI
without vacuum circuit

VADMI-…-P/N

VADMI
with vacuum switching

VADMI-…-P/N-LS

VADMI
with air-saving circuit

four-wire cable splice

PNP circuit
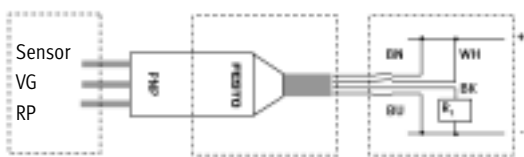
Wiring harness to VADMI   Branching   PLC (customer-side)

NPN circuit
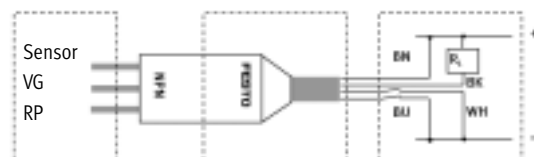
Wiring harness to VADMI   Branching   PLC (customer-side)

BN = Brown for vacuum generation VG

WH = White for ejector pulse RP

BK = Black for consumer R_L (PLC)

BU = Blue for ground

Vacuum generators VADM/VADMI

Technical data

Dimensions

| VADM-45/-70 | VADM-95/-140/-200/-300 |
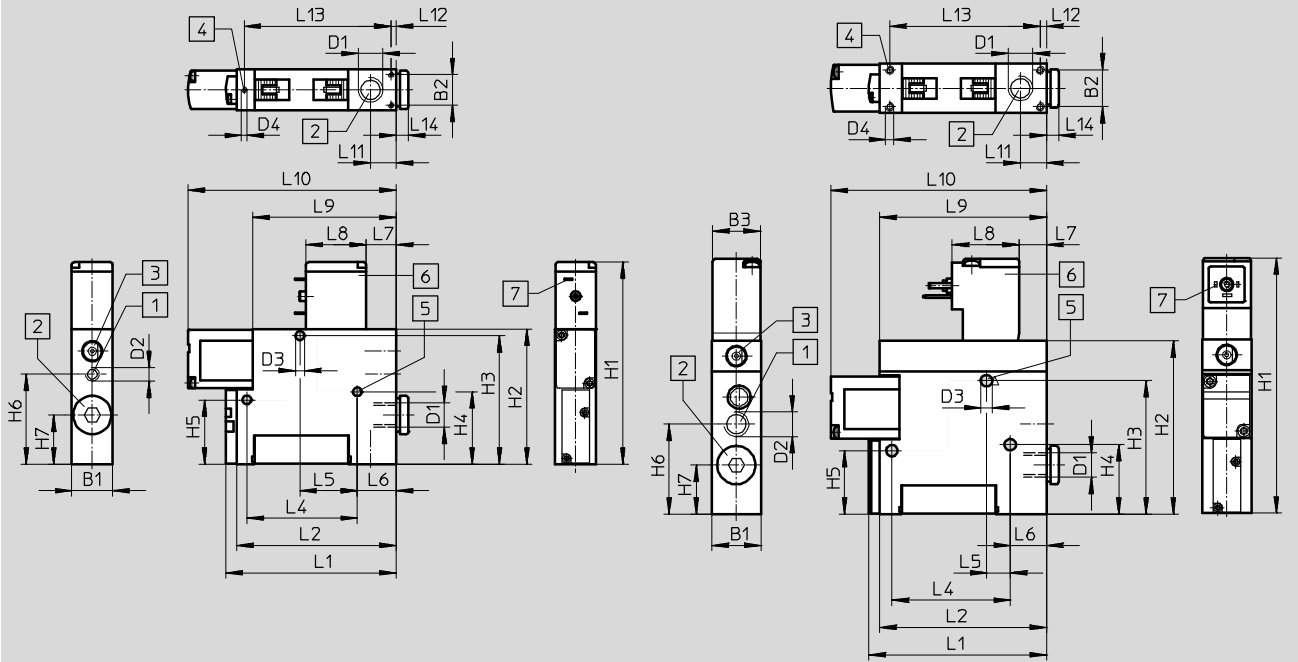
1	Compressed air port
2	Vacuum port
3	Manual override facility
4	Mounting thread
5	Mounting hole
6	Solenoid coil can be repositioned by 180°

7	Suitable socket for:
	VADM-45/-70
	KMYZ-...
	→ Internet: kmyz
	VADM-95/-.../-300
	KMEB-... and MSSD-EB
	→ Internet: kmeb1
	→ Internet: mssd-eb

Type	B1	B2	B3	D1	D2	D3 ∅	D4	H1	H2	H3	H4	H5	H6	H7
VADM-45	10	6.2	–	M5	M5	3.2	M2	64.4	44.4	40.8	23.8	23.8	29.6	18
VADM-70	15	11.2	–	G⅛	M5	3.2	M2	73.9	49.4	47	26.5	23.5	32.9	18
VADM-95	18	13.4	18	G⅛	G⅛	4.2	M2.5	93.4	63.4	48.9	25.5	23.3	33	18
VADM-140	22	16.6	18	G¼	G⅛	5.2	M3	107.4	77.4	61.4	41.4	41.4	36	17.5
VADM-200	22	16.6	18	G⅜	G¼	5.2	M3	113.4	83.4	67.7	41.4	41.4	40	19
VADM-300	22	16.6	18	G⅜	G¼	5.2	M3	113.4	83.4	67.7	41.4	41.4	40	19

Type	L1	L2	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
VADM-45	45	41	33.6	25	3.6	11	16	41	56	7.9	1.9	36.3	4
VADM-70	62.3	58.3	40.4	21	14.2	11	22	52.4	76.1	9.4	1.9	53.7	4.5
VADM-95	65	61	43.3	8.7	13.2	9.7	24.5	61	78.8	9.5	2.3	55	4.5
VADM-140	88	84	26	12.5	28.5	9.7	24.5	61	96.8	13.8	2.3	79.4	5
VADM-200	88	84	26	12.5	28.5	9.7	24.5	61	101.8	12.5	2.3	79.4	5
VADM-300	124.4	120.4	26	12.5	28.5	9.7	24.5	61	137.4	12.5	2.3	115.8	5

· ┃ · Note: This product conforms to ISO 1179-1 and to ISO 228-1

Vacuum generators VADM/VADMI

Technical data

Dimensions

VADM-45/-70-P/-N

VADM-95/-140/-200/-300-P/-N
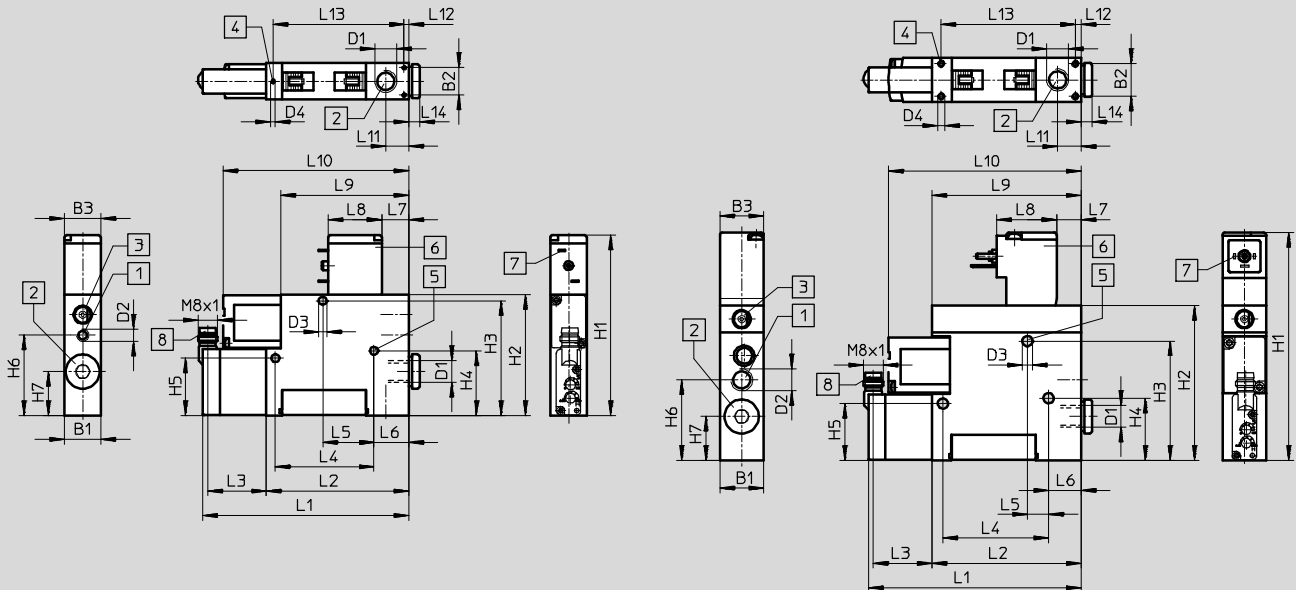
1	Compressed air port
2	Vacuum port
3	Manual override facility
4	Mounting thread
5	Mounting hole
6	Solenoid coil can be repositioned by 180°

7	Suitable socket for:
	VADM-45/-70-P/-N
	KMYZ-...
	➔ Internet: kmyz
	VADM-95/-.../-300-P/-N
	KMEB-... and MSSD-EB
	➔ Internet: kmeb1
	➔ Internet: mssd-eb

| 8 | Connection for connecting cable NEBU-M8 |
| | ➔ Internet: nebu-m8 |

Type	B1	B2	B3	D1	D2	D3 ∅	D4	H1	H2	H3	H4	H5	H6	H7
VADM-45-P/-N	10	6.2	10	M5	M5	3.2	M2	64.4	44.4	40.8	23.8	23.8	29.6	18
VADM-70-P/-N	15	11.2	15	G⅛	M5	3.2	M2	73.9	49.4	47	26.5	23.5	32.9	18
VADM-95-P/-N	18	13.4	18	G⅛	G⅛	4.2	M2.5	93.4	63.4	48.9	25.5	23.3	33	18
VADM-140-P/-N	22	16.6	18	G¼	G⅛	5.2	M3	107.4	77.4	61.4	41.4	41.4	36	17.5
VADM-200-P/-N	22	16.6	18	G⅜	G¼	5.2	M3	113.4	83.4	67.7	41.4	41.4	40	19
VADM-300-P/-N	22	16.6	18	G⅜	G¼	5.2	M3	113.4	83.4	67.7	41.4	41.4	40	19

Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
VADM-45-P/-N	71.4	41	28.4	33.6	25	3.6	11	16	41	56	7.9	1.9	36.3	4
VADM-70-P/-N	88.7	58.3	28.4	40.4	21	14.2	11	22	52.4	76.1	9.4	1.9	53.7	4.5
VADM-95-P/-N	91.4	61	28.4	43.3	8.7	13.2	9.7	24.5	61	78.8	9.5	2.3	55	4.5
VADM-140-P/-N	114.4	84	28.4	26	12.5	28.5	9.7	24.5	61	96.8	13.8	2.3	79.4	5
VADM-200-P/-N	114.4	84	28.4	26	12.5	28.5	9.7	24.5	61	101.8	12.5	2.3	79.4	5
VADM-300-P/-N	150.8	120.4	28.4	26	12.5	28.5	9.7	24.5	61	137.4	12.5	2.3	115.8	5

- ⵊ - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Technical data

Dimensions

VADMI-45/-70	VADMI-95/-140/-200/-300

1	Compressed air port	7	Suitable socket for:
2	Vacuum port		VADMI-45/-70
3	Manual override facility		KMYZ-...
4	Mounting thread		→ Internet: kmyz
5	Mounting hole		VADMI-95/-.../-300
			KMEB-... and MSSD-EB
			→ Internet: kmeb1
			→ Internet: mssd-eb

Type	B1	B2	B3	D1	D2	D3 ∅	D4	H1	H2	H3	H4	H5	H6	H7
VADMI-45	10	6.2	–	M5	M5	3.2	M2	78.2	58.2	40.8	23.8	23.8	43.4	18
VADMI-70	15	11.2	–	G⅛	M5	3.2	M2	88.9	64.4	47	26.5	23.5	48.8	18
VADMI-95	18	13.4	18	G⅛	G⅛	4.2	M2.5	99.4	69.4	48.9	25.5	23.3	33	18
VADMI-140	22	16.6	18	G¼	G⅛	5.2	M3	113.4	83.4	61.4	41.4	41.4	36	17.5
VADMI-200	22	16.6	18	G⅜	G¼	5.2	M3	119.4	89.4	67.7	41.4	41.4	40	19
VADMI-300	22	16.6	18	G⅜	G¼	5.2	M3	119.4	89.4	67.7	41.4	41.4	40	19

Type	L1	L2	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
VADMI-45	45	41	33.6	25	3.6	11	33	55	56	7.9	1.9	36.3	4
VADMI-70	62.3	58.3	40.4	21	14.2	11	45	67	76.1	9.4	1.9	53.7	4.5
VADMI-95	65	61	43.3	8.7	13.2	5.7	49.5	61	78.8	9.5	2.3	55	4.5
VADMI-140	88	84	26	12.5	28.5	5.7	49.5	61	96.8	13.8	2.3	79.4	5
VADMI-200	88	84	26	12.5	28.5	5.7	49.5	61	101.8	12.5	2.3	79.4	5
VADMI-300	124.4	120.4	26	12.5	28.5	5.7	49.5	61	137.4	12.5	2.3	115.8	5

· ┃ · Note: This product conforms to ISO 1179-1 and to ISO 228-1

Dimensions

VADMI-45/-70-P/-N/-LS-P

VADMI-95/-140/-200/-300-P/-N/-LS-P
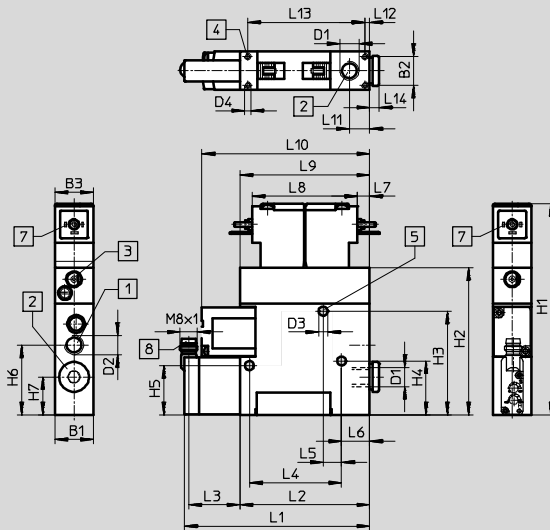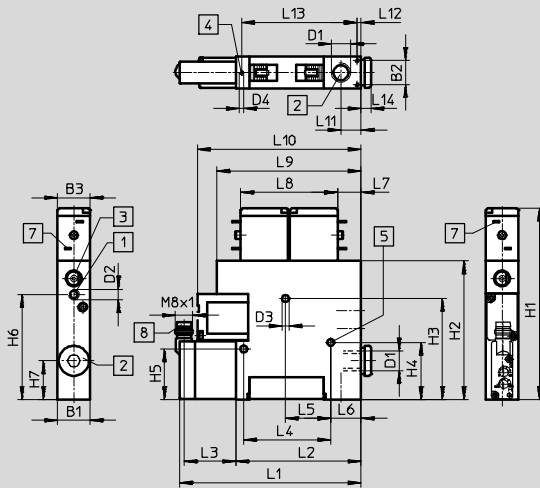
1	Compressed air port	4	Mounting thread
2	Vacuum port	5	Mounting hole
3	Manual override facility	7	Suitable socket for: VADMI-45/-70 and KMYZ-...

VADMI-95/-.../-300
KMEB-... and MSSD-EB
→ Internet: kmeb1
→ Internet: mssd-eb

8	Connection for connecting cable NEBU-M8 → Internet: nebu-m8

Type	B1	B2	B3	D1	D2	D3 ∅	D4	H1	H2	H3	H4	H5	H6	H7
VADMI-45-P/-N	10	6.2	10	M5	M5	3.2	M2	78.2	58.2	40.8	23.8	23.8	43.4	18
VADMI-70-P/-N	15	11.2	15	G⅛	M5	3.2	M2	88.9	64.4	47	26.5	23.5	48.8	18
VADMI-95-P/-N	18	13.4	18	G⅛	G⅛	4.2	M2.5	99.4	69.4	48.9	25.5	23.3	33	18
VADMI-140-P/-N	22	16.6	18	G¼	G⅛	5.2	M3	113.4	83.4	61.4	41.4	41.4	36	17.5
VADMI-200-P/-N	22	16.6	18	G⅜	G¼	5.2	M3	119.4	89.4	67.7	41.4	41.4	40	19
VADMI-300-P/-N	22	16.6	18	G⅜	G¼	5.2	M3	119.4	89.4	67.7	41.4	41.4	40	19
VADMI-45-LS-P	10	6.2	10	M5	M5	3.2	M2	78.2	58.2	40.8	23.8	23.8	43.4	18
VADMI-70-LS-P	15	11.2	15	G⅛	M5	3.2	M2	88.9	64.4	47	26.5	23.5	48.8	18
VADMI-95-LS-P	18	13.4	18	G⅛	G⅛	4.2	M3	99.4	69.4	48.9	25.5	23.3	33	18
VADMI-140-LS-P	22	16.6	18	G¼	G⅛	5.2	M3	113.4	83.4	61.4	41.4	41.4	36	17.5
VADMI-200-LS-P	22	16.6	18	G⅜	G¼	5.2	M3	119.4	89.4	67.7	41.4	41.4	40	19
VADMI-300-LS-P	22	16.6	18	G⅜	G¼	5.2	M3	119.4	89.4	67.7	41.4	41.4	40	19

Type	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14
VADMI-45-P/-N	71.4	41	28.4	33.6	25	3.6	11	33	55	56	7.9	1.9	36.3	4
VADMI-70-P/-N	88.7	58.3	28.4	40.4	21	14.2	11	45	67	76.1	9.4	1.9	53.7	4.5
VADMI-95-P/-N	91.4	61	28.4	43.3	8.7	13.2	5.7	49.5	61	78.8	9.5	2.3	55	4.5
VADMI-140-P/-N	114.4	84	28.4	26	12.5	28.5	5.7	49.5	61	96.8	13.8	2.3	79.4	5
VADMI-200-P/-N	114.4	84	28.4	26	12.5	28.5	5.7	49.5	61	101.8	12.5	2.3	79.4	5
VADMI-300-P/-N	150.8	120.4	28.4	26	12.5	28.5	5.7	49.5	61	137.4	12.5	2.3	115.8	5
VADMI-45-LS-P[1]	71.4	41	28.4	33.6	25	3.6	11	33	55	56	7.9	1.9	36.3	4
VADMI-70-LS-P	88.7	58.3	28.4	40.4	21	14.2	11	45	67	76.1	9.4	1.9	53.7	4.5
VADMI-95-LS-P	91.4	61	28.4	43.3	8.7	13.2	5.7	49.5	61	78.8	9.5	2.3	55	4.5
VADMI-140-LS-P	114.4	84	28.4	26	12.5	28.5	5.7	49.5	61	96.8	13.8	2.3	79.4	5
VADMI-200-LS-P	114.4	84	28.4	26	12.5	28.5	5.7	49.5	61	101.8	12.5	2.3	79.4	5
VADMI-300-LS-P	150.8	120.4	28.4	26	12.5	28.5	5.7	49.5	61	137.4	12.5	2.3	115.8	5

1) Plug sockets are included in the scope of delivery for type ... -LS- ....
- ▌- Note: This product conforms to ISO 1179-1 and to ISO 228-1

Ordering data						
Size	Solenoid coils	Without vacuum switch		With vacuum switch		
				PNP output		NPN output
		Part No.	Type	Part No.	Type	Part No.	Type
Without ejector pulse						
45	MZB	162500	VADM-45	162512	VADM-45-P	162513	VADM-45-N
70	MYB	162501	VADM-70	162514	VADM-70-P	162515	VADM-70-N
95	MEB	162502	VADM-95	162516	VADM-95-P	162517	VADM-95-N
140	MEB	162503	VADM-140	162518	VADM-140-P	162519	VADM-140-N
200	MEB	162504	VADM-200	162520	VADM-200-P	162521	VADM-200-N
300	MEB	162505	VADM-300	162522	VADM-300-P	162523	VADM-300-N
With ejector pulse						
45	MZB	162506	VADMI-45	162524	VADMI-45-P	162525	VADMI-45-N
70	MYB	162507	VADMI-70	162526	VADMI-70-P	162527	VADMI-70-N
95	MEB	162508	VADMI-95	162528	VADMI-95-P	162529	VADMI-95-N
140	MEB	162509	VADMI-140	162530	VADMI-140-P	162531	VADMI-140-N
200	MEB	162510	VADMI-200	162532	VADMI-200-P	162533	VADMI-200-N
300	MEB	162511	VADMI-300	162534	VADMI-300-P	162535	VADMI-300-N

Ordering data					
Size	Solenoid coils	With vacuum switch			
		PNP output		NPN output	
		Part No.	Type	Part No.	Type
With ejector pulse and air-saving circuit					
45	MZB	171053	VADMI-45-LS-P	171054	VADMI-45-LS-N
70	MYB	171055	VADMI-70-LS-P	171056	VADMI-70-LS-N
95	MEB	171057	VADMI-95-LS-P	171058	VADMI-95-LS-N
140	MEB	171059	VADMI-140-LS-P	171060	VADMI-140-LS-N
200	MEB	171061	VADMI-200-LS-P	171062	VADMI-200-LS-N
300	MEB	171063	VADMI-300-LS-P	171064	VADMI-300-LS-N

- ◌ - Note

With vacuum generators
VADMI-…-LS-P/N , the plug sockets
with cable for solenoid coils and
vacuum switches are included in the
scope of supply.
These vacuum generators may only
be operated with the cable
supplied.