

## Vacuum generators VAD-M

**FESTO**



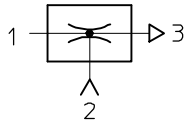
# Vacuum generators

Key features

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## Product overview

**Vacuum generator**



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-...

Technical data → Internet: 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-...

Technical data → Internet: vad



- 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-...

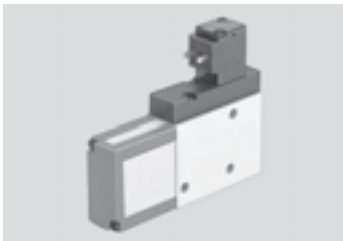
Technical data → Internet: vadm



- Nominal size  
0.45 ... 3 mm
- Max. vacuum  
88%
- 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-...

→ 6



- 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 VAD-M

Key features

## At a glance

- Compact and sturdy design
- Short switching times thanks to integrated solenoid valves
- With manual override
- Maintenance-free because there are no moving parts
- With integrated silencer for reducing exhaust noise

## Vacuum generators VAD-M...-I...

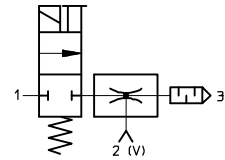
The compressed air supply of these vacuum generators is controlled by the built-in solenoid valve.

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, operating on the ejector principle.

Suction stops when the supply power to the valve is switched off.

Workpieces with smooth, impervious surfaces are picked up and retained.

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



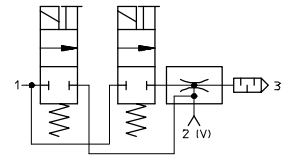
## Vacuum generator VAD-M...-I... with ejector pulse

With two integrated solenoid valves for vacuum ON/OFF and ejector pulse for rapid purging of vacuum, plus manual override

Compressed air enters the vacuum generator following the application of a voltage signal to the integrated solenoid valve, thereby creating a vacuum.

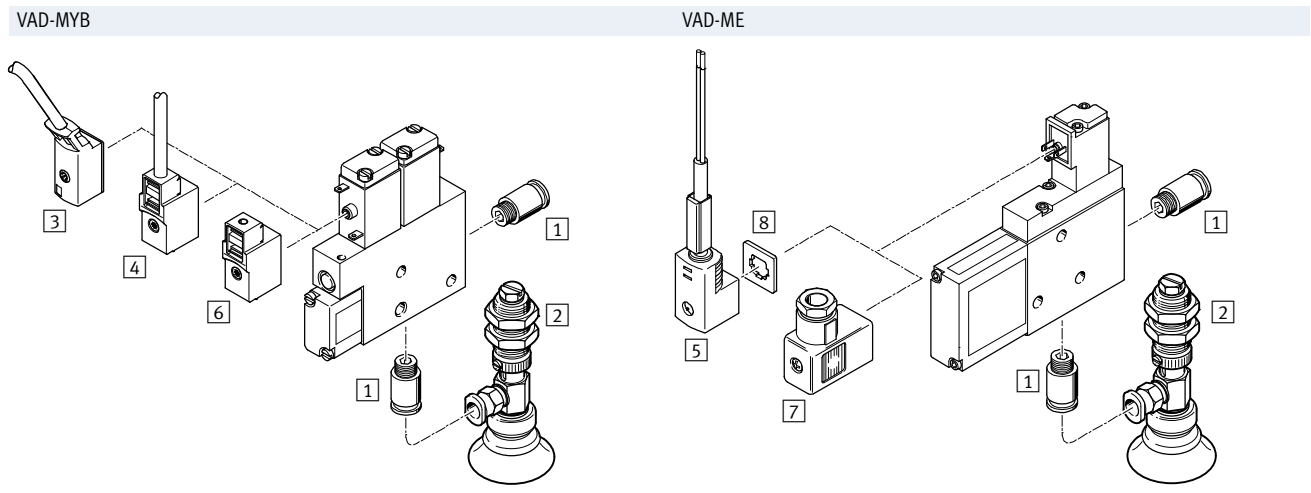
Once the voltage is switched off at the vacuum valve (B) and switched on at the ejector valve (A), the vacuum is rapidly purged at connection 2 (V) as a result of the application of pressure.

- Two integrated solenoid valves:
  - Vacuum ON/OFF
  - Ejector pulse

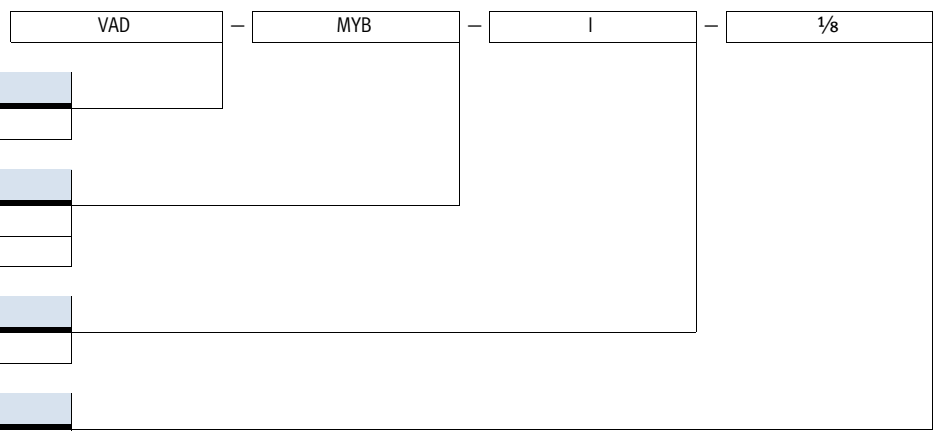


# Vacuum generators VAD-M

Peripherals overview and type codes



| Mounting attachments and accessories |                                  | VAD-MYB | VAD-ME | → Page/Internet |
|--------------------------------------|----------------------------------|---------|--------|-----------------|
| 1                                    | Push-in fitting<br>QS            | ■       | ■      | qs              |
| 2                                    | Suction gripper<br>ESG           | ■       | ■      | esg             |
| 3                                    | Connecting cable<br>KMYZ-2       | ■       | -      | kmyz-2          |
| 4                                    | Plug socket with cable<br>KMYZ-4 | ■       | -      | kmyz-4          |
| 5                                    | Plug socket with cable<br>KME-1  | -       | ■      | kme-1           |
| 6                                    | Plug socket<br>MSSD-ZBZC         | ■       | -      | mssd-zbzc       |
| 7                                    | Plug socket<br>MSSD-E            | -       | ■      | mssd-e          |
| 8                                    | Illuminating seal<br>ME-LD       | -       | ■      | me-ld           |



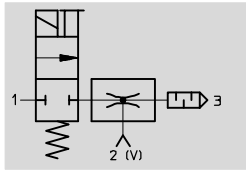
- [Symbol] - Note  
Possible combinations can be found in the ordering data.


# Vacuum generators VAD-M


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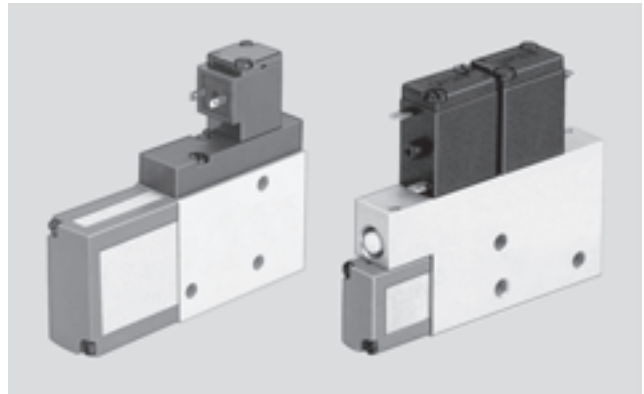
Technical data

Function



-  - Temperature range  
0 ... +40 °C

-  - Operating pressure  
1.5 ... 8 bar



| General technical data            |   |                                  |                                  |                                  |
|-----------------------------------|---|----------------------------------|----------------------------------|----------------------------------|
| Type                              | VAD-MYB-...   |                                  | VAD-ME-...                       |                                  |
| Size                              | G $\frac{1}{8}$   | G $\frac{1}{8}$                  | G $\frac{1}{4}$                  | G $\frac{3}{8}$                  |
| Design                            | Slim rectangular  |                                  |                                  |                                  |
| 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             |                                  |                                  |                                  |
| Mounting position                 | Any   |                                  |                                  |                                  |
| Ejector features                  | High vacuum   |                                  |                                  |                                  |
| Type of mounting                  | Via female threads  |                                  |                                  |                                  |
| Pneumatic connection 1/2          | M5/G $\frac{1}{8}$  | G $\frac{1}{8}$ /G $\frac{1}{8}$ | G $\frac{1}{8}$ /G $\frac{1}{4}$ | G $\frac{1}{4}$ /G $\frac{3}{8}$ |
| Nominal size of laval nozzle [mm] | 0.7   | 0.95                             | 1.4                              | 2.0                              |
| Max. vacuum [%]                   | 85  |                                  |                                  |                                  |
| Operating pressure [bar]          | 1.5 ... 8   |                                  |                                  |                                  |
| Duty cycle [%]                    | 100   |                                  |                                  |                                  |
| Protection class                  | IP65  |                                  |                                  |                                  |

| Ambient conditions                     |              |  |
|--|--------------|--|
| Variant                                | VAD-M...-... |  |
| Ambient temperature [°C]               | 0 ... +40    |  |
| Corrosion resistance CRC <sup>1)</sup> | 2            |  |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

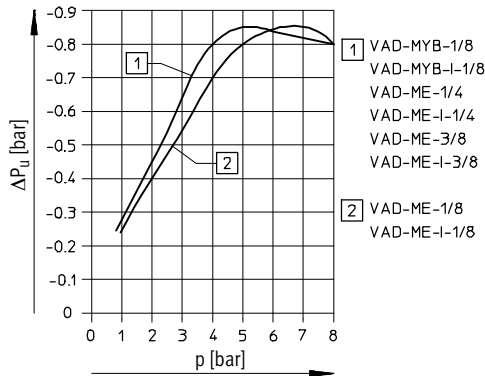
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

| Weights [g]    |                 |                 |                 |                 |
|----------------|-----------------|-----------------|-----------------|-----------------|
| Type           | VAD-MYB-...     |                 | VAD-ME-...      |                 |
| Size           | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{4}$ | G $\frac{3}{8}$ |
| VAD-M...       | 80              | 125             | 210             | 240             |
| VAD-M...-I-... | 135             | 160             | 250             | 280             |

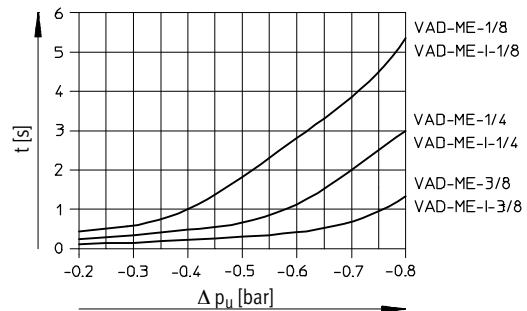
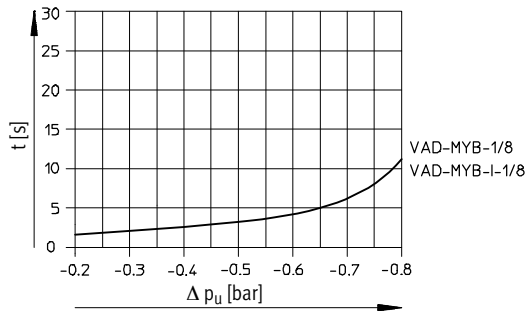
# Vacuum generators VAD-M

Technical data

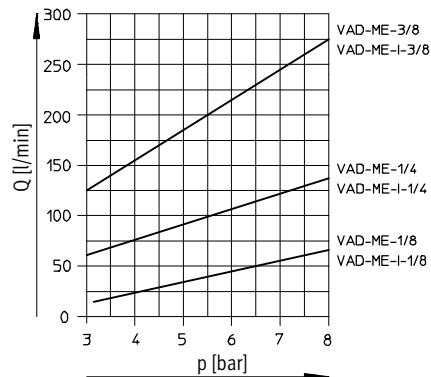
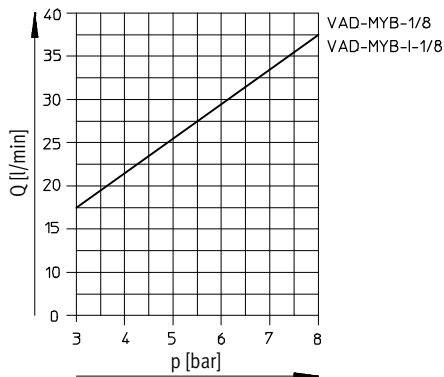
## Vacuum $\Delta P_u$ as a function of operating pressure $p$



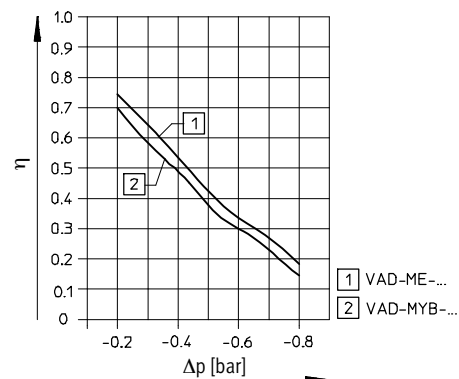
## Evacuation time $t$ [s] for 1 litre volume at 6 bar operating pressure



## Air consumption $Q$ as a function of operating pressure $p$



## Efficiency $\eta$ as a function of vacuum $\Delta p$ at $P_{nom}$ 6 bar



# Vacuum generators VAD-M

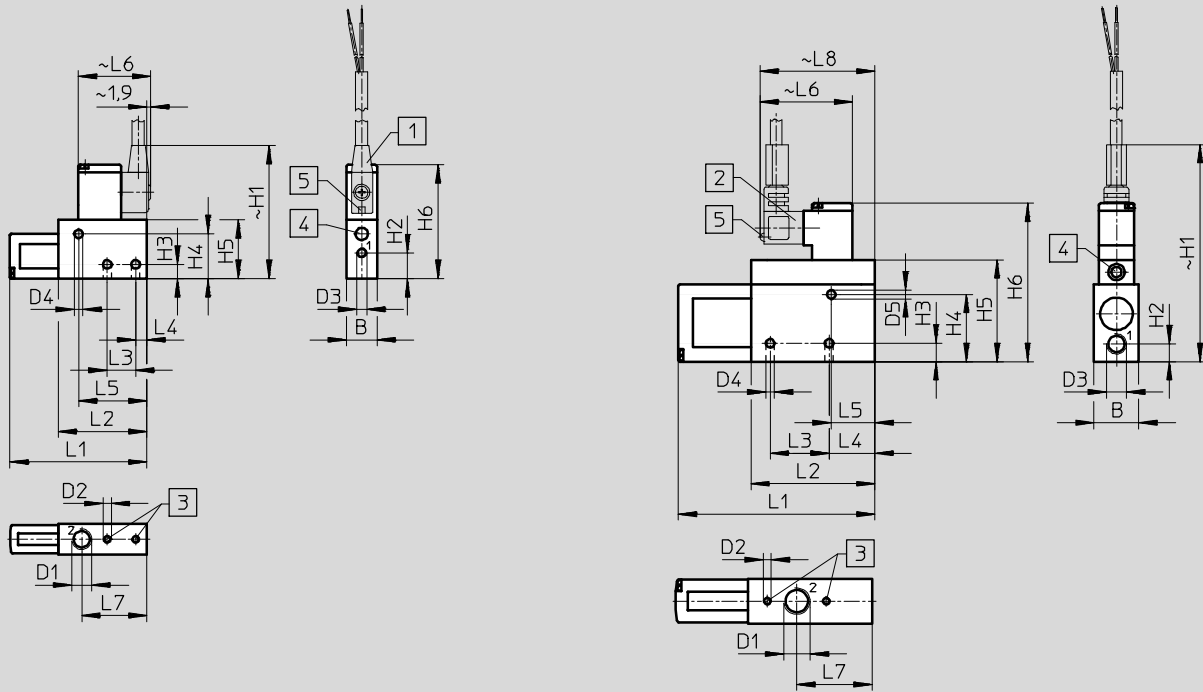
Technical data

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## Dimensions

VAD-MYB-1/8

VAD-ME-1/8-1/4-3/8



1 Connecting cable KMYZ-2-24-... with 2-wire cable, 2.5 or 5 m long,  $\varnothing$  3.4 mm (2x 0.25 mm<sup>2</sup>)

2 Socket type KME-1-24-... with 2-wire cable, 2.5 or 5 m long,  $\varnothing$  5.6 mm (2x 0.75 mm<sup>2</sup>)

3 Mounting thread  
4 Manual override  
5 Yellow LED

| Type        | B  | D1   | D2 | D3   | D4  | D5  | H1    | H2   | H3  | H4 |
|-------------|----|------|----|------|-----|-----|-------|------|-----|----|
| VAD-MYB-1/8 | 15 | G1/8 | M4 | M5   | 4.2 | -   | 62.5  | 12.7 | 7   | 22 |
| VAD-ME-1/8  | 18 | G1/8 | M4 | G1/8 | 4.2 | 3.2 | 93    | 14.2 | 6.5 | 20 |
| VAD-ME-1/4  | 22 | G1/4 | M4 | G1/8 | 4.2 | 4.2 | 106.8 | 8.7  | 9   | 33 |
| VAD-ME-3/8  | 22 | G3/8 | M5 | G1/4 | 5.2 | 5.2 | 113.1 | 11   | 10  | 39 |

| Type        | H5 | H6   | L1    | L2   | L3 | L4   | L5   | L6   | L7   | L8 |
|-------------|----|------|-------|------|----|------|------|------|------|----|
| VAD-MYB-1/8 | 29 | 56   | 67.2  | 43.5 | 14 | 5.5  | 33.5 | 34.6 | -    | -  |
| VAD-ME-1/8  | 36 | 64   | 76    | 61   | 27 | 19   | 30.5 | 48   | 32.5 | 58 |
| VAD-ME-1/4  | 50 | 77.8 | 96.6  | 61   | 29 | 22.5 | 21.5 | 48   | 37   | 58 |
| VAD-ME-3/8  | 56 | 84.1 | 101.8 | 61   | 32 | 23.5 | 21.5 | 48   | 39.5 | 58 |



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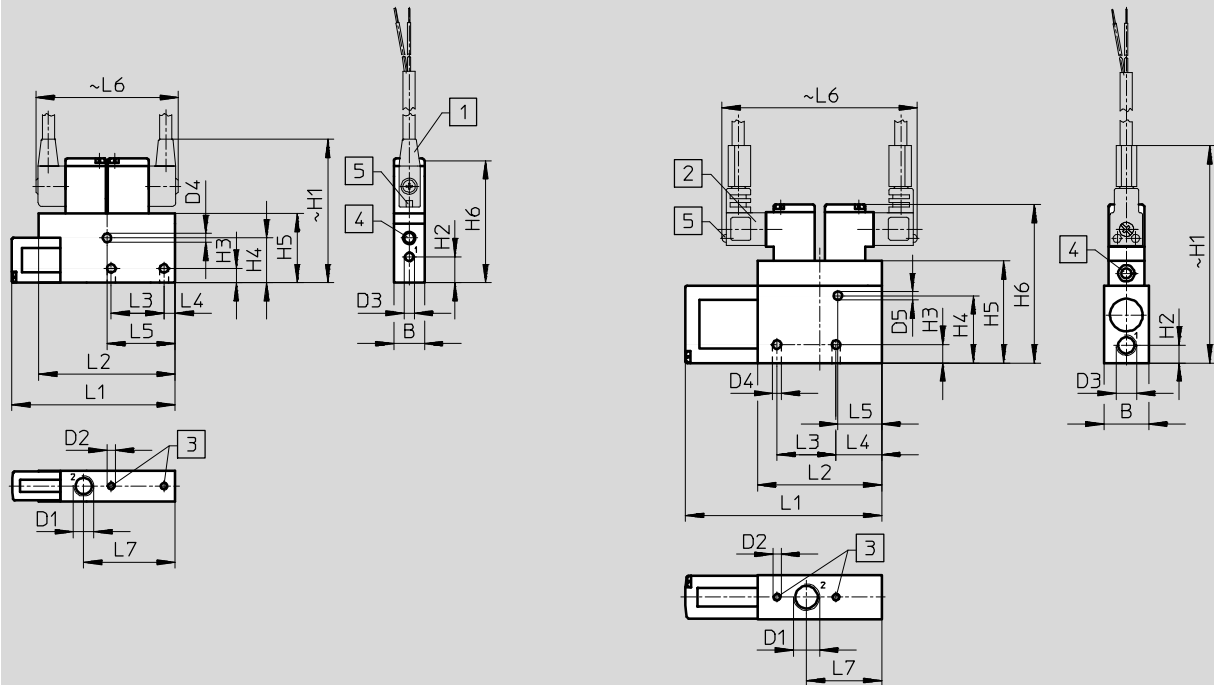
Technical data

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## Dimensions

VAD-MYB-I-1/8

VAD-ME-I-1/8/-1/4/-3/8



1 Connecting cable KMYZ-2-24-... with 2-wire cable, 2.5 or 5 m long,  $\varnothing$  3.4 mm (2x 0.25 mm<sup>2</sup>)

2 Socket type KME-1-24-... with 2-wire cable, 2.5 or 5 m long,  $\varnothing$  5.6 mm (2x 0.75 mm<sup>2</sup>)

3 Mounting thread  
4 Manual override  
5 Yellow LED

| Type          | B1 | D1   | D2 | D3   | D4  | D5  | H1    | H2   | H3  | H4 |
|---------------|----|------|----|------|-----|-----|-------|------|-----|----|
| VAD-MYB-I-1/8 | 15 | G1/8 | M4 | M5   | 4.2 | -   | 67.5  | 12.7 | 7   | 22 |
| VAD-ME-I-1/8  | 18 | G1/8 | M4 | G1/8 | 4.2 | 3.2 | 93    | 14.2 | 6.5 | 20 |
| VAD-ME-I-1/4  | 22 | G1/4 | M4 | G1/8 | 4.2 | 4.2 | 106.8 | 8.7  | 9   | 33 |
| VAD-ME-I-3/8  | 22 | G3/8 | M5 | G1/4 | 5.2 | 5.2 | 113.1 | 11   | 10  | 39 |

| Type          | H5 | H6   | L1    | L2 | L3 | L4   | L5   | L6 | L7   |
|---------------|----|------|-------|----|----|------|------|----|------|
| VAD-MYB-I-1/8 | 34 | 58.5 | 80.2  | 67 | 26 | 5.5  | 33.5 | 70 | 45   |
| VAD-ME-I-1/8  | 36 | 64   | 76    | 61 | 27 | 19   | 30.5 | 96 | 32.5 |
| VAD-ME-I-1/4  | 50 | 77.8 | 96.6  | 61 | 29 | 22.5 | 21.5 | 96 | 37   |
| VAD-ME-I-3/8  | 56 | 84   | 101.8 | 61 | 32 | 23.5 | 21.5 | 96 | 39.5 |

## Ordering data

| Pneumatic connection | Solenoid coils | Without ejector pulse |             | With ejector pulse |               |
|----------------------|----------------|-----------------------|-------------|--------------------|---------------|
|                      |                | Part No.              | Type        | Part No.           | Type          |
| G1/8                 | MYB            | 35 553                | VAD-MYB-1/8 | 35 530             | VAD-MYB-I-1/8 |
| G1/8                 | ME             | 35 554                | VAD-ME-1/8  | 35 531             | VAD-ME-I-1/8  |
| G1/4                 | ME             | 35 555                | VAD-ME-1/4  | 35 532             | VAD-ME-I-1/4  |
| G3/8                 | ME             | 35 556                | VAD-ME-3/8  | 35 533             | VAD-ME-I-3/8  |

## Product Range and Company Overview

### A Complete Suite and Company Overview

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



**Custom Automation Components**  
Complete custom engineered solutions



**Custom Control Cabinets**  
Comprehensive engineering support and on-site services



**Complete Systems**  
Shipment, stocking and storage services

### The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



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Electromechanical actuators, motors, controllers & drivers



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**PLCs and I/O Devices**  
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Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 16,000 employees in 60 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

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Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.

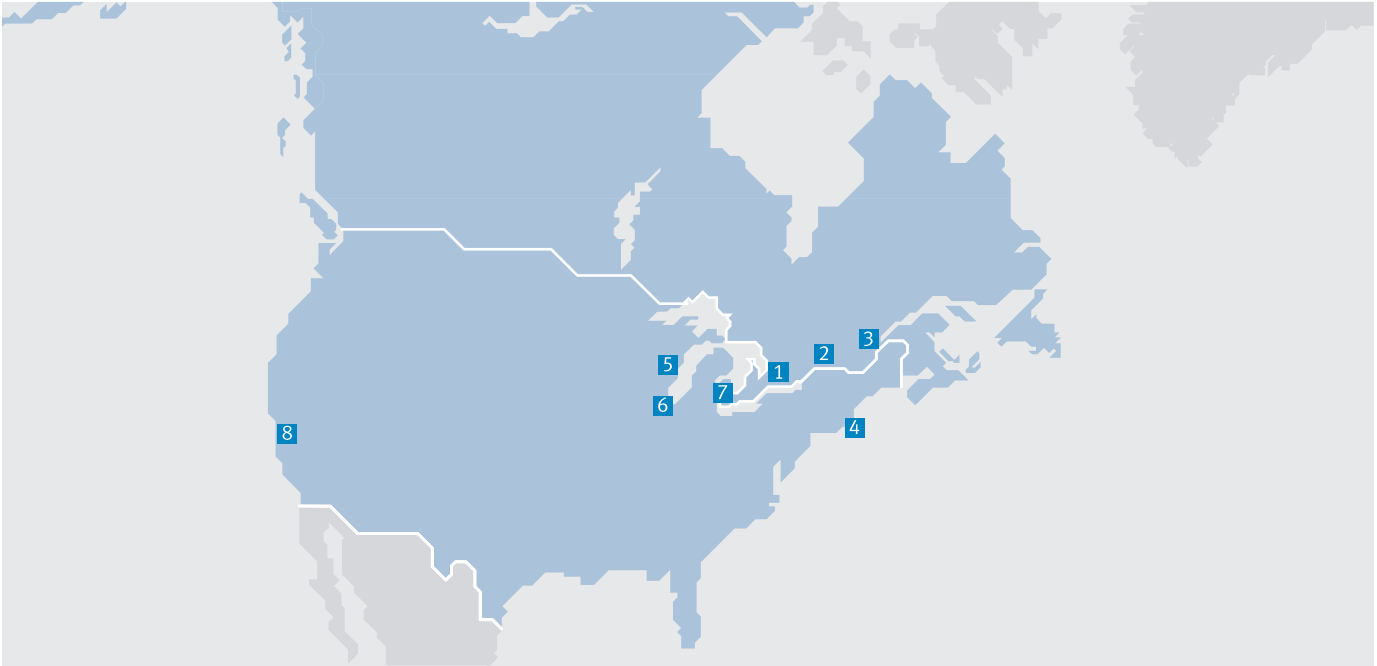


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