



LEM: Versatile Series for all Applications

The opposite page demonstrates the versatility of this series. In addition to a very wide range of complete, stand-alone, or island vacuum pumps, there are the options of no blow-off and/or no vacuum switch, and for specific applications.

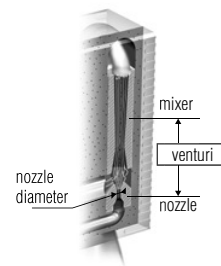
Select Vacuum Level and Nozzle Diameter

The introductory guide in this catalog shows that for porous objects, a 30-55 % vacuum is economical and effective. This is obtained with a 60 % maximum vacuum pump.

The table below helps to select the nozzle diameter which generates enough vacuumed air flow to respond in the time required by the application, based on a measurement of the material's leakage rate.

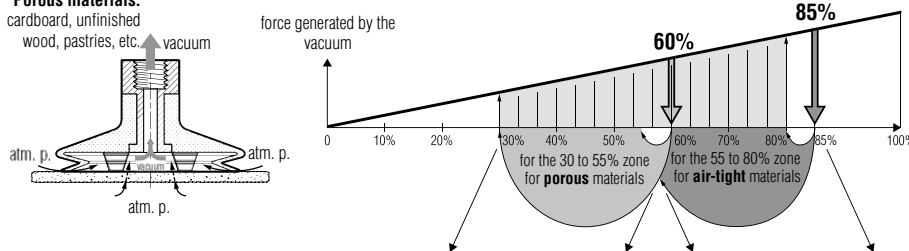
On the contrary, with an airtight material, the vacuum used is 55 % to 80 %, obtained by a 85 % max. vacuum pump.

- For standard cases, with its integrated blow-off, the LEMAX series is preferable, as it is more economical due to its ASC (Air Saving Control) function (see p. 8/15).
- For special cases, the LEM series contains versions without blow-off and versions without a vacuum switch. The table below helps to select the nozzle diameter required for the application.



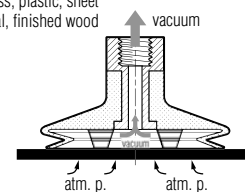
Porous materials:

cardboard, unfinished wood, pastries, etc.



Airtight materials:

glass, plastic, sheet metal, finished wood



Porous Objects ▶ Maximum Vacuum Level: 60%

Time to create vacuum (seconds) for a volume of 1 liter

| vacuum achieved | 30% | 35% | 40% | 45% | 50% | 55% | Air consumed (SCFM) | Air drawn in (SCFM) |
|-----------------|------|------|------|------|------|------|---------------------|---------------------|
| ø nozzle | | | | | | | | |
| 1.0 mm | 0.66 | 0.83 | 1.04 | 1.31 | 1.70 | 2.35 | 1.55 | 1.34 |
| 1.2 mm | 0.41 | 0.52 | 0.66 | 0.83 | 1.07 | 1.49 | 2.30 | 2.54 |
| 1.4 mm | 0.27 | 0.34 | 0.43 | 0.54 | 0.70 | 0.97 | 3.18 | 3.25 |

Airtight Objects ▶ Maximum Vacuum Level: 85%

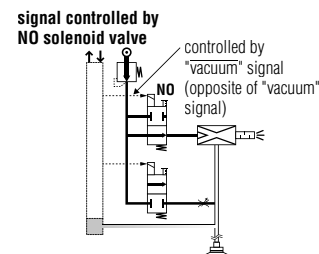
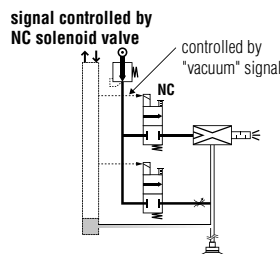
Time to create vacuum (seconds) for a volume of 1 liter

| vacuum achieved | 55% | 60% | 65% | 70% | 75% | 80% | Air consumed (SCFM) | Air drawn in (SCFM) |
|-----------------|------|------|------|------|------|------|---------------------|---------------------|
| ø nozzle | | | | | | | | |
| 1.0 mm | 1.76 | 2.04 | 2.38 | 2.80 | 3.33 | 4.09 | 1.55 | 1.02 |
| 1.2 mm | 1.13 | 1.31 | 1.53 | 1.80 | 2.15 | 2.64 | 2.30 | 1.59 |
| 1.4 mm | 0.73 | 0.85 | 0.99 | 1.16 | 1.38 | 1.70 | 3.18 | 2.47 |

Select Vacuum Controlled by NC or NO Solenoid Valve

Vacuum controlled by a NC (Normally Closed) solenoid valve remains the simplest standard option to use. In the event of an electricity shutoff, the vacuum is interrupted and the object is released.

Select vacuum controlled by NO (Normally Open) solenoid valve if the application requires holding the object in the event of an electricity shut-off. In this case, make sure to control the NO solenoid valve with the inverse signal of the "vacuum" signal, which is noted as "vacuum".



Select with or without Integrated Blow-off

Many applications require integrated blow-off. However, for some applications not requiring blow-off, a simplified version without blow-off is offered.

Select with or without Vacuum Switch

For common applications, the vacuum switch is needed, with the dialogue face for digital display and adjustment → see page 8/4. However, some applications may just require a simple operation, without an "object gripped" return signal. The simplified version may then be chosen, with no vacuum switch, display, or adjustment.

Integrated Mini-Vacuum Pumps with ASR Configuring a Vacuum Pump



Part numbers for an island assembly or components in an island

Part numbers for stand-alone units

| LEM | 60 | X | 12 | S | VA | B3 |
|-----|----|---|----|---|----|----|
|-----|----|---|----|---|----|----|

| VACUUM LEVEL | |
|---------------------------------------|----|
| 60% max. vacuum → porous objects | 60 |
| 85% max. vacuum → airtight objects | 90 |

| NOZZLE DIAMETER | |
|-----------------|----|
| ø 1 mm nozzle | 10 |
| ø 1.2 mm nozzle | 12 |
| ø 1.4 mm nozzle | 14 |

| VACUUM SWITCH | |
|--|--|
| VA ■ Electronic vacuum switch with digital display and adjustment | |
| VO ■ No vacuum switch and no adjustment | |

COMPOSITION OF THE MODULE

| | | |
|----------|---|--|
| S | <ul style="list-style-type: none"> ■ Vacuum controlled by NC solenoid valve → if the electricity is shut off, the vacuum is interrupted. ■ Blow-off controlled by a specific signal | |
| V | <ul style="list-style-type: none"> ■ Vacuum controlled by NO solenoid valve → vacuum is maintained if electricity is shut off ■ Blow-off controlled by a specific signal | |
| R | <ul style="list-style-type: none"> ■ Vacuum controlled by NC solenoid valve ■ No blow-off | |
| U | <ul style="list-style-type: none"> ■ Vacuum controlled by NO solenoid valve ■ No blow-off | |

Additional options: On specific request:

- Modules with enhanced blow-off by integrated isolation valve.
- Modules with non-return valve will maintain vacuum in the event of loss of pneumatic and/or electrical power, during the grip cycle.

ISLAND ASSEMBLIES

| | | |
|-----------|-----|--|
| B2 | | LEM--X----- B2 island assembly with 2 identical modules. |
| B3 | | LEM--X----- B3 island assembly with 3 identical modules. |
| B4 | ... | |

If the planned island contains different module types, it must be ordered as separate components in order to then be assembled on site according to the arrangement suitable to the application.

COMPONENTS FOR THE ISLAND TO BE ASSEMBLED

| | | |
|----------|--|---|
| B | | LEM--X----- B Module that can be grouped (complete with integrated grouping screw) |
| | | Set of ends for a complete group, with grouping screw and common pressure unit plug. Part No.: LEMSETA |

EXAMPLE COMPOSITE PART NUMBER FOR AN ISLAND ASSEMBLY:

■ LEM60X14SVAB3

LEM island assembly, containing 3 x 60% max. vacuum modules, ø 1.4 mm nozzle, controlled by NC solenoid valve, blow-off and vacuum switch

ORDER EXAMPLE FOR AN ISLAND TO BE ASSEMBLED:

- LEM60X10VVAB
- LEM90X12SVAB
- LEM60X14SVAB
- LEMSETA

3 LEM modules for a group, of different types.

Set of ends for island.

REFERENCE EXAMPLE COMPOSED OF A STAND-ALONE MODULE:

■ LEM60X12SVAB

Stand-alone LEM Module, 60% max. vacuum, ø 1.2 mm nozzle, vacuum controlled by NC solenoid valve, blow-off and vacuum switch.

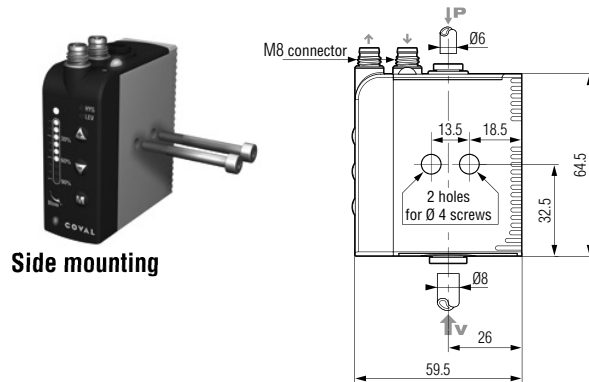
LEM

Integrated Mini-Vacuum Pumps with ASR

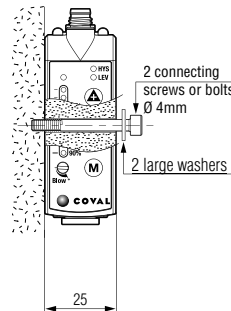
Dimensions / Mounting options



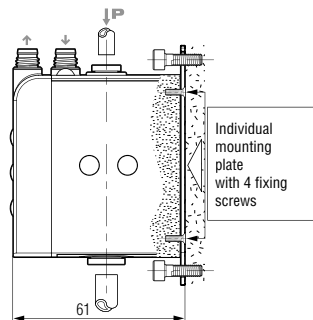
Stand-alone Modules



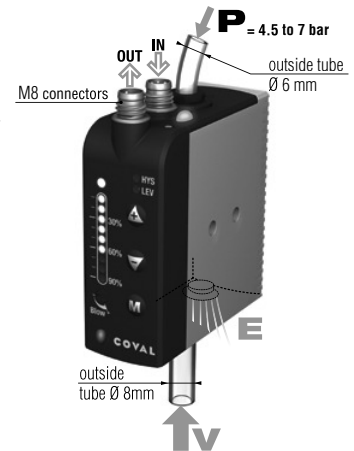
Side mounting



Front mounting



Individual mounting plate with 4 fixing screws



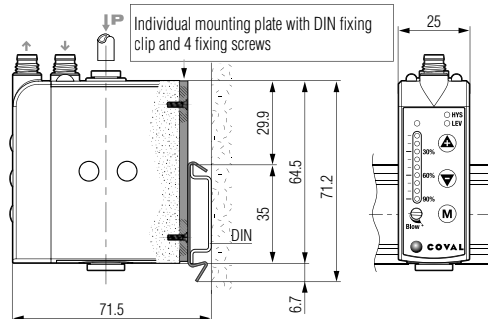
For front mounting, order the necessary kit, in addition to the module:

Front mounting kit:
1 plate + 4 screws

Part No.: LEMFIXA



Mounting on DIN rail



Individual mounting plate with DIN fixing clip and 4 fixing screws

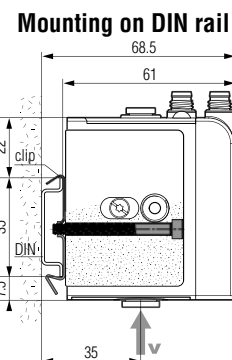
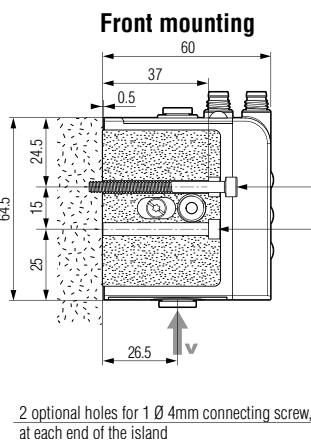
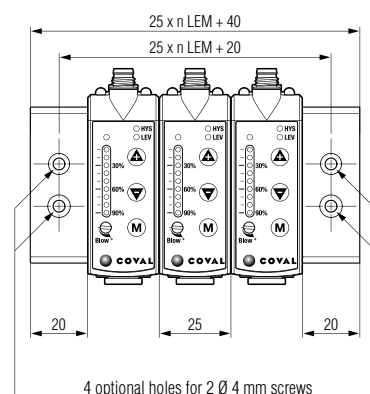
A module can be clipped onto a DIN rail.

For this purpose, the module must first be equipped with an individual DIN installation plate, ordered separately:

DIN rail mounting kit:
1 plate/clip + 4 screws

Part No.: LEMFIXB

Islands



DIN rail mounting kit:
2 clips + 2 screws

Part No.: LEMFIXC