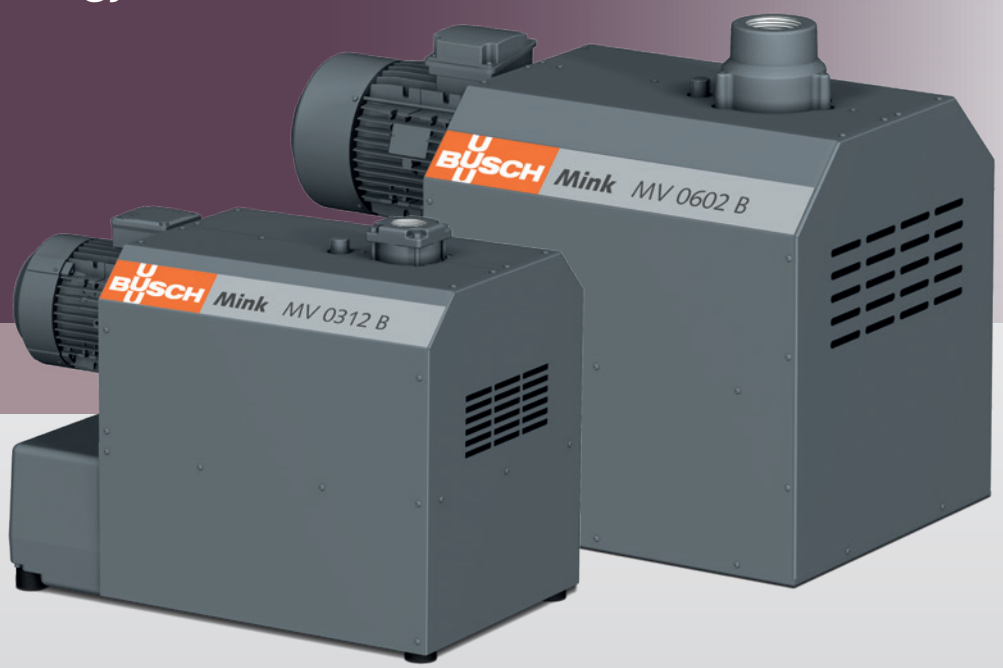
Mink MV

Claw Vacuum Pumps
for Rough Vacuum Industrial Applications

BUSCH
Vacuum Pumps and Systems

Claw Vacuum Technology by Busch



Dry Vacuum – Quiet, Efficient and Compact

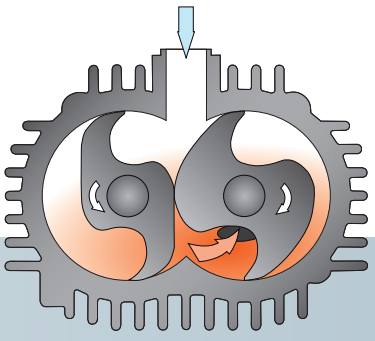
- **Latest Claw Vacuum Technology**
- **Quiet:** lowest noise level due to a state-of-the-art acoustic design, can be installed at workstations
- **Efficient:** low energy consumption, minimized operating costs
- **Compact:** smallest footprint in its performance class

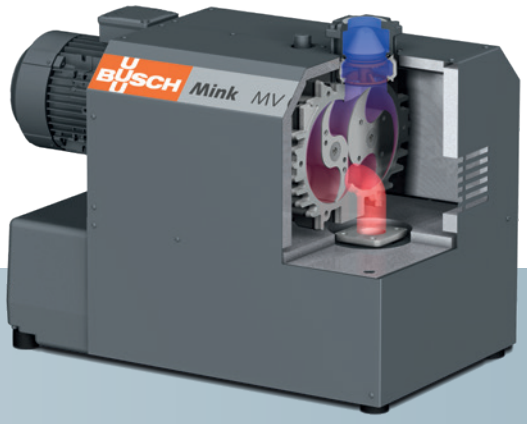
Mink claw vacuum pumps are the result of continuous further development in claw vacuum technology by the market leader in dry claw vacuum pumps. Decades of experience in countless applications have led to substantial improvements in important aspects of the Mink MV series. The optimized sound insulation of the Mink MV is manufactured according to the latest developments in acoustic design. The low noise levels generated allow operation in the immediate vicinity of workstations.

The sophisticated design of Busch claw vacuum technology allows Mink MV vacuum pumps to operate at exceptionally high efficiency levels, which has a positive effect on the pumping speed and energy consumption. Mink MV vacuum pumps operate extremely efficiently, and can reduce overall operating costs by up to 60% in comparison to conventional vacuum generators. The compact dimensions of Mink MV vacuum pumps permit their installation in the smallest of floor areas.

The contact-free operating principle of claw vacuum technology provides the additional benefit of nearly maintenance-free operation: None of the internal moving parts of the vacuum pump come in contact with each other, so components are not subject to wear. Servicing tasks such as inspection and replacement of worn parts are eliminated completely. The proven, completely dry claw vacuum technology of Mink claw vacuum pumps allows them to run without operating fluids in the compression chamber. In practice this means no contamination of the pumped medium, and no environmental emissions. In addition, no costs arise for the purchase, replacement and disposal of operating fluids.

Mink claw vacuum pumps are air cooled, so no effort for the installation and maintenance of a cooling system is required. Their contact-free operating principle allows them to run extremely efficiently throughout the vacuum range and to deliver consistently high pumping speeds during their entire life cycle. The outstanding reliability and long service lifetime of Mink claw vacuum pumps are also a result of the contact-free and dry compression.





Technical specifications

Mink claw vacuum pumps feature two claw-shaped rotors that move in opposite directions mounted in a housing. The shape of these claw rotors extracts, compresses and expels air or gas. The rotors do not come in contact with each other or the housing, so no lubricants or operating fluids are required in the compression chamber. The minimal clearance between the rotors and the chamber housing optimizes the internal seal and ensures constantly high pumping speeds. An effective air cooling system guarantees optimal operating temperatures. A synchronizing gearbox maintains precise rotor timing. Mink claw vacuum pumps are driven by a directly flange mounted asynchronous motor of efficiency class IE3.

Product Overview
Mink MV Series Type

› Mink MV 0312 B

50 Hz *Ultimate pressure: 150 hPa (mbar)*
Nominal pumping speed: 290 m³/h

60 Hz *Ultimate pressure: 150 hPa (mbar)*
Nominal pumping speed: 345 m³/h

› Mink MV 0502 B

50 Hz *Ultimate pressure: 200 hPa (mbar)*
Nominal pumping speed: 400 m³/h

60 Hz *Ultimate pressure: 200 hPa (mbar)*
Nominal pumping speed: 470 m³/h

› Mink MV 0602 B

50 Hz *Ultimate pressure: 200 hPa (mbar)*
Nominal pumping speed: 500 m³/h

60 Hz *Ultimate pressure: 200 hPa (mbar)*
Nominal pumping speed: 600 m³/h

› Mink MV 1202 A

50 Hz *Ultimate pressure: 200 hPa (mbar)*
Nominal pumping speed: 950 m³/h

60 Hz *Ultimate pressure: 200 hPa (mbar)*
Nominal pumping speed: 1150 m³/h

› Mink MV – the new standard for claw vacuum pumps.

Technical Features
Mink MV

1 Excellent performance

Latest claw vacuum technology

- Single-stage, two-shafted claw vacuum pump
- Constantly high pumping speed throughout the service lifetime
- Long service lifetime due to robust construction and proven design
- Components not subject to wear due to contact-free compression

2 Quiet

State-of-the-art acoustic design

- Low noise levels permit installation at workstations
- No insulating materials used, so no particles in the exhaust air
- Pulsation-free, optimized gas flow through silencer

3 Efficient

Up to 60% lower overall operating costs

- No operating fluids, with no purchase, replacement or disposal costs
- Low servicing costs, nearly maintenance-free
- Highest efficiency factor

4 Compact

Smallest footprint in its performance class

- Small footprint, may be installed anywhere
- Compact design with silencer mounted underneath the pump body

5 Adaptable

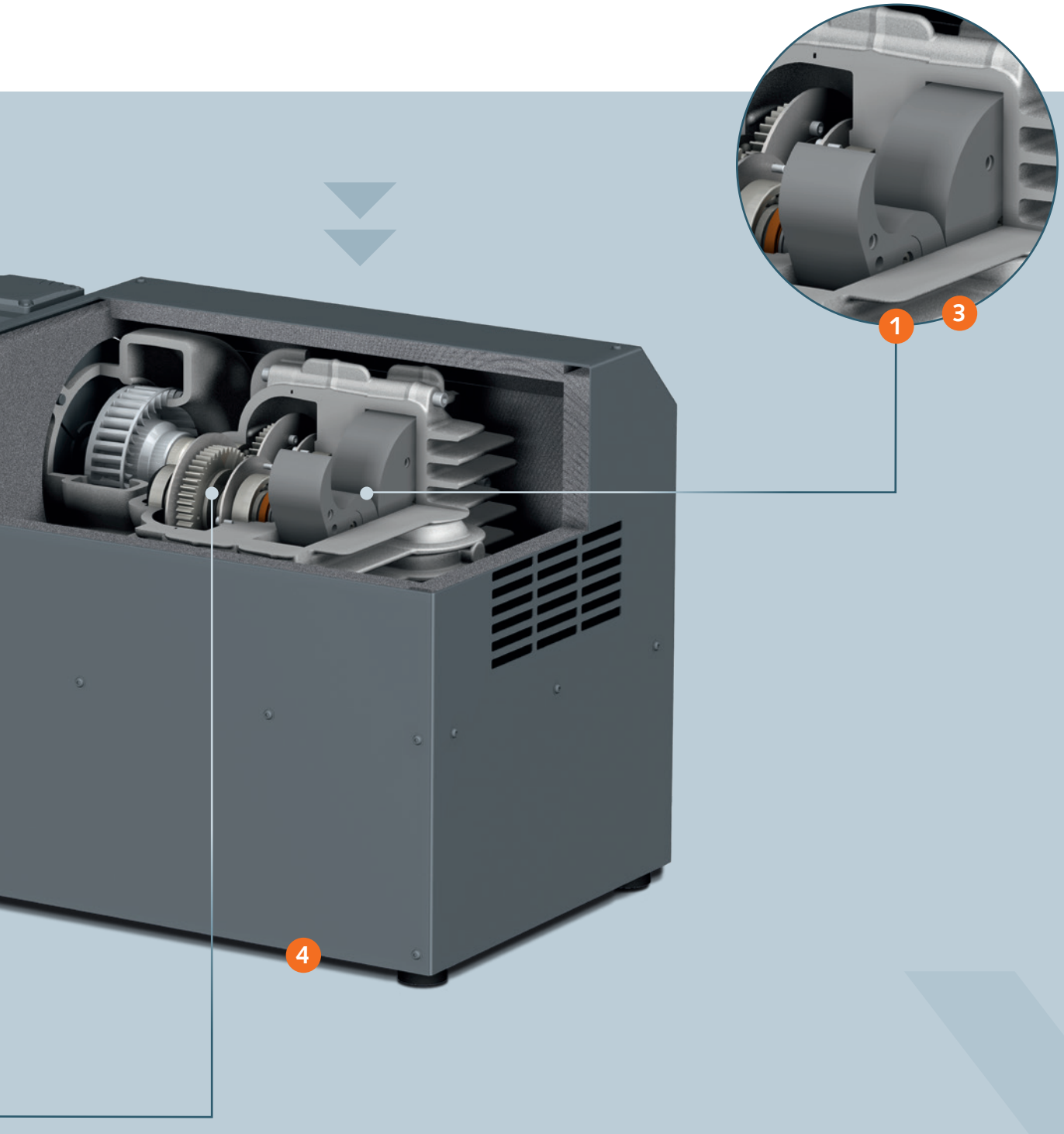
Industry standard motor

- No control electronics required, making installation easy
- Variable speed drive (option) – further energy savings
- Energy-saving motors of efficiency class IE3

6 Nearly maintenance-free

Dry and contact-free compression

- Only gearbox oil replacement required
- Easy cleaning due to removable protective cover, deinstallation of vacuum pump not required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Efficient and Dependable Vacuum Generation for a Wide Range of Industrial Applications

Woodworking
Mink claw vacuum technology is increasingly used for vacuum clamping in CNC machining centers, and is supplied as standard equipment by leading woodworking machine manufacturers. End users appreciate the excellent reliability, minimal maintenance and low operating costs in comparison to conventional vacuum generators. In addition to vacuum clamping, Mink vacuum pumps are also used in the woodworking industry for:

- Molding and veneer presses
- Laminating
- Vacuum drying
- Handling

Pneumatic conveying
Mink vacuum pumps are well-established as the industry standard for pneumatic conveying of bulk materials. In the plastics industry they are mainly used to transport plastic granules from silos via dryers to extruders or injection molding machines. Mink vacuum pumps find applications in many other sectors. The food industry uses them to transport free flowing foodstuffs and ingredients. The constant pumping speeds allow conveying rates to be controlled precisely, and the operating fluid free working principle excludes contamination of the bulk material.

Plastics processing
Mink claw vacuum pumps have many uses in the plastics processing industry. In addition to pneumatic conveying, important application areas for Mink claw vacuum technology include plastics degassing in extruders, evacuating injection molds, and plastic foil thermoforming.

Food industry
Mink claw vacuum pumps are predestined for processes requiring operating fluid-free vacuum in the food manufacturing and processing industries. They are the ideal vacuum generators for handling cardboard boxes, packaging in cartons, and the filling of bottles, tubes and other containers. Mink vacuum pumps also provide operating fluid-free vacuum for blister and thermoforming packaging processes. Mink vacuum technology delivers vacuum to robots performing palletizing and order picking operations – a reliable vacuum supply to every suction cup for clamping or handling of packaged items. Mink vacuum pumps supply vacuum to the foil bag handling process of continuous operations to fill foodstuffs into tubular bags.

Medical technology
Mink claw vacuum pumps provide vacuum to the treatment rooms of hospitals and other medical facilities. They are mostly installed centrally, and supply vacuum to medical appliances in the treatment rooms by pipe network. The high availability of Mink vacuum pumps contributes to improved safety in this sensitive application sector.

Central vacuum systems
Mink claw vacuum pumps are perfect as individual vacuum modules in a centralized vacuum supply. Busch delivers customized centralized systems for all industrial sectors. For applications in which oil-free operation is essential, Busch centralized vacuum supplies are equipped with Mink claw vacuum pumps.

… and many more!

Design Options Mink MV

ATEX certification
Mink MV claw vacuum pumps are also available in versions conforming to the EU guidelines for explosion hazard areas (ATEX).

Aqua version
The Aqua version may be ordered for applications transporting moist gases or vapors. This version features a special corrosion-resistant coating.

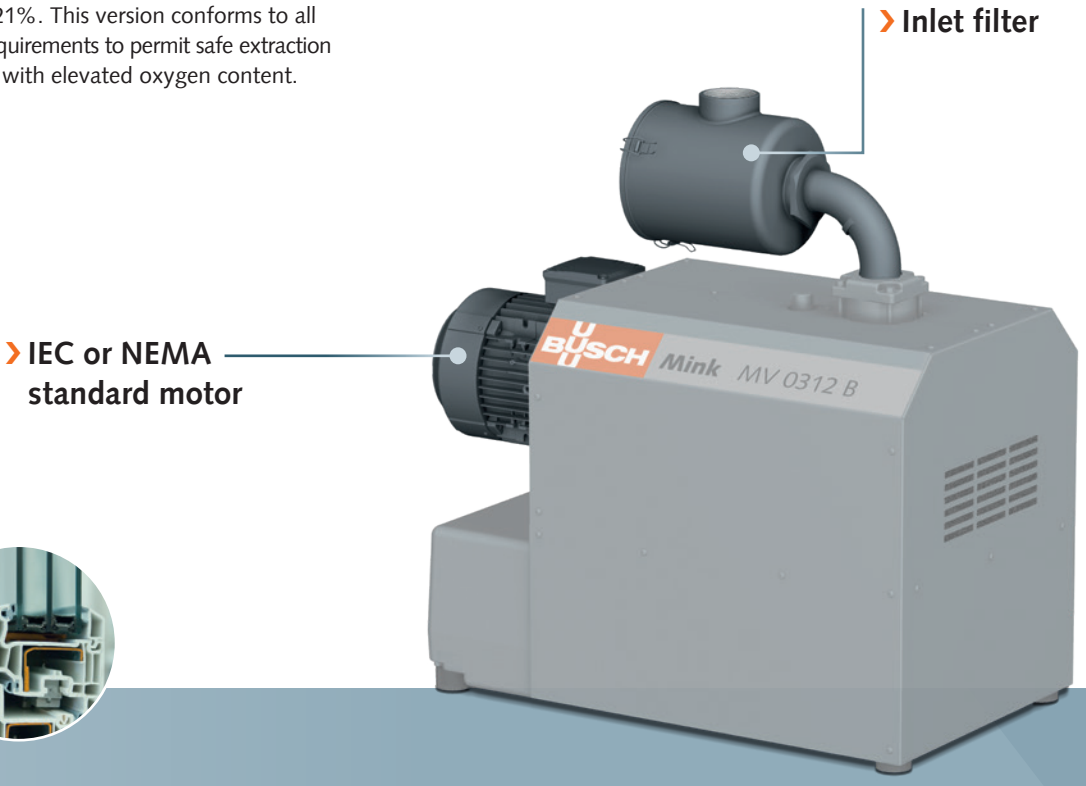
Oxygen version
The Oxygen version is available for transporting gas mixtures with an oxygen content of over 21%. This version conforms to all safety requirements to permit safe extraction of gases with elevated oxygen content.

Speed control
Versions with frequency converter are available for optimal response to changing demand, allowing further savings in energy costs to be achieved.

Gas-tight version
The gas-tight version for applications transporting critical (e.g. toxic) gases reduces the leak rate to an absolute minimum.

Accessories and Spare Parts

- **Standard motors meeting IEC or NEMA criteria, IE3**
- **Inlet filter**
- **Filter for vacuum relief valve**
- **Original Busch gearbox oils**



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