

# MINK

Claw Vacuum Pumps  
MV 1202 B

## Instruction Manual



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# 1 Safety

Prior to handling the machine, this instruction manual should be read and understood. If anything needs to be clarified, please contact your Busch representative.

Read this manual carefully before use and keep for future reference.

This instruction manual remains valid as long as the customer does not change anything on the product.

The machine is intended for industrial use. It must be handled only by technically trained personnel.

Always wear appropriate personal protective equipment in accordance with the local regulations.

The machine has been designed and manufactured in accordance with the state-of-the-art methods. Nevertheless, residual risks may remain, as described in the following chapters and in accordance with the chapter *Intended Use* [→ 5].

This instruction manual highlights potential hazards where appropriate. Safety notes and warning messages are tagged with one of the keywords DANGER, WARNING, CAUTION, NOTICE and NOTE as follows:



## DANGER

... indicates an imminent dangerous situation that will result in death or serious injuries if not prevented.



## WARNING

... indicates a potentially dangerous situation that could result in death or serious injuries.



## CAUTION

... indicates a potentially dangerous situation that could result in minor injuries.



## NOTICE

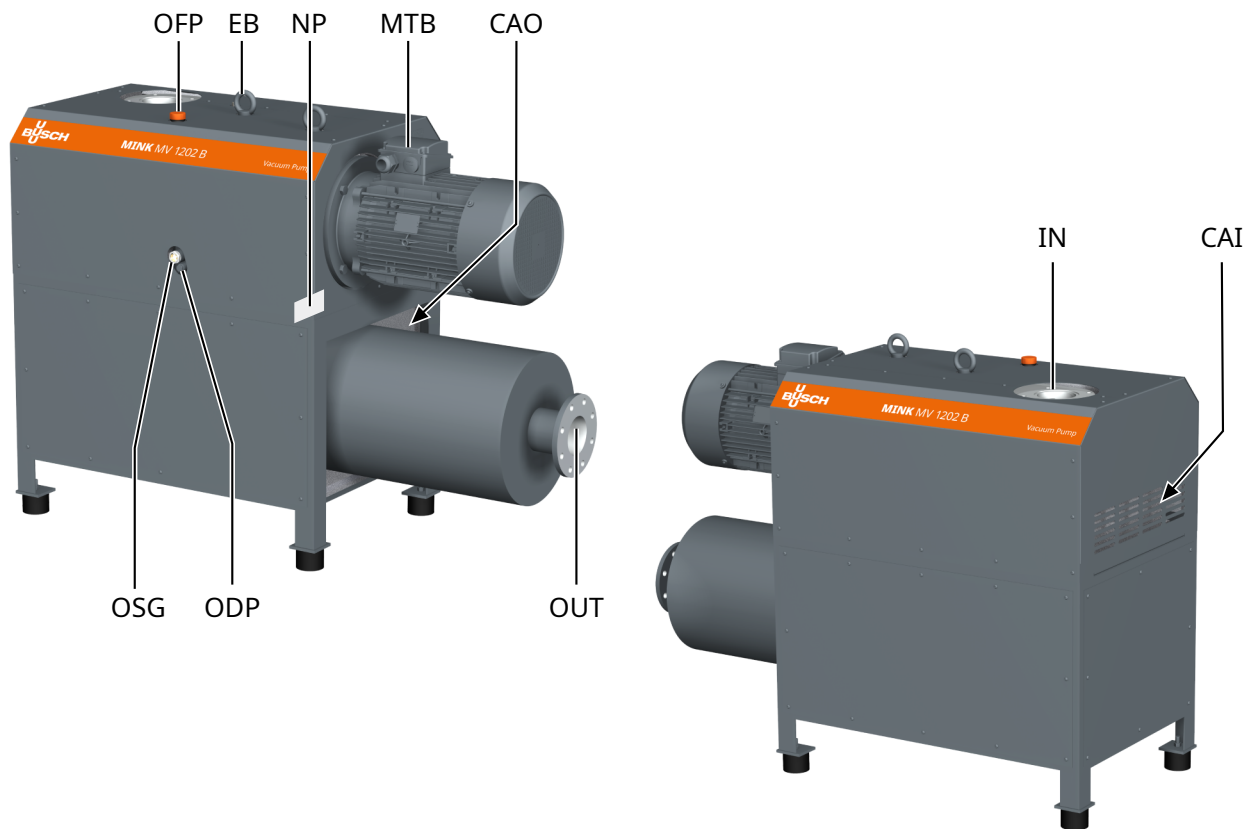
... indicates a potentially dangerous situation that could result in damage to property.



## NOTE

... indicates helpful tips and recommendations, as well as information for efficient and trouble-free operation.

## 2 Product Description



| Description |                    |     |                      |
|-------------|--------------------|-----|----------------------|
| IN          | Suction connection | OUT | Discharge connection |
| OFP         | Oil fill plug      | ODP | Oil drain plug       |
| OSG         | Oil sight glass    | EB  | Eye bolt             |
| CAI         | Cooling air inlet  | CAO | Cooling air outlet   |
| MTB         | Motor terminal box | NP  | Nameplate            |

### NOTE

**Technical term.**  
In this instruction manual, we consider that the term ‘machine’ refers to the ‘vacuum pump’.

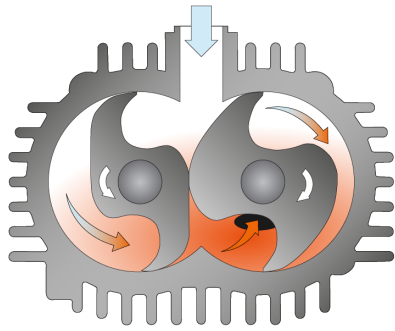
### NOTE

**Illustrations**  
In this instruction manual, the illustrations may differ from the machine appearance.

### NOTE

**Product origin**  
The serial number on the nameplate (NP) determines the manufacturing plant.

## 2.1 Operating Principle



The machine works on the claw principle.

The MINK is fully air-cooled thanks to an integrated fan in the drive unit.

In order to avoid solids from entering, the machine is equipped with an inlet screen (IS).

## 2.2 Intended Use



### WARNING

**In case of foreseeable misuse outside the intended use of the machine.**

**Risk of injuries!**

**Risk of damage to the machine!**

**Risk of damage to the environment!**

- Make sure to follow all instructions described in this manual.

The machine is intended for the suction of air and other dry, non-aggressive, non-toxic and non-explosive gases.

Conveying of other media leads to an increased thermal and/or mechanical load on the machine and is permissible only after a consultation with Busch.

The machine is intended for the placement in a non-potentially explosive environment.

The machine is designed for indoor installation, in case of outdoor installation, ask your Busch representative in order to take specific precautions.

The machine is not capable of maintaining ultimate pressure.

- The minimum allowed ultimate pressure is to be read from the nameplate of the machine.
- By means of process control and/or vacuum relief valves it must be made sure that the minimum allowed ultimate pressure will not be underrun.

In order to avoid reverse rotation after switching off, the machine can be equipped with an optional non-return valve (NRV).

**Note:** The non-return valve (NRV) is no reliable means to prevent suction and shall not be used as a non-return valve or shut-off valve for the system.

If the machine needs to be maintained after shutdown:

- Provide an additional manual or automatic operated non-return valve in the suction line.

Permitted environmental conditions, see *Technical Data* [→ 26].

## 2.3 Start Controls

The machine comes without start controls. The control of the machine is to be provided in the course of installation.

The machine can be equipped with a soft-starter.

## 2.4 Standard Features

### 2.4.1 Vacuum Relief Valve

The ultimate pressure is limited by a vacuum relief valve (VRE). The vacuum relief valve is adjusted ex-works to the minimum permitted ultimate pressure shown on the nameplate (NP).

## 2.5 Optional Accessories

### 2.5.1 Inlet Filter

The inlet filter protects the machine against dust and other solids in the process gas. The inlet filter is available with a paper or polyester cartridge.

### 2.5.2 Non-return Valve

The non-return valve (NRV) prevents the reverse rotation / suck-back after switching off the machine.

**Note:** The non-return valve (NRV) is no reliable means to prevent suction and shall not be used as a non-return valve or shut-off valve for the system.

### 2.5.3 OTTO IoT Box



The machine can be equipped with the OTTO IoT Box.

It allows the vacuum pump to be connected to the Busch Cloud and collect live measured data during its operation.

For the activation and setup of this optional function, please contact your Busch representative. For any additional information, refer to the specific document "OTTO IoT Box User's Manual, art. no.: 08702236702" or contact your Busch representative.

### 3 Transport



#### WARNING

**Suspended load.**

**Risk of severe injury!**

- Do not walk, stand or work under suspended loads.



#### WARNING

**Lifting the machine using the motor eye bolt.**

**Risk of severe injury!**

- Do not lift the machine using the eye bolt fitted to the motor. Only lift the machine as shown.

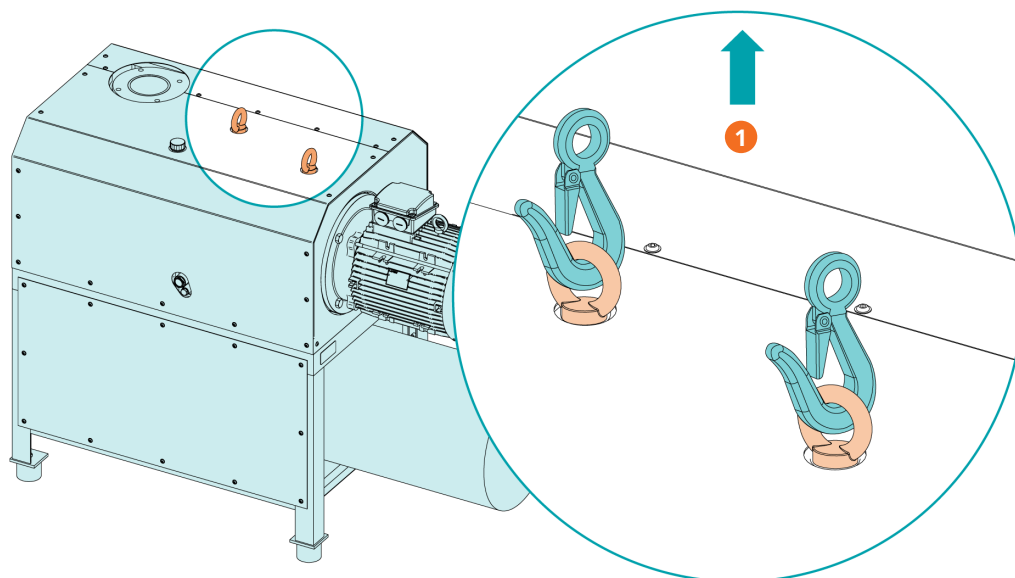


#### NOTICE

**In case the machine is already filled with oil.**

**Tilting a machine that is already filled with oil can cause large quantities of oil to pass through the labyrinth seal into the cylinder.**

- Drain the oil prior to every transport or always horizontally transport the machine.
- To find out the weight of the machine, refer to the chapter *Technical Data* [→ 26] or the name-plate (NP).
- Make sure that the eye bolt(s) (EB) is/are in faultless condition, fully screwed in and tightened by hand.

**Description**

|   |                     |  |  |
|---|---------------------|--|--|
| 1 | Use both eye bolts! |  |  |
|---|---------------------|--|--|

- Check the machine for transport damage.

If the machine is secured to a base plate:

- Remove the machine from the base plate.
- Mount the rubber feet, delivered loose, to the machine's base frame.

## 4 Storage

- Seal all apertures with adhesive tape or reuse provided caps.

If the machine is to be stored for more than 3 months:

- Wrap the machine in a corrosion inhibiting film.
- Store the machine indoors, in a dry and dust free environment and if possible, in original packaging, preferably at temperatures between 0 ... 40 °C.

## 5 Installation

### 5.1 Installation Conditions



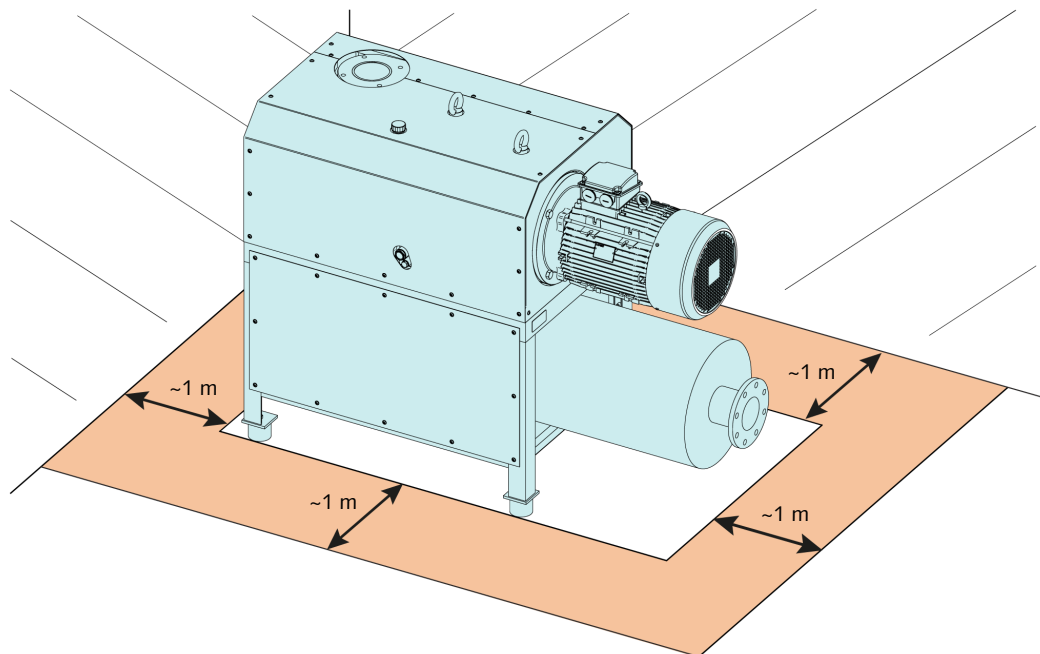
#### NOTICE

**Use of the machine outside of the permitted installation conditions.**

**Risk of premature failure!**

**Loss of efficiency!**

- Make sure that the installation conditions are fully respected.



- Make sure that the environment of the machine is not potentially explosive.
- Make sure that the ambient conditions comply with the *Technical Data* [→ 26].
- Make sure that the environmental conditions comply with the protection class of the motor and the electrical elements.
- Make sure that the installation space or location is protected from weather and lightning.
- Make sure that the installation space or location is vented such that sufficient cooling of the machine is provided.
- Make sure that cooling air inlets and outlets are not covered or obstructed and that the cooling air flow is not affected adversely in any other way.
- Make sure that the oil sight glass (OSG) remains easily visible.
- Make sure that enough space remains for maintenance work.
- Make sure that the machine is placed or mounted horizontally, a maximum deviation of 1° in any direction is acceptable.
- Check the oil level, see *Oil Level Inspection* [→ 18].
- Make sure that all provided covers, guards, hoods, etc. are mounted.

If the machine is installed at an altitude greater than 1000 meters above sea level:

- Contact your Busch representative, the motor should be derated or the ambient temperature limited.

## 5.2 Connecting Lines / Pipes



### WARNING

**Rotating Parts.**

**Risk of severe injury!**

- Do not operate the machine without suction / discharge connection installed.

- Remove all protective covers before installation.
- Make sure that the connection lines cause no stress on the connections of the machine. Therefore, we recommend installing flexible joints on the suction and discharge connections.
- Make sure that the line size of the connection lines over the entire length is at least as large as the connections of the machine.

In case of long connection lines, it is advisable to use larger line sizes in order to avoid a loss of efficiency. Seek advice from your Busch representative.

### 5.2.1 Suction Connection



### NOTICE

**Ingress of foreign objects or liquids.**

**Risk of damage to the machine!**

If the inlet gas contains dust or other foreign solid particles:

- Install a suitable filter (5 micron or less) upstream from the machine.

Connection size(s):

- DN100 PN10/16

Depending on the specific configuration ordered, other connection dimensions may apply.

- Make sure that the connection lines cause no stress on the connections of the machine. Therefore, we recommend installing flexible joints on the suction and discharge connections.

### 5.2.2 Discharge Connection



### NOTICE

**Discharge gas flow obstructed.**

**Risk of damage to the machine!**

- Make sure that the discharged gas will flow without obstruction. Do not shut off or throttle the discharge line or use it as a pressurized air source.

Connection size(s):

- DN100 PN10/16

Depending on the specific configuration ordered, other connection dimensions may apply.

Unless the aspirated air is discharged to the environment right at the machine:

- Make sure that the discharge line either slopes away from the machine or provide a liquid separator or a siphon with a drain cock, so that no liquids can flow back into the machine.
- Make sure that the connection lines cause no stress on the connections of the machine. Therefore, we recommend installing flexible joints on the suction and discharge connections.

## 5.3 Filling Oil

### ! NOTICE

**The machine is shipped without oil.**

**Operation without oil will damage the machine in short time!**

- Prior to commissioning, the machine must be filled with oil, see *Filling Oil* [→ 12].

### ! NOTICE

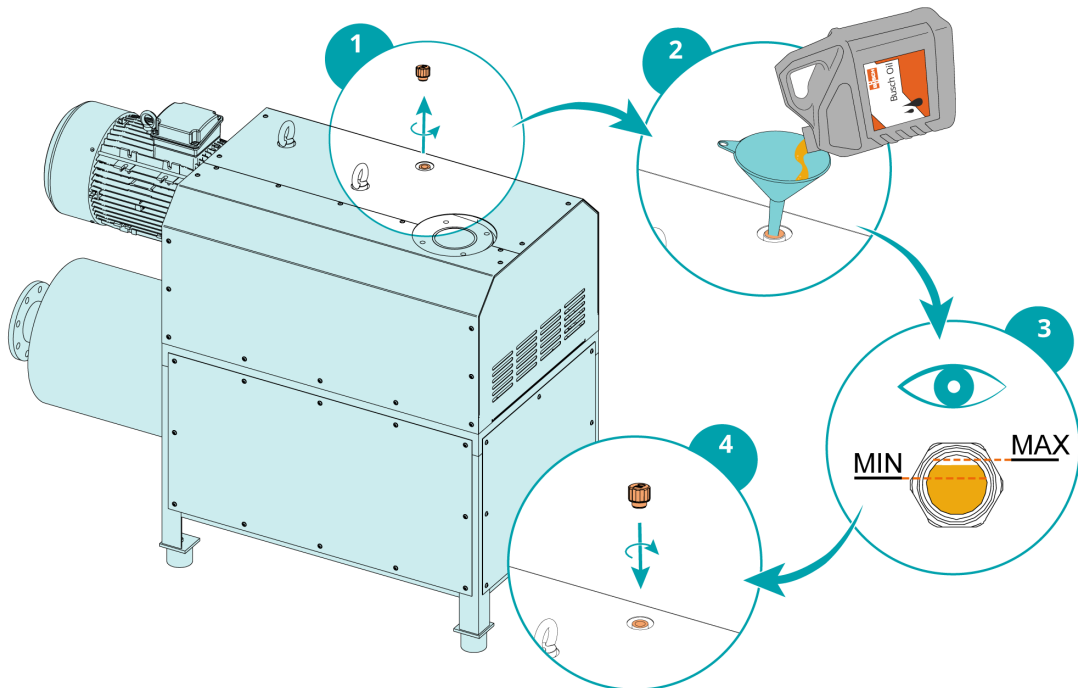
**Use of an inappropriate oil.**

**Risk of premature failure!**

**Loss of efficiency!**

- Only use an oil type which has previously been approved and recommended by Busch.

For oil type and oil capacity see *Technical Data* [→ 26] and *Oil* [→ 27].



The oil level should stay constant over the lifetime of the oil. If the level does fall, this indicates a leak and the machine requires repair.

## 6 Electrical Connection



### DANGER

**Live wires.**

**Risk of electrical shock.**

- Electrical installation work must only be executed by qualified personnel.



### DANGER

**Missing current protection.**

**Risk of electrical shock.**

- Current protection in accordance with EN 60204-1 must be provided by the customers on their installation(s).
- The electrical installation must comply with the applicable national and international standards.
- Install a semiconductor temperature detector to the release device in accordance with the wiring diagram.



### NOTICE

**Electromagnetic compatibility.**

- Make sure that the motor of the machine will not be affected by electric or electromagnetic disturbance from the mains, if necessary seek advice from Busch.
- Make sure that the EMC of the machine is compliant with the requirements of your supply network system, if necessary provide further interference suppression (EMC of the machine, see *EU Declaration of Conformity* [→ 28] or *UK Declaration of Conformity* [→ 29]).

### 6.1 Machine delivered without Control Box or Variable Speed Drive (VSD)



### DANGER

**Live wires.**

**Risk of electrical shock.**

- Electrical installation work must only be executed by qualified personnel.
- Make sure that the power supply for the motor is compatible with the data on the nameplate of the motor.
- If the machine is equipped with a power connector, install a residual current protective device to protect persons in case of a defective insulation.
  - Busch recommends installing a type B residual protective device suitable for the electrical installation.
- Provide a lockable disconnect switch or an emergency stop switch on the power line so that the machine is completely secured in case of an emergency situation.

- Provide a lockable disconnect switch on the power line so that the machine is completely secured during maintenance tasks.
- Provide an overload protection according to EN 60204-1 for the motor.
- Busch recommends installing a K-curve circuit breaker.
- Connect the protective earth conductor.
- Electrically connect the motor.



## NOTICE

**Incorrect connection.**

**Risk of damage to the motor!**

- The wiring diagrams given below are typical. Check the inside of the terminal box for motor connection instructions/diagrams.

## 6.2 Wiring Diagram Three-Phase Motor



## NOTICE

**Incorrect direction of rotation.**

**Risk of damage to the machine!**

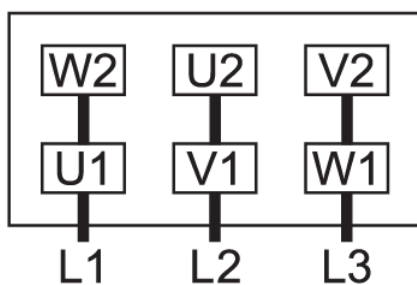
- Operation in the wrong direction of rotation can destroy the machine in a short time! Prior to start-up, ensure that the machine is operated in the right direction.

- Determine the intended direction of rotation with the arrow (stuck on or cast).
- Jog the motor briefly.

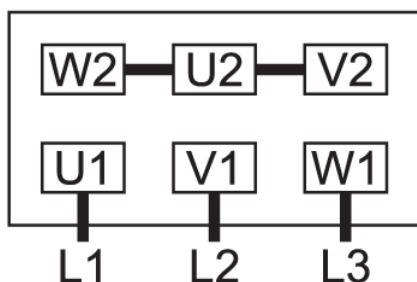
If the rotation of the motor must be changed:

- Switch any two of the motor phase wires.

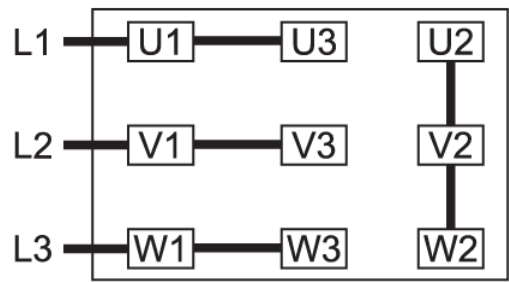
Delta connection (low voltage):



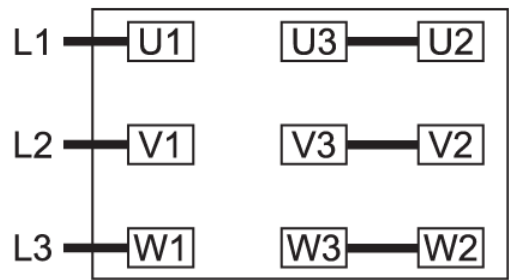
Star connection (high voltage):



Double star connection, multi-voltage motor with 9 pins (low voltage):



Star connection, multi-voltage motor with 9 pins (high voltage):



## 7 Commissioning

### NOTICE

**The machine is shipped without oil.**

**Operation without oil will damage the machine in short time!**

- Prior to commissioning, the machine must be filled with oil, see *Filling Oil* [→ 12].

### NOTICE

**Lubricating a dry running machine (compression chamber).**

**Risk of damage to the machine!**

- Do not lubricate the compression chamber of the machine with oil or grease.



### CAUTION

**During operation the surface of the machine may reach temperatures of more than 70°C.**

**Risk of burns!**

- Avoid contact with the machine during and directly after operation.

### CAUTION



**Noise of running machine.**

**Risk of damage to hearing!**

If people are present in the vicinity of a machine that is not insulated from noise for extended periods of time:

- Make sure to wear hearing protection.

- Make sure that the *Installation Conditions* [→ 10] are met.
- Make sure that the operating conditions comply with the *Technical Data* [→ 26].

As soon as the machine is operated under normal operating conditions:

- Measure the motor current and record it as reference for future maintenance and troubleshooting work.

## 7.1 Conveying Condensable Vapors

Use the machine in Aqua version for conveying water vapor or other condensable vapors. The machine in Aqua version is able to convey up to 100% saturated water vapor.

The conveyance of other vapors than water vapor shall be agreed upon with Busch.

- Make sure that any condensate from the suction side will not enter the non-operating machine.

Before process:

- Warm up the machine by running the machine for 30 minutes.

After process:

- During process condensate may occur in the machine. To remove the condensate from the machine, convey dry air at 400 mbar with the machine's maximum speed for 30 minutes, after the process and at least once a day.

## 8 Maintenance



### DANGER

**Live wires.**

**Risk of electrical shock.**

- Electrical installation work must only be executed by qualified personnel.



### WARNING



**Machines contaminated with hazardous material.**

**Risk of poisoning!**

**Risk of infection!**

If the machine is contaminated with hazardous material:

- Wear appropriate personal protective equipment.



### CAUTION

**Hot surface.**

**Risk of burns!**

- Before doing anything that requires touching the machine, let it cool down first.



### CAUTION

**Failing to properly maintain the machine.**

**Risk of injuries!**

**Risk of premature failure and loss of efficiency!**

- Maintenance work must only be executed by qualified personnel.
- Respect the maintenance intervals or ask your Busch representative for service.



### NOTICE

**Using inappropriate cleaners.**

**Risk of removing safety stickers and protective paint!**

- Do not use incompatible solvents to clean the machine.

- Shut down the machine and lock against inadvertent start up.
- Vent the connected lines to atmospheric pressure.

If necessary:

- Disconnect all connections.

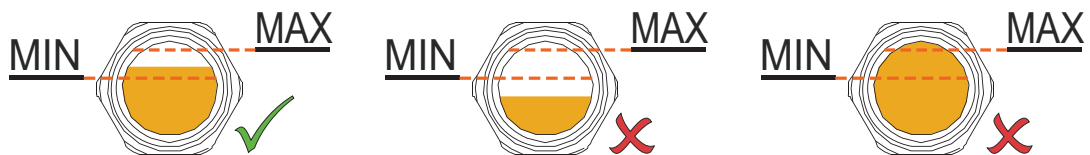
## 8.1 Maintenance Schedule

The maintenance intervals depend very much on the individual operating conditions. The intervals given below are considered as starting values which should be shortened or extended as appropriate. Particularly harsh applications or heavy duty operation, such as high dust loads in the environment or in the process gas, other contamination or ingress of process material, can make it necessary to shorten the maintenance intervals significantly.

| Interval                           | Maintenance work                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monthly                            | <ul style="list-style-type: none"> <li>Check the inlet screen, clean if necessary.</li> </ul> In case of an inlet filter (IF) being installed: <ul style="list-style-type: none"> <li>Check the inlet filter cartridge, replace if necessary.</li> </ul>                                                                                                            |
| Every 3 months                     | <ul style="list-style-type: none"> <li>Check the oil level, see <i>Oil Level Inspection</i> [→ 18].</li> </ul>                                                                                                                                                                                                                                                      |
| Every 6 months                     | <ul style="list-style-type: none"> <li>Clean the machine from dust and dirt.</li> </ul> In case of a coupling (CPL) being installed: <ul style="list-style-type: none"> <li>Check the coupling (CPL) for backlash and wear.</li> </ul>                                                                                                                              |
| Every 20000 hours                  | <ul style="list-style-type: none"> <li>Change the oil.</li> </ul> The change interval of 20000 operating hours is valid for Busch approved oils only. The change interval depends very much on the operating conditions. Borderline operation may reduce the change interval down to approximately 5000 operating hours. Other oils may reduce the change interval. |
| Every 40000 hours or after 6 years | <ul style="list-style-type: none"> <li>Have a major overhaul on the machine (contact Busch).</li> </ul>                                                                                                                                                                                                                                                             |

## 8.2 Oil Level Inspection

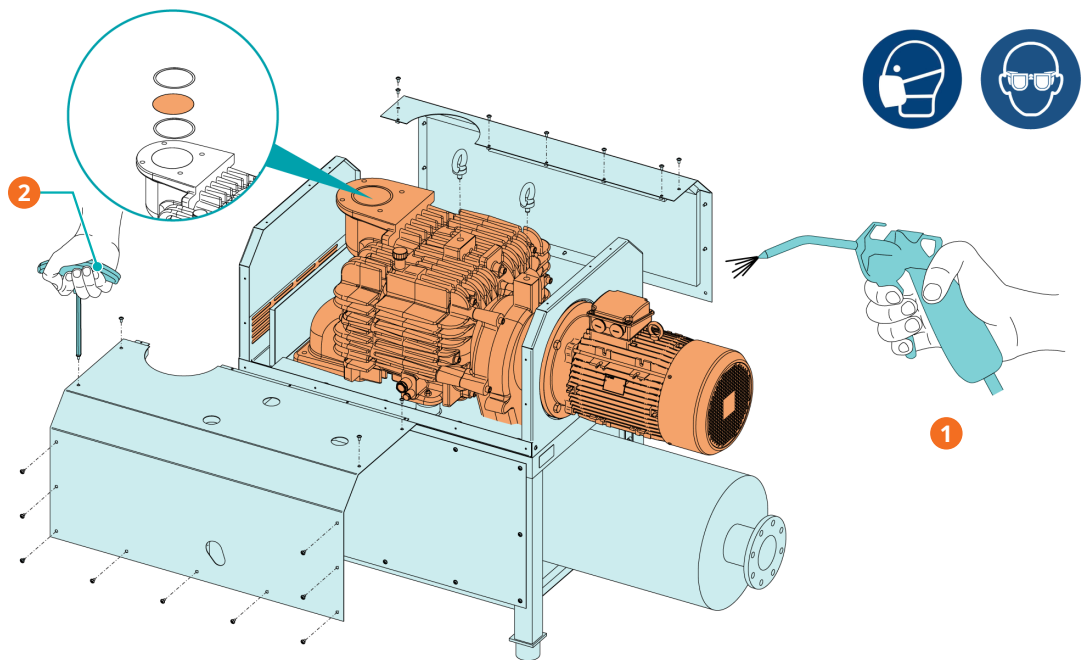
- Shut down the machine.
- When the machine is stopped, wait 1 minute before checking the oil level.



The oil level should stay constant over the lifetime of the oil. If the level does fall, this indicates a leak and the machine requires repair.

- Fill up if necessary, see *Oil Filling* [→ 12].

## 8.3 Cleaning from Dust and Dirt



### Description

|   |                                             |   |              |
|---|---------------------------------------------|---|--------------|
| 1 | Clean the ventilation grid and cooling fins | 2 | 4 mm hex key |
|---|---------------------------------------------|---|--------------|

## 8.4 Oil Change

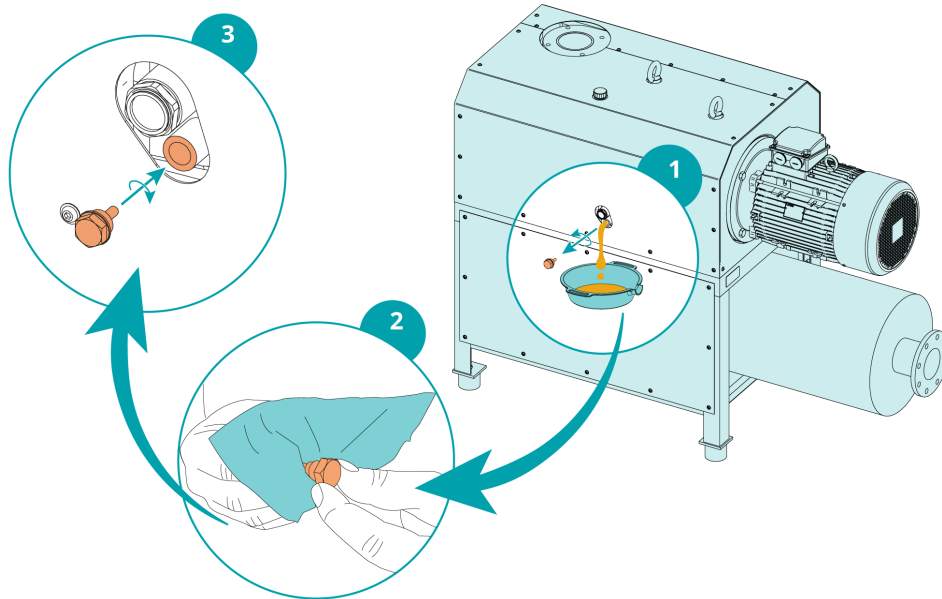
### ! NOTICE

**Use of an inappropriate oil.**

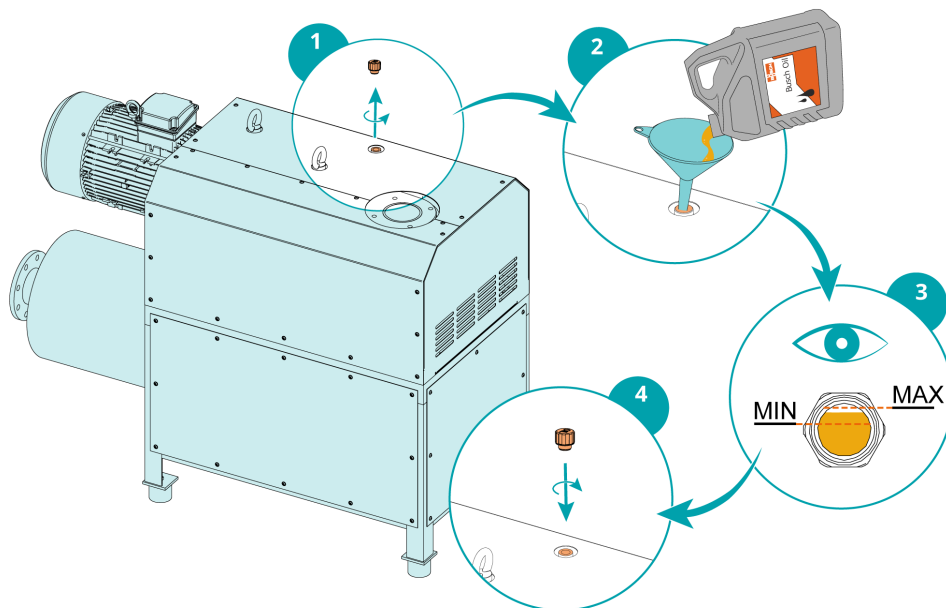
**Risk of premature failure!**

**Loss of efficiency!**

- Only use an oil type which has previously been approved and recommended by Busch.



For oil type and oil capacity see *Technical Data* [→ 26] and *Oil* [→ 27].



The oil level should stay constant over the lifetime of the oil. If the level does fall, this indicates a leak and the machine requires repair.

## 9

## Overhaul

**WARNING**

**Machines contaminated with hazardous material.**

**Risk of poisoning!**

**Risk of infection!**

If the machine is contaminated with hazardous material:

- Wear appropriate personal protective equipment.

**NOTICE**

**Improper assembly.**

**Risk of premature failure!**

**Loss of efficiency!**

- Any dismantling of the machine that goes beyond anything that is described in this manual should be done by Busch authorized technicians.

In case of the machine having conveyed gas that was contaminated with foreign materials which are dangerous to health:

- Decontaminate the machine as much as possible and state the contamination status in a 'Declaration of Contamination'.

Busch will only accept machines that come with a completely filled in and legally binding signed 'Declaration of Contamination' (form downloadable from [www.buschvacuum.com](http://www.buschvacuum.com)).

## 10 Decommissioning



### DANGER

**Live wires.**

**Risk of electrical shock.**

- Electrical installation work must only be executed by qualified personnel.



### CAUTION

**Hot surface.**

**Risk of burns!**

- Before doing anything that requires touching the machine, let it cool down first.

- Shut down the machine and lock against inadvertent start up.
- Disconnect the power supply.
- Vent the connected lines to atmospheric pressure.
- Disconnect all connections.

If the machine is going to be stored:

- See *Storage* [→ 9].

### 10.1 Dismantling and Disposal

- Drain and collect the oil.
- Make sure that no oil drips onto the floor.
- Separate special waste from the machine.
- Dispose of special waste in compliance with applicable regulations.
- Dispose of the machine as scrap metal.

# 11 Spare Parts



## NOTICE

**Use of non-Busch genuine spare parts.**

**Risk of premature failure!**

**Loss of efficiency!**

- The exclusive use of Busch genuine spare parts and consumables is recommended for the correct functioning of the machine and to validate the warranty.

| Spare part                     | Description                    | Part no.     |
|--------------------------------|--------------------------------|--------------|
| Oil fill plug (=Venting valve) | Includes appropriate seal ring | 0543 107 407 |
| Oil sight glass (OSG)          |                                | 0583 000 001 |
| Seal ring                      | For oil sight glass (OSG)      | 0480 202 576 |
| Oil drain plug (ODP)           | Includes appropriate seal ring | 0415 134 870 |
| Seal ring                      | For oil drain plug (ODP)       | 0482 137 352 |
| Inlet screen (IS)              |                                | 0534 159 449 |

If other parts are required:

- Contact your Busch representative.

# 12 Troubleshooting



## DANGER

Live wires.

Risk of electrical shock.

- Electrical installation work must only be executed by qualified personnel.

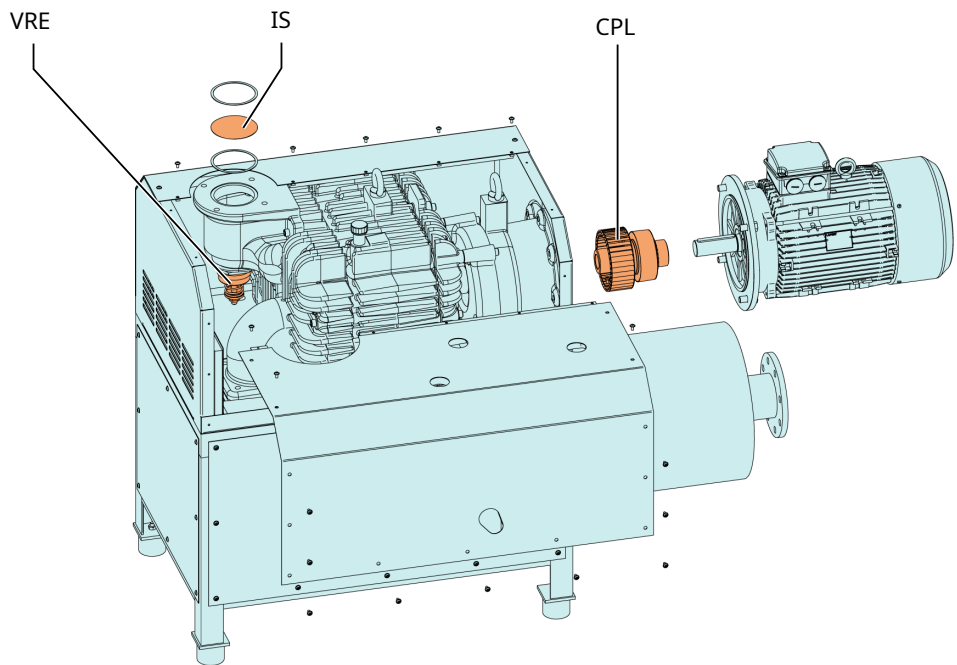


## CAUTION

Hot surface.

Risk of burns!

- Before doing anything that requires touching the machine, let it cool down first.



| Description |                     |     |          |
|-------------|---------------------|-----|----------|
| IS          | Inlet Screen        | CPL | Coupling |
| VRE         | Vacuum relief valve |     |          |

| Problem                     | Possible Cause                                      | Remedy                        |
|-----------------------------|-----------------------------------------------------|-------------------------------|
| The machine does not start. | The motor is not supplied with the correct voltage. | • Check the power supply.     |
|                             | The motor is defective.                             | • Replace the motor.          |
|                             | The coupling (CPL) is defective.                    | • Replace the coupling (CPL). |

| Problem                                                                  | Possible Cause                                              | Remedy                                                                                                                                                       |
|--------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The machine does not reach the usual pressure on the suction connection. | The inlet screen (IS) is partially clogged.                 | <ul style="list-style-type: none"> <li>• Clean the inlet screen (IS).</li> </ul>                                                                             |
|                                                                          | The vacuum relief valve (VRE) is misadjusted or defective.  | <ul style="list-style-type: none"> <li>• Replace the vacuum relief valve (VRE)</li> </ul>                                                                    |
|                                                                          | The inlet filter cartridge (optional) is partially clogged. | <ul style="list-style-type: none"> <li>• Replace the inlet filter cartridge.</li> </ul>                                                                      |
|                                                                          | Internal parts are worn or damaged.                         | <ul style="list-style-type: none"> <li>• Repair the machine (contact Busch).</li> </ul>                                                                      |
| The machine runs very noisily.                                           | Worn coupling (CPL).                                        | <ul style="list-style-type: none"> <li>• Replace the coupling (CPL).</li> </ul>                                                                              |
|                                                                          | Oil level too low.                                          | <ul style="list-style-type: none"> <li>• Top up oil.</li> </ul>                                                                                              |
|                                                                          | Defective bearings.                                         | <ul style="list-style-type: none"> <li>• Repair the machine (contact Busch).</li> </ul>                                                                      |
| The machine runs too hot.                                                | Insufficient cooling.                                       | <ul style="list-style-type: none"> <li>• Remove dust and dirt from the machine .</li> </ul>                                                                  |
|                                                                          | The cooling fan's rotation direction is incorrect.          | <ul style="list-style-type: none"> <li>• Check the rotation direction of the cooling fan, if needed switch any one of the two power supply wires.</li> </ul> |
|                                                                          | Ambient temperature too high.                               | <ul style="list-style-type: none"> <li>• Observe the permitted ambient temperature, see <i>Technical Data</i> [→ 26].</li> </ul>                             |
|                                                                          | Temperature of the process gases at the inlet too high.     | <ul style="list-style-type: none"> <li>• Observe the permitted gas inlet temperature, see <i>Technical Data</i> [→ 26].</li> </ul>                           |
|                                                                          | Oil level too low.                                          | <ul style="list-style-type: none"> <li>• Top up oil.</li> </ul>                                                                                              |

For resolution of problems not listed in the troubleshooting table, please contact your Busch representative.

# 13 Technical Data

| MV 1202 B                                                                             |                    |                                     |
|---------------------------------------------------------------------------------------|--------------------|-------------------------------------|
| Nominal pumping speed (50Hz / 60Hz)                                                   | m <sup>3</sup> /h  | 950 / 1150                          |
| Ultimate pressure                                                                     | hPa (mbar)<br>abs. | see nameplate (NP)                  |
| Nominal motor rating (50Hz / 60Hz)                                                    | kW                 | 18.5 / 22.0                         |
| Nominal motor speed (50Hz / 60Hz)                                                     | min <sup>-1</sup>  | 3000 / 3600                         |
| Permitted motor speed range                                                           | min <sup>-1</sup>  | 1200 ... 3600 ► 200 hPa (mbar) abs. |
| Noise level (EN ISO 2151)<br>at 400 hPa (mbar) abs. suction pressure<br>(50Hz / 60Hz) | dB(A)              | 79 / 82                             |
| Ambient temperature range                                                             | °C                 | 0 ... 40*                           |
| Inlet gas temperature range                                                           | °C                 | 0 ... 40*                           |
| Ambient pressure                                                                      |                    | Atmospheric pressure                |
| Oil capacity                                                                          | l                  | 3.5                                 |
| Weight approx.                                                                        | kg                 | 900**                               |

\* In case of higher or lower temperatures, please consult your Busch representative.

\*\* The weight can vary depending on the order.

## 14 Oil

| VS 220                    |            |
|---------------------------|------------|
| ISO-VG                    | 220        |
| Part number 1 L packaging | 0831217852 |
| Part number 5 L packaging | 0831217853 |

To know which oil has been filled in the machine, please refer to the nameplate (NP).

### Oil suitability

- **Oil VS 220:** Suitable for standard applications.

# 15 EU Declaration of Conformity

This Declaration of Conformity and the CE-markings affixed to the nameplate are valid for the machine within the Busch scope of delivery. This Declaration of Conformity is issued under the sole responsibility of the manufacturer.

When this machine is integrated into a superordinate machinery the manufacturer of the superordinate machinery (this can be the operating company, too) must conduct the conformity assessment process for the superordinate machine or plant, issue the Declaration of Conformity for it and affix the CE-marking.

The manufacturer is determined by the serial number:

Serial number starts with **CHM1...**

**Ateliers Busch S.A.**  
**Zone industrielle**  
**2906 Chevenez**  
**Switzerland**

Serial number starts with **DEM1...**

**Busch Produktions GmbH**  
**Schauinslandstr. 1**  
**79689 Maulburg**  
**Germany**

declares that the machine: MINK MV 1202 B

fulfill(s) all the relevant provisions from EU directives:

- 'Machinery' 2006/42/EC
- 'Electromagnetic Compatibility' (EMC) 2014/30/EU
- 'RoHS' 2011/65/EU Restriction of the use of certain hazardous substances in electrical and electronic equipment (incl. all related applicable amendments)

and comply(-ies) with the following harmonized standards that have been used to fulfill those provisions:

| Standards                    | Title of the Standard                                                                                     |
|------------------------------|-----------------------------------------------------------------------------------------------------------|
| EN ISO 12100 : 2010          | Safety of machinery - Basic concepts, general principles of design                                        |
| EN ISO 13857 : 2019          | Safety of machinery - Safety distances to prevent hazard zones being reached by the upper and lower limbs |
| EN 1012-2 : 1996 + A1 : 2009 | Vacuum pumps - Safety requirements - Part 2                                                               |
| EN ISO 2151 : 2008           | Acoustics - Noise test code for compressors and vacuum pumps - Engineering method (grade 2)               |
| EN 60204-1 : 2018            | Safety of machinery - Electrical equipment of machines - Part 1: General requirements                     |
| EN IEC 61000-6-2 : 2019      | Electromagnetic compatibility (EMC) - Generic standards. Immunity for industrial environments             |
| EN IEC 61000-6-4 : 2019      | Electromagnetic compatibility (EMC) - Generic standards. Emission standard for industrial environments    |

Legal person authorized to compile the technical file  
 and authorized representative in the EU  
 (if the manufacturer is not located in the EU):

Chevenez, 01.03.2023



**Christian Hoffmann**  
**General Manager**  
**Ateliers Busch S.A.**

Busch Dienste GmbH  
 Schauinslandstr. 1  
 DE-79689 Maulburg

Maulburg, 01.03.2023



**Dr. Martin Gutmann**  
**General Manager**  
**Busch Produktions GmbH**

# 16 UK Declaration of Conformity

This Declaration of Conformity and the UKCA-markings affixed to the nameplate are valid for the machine within the Busch scope of delivery. This Declaration of Conformity is issued under the sole responsibility of the manufacturer.

When this machine is integrated into a superordinate machinery the manufacturer of the superordinate machinery (this can be the operating company, too) must conduct the conformity assessment process for the superordinate machine or plant, issue the Declaration of Conformity for it and affix the UKCA-marking.

The manufacturer is determined by the serial number:

Serial number starts with **CHM1...**

**Ateliers Busch S.A.**  
**Zone industrielle**  
**2906 Chevenez**  
**Switzerland**

Serial number starts with **DEM1...**

**Busch Produktions GmbH**  
**Schauinslandstr. 1**  
**79689 Maulburg**  
**Germany**

declares that the machine: MINK MV 1202 B

fulfill(s) all the relevant provisions from UK legislations:

- Supply of Machinery (Safety) Regulations 2008
- Electromagnetic Compatibility Regulations 2016
- Restriction of the use of certain hazardous substances in Electrical and Electronic Equipment Regulations 2021

and comply(-ies) with the following designated standards that have been used to fulfill those provisions:

| Standards                    | Title of the Standard                                                                                     |
|------------------------------|-----------------------------------------------------------------------------------------------------------|
| EN ISO 12100 : 2010          | Safety of machinery - Basic concepts, general principles of design                                        |
| EN ISO 13857 : 2019          | Safety of machinery - Safety distances to prevent hazard zones being reached by the upper and lower limbs |
| EN 1012-2 : 1996 + A1 : 2009 | Vacuum pumps - Safety requirements - Part 2                                                               |
| EN ISO 2151 : 2008           | Acoustics - Noise test code for compressors and vacuum pumps - Engineering method (grade 2)               |
| EN 60204-1 : 2018            | Safety of machinery - Electrical equipment of machines - Part 1: General requirements                     |
| EN IEC 61000-6-2 : 2019      | Electromagnetic compatibility (EMC) - Generic standards. Immunity for industrial environments             |
| EN IEC 61000-6-4 : 2019      | Electromagnetic compatibility (EMC) - Generic standards. Emission standard for industrial environments    |

Legal person authorized to compile the technical file  
 and importer in the UK  
 (if the manufacturer is not located in the UK):

Busch (UK) Ltd  
 30 Hortonwood  
 Telford - UK

Chevenez, 01.03.2023



**Christian Hoffmann**  
**General Manager**  
**Ateliers Busch S.A.**

Maulburg, 01.03.2023



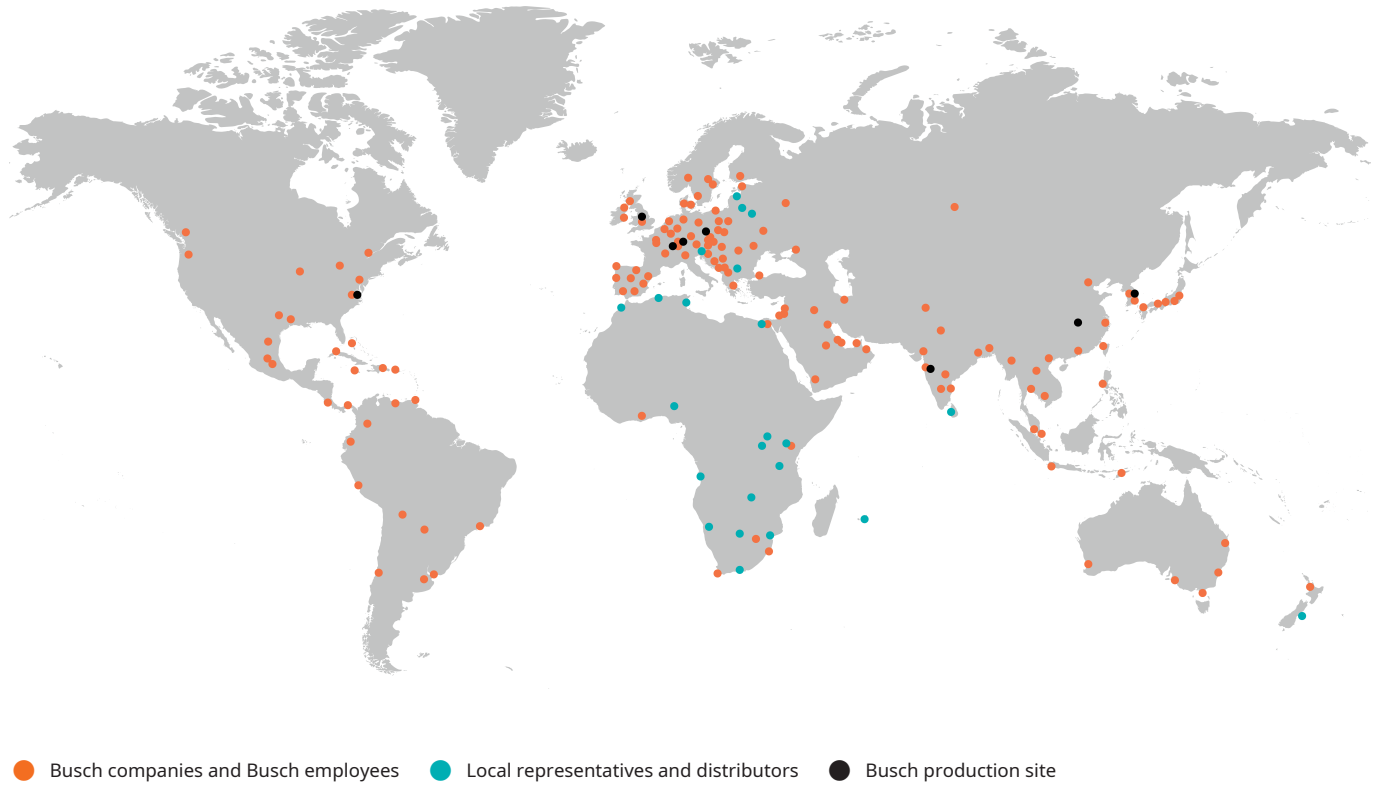
**Dr. Martin Gutmann**  
**General Manager**  
**Busch Produktions GmbH**

## Notes



# Busch Vacuum Solutions

With a network of over 60 companies in more than 40 countries and agencies worldwide, Busch has a global presence. In every country, highly competent local personnel delivers custom-tailored support backed by a global network of expertise. Wherever you are. Whatever your business. We are there for you.



[www.buschvacuum.com](http://www.buschvacuum.com)