

# BRIEF OPERATING INSTRUCTIONS, WARNINGS SIGNS SURFACE TREATMENT

## DIAPHRAGM PUMP



PLEASE PUT UP IN THE WORKSHOP.  
READ AND FOLLOW UP

The processing materials or solvents (fluids) pumped by our diaphragm pumps/equipment have not been manufactured by us. We shall not be liable for their effects.

Because of the wide range of fluids and their different reactions, the operator must consult the fluid manufacturer on such matters as flow rate, the suitability of the fluids for the materials used in our equipment, spray fume and explosion hazards, processing times after mixing as well as any toxic effects.

If fluids containing halogenated hydrocarbons such as trichloroethane or methylene chloride need to be used, the wetted parts of the suction and pressure system should not have any aluminium parts nor a galvanised surface.

- Such use could result in a chemical reaction producing explosive and highly corrosive metal compounds.

- The dimensions of any components not specifically approved by us must meet the technical specifications of the diaphragm pump for which they are used.
- Never exceed the maximum working pressure of diaphragm pumps, guns, hoses, etc.
- Do not point the spray nozzle at people or animals.
- Wear personal health protection (respirator, eyewear, gloves, etc.) when working with hazardous fluids.
- Engage the gun safety latch after use.
- To reduce the risk of explosion due to static sparking, all equipment, accessories and objects to be sprayed within the spray area must be grounded.
  - Grounding bypass resistance <  $10^6 \Omega$ . The necessity of wearing hearing protection depends on the working pressure and the resulting sound pressure level.
- When the diaphragm pump is in operation, no parts of the pump may be disassembled.
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Subject to change

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## USER INFORMATION

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Shut off the air supply and relieve the pressure to the diaphragm pump – by relieving the gun pressure – before every disassembly or repair.

- Be cautious, when unscrewing hoses. Obstructed hoses can still contain pressurised fluid.
- Always have the equipment checked for operating safety by a qualified engineer after a 6-month shutdown or longer, and at least once every 12 months (- VBG 87).
- All repairs must be performed by qualified engineers.
- Use of non-genuine replacement parts will void the replacement warranty for diaphragm pumps / equipment.
- Apply the specified torque values.
- Do not run the diaphragm pump without load, unless under supervision and then only for a very short period of time and at a low air input pressure.
- Do not remove the suction hose or suction tube from the fluid and replace it when the pump is operating – this will cause air to enter into the system and result in spray failures.
- Always use the lowest possible pressure when flushing. Hold the gun firmly against the side of a metal pail while flushing.
- Never immerse an agitator in a filled fluid container with its propeller running.
- Increase the rpm of the immersed agitator only slowly.

## INSTALLATION, PREPARATIONS FOR OPERATION

- Install the diaphragm pump on a horizontal surface (see User Manual).
  - The installation surface or wall should be level and be able to hold the weight.
  - Use the correct size plugs and screws.
- Ensure that the equipment is properly grounded (- ZH1/200).
- If possible, install the equipment in a place where temperatures do not drop below 15 °C.
- Thoroughly flush the diaphragm pump. Carefully remove all flushing solvents.
  - The flushing solvent must be compatible with the fluid to be pumped later.
  - Do not use NITRO solutions nor NITRO cleaning agents to flush the pump.
- Check the fluid containers; ensure that the fluid has been mixed well and the container is sufficiently filled.
- Immerse the suction installation in the fluid.

- Verify the operation of the gun safety latch.
- Activate the supply.
- Open the air pressure valve; slowly increase the air pressure.
- Operate the equipment at a fluid pressure of 1 bar until no air is required any longer.
  - The equipment is ready for operation.

## OPERATION

- Shut off the air supply to the diaphragm pump and relieve the pressure by activating the gun, when the pump is not used at night or over the weekend.
  - Always ensure that the diaphragm pump, hoses, gun, etc. are cleaned – both on the inside and the outside.
  - The flushing frequency depends on the liquids used. In some cases, it is recommended to flush every day.
- The equipment must always be flushed before the weekend, after a longer shutdown period and with every fluid change.

## SHUTDOWN

### - **FOR A SHORT PERIOD**

- Shut off the air supply.
- Relieve the pressure of the diaphragm pump by removing all fluid, e.g. by engaging the gun.

### - **FOR A LONGER PERIOD, FOR THE COMPANY HOLIDAY PERIOD**

- Flush the diaphragm pump properly.
- Leave the flushing solvent in the diaphragm pump.
- Shut off the air supply.
- Relieve the pressure of the diaphragm pump by removing all fluid, e.g. by engaging the gun.

### - **FOR A LONG PERIOD**

- Flush the diaphragm pump thoroughly.
- Pump the flushing solvent out of the diaphragm pump.
- Operate the diaphragm pump at the lowest air pressure for a short period without load.
- Disengage the air supply connection to the diaphragm pump (unscrew).

## DETAILED INFORMATION SUPPLIED IN THE USER MANUAL

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