BRIEF OPERATING INSTRUCTIONS, WARNING SIGNS SURFACE TECHNOLOGY

FLOW HEATER 280.N-NNN

PLEASE PUT UP IN THE WORKSHOP.

READ AND FOLLOW UP

We have not manufactured the processing materials or solvents (fluids) used in our flow heaters. We shall not be liable for their effects.

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 and spray fume and explosion hazards, processing times after mixing as well as any toxic effects - because of the wide range of fluids and their different reactions.

If fluids containing halogenated hydrocarbons such as trichloro-ethane or methylene chloride need to be used, only the SST model of the flow heater may be used.

The wetted parts must not be made of aluminum or have a zinc-plated surface.

- Explosive and extremely caustic metal organic reactions may occur.

- Components not supplied by us must have dimensions that correspond to the given dimensions of the pump and the flow heater.
- Never exceed the maximum working pressure of the flow heater, pump, hoses, etc.
- When the fluid pressure system behind the flow heater is blocked, an increase in volume must be taken into account when the fluid is heated. When no fluid is discharged, this will result in an increase of the pressure, that may lead to damage to the line and/or parts of the pump. To prevent this, a pressure reducing valve is required.
- Hoses, pumps, filters, spray installations, pressure regulation valves, etc. that come in contact with the heated fluid, must be suitable for the maximum generated temperature.
- The surface can reach temperatures that can cause burns to people who accidentally touch it when the heater is operated at the maximum temperature (90°C). The heater must be installed in such a place that it cannot be touched accidentally.

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- Within spaces that constitute an explosion hazard, an additional grounding is recommend to prevent sparking causing explosions.
- Only permitted EX-plugs and connectors may be used within the EX area.
- Never disassemble or install a pressurized flow heater.
- Unplug the heater from the mains before the opening housing.
- Repairs must always be carried out by qualified staff (VBG 87).
- Repairs to electrical parts must always be carried out by qualified electricians (VBG 4).
- The system must be tested after assembly by a qualified engineer or a routine check should be carried out by the manufacturer (ElexV) when parts that affect explosion safety features are repaired.
- Use only genuine replacement parts. Our obligation to replace equipment is forfeited when non-genuine replacement parts are used (Product Liability Law of 15 December, 1989). The approval for the appliances to be used in hazardous locations no longer applies.
- The flow heater must be checked and tested by a qualified electrical engineer at least once every four years (VBG 4).
- When the flow heater is used in different locations, its safety must be checked and tested by a qualified electrical engineer at least once every six months (VBG 4).
- Flow heaters in hazardous locations which are not under constant supervision by a responsible engineer should be checked and tested by a qualified electrical engineer at least once every three years (ElexV).
- When the flow heater is used as a component of a fluid sprayer in accordance with VBG 87, a test of its operational safety must be included in these regular testing.
- Follow the instructions of the relevant test group II or V of the pressurized containers directive during commissioning and operation.

INSTALLATION, START UP

- The preferred installation position is to have the fluid inlet and outlet in front and operation on the upper right-hand side.
- The following applies to the building up:
  - The surface or wall must be even and stable
  - Plugs and fixing screws must be sufficiently dimensioned
- Sufficiently ground the flow heater
- Flush the flow heater thoroughly
- Remove the flushing agent from the equipment with compressed air immediately afterwards
- The air that has entered the system during the flushing process must subsequently be removed thoroughly. Immerse the suction system in the fluid
- Continue to discharge fluid at low pressure until all air has been removed

  - The equipment is ready for operation.

OPERATION

- Depending on the flow rate and the required temperature, a heat-up time of 10 to 30 minutes should be taken into account.
- The flow heater should have a daily visual check in order to detect any noticeable damage (temperature control, damaged line, leakage).
- 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 or a longer shutdown period and with every fluid change.

SHUT DOWN

- FOR A SHORT PERIOD

- Switch off pump
- Relieve pressure in flow heater by discharging fluid
  (do not allow to run empty)
- Turn temperature control to minimum stop

- FOR A LONGER PERIOD, FOR THE COMPANY HOLIDAY PERIOD

- Thoroughly flush flow heater
- Switch off pump
- Relieve pressure in flow heater by discharging fluid
- Leave flushing agent in flow heater
- Disconnect mains plug or turn temperature control to minimum stop
  (frost protection)

- FOR A LONG PERIOD

- Thoroughly flush flow heater
- Drain flushing agent from flow heater
- Disconnect (unscrew) line to flow heater
- Disconnect mains plug

DETAILED INFORMATION SUPPLIED IN THE USER MANUAL

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