

HIGH VOLUME AIR OPERATED DIAPHRAGM PUMPS OPERATING INSTRUCTIONS



Outline

Powered by compressed air on 1:1 ratio standard application is for transferring large amount of fluids from one point to another or for pre-filling of large volume test vessels.

Typical output at 90psi air feed: 40 gallons approx per minute = 1" transfer pump
110 gallons approx per minute = 2" transfer pump
220 gallons approx per minute = 3" transfer pump

Operating Instructions

1. Ensure pump supplied is suitable for application required.
2. Connect **clean, dry** air supply to air inlet.
3. Connect suitable fluid hoses to inlets / outlets.
4. Metnor recommends use of hose restraints and R-clips where possible.
5. Switch air valve to the open position.
6. Turn air regulator slowly clockwise to introduce pressure to the pump.
7. Continue to turn regulator until desired pressure & flow rate is achieved.
8. Once transfer is complete close off air valve, turn anti-clockwise air regulator, disconnect fluid hoses and air supply.

Note: Where possible, Metnor recommends re-connecting fluid hoses to a clean water supply and flushing pump through for safety purposes when handling, shipping and on receipt back at Metnor base.

Troubleshooting

Pump will not start

- a) Check mains air supply.
- b) Check air valve is turned in "on" position.
- c) Check air pressure gauge is reading pressure.
- d) Check air inlet filter for debris.
- e) Check for obstruction in fluid line and remove.

Pump operates but little or no product flows

- a) Check fluid supply and remove obstruction.
- b) Check connections are fitted correct and no leaks
- c) Check fluid grade being transferred and slow pump speed down via the air regulator.

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Pump strokes but will not discharge

- a) Check fluid supply and remove obstruction.
- b) Check connections are fitted correct and no leaks.
- c) Shorten inlet suction line.

If above does not solve the problem or if fluid is being discharged from air exhaust this indicates diaphragm failure. **Do not dismantle pump** - please contact Metnor for further assistance

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Warnings and Safety Information



Important: Read these safety warnings and instructions to ensure safe use of pump. Failure to comply with the recommendations stated may damage the pump, cause safety issues, void conformity and result in possible costs for repair. If in doubt contact service help desk.



Important: This pump is pressurized internally with air pressure during operation. End user must ensure pump is suitable for application required and correct supply and fitting of Inlet / Outlet connections for operation. Before operation inspect installation and once satisfied start pump in controlled slow manner before increasing speed.



Important: If pump is not operating or running erratically refer to trouble shooting options on operating instructions. If this does not solve the problem contact service help desk. Do not touch, strip or take apart pump assembly.



Warning: Wear ear and eye protection during operation and be aware of manual handling when moving the pump.



Warning: If using in explosive area ensure pump is correctly earthed by qualified personnel.



Warning: If using chemical model pumps end user to ensure operator has been issued latest COSHH data sheet along with suitable PPE. After operation pump is to be flushed clean for safe handling and shipping.

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User instructions specific for temporary installation of Metnor pressure and transfer pumps

REFERENCE EC ATEX DIRECTIVE

Equipment and Protective Systems intended for use in potentially explosive atmospheres

These additional instructions shall accompany the requirements given in the operating and troubleshooting manual supplied for the transfer pumps.

- a) The equipment may be used within a flammable gas, vapor or dust atmosphere with a temperature class: T4 certified for use in ambient temperatures in the range 0 deg C to +50deg C and should not be used outside this range.
- b) Equipment prior to operation must be earthed via the M10 earth boss located on the frame which the equipment is housed in for protection. Trained personnel with the required knowledge to install product using the required bonding strap and operation connections for site in question and reference to applicable codes of practice e.g EN 60079.
- c) Trained personnel only to operate product in accordance with Metnor supplied manual and applicable codes of practice e.g EN 60079.
- d) Inspection during operation of product shall be carried out by suitably trained personnel in accordance with Metnor supplied manual and applicable code of practice e.g EN 60079.
- e) Any maintenance or repair work carried out on this equipment will invalidate ATEX conformance.
- f) The certification of this product relies upon information supplied at the time of order. Once supplied and in operation if order requirements changes then this may affect validation of ATEX conformance.
- g) If product supplied is likely to come into contact with aggressive substances, then it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring validation of ATEX conformance.

Aggressive substances: e.g acidic liquids or gases not compatible with the materials of construction.

If unsure contact Metnor (material data sheets available on request).

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- h) Trained personnel to regularly check the air outlet exhaust to ensure clear of obstructions or blockages.
- i) Trained personnel to regularly check the complete unit for dust build up and clean down accordingly.
- j) Trained personnel to regularly check product supplied remains bonded to earth.

It is the end users responsibility to ensure the product and its coding is suitable for its intended application.