



UREA/DEF AC Transfer Pump Kit Instruction Manual



WARNING:

Read carefully and understand all **INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury. Save these instructions in a safe place and on hand so that they can be read when required. Keep these instructions to assist in future servicing.



GENERAL SAFETY REGULATIONS



WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.

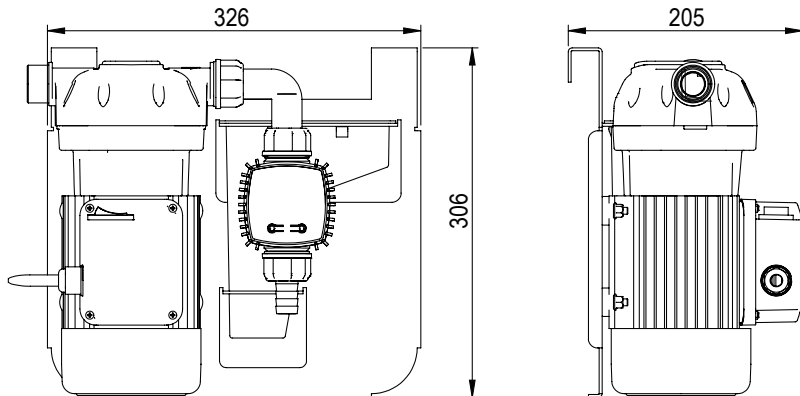
1. Keep the work area clean and dry. Damp or wet work areas can result in injury.
2. Keep children away from work area. Do not allow children to handle this product.
3. Use the right tool for the job. Do not attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. Do not modify this equipment, and do not use this equipment for a purpose for which it was not intended.
4. Check for damaged parts. Before using this product, carefully check that it will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this product. Replace damaged or worn parts immediately.
5. Do not overreach. Keep proper footing and balance at all times to prevent tripping, falling, back injury, etc.
6. DO NOT use the equipment when tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating this equipment may result in serious personal injury.

TECHNICAL DETAILS

Item No.	Pump Model	Voltage	Suction Hose	Delivery Hose	Nozzle	Flow Meter
DEFP120-001	17350251	120V	1.5M	6M	Auto	Yes

PUMP: Self-priming, volumetric, diaphragm pump, equipped with by-pass valve.

MOTOR: Asynchronous motor, single-phase, 2 pole, closed type (protection class IP55 in conformance with EN 60034-5-86 regulations) self-ventilated.



OPERATING

ENVIRONMENTAL CONDITIONS

- Temperature: Min. -10°C (14°F) / Max. $+60^{\circ}\text{C}$ (140°F)
- Relative Humidity: Max. 90%

! ATTENTION! The temperature limits shown apply to the pump components and must be respected to avoid possible damage or malfunction.

ELECTRICAL POWER SUPPLY

- Depending on the model, the pump must be supplied by a single-phase alternating current line whose nominal values are shown in the table in Paragraph B1 – ELECTRICAL SPECIFICATIONS.
- The maximum acceptable variations from the electrical parameters are:
- Voltage: $\pm 5\%$ of the nominal value
- Frequency: $\pm 2\%$ of the nominal value

! ATTENTION! Power from lines with values outside the indicated limits can damage the electrical components.

WORKING CYCLE

The pumps are designed for continuous use under maximum back pressure.

! ATTENTION! Functioning under by-pass conditions is only allowed for brief periods of time (2-3minutes maximum).

FLUIDS PERMITTED

- Chemical products: Urea, weak acid & weak alkaline fluid etc.
- Water

MOVING AND TRANSPORT

- Given the limited weight and size of the pumps (see overall dimensions), moving the pumps does not require the use of lifting devices.
- The pumps were carefully packed before shipment. Check the packing material on delivery and store in the dry place.

INSTALLATION

DISPOSING OF THE PACKING MATERIAL

- The packing material does not require special precautions, not being in any way dangerous or polluting.
- Refer to local regulations for its disposal.

PRELIMINARY INSPECTION

- Check that the machine has not suffered any damage during transport or storage.
- Clean the inlet and outlet openings, removing any dust or residual packing material.
- Make sure that the motor shaft turns freely.
- Check that the electrical specifications correspond to those shown on the identification plate.



ATTENTION! THE MOTORS ARE NOT OF AN ANTI-EXPLOSIVE TYPE. Do not install them where inflammable vapours can be present.

CONNECTING

- Before connection, make sure that the tubing and the suction tank are free of dirt and thread residue that could damage the pump and its accessories.
- Do not use conical threaded joints that could damage the threaded pump openings if excessively tightened.

Step 1: SUCTION HOSE:

Connect the 1.5M Suction hose by the Hose tail (#8) and Clamp (#12) to the inlet of the pump.

Step 2: DELIVERY HOSE:

Connect the 6M Delivery hose by the Hose tail (#8) and Clamp (#12) to the outlet of the pump or the flow meter.

Step 3: FLOW METER (Optional):

Connect the flow meter by the Elbow (#9) to the outlet of the pump.

Step 4: NOZZLE:

Connect the dispensing nozzle by the Clamp (#12) to the delivery hose.

E4. DISPENSING:

After installation the completed pump system as picture indicated, connect the power supply, start dispensing.



ATTENTION! It is the installer's responsibility to use tubing with adequate characteristics. Loosening of the connections (threaded connections, flanging, gasket seals) can cause serious ecological and safety problem. Check all the connections after the initial installation and on a daily basis after that. Tighten the connections, if necessary.

DAILY USE

- If using flexible tubing, attach the ends of the tubing to the tanks. In the absence of an appropriate slot, solidly grasp the delivery tube before beginning dispensing.
- Before starting the pump, make sure that the delivery valve is closed (dispensing nozzle or line valve).
- Turn the ON/OFF switch to ON. The by-pass valve allows functioning with the delivery closed only for brief periods.
- Open the delivery valve, solidly grasping the end of the tubing.
- Close the delivery valve to stop dispensing.
- When dispensing is finished, turn off the pump.



ATTENTION! Function with the delivery closed is only allowed for brief periods (2-3 minutes maximum). After using, make sure the pump is turned off.

MAINTENANCE

All models are designed and constructed to require a minimum of maintenance.

In any case always bear in mind the following basic recommendations for a good functioning of the pump:

- On a weekly basis, check that the tubing joints have not loosened, to avoid any leakage.
- On a monthly basis, check the pump body and keep it clean of any impurities.
- On a weekly basis, check and keep clean the line suction filter.
- On a monthly basis, check that the electric power supply cables are in good condition.

NOISE LEVEL

- Under normal working conditions the noise emission from all models does not exceed the value of 80 db at a distance of 1 meter from the electric pump.

DISPOSING OF CONTAMINATED MATERIALS

- In the event of maintenance or demolition of the machine, do not disperse contaminated parts into the environment.
- Refer to local regulations for their proper disposal.

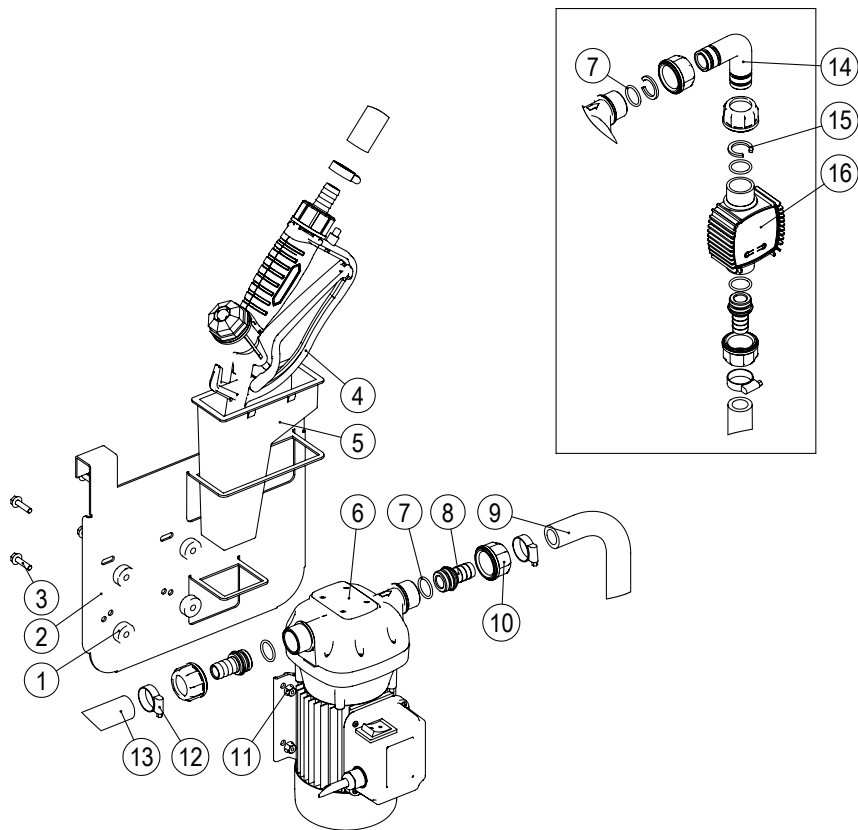
PROBLEMS AND SOLUTIONS

Problem	Possible Cause	Corrective Action
The Motor is not turning	Lack of electric power	Check the electrical connecting
	Motor Problems	Contact the Service Department
The motor turns slowly when starting	Low voltage in the electric power line	Bring the voltage back within the anticipated limits
Low or not flow rate	Low level in the suction tank	Refill the tank
	Filter clogged	Clean the filter
	Excessive suction pressure	Lower the pump with respect to the level of the tank or increase the cross-section of the tubing
	High loss of head in the delivery circuit (working with the by-pass open)	Use shorter tubing or of greater diameter
	By-pass valve blocked	Dismantle the valve, clean and/or replace it.
	Air entering the pump or the suction tubing	Check the seals of the Connections
	A narrowing in the suction tubing	Use tubing suitable for working under suction pressure
	Low rotation speed	Check the voltage at the pump. Adjust the voltage and/or use cables of greater crosssection
Increased pump noise	The suction tubing is resting on the bottom of the tank	Raise the tubing
	Cavitation occurring	Reduce suction pressure
Leakage from the pump body	Irregular functioning of the by-pass	Dispense fluid until the air is purged from the by-pass system
	Diaphragm damaged	Check and replace the diaphragm

LIMITED WARRANTY

1. Macnaught warrants this product against defects in material and craftsmanship, for a period of two years from date of purchase, but not including wearing parts.
2. Macnaught's liability is limited to replacement or repair of defective material within the warranty period, when returned freight prepaid to the distributor or their designated service depot.
3. The warranty does not cover damage caused by accident, misuse or faulty installation.
4. The product must be installed and maintained in compliance with the instructions.

EXPLODED AND PARTS LIST



Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Crash gasket	4	9	Delivery hose	6.5m
2	Bracket	1	10	Nut	2(4)
3	Bolt	4	11	Nut	4
4	Nozzle	1	12	Hose clamp	3
5	Nozzle holder	1	13	Suction hose	1.5m
6	Electric pump	1	14	Elbow	1
7	O-ring	2(4)	15	Circlip	2
8	Hose tail	3	16	Flow meter	1



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* Read Manual Before Use!