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2 MACHINE AND MANUFACTURER IDENTIFICATION



AVAILABLE MODELS: E80, E120
 MANUFACTURER: PIUSI S.p.A.
 Via Pacinotti 16/A - Z.I. Rangavino - 46029 Suzzara (Mantova) Italy.

3 FACSIMILE COPY OF EU DECLARATION OF CONFORMITY

The undersigned PIUSI S.p.A. Via Pacinotti 16/A z.i. Rangavino 46029 Suzzara - Mantova - Italy
 HEREBY STATES under its own responsibility that the equipment described below: Description: PUMP FOR THE TRANSFER OF DIESEL FUEL Model: E80 - E120
 Serial number: refer to Lot Number shown on CE plate affixed to product
 Year of manufacture: refer to the year of production shown on the CE plate affixed to the product
 complies with the following legislation:
 - Machinery Regulations
 - Electromagnetic compatibility
 The technical file is at the disposal of the competent authority following motivated request at PIUSI S.p.A. or following request sent to the e-mail address: doc.tee@piusi.com
 THE ORIGINAL DECLARATION OF CONFORMITY IS PROVIDED SEPARATELY WITH THE PRODUCT

4 MACHINE DESCRIPTION

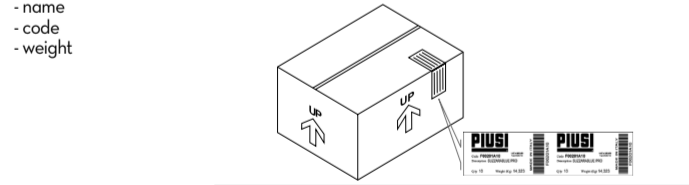
PUMP Self-Priming, volumetric, rotating electric vane pump, equipped with by-pass valve.
MOTOR Asynchronous motor, single-phase and three-phase, 2 pole, closed type (protection class IP55 in conformance with EN 60335-1-86 regulations) self-ventilated, directly flanged to the pump body.

4.1 HANDLING AND TRANSPORT

Foreword Due to the limited weight and dimensions of the pumps, special lifting equipment is not required to handle them. The pumps are carefully packed before dispatch. Check the packing when receiving the material and store in a dry place.

STORAGE - Store in a covered and dry place.
 - Store the unit away from dirt and vibration
ENVIRONMENTAL CONDITIONS:
 Storage humidity: Max 90%
 Storage temperature: min -10 °C Max +50 °C

PACKAGING The pump is equipped comes packed suitably for shipment. On the packaging a label shows the following product information:



MODEL	WEIGHT (Kg)	PACKAGING DIMENSION(mm)
E 80	13	355 x 185 x 285
E120	15,6	355 x 185 x 285

5 GENERAL WARNINGS

Warnings To ensure operator safety and to protect the dispensing system from potential damage, workers must be fully acquainted with this instruction manual before attempting to operate the dispensing system.

Symbols used in the manual The following symbols will be used throughout the manual to highlight safety information and precautions of particular importance.

ATTENTION This symbol indicates safe working practices for operators and/or potentially exposed persons.

WARNING This symbol indicates that there is risk of damage to the equipment and/or its components.

NOTE This symbol indicates useful information.

Manual preservation This manual should be complete and legible throughout. It should remain available to end users and specialist installation and maintenance technicians for consultation at any time.

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6 SAFETY INSTRUCTIONS

Mains - preliminary checks before installation You must avoid any contact between the electrical power supply and the fluid that needs to be FILTERED.

Maintenance control Before any checks or maintenance work are carried out, disconnect the power source.

FIRE AND EXPLOSION To help prevent fire and explosion: Use equipment only in well ventilated area.

ELECTRIC SHOCK When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode.

ELECTRIC SHOCK This device must be grounded. Improper grounding setup or usage of the system can cause electric shock.

ELECTRIC SHOCK Turn off and disconnect power cord before servicing equipment. Connect only to a grounded electrical outlets.

ELECTRIC SHOCK Ensure ground prongs are intact on power and extension cords. Outdoors, use only extensions suitable for the specific use, in accordance with the regulations in force.

ELECTRIC SHOCK The connection between plug and socket must remain away from water.

ELECTRIC SHOCK Never touch the electric plug of socket with wet hands.

ELECTRIC SHOCK Do not turn the device on if the power connection cord or other important parts of the apparatus are damaged, such as the inlet outlet plumbing, dispensing nozzle or safety devices. Replace damaged components before operation.

ELECTRIC SHOCK For safety reasons, we recommend that, in principle, the equipment be used only with a earth-leakage circuit breaker (max 30 mA).

ELECTRIC SHOCK Electrical connections must use ground fault circuit interrupter (GFCI).

ELECTRIC SHOCK Installation operations are carried out with the box open and accessible electrical contacts. All these operations have to be done with the unit isolated from the power supply to prevent electrical shock!

ELECTRIC SHOCK Do not operate the device when fatigued or under the influence of drugs or alcohol.

ELECTRIC SHOCK Do not leave the work area while device is energized or under pressure. Turn off all device when is not in use.

ELECTRIC SHOCK Do not alter or modify the device. Alterations or modifications may void agency approvals and create safety hazards.

ELECTRIC SHOCK Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.

ELECTRIC SHOCK Do not kink or over bend hoses or use hoses to pull device. Keep children and animals away from work area.

ELECTRIC SHOCK Comply with all applicable safety regulations.

ELECTRIC SHOCK Do not exceed the maximum operating pressure or the temperature of the part with lower nominal value of the system. See Technical Data in all equipment manuals.

ELECTRIC SHOCK Use fluids and solvents that are compatible with the wetted part of the system. See Technical Data in all equipment manuals.

ELECTRIC SHOCK Read the manufacturer's instructions of the fluids and solvents. For more information on the material, request the safety data sheet (MSDS) from the distributor or dealer.

ELECTRIC SHOCK Check the device every day. Immediately repair or replace worn or damaged parts only with original spare parts of the manufacturer.

ELECTRIC SHOCK Make sure the equipment is classified and approved compliant with the standards of the environment where it is used.

ELECTRIC SHOCK Use the equipment only for the intended use. Contact your distributor for more information.

ELECTRIC SHOCK Keep hoses and cables far from traffic areas, sharp edges, moving parts and hot surfaces.

ELECTRIC SHOCK Do not bend or overbend the hoses or tie the hose to pull the device.

ELECTRIC SHOCK Read MSDS to know the specific hazards of the fluids you are using.

ELECTRIC SHOCK Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

ELECTRIC SHOCK Prolonged contact with the treated product may cause skin irritation; always wear protective gloves during dispensing.

ELECTRIC SHOCK When operating the pump and in particular during refueling, do not smoke and do not use open flame.

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9 TECHNICAL DATA

	E80 M	E80 T	E120 M	E120 T	E120 110/120V/50-60
Voltage/Frequency (V/Hz)	230/50	400/50	230/50	400/50	110/120/50-60
Absorption (A)	3,5	1,6	6	2,2	10
Power (W)	500	550	750	250	830/1000
RPD	1400	1450	2900	1450	1420/1770
Nominal Flow Rate (l/min)	80	80	110	110	90/100
Operating pressure (bar)	2,4	2	2,8	2,8	2,5
Type of Service (S1=continuous; S3=periodic intermittent)	S1	S1	S1	S1	S1
Motor protection	IP55	IP55	IP55	IP55	IP55

ATTENTION Operating conditions of the declared data
Fluid: Diesel Fuel
Temperature: 20°C
Suction Conditions: The tube and pump position relative to the fluid level is such that a pressure of 0.3 bar is generated at the nominal flow rate.

ATTENTION Under different suction conditions higher pressure values can be created that reduce the flow rate compared to the same back pressure values. To obtain the best performance, it is very important to reduce loss of suction pressure as much as possible by following these instructions:

- Shorten the suction tube as much as possible
 - Avoid useless elbows or bottling in the tubes
 - Keep the suction filter clean
 - Use a tube with a diameter equal to, or greater than, indicated (see installation)

ATTENTION Do not turn the device on if the power connection cord or other important parts of the apparatus are damaged, such as the inlet outlet plumbing, dispensing nozzle or safety devices. Replace damaged components before operation.

ATTENTION For safety reasons, we recommend that, in principle, the equipment be used only with a earth-leakage circuit breaker (max 30 mA).

ATTENTION Electrical connections must use ground fault circuit interrupter (GFCI).

ATTENTION Installation operations are carried out with the box open and accessible electrical contacts. All these operations have to be done with the unit isolated from the power supply to prevent electrical shock!

ATTENTION Do not operate the device when fatigued or under the influence of drugs or alcohol.

ATTENTION Do not leave the work area while device is energized or under pressure. Turn off all device when is not in use.

ATTENTION Do not alter or modify the device. Alterations or modifications may void agency approvals and create safety hazards.

ATTENTION Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.

ATTENTION Do not kink or over bend hoses or use hoses to pull device. Keep children and animals away from work area.

ATTENTION Comply with all applicable safety regulations.

ATTENTION Do not exceed the maximum operating pressure or the temperature of the part with lower nominal value of the system. See Technical Data in all equipment manuals.

ATTENTION Use fluids and solvents that are compatible with the wetted part of the system. See Technical Data in all equipment manuals.

ATTENTION Read the manufacturer's instructions of the fluids and solvents. For more information on the material, request the safety data sheet (MSDS) from the distributor or dealer.

ATTENTION Check the device every day. Immediately repair or replace worn or damaged parts only with original spare parts of the manufacturer.

ATTENTION Make sure the equipment is classified and approved compliant with the standards of the environment where it is used.

ATTENTION Use the equipment only for the intended use. Contact your distributor for more information.

ATTENTION Keep hoses and cables far from traffic areas, sharp edges, moving parts and hot surfaces.

ATTENTION Do not bend or overbend the hoses or tie the hose to pull the device.

ATTENTION Read MSDS to know the specific hazards of the fluids you are using.

ATTENTION Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

ATTENTION Prolonged contact with the treated product may cause skin irritation; always wear protective gloves during dispensing.

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11.2 NOTES ON SUCTION AND DELIVERY LINES

DELIVERY Foreword The choice of pump model must be made keeping the characteristics of the system in mind.

EFFECTS ON FLOW RATE Length and diameter of pipe, flow rate of dispensed liquid, accessories fitted, can create back pressures above those allowed. In this case, the pump mechanical control (bypass) will trip to reduce the flow rate.

HOW TO REDUCE EFFECTS ON FLOW RATE To avoid these problems, system flow resistances must be reduced using shorter and/or larger diameter pipes, as well as line accessories with low resistances (e.g., automatic nozzle for higher flow rates).

SUCTION Foreword The pumps are self-priming and characterized by good suction capacity. During the start-up phase, with an empty suction tube and the pump wetted with fluid, the electric pump unit is capable of suctioning the liquid with a maximum difference in height of 2 meters.

NOTE It is important to point out that the priming time can be as long as one minute and the presence of an automatic dispensing nozzle on the delivery line prevents the evacuation of air from the installation, and, therefore, prevents proper priming. For this reason, it is more advisable to prime the pump without an automatic delivery nozzle, verifying the proper wetting of the pump.

WARNING The installation of a foot valve is recommended to prevent the emptying of the suction tube and keep the pump wet. In this way, the pump will subsequently always start up immediately.

CAVITATION When the system is functioning, the pump can work with pressure at the inlet as high as 0.5 bar, beyond which cavitation phenomena can begin, with a consequent loss of flow rate and increase of system noise and pump damage.

HOW TO PREVENT CAVITATION It is important to ensure low vacuums at suction mouth by using:
 - short pipes with larger or identical diameter to that recommended
 - reduce bends to the utmost
 - use large-section suction filters
 - use foot valves with minimum possible resistance

WARNING Keep the suction filters clean because, when they become clogged, they increase the resistance of the system.

NOTE The difference in height between the pump and the fluid level must be kept as small as possible and, at any rate, within the 2 meters anticipated for the priming phase. If this height is exceeded, it will always be necessary to install a foot valve to allow for the filling of the suction tube and provide tubing of wider diameter. It is recommended that the pump not be installed at a difference in height greater than 3 meters.

ATTENTION In the case that the suction tank is higher than the pump, it is advisable to install an anti-siphon valve to prevent accidental diesel fuel leaks. Dimension the installation in order to control the back pressures due to water hammering.

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