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2 MACHINE AND MANUFACTURER IDENTIFICATION

AVAILABLE MODELS: BIPUMP 12Vdc - BIPUMP 24Vdc
PRODUCT CODE: PIUSI
MODEL: BIPUMP 12V
TECHNICAL DATA: 12V DC, DUTY CYCLE 30 min, 4.4 A, MADE IN ITALY
DANGER: USE WITH DIESEL FUEL (PETROL, GASOLINE), SOLVENTS WITH FLASH POINT <55°C

3 FACSIMILE COPY OF EU DECLARATION OF CONFORMITY

The undersigned PIUSI S.p.A. Via Pacinotti 16/A, z.l. Rangavino 46029 Suzzara - Modova - Italy
HEREBY STATES under its own responsibility that the equipment described below:
Description: PUMP INTENDED FOR DIESEL FUEL TRANSFER
Model: BIPUMP 12Vdc - BIPUMP 24Vdc
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
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.tec@piusi.com

4 MACHINE DESCRIPTION

PUMP: Self-Priming, volumetric, rotating vane pump, equipped with by-pass valve.
MOTOR: Brush motor, DC, low tension with intermittent cycle, closed type in protection class IP55 according to CEI-EN 60034-5, directly flanged to the pump body.

4.1 MOVING 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

ENVIRONMENTAL CONDITIONS: Storage humidity: Max 90%, Storage temperature: min -10 °C / Max +50 °C

PACKAGING

Table with 3 columns: MODEL, WEIGHT (Kg), PACKAGING DIMENSION (mm). Row 1: BIPUMP 12V - 24V, 9.9 / 10.4, 345 x 175 x 255

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

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.

Manual preservation

Reproduction rights: 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.

6 SAFETY INSTRUCTIONS

Mains - preliminary checks before installation: Before any checks or maintenance work are carried out, disconnect the power source.
FIRE AND EXPLOSION: Use equipment only in well ventilated area.
ELECTRIC SHOCK: This device must be grounded. Improper grounding setup or usage of the system can cause electric shock.

7 FIRST AID RULES

Persons who have suffered electric shock: Disconnect the power source, or use a dry insulator to protect yourself while you move the injured person away from any electrical conductor.

8 GENERAL SAFETY RULES

Essential protective equipment characteristics: Wear protective equipment that is suited to the operations that need to be performed, resistant to cleaning products.
Personal protective equipment that must be worn: safety shoes, close-fitting clothing, protective gloves, safety goggles.

Protective equipment

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

Table with 7 columns: Model, Voltage (V), Fre-quency, Absorption (A), RPM, Nominal Flow Rate (l/min), Motor Protection. Rows for BIPUMP 12V and BIPUMP 24V.

ATTENTION

The curve refers to the following operating conditions: Fluid Temperature 20°C, Diesel Fuel. Suction Conditions: The tube and the pump position relative to the fluid level is such that a pressure of 0.3 bar is generated at the nominal flow rate.

10 OPERATING CONDITIONS

10.1 ENVIRONMENTAL CONDITIONS

TEMPERATURE: min. -4 °F / max. +140 °F, min. -20 °C / max. +60 °C, Max. 90%.
RELATIVE HUMIDITY: Max. 90%.
ATTENTION: The temperature limits shown apply to the pump components and must be respected to avoid possible damage or malfunction.

10.2 ELECTRICAL POWER SUPPLY

NOTE: In accordance with the model, the pump must be powered by a direct current line, the nominal values of which are indicated on the table in the paragraph 'TECHNICAL DATA'.
ATTENTION: Power supply from lines with voltages that do not fall within the indicated limits could cause damage to the electrical components and reduction of working performance.

10.3 DUTY CYCLE

NOTE: The pumps have been designed for intermittent use and a 30-minute duty cycle under conditions of maximum back pressure.

10.4 FLUIDS PERMITTED / FLUIDS NOT PERMITTED

FLUIDS PERMITTED: DIESEL FUEL, GASOLINE, INFLAMMABLE LIQUIDS, LIQUIDS WITH VISCOSITY > 20 cSt, WATER, FOOD LIQUIDS.
FLUIDS NON PERMITTED AND RELATED DANGERS: FIRE - EXPLOSION, CORROSIVE CHEMICAL PRODUCTS, SOLVENTS.

11 INSTALLATION

11.1 PRELIMINARY INSPECTION

- 1. Verify that all components are present. Request any missing parts from the manufacturer.
2. Check that the machine has not suffered any damage during transport or storage.
3. Carefully clean the suction and delivery inlets and outlets, removing any dust or other packaging material that may be present.
4. Make sure that the motor shafts turn freely.
5. Check that the electrical data corresponds to those indicated on the data plate.
6. Always install in an unilluminated area.
7. Install the pump in ventilated place to avoid any vapours accumulation.
8. We recommend that a suction filter be used.

11.2 POSITIONING THE PUMP

The pumps can be installed in any position (with pump axis in vertical or horizontal position). The pump must be securely attached by means of the provided fixing bracket and fixing screws.

ATTENTION

THE MOTORS ARE NOT OF THE ANTI-EXPLOSIVE-TYPE. DO NOT install them where inflammable vapours could be present.
It is the responsibility of the installer to provide the necessary line accessories to ensure the correct and safe operation of the pump. The accessories that are not suitable to be used with the previously indicated material could damage the pump and/or cause injury to persons, as well as causing pollution.

DELIVERY

The selection of the pump model must be made taking into account the characteristics of the system. The combination of the length of the pipe, the diameter of the pipe, the flow rate of the diesel or other liquid, as well as the accessories installed on the line, could create back pressure that are greater than the maximum predicted pressure, thereby causing the pump's electronic controls to intervene and reducing the dispensed flow considerably.

SUCTION

The self-priming pumps have a good suction capability. During the start-up phase, when the suction pipe is empty and the pump is wet with the fluid, the electric pump unit is able to suck liquid from a maximum vertical distance of 2m. It is important to note that it could take up to 1 minute for the pump to prime and that the presence of an automatic dispensing nozzle on the delivery side will prevent the air trapped during the installation from being released and, therefore, the correct priming of the pump.

ATTENTION

It is always advisable to prime the pump without an automatic delivery nozzle, verifying the proper wetting of the pump.
Always install a foot valve to prevent the suction pipe from being emptied and to keep the pump wet at all times. In this way, the pump will always start up immediately the next times it is used.

ATTENTION

It is very important to keep the suction filters clean because, when they become clogged, they increase the resistance of the system.
The vertical distance between the pump and the fluid must be kept as short as possible, and it must fall within the 2m maximum required for priming. If the distance is greater, a foot valve must be installed to allow the suction pipes to fill up and the diameter pipes must be larger. It is however recommended that pump not be installed if the vertical distance is greater than 3m.

11.4 CONFIGURATION AND ACCESSORIES

NOTE: Following is a list of the most common accessories the pumps.
DELIVERY: 1. Automatic dispensing nozzle, 2. Manual dispensing nozzle, 3. Meter, 4. Flexible tubing.
SUCTION: 1. Foot valve with filter, 2. Rigid and flexible tubing, 3. Suction filter.
ELECTRICAL POWER SUPPLY: 1. Line cord, 2 m, 2. Line cord, 4 m.

11.5 LINE ACCESSORIES

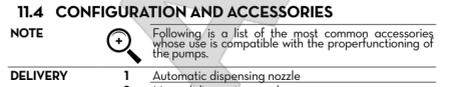
ATTENTION: It is the responsibility of the installer to provide the necessary line accessories to ensure the correct and safe operation of the pump. The accessories that are not suitable to be used with the indicated material could damage the pump or cause injury to persons, as well as causing pollution.

12 CONNECTIONS

12.1 ELECTRICAL CONNECTIONS

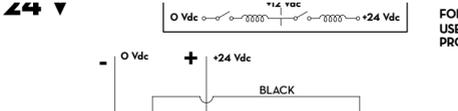
GENERAL WARNING: Comply with the following (not exhaustive) instructions to ensure a proper electrical connection.
1. Before installation and maintenance make sure that power supply to the electric lines has been turned off.
2. Use cables with minimum cross-sections, rated voltages and installation type that are suitable for the characteristics indicated in paragraph 'TECHNICAL DATA'.
3. Always close the cover of the terminal strip box before switching on the power supply, after having checked the integrity of the seal gaskets that ensure the IP55 protection grade.
4. Make sure the electrical connections are suitably protected.

12 V



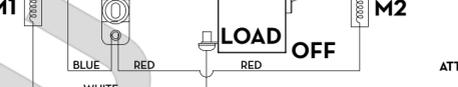
In the event of a 12V connection without switch, connect the white and red cables directly to the positive pole (+).

DELIVERY



In the event of a 24V connection without switch, connect the white cable directly to the positive pole (+).

Before closing the terminal strip box, apply a layer of grease to the seat of the O-ring.



12.2 CONNECTING THE PIPING

FOREWORD: Before any connections, please refer to the indications (sticker on the pump) to detect suction and delivery univacally.
1. Before connecting, make sure that the pipes and the suction tank are free of dirt and thread residue, which could damage the pump and accessories.
2. Before connecting, make sure that the pipes and the suction tank are free of dirt and thread residue, which could damage the pump and accessories.
3. Do not use conical threaded fittings, which could damage the threaded inlet or outlet openings of the pump if excessively tightened.
4. If not already fitted, fit a suction filter.
5. Recommended minimum nominal diameter: 1" / 1/4" nominal recommended pressure: 10 bar.
6. Recommended minimum nominal diameter: 3/4" nominal recommended pressure: 10 bar.

SUCTION PIPES

DELIVERY PIPES

ATTENTION

It is the installer's responsibility to use tubing with adequate characteristics. The use of tubes that are not suitable could cause damage to the pump or to persons, as well as pollution. Loosening of the connections (threaded connections, flanges, gasket seals) could cause serious ecological and safety problems. Check all the connections after the first installation on a daily basis. If necessary, tighten all the connections.

13 INITIAL START-UP

GETTING STARTED

- 1. Check that the quantity of diesel fuel in the suction tank is greater than the amount you wish to transfer.
2. Make sure that the residual capacity of the delivery tank is greater than the quantity you wish to transfer.
3. Do not run the pump dry. This can cause serious damage to its components.
4. Make sure that the tubing and line accessories are in good condition. Diesel fuel leaks can damage objects and injure persons.
5. Do not operate switches with wet hands.

ATTENTION

Extreme operating conditions with working cycles longer than 30 minutes can cause the motor temperature to rise, thus damaging the motor itself. Each 30-minute working cycle should always be followed by a 30-minute power-off cooling phase.
In the priming phase the pump must blow the air initially present in the entire installation out of the delivery line. Therefore it is necessary to keep the outlet open to permit the evacuation of the air.

PRIMING

The priming phase can last from several seconds to a few minutes, as a function of the characteristics of the system. If this phase is prolonged, stop the pump and verify:
- That the pump is not running completely dry.
- That the suction tubing is not allowing air to seep in.
- That the suction filter is not clogged.
- That the suction height does not exceed 2 m. (if the height exceeds 2 m, fill the suction hose with fluid).
- That the delivery tube is allowing the evacuation of the air.

When priming has occurred, verify that the pump is operating within the anticipated range, in particular:
- That under conditions of maximum back pressure, the power absorption of the motor stays within the values shown on the identification plate.
- That the suction pressure is not greater than 0.5 bar.
- That the back pressure in the delivery line is not greater than the maximum back pressure foreseen for the pump.

1 DAILY USE

FOREWORD

This pump is for professional use only.
If using flexible tubing, attach the ends of the tubing to the tanks. In the absence of an appropriate skirt, 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 on. The by-pass valve allows functioning with delivery closed only for brief periods.
Open the delivery valve, solidly grasping the end of the tubing.
Close the delivery valve to stop dispensing.
While dispensing, do not inhale the pumped product.
Should you spill any fluid while dispensing, bank it with earth or sand to absorb it and limit its spreading.
Close the delivery valve to stop dispensing. When dispensing is finished, turn off the pump.

ATTENTION

After use, make sure the pump is turned off. In case of a power break, switch the pump off straight away.

15 MAINTENANCE

NOTE

Maintenance must be performed only by authorized and properly trained personnel.
Thanks to the design, the pump requires simple maintenance. Before carrying out any maintenance work, disconnect the pump from any electrical and hydraulic power source. During maintenance, the use of personal protective equipment (PPE) is compulsory. In any case always bear in mind the following basic recommendations for a good functioning of the pump.

ONCE A WEEK:

Check that the pipe connections are not loose to prevent any leaks. Check and keep the filter installed on the suction line clean. Check the pump body and keep it clean and free of any impurities. Check that the electrical supply cables are in good condition.

ONCE A MONTH:

Check monthly for the presence of grease on the contact surface between terminal box cover and terminal box body. Do not put your fingers into the pump openings while the pump is working.

ATTENTION

16 NOISE LEVEL

Under normal working conditions the noise emission from all models does not exceed the value of 75 db at a distance of 1 meter from the electric pump.

17 PROBLEMS AND SOLUTIONS

For any problems contact the authorised dealer nearest to you.

Table with 3 columns: PROBLEM (THE MOTOR IS NOT TURNING, THE MOTOR TURNS SLOWLY WHEN STARTING, LOW OR NO FLOW RATE, etc.), POSSIBLE CAUSE, CORRECTIVE ACTION.

INCREASED PUMP NOISE

High loss of head in the delivery circuit (working with the by-pass open).
Air entering the pump or the suction tubing.
A narrowing in the suction tubing.
Low rotation speed.
The suction tubing is resting on the bottom of the tank.
Cavitation occurring.
Irregular functioning of the by-pass.

LEAKAGE FROM THE PUMP BODY

Air present in the diesel fuel. Seal damaged.

18 DEMOLITION AND DISPOSAL

Foreword

If the system needs to be disposed, the parts which make it up must be delivered to companies that specialise in the recycling and disposal of industrial waste and, in particular:
The packaging consists of biodegradable cardboard which can be delivered to companies for normal recycling of cellulose.
Metal Parts Disposal: Metal parts, whether paint-finished or in stainless steel, can be consigned to scrap metal collectors.
Disposal of electric and electronic components: These must be disposed of by companies that specialise in the disposal of electronic components, in accordance with the indications of directive 2012/19/EU (see text of directive below).

Disposing of electrical and electronic components

European Directive 2012/19/EU requires that all equipment marked with this symbol on the product and/or packaging must be disposed of together with non-differentiated urban waste. The symbol indicates that this product must not be disposed of together with normal household waste. It is the responsibility of the owner to dispose of these products as well as other electric or electronic equipment by means of the specific refuse collection structures indicated by the government or the local governing authorities.

Disposing of RAEE equipment as household wastes is strictly forbidden.

Any hazardous substances in the electrical and electronic appliances and/or the misuse of such appliances can have potentially serious consequences for the environment and human health. In case of the unlawful disposal of said wastes, fines will be applicable as defined by the laws in force.
Other components, such as pipes, rubber gaskets, plastic parts and wires, must be disposed of by companies specialising in the disposal of industrial waste.

\*iscellaneous rts disposal



MADE IN ITALY

Manuale di Installazione uso e manutenzione IT
Installation, use and maintenance manual EN

BULLETIN M041 E ITEN\_00

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