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2 MACHINE AND MANUFACTURER IDENTIFICATION

CODE PRODUCT
MODEL
TECHNICAL DATA
AVAILABLE MODELS
MANUFACTURER
PIUSI S.p.A.
PANTHER 56
PANTHER 72
PANTHER 90

3 FACSIMILE COPY OF EU DECLARATION OF CONFORMITY

PIUSI S.p.A.
Via Pacinotti 16/A - Z.I. Rangavino - 46029 Suzzara (Mantova) Italy
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
Description : PUMP INTENDED FOR DIESEL FUEL TRANSFER
Model: PANTHER 56; PANTHER 72; PANTHER 90
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

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 60034-5-86 regulations) self-ventilated, directly flanged to the pump body.
FILTER Inspectable suction filter.
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.
STORAGE Store in a covered and dry place.
PACKAGING The pump is equipped comes packed suitably for shipment.

Table with 3 columns: MODEL, WEIGHT (Kg), PACKAGING DIMENSION(mm)
PANTHER 56: 7.4, 345 x 175 x 255
PANTHER 72: 7.9, 345 x 175 x 255
PANTHER 90: 8.2, 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.
NOTE This symbol indicates useful information.
Manual preservation This manual should be complete and legible throughout.
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6 SAFETY INSTRUCTIONS

Mains - preliminary checks before installation
Maintenance control
FIRE AND EXPLOSION
ELECTRIC SHOCK
Electrocution or death
EQUIPMENT MISUSE
TOXIC FLUID OR FUMES HAZARD
SMOKING PROHIBITED
Essential protective equipment characteristics
Personal protective equipment that must be work

9 TECHNICAL DATA

Table with 4 columns: PANTHER 56, PANTHER 72, PANTHER 90
Voltage/Frequency (V/Hz)
Absorption (A)
Power (W)
RPM
Nominal Flow Rate (l/min)
Max Back Pressure (bar)
Type of Service (S1-S3)

Operating conditions of the declared data Fluid: Diesel Fuel
Temperature: 20°C
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.
Under different suction conditions higher pressure values can be created that reduce the flow rate compared to the same back pressure values.
Shorten the suction tube as much as possible
Avoid useless elbows or throttling in the tubes
Keep the suction filter clean
Use a tube with a diameter equal to, or greater than, indicated (see installation)
The operating pressure of the pump is of 3 bar.

10 OPERATING CONDITIONS

10.1 ENVIRONMENTAL CONDITIONS
TEMPERATURE min. -4 °F / max +140 °F
RELATIVE HUMIDITY LIGHTING
The environment must conform to directive 89/654/EEC on work environments.
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 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 "TECHNICAL DATA".
ATTENTION Power from lines with values outside the indicated limits can damage the electrical components.
10.3 DUTY CYCLE
NOTE The electrical pumps Panther 56 and Panther 72 are designed for continuous use under conditions of maximum back pressure.
ATTENTION Functioning under by-pass conditions is only allowed for short periods of time (max. 3 minutes).

10.4 PERMITTED AND NON-PERMITTED FLUIDS
FLUIDS PERMITTED DIESEL FUEL at a viscosity of from 2 to 5.35 cSt (at a temperature of 37.8°C).
FLUIDS NON PERMITTED - GASOLINE
- INFILAMMABLE LIQUIDS WITH PM > 55°C
- LIQUIDS WITH VISCOSITY > 20 cSt
- MOTOR OVERLOAD
- PUMP OXIDATION
- CONTAMINATION OF THE SAME

11 INSTALLATION
ATTENTION The pump must never be operated before the delivery and suction lines have been connected.
PRELIMINARY INSPECTION
Verify that all components are present.
Check that the pump has not suffered any damage during transport or storage.
Verify that the terminal strip boxes is closed before switching on the power supply, after having checked the integrity of the seal gaskets that ensure the IP55 protection grade.

11.1 POSITIONING, CONFIGURATIONS AND ACCESSORIES

NOTE In the case of installation in the open air, proceed to protect the pump by providing a protection roof.
ATTENTION THE MOTORS ARE NOT OF THE ANTI-EXPLOSIVE-TYPE. Do not install them where inflammable vapours could be present.
NOTE The broad range of pump accessories make it suitable for many different uses, installations and applications.
ATTENTION It is the responsibility of the installer to provide the necessary line accessories to ensure the correct and safe operation of the pump.
11.2 NOTES ON SUCTION AND DELIVERY LINES
DELIVERY SUCTION
EFFECTS ON FLOW RATE Length and diameter of pipe, flow rate of dispensed liquid, accessories fitted, can create back pressures above those allowed.
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).

11.3 POSITIONING, CONFIGURATIONS AND ACCESSORIES
NOTE The pumps are self-priming and characterized by good suction capacity.
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.
WARNING 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.
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.

11.4 INITIAL START-UP
FOREWORD Check that the quantity of fluid in the suction tank is greater than the amount you wish to transfer.
ATTENTION Do not run the pump dry for more than 20 minutes.
NOTE Extreme operating conditions can raise the motor temperature and, consequently, cause the thermal protection switch to stop it.

11.5 CONNECTIONS
12.1 ELECTRICAL CONNECTIONS
ATTENTION IT IS THE INSTALLER'S RESPONSIBILITY TO CARRY OUT THE ELECTRICAL CONNECTIONS IN COMPLIANCE WITH THE RELEVANT STANDARDS.

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12.2 PIPING CONNECTIONS
FOREWORD Before carrying out any connection, refer to the visual indications i.e. arrow on the pump head, to identify suction and delivery.
ATTENTION Wrong connection can cause serious pump damage.
PRELIMINARY INSPECTION Check that the machine has not suffered any damage during transport or storage.

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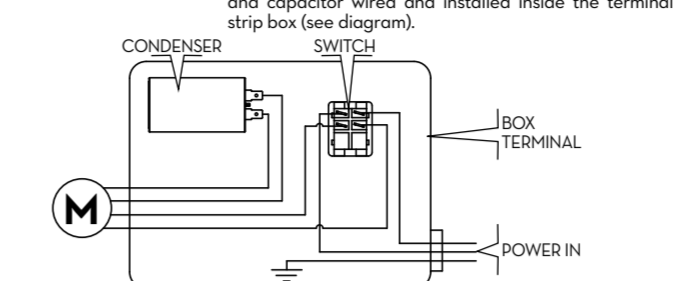
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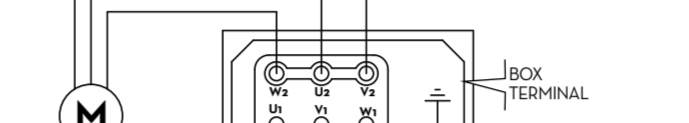
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SINGLE-PHASE MOTORS
Single-phase motors are supplied with a pre-existing 2 - meter cable with electric plug.
THREE-PHASE MOTORS
Three-phase motors are supplied with a terminal strip box and terminal strip.



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14 EVERY DAY USE

USE PROCEDURE
1 If using flexible tubing, attach the ends of the tubing to the tanks.
2 Before starting the pump make sure that the delivery valve is closed (dispensing nozzle or line valve).
3 Turn the ON/OFF switch to ON.
4 Open the delivery valve, solidly grasping the end of the tubing.
5 Close the delivery valve to stop dispensing.
6 When dispensing is finished, turn off the pump.
ATTENTION To avoid damaging the pump, after use, make sure the pump is off.
LACK OF ELECTRIC POWER
A lack of electric power, with the consequent accidental stopping of the pump, can be caused by:
- A safety device tripping
- A drop in line voltage
MAINTENANCE
Panther 56, Panther 72 and Panther 90 pumps are designed and constructed to require a minimum of maintenance.
NOISE LEVEL
In normal operating conditions, noise emissions of all models do not exceed 75 dBA at a distance of 1 metre from the electric pump.
PROBLEMS AND SOLUTIONS
Lack of electric power, with the consequent accidental stopping of the pump, can be caused by:
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LACK OF ELECTRIC POWER
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PROBLEMS AND SOLUTIONS

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PROBLEMS AND SOLUTIONS

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For any problems contact the authorised dealer nearest to you.
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THE MOTOR TURNS SLOWLY WHEN STARTING
LOW OR NO FLOW RATE

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17 PROBLEMS AND SOLUTIONS

Table with 3 columns: PROBLEM, POSSIBLE CAUSE, CORRECTIVE ACTION. Issues include lack of electric power, rotor jammed, motor problems, low voltage, low level in suction tank, foot valve blocked, filter clogged, excessive suction pressure, high loss of head, by-pass valve blocked, air entering pump, narrowing in suction tubing, low rotation speed, cavitation, irregular functioning, air present, seal damaged, suction circuit blocked, malfunction of foot valve, dry suction chambers.

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