

A TABLE OF CONTENTS

Table of contents listing sections from A to S, including Machine and Manufacturer Identification, Machine Description, General Warnings, Performance Specifications, Handling and Transport, General Safety Rules, Electrical Data, Operating Conditions, Connections, Piping Connections, Initial Start-Up, Maintenance, Noise Level, Problems and Solutions, Demolition and Disposal, and Exploded Views.

B MACHINE AND MANUFACTURER IDENTIFICATION

Machine identification block featuring the UL LISTED logo, PIUSI EX 50 120V, and technical specifications: 120V 60Hz, 1.7 A, 2400 RPM, 1/8 HP, T.Amb. -10° / +40°C, Insulation Class F, Duty min. 30 ON / 30 OFF, Temp. Code T4.

AVAILABLE MODELS: 120V AC PIUSI S.p.A., Via Pacinotti 16/A - z.l. Rangovino 46029 Suzzara - Mantova (Italy)

C MACHINE DESCRIPTION

PUMP MOTOR SELF-PRIMING, VOLUMETRIC, ROTATING ELECTRIC VANE PUMP EQUIPPED WITH BY-PASS VALVE. BRUSH MOTOR POWERED BY ALTERNATE CURRENT, WITH INTERMITTENT CYCLE, CLOSED TYPE, IP55 PROTECTION CLASS.

WARNING MOTOR EQUIPPED WITH AUTOMATIC THERMAL OVERLOAD PROTECTION. SHOULD THE PROTECTION ACTIVATE, TURN OFF THE PUMP AND WAIT FOR IT TO COOL DOWN.

C1 DEFINITION OF CLASS AND GROUPS

Table defining Class I (Flammable gases, vapors or liquids), Class II (Combustible dusts), Class III (Ignitable fibers & flyings), Group A (Acetylene), Group B (Flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor), Group C (Flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor), and Group D (Flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor).

C2 INTENDED USE

INTENDED USE: THE DETERMINATION OF THE AREAS (ZONES) IS TO BE CARRIED OUT BY THE USER. FORBIDDEN USE: Using the appliance for fluids other than those listed at paragraph 1.4 - Fluids permitted - and for uses other than those described at the item "authorised use" is forbidden.

PLANT OPERATION RESTRICTIONS IT IS FORBIDDEN: 1. To use the appliance in a construction configuration other than that contemplated by the manufacturer. 2. To use the appliance with fixed guards tampered with or removed. 3. To use the appliance in places where there is risk of explosion and/or fires classified in the following class: class I and class III and following groups: A, B, C.

C3 HANDLING AND TRANSPORT

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.

D GENERAL WARNINGS

Important precautions: To ensure operator safety and to protect the pump from potential damage, workers must be fully acquainted with this instruction manual before performing any operation. Symbols used in the manual: DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

E FIRST AID RULES

Contact with the product: In the event of problems developing following EYE/SKIN CONTACT, INHALATION OR INGESTION of the treated product, please refer to the SAFETY DATA SHEET of the fluid handled. 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.

F GENERAL SAFETY RULES

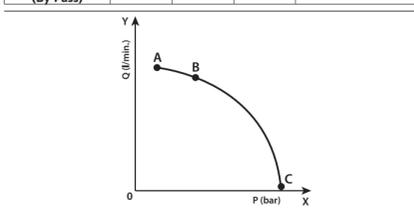
Users' responsibility: IT IS ESSENTIAL TO GET TO KNOW AND UNDERSTAND THE INFORMATION CONTAINED IN THIS MANUAL. Essential protective equipment characteristics: IN CASE OF CONTACT WITH THE PRODUCT AND FOR GOOD STANDARD OF BEHAVIOUR, wear protective equipment which is suited to the operations that need to be performed.

L INSTALLATION

BEFORE ANY OPERATION, ENSURE TO BE OUT OF POTENTIALLY EXPLOSIVE AREAS. THE PUMP MUST NEVER BE OPERATED BEFORE THE DELIVERY AND SUCTION LINES HAVE BEEN CONNECTED. TIGHTEN THE ELECTRICAL BOX TO ENSURE PROTECTION AGAINST OVERHEATING AND OVERLOAD RISKS.

G TECHNICAL DATA

Table G1: PERFORMANCE SPECIFICATIONS. Performance diagram shows flow rate as a function of back pressure. Columns include Functioning Point (A, B, C), Absorption (A), Flow Rate (l/min), Back Pressure (bar), Typical delivery configuration, and Delivery Closed.



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

H ELECTRICAL DATA

Table H: ELECTRICAL DATA. Columns: PUMP MODEL, POWER SUPPLY (Voltage, Frequency), CURRENT (Max). Values for 120V model: Voltage 120, Frequency 60, Max current 2.

OPERATING CONDITIONS: AMBIENT TEMPERATURE FLUID TEMPERATURE RELATIVE HUMIDITY LIGHTING. The environment must conform to directive 89/654/EEC on work environments.

I1 ENVIRONMENTAL CONDITIONS

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

I2 ELECTRICAL POWER SUPPLY

NOTICE The pump must be powered by AC line, the nominal values of which are indicated on the table in the paragraph "I - ELECTRICAL DATA".

I3 DUTY CYCLE

NOTICE The pumps have been designed for intermittent use and a duty cycle of 30 min. ON and 30 min. OFF in conditions of maximum A TEMPERATURE (40 °C) AND AT NOMINAL TRANSFER CONDITIONS.

I4 FLUIDS PERMITTED

WARNING THE PUMP CAN BE USED ONLY WITH THE FOLLOWING FLUIDS: - DIESEL - KEROSENE - PETROL - PETROL ALCOHOL MIXED MAX 15% - AVGAS 100/100LL (PUMP ONLY) - JET A 1 (PUMP ONLY) - ASPEN 2/4.

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WARNING IF VALVES IN THE CIRCUIT ARE TO BE INSTALLED, MAKE SURE THEY ARE EQUIPPED WITH OVERPRESSURE SYSTEM. CLEAN THE TANK AND MAKE SURE IT IS WELL-VENTILATED (RECOMMENDED OPENING PRESSURES).

DANGER IF THE PUMP IS TO BE INSTALLED IN HAZARDOUS (CLASSIFIED) LOCATION, IT MUST BE INSTALLED BY A LICENSED ELECTRICIAN AND CONFIRM TO NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES 30 AND 70 OR CSA 22.1. YOU AS THE OWNER, ARE RESPONSIBLE FOR SEEING THAT INSTALLATION AND OPERATION OF YOUR PUMP COMPLIES WITH NFPA CODES AS WELL AS ANY APPLICABLE STATE AND LOCAL CODES.

L1 POSITIONING, CONFIGURATIONS AND ACCESSORIES

NOTICE The pump must be secured in a stable manner. It is the installer's responsibility to provide the line accessories necessary for the safe and proper functioning of the pump.

L2 NOTES ON SUCTION AND DELIVERY LINES

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, as well as the accessories installed, could create back pressure that are greater than the maximum predicted pressure.

WARNING If the suction tank is higher than the pump, an anti-siphon valve must be installed to prevent accidental fuel leaks. Dimension the installation in order to control the back pressures due to water hammering.

M CONNECTIONS

M1 ELECTRICAL CONNECTIONS BEFORE ANY OPERATION, ENSURE TO BE OUT OF POTENTIALLY EXPLOSIVE AREAS. IT IS THE INSTALLER'S RESPONSIBILITY TO CARRY OUT THE ELECTRICAL CONNECTIONS IN COMPLIANCE WITH THE RELEVANT STANDARDS.

M2 PIPING CONNECTIONS

WARNING BEFORE ANY OPERATION, ENSURE TO BE OUT OF POTENTIALLY EXPLOSIVE AREAS. IT IS THE INSTALLER'S RESPONSIBILITY TO CARRY OUT THE ELECTRICAL CONNECTIONS IN COMPLIANCE WITH THE RELEVANT STANDARDS.

N INITIAL START-UP

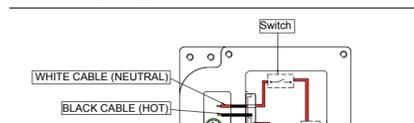
NOTICE Fluid leaks can damage objects and injure persons. Never start or stop the pump by connecting or cutting out the power supply. Prone to contact with some fluids can damage the skin.

O EVERY DAY USE

USE PROCEDURE 1. If flexible pipes are used, attach the ends of the piping to the tanks. 2. Before starting the pump make sure that the delivery valve is closed (dispensing nozzle or line valve).

P MAINTENANCE

WARNING The PUMP IS DESIGNED AND CONSTRUCTED TO REQUIRE A MINIMUM OF MAINTENANCE. BEFORE ANY OPERATION, ENSURE TO BE OUT OF POTENTIALLY EXPLOSIVE AREAS FOR SAFETY REASONS.



M2 PIPING CONNECTIONS

WARNING Wrong connection can cause serious pump damage. Before carrying out any connection, refer to the visual indications i.e. arrow on the pump head, to identify suction and delivery.

N INITIAL START-UP

PRELIMINARY INSPECTION Before connection, make sure that the piping and the suction tank are free of dirt and solid residue that could damage the pump and its accessories. NEVER COLLECT THE FLUID FROM THE BOTTOM OF THE TANK SINCE IT MAY CONTAIN IMPURITIES.

O EVERY DAY USE

USE PROCEDURE 1. If flexible pipes are used, attach the ends of the piping to the tanks. 2. Before starting the pump make sure that the delivery valve is closed (dispensing nozzle or line valve).

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Q NOISE LEVEL

Under normal operating conditions, noise emission of all models does not exceed 74 dB at a distance of 1 metre from the electric pump.

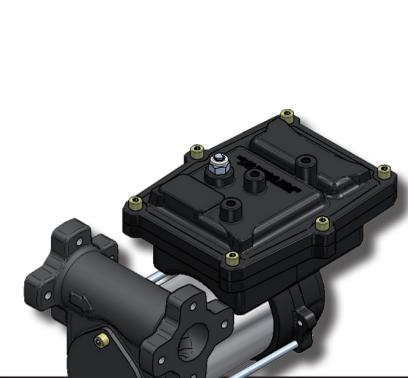
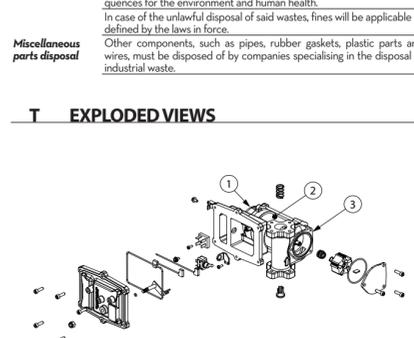
R PROBLEMS AND SOLUTIONS

Table R: PROBLEMS AND SOLUTIONS. Columns: PROBLEM, POSSIBLE CAUSE, CORRECTIVE ACTION. Issues include: THE MOTOR IS NOT TURNING, THE MOTOR TURNS SLOWLY WHEN STARTING, LOW OR NO FLOW RATE, INCREASED PUMP NOISE, LEAKAGE FROM THE PUMP BODY, THE PUMP DOES NOT PRIME THE LIQUID, THE HEAT SENSOR ACTIVATES UNDER NORMAL OPERATING CONDITIONS.

S DEMOLITION AND DISPOSAL

Foreword If the system needs to be disposed, the parts which make it up must be delivered to companies that specialize 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.

T EXPLODED VIEWS



MADE IN ITALY logo and text: Use and maintenance Utilisation et entretien EN FR BULLETIN M0274A ENFR_00



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