

## ENGLISH (Translated from Italian)

## A INDEX

A	INDEX
B	MACHINE AND MANUFACTURER IDENTIFICATION
C	DECLARATION OF INCORPORATION OF PARTLY-COMPLETED MACHINERY
D	MACHINE DESCRIPTION
D1	MOVING AND TRANSPORT
E	GENERAL WARNINGS
F	FIRST AID RULES
G	GENERAL SAFETY RULES
H	TECHNICAL DATA
I	OPERATING CONDITIONS
J	PERFORMANCE SPECIFICATIONS
K	ELECTRICAL SPECIFICATIONS
L	FLUIDS PERMITTED / FLUIDS NOT PERMITTED
M	INSTALLATION
M1	PRELIMINARY INSPECTION
M2	POSITIONING OF THE PUMP
M3	NOTES ON SUCTION AND DELIVERY LINES
M4	CONFIGURATION AND ACCESSORIES
M5	LINE ACCESSORIES
N	CONNECTIONS
N1	ELECTRICAL CONNECTIONS
N2	CONNECTING THE PIPING
O	INITIAL START-UP
P	DAILY USE
Q	MAINTENANCE
R	NOISE LEVEL
S	PROBLEMS AND SOLUTIONS
T	DEMOLITION AND DISPOSAL
U	EXPLODED VIEWS
V	OVERALL DIMENSIONS

## B MACHINE AND MANUFACTURER IDENTIFICATION



## C DECLARATION OF INCORPORATION OF PARTLY-COMPLETED MACHINERY

The undersigned  
PIUSI S.p.A.  
Via Pacinotti 1.z, Rangavino  
46029 Suzara - Mantova - Italy

HEREBY STATES under its own responsibility, that the partly-completed machinery:  
Description: Machine for oil transfer  
Model: By-pass 3000 12 - 24 Vdc / Carry 3000 / Battery kit 3000  
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 machine  
Is intended to be incorporated in a machine (or to be with other machines) so as to create a machine to which applies Machine Directive 2006/42/EC, may not be brought into service before the machine into which it is to be incorporated has been declared in conformity with the provisions of the directive 2006/42/EC.  
Is in conformity with the legal provisions indicated in the directives:  
- Machine Directive 2006/42/EC  
- Electromagnetic Compatibility Directive 2004/108/EC

To which the essential safety requirements have been applied and complied with what indicated on annex I of the machine directive applicable to the product and shown below: 1.1.3 - 1.1.5 - 1.3.1 - 1.3.2 - 1.3.3 - 1.3.4 - 1.3.7 - 1.3.8 - 1.4.1 - 1.4.2 - 1.5.1 - 1.5.2 - 1.5.4 - 1.5.5 - 1.5.9 - 1.5.11 - 1.5.13 - 1.5.15 - 1.6.1 - 1.6.3 - 1.6.4 - 1.7.1 - 1.7.2 - 1.7.3 - 1.7.4.

The documentation 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  
The person authorised to compile the technical file and draw up the declaration is Otto Varini as legal representative.

Otto Varini  
legal representative

## D MACHINE DESCRIPTION

**PUMP** Self-Priming, volumetric, rotating 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.

## D1 MOVING AND TRANSPORT

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

## E 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** 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.

**Reproduction rights** All reproduction rights are reserved by Piusi S.p.A. The text cannot be reprinted without the written permission of Piusi S.p.A.

**PIUSI S.p.A.** THIS MANUAL IS THE PROPERTY OF PIUSI S.p.A. ANY REPRODUCTION, EVEN PARTIAL, IS FORBIDDEN.

## ENGLISH (Translated from Italian)

## F 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.

**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. Avoid touching the injured person with your hands. Turn off the power source to the conductor. Immediately call for help from qualified and trained personnel. Do not operate switches with wet hands.

**NOTE** Please refer to the safety data sheet for the product

**SMOKING PROHIBITED** When operating the dispensing system and in particular during refuelling, do not smoke and do not use open flame.

## G 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** Wear the following personal protective equipment during handling and installation: safety shoes;

**Protective clothing** close-fitting clothing;

**Protective gloves** protective gloves;

**Protective equipment** safety goggles;

**instruction manual**

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

**Never touch the electric plug or socket with wet hands.** Never touch the dispensing system or if the network connection cable or important parts of the apparatus are damaged, such as the inlet/outlet pipe, nozzle or safety devices. Replace the damaged pipe immediately.

**Before each use, check that the network connection cable and power plug are not damaged. Have the network connection cable replaced immediately by a qualified electrician.**

**The electrical connection between the plug and socket must be kept well away from water.**

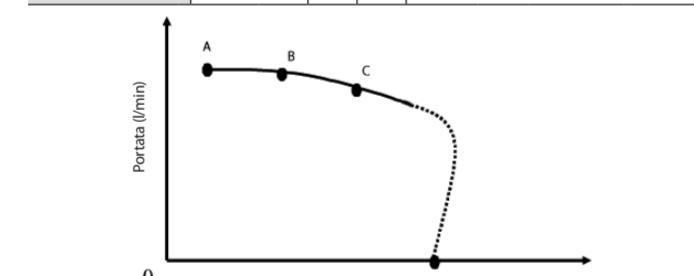
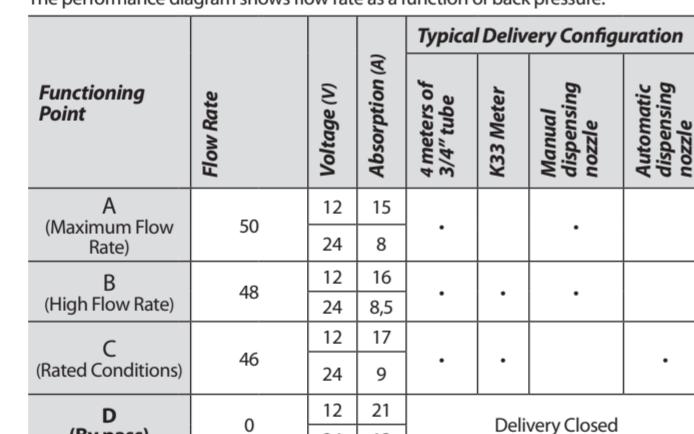
**Unsuitable extension leads can be dangerous. In accordance with current regulations, only extension leads that are labelled for outdoor use and have a sufficient conductive path should be used outdoors.**

**During operation a few parts may reach high temperatures and result in burns if touched.**

## H TECHNICAL DATA

## H1 PERFORMANCE SPECIFICATIONS

The performance diagram shows flow rate as a function of back pressure.



**ATTENTION** The curve refers to the following operating conditions:

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.

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 throttling in the tubes
- Keep the suction filter clean
- Use a tube with a diameter equal to, or greater than, indicated (see installation)

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.

All reproduction rights are reserved by Piusi S.p.A. The text cannot be reprinted without the written permission of Piusi S.p.A.

PIUSI S.p.A. THIS MANUAL IS THE PROPERTY OF PIUSI S.p.A. ANY REPRODUCTION, EVEN PARTIAL, IS FORBIDDEN.

## ENGLISH (Translated from Italian)

## I ELECTRICAL SPECIFICATIONS

PUMP MODEL	FUSES	ELECTRICAL POWER		CURRENT Maximum <sup>(*)</sup> (A)
		Current	Voltage (V)	
VERSION 12V	25	DC	12	22
VERSION 24V	15	DC	24	12

(\*) referred to operations in by-pass mode

## L OPERATING CONDITIONS

## L1 ENVIRONMENTAL CONDITIONS

**TEMPERATURE** min. +23 °F / max +104 °F  
min. -5 °C / max +40 °C  
max. 90%

**RELATIVE HUMIDITY** The environment must conform to directive 89/654/EEC on work environments.

**LIGHTING** In case of non-EU countries, refer to directive EN 12100-2 54/86.

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

## L2 ELECTRICAL POWER SUPPLY

**NOTE** NB - THE PUMP SHOULD BE POWERED BY A SAFE SOURCE - BATTERY OR POWER SUPPLY 12/24V WITH SAFETY TRANSFORMER.

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 "ELECTRICAL SPECIFICATIONS".

The most acceptable variations from the electrical parameters are:

Voltage: +/- 10% of the nominal value

Power supply from lines with values that do not fall within the indicate limits could cause damage to the electrical components and reduction of working performance.

## L3 DUTY CYCLE

**NOTE** The pumps have been designed for intermittent use and a 20-minute duty cycle under conditions of maximum back pressure.

**ATTENTION** Functioning under by-pass conditions is only allowed for short periods of time (max. 3 minutes).

## L4 FLUIDS PERMITTED / FLUIDS NOT PERMITTED

**The details present are as follows:** DIESEL FUEL at a viscosity of from 2 to 3.5 cSt (at a temperature of 27.8 °C) Minimum Flash Point (PM): 55°C

EN 590-2010 del 20/03/2010

**NOT PERMITTED**

- GASOLINE

- GASOLINE-INFLAMMABLE LIQUIDS

- LIQUIDS WITH VISCOSITY > 20 cSt

- WATER

- FOOD LIQUIDS

- CORROSIVE CHEMICAL PRODUCTS

- SOLVENTS

**RELATED DANGERS**

- FIRE EXPLOSION

- FIRE EXPLOSION

- PUMP OXIDATION

- CONTAMINATION OF THE SAME

- PUMP CORROSION

- INJURY TO PERSONS

- FIRE - EXPLOSION

- DAMAGE TO GASKET SEALS

- MOTOR OVERLOAD

## M INSTALLATION

## M1 PRELIMINARY INSPECTION

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

## M2 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

**THE MOTORS ARE NOT OF THE ANTI-EXPLOSIVE TYPE. DO NOT install them where inflammable vapors are 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.

To maximise performance and prevent damage that could affect pump operation, always demand original accessories.

## M3 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 length of the tube and the diameter of the pipe, the flow rate of the diesel

A INDICE	
A	INDICE
B	IDENTIFICAZIONE MACCHINA E COSTRUTTORE
C	DICHIARAZIONE DI INCORPORAZIONE DELLE QUASI MACCHINE
D	DESCRIZIONE DELLA MACCHINA
E	MOVIMENTAZIONE E TRASPORTO
F	AVVERTENZE GENERALI
G	NORME DI PRONTO SOCCORSO
H	NORME GENERALI DI SICUREZZA
I	DATI ELETTRICI
J	CONDIZIONI OPERATIVE
K	CONDIZIONI AMBIENTALI
L	ALIMENTAZIONE ELETTRICA
M	CICLO DI LAVORO
N	FLUIDI AMMESSI E NON AMMESSI
O	INSTALLAZIONE
P	PRIMO AVVIAMENTO
Q	USO GIORNALIERO
R	MANUTENZIONE
S	LIVELLO DEL RUMORE
T	PROBLEMI E SOLUZIONI
U	DEMOLIZIONE E SMALTIMENTO
V	VISTE ESPLOSE
W	INGOMBRI

## F NORME DI PRONTO SOCCORSO

**Contatto con il prodotto**

Per problematiche temporali dal prodotto trattato con OCCHI PELLE, INALAZIONE E INGESTIONE: fare riferimento alla SCHEDA DI SICUREZZA ASU32/DEF/AD/BLUE

**Personale colpito da scariche elettriche**

Staccare l'installazione o usare un isolante asciutto per proteggersi nell'operazione di spostamento dell'infortunato lontano da qualsiasi conduttore. Evitare di toccare l'infortunato con le mani nude fino a che quest'ultimo non sia lontano da qualsiasi conduttore. Chiedere immediatamente l'aiuto di personale addestrato e qualificato. Non intervenire sui interruttori a mani bagnate.

**NOTA**

Breve riferimento alle schede di sicurezza del prodotto

**NON FUMARE**

Operando sul sistema di distribuzione, in particolare durante l'operazione di erogazione, non fumare e non usare fiamme libere

## G NORME GENERALI DI SICUREZZA

**Caratteristiche essenziali dell'equipaggiamento di protezione**

Indossare un equipaggiamento di protezione che sia:

- idoneo alle operazioni da effettuare;
- resistente ai prodotti impiegati per la pulizia.

**Dispositivi di protezione individuale da indossare**

scarpe antinfortunistiche;

indumenti attillati al corpo;

guanti di protezione;

occhiali di sicurezza;

manuale di istruzioni

**Dispositivi di protezione**

guanti protettivi

**PERICOLO**

scarpe antinfortunistiche;

indumenti attillati al corpo;

guanti di protezione;

occhiali di sicurezza;

manuale di istruzioni

**ATTENZIONE**

Il contatto prolungato con il prodotto trattato può provocare irritazione alla pelle; durante l'erogazione, utilizzare sempre i guanti di protezione.

**Non toccare mai la spina e la presa con le mani bagnate**

**Non accendere il sistema di protezione nel caso il cavo di acciappamento alla rete o altri parti importanti sono in contatto con l'acqua, per es. un tubo di aspirazione/mandato, la pistola, oppure i dispositivi di sicurezza danneggiati. Sostituire immediatamente il tubo danneggiato.**

**Prima di ogni utilizzo, controllare che il cavo di acciappamento alla rete e la spina di alimentazione non presentino danni. Far sostituire immediatamente il cavo di acciappamento alla rete danneggiato, da un elettricista specializzato.**

**l'acciappamento tra spina e presa deve rimanere lontano dall'acqua.**

**Prolunghe non adatte possono risultare pericolose. All'aperto, utilizzare solo prolunghe autorizzate e previste per quell'utilizzo, con sezione di condutture sufficie-**

**nte, in base alle norme vigenti.**

**Per proteggere il sistema si consiglia, in linea di principio, di utilizzare l'apparecchio solo con interruttore differenziale (max.30mA).**

**Prima di procedere all'avviamento dell'impianto, assicurarsi che la pompa sia correttamente assemblata, con tutti i coperchi chiusi a regola d'arte.**

**Durante il funzionamento alcune parti del prodotto possono raggiungere temperature elevate e causare ustioni se toccate.**

**Porre attenzione**

**ATTENZIONE**

**ATTENZIONE**