

To the customers

Congratulations on receiving your Suzzarblue pump. We are pleased to provide you with a system designed to give you maximum reliability and efficiency.

The pump has been designed, tested, and approved for use with AUS32.

Please take care of all the precautions when handling this liquid.

Your safety is important to us. Furthermore to assure the longest possible service life, it is important that you follow the operation and maintenance procedures outlined in this manual.

We are proud to provide you with a quality product and dedicated support. Together with your careful use, we are sure that you will have years of safe and dependable use.

The President  
PIUSI S.p.A.

A TABLE OF CONTENTS

A	TABLE OF CONTENTS
B	MACHINE AND MANUFACTURER IDENTIFICATION
C	DECLARATION OF INCORPORATION OF THE PARTLY-COMPLETED MACHINERY
D	MACHINE DESCRIPTION
E	HANDLING AND TRANSPORT
F	GENERAL WARNINGS
G	FIRST AID RULES
H	TECHNICAL DATA
I	PERFORMANCE SPECIFICATIONS
L	ELECTRICAL DATA
M	OPERATING CONDITIONS
N	ENVIRONMENTAL CONDITIONS
O	ELECTRICAL POWER SUPPLY
P	DUTY CYCLE
Q	PERMITTED AND NON-PERMITTED FLUIDS
R	INSTALLATION
S	POSITIONING, CONFIGURATIONS AND ACCESSORIES
T	CONNECTIONS ON SUCTION AND DELIVERY LINES
U	CONNECTIONS
V	ELECTRICAL CONNECTIONS
W	PIPING CONNECTIONS
X	INITIAL START-UP
Y	EVERY DAY USE
Z	MAINTENANCE
AA	NOISE LEVEL
AB	PROBLEMS AND SOLUTIONS
AC	DEMOLITION AND DISPOSAL
AD	VISIT EASY TO EXPLORE VIEWS
AE	INGOMERI / OVERALL DIMENSIONS

B MACHINE AND MANUFACTURER IDENTIFICATION



AVAILABLE MODELS: 12-24V DC  
MANUFACTURER: PIUSI S.p.A.  
Via Pacinotti Z.I. Rangavino  
46029 Suzzara (Mantova) Italy

C DECLARATION OF INCORPORATION OF THE PARTLY-COMPLETED MACHINERY

The undersigned PIUSI S.p.A. Via Pacinotti cm. z.I. Rangavino 46029 Suzzara - Mantova - Italy

HEREBY STATES under its own responsibility, that the partly-completed machinery: Description: Pump for the transfer of AUS32 - WATER Model: Diaphragm pump Serial No.: 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 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 not 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 compiled 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 - 1.5.1 - 1.5.2 - 1.5.4 - 1.5.5 - 1.5.8 - 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 email 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

Suzzara, 01/01/2010

D MACHINE DESCRIPTION

PUMP: Five-chamber positive displacement diaphragm pump. MOTOR: Brush motor, DC, low tension with intermittent cycle, closed type in protection class IP55 according to CE-EN 60034-5, directly fanged to the pump body.

D1 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.

E GENERAL WARNINGS

Important precautions 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. It should remain available to end users and specialist installation and maintenance technicians for consultation at any time.

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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 AUS32/DEF/AD-BLUE.

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 bare hands until he is far away from any 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

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

- safety shoes;
- close-fitting clothing;
- protection gloves;
- safety goggles;
- instructions manual

Protective gloves

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

DANGER

Never touch the electric plug or socket with wet hands. Do not switch the dispensing system on 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.

ATTENTION

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 cords that are labelled for outdoor use and have a sufficient conduction path should be used outdoors.

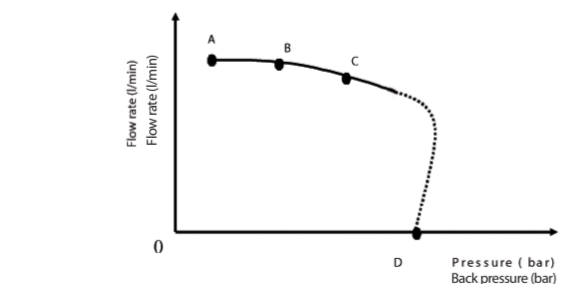
For safety reasons, we recommend that, in principle, the equipment be used only with an earth-leakage circuit breaker (max. 30 mA).

H TECHNICAL DATA

H1 PERFORMANCE SPECIFICATIONS

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

Functioning Point	Flow Rate	Voltage (V)		Absorption (A)	Typical Delivery Configuration			
		12	16		No. 4 metres of 1/2" pipe	1/2" Meter	Manual nozzle	Automatic Dispensing Nozzle
A (Maximum flow rate)	36	12	16	*	*	*	*	*
B (High flow rate)	33	12	17	*	*	*	*	*
C (Normal conditions)	30	12	19	*	*	*	*	*
D (By pass)	0	12	20	*	*	*	*	*



ATTENTION

The curve refers to the following operating conditions:  
Fluid: AUS32 - DEF - ADBLUE®  
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.  
Under different suction conditions higher flow rate 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 pipe as much as possible  
- avoid useless elbows or throttling in the pipes  
- keep the suction filter clean  
- use a pipe with a diameter equal to, or greater than, indicated (see Installation).

I ELECTRICAL DATA

PUMP MODEL	POWER SUPPLY			CURRENT Max (A)
	Current	Voltage (V)	Frequency (Hz)	
12V version	DC	12	20	20
24V version	DC	24	10	10

(\*): Refers to functioning in by-pass mode.

L OPERATING CONDITIONS

L1 ENVIRONMENTAL CONDITIONS

TEMPERATURE	min. -23 °F / max +104 °F min. -5 °C / max +40 °C
RELATIVE HUMIDITY	max. 90%
LIGHTING	The environment must conform to directive 89/654/EEC on work environments. In case of non-EU countries, refer to directive EN ISO 12100-2 § 4.8.6.

ATTENTION

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

L2 ELECTRICAL POWER SUPPLY

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 I - ELECTRICAL SPECIFICATIONS\*. The maximum acceptable variations from the electrical parameters are:  
Voltage: +/- 10% of the nominal value

ATTENTION

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

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

NOTE

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

ATTENTION

L4 PERMITTED AND NON-PERMITTED FLUIDS

FLUIDS PERMITTED	- AUS32 (DEF, AD-Blue); - WATER - LIQUID FOOD PRODUCTS	
FLUIDS NON-PERMITTED AND RELATED DANGERS	- DIESEL FUEL - PETROL - INFLAMMABLE LIQUIDS - CORROSIVE CHEMICAL PRODUCTS - SOLVENTS - LIQUIDS WITH VISCOSITY >20 cst	- OXIDATION OF PUMP - FIRE - EXPLOSION - CORROSION AND INJURY TO PERSONS - DAMAGE TO GASKET SEALS - MOTOR OVERLOAD

M 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. Request any missing parts from the manufacturer;
- Check that the pump 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;
- Check that the electrical data corresponds to those indicated on the data plate;
- Always install in an illuminated area;
- Install the pump at a height of min. 80 cm.

M1 POSITIONING, CONFIGURATIONS AND ACCESSORIES

NOTE

In the case of installation in the open air, proceed to protect the pump by providing a protection roof.

The pump can be installed in any position (pump axis vertical or horizontal). The pump must be secured in a stable way using the holes on the bed of the motor and vibration damping devices.

ATTENTION

THE MOTORS ARE NOT OF THE ANTI-EXPLOSIVE-TYPE. DO NOT install them where inflammable vapours could be present.

NOTE

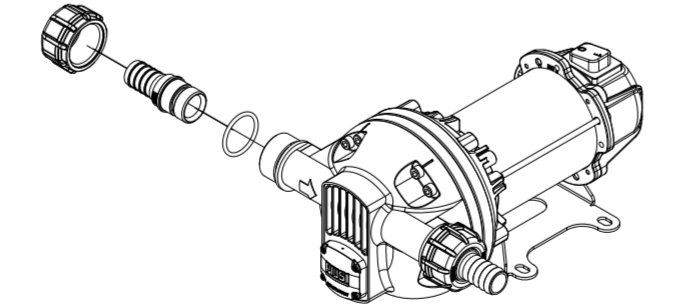
The broad range of pump accessories make it suitable for many different uses, installations and applications. The supporting base can be positioned in different ways.

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 previously indicated material could damage the pump and/or cause injury to persons, as well as causing pollution.

ATTENTION

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



M2 NOTES ON SUCTION AND DELIVERY LINES

DELIVERY

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).
- The delivery pipe must have the following technical characteristics:  
- recommended minimum nominal diameter: 3/4"
- recommended nominal pressure: 10 bar

SUCTION

FOREWORD

Diaphragm positive-displacement pumps are self-priming and feature good suction capacity. During the start-up phase, when the suction pipe is empty and the pump is wet, the electric pump unit is able to suck liquid from a maximum vertical distance of 2 mt.

IMPORTANT NOTE

Priming time can last a few minutes. We suggest performing priming operations without automatic nozzle and making sure the pump is properly wet.

WARNING

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.

CAVITATION

The pump is able to work with vacuums of up to 0.5 bar at the suction mouth. Over this value, CAVITATION can occur that causes a fall in flow rate and increase in noise levels.

HOW TO PREVENT CAVITATION

- The vertical distance between the pump and the fluid must fall within the 2 mt. 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 recommended that the pump not be installed at a vertical distance greater than 2 meters.
- If the suction tank is higher than the pump, an anti-siphon valve should be installed to prevent accidental pressure caused by water hammering.
- It is a good system practice to immediately install vacuum and air pressure gauges at the inlets and outlets of the pump which allow verification that operating conditions are within anticipated limits. To prevent the suction pipes from being emptied when the pump stops, a foot valve should be installed.

WARNING

The vertical distance between the pump and the fluid must fall within the 2 mt. 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 recommended that the pump not be installed at a vertical distance greater than 2 meters.

ATTENTION

If the suction tank is higher than the pump, an anti-siphon valve should be installed to prevent accidental pressure caused by water hammering.

ATTENTION

It is a good system practice to immediately install vacuum and air pressure gauges at the inlets and outlets of the pump which allow verification that operating conditions are within anticipated limits. To prevent the suction pipes from being emptied when the pump stops, a foot valve should be installed.

CHARACTERISTICS OF THE SUCTION PIPES

- The suction pipe must have the following technical specifications:  
- recommended minimum nominal diameter: 3/4";  
- recommended nominal pressure: 10 bar;  
- use pipes suitable for low pressure operation (e.g. with metal core)

N CONNECTIONS

N1 ELECTRICAL CONNECTIONS

GENERAL WARNINGS:

IT IS THE RESPONSIBILITY OF THE INSTALLER TO CARRY OUT THE ELECTRICAL CONNECTIONS IN COMPLIANCE WITH THE APPLICABLE REGULATIONS.

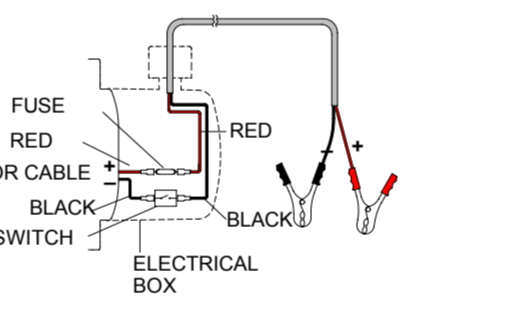
WARNING

Comply with the following (not exhaustive) instructions to ensure a proper electrical connection:

- Before installation and maintenance make sure that power supply to the electric lines has been turned off;
- Use cables with minimum cross-sections, rated voltages and installation type that are suitable for the characteristics indicated in paragraph G ELECTRICAL SPECIFICATIONS.
- 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.

ELECTRICAL FITTINGS

- Cables with faston connector coupling for connection to the power supply line;
- RED cable: positive pole (+)
- BLACK cable: negative pole (-)
- Terminal strip box (protection class IP55 in conformance with the directive EN 60034-5-97) complete of:  
- ON/OFF switch;  
- Safety fuse against short circuits and overcurrent, featuring the following characteristics:  
25A for 12V models  
15A for 24V models
- power cable complete of pliers for connection to the battery



N2 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

- 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.
- Before connecting the delivery pipe, partially fill the pump body, from delivery side, with the liquid that needs to be pumped in order to facilitate priming.
- Do not use conical threaded fittings, which could damage the threaded inlet or outlet openings of the pump if excessively tightened.

NOTE

If not already fitted, fit a suction filter

NOTE

REFER TO THE NORM ISO22241-3 TO MAKE THE SYSTEM SUITABLE FOR USE.

O INITIAL START-UP

FOREWORD

- Check that the quantity of fluid in the suction tank is greater than the amount you wish to transfer.
- Make sure that the residual capacity of the delivery tank is greater than the quantity you wish to transfer.
- Make sure that the piping and line accessories are in good condition.

ATTENTION

Do not run the pump dry for more than 20 minutes. This can cause serious damage to its components. Fluid leaks can damage objects and injure persons.

NOTE

Never start or stop the pump by connecting or cutting out the power supply.  
- Prolonged contact with some fluids can damage the skin. The use of goggles and gloves is recommended.

ATTENTION

Extreme operating conditions with duty cycles longer than 20 minutes can cause the motor temperature to rise thus damaging the engine. For each duty cycle of 20 minutes, allow for a rest phase of 20 minutes with motor switched off.

NOTE

During the priming phase, the pump must discharge all the air that is initially present from the delivery line. Therefore it is necessary to keep the outlet open to permit the evacuation of the air.

WARNING

If an automatic type dispensing nozzle is installed on the end of the delivery line, the evacuation of the air will be difficult because of the automatic stopping device that keeps the valve closed. It is recommended that the automatic nozzle be temporarily removed during initial start-up.

IF THE PUMP DOES NOT PRIME

- Depending on the system characteristics, the priming phase can last from several seconds to a few minutes. If this phase is prolonged, stop the pump and verify:  
- that the pump is not running completely dry (fill with fluid from the delivery supply line);  
- that the suction pipe guarantees against air infiltration;  
- that the suction filter is not clogged;  
- that the suction height is not higher than 2 mt.  
- that all air has been released from the delivery pipe.

AT THE END OF THE INITIAL START-UP

- 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 delivery back pressure does not exceed the maximum back pressure for the pump.

P EVERY DAY USE

USE PROCEDURE

- 1 If flexible pipes are used, attach the ends of the piping to the tanks. In the absence of an appropriate slot, solidly grasp the delivery pipe before beginning dispensing.
- 2 Before starting the pump make sure that the delivery valve is closed (dispensing nozzle or line valve)
- 3 Turn the ON/OFF switch on
- 4 Open the delivery valve, solidly grasping the pipe
- 5 While dispensing, do not inhale the pumped product
- 6 Should you spill any fluid while dispensing, bank it with earth or sand to absorb it and limit its spreading
- 7 Close the delivery valve to stop dispensing
- 8 When dispensing is finished, turn off the pump

ATTENTION

The by-pass valve allows functioning with delivery closed only for short periods (max. 3 minutes). To avoid damaging the pump, after use, make sure the pump is off. In case of a power break, switch the pump off straight away. Should any sealants be used on the suction and delivery circuit of the pump, make sure that these products are not released inside the pump. Foreign bodies in the suction and delivery circuit of the pump could cause malfunctioning and breakage of the pump components. In case of prolonged dry-running of the pump, the suction circuit may be empty and suction may become difficult. If so, fill the suction circuit with demineralised water

Q MAINTENANCE



ITALIANO (Lingua originale)

Gentili Clienti,

Congratulazioni per aver scelto e acquistato la pompa SuzzaraBlue. Siamo lieti di fornirvi un sistema progettato per avere la massima affidabilità ed efficienza.

La pompa è stata progettata, testata e approvata con l'utilizzo di AUS32.

Seguite le precauzioni indicate prima di maneggiare il liquido.

La Vostra sicurezza è importante, per noi. Inoltre, per assicurare la massima durabilità del prodotto, seguite con attenzione le procedure elencate nel manuale.

Siamo orgogliosi di fornirvi un prodotto di qualità e tutta l'assistenza necessaria.

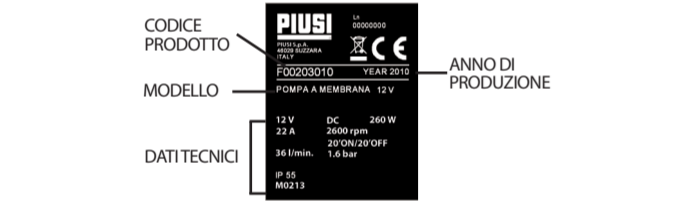
Grazie anche alla Vostra cura e manutenzione del prodotto, avrete anni di sicuro e fidato utilizzo.

Il Presidente PIUSI S.p.A..

A INDICE

Table with 2 columns: Letter (A-Z) and Index content (INDICE, IDENTIFICAZIONE MACCHINA, DESCRIZIONE DELLA MACCHINA, MOVIMENTAZIONE E TRASPORTO, AVVERTENZE GENERALI, NORME DI PRONTO SOCCORSO, DATI TECNICI, CONDIZIONI OPERATIVE, FLUIDI AMMESSI E NON AMMESSI, POSIZIONAMENTO, CONFIGURAZIONI ED ACCESSORI, COLLEGAMENTI E ALLACCIAMENTI, PRIMO AVVIAMENTO, LIVELLO DEL RUMORE, PROBLEMI E SOLUZIONI, DEMOLIZIONE E SMALTIMENTO, VISTE ESPOSE / EXPLODED VIEWS, INGOMBRI / OVERALL DIMENSIONS)

B IDENTIFICAZIONE MACCHINA E COSTRUTTORE



MODELLI DISPONIBILI: 12/24V DC PIUSI S.p.A. Via Pacinotti Z.I. Rangavino 46029 Suzzara - Mantova/ Italy

C DICHIARAZIONE DI INCORPORAZIONE DELLE QUASI MACCHINE

La sottoscritta PIUSI S.p.A. Via Pacinotti c.m.-z.Rangavino 46029 Suzzara - Mantova - Italia DICHIARA sotto la propria responsabilità, che la quasi macchina: Descrizione: Pompa destinata al travaso di AUS32 - ACQUA

Alla quale sono stati applicati e rispettati i requisiti essenziali di sicurezza, riportati nell'allegati 1 della direttiva macchine applicabili al prodotto e riportati di seguito: 1.1.2 - 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 - 1.1 - 1.5.2 - 1.5.4 - 1.5.5 - 1.5.8 - 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.

La documentazione è a disposizione dell'autorità competente su motivata richiesta presso PIUSI S.p.A. o richiedendola all'indirizzo e-mail: doc\_tec@piusi.com

D DESCRIZIONE DELLA MACCHINA

POMPA: Pompa a diaframma volumetrica a singola camera. MOTORE: Motore a spazzole alimentato con corrente continua in bassa tensione con ciclo intermittente, chiuso in classe di protezione IP55 secondo CEI-EN 60034-5, direttamente flangiato al corpo pompa.

Dato il limitato peso e dimensioni delle pompe, le loro movimentazione non richiede l'ausilio di mezzi di sollevamento. Prima della spedizione le pompe vengono accuratamente imballate. Controllare l'imballo al ricevimento ed immagazzinare in luogo asciutto.



ITALIANO (Lingua originale)

E AVVERTENZE GENERALI

Avvertenze importanti Simbologia utilizzata nel manuale

Questo simbolo indica norme antinfortunistiche per gli operatori e/o eventuali persone esposte. AVVERTENZA Questo simbolo indica che esiste la possibilità di arrecare danno alle apparecchiature e/o ai loro componenti. NOTA Questo simbolo segnala informazioni utili.

Conservazione del manuale Diritti di riproduzione

Tutti i diritti di riproduzione di questo manuale sono riservati alla PIUSI S.p.A. Il testo non può essere usato in altri stampati senza autorizzazione scritta della PIUSI S.p.A.

© PIUSI S.p.A. IL PRESENTE MANUALE È PROPRIETÀ DELLA PIUSI S.p.A. OGNI RIPRODUZIONE, ANCHE PARZIALE, È VIETATA.

F NORME DI PRONTO SOCCORSO

Contatto con il prodotto Persone colpite da scariche elettriche

NOTA Fare riferimento alle schede di sicurezza del prodotto

G NORME GENERALI DI SICUREZZA

Caratteristiche essenziali dell'equipaggiamento individuale da indossare

Dispositivi di protezione individuale da indossare

Guanti protettivi

PERICOLO

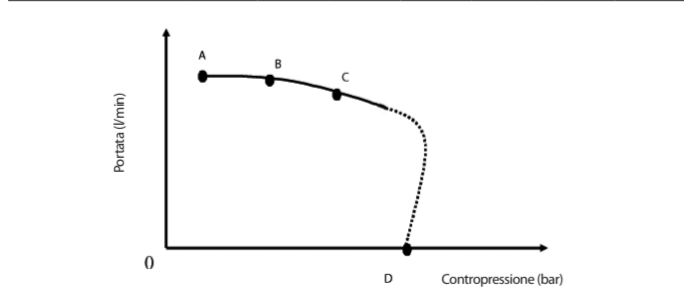
Non toccare mai la spina e la presa con le mani bagnate. Non accendere il sistema di distribuzione nel caso il cavo di allacciamento alla rete o parti importanti dell'apparecchio, per es. il tubo di aspirazione/mandata, la pistola, oppure i dispositivi di sicurezza siano danneggiati.

ATTENZIONE

H DATI TECNICI

H1 PRESTAZIONI

Table with 4 columns: Punte di funzionamento, Portata, Tensione (V), Assorbimento (A). Rows include (Massima portata), (Portata elevata), (Condizioni nominali), (By pass).



ATTENZIONE

La curva si riferisce alle seguenti condizioni operative: Fluido: AUS32 - DEF - ADBLUE® Temperatura: 20°C Condizioni di aspirazione: il tubo e la posizione della pompa rispetto al livello del fluido è tale che si generi una depressione di 0,3 bar alla portata nominale.

accocciare il più possibile il tubo di aspirazione evitare inutili gomiti e staccamenti nei tubi tenere pulito il filtro di aspirazione usare un tubo di diametro uguale o maggiore al minimo indicato (vedi installazione)

ITALIANO (Lingua originale)

I DATI ELETTRICI

Table with 3 columns: MODELLO POMPA, ALIMENTAZIONE, CORRENTE. Rows include Versione 12V and Versione 24V.

(\*) si riferiscono al funzionamento in by-pass.

L CONDIZIONI OPERATIVE

L1 CONDIZIONI AMBIENTALI TEMPERATURA UMIDITÀ RELATIVA ILLUMINAZIONE

ATTENZIONE

L2 ALIMENTAZIONE ELETTRICA

NOTA

ATTENZIONE

L3 CICLO DI LAVORO

NOTA

ATTENZIONE

L4 FLUIDI AMMESSI E NON AMMESSI

FLUIDI AMMESSI FLUIDI NON AMMESSI E PERICOLI RELATIVI

M INSTALLAZIONE

ATTENZIONE

CONTROLLI PRELIMINARI

M1 POSIZIONAMENTO, CONFIGURAZIONI ED ACCESSORI

NOTA

ATTENZIONE

NOTA

ATTENZIONE

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ITALIANO (Lingua originale)

M2 CONSIDERAZIONI SULLE LINEE DI MANDATA ED ASPIRAZIONE

MANDATA INFLUENZE SULLA PORTATA

COME DIMINUIRE LE INFLUENZE SULLA PORTATA

CARATTERISTICHE DELLE TUBAZIONI DI MANDATA

ASPIRAZIONE

PREMESSA

NOTA IMPORTANTE

AVVERTENZA

CAVITAZIONE

COME EVITARE LA CAVITAZIONE

AVVERTENZA

AVVERTENZA

ATTENZIONE

ATTENZIONE

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ITALIANO (Lingua originale)

O PRIMO AVVIAMENTO

PREMESSA

ATTENZIONE

NOTA

ATTENZIONE

NOTA

AVVERTENZA

SE LA POMPA NON ADESCA

SE LA POMPA NON ADESCA

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ITALIANO (Lingua originale)

S PROBLEMI E SOLUZIONI

Per qualunque problema, è buona norma rivolgersi al centro di assistenza autorizzato più vicino alla sua zona.

Table with 3 columns: PROBLEMA, POSSIBILE CAUSA, AZIONE CORRETTIVA. Rows include IL MOTORE NON GIRA, IL MOTORE GIRA LENTAMENTE IN FASE DI AVVIAMENTO, PORTATA BASSA O NULLA, ELEVATA RUMOROSITÀ DELLA POMPA, PERDITE DAL CORPO POMPA, LA POMPA NON ADESCA IL LIQUIDO.

T DEMOLIZIONE E SMALTIMENTO

Premessa

Smaltimento dell'imballaggio

Smaltimento delle parti metalliche

Smaltimento dei componenti elettrici ed elettronici

Informazioni relative all'ambiente per i clienti residenti nell'Unione europea

Smaltimento di ulteriori parti

Smaltimento di ulteriori parti

Smaltimento di ulteriori parti

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ITALIANO (Lingua originale)

U VISTE ESPOSE / EXPLODED VIEWS

