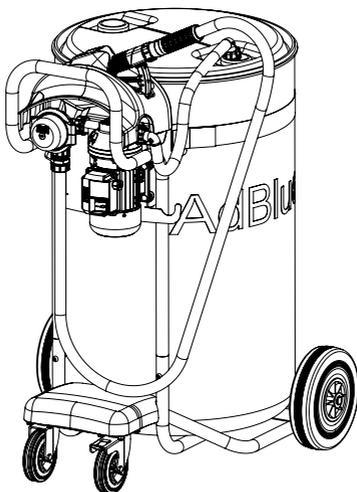


# PIUSI

*Fluid Handling  
Innovation*

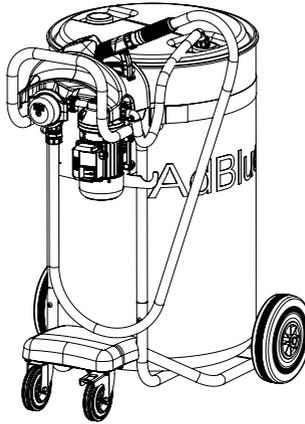


## FLIPPER 230V 50Hz 4M

**ENGLISH**  
(translation of original instructions)

**EN**

*Machine:* Dispenser AD-Blue® for cars  
*Models:* FLIPPER 230V 50Hz 4M



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## B DECLARATION

### B.1 FACSIMILE COPY OF EU DECLARATION OF CONFORMITY

The undersigned:

**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 below:

Description : Dispenser AD-Blue® for cars

Model : FLIPPER

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 is in conformity with the legal provisions indicated in the directives :

- Machinery Regulations
- Electromagnetic compatibility

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 ORIGINAL DECLARATION OF CONFORMITY IS PROVIDED SEPARATELY WITH THE PRODUCT

## B.2 DECLARATION OF COMPATIBILITY'

The undersigned:

**PIUSI S.p.A**

**Via Pacinotti 16/A z.i. Rangavino - 46029 Suzzara - Mantova - Italy**

### HEREBY STATES

have been manufactured with material, for the parts in continuous contact with the liquid, compatible with the following norm ISO22241-1 : 2006 (quality standard)

Diesel engines – NOx reduction agent AUS 32 – Part 1: Quality requirements

and have been tested with the requirements of the following norm

ISO22241-2 : 2006 (quality standard)

Diesel engines – NOx reduction agent AUS 32 – Part 2: Test methods

The adblue liquid , both before and after testing, resulted within the specified AUS32 (AdBlue) limit in conformance with ISO22241-2-2006 ( as per Norm DIN V 70070)

16/05/2023  
Place and date

  
Otto Varini  
legal representative

## C 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.

---

The following symbols will be used throughout the manual to highlight safety information and precautions of particular importance:

---

### 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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## D SAFETY INSTRUCTIONS

### D.1 SAFETY WARNINGS

**Mains - preliminary checks before installation**



Before installation, make sure that the electric power supply network is fitted with a suitable earth-line and complies with the regulations in force.

**WARNING: You must avoid any contact between the electrical power supply and the fluid that needs to be pumped.**

**Maintenance control**

Before any checks or maintenance work are carried out, switch the system's power off by disconnecting the plug from the socket.

**Prohibitions**



**WARNING: It is strictly forbidden to support or transport the system using a power supply cable. It is strictly forbidden to support or transport the system using a suction or outlet pipe.**

**WARNING**



**In the event of a suspected contamination of the liquid in the car tank, sanitize the tank. Do not use the FLIPPER before recovery**

### D.2 FIRST AID RULES

**Contact with the product  
Persons who have suffered electric shock**

In the event of problems developing following EYE/SKIN CONTACT, INHALATION or INGESTION of the treated product, please refer to the SAFETY DATA SHEET AD-BLUE/AUS32

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**

### D.3 GENERAL SAFETY RULES

**Essential protective equipment characteristics  
Personal protective equipment that must be worn**



Wear protective equipment that is: suited to the operations that need to be performed; resistant to cleaning products.



close-fitting clothing;



protective gloves;



safety goggles;

**Other equipment**



instruction manual

**Protective gloves**



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

**WARNING**



**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.

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.

**ATTENTION**



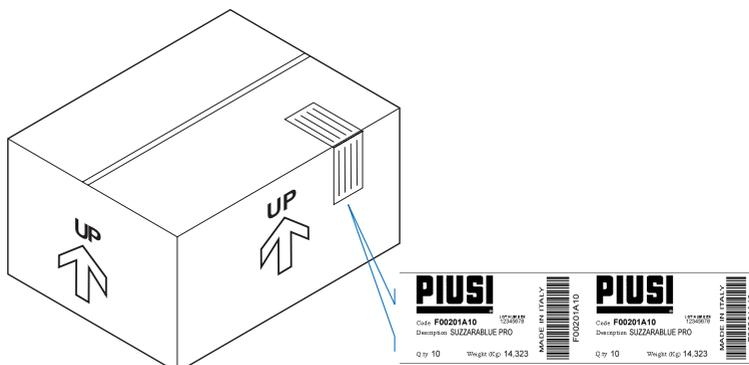
**The electrical connection between the plug and socket must be kept well away from water.**

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 a earth-leakage circuit breaker (max 30 mA).

## E DISPENSING SYSTEM PACKAGING

- The dispensing system comes packed in a cardboard box bearing the following markings:
- an arrow indicating the TOP side;
  - a label containing all the information relating to the equipment (model, weight, etc)..



SB\_D\_001

### E.1 PACKAGE CONTENTS/PRE-INSPECTION

#### FOREWORD

to open the cardboard packaging, use a pair of scissors or a cutter, being careful not to damage the dispensing system or its components. Open the packaging and check that the following components provided as part of the equipment are available:

#### NOTE



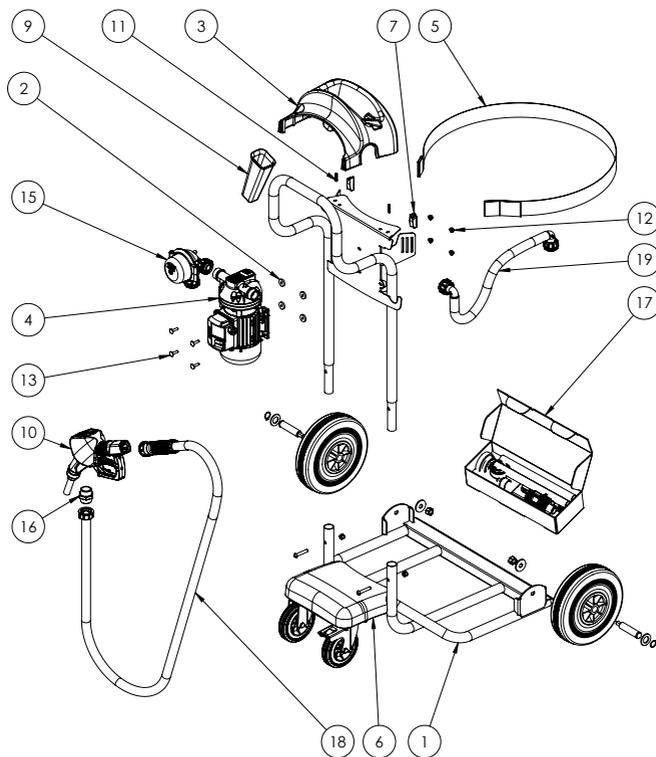
***In the event that one or more of the components described below are missing from inside the package, please contact Piusi S.p.A. technical support.***

#### WARNING



***Check that the data on the plate correspond to the desired specifications. In the event of any anomaly, contact the supplier immediately, indicating the nature of the defects. Do not use equipment which you suspect might not be safe.***

## E. 2 COMPOSITION OF FLIPPER



N°	DESCRIPTION	Q.TY
1	COMPLETE TROLLEY CHASSIS	1
2	ANTIVIBRATION 22X5.5 SP5	4
3	FLIPPER COVER	1
4	MEMBRANE PUMP 230V 50HZ 4M	1
5	220L BARREL BELT	1
6	FLIPPER BOTTOM COVER	1
7	PLASTIC SUPPORT FLIPPER COVER	2
9	DRIP GRAFT	1
10	UREA NOZZLE WITH METER SB325	1
11	SCREW TC 4X25 UNI 9707	2
12	FLANGED NUT M6 ISO 4161	4
13	SCREW UNI5732 8.8 M6X25 TBSQ S/DADO	4
14	THREADED BUSHING M5 L15 HEAD Ø9	2
15	3D ADBLUE FILTER	1
16	Nipple 1"x1"	1
17	SUCTION KIT AF2 70X6	1
18	RUBBER HOSE D19 UREA 2,2M 1"F SB325	1
19	RUBBER HOSE D19 UREA 0,5M 1"F 90°	1

## F MACHINE AND MANUFACTURER IDENTIFICATION

The dispensing system comes with an identification plate; this is attached to the pump and contains the following information:

type;  
lot number / Production year;  
technical data;  
use and maintenance handbook code

### WARNING



**Before installing, always make sure the type of dispensing system is correct and suitable for the available power supply (Voltage/Frequency)**

### F.1 PLATES POSITIONS

*The dispensing system is equipped with decals and/or plates to provide operators with the necessary important information. Make sure that these do not deteriorate or become detached over time.*

### NOTE



*Should this situation arise, please contact our support department and arrange to have the damaged or missing plates sent back and replaced where necessary.*

The decals present are as follows:



- protection gloves
  - safety goggles
  - close-fitting clothing
  - refer to use and maintenance manual
  - safety shoes



**FOR UREA SOLUTIONS AND WATER ONLY  
DO NOT USE FORTHWITH**

- SERIAL: PETROL (GASOLINO)  
- EQUIPPED WITH FLAME FRONT - 48FC131F

- label: use with water/urea solutions only



**ATTENTION!**

THE PUMP CAN BE SEVERELY DAMAGED  
IF KEPT RUNNING (A/C CIRCUIT)  
WHICH IS RUNNING FOR MORE THAN  
THREE (3) MINUTES

LA POMPA SI PUÒ DANNEGGIARE SE  
TENUTA ACCESA SENZA ESSERE  
PER PIÙ DI 3 MINUTI

- label: caution note on the prolonged use of the pump



**WARNING**

OK

- CE plate with technical data

- plate with pipe emptying indications

## G TECHNICAL SPECIFICATIONS

Dimensions	
Length (A) *	800 mm
Depth (B)	783 mm
Height (C)	1075 mm
Weight	
FLIPPER 230/50	28 Kg
Technical Specifications	
Voltage	230 V
Frequency	50 Hz
Power	370 W
Absorption	1,6 A
Revolutions	1400 rpm
Operating temperature	+23°F / +104°F / -5°C/+40°C
Q-min	0,9 gpm / 3,5 l/min
Q-max	5,3 gpm / 20 l/min
P-max	27,6 psi / 1,9 bar
Protection	IP55
Reference manual	M0628B EN

## H INTENDED USE

<b>Intended use</b>	The dispensing system "FLIPPER" was designed and built for the distribution of the product called AdBlue®, AUS32 or water.
<b>Conditions of use</b>	The dispensing system "FLIPPER" should be used by observing the following conditions: Max. temperature of dispensed product: +35 °C. Min temperature of dispensed product: -11 °C. Max. temperature of dispensed product permitted by materials: +40°C. Voltage variation permitted: +/- 5% Equivalent continuous sound pressure level at the workstation: ≤75 dB(A) Make sure that the pump operates within its nominal operating parameters.
<b>Flammable liquids and explosive atmosphere Unintended use</b>	 <b>WARNING</b> <i>The system "FLIPPER" was not designed for dispensing of diesel, petrol, flammable liquids with flash point &lt;55°C/131°F, or for operation in environments with potentially explosive atmosphere. The use in the above mentioned conditions is forbidden.</i>
	 <b>WARNING</b> <i>The use of the system for purposes different from those specified in section "Intended use" is strictly forbidden. Do not operate the system for any purpose other than the purpose described within this manual; all other use is considered "IMPROPER" and will result in Piusi S.p.A. disclaiming any responsibility for damage to property, people, animals or to the system itself.</i>
<b>WARNING</b>	 <i>Do not keep the pump in motion with the nozzle in the closed position for more than 3 minutes.</i>

## I TREATED PRODUCT CHARACTERISTICS

<b>Products permitted</b>	The "FLIPPER" dispensing system was designed and built to dispense a special liquid, made from an aqueous urea solution, known as AdBlue®/AUS32 , based on the ISO 22241 standard FLIPPER can also be used with water.
<b>Products not permitted</b>	 <b>WARNING</b> <i>All products not listed in the "Intended Use" and "Treated Product Characteristics" paragraphs are to be considered not permitted, improper and therefore prohibited.</i> Piusi S.p.A. accepts no responsibility for damage to persons or property caused by failure to comply with this requirement.

## L INSTALLATION

**Foreword**  
**Authorised installation personnel**

The "FLIPPER" dispensing system has been designed and arranged on a trolley for ease of use and delivery. All installations must be carried out by authorised and competent personnel only. Authorised persons must

- install the system in dry and well-ventilated place;
- ensure the correct installation of equipment required for the correct functioning of the pump;
- only use accessories that have been supplied with the system.

**WARNING**



**The use of accessories that are unsuitable and were not provided with the system is strictly prohibited. Piusi S.p.A. accepts no responsibility for damage to persons, property or the environment caused by failure to comply with this requirement.**

**The "FLIPPER" dispensing system is for professional use only.**

**As per the current legislation, the "FLIPPER" dispensing system must be used in premises that are sufficiently well-lit.**

**The "FLIPPER" dispensing system has been specifically designed for use in a dry place. If installed outside, an adequate protective covering must be provided.**

## M ASSEMBLY

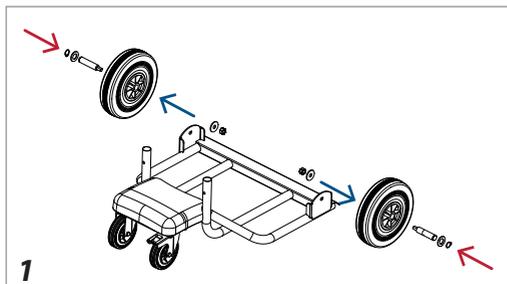
### UNPACKING

- A. Open the box and carefully remove the product
- B. Start from the top, sliding the trolley rudder outwards
- C. Before removing the shaped cardboard band, remove the gun, the hoses and the other material from the box
- D. Finally, remove the wheels and the bottom frame.

### NECESSARY EQUIPMENT

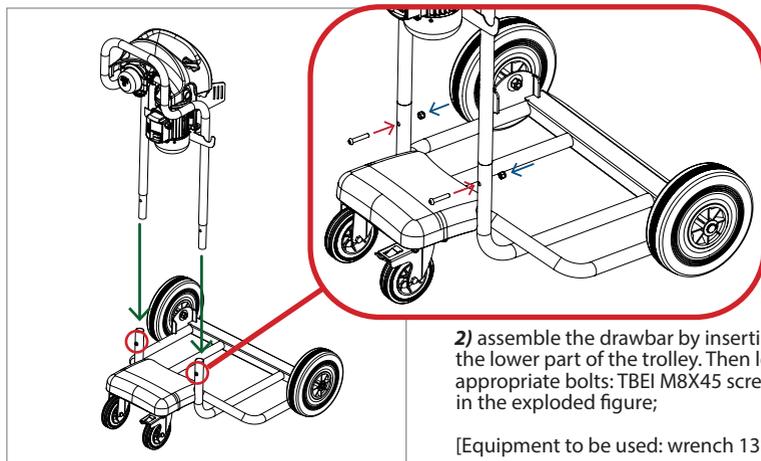
#### ASSEMBLY:

- wrench 19
- pliers for external seeger rings
- wrench 13
- Allen key 5



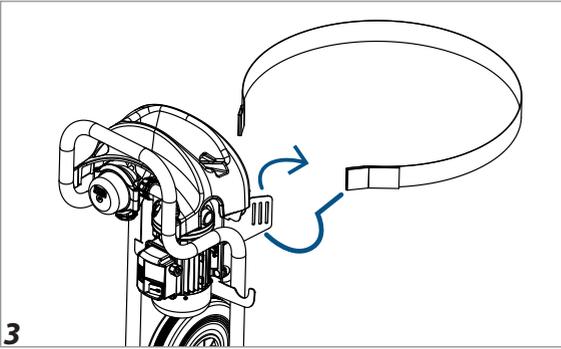
1) assemble the wheels with pin, washers, nut and seeger as shown in the exploded figure and make sure that the assembly is secure;

[Equipment to be used: wrench 19 and pliers for external seeger rings]

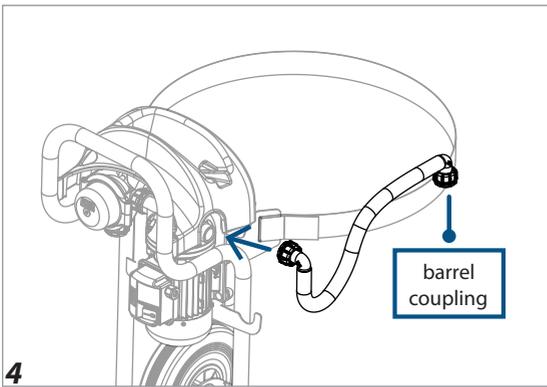


2) assemble the drawbar by inserting it into the two holes in the lower part of the trolley. Then lock the coupling using the appropriate bolts: TBEI M8X45 screw + M8 self-locking nut as in the exploded figure;

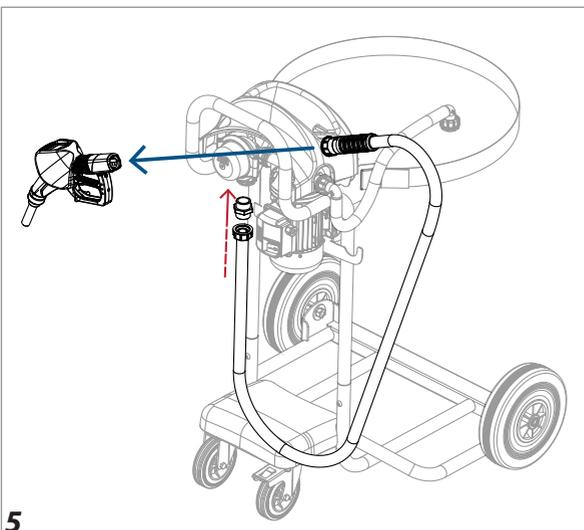
[Equipment to be used: wrench 13 and hexagonal wrench 5]



**3)** load the drum onto the trolley and mount the drum locking belt to the appropriate hooks, as shown in the figure;



**4)** after loading the drum on the trolley, proceed with assembling the suction kit: screw both the 0,5M hose ends by turning the ring nuts of the fittings: on one side to the drum inlet, on the other to the pump;

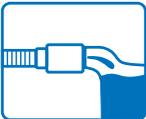


**5)** proceed with assembling the delivery kit: screw both the 2.2M hose ends hose by turning the union nuts: the side with the hose protection must be screwed into the gun, while the other into the filter.

## N OPERATION AND USE

<b>WARNING</b>		<i>To remove any substance residue or foreign matters from the pipes, wash the system before putting it into operation. To wash the system, follow the same dispensing procedures using demineralized or deionized water and eventually rinse with DdBlue® / AUS32 / D.E.F.</i>
<b>Foreword</b>		<i>Directions on how to start and stop operation of the system are given below:</i> <b>WARNING</b> <i>During operation the motor may be hot: be careful.</i>
<b>WARNING</b>		<i>For the proper functioning of the system, allow a 20-minute stop for every 20 minutes of dispensing.</i>
<b>ATTENTION</b>		<i>Operation of the pump without dispensing is only admitted for periods of no longer than 3 minutes.</i>
<b>WARNING</b>		<i>We recommend that the pump remains switched off whenever the system is not in use.</i>
<b>ATTENTION</b>		<i>If ever the voltage is lagging, push the switch to the OFF position and return the nozzle to its rest position with its lever not activated.</i>
<b>WARNING</b>		<i>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.</i> <i>Foreign bodies in the suction and delivery circuit of the pump could cause malfunctioning and breakage of the pump components.</i> <i>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</i>

### N.1 PHASES OF DELIVERY

	<b>1</b> Switch on the pump;		<b>2</b> Insert the dispensing gun into the car tank and press the operating lever;
	<b>3</b> Wait for filling;		<b>4</b> At the end of filling, release the gun lever and switch off the pump;

5

Replace the gun to its housing.

## O LEAVING THE SYSTEM UNUSED FOR LONG PERIODS OF TIME

### What to do

Whenever it is thought that the system will remain unused for at least 15 days, it must be emptied in order to prevent the product from crystallising inside. This shall be followed by a washing cycle..

## P WASHING THE DISPENSING SYSTEM

### Foreword

The dispensing system requires washing in order to remove product crystallisation which may damage the plant.

### ATTENTION



***Wear personal protective equipment (PPE) when performing the wash cycle. Use only demineralised water to wash the system.***

### Disposal

Liquids resulting from washing must be disposed of in accordance with the laws prevailing in the country of use.

### ATTENTION



***By following the same modes of delivery described above, the dispensing system can be washed by sucking up demineralised water from the clean container and collecting the resulting mixture in a different disposable container.***

## Q MAINTENANCE

### Safety instructions

The dispensing system was designed and built to require a minimal amount of maintenance. Before carrying out any maintenance work, disconnect the dispensing system 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

### Authorised maintenance personnel Measures to be taken

All maintenance must be performed by qualified personnel. Tampering can lead to performance degradation, danger to persons and/or property and may result in the warranty being voided.

Whenever there is risk of frost, empty the circuit and the pump, taking care to place the pump in an environment where the temperature is no lower than 0°C/32°F.

Check that the labels and plates found on the dispensing system do not deteriorate or become detached over time.

### ONCE A WEEK:

- Check that the pipe connections are not loose to prevent any leaks;

### ONCE A MONTH:

- Check the pump body and keep it clean and free of any impurities;

### TH:

- Check that the electrical supply cables are in good condition.

## R TROUBLESHOOTING

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
<b>THE MOTOR IS NOT TURNING</b>	Lack of electric power	Check the electrical connections and the safety systems.
	Rotor jammed	Check for possible damage or obstruction of the rotating components.
	Motor problems	Contact the Service Department
<b>THE MOTOR TURNS SLOWLY WHEN STARTING</b>	Low voltage in the electric power line	Bring the voltage back within the anticipated limits
<b>LOW OR NO FLOW RATE</b>	Low level in the suction tank	Refill the tank
	Excessive suction pressure	Lower the pump with respect to the level of the tank or increase the cross-section of the tubing
	High loss of head in the delivery circuit (working with the by-pass open)	Use shorter tubing or of greater diameter
	By-pass valve blocked	Contact the Service Department
	Air entering the pump or the suction tubing	Check the seals of the connections
	A narrowing in the suction tubing	Use tubing suitable for working under suction pressure
	Low rotation speed	Check the voltage at the pump. Adjust the voltage and/or use cables of greater cross-section
	Freezing of the pump or motor.	Thaw the pump and check for damage. Starting a frozen pump can cause damage to the motor and to the pump itself
	Leaks in the pump outlet pipe.	Check the seal at the pipe's connections and inspect the pipe for possible damage.
	Failure to prime	fill the suction hose with demineralised water
<b>INCREASED PUMP NOISE</b>	Cavitation occurring	Reduce suction pressure
	Irregular functioning of the by-pass	Dispense until the air is purged from the by-pass system.
	Presence of air in the liquid to be pumped.	Verify the suction connections
<b>LEAKAGE FROM THE PUMP BODY</b>	Pump damage	Contact the Service Department
<b>THE PUMP DOES NOT PRIME THE LIQUID</b>	Suction circuit blocked	Remove the blockage from the suction circuit
	The suction chambers are dry	Add liquid from pump delivery side
	The pump chambers are dirty or blocked	Remove the blockages from the suction and delivery valves

## S DEMOLITION AND DISPOSAL

<b>Foreword</b>	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:
<b>Disposing of packing materials</b>	The packaging consists of biodegradable cardboard which can be delivered to companies for normal recycling of cellulose.
<b>Metal Parts Disposal</b>	Metal parts, whether paint-finished or in stainless steel, can be consigned to scrap metal collectors.
<b>Disposal of electric and electronic components</b>	These must be disposed of by companies that specialize in the disposal of electronic components, in accordance with the indications of directive 2002/96/CE (see text of directive below).
 <b>Information regarding the environment for clients residing within the European Union</b>	European Directive 2002/96/EC requires that all equipment marked with this symbol on the product and/or packaging not 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.
<b>Miscellaneous parts disposal</b>	Other components, such as pipes, rubber gaskets, plastic parts and wires, must be disposed of by companies specialising in the disposal of industrial waste.

### To the customers

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

**FLIPPER has been designed, tested, and approved for use with AUS32 / DEF / AdBlue®**

**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.**



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