AF 3000

ITALIANO IT
(lingua originale)

ENGLISH EN
(translation of original instructions)

Adam Pumps S.p.A.
Soc. con Socio Unico
via della resistenza 46/48 - 41011 Campogalliano (MO) ITALIA
Tel +39 059 528128 - Fax +39 059 528437
www.adampumps.com - info@adampumps.com

UM002
7/2020 - rev. 6

CE

USE AND MAINTENANCE MANUAL

Machine: DIESEL FUEL DISPENSERS
Models: AF 3000

the use and maintenance manual must be carefully stored near the machine in an environment protected against humidity and heat. The manual must accompany the machine if sold. It is prohibited to damage, modify or remove any part of the manual.

EC DECLARATION OF CONFORMITY

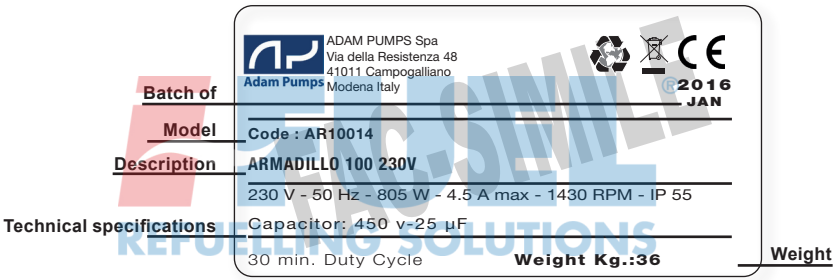
(Annex II A DIR. 2006/42/EC)

THE MANUFACTURER

ADAM PUMPS S.p.A., with its registered office in Via della Resistenza, 46/48, 41011, Campogalliano (MO), ITALY; represented by Davide Stassi, authorised to compile the relevant technical file at the undersigned premises,

DECLARES THAT THE MACHINE

Used as a diesel fuel pumping system to be integrated into a system for transferring fuel from a gravity tank.



COMPLIES WITH DIRECTIVES

Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC.
Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.
Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. Applicable only for AC powered products.

Place and date of the document
Campogalliano, January 14, 2020

The legal representative

TABLE OF CONTENTS

1 - GENERAL WARNINGS

IMPORTANT: It is essential to have understood the entire instruction manual before performing any operation, so as to safeguard operator safety and to avoid potential product damage.

Storing the manual: This manual must be kept intact and fully legible. The end user and the skilled technicians authorised with installation and maintenance of the product in question must be able to consult it at all times.

2 - MACHINE SPECIFICATIONS

2.1 - Intended use

The pump units described in this manual, once you have unpacked and installed them, are machines that can fill a receiving tank with diesel fuel sucked from a gravity storage tank.

2.2 - Description of the machine

The pump is made up of the following parts:
PUMP : volumetric self-priming rotary vane electric pump fitted with a bypass valve.
MOTOR : the units are fitted with one of the following motors, depending on the model:
Single-phase asynchronous motor, 2-pole, closed (protection class IP55 in compliance with Standard EN60034-5-86), self-ventilating, directly flanged to the pump body.
Brushed single-phase motor, with rectifier circuit, directly flanged to the pump body.
Brushed DC motor, directly flanged to the pump body.
FILTER : stainless steel basket filter, can be inspected.
METER : device for detecting the litres of fluid dispensed, fitted with a reset knob and adjustment screw.
UNIT : assembly consisting of pump, connecting pipes and meter.

2.3 - Technical specifications

MODEL	Power supply(*)	Maximum current [Amp] (*)	Rated power [Watt](**)	Work cycle [min]	Max flow rate [l/min]	Input/Output [BSP-G](***)	Noise [dBA]	Hose	Nozzle
AF3000 60 230V 50/60Hz	AC 230V 50/60Hz	2,9	550	(S2) 30	60	1" G-BSP	70	4m Ø20	60 L Automatica
AF3000 60 115V 60Hz	AC 115V 60Hz	8	805	(S2) 30	60	1" G-BSP	70	4m Ø20	60 L Automatica
AF3000 70 230V 50/60Hz	AC 230V 50/60Hz	2,9	550	(S2) 30	70	1" G-BSP	70	4m Ø20	90 L Automatica
AF3000 80 230V 50/60Hz	AC 230V 50/60Hz	4,1	736	(S2) 30	80	1" G-BSP	80	4m Ø25	120 L Automatica
AF3000 100 230V 50/60Hz	AC 230V 50/60Hz	4,5	805	(S2) 30	100	1" G-BSP	80	4m Ø25	120 L Automatica

(*) The values refer to operation of the pump in bypass (maximum performance)
(**) CAUTION! Operation in bypass is allowed only for brief periods (1-2 minutes at most)
(***) The noise levels are measured at a distance of 1 metre from the electric pump in normal operating conditions. In order to maximise performance, pressure losses have to be minimised in the pump suction line as follows:
- shorten the suction pipe as much as possible
- avoid, if possible, installing elbow fittings and/or throttling in the hydraulic circuit
- use a pipe with the same diameter or a diameter larger than the minimum specified in chapter 5
- INSTALLATION- always keep the filter inside the pump clean and regularly inspected

3 - OPERATING CONDITIONS

3.1 Environmental conditions

Temperature: min. -20°C / max. +60°C (*) **Relative humidity:** max. 90%

(*) Caution! The temperature limits shown refer to the components making up the pump and should be respected to prevent any damages or malfunctions from occurring.

3.2 - Power supply

Depending on the model, the pump must be powered by the single-phase or three-phase AC line whose values are given in the table in section 2.3 - Technical specifications. Powering the pump with values outside these limits can damage the electrical components or cause them to malfunction.
The maximum power supply variations allowed are:
Voltage: +/- 5% of the nominal value **Frequency:** +/- 2% of the nominal value

3.3 - Allowed fluids and forbidden fluids

Allowed	DIESEL FUEL with 2 to 5.5 cSt viscosity (at 38°C). Minimum flash point (MF): 55 °C
Forbidden	PETROL, FOOD LIQUIDS, WATER, FLAMMABLE LIQUIDS (MF <55°C) SOLVENTS, LIQUIDS WITH > 20 CST VISCOSITY, CORROSIVE CHEMICALS

4 - TRANSPORT AND HANDLING

4.1 - Transport

The weight and dimensions of the machine allow it to be transported by hand and easily placed. The machine does not require lifting equipment to move it.

the Manufacturer shall not be held liable for harm to people or animals or damage to property resulting from use of lifting systems other than those specified.

Upon receipt, make sure the packaging is intact and in good condition. Any damage must be reported immediately.

4.2 - Unpacking

Unpack the product as follows:
1. Place the box on the floor in the direction drawn on the packaging
2. Carefully open the box, remove the unit and place it on the floor or on a stable surface
3. After ensuring that the unit and any accessories are intact, remove the two plugs and install it as described in the next chapter (5 - INSTALLATION).

4.3 - Storage

Prior to its use, the unit, still in its original packaging, should be stored in a dry and protected place in an environment with the conditions described in Section 3.1 - Environmental conditions. Failure to follow these instructions may affect proper operation of the product.

5 - PRELIMINARY CHECKS

5.1 - Preliminary checks and positioning the pump

Make sure the unit has not been damaged while being transported or stored.Remove any remaining packaging material from the product (e.g. protective caps) and carefully clean the suction and discharge outlets.Install the unit in the desired position, in a place sheltered from rain and weather events.Position and fix the unit with suitably sized screws.For the centre distances of the holes, see section 12.3 - Overall dimensions and weights.

CAUTION! The motors are not explosion-proof. They must not be installed in areas with flammable vapours or open flames.

5.2 - Hydraulic pipe connection

Before connecting the unit, make sure the tank, fittings and pipes used are clean and free from waste or processing residues. Before connecting the discharge pipe to the unit, we recommend partially filling the pump body with diesel fuel to lubricate and facilitate the priming procedure.

CAUTION! Do not use couplings or connection fittings with conical threading, as these could damage the pump coupling outlets if tightened too much.
We recommend using ADAM PUMPS suction and discharge pipes, which are designed specifically for the pump in use; alternatively, respect the dimensions and specifications in the table below.

	"AF3000 60 AF3000 70"		"AF3000 80 AF3000 100"	
	Suction	Discharge	Suction	Discharge
Unit inlet connection thread	1" G - BSP	1" G - BSP	1" G - BSP	1" G - BSP
Recommended minimum internal diameters	Ø25 mm	Ø19 mm	Ø25 mm	Ø25 mm
Recommended rated pressure	10 Bar	10 Bar	10 Bar	10 Bar
Pipe suitable for operation under negative pressure	•		•	

5.3 - Remarks on the suction lines

SUCTION LINE	The units in this manual mount self-priming pumps and can draw the liquid from a maximum height of 2 metres. Caution, proper priming and the time required for this can be affected by an automatic nozzle on the discharge line, which prevents normal air extraction from the pipe. It is therefore always advisable to prime the pump for the first time without the automatic nozzle and with the discharge pipe emptied from the liquid. To facilitate the subsequent start-up operations of the unit so that they are immediate, it is always recommended to install a foot valve to prevent the suction pipe from emptying and to keep the pump wet. When the system is in operation, the pump can work with negative pressure at the suction inlet up to 0.5 Bar, after which cavitation phenomena can start with consequent reduction of the flow rate and increase in noise. To prevent this phenomenon from occurring it is important to ensure low suction negative pressure, by using short pipes or pipes with a diameter larger than or the same as those recommended, minimising bends and using large section suction filters and foot valves with the least resistance possible.Moreover, it is very important to keep all suction filters clean to prevent the system resistance from increasing when they are clogged.
DISCHARGE LINE	The unit must be chosen based on the system's specifications. Incorrect combinations of the length of the pipe, of its diameter, of the flow rate of the diesel fuel and/or of the accessories installed on the line, can create a counterpressure on the discharge line that is higher than the maximum set and so cause the pump bypass to open (partially) with consequent reduction in the flow rate dispensed. To prevent this from happening and allow the pump to work properly, the system resistance has to be reduced using pipes that are shorter and/or with a larger diameter and line accessories with less resistance (e.g. an automatic nozzle for greater flow rates).

5.4 - Electrical connection of the pump

Single-phase asynchronous motors	To connect or replace the power cable, locate the pump, open the capacitor box cover and follow the connection diagram to the side. Single-phase asynchronous motors are equipped with phase capacitor and double-pole switch. The capacitor specifications are indicated for each model on the pump's rating plate.
Brushed motors	To connect or replace the power cable, locate the pump and remove the casings. Brushed motors can be single-phase, 12 V DC or 24 V DC. For DC versions, follow the polarity when connecting: RED = VCC (+, switch side), BLACK = GND (-, motor side).For single-phase versions, connect following the colours: BROWN = L (phase, switch side), BLACK = N (neutral, motor side), YELLOW-GREEN = earth cable to be screwed to the back cover.

For proper installation and electrical maintenance of the system, please follow these instructions:
- make sure the power lines are not live when installing or carrying out maintenance operations on the system
- use cables with minimum section, rated voltages and type of installation suitable for the system's specifications
- always connect the unit's earth terminal to the electricity grid's earth line.
- always keep the capacitor box closed and sealed before electrically powering the pump

CAUTION! The units are provided without safety devices such as fuses, motor protectors, systems against accidental restart after a power failure. Even the switch, if any, will only start/stop the pump and can in no way replace a suitable circuit breaker. It is therefore the direct responsibility of the installer to connect the unit to the main electrical panel in compliance with the regulations in force in the country of use.

6 - INTENDED USE

6.1 - Preliminary checks and start-up

After ensuring there is diesel fuel in the suction tank, that all pipes and components on the hydraulic line are in good condition and properly sealed, and the nozzle is closed, the unit can be started.
After inserting the nozzle into the filling hole, switch the unit on, gradually release the nozzle lever and start transferring the diesel fuel. When you have finished filling, close the nozzle and switch the pump off.
If you are using an automatic nozzle, it will automatically close as soon as you have finished filling.

WARNINGS! Never leave the filling position to prevent accidental diesel fuel spillage. Do not start the pump before having connected the suction and discharge pipes. Do not start or stop the unit by inserting or unplugging any plugs. Do not touch any switches with wet hands. Avoid direct contact of the diesel fuel with skin or eyes as it may cause harm. Use of goggles and gloves is recommended.The motors are not fitted with motor protectors and systems against accidental restart. In the event of a power failure, remember to switch the unit off and unplug it before restoring it.Work cycles that are continuous or in extreme conditions for the unit can cause the motor temperature to rise and its subsequent shutdown by the circuit breaker. Switch the unit off and wait for it to cool down before resuming work. The circuit breaker automatically switches off when the motor has cooled sufficiently.

CAUTION! During the first priming phase, the pump must be able to discharge the air, initially present in the suction pipe and in the pump, from the discharge line. To facilitate this procedure, make sure the nozzle or the discharge outlet is kept open. If an automatic nozzle is installed on the discharge line, it is recommended to temporarily disassemble the nozzle to facilitate pump suction during first start-up.

6.2 - Intended use

- If hoses are used, make sure the ends are properly connected to the tanks.
- Firmly hold the end of the discharge pipe to prevent accidental spillage.
- Before starting the pump, make sure the discharge valve or the nozzle is closed.
- When you are ready, switch the unit on. The pump can remain in bypass (internal circulation if the discharge is closed) only for brief periods.
- With the pump on and in bypass, open the discharge valve or nozzle holding it firmly.
- When you have finished dispensing, close the valve or nozzle and switch the unit off.

CAUTION! Operation of the pump with discharge closed is allowed only for brief periods (max 1-2 minutes). Make sure the unit is switched off after use.

If there is a power failure:
1. Close the discharge valve or nozzle
2. Put the end of the discharge pipe into its housing on the tank
3. Switch the unit OFF

When the power has returned, restart the unit as described at the beginning of the section.

6.3 - Smart Stop

The product has the ability to turn on or off the pump automatically when the gun is inserted or removed dall'apposito accommodation. This function is possible thanks to a special mechanism that is actuated when the gun barrel touches the pallet behind.

6.4 - Calibration of Mechanical Meter

Calibration is necessary when the litre counter is new, after dismounting, when a different fluid is measured or as consequence of significant wear. Calibration of the litre counter can be changed easily by following the calibration procedure listed below. For the calibration procedure it is necessary a test container or a container of KNOWN volume. It is recommended that the container has a volume of at least 19 litres (5 gallons).

Calibration Procedure

1. Follow Figures A-C (as for clearing of the filter) to access to the calibration screw;
2. Fill the container up to a known volume;
3. if the indicated quantity does not correspond to the known volume, the litre counter must be calibrated. Make sure that the pump is closed and that the pressure is interrupted, hence remove the sealing screws and rotate the calibration screw (Fig. A) in the anticlockwise direction to reduce the indicated quantity, or in the clockwise direction to increase this quantity. A full rotation changes the indicated quantity by about 0.4 of a litre. Reinstall the sealing screw;
4. repeat point 2 until the calibration is acceptable

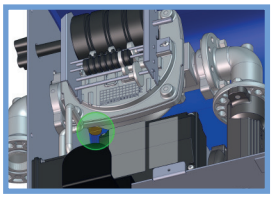
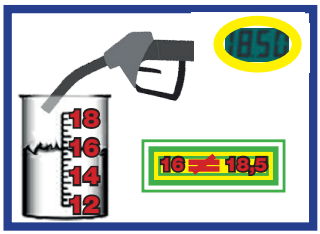
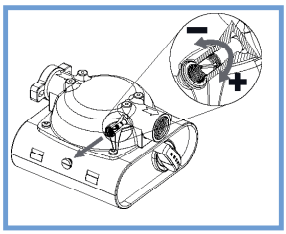


fig. A





6.5 - Noise level

Under normal operating conditions the noise emitted by all models does not exceed 85 dB at a distance of 1 metre from the electric pump.

6.6 - Compatibility in an electromagnetic environment

The machine is designed to operate correctly in an industrial electromagnetic environment, and staying within the Emission and Immunity limits laid down in the following Harmonised Standards:

IEC EN 61000-6-2 Electromagnetic compatibility (EMC) - Generic standards - Immunity for industrial environments

IEC EN 61000-6-4 Electromagnetic compatibility (EMC) - Generic standards - Emission standard for industrial environments

7 - TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
THE PUMP DOES NOT START UP	Power failure	Check the electrical connections and the safety devices
	The circuit breaker has tripped	Use the electric pump in the recommended operating conditions and according to its intended use (chap. 2 - chap. 5)
	Impeller blocked	Make sure there are no obstructions in the pump body or along the suction and discharge lines
	Defective motor	Contact the dealer (fault code M1)
LOW OR NO FLOW RATE	Low level of liquid in the tank	Fill the tank
	Filter dirty or clogged	Clean or replace the filter
	Foot valve dirty or clogged	Clean or replace the foot valve
	Pipe or dispensing nozzle damaged	Replace the damaged components
	Excessive negative pressure to the suction line	Make sure there are no leaks or restrictions on the suction part (recommended pipes chap. 5.2)
	High pressure drops in the circuit	Change the hydraulic discharge configuration
	Bypass valve open or blocked	Check the condition of the valve and clean or replace it if necessary
	Vanes blocked	Check and clean the vanes and their housings
	Excessive wear of the vanes or impeller	Replace the worn components
	Leaks from the gaskets	Make sure the gaskets are properly tightened and not worn
	Incorrect power supply voltage	Power the pump as specified on the rating plate
	Defective motor	Contact the dealer (fault code M2)
PUMP IS VERY NOISY	Cavitation	Reduce the negative suction pressure
		Make sure there are no leaks or restrictions on the suction part (recommended pipes chap. 5.2)
LITRE COUNTER WRONG	The meter is not calibrated	Calibrate the meter (chap. 6.3)
	Meter obstructed	Remove the obstruction or contact the dealer (fault code T1)
LIQUID LEAK	Air in the hydraulic circuit	Make sure there are no suction leaks
		Dispense to bleed the air from the circuit
	Clamps loosened	Make sure all clamps are properly tightened
	Gaskets worn	Replace the worn gaskets
	Non-compatible liquids used	Check compatibility of the fluid used (chap. 3.3)
	Shaft seal ring dirty or damaged	Contact the dealer (fault code A1)

8 - MAINTENANCE

Maintenance includes inspections, checks and interventions which, to prevent interruptions and breakdowns, systematically keep the machine lubrication status and the parts subject to wear under control. These operations, although simple, must be carried out by Qualified Personnel.The machine is designed to minimise routine maintenance. It is the operator's responsibility to assess the status and its suitability for use. We recommend stopping the operations and performing maintenance every time operation is not perfect. This will always allow maximum efficiency.

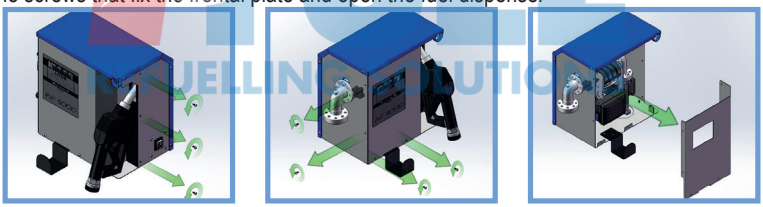
CAUTION! Make sure the unit is disconnected from the power supply and is not in operation before carrying out any maintenance.

WARNING! Failure to comply with these requirements will release the manufacturer from any liability resulting from the effects of the Warranty.

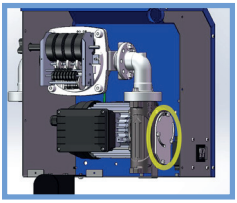
MAINTENANCE	FREQUENCY	MACHINE STATUS
Make sure the pipes and couplings are properly connected	Every month	Isolation for Maintenance purposes
Check/clean pipes and fittings	Every 12 months	Isolation for Maintenance purposes
Check/clean filter and fittings	Every month	Isolation for Maintenance purposes
Check/clean pump body	Every month	Isolation for Maintenance purposes

8.1 - Filter Cleaning models **AF3000 60-70L**

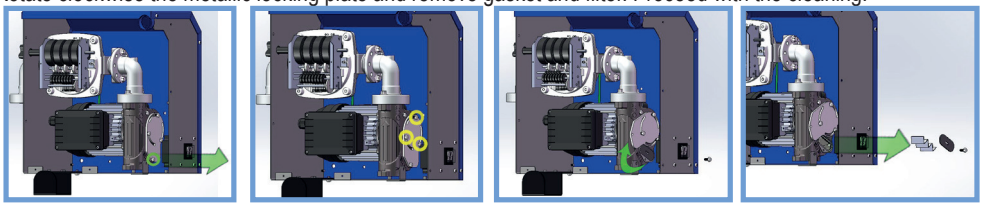
A. Unscrew the screws that fix the frontal plate and open the fuel dispenser



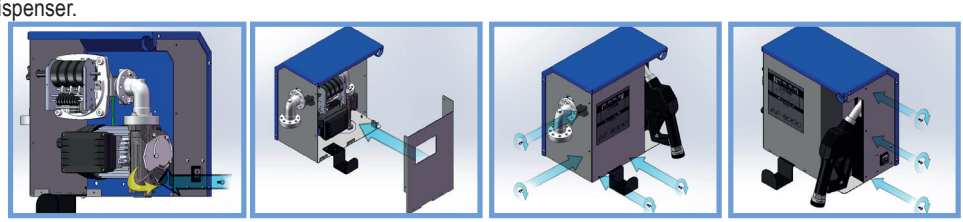
B. Identify the metallic locking plate under which it is the filter.



C. Completely unscrew the screw in correspondence with the FILTER inscription and loosen the other three. Rotate clockwise the metallic locking plate and remove gasket and filter. Proceed with the cleaning.

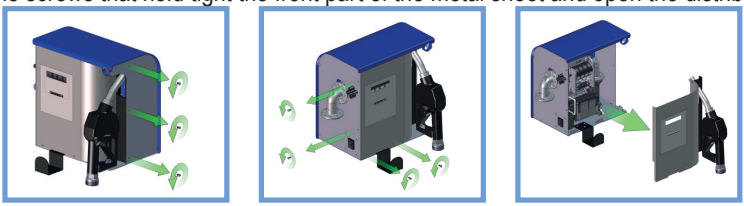


D. Relocate the metallic locking plate and tighten the screws. Position the frontal plate and close the fuel dispenser.

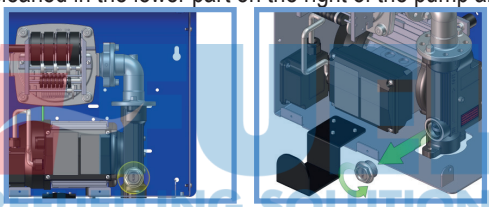


models AF3000 80-100L

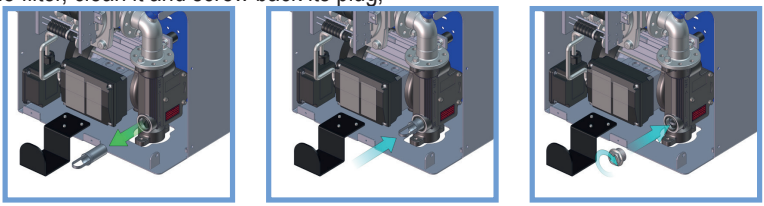
A. unscrew the screws that hold tight the front part of the metal sheet and open the distributor;



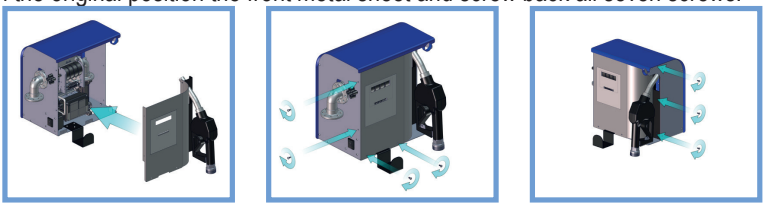
B. identify the filter to be cleaned in the lower part on the right of the pump and unscrew the plug;



C. extract the filter, clean it and screw back its plug;



D. replace in the original position the front metal sheet and screw back all seven screws.



9 - DEMOLITION AND DISPOSAL

If the electric pump is to be scrapped, its parts are to be given to companies specialised in disposing of and recycling industrial waste, as shown on the table below:

PARTS TO BE DISPOSED OF	DISPOSAL METHOD
PACKAGING	The packaging consists of biodegradable cardboard which can be sent to companies for normal pulp recycling.
METAL PARTS	The metal parts, whether painted or stainless steel, are usually recycled by companies specialised in the scrap metal industry.
ELECTRICAL AND ELECTRONIC COMPONENTS	These must be disposed of by companies specialised in disposing of electronic components, in compliance with the requirements of Directive 2002/96/EC
PARTS OF A DIFFERENT NATURE	Other parts making up the unit, such as pipes, rubber gaskets, plastic parts and wiring, are to be given to companies specialised in disposing of industrial waste.
APPLICABLE REGULATIONS FOR CUSTOMERS IN THE EUROPEAN UNION 	The European Directive 2002/96/EC states that the equipment bearing this symbol on the product and/or on the packaging is not to be disposed of with unsorted municipal waste. The symbol indicates that this product must not be disposed of with normal household waste. It is the responsibility of the owner to dispose of these products and the other electrical and electronic equipment through specific collection facilities appointed by the government or by local authorities.

10 - WARRANTY

The warranty provided by the manufacturer Adam Pumps Spa covers the product for 2 years from the date of production.

Adam Pumps Spa (manufacturer) provides its customers with:

a warranty that covers problems resulting from production and conformity defects in the purchased products

the warranty period starts from the date indicated on the CE label which indicates the date of manufacture. A label indicating the date of manufacture will be applied to those products which are not provided with a CE label. Therefore, the warranty period will start from that date;

the warranty will become immediately null and void should the data of manufacture be illegible, for any reason, unless Adam Pumps Spa is responsible for this;

the warranty covers repairs or replacement of the product, in the event it cannot be repaired

repair operations can be carried out only by Adam Pumps or by Adam Pumps' authorised centres;

the warranty will not be valid in the event the product is tampered with by unauthorised persons, bodies, and/or companies;

any warranty request is subject to approval by Adam Pumps. The goods can be returned only if provided with an authorisation code. Upon request, Adam Pumps will provide this code which will invoke the warranty for the product to be repaired or replaced;

unless otherwise agreed with Adam Pumps, the returned goods must be sent via transport pre-paid by who has invoked the warranty to Adam Pumps Spa;

goods returned without authorisation and/or with transport not paid can be rejected;

The warranty will not be applied in the following cases

Failure to use or install the product according to Adam Pumps' instructions

The product has been used with unauthorised fluids.

The product has been modified or tampered with

The product is used in an area with power supply defects (voltage changes, current phase shift, etc.)

The product is used without the supplied suction filter (inside or outside the pump).

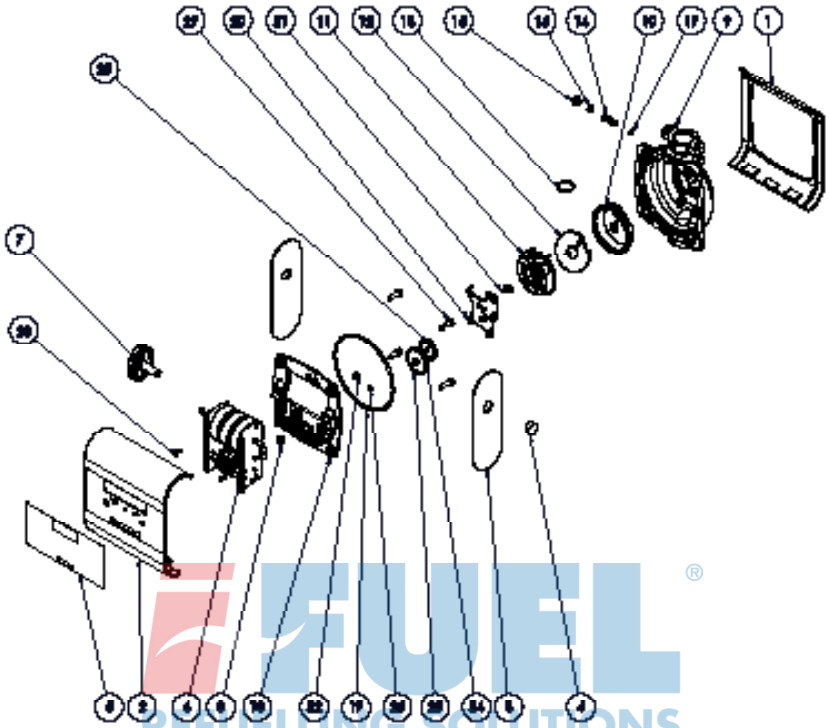
Immediately excluded from the warranty are: adhesive labels, plastic and metal casing, keyboards and masks, components subject to wear such as blades, impellers, graphite brushes (where present in the motors), seals and gaskets in general.

11 - TECHNICAL SUPPORT

The Manufacturer is always available for any information required on installation, operation or maintenance of the machine. The Customer should ask the questions clearly, with reference made to this Manual and to the instructions listed.

EXPLODED VIEWS

TECH FLOW 3C-4C

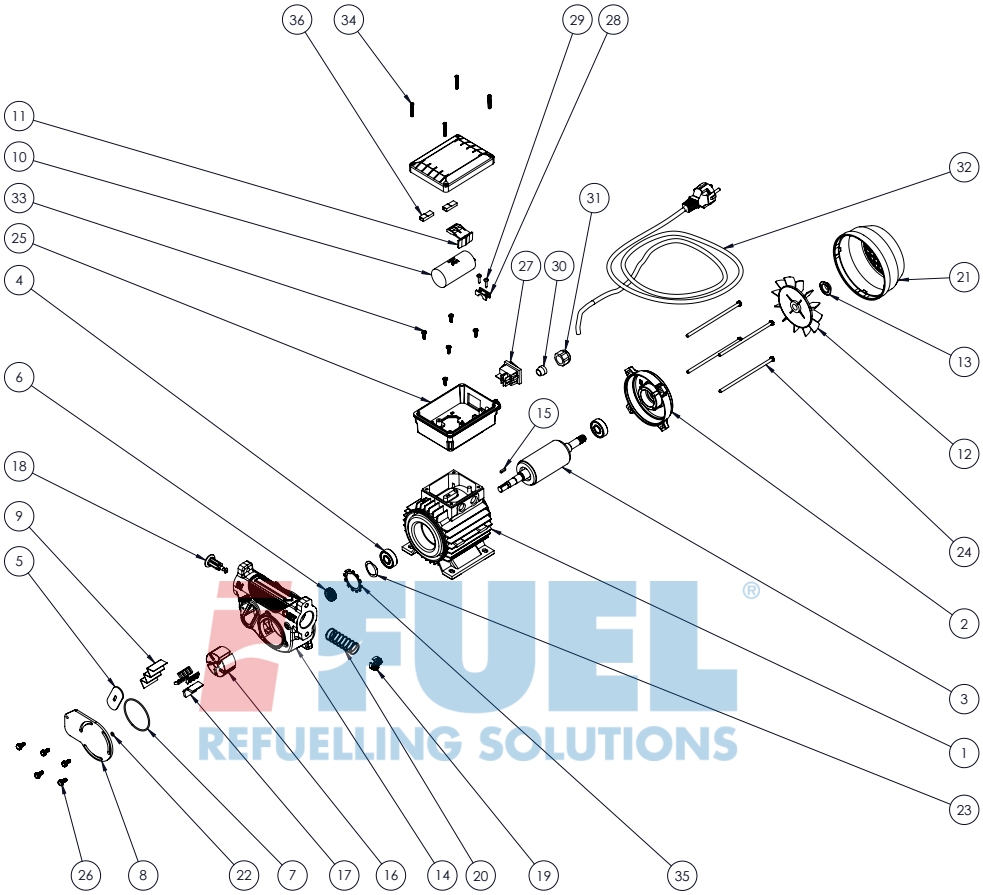


	3C	DESCRIPTION	Q.TY
1	TF014N	BOTTOM COVER	1
2	TF013N	TOP COVER	1
3	TF015G	SIDE COVER WITH HOLE	2
4	60302000	PLASTIC CAP	1
5	MA999	FACEPLATE	1
6	TF044	MECHANICAL NUMERATOR	1
7	TF012X	RESET KNOB	1
8	TF005	CONICAL GEAR	1
9	TF011	METER BODY	1
10	TF002	BOTTOM HALF-CHAMBER	1
11	TF003	TOP HALF-CHAMBER	1
12	TF001	SWINGING PLATE	1
13	OR001	O-RING Ø24 X 2	1
14	TF019	CALIBRATION SCREW 1/8"	1

	3C	DESCRIPTION	Q.TY
15	TF018	CALIBRATION CAP 1/8"	1
16	11010100200	O-RING 108 NBR	1
17	11010050200	O-RING 2018 NBR	1
18	TF010	METER FLANGE	1
19	OR002	O-RING 4500	1
20	TF009	GEAR SUPPORT	1
21	TF008	PIN WITH LEVER	1
22	TF004	CYLINDRICAL GEAR	1
23	6051800000	ROLLER Ø2	1
24	TF006	DOUBLE GEAR WHEEL Ø36	1
25	TF007	GEAR WHEEL Ø45	1
26	11010040200	O-RING 2015 NBR	1
27	VT001	SCREW M6X20	4
28	80901439100	SCREW M4X10	2

	4C	DESCRIPTION	QTY
5	MA998	FACEPLATE	1
6	TF045	MECHANICAL NUMERATOR	1

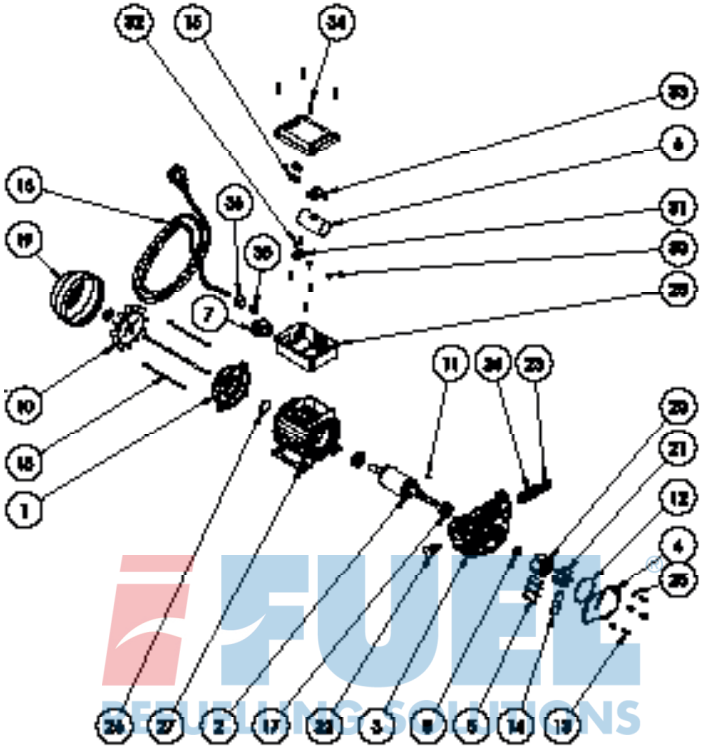
PA1 70A 230V



	CODE	DESCRIPTION	QTY
1	ME033	wound stator p80	1
2	ME032	machined shield p.80	1
3	ME034	motor shaft p.80	1
4	101001600000	bearing 6201 2rs	2
5	OR037	filter seal	1
6	OR038	motor shaft seal	1
7	OR039	o-ring nbr70 57x2 body pump	1
8	PA018	swivel locking plate	1
9	PA019	inox filter 16x49	1
10	PA020	capacitor 14µf	1
11	PA024	capacitor lock	1
12	PA025	fan fb63 d11 black wo/ring	1
13	PA026	ring d11 for fan fb63 black	1
14	CP009X	pump body pa 70l x-treme	1
15	PA021	pin 3x3x12 uni 6604-a	1
16	61000003	rotor ø45	1
17	71000522	small vane	5
18	71000520	by-pass valve	1

	CODE	DESCRIPTION	QTY
19	PA037	black reinforced bypass cap	1
20	16001005	by-pass spring	1
21	140250500000	mec 63 fan cover	1
22	11010040200	o-ring 2015 nbr	1
23	VT042	compensation ring	1
24	61004600000	tie rod m5 x 125	4
25	PA023	capacitor box	1
26	VT046	screw te m5x12 flanged	5
27	EL013	blue switch 22x30	1
28	140250300000	cable lock	1
29	VT004	screw tc ø3,5x16	2
30	17001011	cable gland rubber	1
31	17001012	cable gland ring nut	1
32	190200000000	shuko cable 230v	1
33	VT048	screw tc 3,5x12	5
34	VT049	screw tc 4x25	4
35	VT050	security washer	1
36	190110000000	faston cover	2

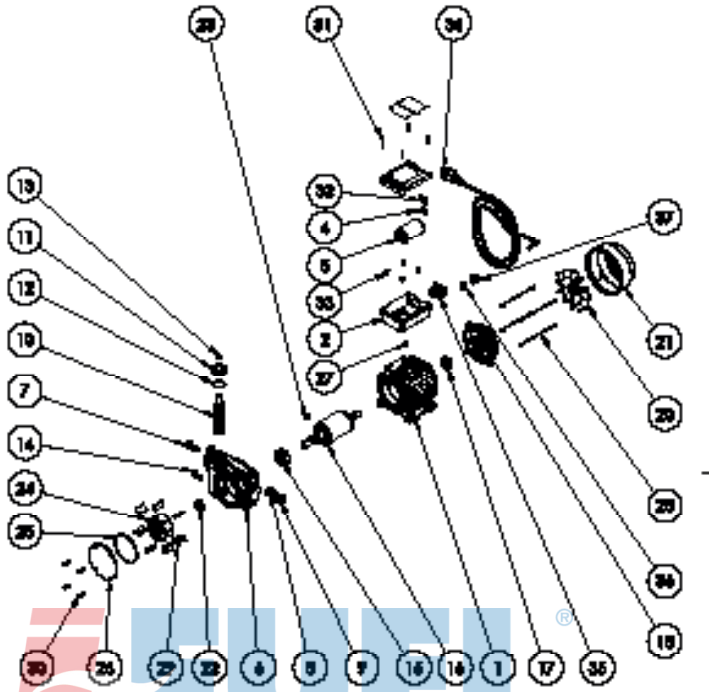
PA1 70A 115V



	CODE	DESCRIPTION	Q.TY
1	15501600000X	MACHINED SHIELD MEC 63	1
2	6290150000L	ENGINE SHAFT MEC 63	1
3	CP009X	BODY PUMP PA 70L	1
4	PA018	SWIVEL LOCKING PLATE	1
5	PA019	INOX FILTER 16X49	1
6	PA020	CAPACITOR 14µF 450V	1
7	EL013	BLUE SWITCH 22X30	1
8	OR038	SHAFT SEAL Ø19	1
10	140250400000	FUN MEC 63	1
11	PA021	PIN 3x3x12 UNI 6604-A	1
12	OR039	O-RING NBR70 57x2	1
13	VT046	SCREW TE M5X12	5
14	OR037	FILTER SEAL	1
15	190110000000	COPRIFASTON 6.3	2
16	190200000000	SHUKO CABLE 230V	1
17	101001600000	BEARING 6201 2RS	2

	CODE	DESCRIPTION	Q.TY
18	61004600000	TIE ROD M5 x 125	4
19	140250500000	FUN COVER MEC 63	1
20	61000003	ROTOR Ø45	1
21	71000522	SMALL VANE	5
22	71000520	BY-PASS VALVE	1
23	PA037	BLACK BYPASS CAP	1
24	16001005	BY-PASS SPRING	1
25	11010040200	O-Ring 2015 NBR	1
26	VT042	COMPENSATION RING	1
27	232204000000	WOUND STATOR MEC 63	1
28	PA023	CAPACITOR BOX	1
32	VT004	SCREW TC Ø3,5x16	2
33	140250300000	CABLE LOCK	1
34	VT037	SCREW TC M4x6 UNI 8112	5
35	PA024	CAPACITOR LOCK	1
36	VT049	SCREW TC 4X25	4

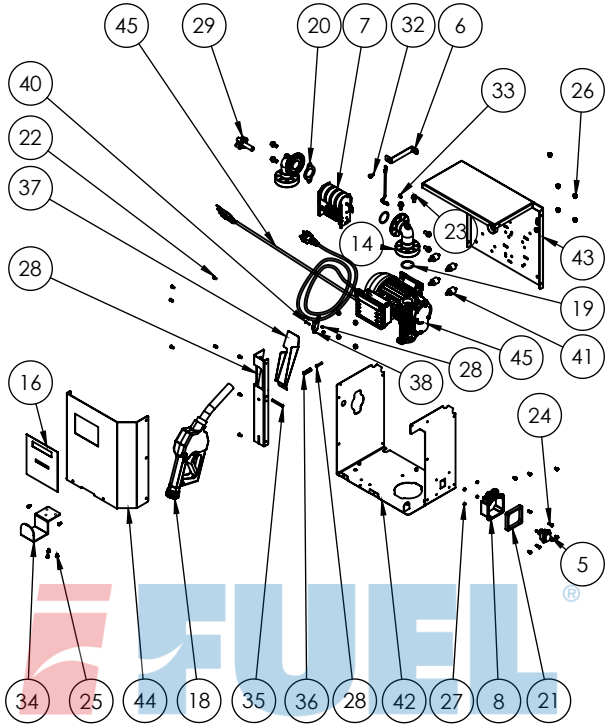
PA2 80 - 10(



	CODE.	DESCRIPTION	Q.TY
1	64100000000	Wrapped stator MEC 71 230V	1
2	PA023	capacitor holder + cap	1
4	140250300000	Cable lock	1
5	190061000000	Capacitor 25 µF	1
6	71000060	body pump 80 L 1"BSPG	
	71000079	body pump 100 L 1"BSPG	
7	71000520	bypass valve	1
8	16001005	by pass spring	1
9	PA037	plate	1
10	41410000	inox filter	1
11	17001094	cap 1 "	1
12	18001008	O-Ring 3118 NBR	1
13	71000587	label "FILTER"	1
14	71000546	label “clear filter”	1
15	101001880000	Radial ball bearing	1
16	62901700000	crankshaft MEC71	1
17	101001700000	Radial ball bearing	1
18	15502600000X	worked shield MEC 71	1
19	84505000000	Compensation ring Ø35	1

	CODE.	DESCRIPTION	Q.TY
20	140260400000	fan MEC 71 with ring Ø14	1
21	140260500000	fan holder MEC 71	1
22	12001015020	Sealing ring 20x30x7 SNBR	1
23	90505050000	pin 6X6X20 UNI 6604-A	1
24	61000010	Rotor Ø72	1
25	18001022	O-Ring 85X3 NBR	1
26	71000063	pump holder 80-100 Lt.	1
27	82301410100	screw TC Cross M4 x 8	1
28	6100450000Z	Tie M5X135 ZnB	4
29	71000569	big vane	7
30	13001007	screw TCCE M5x16	4
31	VT049	screw TC 4X25 UNI 9707	4
32	VT004	screw TC cross Ø3,5x16	2
33	VT048	screw TC cross 3.5x12	4
34	190200000000	cable + schuko plug 230V	1
35	EL013	switch 22X30	1
36	17001011	grommet gland	1
37	17001012	Cable gland nut	1

AF 3000

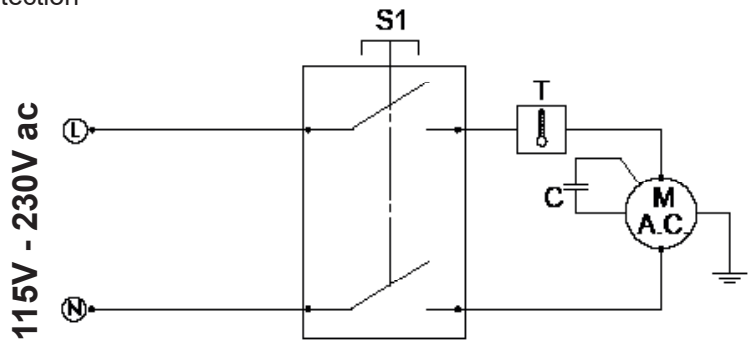


	CODE	DESCRPTION	Q.TY
6	AF022	meter support	1
7	-	mechanical meter	1
8	PA003	terminal cover FP71	1
9	PA004	plate with cable gland	1
10	71000550	Electrical box exit	1
11	17001011	cable gland rubber	1
12	17001012	cable gland ring nut	1
14	HT008L	telephone 1" BSP-G	2
15	VT002	screw TCCE M5x8	1
16	MA060	label	1
18	-	automatic nozzle	1
19	OR011	O-RING 37 x 3 NBR	2
20	OR017	Pipe rubber seal	1
21	OR022	terminal cover gasket	1
22	80901439100	screw TC M4x10	16
23	VT005	screw TE FR M8x16	6
24	VT014	Screw TC M4x16	4
25	81011810100	Screw TC M5x8	3
26	71000112	flanged nut M6	9

	CODE	DESCRPTION	Q.TY
27	VT015	nut M4 UNI 5588	4
28	AF019	Nozzle holder A	1
29	71000532	meter pommel	1
30	163013500000	protection cap Ø31	2
32	80232320100	screw TE M6x14	1
33	83102310000	Washer 6x12x1.6	1
34	AF024	hose holde	1
35	VT031	plug d6 l50	1
36	SP005	gun padle spring	1
37	AF026	gun padle switch	1
38	190050150000	Microswitch	1
39	CA003 2X1	micro fms cable	1
40	VT034	screw TCCE M3x16	2
41	17001106	Cylindric damper 20x20	4
42	AF028	lower sheet	1
43	HT016	panel	1
44	AF027	frontal closing sheet	1
45	-	electric pump	1

WIRING DIAGRAM

S : switch ON-OFF
M: motor
T: thermal protection
C: capacitor



OVERALL DIMENSIONS

AF 3000