

**OPERATION, SPARE PARTS
AND SERVICE MANUAL**



LED Pro 38/50/60 High Frequency Poker



FAIRPORT

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1. Introduction

We appreciate your trust placed in Fairport. For the maximum use of your vibration equipment, we recommend that you read and understand the safety, maintenance and usage regulations included in this instruction manual. Defective parts must be replaced immediately to avoid major problems. The lifespan of the machine will increase if you follow the instructions in this manual. We are at your complete disposal for any comments or suggestions about our machines.

2, Technical Information

Model	LED PRO HI-FREQUENCY POKER
Type	Electronic Frequency Converter that transforms the frequency of input 50 to a frequency of 200Hz three-phase to feed the poker head motor.
Applications	Concrete Compaction.
Cable Connection to Hose	15m length cable H07 3x1.5mm ² plug type schuko.
Converter	5m length of hose (other lengths consult FAIRPORT).
IP Protection	IP67

Model	∅ (mm)	Length (mm)	Voltage V	Power A (W)	Vibrations per Minute (vpm)	Centrifugal Force (Kp)	Sound Power Level (dB A)**
LED PRO 38	38	370	110V	3,8A (580W)	12,000	175	74,5
LED PRO 50	50	365	110V	5,6A (850W)	12,000	375	77
LED PRO 60	58	420	110V	7,6A (1000W)	12,000	575	78,5

Model	Weight	Acceleration
	(KG)	(m/s ²) *
	Standard	Standard
LED PRO 38	14	1,73
LED PRO 50	18	2,34
LED PRO 60	20	1,99
K		0,5
Method for acceleration measurement		On the hose at 2m, vibrator in the air.

**According to ISO5349.*

***Test done by working the vibrator in the air at 1.5m from the poker head according to EN-ISO 3744.*

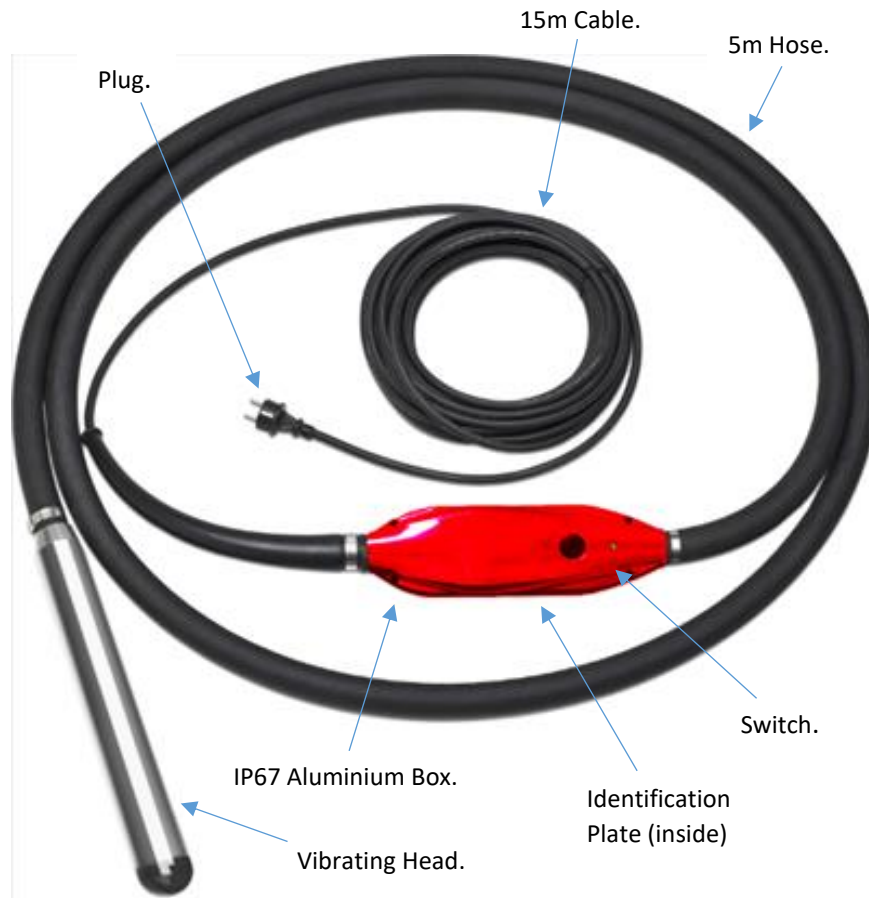
K = 2dB.

****For effective compaction, use the converter with enough power for the vibrator connected.*

All poker heads include thermal protection in the motor.

All tubes and noses are hardened.

For other lengths of cable or hose, please consult Fairport.



3, Conditions of Use.

Safety Pictograms used on your poker.



Attention!



Read and understand all instructions.

3.1 Work Area.

KEEP your work area clean and well lit.



DO NOT OPERATE tools with an electric or thermal motor in an explosive environment, as well as in the presence of flammable liquids, gases, or dust.

KEEP bystanders, children and visitors away from the tool whilst it is operating.

3.2 Electrical Safety.

Tools connected to ground will be PLUGGED to a suitable base and will be in accordance with all codes and statutes.

DO NOT REMOVE the ground terminal or modify the plug in any way.

DO NOT use the machine and unplug the adapter.

CHECK with a qualified electrician if you do not know if the outlet is grounded.

AVOID the body from coming into contact with grounded surfaces, such as pipes, radiators, stoves and refrigerators.

DO NOT EXPOSE tools to rain and moisture.

DO NOT FORCE the power cord to overstretch.

NEVER USE the power cord to move the tool.

DO NOT PULL the power cord when unplugging the tool.

KEEP the power cord away from heat, oil, sharp edges and moving parts.

REPLACE damaged power cables immediately.

WHEN HANDLING an outdoor tool, use an outdoor power cord or cable marked 'H07RN-F', W-A' or 'W'.

3.3 Personal Safety.



REMAIN ALERT with what you are doing and use common sense when handling a tool.

DO NOT USE the tool when you are tired or under the influence of alcohol or medication.

DO NOT WEAR loose clothing or jewelry.

KEEP your hair tied up if it is long.

KEEP your hair, clothing or gloves out of moving parts.

MAKE SURE the switch is off (0) before plugging the tool into the mains.

REMOVE the adjustment keys before starting the tool.

ALWAYS USE safety equipment.

ALWAYS wear eye protection.

3.4 Tool Use and Care.

USE clamps or other securing devices to secure and support the work tools on a stable platform.

DO NOT FORCE the tools.

USE the tool correctly for your application.

DO NOT USE the tool if the switch cannot be turned off (0).



DISCONNECT the power plug before making adjustments, changing accessories or storing the tool.

STORE unused tools out of the reach of children and people without knowledge of the tool.

KEEP the tool in good condition.

CHECK calibration of moving parts, breakage of parts and any other conditions that may affect the operation of the tool.

If it is damaged, PERFORM maintenance before using the tool.

USE the accessories recommended by the manufacturer for the model used.

3.5 Service.



The maintenance of the tool **MUST** be carried out only by qualified personnel. When checking the tool, **USE** identical parts to the replaced ones. **FOLLOW** the instructions in the maintenance section of this manual.

SPECIFIC SAFETY RULES:



For your own safety, and protection of others and not to cause damage to the equipment, carefully read the conditions of use of this machine. For the operation of the converter, you **MUST** make sure that the operators have been instructed in the use of this machine.



The converter will **ONLY BE USED** for specific work and under the instructions in this manual. **BEFORE CONNECTING** the inverter to the mains, make sure that the voltage and frequency match that indicated on the equipment nameplate.

MAKE SURE the housing screws are tight before working.

The converter plug must not be used to start or stop the equipment. Use the corresponding switch for start-up or stopping of the equipment.

Prevent the connection cable from being crushed by heavy machines that could cause it to break.

Keep the converter clean and dry.

Check that the cable is of the correct length and is in perfect condition.



Disconnect the converter from the power supply before carrying out any service and maintenance.

When connecting to a generator make sure that the output voltage and frequency is stable, and of the correct power. The supply voltage to the motor must not vary by +/-5% of that marked on the converter plate.



The level of sound pressure is less than 80dB (see table point 2). Proper protective equipment should be used.

The vibration that transmits to the operator does not exceed 2.5m/s² of acceleration. See table in point 2.



Do not have the poker head working outside the concrete for more than 2 minutes. Likewise, it will be avoid using the poker heads in contact with solid objects for prolonged periods.

4, Operation and Maintenance.

4.1 Commissioning.

Read point 3: CONDITIONS OF USE.

4.2 Connection of the Converter to the Electrical Network.

The LED Pro should be connected to a single-phase voltage 115V +-5% 50Hz.



Only the inverter must be connected to an electrical panel with a protective circuit breaker for earth leakage currents lower than 30mA (differential). This circuit breaker should only protect this converter. Other receivers will not be connected to the same circuit breaker.

4.3 Disconnecting the Equipment.

Stop the converter by disconnecting the proper switch, and then remove the plug from the main.

4.4 Earth Connection.



To protect the user from an electrical shock, the converter should be correctly connected to earth. The converters are equipped with three cables and their respective plugs. The adequate earth socket should be used to connect the converters. If the socket with earth is not available, an earth adapter should be used before connecting the plugs.

4.5 Extension Cables.

Always use extension cables with earth wire and its respective plug with earth in the female and male plug.



Do not use damaged or worn out cables.

Avoid heavy loads on cables.

To determine the cross section follow the following procedure:



PROCEDURE TO DETERMINE THE TRANSVERSAL SECTION NECESSARY IN PROLONGATION OF CABLES.

1, The ohmic and inductive resistance of the cable with a permitted voltage loss of 5%, $\cos.\phi = 0.8$ using the frequency and voltage curve.

For Example. Nominal Voltage:..... 380V 50Hz

Nominal Intensity:..... 10A

Cable Length:..... 150m

Entering the curve with the product: Intensity x Length = $10 \times 150 = 1500\text{Am}$. We obtain a section of 2.5mm^2

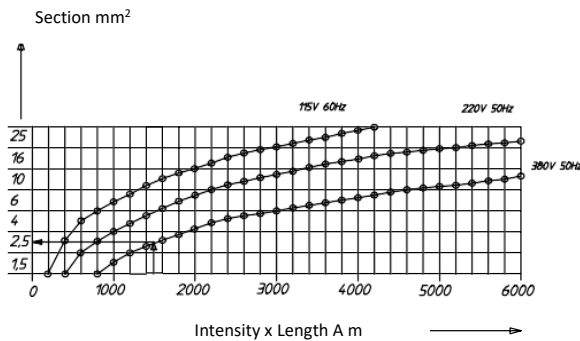
2, The allowed heating of the cable according to VDE (table for the minimum required cross section).

For Example. For 10A, according to the table for 15A or less, the section is 1mm².

Therefore, chosen section = 2.5mm², always choose the larger cross section of the two check.

T

Table 1: Minimum section according to VDE standard.



Line	Maximum	Max Fuse
mm ²	A	A
1	15	10
1.5	18	10/3 – 16/1 -
2.5	26	20
4	34	25
6	44	35
10	61	50
16	82	63
25	108	80

4.6 Inspection.

- 1, Before starting the work, the correct operation of all the handling and safety devices must be checked. Make sure that the poker head nut is tight.
- 2, Regularly inspect the power cables to make sure they are in a good condition.
- 3, Always check the connection voltage.
- 4, The converter must only be used in conjunction with all safety elements.
- 5, If defects are detected in the safety devices or other defects that reduce the safe handling of the equipment, the corresponding person will be informed immediately to carry out the maintenance.

4.7 Periodic Maintenance.



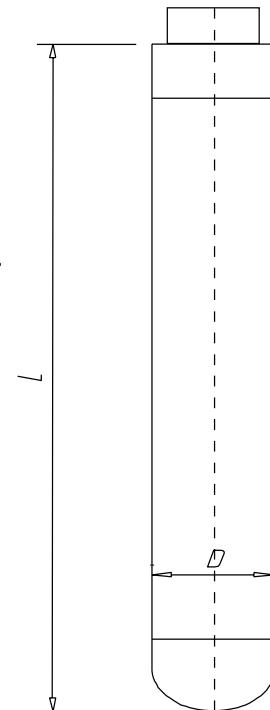
- 1, The work of electrical parts should only be carried out by a trained person.
- 2, During maintenance work, it must be ensured that it is disconnected from the electrical network.
- 3, Original spare parts should be used in all maintenance operations.
- 4, If the power supply cable is replaced, check that the earth cable (green-yellow) is longer so that in the event that the cable brake fails, it is not the first to be cut out. If it should break, there is an electrical risk. Check the continuity of the ground cable. Replace packing gland and tighten nut.

- 5, If the switch is replaced, be sure to install the gaskets and tighten the screws.
- 6, Lubrication of the needle roller bearings is recommended every 24 months. For this it is recommended to disassemble the poker head by an expert. Use solvent to clean the bearing and the rest of the parts and once dry, use a recommended oil (FE107512). If you see an excessive amount, proceed to change it. When mounting again apply a Teflon gasket on the threads (FE124196). It is important to ensure a good tightening to prevent the water from penetrating (200 to 400Nm of torque). Finally, apply two welding points to ensure that it does not loosen. Test the poker head for 10 minutes to ensure there are no leaks (do not touch the vibrator, it can be very hot).
- 7, After maintenance and service work, all safety devices must be correctly assembled.
- 8, Every 12 months or more frequently, depending on the conditions of use, it is recommended that the poker be reviewed by an authorized workshop.
- 9, Check poker head wear. When the diameter or length at the point of greatest wear is less than the specified in the table below, change the corresponding piece.

Model	Diameter (mm)	Length (mm)
LED Pro 38	36.5 (38)	365 (370)
LED Pro 50	48 (50)	360 (365)
LED Pro 60	56 (58)	415 (420)

The tube should be replaced as soon as it has reached the minimum diameter.

The tip should be replaced as soon as it has reached the minimum length.



4.8 Storage.

Always store the converter and the poker head in clean, dry and protected areas when it is not used for extended periods. Store the converter together with the poker head.

4.9 Transportation.

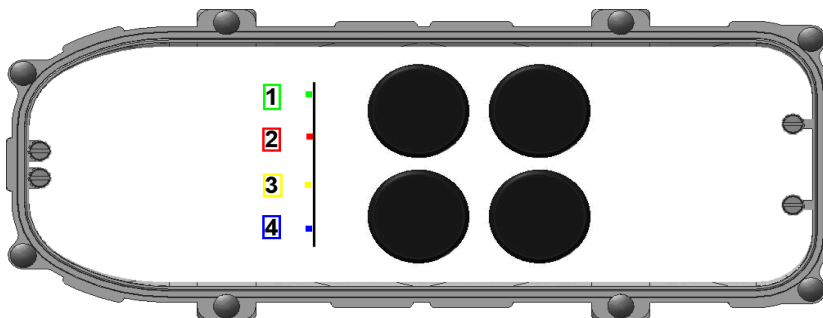
In transport vehicles, the converter must be secured against vehicle movement.

5, Troubleshooting.

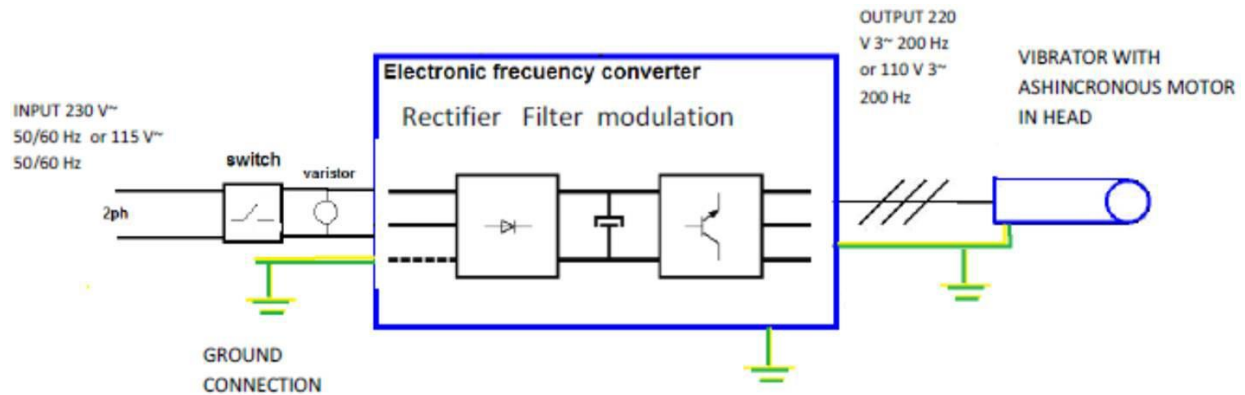
With the lid open, check that the light comes on. Follow the table below to identify the problem. During this operation, please follow the safety recommendations.

Before carrying out any repair or maintenance, unplug the inverter from the power supply.

Problem	Internal LED	External LED pushbutton	Cause
It does not work.	LED OFF	LED OFF	Check for current.
			Peg in poor condition.
			Power cable cut off.
			Spoiled converter.
Overload.	LED red ON + LED yellow ON	LED red ON	Stator burnt head.
			Spoiled converter.
Current Leakage.	LED yellow ON + Green LED ON	LED Yellow ON	Current leakage to ground (check head, connections).
			Water inside the head or converter.
Phase Failure.	LED Blue On + LED Green ON	LED Red Flashing	One phase of the engine is loose.
The head makes excessive noise.	LED Green ON	LED Green On	Check connections.
			Defective bearings.
The head works normally, but is hot.	LED Green ON	LED Green ON	Check that the head does not work outside the concrete.
	LED Green ON	LED Green ON	Bearings in poor condition or lack of lubrication.



Electrical Schematic.



6, Instructions for Requesting Answers, Parts and Warranty.

6.1, Instructions for Ordering Spare Parts.

- 1, ALL PARTS REQUIRED SHOULD INCLUDE THE PART CODE ACCORDING TO THE MACHINE PART LIST. It is advisable to include the SERIAL NUMBER OF THE MACHINE.
- 2, The identification plate with the serial numbers and model can also be found inside the housing.
- 3, Indicate the correct shipping instructions, including the means of transport, the address and full name of the consignee.
- 4, Do not return parts to the factory unless you have written permission from the consignee, and transportation has been agreed upon.

6.2, Warranty.

- 1, The warranty is valid for 1 year from the purchase of the machine, the warranty will cover the parts with manufacturing defects. In no case will the warranty cover damages due to the misuse of the equipment.
- 2, In all warranty requests, THE MACHINE MUST BE SENT TO FAIRPORT, Always indicating the address and full name of the consignee.
- 3, Any equipment that has been previously handled by personnel not approved by FAIRPORT will not have a valid warranty.

7, Recommendations for Use.

- 1, Select the right type of poker according to the dimensions of the formwork, the free space between the reinforcements, the consistency of the concrete. It is always recommended to have a backup poker.
- 2, Before starting, check that the poker is in good condition and works correctly. Use the recommended protection and security systems.
- 3, Pour the concrete into the structure, also prevent the concrete from falling from a great height. It should be poured into the mold or formwork more or less level. The thickness of each layer will be less than 50cm, it is recommended to be between 30 and 50cm.
- 4, Insert the poker vertically into the mass without moving it horizontally. Do not drag the poker in the concrete horizontally. The pokers should be inserted vertically into the concrete at regular intervals, separated from each other by a distance of 8 to 10 times the diameter of the vibrator (check the radius of action). Look at the concrete when it vibrates to determine the field of action of the poker. The field of action of each vibration point must overlap to avoid areas without vibration. The head should penetrate about 10cm below the surface between the different layers. There should not be much time between each layer to avoid cold joints. Do not force or push the poker into the concrete, as it could get stuck in the reinforcement.
- 5, The vibration time at each point will depend on the type of concrete, poker size and other factors. This vibration time can vary between 5 and 15 seconds. The time is shorter for fluid consistencies, in these mixtures a vibration in excess can produce separation. An excess of vibration could lead to disintegration. Concrete will be considered well vibrated when the surface becomes compact and bright and no air bubbles leave the surface. You will also notice a change in the noise produced by the poker. Many defects in structures are due to a poor vibration technique.
- 6, Do not press the poker against reinforcement or formwork. Maintain a minimum distance of 7cm from the walls.
- 7, The head should be removed slowly from the concrete and with movements up and down to allow time for the concrete to fill the hole left by the tube. The extraction speed of the poker should be approximately 8cm per second. When it is almost out of the concrete, remove it quickly to avoid shaking the surface.
- 8, To vibrate slabs, tilt the head so that the surface contact with the mass is greater.
- 9, Do not keep the vibrator outside the concrete for long periods. If it does not continue vibrating, stop it. Do not use the poker to drag the concrete horizontally.
- 10, Follow the poker maintenance instructions. To get a good concrete structure, you must start with the right components and perform vibration of the mass for the whole structure.

8, EC DECLARATION OF CONFORMITY.

WE, FAIRPORT CONSTRUCTION EQUIPMENT LTD, BLAGDEN STREET, SHEFFIELD, SOUTH YORKSHIRE, S2 5QS
DECLARE THAT THE PRODUCTS:

.....

Serial No.

.....

CONFORM TO THE FOLLOWING DIRECTIVE:

2006/42/CE, 2000/14/CE EN-12649

NOTIFIED BODY; AV Technology Ltd, AVTECH House, Birdhall Lane, Cheadle Heath, Stockport, Cheshire, SK3 0XU, Great Britain.

CONFORMS TO THE FOLLOWING DIRECTIVES:

2006/42/CE, 2000/14/CE, EN12649

2014/30/EC, 2014/35/EC. 2002/95/EC, 2002/96/EC

COMPLIES WITH THE RELEVANT ESSENTIAL HEALTH & SAFETY REQUIREMENTS OF THE MACHINERY DIRECTIVE

DECLARATION

I certify that on completion of manufacture of the machine detailed above that a full conformity has been completed and relevant Health and Safety Requirements complied with.

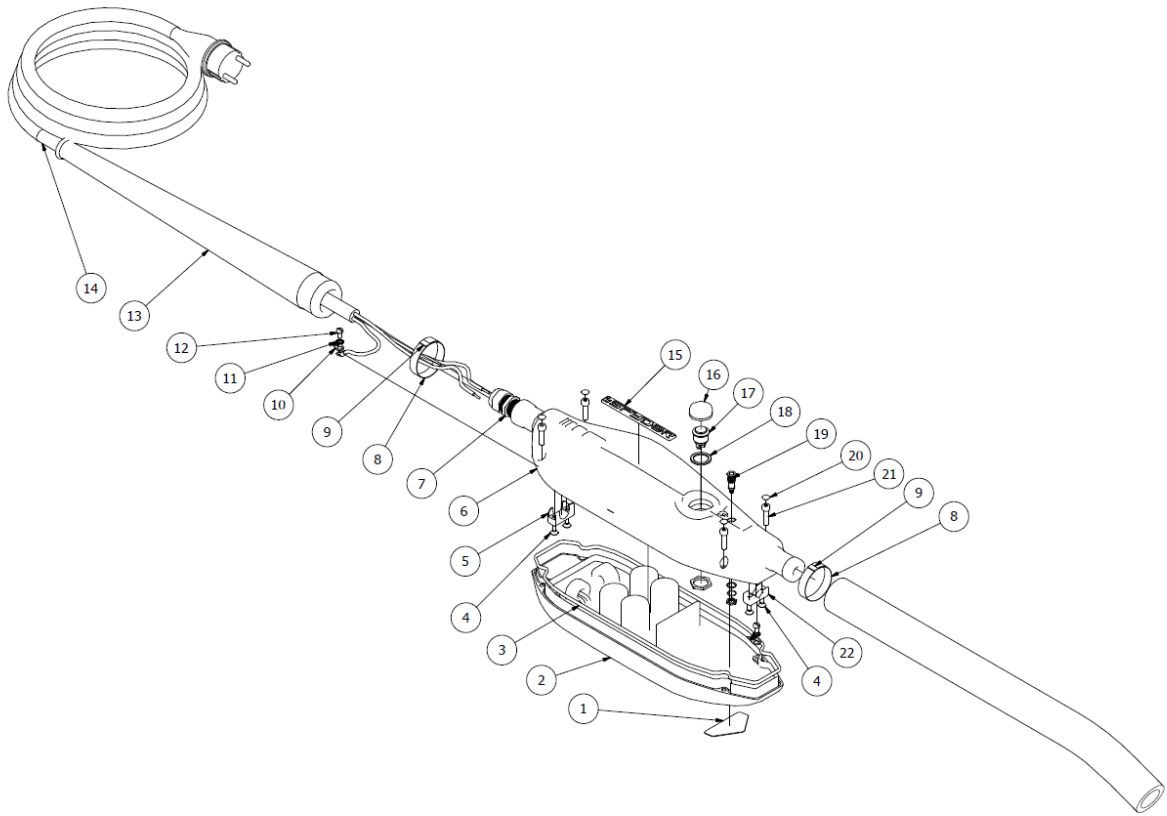
NAME: IAN MORRIS

STATUS WITHIN COMPANY: GENERAL MANAGER

SIGNATURE:

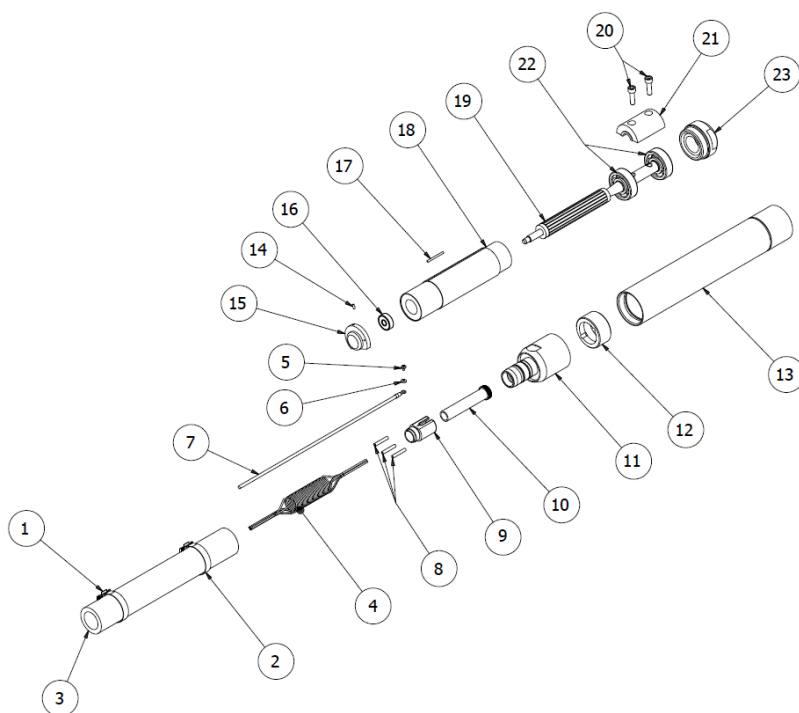


Converter Spare Parts



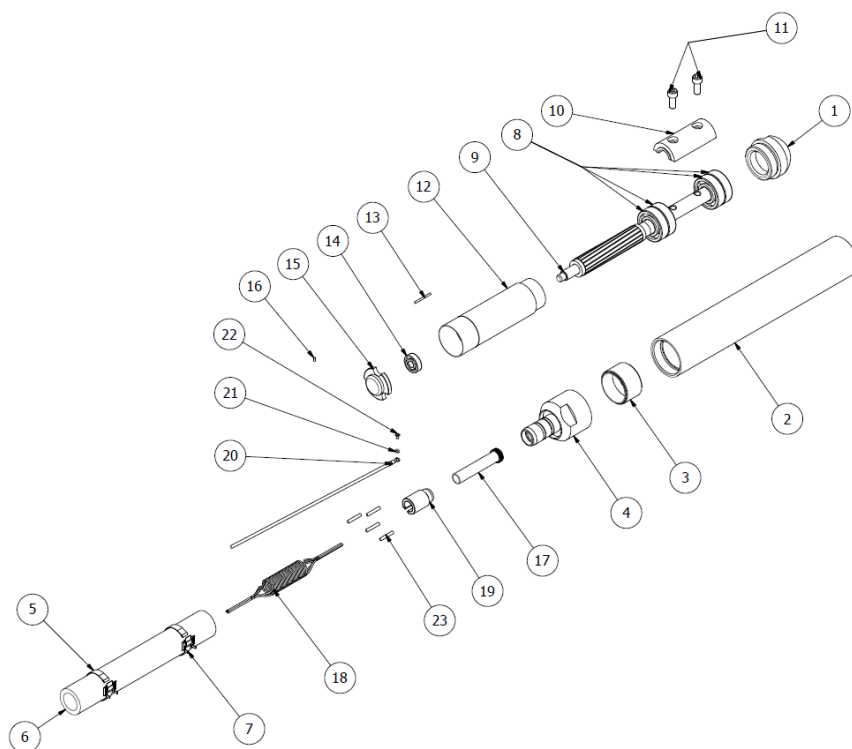
ITEM NO	PART NO	DESCRIPTION	QTY
1	FE107117	SECURITY STICKER	1
2	FE88001	BOX	1
3	FE88002	BASE O-RING	1
4	FE102511	BOLT CURVED M4x16 DIN 9654.8	4
5	FE81675	CABLE-PRESS	1
6	FE88111	COVER BOTTON 50/60	1
	FE88101	COVER BOTTON 38	1
7	FE103729	PACKING GLAND WITHOUT NUT PG16	1
8	FE107080	STAINLESS STRAP C.203 9,6X0,65 30,5M	2
9	FE107081	BUCKLE BAND-IT C253 (3/8)	
10	FE107236	EARTH PLATE	2
11	FE102103	STAR WASHER 4,3 A DIN 6798	2
12	FE102909	BOLT M4x10 DIN 7985	2
13	FE81207	REINFORCMENT CABLE	1
14	FE80504	CONNECTION CABLE SET	1
15	FE107554	STICKER i-SPYDER 103x11,5MM	1
16	FE80503	SWITCH PROTECTOR	1
17	FE103940	PUSH-BUTTON AV0630C940	1
18	FE80606	CLICKER WASHER	1
19	FE128040	LED Q8F7GZRYG12E	1
20	FE96006	BOLT CAP	4
21	FE102306	ALLEN BOLT M5x20 DIN 912 8.8	4
22	FE80607	CABLES CLAMP	1

Poker Head Spares – 38mm



ITEM NO	PART NO	DESCRIPTION	QTY
1-23	86350S-10	POKER HEAD MRB51 S	1
1	107081	BUCKLE BAND-IT C253 (3/8)	2
2	107080	STAINLESS STRAP C203 9,6x0,65 30,5m	1
3	81620	HOSE	1
4	81666	SPRING INTERNAL CABLE	1
5	102907	BOLT M3x4 DIN 7985	1
6	102107	WASHER AET 3,2	1
7	82056	CABLE ASSEMBLY TT FOR HF	1
8	103720	THROUGH CONNECTOR 2.5	4
9	81767	PACKING GLAND NUT	1
10	81759	PACKING GLAND JOINT MR5	1
11	81806	CLOSING HOSE	1
12	81805	JOINT SLEEVE	1
13	81808	PIPE	1
14	103375	SPLIT PIN CIL. DIN6325 2,5x6	1
15	81804	REAR BEARING SUPPORT	1
16	101124	BEARING 627 2RS C3	1
17	81609	BAR DIA.2,5x30mm	1
18	8E250S1	STATOR MB51	1
19	8R050A	ROTOR	1
20	102317	ALLEN BOLT M6x20 DIN 912 8.8	2
21	81803	ECCENTRIC	1
22	101165	BEARING 6302 C3	3
23	81801	CAP	1

Poker Head Spares – 60mm



ITEM NO	PART NO	DESCRIPTION	QTY
1-23	81360S-10	POKER HEAD MB61 S	1
1	82031	CAP	1
2	82044	TUBE	1
3	82034	JOINT SLEEVE	1
4	82038	CLOSING HOSE	1
5	107080	STAINLESS STRAP C.203 9,6x0,65 30,5m	1
6	81620	HOSE	1
7	107081	BUCKLE BAND-IT C253 (3/8)	2
8	101216	BEARING 6204 C4*	4
9	8R060A	ROTOR	1
10	82033	ECCENTRIC	1
11	102332	ALLEN BOLT M8x20 DIN 912 8.8	2
12	8E060S1	STATOR	1
13	81609	BAR DIA.2,5x30 mm	1
14	101151	BEARING 6000 Z C3	1
15	82006	REAR BEARING SUPPORT	1
16	103375	SPLIT PIN CIL. DIN6325 2,5x6	1
17	81759	PACKING GLAND JOINT MR5	1
18	81666	SPRING INTERNAL CABLE	1
19	81767	PACKING GLAND NUT	1
20	82056	CABLE ASSEMBLY TT FOR HF	1
21	102107	WASHER AET 3,2	1
22	102907	BOLT M3x4 DIN 7985	1
23	103720	THROUGH CONNECTOR 2.5	1