

# SanRex

## **FIELD 4HD**



### EN | Instructions for Safety, Use and Maintenance

Arc welding and plasma cutting may be dangerous for the operator and persons close to the work area.  
Please ensure you read the operating manual carefully before use.



CE

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## 1 - GENERAL INFORMATION

### 1.1 - PRESENTATION OF INSTALLATION

The FIELD 4HD can be adapted to most direct current ARC (MMA) power-sources, you must use it with 300 mm wire spool. Its power supply is ensured directly by the arc voltage. It is therefore very simple to implement and does not require any auxiliary transformer.

Using the FIELD 4HD, you can transform your ARC (MMA) power-source into an authentic MIG-MAG welding source.

SanRex recommend to use with CV power source for best welding performances

When properly installed, the FIELD 4HD will enable you to obtain high-quality welds with a good visual appearance. Optimum use of the system requires full knowledge of this manual; it is important to follow all the instructions described in this document.

### 1.2 - WELDING SET CONSTITUENT

The welding-set is comprise of:

- a wire feeder unit, with 5 m long earth cable and its clamp & 5 m long gas hose,
- user and maintenance manual,
- safety instruction.

### 1.3 - TECHNICAL SPECIFICATIONS

- LF72Y0006 : FIELD 4HD : wire feeder without flowmeter

- LF72Y0009 : FIELD 4HD : wire feeder with flowmeter

	FIELD 4HD LF72Y0006	FIELD 4HD LF72Y0009
Rollers plate	4 rollers	
Input voltage range	14-48 VDC 15-110 OCV	
Welding current range	50 – 425 A	
Duty cycle 60% at 40 °C	425 A	
Duty cycle 100% at 40 °C	330 A	
Wire dia. usable	0.8 to 2.4 mm	
Max. spool size spool capacity	300 mm 15/20 kg	
Wire feed speed	1.2 -20 m / min	
Designed to fit through a manhole	Yes	
Protection index	IP 23 S*	
Standard	EN 60974 - 5 / EN 60974 - 10	
Torch connection	"European type"	

\*Protection index

Code letter	IP	Equipment protection
First number	2	Against the penetration of solid foreign bodies with $\varnothing \geq 12,5$ mm
Second number	1	Against the penetration of vertical drops of water with harmful effects.
	3	Against the penetration of rain (inclined up to 60° in relation to the vertical) with harmful effects.
	S	Indicates that the protection test against detrimental effects due to water penetration has been done with all parts of the equipment at rest.

### 1.4 - DIMENSIONS AND WEIGHT

	Dimensions (LxWxH)	Net weight
Wire feeder unit FIELD 4HD	555 x 211 x 428 mm	13.9 kg

## 2 - SETTING UP

### 2.1 - PRECAUTIONS

- Ensure to not pinch the cables and gas hoses
- Ensure correct installation of power connections.
- Do not leave liquid or hot material to be in contact with the cables.
- The stability of the system is supported up to angles of 10°.
- The connection of the wire feeder unit is to made while the power source is off.

### 2.2 - UNPACKING THE SET

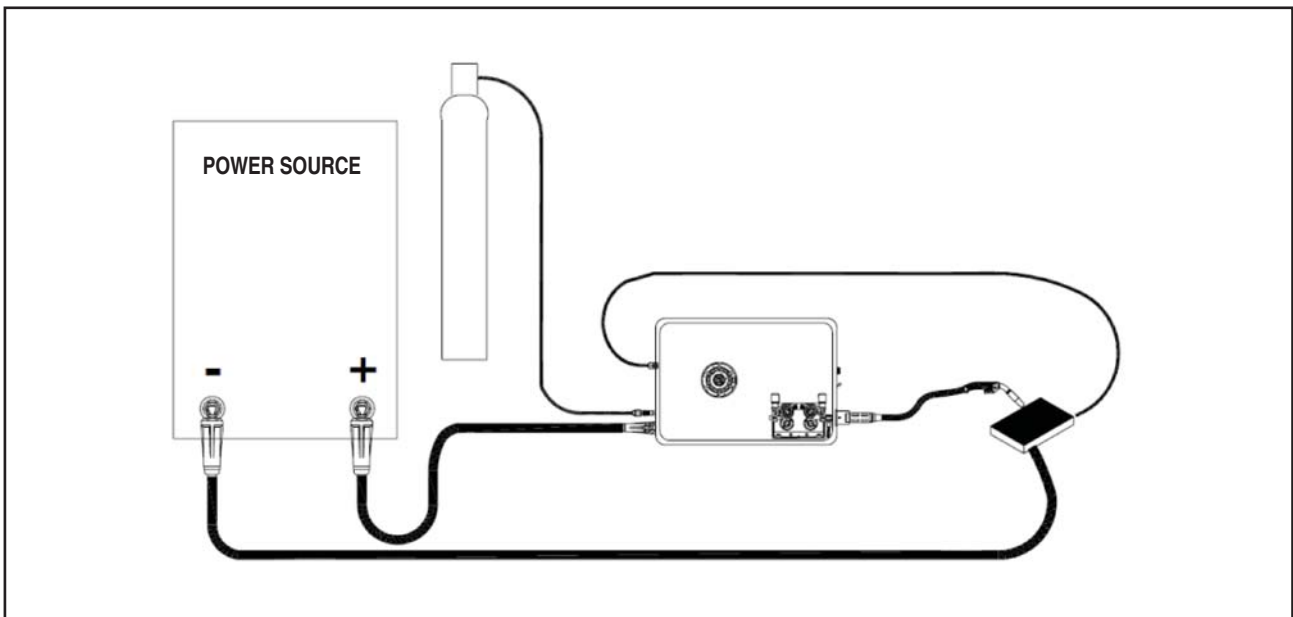
Remove the various items from their packaging.

### 2.3 - WIRE FEEDER SLINGING

For slinging the wire feeder, you must use the handle.

### 2.4 - WIRE FEED UNIT CONNECTION

1. Place the ¼ female turn on power cable, then connect cable to the FIELD 4HD terminal on the front.
2. Connect the other end of cable to + terminal of power source.
3. Connect power source - plug to the workpiece.
4. Connect the FIELD 4HD earth clamp to the workpiece.
5. Connect the MIG torch on FIELD 4HD
6. Place the gas hose on the regulator of gas installation (use specified gas for MIG-MAG welding).
7. Adjust the gas flow and bleed the circuit ..



The FIELD 4HD has a microprocessor based system that allows it to automatically recognize whether the power source works in Constant-Current (CC) or Constant-Voltage (CV) and to adapt accordingly without any selector.

Adjust the power (voltage) on power source and the wire speed on FIELD 4HD according to the advice placed on FIELD 4HD door. Close the wire feed unit door and press the torch trigger. Let the wire appears at the torch end, on the contact tip output.

Your installation is ready to weld.

### 3 - INSTRUCTIONS FOR USE

#### 3.1 - FEED ROLLS

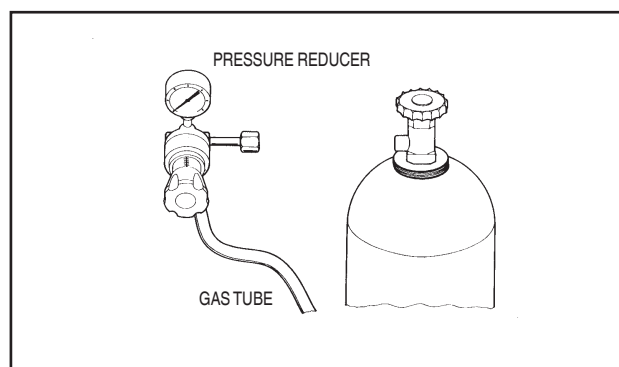
Before connecting the electrical and gas supplies, ensure that the equipment is set for the correct type and size of wire to be used. Check that the diameter stamped on the feed roll is the same than the diameter of the wire used.

#### 3.2 - INTERCONNECTIONS

While the machine is switched off, connect the wire feeder to the power source with the fit connection cable, It is advisable to layout the lead as straight as possible.

#### 3.3 - GAS

Connect the gas hose placed on the rear of the wire feeder with the gas manometer of the gas cylinder.



#### 3.4 - TORCH

Check that the contact tip mounted on the torch head is fit for the wire used. Remove the contact tip and using the torch button to feed the wire till it comes out of the torch itself. Refit the contact tip and ensure it is well tightened.

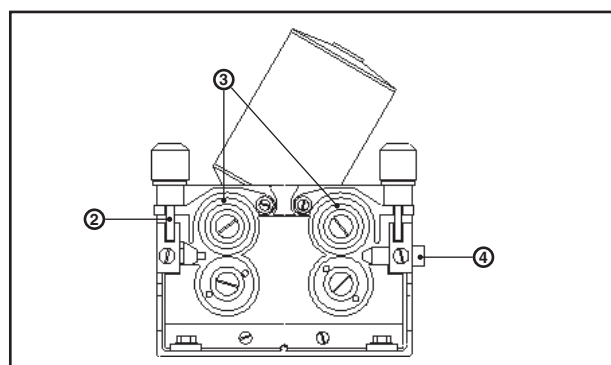
#### 3.5 - REVERSE POLARITY

For some flux cored wire without gas or specifics and recharging - Connect the power cable from the negative terminal of the MMA power source and the input of FIELD 4HD.- Connect the cable with clamp on the positive terminal of the MMA power source and the pieces to be welded.

### 4 - HUB ASSEMBLY MOUNTING

#### 4.1 - PROCEDURE

- Remove the hand nut from the hub assembly wire guide.
- Place the wire reel on the hub so that the wire will be drawn off from the top.
- Release the end of the wire, but do not allow the wire to loose, cut off the kinked portion of the wire removing any deformation. This must be done each time that the wire is referred through the equipment.
- Adjust the hub assembly by using the screw inside the hub assembly wire guide, so as the prevent the wire reel over-run once the motor of the wire feeder stop. Do not tighten the hub assembly too much. Too much pressure will cause excessive drag.



- By the fitting lever release the pressure roll ③ revolving on ball bearing and lift it. Thread the wire through the fitting inlet guide ④ and feed it out of the central adaptor.
- Lower the pressure roll ③, refit it into the initial position by the lever ②, adjusting the pressure with the knob. Minimum pressure is sufficient so as not to allow the feeding rolls to slip. Excessive pressure will cause wire deformations and entanglements inside the liner (in case of aluminium wires) and generally early wear-and-tear of the wire feeding motor bushing. A scanty pressure will cause welding uneven or irregular.
- Connect the torch to the fitting adaptor and ensure that the wire is positively fed inside the torch lead liner. Remove the nozzle from the torch extremity and unscrew the contact tip. Feed the wire till it comes out of the torch.
- Refit the contact tip keeping in mind that it must have the same diameter of the wire diameter used.

#### 4.2 - SLOPE UP start welding.

The operator can choose 4 positions for SLOPE UP start welding: Keep pressed recall A/V button and in the same time press Test gas button , on the front panel you can read this number 111 , 222, 333, 444 these numbers suggest a different time for a small delay for start welding.

#### ATTENTION

- 1 step 111 time 0,0 sec. For CV or CC welding
- 2 step 222 medium time 0,4 sec. For CV or CC welding
- 3 step 333 long time 0,72 sec. For CV or CC welding
- 4 step 444 long time 1,2 sec. For CV or CC welding


## 5 - ALARMS

1. Alarm for big current, I out up to 550 A for 1 second, feeder stop to work for 5 seconds on the display you can read **666**.
2. Alarm for minimum voltage, when the minimum welding voltage is less than 12 V the feeder stop to work for 5 seconds; on the display you can read **777**.  
When you want to work at lower voltage this condition help you to find right parameters because to start welding is necessary increase the current or reduce the speed wire until you find a good welding.
3. Alarm for high temperature, when the temperature inside the feeder for any reasons become **too** high the feeder stop to work until the temperature return to the nominal value; on the display you can read **888**.
4. Alarm for high voltage, maximum work voltage is 100 V so when the voltage go up to this value the feeder stop to work. On the display you can read **999**.

## 6 - MAINTENANCE

### Routine maintenance



 Disconnect power before maintaining.  
*Maintain more often during severe condition.*

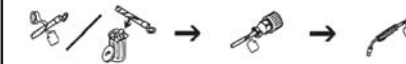
### 3 Months



Replace Damaged or Unreadable Labels.



Replace Damaged Gas Hose.



Repair or Replace Cracked Cables and Cords.

### 6 Months

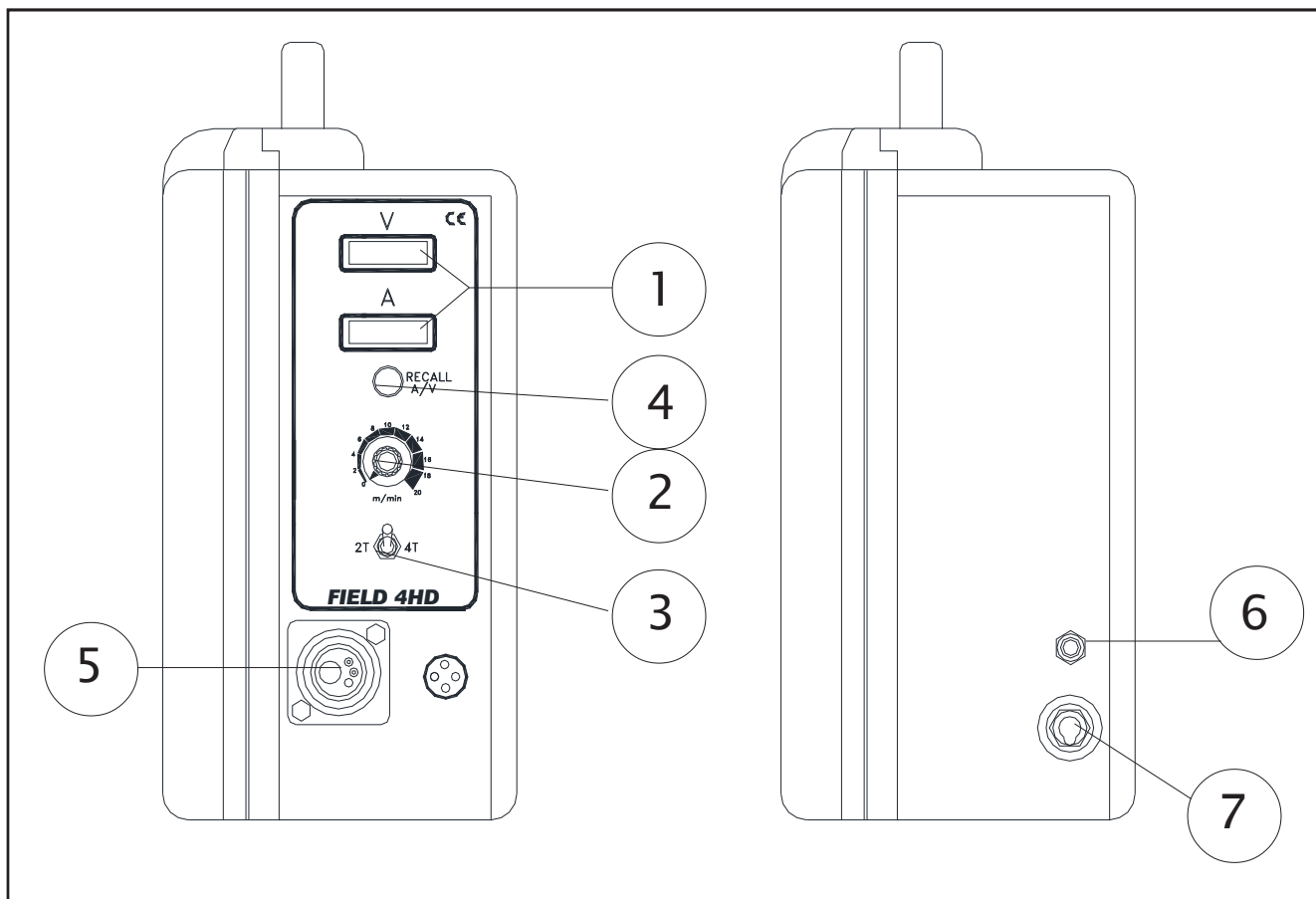


Clean Drive Rolls.



Blow Out Or Vacuum Inside.

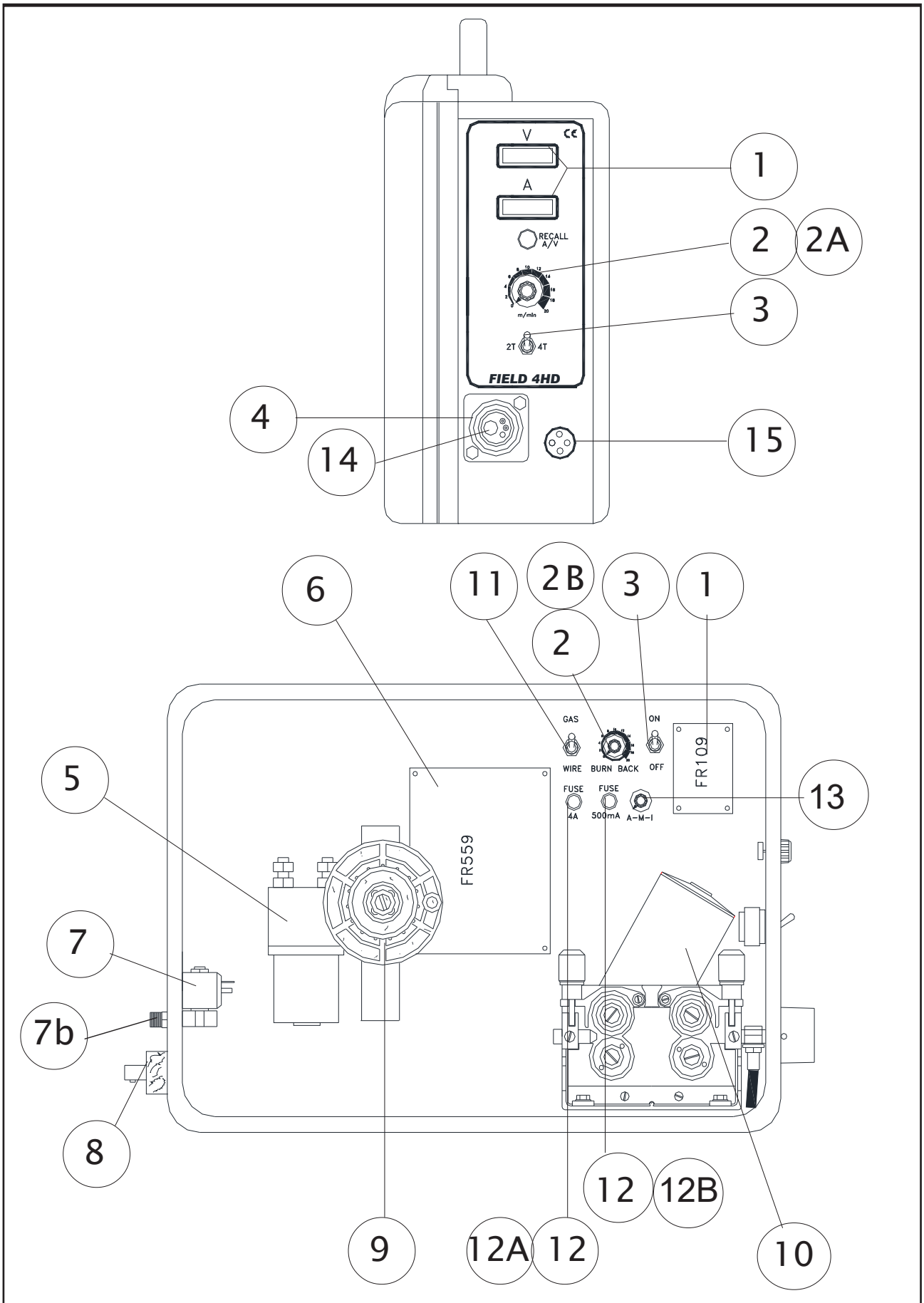
## 6.1 - WIRE ROLLERS AND GUIDES



## CONTROLS

1. **Digital voltmeter and ammeter**  
 Volt + Amper  
 Volt + Meter/min.  
 Volt + Inc/min.
2. **Wire feed speed adjustment**  
 - Provides continuously variable wire feed speed control. The wire speed is directly proportional to welding current so that increasing the wire speed increases the current and vice-versa.
3. **2T/4T switch**
4. **Recall A/V**  
 Push on the key "Recall" allows to see the last parameters used (I/U) after welding.
5. **TWECO US connector**  
 - Allows an easy connection to the welding torch simultaneously carrying power, torch button connection, gas and liner connections.
6. **US Gas Hose 5/8**
7. **Connecting Weld Cable**

6.2 - WIRE-FEED PLATE WEAR PART

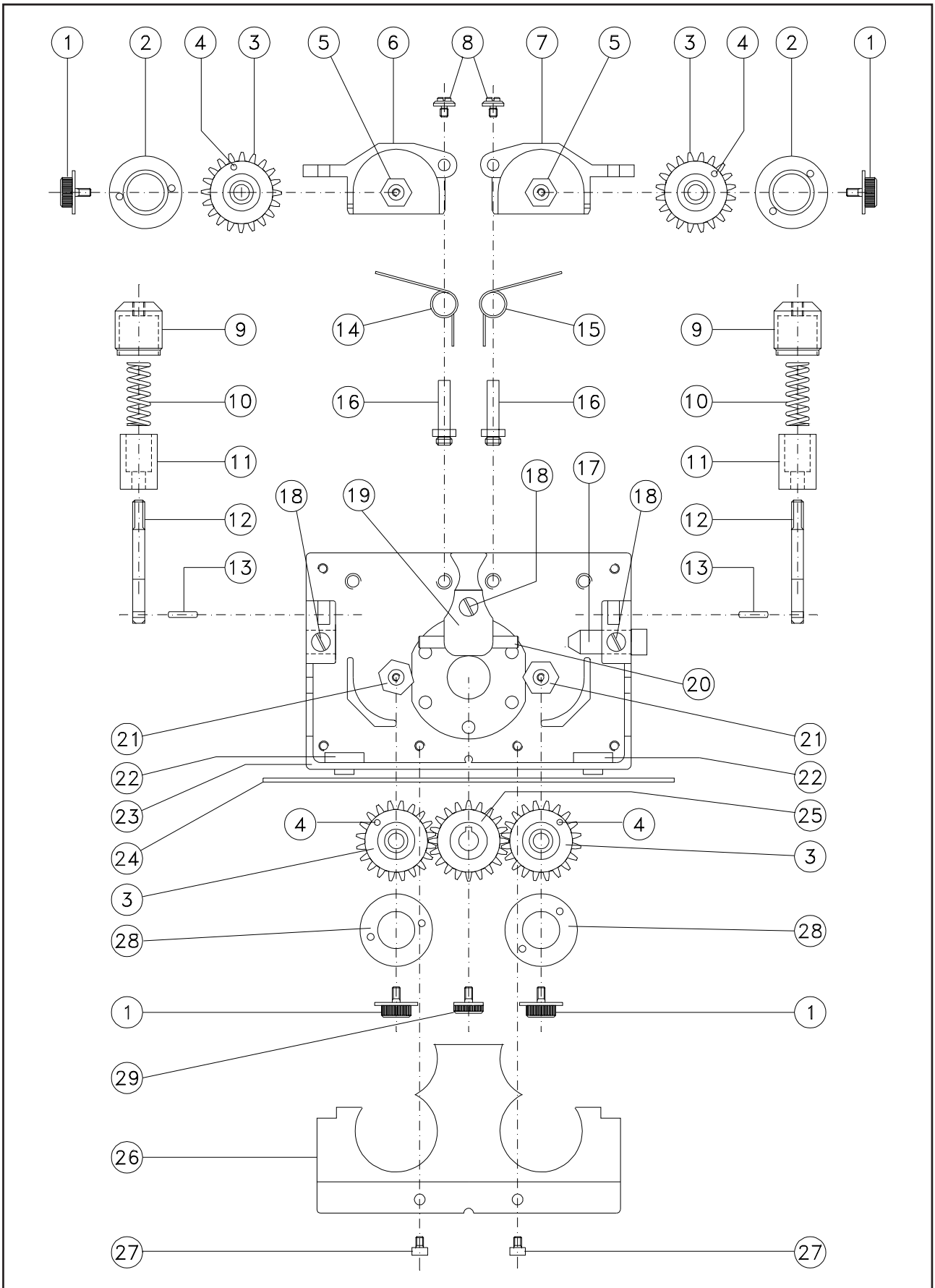




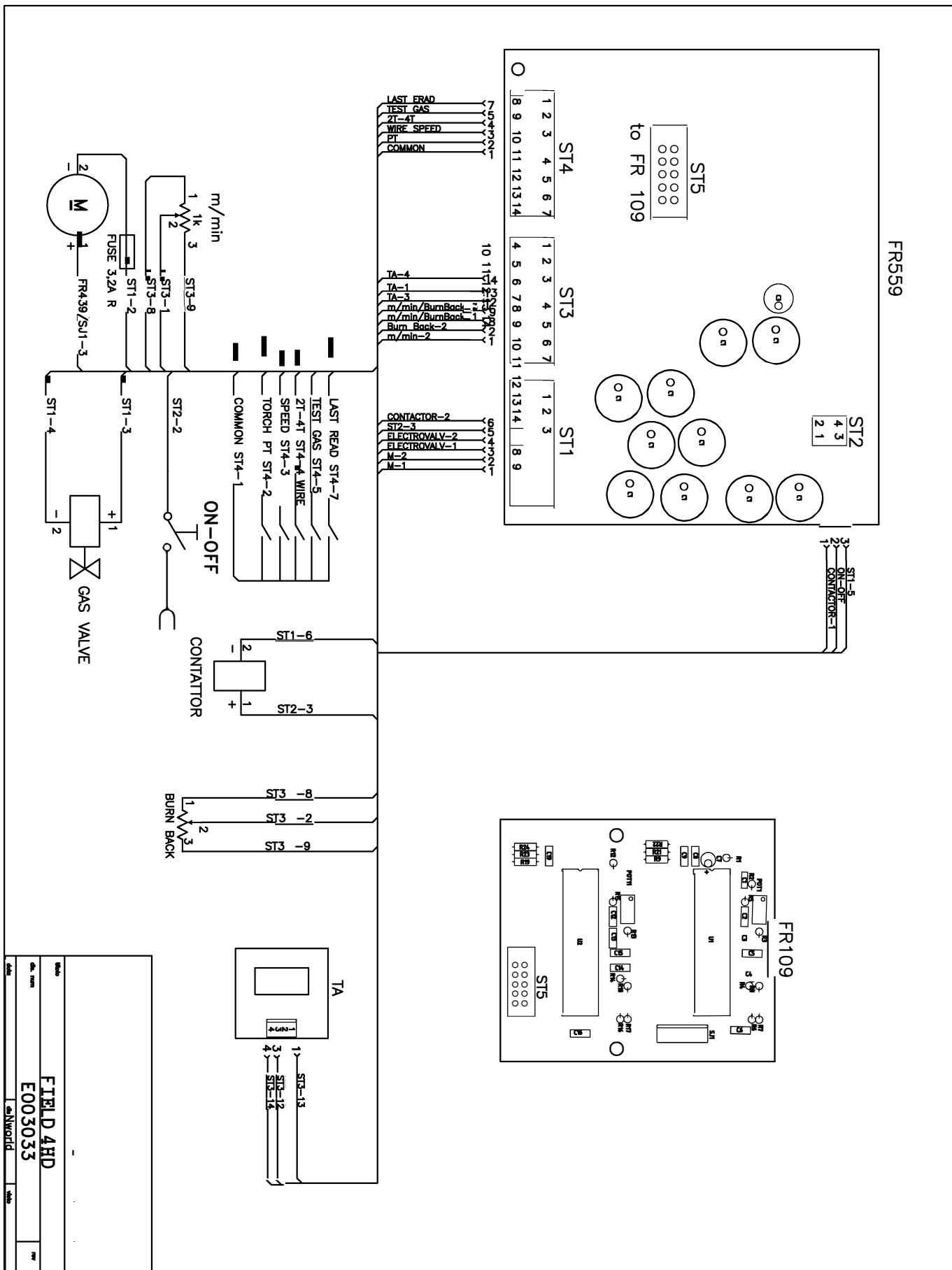
6.2 - WIRE-FEED PLATE WEAR PART

REP	DESCRIPTION	PART NO.
1	PCB FR 109	FR0000109
2	10 KOHM POTENTIOMETER	POT002872
2A	LARG KNOB	MAN002226
2B	SMALL KNOB	MAN002227
3	POLE SWITCH	DVT000827
4	TWECO ADAPTER	ATC000021
5	CONTACTOR	TLT000002
6	PCB FR 559	FR0000559
7	24 V AC GAS VALVE	ETV000001
7b	US GAS CONNECTOR	RACG00005
8	WELDING CONNECTOR	CPP000004
9	REEL HUB ASSY	PBN000001
10	24V 110W LEFT MOTOR	MTR000773
11	POLE SWITCH	DVTM00002
12	FUSE HOLDER	PFBP00001
12A	FUSE 4A DELAY	FUS000002
12B	FUSE 500mA DELAY	FUS000005
13	SWITCH 3P.	COM000575
14	BRASS AXLE 40mm for T.A.	ATC002803
15	CONNECTOR 4PIN FEMALE PANEL	CNT000034

6.3 - SPARE PARTS



pos.	piece	Descrizione	Description	part. NO.
1	4	Vitefiss.rulli	screw	VTE000001
2	2	Rullo pressione D.37	Pressure Roll	RUL005105
3	4	Ingranaggio mosso	Gear roll	IRG100002
4	4	Spinetta per ingranaggio	Guide pin	SPN000001
5	2	Perno portarullo	Axle	PPR100004
6	1	Portarullo sinistro	Pressure arm left	PRS100005
7	1	Portarullo destro	Pressure arm right	PRD100007
8	2	Vite fissaggio portarullo	Screw	VFC100006
9	2	Nottolino x fusione	Fine adjustment	NOT100008
10	2	Molla 30 x 18	Spring	ATC005123
11	2	Bussola x fusione	Pressure base	BFS100010
12	2	Tirante (filetto M5)	Axle	TRF100011
13	2	Perno aasticella	Axle	PAS100012
14	1	Molla destrorsa	Spring	MDX100013
15	1	Molla sinistorsa	Spring	MSX100014
16	1	Perno portarulli	Axle	000100015
17	1	Guida filo d'ingresso	Inlet guide	GFI000254
18	3	Vite T.C. T.cacc. 6x8 zinc.	Screw	VTC008545
19	1	Supporto per fusione	Guide	SPF100022
20	1	Tubetto Centrale	Wire Guide	TCN100023
21	2	Perno per fusione	Axle	PFS100026
22	2	Isolatore	Insulation	ISFRF0027
23	1	Piatto per Fusione	Feed Plate	PPF100028
24	1	Piastra Isolante	Insulation plate	PIS100030
25	1	Ingranaggio Motore	Gear roll	IRG100029
26	2	Protezione x fusione	Protection	PRF100031
27	2	Vite T.Cesag.inc.M5x6	Screw	VTC100032
28	2	Rullo D.37 1,0-1,2 C.S.	Drive roll	RUL005131
	2	Rullo D.37 0,9-1,2 C.S.	Drive roll	RUL005126
	2	Rullo D.37 0,8-1,0 C.S.	Drive roll	RUL005130
	2	Rullo D.37 1,0-1,2 C.S	Drive roll	RUL005116
	2	Rullo D.37 1,2R-1,2RC.S	Drive roll	RUL005199
29	1	Vitefiss.rullixfus.	Screw	VTE000002



Model	
Date	
Part No.	FIELD 4HD
Rev.	E003033
Drawn	World
Checked	

# CUSTOMER NOTES

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## EC Declaration of conformity

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Manufacturer :

**SanRex Corporation**  
**50 Seaview Boulevard Port Washington**  
**NEW YORK 11050-4618 USA**

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Under his sole responsibility hereby declares that the **FIELD 4HD**  
fulfills all the relevant provisions of the following European Directives and Regulations:

2006/95/EC (LVD)  
2004/108/EC (EMC)  
2011/65/EU (ROHS)

by application of the following standards:

EN 60974-5:2013 "Arc welding equipment - Part 3: Arc striking and stabilizing devices"  
EN 60974-10:2007 "Arc welding equipment. Part 10: Electromagnetic Compatibility (EMC) requirements"

The equipment complies with listed European Directives and Regulations if installed, used and maintained according to the enclosed instructions, applicable laws, standards and sound engineering practices.

Any misuse and/or any modification render this declaration void.

Last two digits of the year in which the CE marking was affixed for the first time: 14

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**Model** \_\_\_\_\_

**Serial N.** \_\_\_\_\_