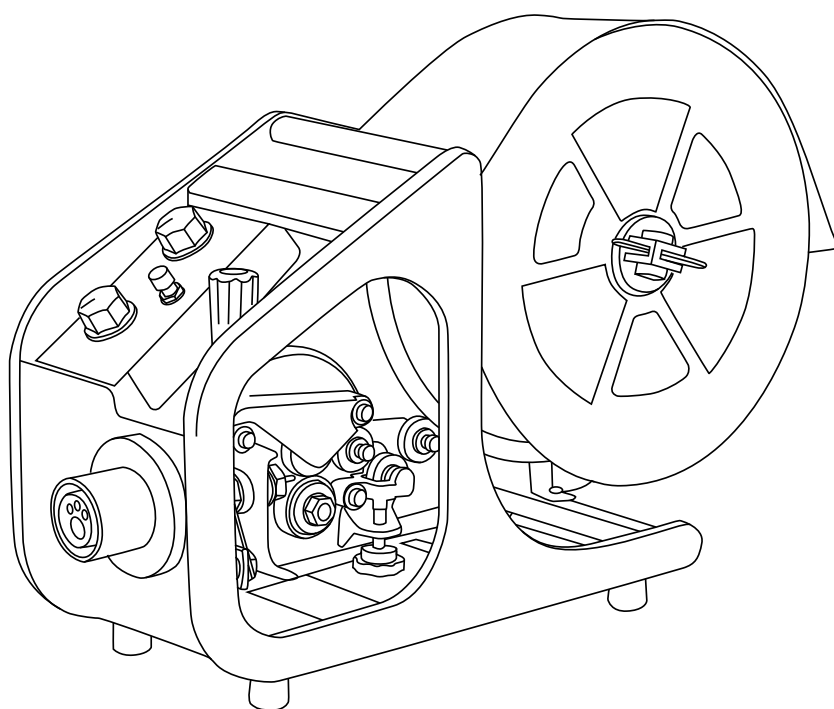


HiArc

F 10



Operating manual **EN**

Manual de instrucciones **ES**

Manual de utilização **PT**

Инструкции по эксплуатации **RU**

OPERATING MANUAL

English

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1. GENERAL

Congratulations on choosing the HiArc F wire feeder. Used correctly, Kemppi products can significantly increase the productivity of your welding, and provide years of economical service.

This operating manual contains important information on the use, maintenance and safety of your Kemppi product. The technical specifications of the device can be found at the end of the manual.

Please read the manual carefully before using the equipment for the first time. For your own safety and that of your working environment, pay particular attention to the safety instructions in the manual.

For more information on Kemppi products, contact Kemppi Oy, consult an authorised Kemppi dealer, or visit the Kemppi web site at www.kemppi.com.

The specifications presented in this manual are subject to change without prior notice.

NOTE! Items in the manual that require particular attention in order to minimise damage and personal harm are indicated with this symbol. Read these sections carefully and follow their instructions.

Disclaimer

While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions. Kemppi reserves the right to change the specification of the product described at any time without prior notice. Do not copy, record, reproduce or transmit the contents of this guide without prior permission from Kemppi.

1.1 About HiArc F wire feeder

Kemppi's HiArc F 10 wire feeder is designed to be used especially with Kemppi's HiArc power sources. They are inverter MIG/MAG welding power sources to be used in 3-phase mains power supply. HiArc welding machines are designed for industrial and professional use.

The HiArc power sources are equipped with pre-set adjustment features. The HiArc chooses automatically arc dynamic setting according to your gas selection.

Enjoy welding with your Kemppi product!

2. MACHINE INTRODUCTION

2.1 Before use

The product is packed in cartons designed specifically for them. However, always make sure before use that the products have not been damaged during transportation.

Check also that you have received the components you ordered and the instruction manuals needed. Product packaging material is recyclable.

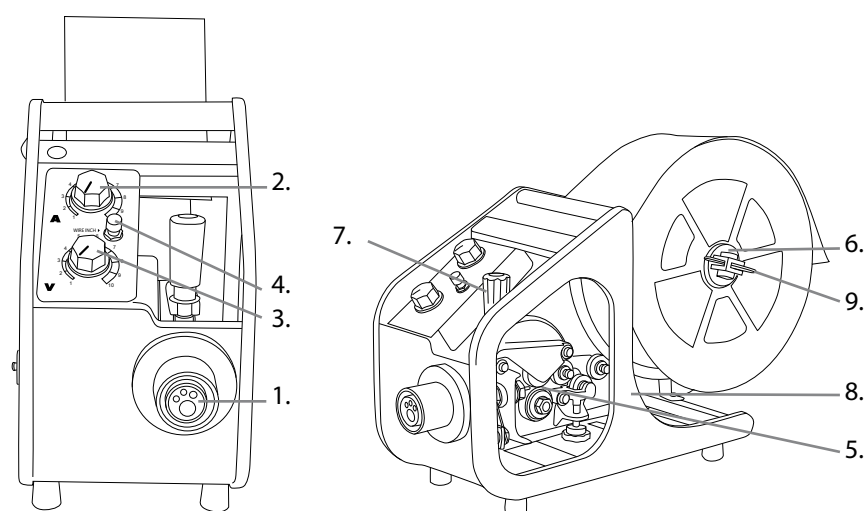
NOTE! When moving the welding machine, always lift it from the handle, never pull it from the welding gun or other cables.

Operating environment

This machine is suitable for both indoor and outdoor use. Always make sure that the air flow in the machine is unrestricted. The recommended operating temperature range is $-20\text{ }^{\circ}\text{C} \dots +40\text{ }^{\circ}\text{C}$.

Please read also the Safety Instructions concerning the operating environment.

2.2 Wire feeder front and side view



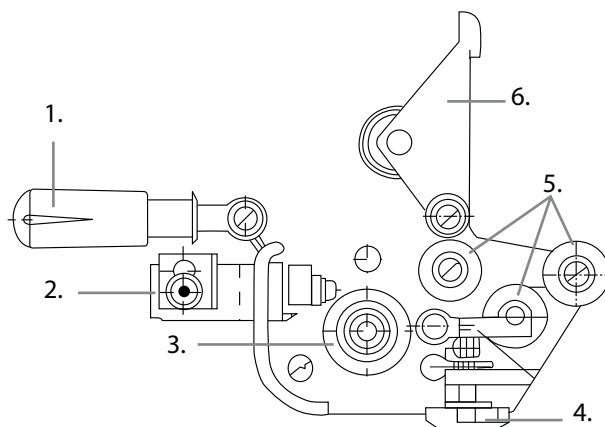
Front

1. EURO connector for welding gun
2. Amperage/WFS control knob
3. Voltage control knob
4. WIRE INCH button

Side

5. Wire feed mechanism
6. Wire spool hub
7. Pressure adjustment arm
8. Shielding gas connector
9. Spool locking lever

2.3 Wire feed mechanism



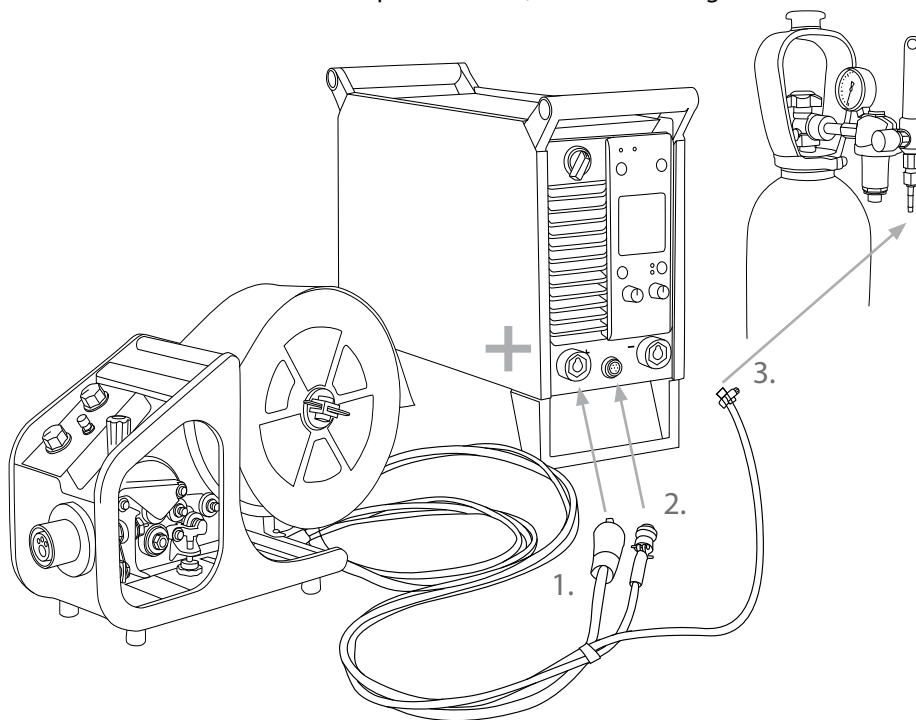
1. Pressure adjustment arm
2. Wire guide tube
3. Wire drive roll
4. Straightening rolls adjustment knob
5. Straightening rolls
6. Top feed roll holder

3. INSTALLATION

3.1 Power source connection

The HiArc F wire feeder is recommended to be used with the HiArc power source, but it can be used with other power source brands as well.

To connect the wire feeder to the power source, do the following:



1. Attach the HiArc F wire feed unit power cable to the + connector of the HiArc power source. Hand tighten the connector with a clockwise push and twist action to lock.
2. Attach the HiArc F wire feed unit control cable plug to the control socket of the power source.

3. Connect the shielding gas hose to the gas bottle or to the shielding gas distribution system.

NOTE! Normally the wire feeder should be connected to the plus pole. However, with some filler wires and shielding gases, you should connect the feeder to the minus pole, and the earth return cable to the plus pole.

3.2 Shielding gas connection

The shielding gas hose is fixed to the solenoid valve of the wire feeder.

Connect the other end of the gas hose to a gas cylinder's control valve or to the shielding gas distribution network at your worksite.

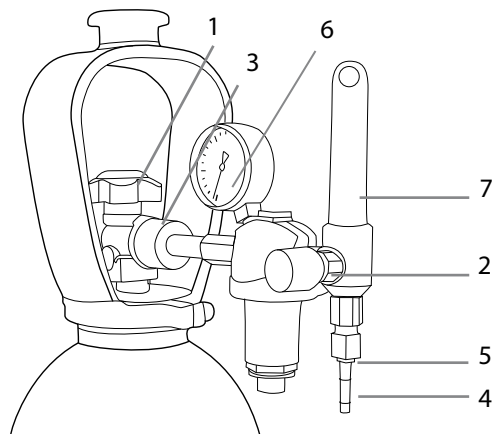
The thickness of the parent material, joint type and welding power define the required shielding gas flow rate.

NOTE! Make sure that you are using the correct type of shielding gas for the welding application. When using pure CO₂ shielding gas, make sure you use a gas pre-heater. A 110 V power supply is provided for CO₂ gas pre-heaters at the rear of the HiArc power source. See the HiArc operating manual for further details.

To connect the shielding gas hose to a suitable regulator for MIG/MAG welding

1. Connect the shielding gas hose to the gas cylinder's control valve and tighten the connector (connector is not supplied in the package).
2. Adjust the shielding gas flow rate with the control valve screw.
3. Always close the cylinder valve after use.

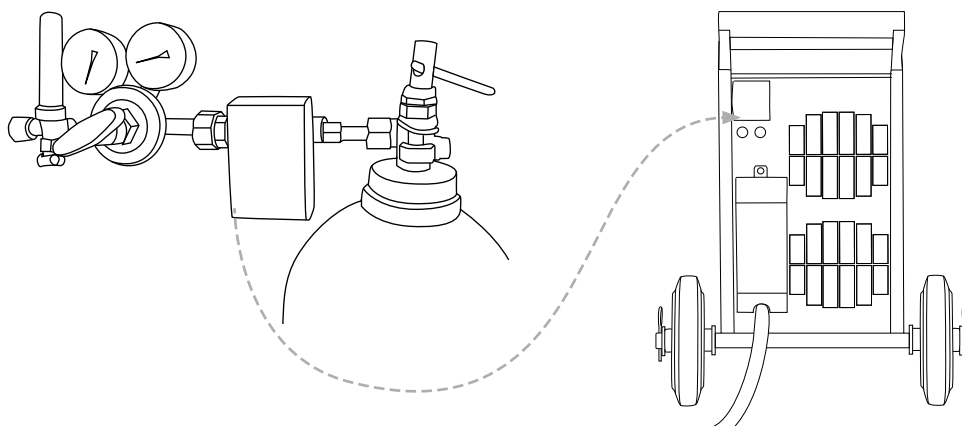
Parts of the gas flow regulator



1. Gas bottle valve
2. Flow regulation screw
3. Connecting nut
4. Hose tail
5. Hose tail nut
6. Gas bottle pressure gauge
7. Shielding gas flow meter

Connector for shielding gas heater

- When using CO₂ shielding gas, a 110V gas heater can be connected to the power supply located at the back of the HiArc power source. Please see the plug-in delivery package for usage and fitting instructions.



3.3 Installing filler wire

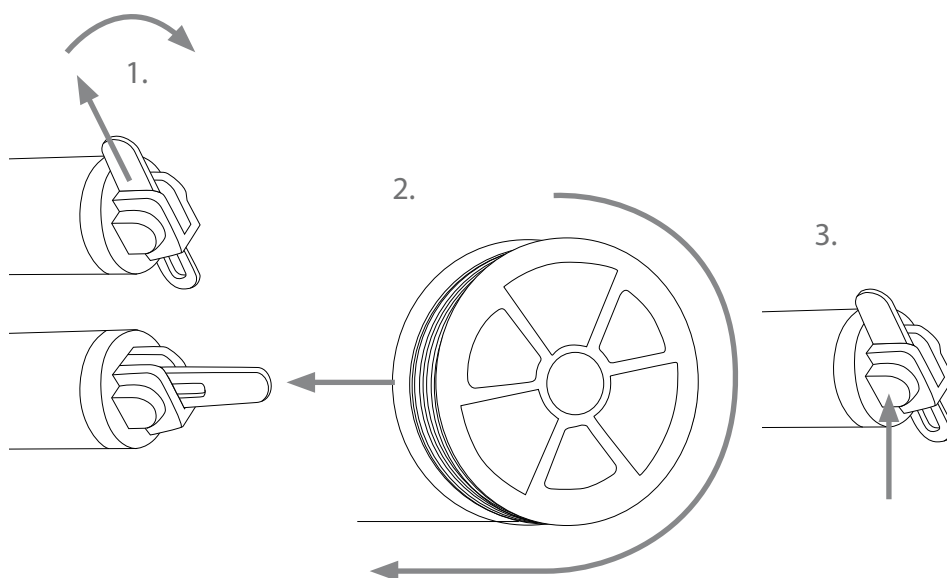
With HiArc F you can use 0.8 to 1.6 mm filler wires. The wire spool can be up to 300 mm in diameter and 105 mm in width.

When selecting a suitable filler wire, the material grade and alloy should suitably match the base material.

NOTE! When changing the filler wire, always check that the feed rolls, their groove shape and size and the wire liner inside the welding gun are suitable for the wire you are using. Also check that you are using right polarity for the filler wire.

3.3.1 Mounting the wire spool

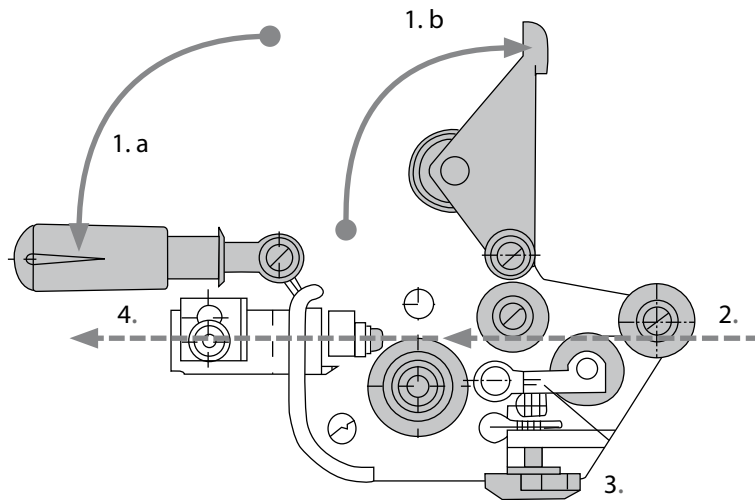
To mount the wire spool:



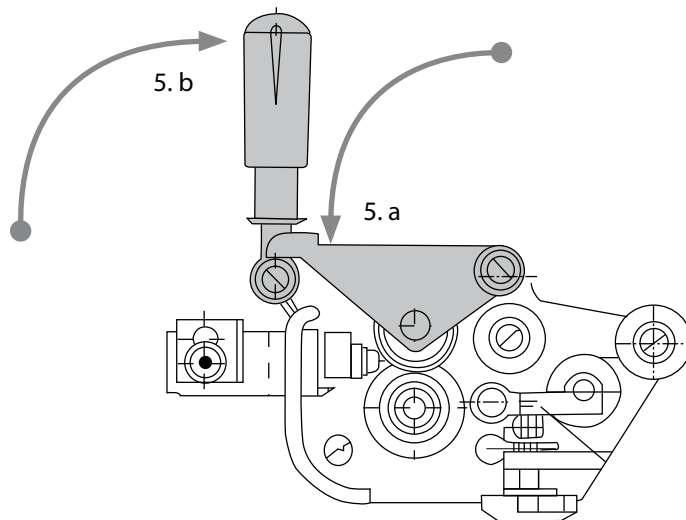
1. Turn the locking lever to the open position.
2. Check the rotating direction of the wire spool and push the spool into place, so that it rotates in the right direction.
3. Turn the locking lever to closed position and tighten the securing screw.

3.3.2 Feeding the welding wire

To feed the wire from the spool to the welding gun:

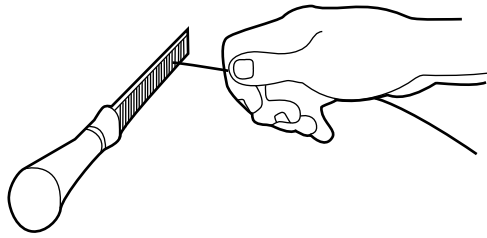


1. Open the pressure arm of the wire feed mechanism (a) and lift the top roll holder (b) to its up position.
2. Draw some loose wire from the spool and push it through the straightening rolls at the back of the mechanism. You can loosen the bottom straightening roll with the adjustment screw located below it.
3. Adjust the straightening rolls so that the wire is firmly fed into the drive roll.
4. Push the wire over the feed roll groove and through the front wire guide until it comes out from the Euro connector by about 150 mm.
5. Replace the top feed roll holder (a) over the wire and close the pressure arm (b).



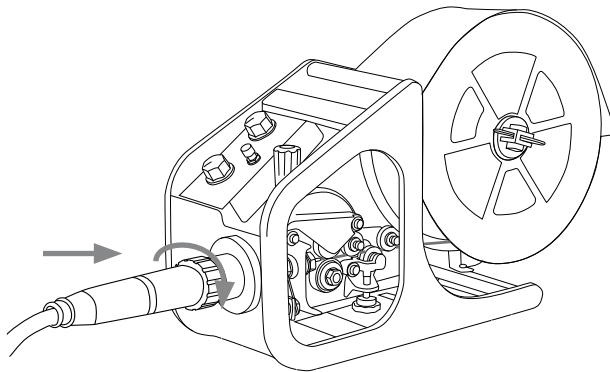
6. Cut away any deformed wire section and dress the sharp wire tip.

NOTE! Remember to remove the sharp cut tip of the filler wire before loading the wire to the welding gun, so preventing damage to the liner inside the welding gun cable. It will also improve feed quality and increase the service life of your gun liner.



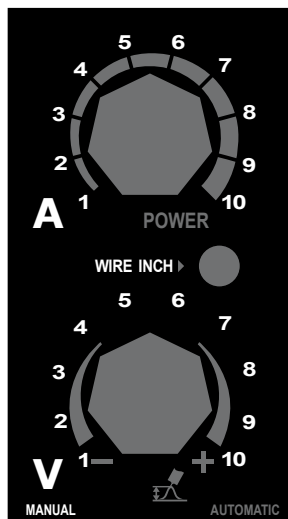
NOTE! When feeding the welding wire into the gun, be sure that you are not pointing the gun at anyone and that there isn't anything in front of the gun.

7. Connect the welding gun and tighten the collar.



Connect the welding gun cable to the Euro adapter socket located on the front of the machine and hand tighten only. Do not over tighten the collar.

8. Press the WIRE INCH button and allow the filler wire to feed through the gun cable to the contact tip.



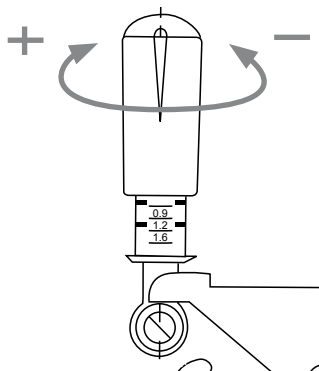
The welding gun leads the filler wire, shielding gas and electric current to the weld piece. When you press the welding gun trigger, shielding gas will flow and filler wire will begin to feed.

3.4 Setting the pressure of the feed rolls

To make filler wire run smoothly into the wire liner and to the welding gun you can adjust the pressure of the feed rolls of the wire feed mechanism.

To increase the pressure applied to the welding filler wire, turn the black pressure adjustment knob in a clockwise direction.

To decrease the pressure applied to the welding filler wire, turn the black pressure adjustment knob in an anti-clockwise direction.



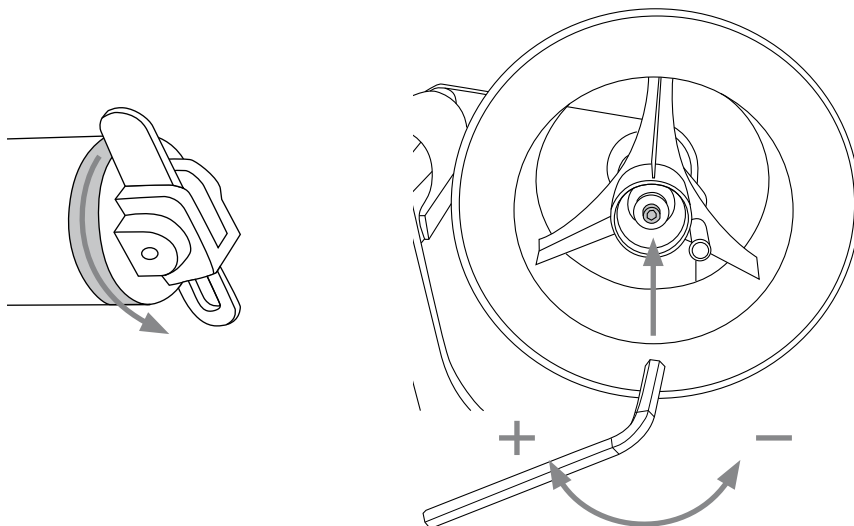
There is a graduation scale marked on the arm of the adjustment knob. The more pressure applied, the fewer number of graduation marks are visible.

For hard steel and stainless steel filler wires, make sure there is sufficient pressure applied, so avoiding filler wire slippage in the feed rolls.

NOTE! Too much pressure may flatten the filler wire, damage its coating, cause friction and excessive wear to drive roll bearings and therefore reduced life.

3.5 Setting the spool brake force

To prevent the filler wire from uncoiling on overrun, following use at high wire feed speeds, you can adjust the braking force of the filler wire spool holder.



The spool brake adjustment screw is located inside the spool hub. To adjust the brake force, unscrew the spool locking mechanism on the tip of the wire spool hub.

To increase the force turn the screw clockwise, and to decrease it, by turning the screw anticlockwise.

NOTE! Do not over tighten, and reduce the pressure for light filler wire types.

3.6 Calibrating wire feed speed

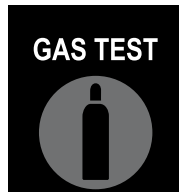
To ensure that the presets and meter displays work as planned, you must calibrate the wire feed speed of your HiArc power source and F 10 wire feeder welding equipment.

Calibration

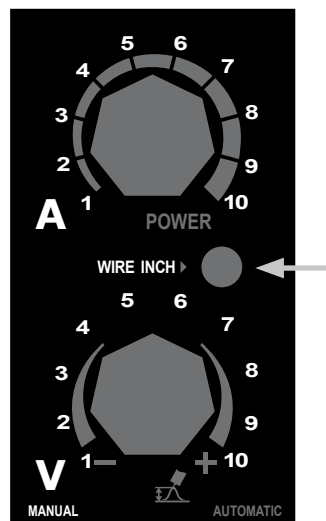
1. Start the calibration by pressing Crater Fill button for 3 seconds.



2. Press GAS TEST button to select either HiArc F 10 or HiArc F 30 wire feeder.


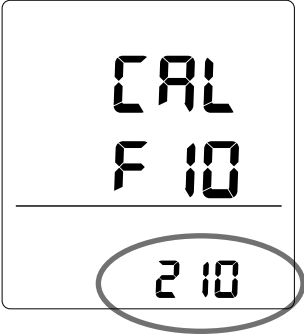
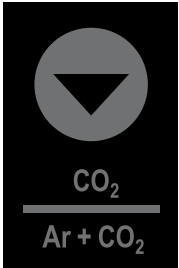
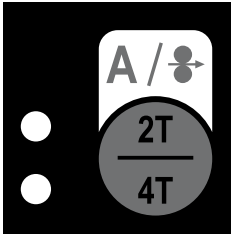


3. Cut the filler wire at the contact tip.
4. Press WIRE INCH button at the wire feeder.
 - Wire feed starts and continues for 12 seconds



5. When wire feed stops, cut the wire at the contact tip and measure the length of the fed wire in mm.

- At the power source control panel, enter the length of the wire using the buttons below.

	To toggle between ones, tens and hundreds	
	To add the number by one	
	To subtract the number by one	

NOTE! If you enter a value that does not fit in, the machine forces the value within the acceptable limits. This is to prevent you from entering false values.

- Press WIRE INCH button again.
 - Wire feed starts and continues for 2 seconds.
- When wire feed stops, cut the wire and measure its length.
- At the power source control panel, enter the length of the wire in the same manner as in step 6
- Press WIRE INCH button.

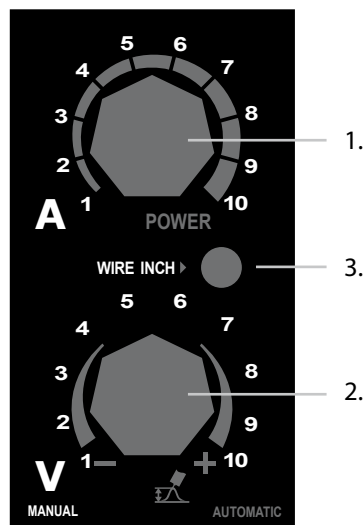
To skip the calibration

- If you want to skip the calibration, press Crater Fill button for 3 seconds. The machine exits the calibration mode.
- If the device is left idle for 5 minutes, it automatically exits the calibration mode.
- If the device is turned off before the step 10, it automatically exits the calibration mode, and the old calibration values remain.

3.7 Changing the feed rolls

The drive roll has two different sized grooves in it. You can choose which groove to use by opening the drive roll securing screw and turning the drive roll the other way around. The size of the groove currently in use is facing outward.

4. CONTROLLING WELDING FUNCTIONS



1. Wire feed speed
2. Welding voltage
3. Wire inch

In the control panel you can adjust the welding wire feed speed (1) and welding voltage (2). With the WIRE INCH button you can feed the filler wire into the welding gun.

Parameter adjustment depends on selected mode: Automatic or Manual mode.

Used power source model R/A also influences. In R model there is only Manual mode.

4.1 Control panel functions in basic operation

If you are using the power source in basic operating mode without automatic functions, the control knobs have the following functions:

With the amperage knob (A) you can adjust the welding current and the wire feed speed. The wire feed speed increases with the amperage level.

With the voltage knob (V) you can adjust the welding voltage level. The voltage level determines the arc length.

4.2 Control panel functions in automatic operation

If you are using the power source in automatic operating mode, the power source takes care of adjusting the wire feed speed and the welding voltage according to the welding power you adjust.

In automatic operating mode the control knobs have the following functions:

With the amperage knob (A) you can set the welding power. The welding current, wire feed speed and the welding voltage are adjusted automatically according to this setting.

With the voltage knob (V) you can make fine adjustments to the welding voltage. The middle position of the knob is the default value.

5. MAINTENANCE

5.1 Regular maintenance

Check regularly the electrical connections of the machine. Clean any oxidised connections, and tighten the loosened cable connections. Remove regularly any dust and filings from the wire conduit tip and feed rolls.

Do not try to open the motor and the reductor of the machine for repair or lubrication. They do not need maintenance.

NOTE! Remember that the machine may be repaired only by an electrical contractor or installer authorised to perform such operations.

5.2 Disposal of the machine



Do not dispose of electrical equipment with normal waste!

Electrical equipment that has reached the end of its life must be collected separately and taken to an appropriate environmentally responsible recycling facility.

The owner of the equipment is obliged to deliver a decommissioned unit to a regional collection centre, per the instructions of local authorities or a Kemppi representative. By applying this you will improve the environment and human health.

6. TECHNICAL DATA

HiArc F 10		
Operating voltage		24 V
Rated power		65 W
Output at 40 °C	60 % ED	500 A
	100 % ED	390 A
Feed mechanism		2-roll feed
Wire spool	max. ø	300 mm
Feed roll	ø	40 mm
Wire feed speed		0 – 21 m/min
Filler wires		0.8 – 1.6 mm
Gun connection		Euro
Degree of protection		IP2X
Operating temperature		–20 °C...+40 °C
Storage temperature		–40 °C...+60 °C
External dimensions	L x W x H	480 x 200 x 280 mm
Weight		9 kg
Standard GB/T15579.5-2005		

7. ORDERING CODES

Wire feeder		
HiArc F 10		6310010
Wire feeder consumables		
Intermediate cable set	5 m	W005805
Pressure arm assembly		W004642
Pressure roller assembly		W004643
Euro adapter		W004648
Wire feeder roll, factory setting	0.8 / 1.2 mm	W004653
Wire feeder roll	1.2 / 1.6 mm	W004646
Wire guide tube, factory setting	0.8 – 1.2 mm	W006117
Wire guide tube	1.2 – 1.6 mm	W004644
Straightening roll assembly		W004647
Wire spool shaft		W004649
Gas pre-heater		6314010
Welding guns		
FE 42	3.5 m	6604203
FE 42	5.0 m	6604204
Interconnection cables – optional extensions		
HiArc 10-70-G	70 mm ² , 10 m	6310710
HiArc 15-70-G	70 mm ² , 15 m	6310715
HiArc 10-50-G	50 mm ² , 10 m	6310510
HiArc 15-50-G	50 mm ² , 15 m	6310515
Wire feeder option		
Fastening plate	(HiArc M 400A/R)	W007362

EN

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