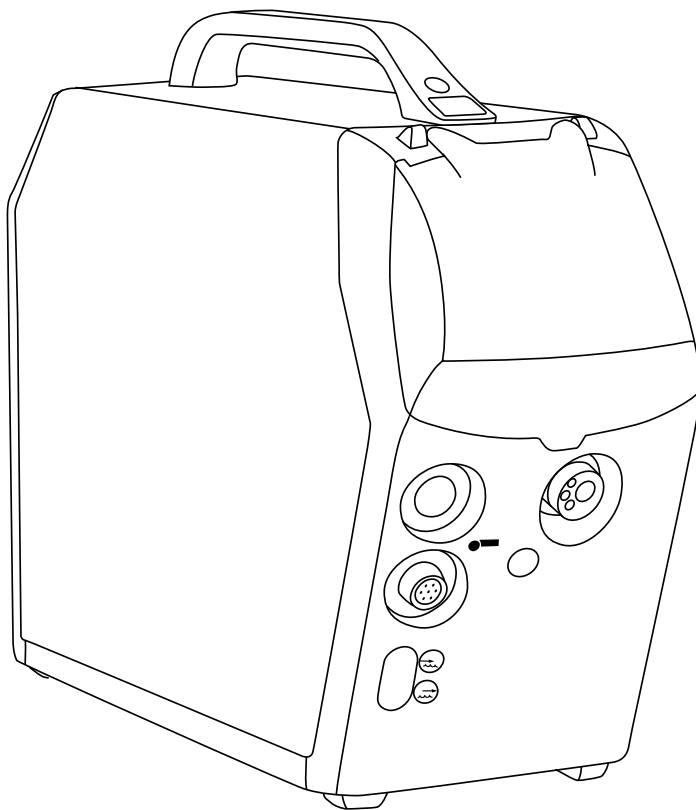


# FastMig | MXF 63, 65, 67



Operating manual • English	<b>EN</b>
Käyttöohje • Suomi	<b>FI</b>
Bruksanvisning • Svenska	<b>SV</b>
Bruksanvisning • Norsk	<b>NO</b>
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Gebrauchsanweisung • Deutsch	<b>DE</b>
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# OPERATING MANUAL

English

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# 1. PREFACE

## 1.1 GENERAL

Congratulations on choosing the FastMig MXF equipment. 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 equipment 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](http://www.kemppi.com).

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

### **Important notes**

Items in the manual that require particular attention in order to minimise damage and personal harm are indicated with the '**NOTE!**' notation. 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.

## 1.2 ABOUT FASTMIG PRODUCTS

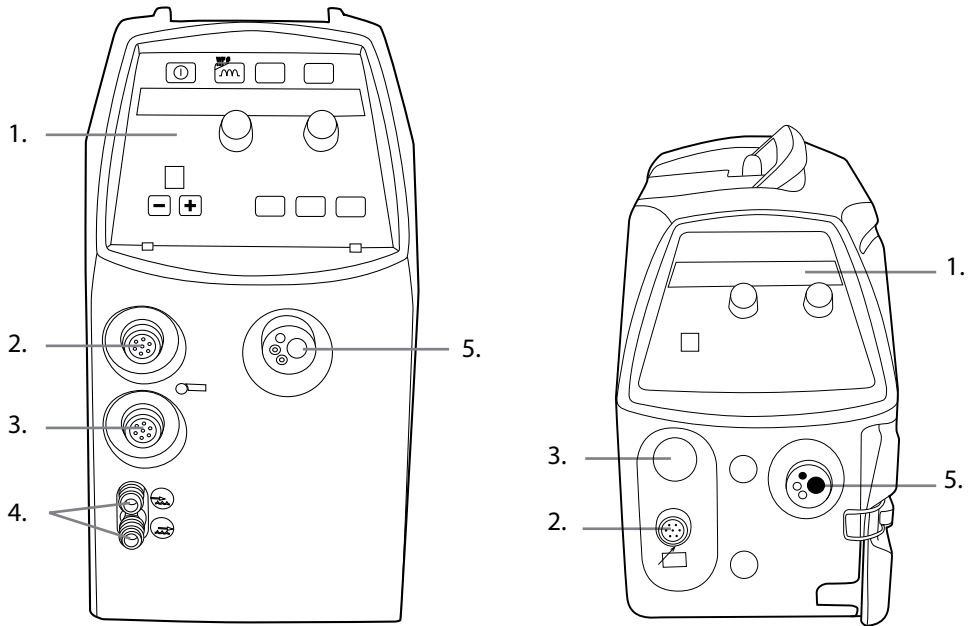
Kemppi FastMig™ MXF 63, MXF 65 and MXF 67 are wire feeders designed for demanding professional use. MXF 63 is intended for 200-mm wire spool, MXF 65 and MXF 67 for 300-mm wire spool. Wire feeders can be used with both FastMig Pulse and FastMig Synergic power sources.

Alternative panels for MXF 63, 65 and 67 depend on the used power source i.e. FastMig Synergic becomes compatible by connecting SF 51, SF 52W, SF 53W or SF 54 control panels with MXF wire feed unit, and in the case of PF 63 and PF 65 control panel FastMig Pulse power source can be connected. Operation of wire feed units are controlled and adjusted by microprocessor. By adding an optional synchronization unit (MXF Sync 65), SuperSnake sub-feeder device may be connected to MXF 63, 65 and 67.

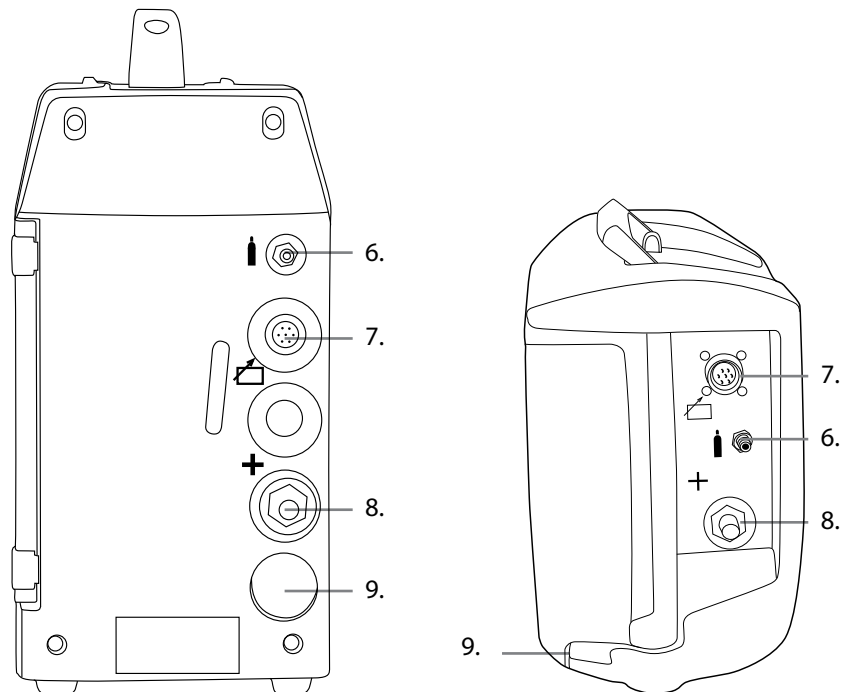
This manual provides instructions on the start-up and use of the MXF 63, 65 and 67 MIG/MAG wire feeding units.

## 2. INSTALLATION

### 2.1 MACHINE INTRODUCTION, MXF 65, 67 AND MXF 63



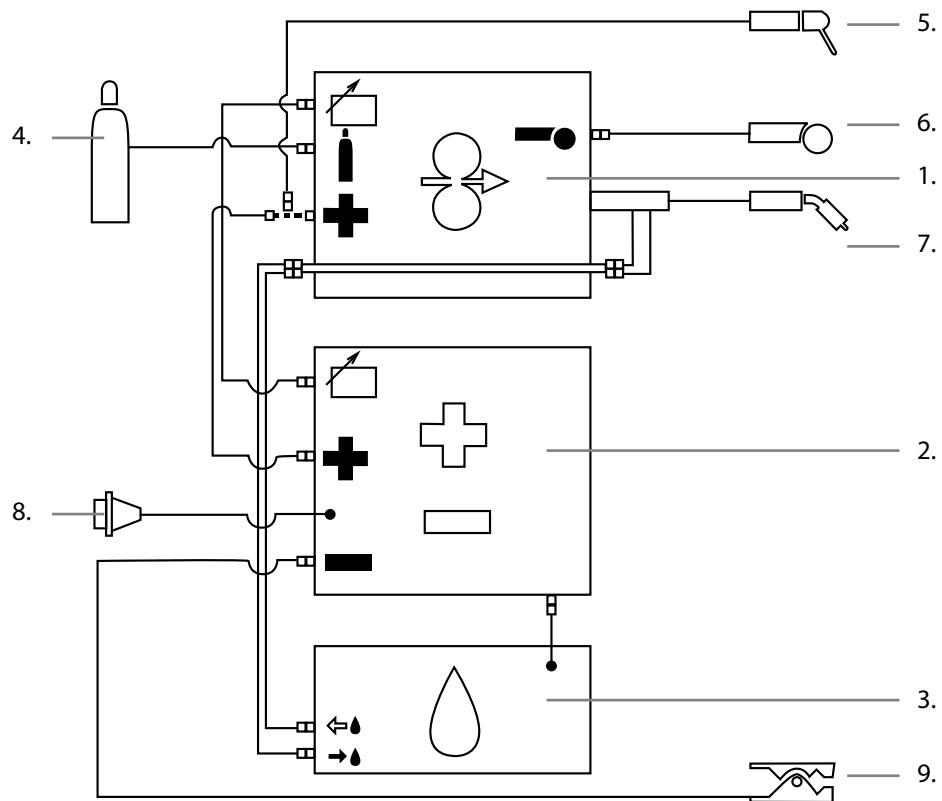
1. Control control panel
2. Remote control connector
3. Sub feeder Sync connector (kit optional)
4. Gun water connections (cooling optional)
5. Euro gun connector



6. Shielding gas connection
7. Connection for control cable
8. Welding current cable connector
9. Lead-in and clamping of cooling liquid hoses

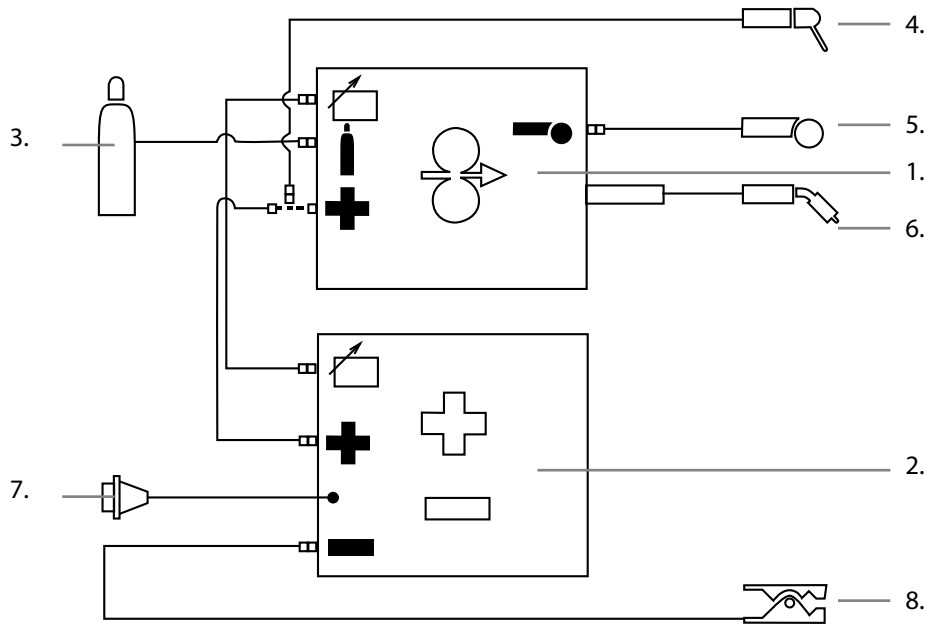
## 2.2 CONNECTION OF SYSTEM

### 2.2.1 Water cooled system: FastMig power source + MXF + FastCool 10



1. MXF wire feed unit
2. FastMig power source
3. FastCool water cooler and power connection
4. Gas supply
5. MMA electrode holder
6. Remote control device
7. Liquid cooled welding Gun
8. Power cable
9. Earth return lead and clamp

### 2.2.2 Gas cooled system: FastMig power source + MXF



1. MXF wire feed unit
2. FastMig power source
3. Gas supply
4. MMA electrode holder
5. Remote control device
6. Air cooled welding Gun
7. Power cable
8. Earth return lead and clamp

## 2.3 ASSEMBLY OF MIG/MAG SYSTEM

Assemble the units in the order mentioned below. Follow the additional mounting and operation instructions delivered with each package.

### 1. Installation of power source

Read paragraph: "Installation" in the operation instructions for FastMig power sources, and complete the installation according to that advice.

### 2. Mounting of power sources to transport wagon

Read and follow the instructions given in the transport cart installation/assembly manual

### 3. Mounting the FastMig MXF wire feed unit to the power source

Remove the cover sticker on top of the power source. Screw the fastening pivot into the power source – hand tighten only. Place the supplied plastic spacers over the pivot. Lift the MXF wire feeder into place, locating over the pivot.

### 4. Connecting cables

Connect the cables in accordance with the equipment notes provided in this manual.

The polarity of the welding wire (+ or -) can be selected by connecting the wire feed unit to either the positive or negative power source terminals.

Most MIG/MAG applications run the wire feed unit connected to the positive terminal of the power source.

### 5. Mounting FastMig wire feed units to boom and swing arms

When mounting wire feed units to boom and swing arms, the unit must be electrically isolated from both.

Suspension angle of wire feed unit can be changed by moving the fixing point in handle.



## 2.4 ACCESSORIES CORRESPONDING TO WIRE DIAMETER

Colour coded wire feed rolls and guide tubes are available to suit a variety of filler wire types and sizes. Drive roll groove geometry and design, vary depending on the application. Further details are available in the spare parts tables.

MXF wire feed units are normally equipped with 1.2 mm V-groove orange coloured feed rolls from the factory. These best suit 1.2mm solid Ferrous wires. Silver colour wire guide tubes are also fitted, for welding filler wires of 0.6 – 1.6 mm diameter.

Please ensure you select the correct drive rolls and guide tubes from the table to suit your particular welding application.

## 2.5 WELDING GUN SELECTION

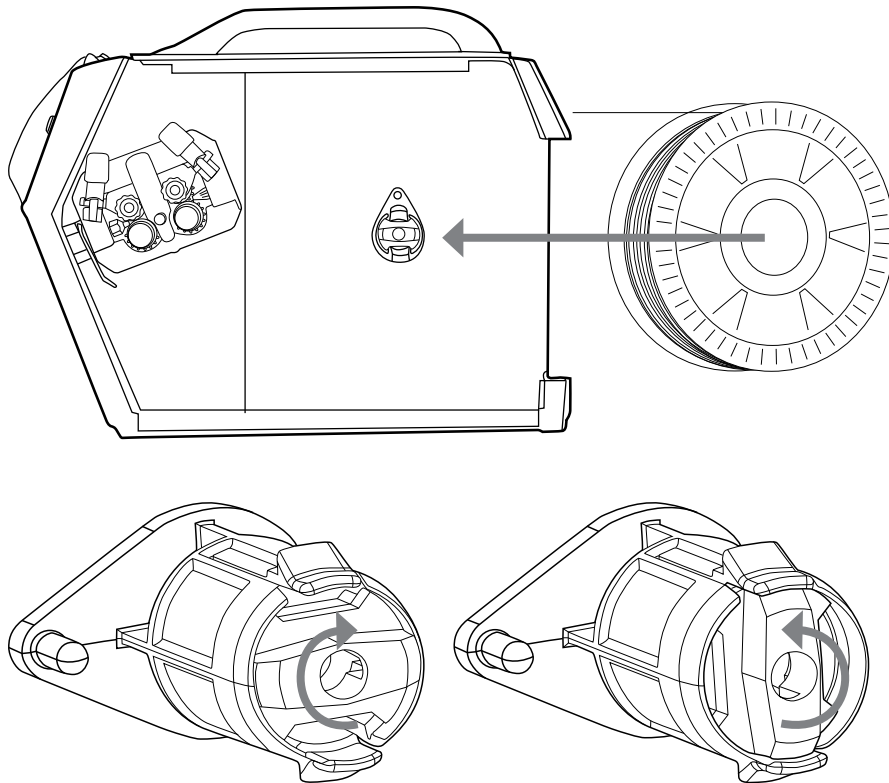
Please ensure that the welding gun selected is suitable for the target application. Check the gun manufacturers specification and ensure the gun meets the welding duty requirements. Also consider the extra heating effects of Pulse MIG/MAG welding on the gun selected.

Kemppi gun products are designed to meet many different applications. Special wire liners and contact tips are available for different wire types and sizes.

Distance wire feeding is accommodated with WeldSnake and SuperSnake products in either Gas or Water cooled models.

Thermal and load protection is also designed to some Kemppi Gun models and feed units, so carefully consider your requirements and consult your local Kemppi sales team to ensure you choose the correct alternative for your needs.

## 2.6 MOUNTING AND LOCKING OF WIRE SPOOL



**NOTE!** Check that in filler wire spool is correctly mounted and locked into position. Ensure the spool is not damaged or deformed in such a way that it can rub or chaff against the internal surface of the wire feed unit chassis or door. This may result in increased drag, impacting on weld quality. This may also result in long term wire feed unit damage, rendering the unit unserviceable or unsafe to use.

## 2.7 LOADING THE FILLER WIRE AND AUTOMATIC FEED

Automatic wire feed makes wire spool changes faster. When changing the wire spool, the pressure of feed rolls need not be released.

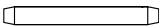
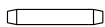
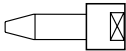
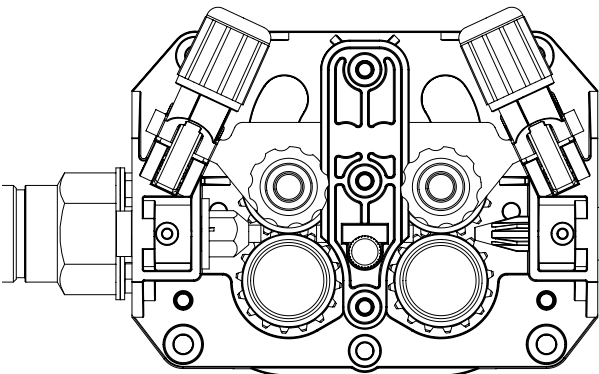
Simply ensure that the groove of the feed roll matches the diameter of filler wire used. Release the wire end from the spool and cut off any deformed section. Be careful the wire does not spill from the spool sides.

Straighten about 20cm of filler wire and ensure the tip has no sharp edges. File if necessary, as a sharp wire edge may damage the wire gun liner - particularly softer plastic liners.

Present the filler wire tip to the back of the wire feed rolls and press the wire inch switch on the wire feed panel. Feed the wire to the gun contact tip and prepare to weld.

**NOTE!** Smaller diameter filler wires may need to be loaded manually – with the feed roll pressure arms released. This is because it is easy to over estimate the pressure required to feed these smaller filler wires. Too high feed roll pressures can easily deform filler wires and contribute to later feeding problems.

## 2.8 DURATORQUE™ 400, 4 WHEEL WIRE FEED MECHANISM

Wire guide tubes							
Ss, Al, Fe, Mc, Fc	∅ 0.6 – 1.6 mm	→	∅ 2.5/64 mm, W000762, silver, plastic	→	∅ 2.5/33 mm, W000956, silver, plastic	→	∅ 2.0 mm, W000624, plastic
	∅ 1.6 – 2.4 mm	→	∅ 3.5/64 mm, W001430, silver, plastic	→	∅ 3.5/33 mm, W001431, silver, plastic	→	∅ 3.5 mm, W001389, plastic
Fe, Mc, Fc	∅ 0.6 – 0.8 mm	→	∅ 1.0/67 mm, W001432, white, steel	}	∅ 2.0/33 mm, W001435, orange, steel	→	∅ 2.0 mm, W000624, plastic
	∅ 0.9 – 1.6 mm	→	∅ 2.0/64 mm, W001433, orange, steel			→	∅ 3.5 mm, W001389, plastic
	∅ 1.6 – 2.4 mm	→	∅ 4.0/63 mm, W001434, blue, steel	→	∅ 4.0/33 mm, W001436, blue, steel	→	∅ 3.5 mm, W001391, brass
							
							

Wire feed rolls				
	ø mm	colour	drawing	pressing
Fe, Ss, Al, V-groove	0.6	pale grey	W001045	W001046
	0.8/0.9	white	W001047	W001048
	1.0	red	W000675	W000676
	1.2	orange	W000960	W000961
	1.4	brown	W001049	W001050
	1.6	yellow	W001051	W001052
	2.0	grey	W001053	W001054
	2.4	black	W001055	W001056
Fe, Fc, Mc, knurled	1.0	red	W001057	W001058
	1.2	orange	W001059	W001060
	1.4/1.6	yellow	W001061	W001062
	2.0	grey	W001063	W001064
	2.4	black	W001065	W001066
Fe, Fc, Mc, Ss, Al, U-groove	1.0	red	W001067	W001068
	1.2	orange	W001069	W001070
	1.6	yellow	W001071	W001072

## 2.9 ADJUSTMENT OF PRESSURE ARMS

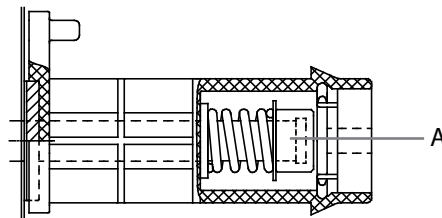
Adjust the drive pressure to the filler wire with the thumb screws mounted over the pressure arms. Notice the graduated scales indicating load. The load applied should be sufficient to overcome a light braking force applied by hand to the filler wire, as it exits the welding gun contact tip.

For smaller diameter and soft filler wires, less feed pressure is required. It should be possible to apply a light braking force to the filler wire by hand, as it exits the gun contact tip. But slightly more wire flow restriction should render the drives rolls to slip slightly over the filler wire without deforming the wire.

*NOTE! Excessive pressure causes flattening of the filler wire and damage to coated or cored filler wires. It also causes undue wear of the feed rolls and increases gearbox load, so reducing service life.*

## 2.10 ADJUSTMENT OF SPOOL BRAKE

Brake force is adjusted through the hole behind the locking clip. Remove the locking clip by hand, and adjust the tension and pressure to the friction pads mounted inside with a screw driver. See diagram and location A.



The load applied varies depending on the size and weight of the filler wire and spool, but also the filler wire feed speed set. The heavier the wire spool and the faster the feed speed, the greater the need to increase the braking load. Adjust the pressure, secure the locking clip, set the wire feed speed and check that the braking force is enough to ensure the filler wire does not spill from the spool on overrun.

*NOTE! Too much or unnecessary loads can impact welding quality, load and wear to the wire feed system.*

## 2.11 BURN BACK TIME

FastMig electronics controls the burn back time. When welding stops an automatic sequence ensures that the filler wire does not stick to the work piece and that no ball is formed at the wire tip, ensuring reliable re-ignition. This system works regardless of the wire feed speed set.

## 2.12 EARTH RETURN CABLE

Preferably the earth return cable and clamp should be connected directly to the welding material.

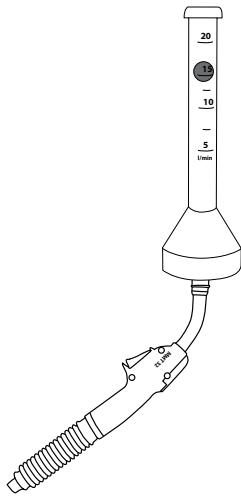
Always use a good quality, 70mm<sup>2</sup> heavy copper cable, and if possible a screw type 600A clamp. Ensure that the surface contact to the work piece is clean of metal oxide and or paint. Make sure the clamp is firmly secured.

## 2.13 SHIELDING GAS

**NOTE!** Handle shielding gas bottle with care. Assess the risks associated with handling and using compressed gas. Always use a cylinder transport carriage and secure the cylinder safely.

There are many different suppliers of quality shielding gases for welding. Please ensure that you are selecting the correct gas for your application. FastMig products uses welding curves for Synergic and Pulsed welding. These curves are created and recommend against a particular shielding gas.

Shielding gas effects welding performance and is a fundamental component to overall weld quality.

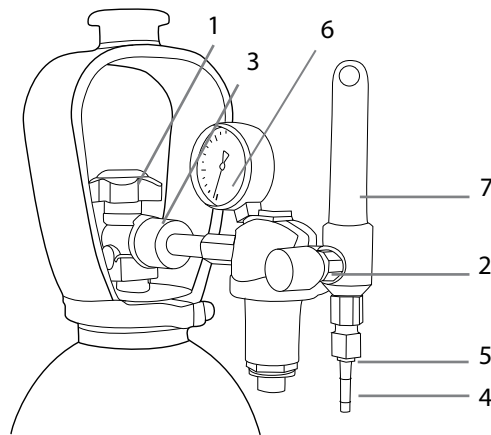


**NOTE!** Shielding gas flow rate from the welding gun is set according to the application, weld joint, gas type and gas nozzle shape and size. The flow rate should be measured at the welding gun nozzle before welding via a rotameter, and normally measure's between 10 – 20 litres per minute for many welding applications.

### 2.13.1 Installing gas bottle

Always fasten the gas bottle properly in the vertical position, in a special holder against the wall or on a cylinder carriage. Remember to close gas bottle valve after welding.

#### Parts of 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

### 2.14 MAIN SWITCH I/O

When you turn the main switch of the FastMig power source into I-position, the pilot lamp closest to this switch will illuminate, indicating the power source is ready for welding. The equipment will return to the operation state as before the main switch was turned to the zero position.

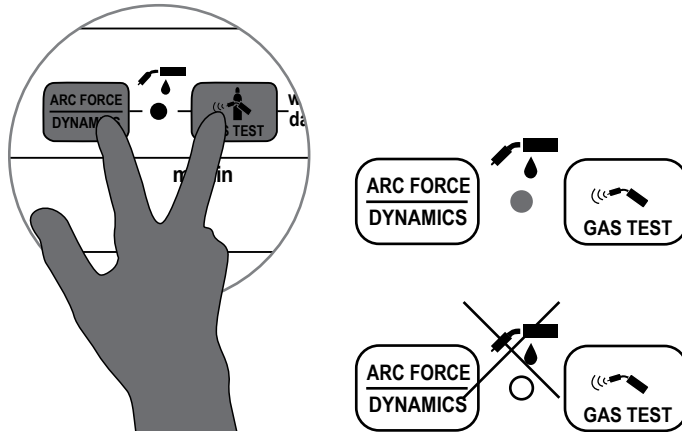
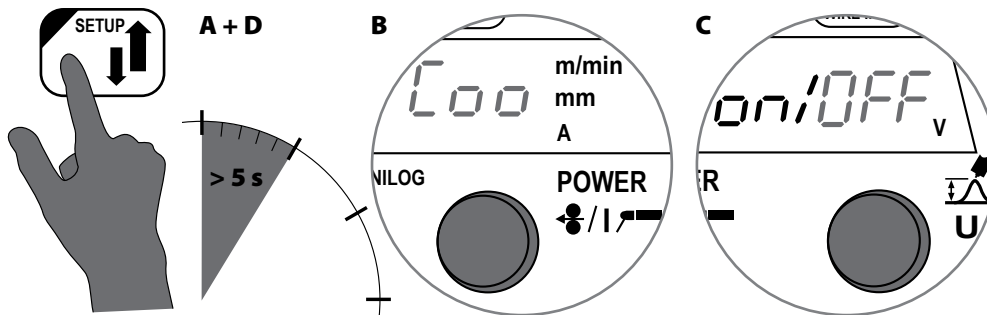
Always start and switch off the machine with the main switch, never use the mains plug as a switch.

### 2.15 OPERATION OF COOLING UNIT, FASTCOOL 10

When FastCool 10 is connected to the FastMig power source for the first time, the cooler function is normally active. To deselect the cooler function, follow the instructions below depending on the power source type in use.

#### FastMig KMS

When leaving the factory, cooling unit status is set 'ON'. If no cooling unit is connected, set the cooling unit status to 'OFF'. Depending on your panel type follow the instructions described in the graphic below. Having selected the cooling state required, reset the power source by switching off at the main on/off switch. Restart the power source and weld.

**SF 51/SF 54****SF 52W/SF 53W****FastMig Pulse**

The factory default setting for FastMig Pulse is AUTO. If a cooling unit is not connected and the operator tries to establish gas cooled operation together with a gas cooled gun, Err 27 is displayed. To establish gas cooled operation, select cooler 'OFF'. This is done in the 'System Config Menu' as follows: Press the Menu button on the P65 power source panel. Move the menu display arrow (via panels left-hand up-down arrow keys) to select 'System Config Menu' and then press select button. Choose 'Water Cooling:Auto' and change via potentiometer knob to setting 'Water Cooling:OFF'; then press Back/Exit. Cooler will then be set to the 'OFF' state for Gas cooled operation. Reset power source via on/off switch and continue welding. When selected, the operation of the cooling unit is automatic, starting when welding commences. When welding stops the pump will continue operation for approx. 5 min, so reducing the gun and the cooling liquid to ambient temperature. Read the operation instructions for the FastCool 10 unit.

**2.16 MXF HANGING KIT**

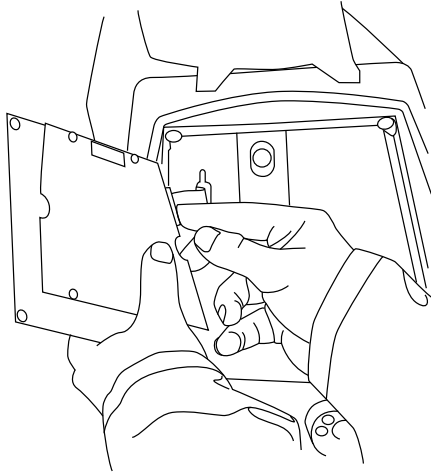
The MXF 63, 65 and 67 wire feed units can be hung from a special hanging kit available as an accessory. This allows the wire feed unit to be suspended above the work area.

**3. CONTROL PANEL OPERATIONS**

MXF wire feeders can be connected to either FastMig Pulse or FastMig Synergic power sources.

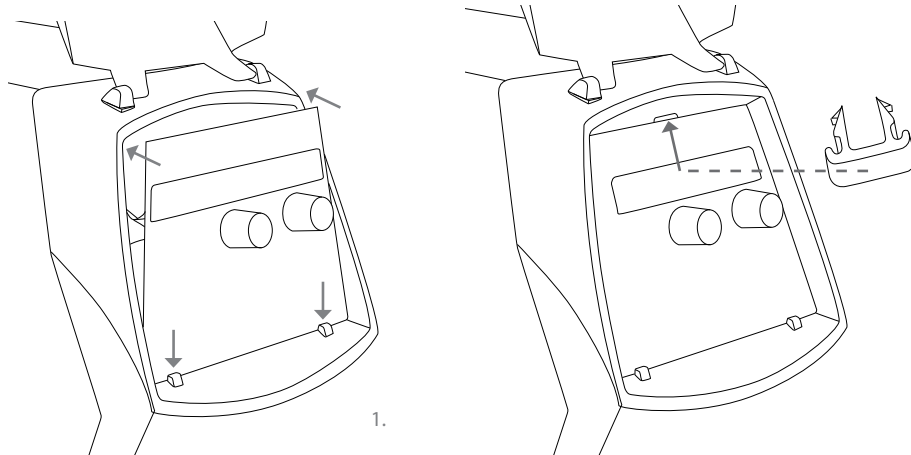
PF 63 and PF 65 control panel is compatible with FastMig Pulse and SF 53W and SF 54 or SF 51 and SF 52W panels enable compatibility with FastMig Synergic KMS power sources.

### 3.1 CONNECTING AND MOUNTING



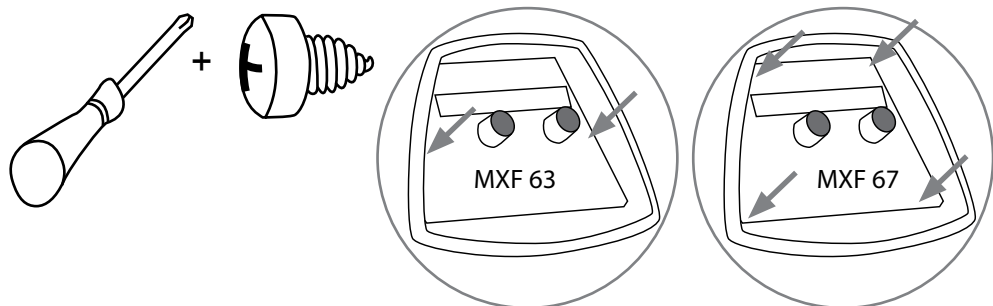
Fasten the ribbon cable connector from the MXF wire feed unit to the control panel. Attach the yellow-green earth lead into the fork connector on the PF panel.

#### MXF 65



1. Place the bottom edge of the panel behind the securing clips on the machine. Remove the fixing pin from the top edge with, for example, a screwdriver. Then gently push the upper part of the panel into place. Make sure that the cables do not get damaged, continue gently pushing the upper part of the panel until it clips into place.
2. Finally secure the panel into place with the additional black plastic security clip provided (MXF 65 only). Ensure that the clip is positioned correctly. You will notice that the clip does not seat snugly if its positioned upside down.

#### MXF 63 + MXF 67



## 4. WELDING SOFTWARE DELIVERY PROFILE

### FastMig Pulse

The following information details panel operation and welding software options for both FastMig Pulse and FastMig KMS equipment. Welding software is developing regularly as new function and performance is designed for specific applications. If you have a specific need beyond your standard equipment profile, check Kemppi DataStore for new welding software options or discuss with your supplier.

FastMig Pulse is designed to allow customer specified welding software choice. Following delivery and installation your machine will include welding software specified at the point of order. Detailed in the table below are typical welding curves available. If the delivery specification is focused to a specific project and you wish to up-date the machine in future, you can select additional welding software from the WISE & MATCH software menu. Order and load these software products to your machine with Kemppi DataGun field program device.

Wise and Match products provide optional welding application solutions. Wise and Match products menu includes special weld process for (1) root pass and (2) thin plate welding, (3) auto power regulation and (4) arc length recognition, (5) system lock function, plus additional base material curves and optional panel function. With Wise & Match you can turn something special into something unique.

<b>1. WiseRoot</b>	6265011
<b>2. WiseThin</b>	9991013
<b>3. WisePenetration</b>	9991000
<b>4. WiseFusion</b>	9991014
<b>5. MatchLog</b>	9991017

WORK PACK. The welding table below details Work Pack delivery option. Additional welding software products can be purchased and added later if required.

Group	N:o	Pulse	1-MIG	Wire ø mm	Material	Gas
Alu	A02	X	X	1.2	AlMg5/AlMgMn	Ar
Alu	A12	X	X	1.2	AlSi5/AlSi12	Ar
Fe	F03	X	X	1	Fe	Ar+18-25%CO <sub>2</sub>
Fe	F04	X	X	1.2	Fe	Ar+18-25%CO <sub>2</sub>
Ss	S03		X	1	Ss-316/308	Ar+2%CO <sub>2</sub>
Ss	S04	X	X	1.2	Ss-316/308	Ar+2%CO <sub>2</sub>
Ss	S06	X		1	Ss-316/308	Ar+2%CO <sub>2</sub>
Fe	R04		X	1.2	FeFC_Rut	Ar+18-25%CO <sub>2</sub>
Fe	M04		X	1.2	FeMC	Ar+18-25%CO <sub>2</sub>
Ss	S84		X	1.2	FC-316	Ar+25%CO <sub>2</sub>

More welding curves are available by purchasing Kemppi's MatchCurve and MatchCustom product packages.

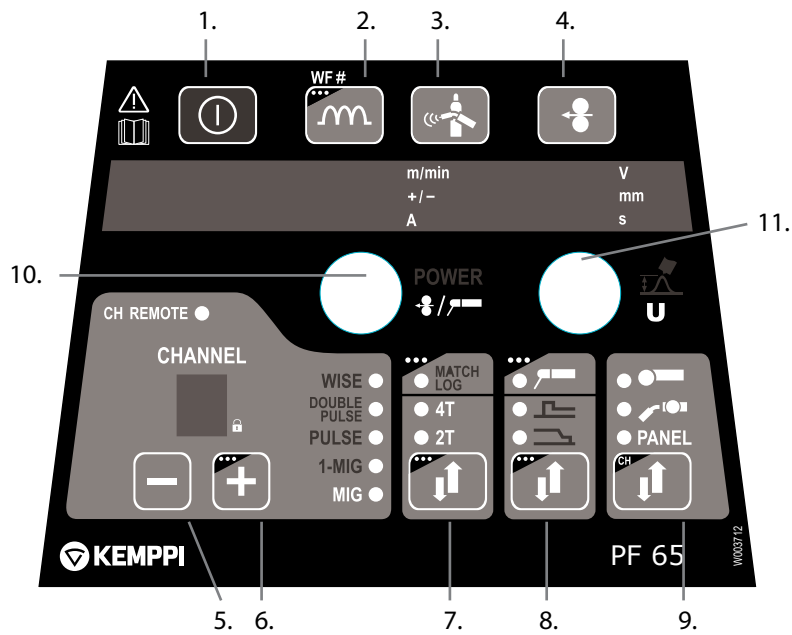


Kemppi WISE products are welding process solutions. WiseRoot and WiseThin process group curves are listed below.

Group	N:o	WiseRoot	WiseThin	Wire ø mm	Material	Gas
Fe	F01		X	0.8	Fe	Ar+18-25%CO <sub>2</sub>
Fe	F02	X	X	0.9	Fe	Ar+18-25%CO <sub>2</sub>
Fe	F03	X	X	1	Fe	Ar+18-25%CO <sub>2</sub>
Fe	F04	X	X	1.2	Fe	Ar+18-25%CO <sub>2</sub>
Ss	S03	X	X	1	Ss-316/308	Ar+2%CO <sub>2</sub>
Ss	S04	X	X	1.2	Ss-316/308	Ar+2%CO <sub>2</sub>
Cu	C03		X	1	CuSi3	Ar
Cu	C13		X	1	CuAl8	Ar
Fe	F21		X	0.8	Fe	CO <sub>2</sub>
Fe	F22	X	X	0.9	Fe	CO <sub>2</sub>
Fe	F23	X	X	1	Fe	CO <sub>2</sub>
Fe	F24	X	X	1.2	Fe	CO <sub>2</sub>
Ss	S01		X	0.8	Ss-316/308	Ar+2%CO <sub>2</sub>
Ss	S02	X	X	0.9	Ss-316/308	Ar+2%CO <sub>2</sub>
Ss	S12	X		0.9	Ss-316/308	Ar+He+CO <sub>2</sub>
Ss	S13	X		1	Ss-316/308	Ar+He+CO <sub>2</sub>
Ss	S14	X		1.2	Ss-316/308	Ar+He+CO <sub>2</sub>

## 5. PF63 AND PF 65 PANEL BUTTON FUNCTIONS

EN



### 5.1 ON / OFF BUTTON



1.

Short Press: Panel returns to default display.

Long Press: When Welding panel (PF 65) is ON => Welding panel is turned OFF. When Welding panel (PF 65) OFF => welding panel is turned ON and Setup Panel (P65) turns ON and selects automatically that Welding Panel (WF#).

## 5.2 DYNAMICS BUTTON



2.

Short Press: Dynamics setting if welding process is MIG/Synergic MIG. ArcForce setting if welding process is MMA. Forming Pulse setting if welding process is Wise-Root/WiseThin.  
Long Press: Wire Feeder number selection (WF#). If more than one Wire Feeder is connected to system WF number selection must be made. Every Wire Feeder must be different WF number.

## 5.3 GAS TEST BUTTON



3.

Gas Test function.

Pressing the button will show the gas test time. Gas test time can be adjusted by using the pulse encoder.

Gas test will proceed after time adjustment is complete (short delay).

Gas test can be stopped by pressing any button.

## 5.4 WIRE INCH BUTTON



4.

Wire Feeder will start immediately when the button is pressed.

The default wire inch speed is 5.0m/min.

Wire Inch speed can be adjusted (+/-) using the pulse encoder.

When the button is released the Wire Feeder will stop. If the button is pressed again, the wire feeder starts again and slopes to selected wire feed speed (if higher speed is adjusted).

## 5.5 CHANNEL -



5.

Memory channel down selection.

Panel jumps directly to the previous memory channel that can be found from memory.

## 5.6 CHANNEL +



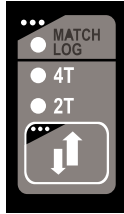
6.

Short Press: Memory channel up selection.

Panel jumps directly to next memory channel that can be found from memory.

Long Press: Selected memory channel is locked / unlocked. No panel parameter changes allowed to that memory channel (panel lock).

## 5.7 2T/4T BUTTON



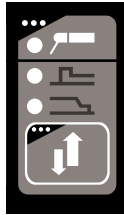
7.

Gun trigger logic selection.

Short Press: 2T / 4T selection.

Long Press: MatchLog ON/OFF selection if licence found.

## 5.8 EXTRA FUNCTIONS BUTTON

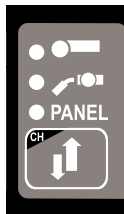


8.

Short Press: Crater Filling selection / Hot Start Selection.

Long Press: MMA ON/OFF selection if licence found.

## 5.9 REMOTE SELECTION BUTTON



9.

Short Press: Panel /Gun Remote / Hand remote selection. If remote auto recognition is selected ON (see P65 panel menu) only those remote controls which can be found are selected.

Long Press: CH remote function ON/OFF. Gun remote or Hand remote control must be first selected before CH remote function can be selected ON/OFF. When active, memory channels are selectable from the remote control device.

## 5.10 POWER ENCODER POTENTIOMETER



10.

The power encoder knob allows adjustment of the wire feed speed or power in either Basic, Synergic and Pulse MIG/MAG process. MMA current level is also adjusted here if the process licence is active. Adjustments can be made before or during the arc process. This control also adjusts additional parameter values when selected.

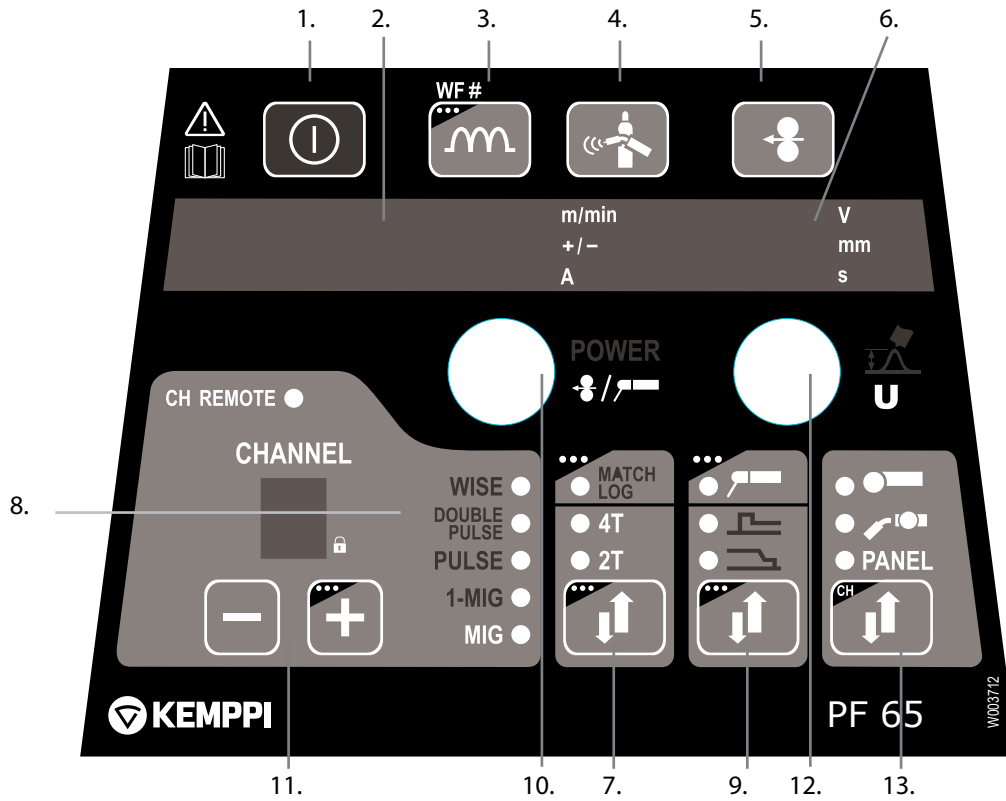
## 5.11 ARC LENGTH/VOLTAGE/ADJUSTMENT POTENTIOMETER



11.

Arc length, voltage and parameter adjustments can be made using this knob. Adjustments can be made before or during welding.

## 5.12 PF 63 AND PF 65 PANEL OVERVIEW



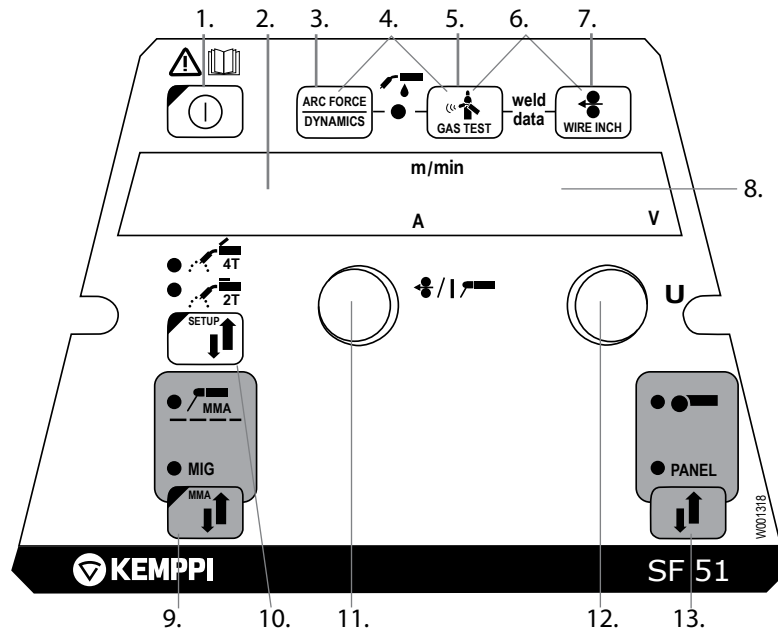
1. Main switch (long press)
  2. a) Wire feed speed/welding current display  
b) Display of selected adjustable parameter
  3. a) Activation of MIG welding dynamics / Arc Force adjustment  
b) Selection of Wire Feeder (= paralleled wire feeders)
  4. Gas purge
  5. Wire inch
  6. a) Display of welding voltage /plate thickness /timer settings  
b) Display of selected adjustable parameter
  7. Selection of MIG gun trigger function: 2T/4T/MATCHLOG long press \*)
  8. Display of welding process: MIG, 1-MIG, PULSE, DOUBLE PULSE, WISE \*)
  9. a) Selection of additional MIG functions  
b) Activation of MMA welding process (long press\*)
  10. a) Adjustment of wire feed speed  
b) Adjustment of welding power (Synergic 1-MIG and PULSE)  
c) Adjustment of electrode welding (MMA) current \*)  
d) Adjustment of additional parameters when selected (ie Wire inch, Gas Test)
  11. Memory channels 0 – 9, programming through P65 panel on the power source, panel lock (long press on +)
  12. a) Adjustment of welding voltage  
b) Adjustment of length of welding arc (Synergic 1-MIG and PULSE)  
c) Adjustment of additional parameters when selected (ie MIG Dynamics)
  13. Panel control/remote control unit selection, channel remote control (long press)
- \*) Not included on standard delivery, see chapter Ordering numbers

**Automatic Weld Data display:**

Last recorded welding values are displayed post welding. See power source panel P65. Select MENU and then Weld Data.

### 5.13 SF 51 AND 54 PANEL OVERVIEW FOR FASTMIG SYNERGIC

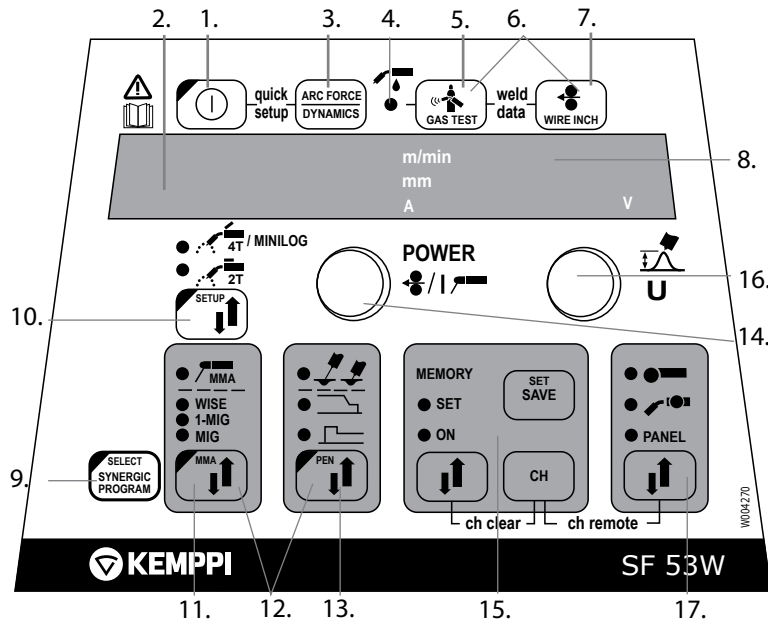
Files containing full operation descriptions for SF 51 and SF 54 panels are located from your delivery package CD menu.



1. Main switch
2. Display of wire feed speed/welding current
3. Selection of welding dynamics for adjustments
4. Selection of air/gas cooled MIG gun
5. Gas purge
6. Weld data: Last used welding parameters shown in displays
7. Wire inch
8. Display of set value of welding voltage/voltage during welding
9. Selection of MIG/MMA process
10. a) Selection of gun switch function  
b) Changing of basic parameters of the unit, SETUP (long pressing)
11. a) Adjustment of wire feed speed  
b) Adjustment of MMA current
12. a) Adjustment of welding voltage  
b) Adjustment of MIG dynamics  
c) Adjustment of SETUP parameters
13. Manual control/remote control unit selection

## 5.14 SF 52W AND 53W PANEL OVERVIEW FOR FASTMIG SYNERGIC

Files containing full operation descriptions for SF 52W and SF 53W panels are located from your delivery package CD menu.



1. ON/OFF button
2. a) Display: Wire feed speed/welding current/sheet thickness  
b) Display: Selected adjustable parameter
3. Selection of adjustment: MIG dynamics/Arc Force/Wise Forming Pulse
4. Display of air/gas cooled MIG gun (selection from setup)
5. Gas purge
6. Weld data: Last used welding parameters shown in displays
7. Wire inch
8. a) Welding voltage display  
b) Display of value of selected adjustable parameter
9. 1-MIG/WISE selection check/1-MIG welding arc selection activation
10. a) Selection of MIG process: 2T/4T/4T Minilog \*)  
b) Long press: Setting the basic parameters (SETUP)
11. Selection of welding process MIG, 1-MIG, MMA, WISE \*\*)
12. Activation of additional MIG function parameter adjustment
13. Selection of additional MIG functions/WisePenetration \*\*) (long press)
14. a) Adjustment of wire feed speed  
b) Adjustment of welding power setting 1-MIG/WiseRoot/WiseThin  
c) Adjustment of stick electrode current  
d) Selection of SETUP parameter  
e) Selection of 1-MIG/WiseRoot/WiseThin arc (material)
15. Memory channels, storage of MIG parameters
16. a) Welding voltage adjustment  
b) Adjustment of length of welding arc (1-MIG)  
c) Adjustment of MIG dynamics  
d) Adjustment of SETUP parameter  
e) Selection of 1-MIG/WiseRoot/WiseThin arc  
f) WiseRoot and WiseThin base current adjustment
17. Manual control/remote control unit selection

\*) Minilog is not included in standard delivery

\*\*\*) Not included in the standard delivery. Wise products are available as optional welding process solutions. Please visit [www.kemppi.com](http://www.kemppi.com) or Kemppi Datastore.

## 6. BASIC TROUBLESHOOTING

**NOTE!** The problems listed and the possible causes are not definitive, but serve to suggest some standard and typical situations that may present during normal environmental use when using the MIG/MAG process with FastMig Pulse.

Problem	Check the following
Machine won't work?	<ul style="list-style-type: none"> <li>• Check mains plug is connected</li> <li>• Check mains power distribution is switched on</li> <li>• Check the mains fuse and or circuit breaker</li> <li>• Check power source O/I switch is ON</li> <li>• Check interconnection cable set and connectors between the power source and wire feed unit are correctly fastened. See the manual schematic</li> <li>• Check earth return lead is connected</li> <li>• Check control panels are switched on – Orange buttons top left, long press.</li> </ul>
Dirty, poor quality weld?	<ul style="list-style-type: none"> <li>• Check shielding gas supply</li> <li>• Check and set gas flow rate</li> <li>• Check gas type for application</li> <li>• Check gun/electrode polarity. Example: Fe solid filler wire: Earth return should be connected to the – pole, wire feed unit to the + pole connector</li> <li>• Check correct welding curve selected</li> <li>• Check correct Channel (job) number selected on PF 65 control panel</li> <li>• Check power supply – Phase down?</li> </ul>
Variable welding performance?	<ul style="list-style-type: none"> <li>• Check wire feed mechanism is correctly adjusted</li> <li>• Check correct drive rolls are fitted</li> <li>• Check wire spool overrun tension is correctly adjusted</li> <li>• Check gun liner is not blocked. Replace if necessary</li> <li>• Check correct gun liner is fitted for the filler wire size and type</li> <li>• Check contact tip for size, type and wear</li> <li>• Check gun is not over heating in application</li> <li>• Check cable connections and earth return clamp</li> <li>• Check welding parameter settings.</li> </ul>
Filler wire won't feed?	<ul style="list-style-type: none"> <li>• Check wire feed mechanism. Pressure arms are closed? Close and adjust</li> <li>• Check welding gun switch function.</li> <li>• Check euro gun collar is correctly fastened to euro block</li> <li>• Check gun liner is not blocked</li> <li>• Check contact tip, size, type, wear</li> <li>• Check and try alternative gun.</li> </ul>
High spatter volume?	<ul style="list-style-type: none"> <li>• Check welding parameter values</li> <li>• Check inductance/Dynamics values</li> <li>• Check cable compensation value if long cables are fitted</li> <li>• Check gas type and flow</li> <li>• Check welding polarity – cable connections</li> <li>• Check filler material selection</li> <li>• Check correct welding curve selected</li> <li>• Check correct Channel (job) number selection</li> <li>• Check filler wire delivery system</li> <li>• Check power supply – 3 x phase present?</li> </ul>

**NOTE!** Many of these checks may be carried out by the operator. However certain checks relating to mains power must be completed by an authorised trained electrician.

## 7. MAINTENANCE

When considering and planning routine maintenance, please consider the the frequency of machine use and the working environment.

Correct operation of the machine and regular maintenance will help you avoid unnecessary downtime and equipment failure.

*NOTE! Disconnect the machine from the mains before handling the electrical cables.*

### 7.1 DAILY MAINTENANCE

- Check the overall condition of the welding gun. Remove welding spatter from the contact tip and clean the gas nozzle. Replace worn or damaged parts. Only use original Kemppi spare parts.
- Check the condition and connection of the welding circuit components: welding gun, earth return cable and clamp, sockets and connectors.
- Check the condition of the feed rolls, needle bearings and shafts. Clean and lubricate bearings and shafts with a small quantity of light machine oil if necessary. Assemble, adjust and test function.

### 7.2 SERVICE SHOP MAINTENANCE

Kemppi Service Workshops complete maintenance according to their Kemppi service agreement. Recommended termed service and cleaning is listed in the FastMig Pulse Power source manual.

Regular preventative maintenance by trained technicians will increase equipment life and ensure reliable operation.

## 8. DISPOSAL OF THE MACHINE



Do not dispose of electrical equipment with normal waste!

In observance of European Directive 2002/96/EC on waste electrical and electronic equipment, and its implementation in accordance with national law, 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 European Directive you will improve the environment and human health.



## 9. ORDERING NUMBERS

<b>FastMig Pulse</b>			
PF 63 panel			6155200
PF 65 panel			6155100
FastMig Pulse 350, 3 ~ 400V			6150400
FastMig Pulse 450, 3 ~ 400V			6150500
MXF 63 wire feeder		Work pack profile	6152300EL
MXF 65 wire feeder		Work pack profile	6152100EL
MXF 67 wire feeder		Work pack profile	6152200EL
<b>FastMig KMS</b>			
MXF 63 wire feeder		Project pack custom	6152300
MXF 65 wire feeder		Project pack custom	6152100
MXF 67 wire feeder		Project pack custom	6152200
<b>SF</b>			
SF 51 panel, 200 mm			6085100
SF 52W panel, 200 mm			6085200W
SF 53W panel, 300 mm			6085300W
SF 54 panel, 300 mm			6085400
FastMig KMS 300, 3 ~ 400V			6053000
FastMig KMS 400, 3 ~ 400V			6054000
FastMig KMS 500, 3 ~ 400V			6055000
Cooling unit FastCool 10			6068100
Sub feeder synchronisation unit MXF Sync 65			W004030
<b>SuperSnake</b>			
SuperSnake GT02S sub feeder		10m	6153100
SuperSnake GT02S sub feeder		15m	6153150
SuperSnake GT02S sub feeder		20m	6153200
SuperSnake GT02S sub feeder		25m	6153250
SuperSnake GT02S W sub feeder		10m	6154100
SuperSnake GT02S W sub feeder		15m	6154150
SuperSnake GT02S W sub feeder		20m	6154200
SuperSnake GT02S W sub feeder		25m	6154250
<b>Transport unit</b>			
Transport unit PM500			6185291
Transport unit P 501			6185269
Transport unit PM 501			6185292
Transport unit PM 502			6185293

MSF 55 & MXF 65 hanging kit			W001694
KFH 1000 hanging device			6185100
KV 200 mounting kit for 2 wire feeders			6185249
<b>Remote control units</b>			
R20		5 m	6185419
R30 DataRemote, FastMig Pulse only		5 m	6185420
R30 DataRemote, FastMig Pulse only		10 m	618542001
RMT 10 (for PMT MIG gun)			6185475
<b>MIG guns</b>			
PMT 35		3 m	6253513
PMT 35		4,5 m	6253514
PMT 42		3 m	6254213
PMT 42		4,5 m	6254214
PMT 50		3 m	6255013
PMT 50		4,5 m	6255014
PMT 30W		3 m	6253043
PMT 30W		4,5 m	6253044
PMT 42W		3 m	6254203
PMT 42W		4,5 m	6254204
PMT 52W		3 m	6255203
PMT 52W		4,5 m	6255204
WS 35	AL 1.2 mm	6 m	6253516A12
WS 30 W	AL 1.2 – 1.6 mm	6 m	6253046A12
WS 30 W	AL 1.2 – 1.6 mm	8 m	6253048A12
WS 42 W	AL 1.2 – 1.6 mm	6 m	6254206A12
WS 42 W	AL 1.2 – 1.6 mm	8 m	6254208A12
WS 35	Ss 1.0 mm	6 m	6253516S10
WS 30 W	Ss 1.0 mm	6 m	6253046S10
WS 30 W	Ss 1.2 mm	6 m	6253046S12
WS 30 W	Ss 1.0 mm	8 m	6253048S10
WS 30 W	Ss 1.2 mm	8 m	6253048S12
WS 42 W	Ss 1.0 mm	6 m	6254206S10
WS 42 W	Ss 1.2 mm	6 m	6254206S12
WS 42 W	Ss 1.0 mm	8 m	6254208S10
WS 42 W	Ss 1.2 mm	8 m	6254208S12
<b>Interconnection cable</b>			
Interconnection cable		1.8 m	6260401
Interconnection cable		5 m	6260405
Interconnection cable		10 m	6260326
Interconnection cable		15 m	6260325
Interconnection cable		20 m	6260327
Interconnection cable		30 m	6260330

<b>Interconnection cable, water cooled</b>		1.8 m	6260410
<b>Interconnection cable, water cooled</b>		5 m	6260407
<b>Interconnection cable, water cooled</b>		10 m	6260334
<b>Interconnection cable, water cooled</b>		15 m	6260335
<b>Interconnection cable, water cooled</b>		20 m	6260337
<b>Interconnection cable, water cooled</b>		30 m	6260340
<b>Other lengths available</b>			6260339
<b>WiseFusion welding function</b>			
<b>WiseFusion welding function</b>			9991014
<b>WisePenetration welding function</b>			
<b>WisePenetration welding function</b>			9991000
<b>WiseRoot welding process</b>			
<b>WiseRoot welding process</b>			6265011
<b>WiseThin welding process</b>			
<b>WiseThin welding process</b>			9991013
<b>MatchLog</b>			
<b>MatchLog</b>			9991017
<b>MMA welding process</b>			
<b>MMA welding process</b>			9991016

## 10. TECHNICAL DATA

FastMig		MXF 63	MXF 65	MXF 67
Operating voltage (safety voltage)		50 V DC	50 V DC	50 V DC
Rated power		100 W	100 W	100 W
Output 40 °C	60 % ED	520 A	520 A	520 A
	100 % ED	440 A	440 A	440 A
Wire feed speed		0 – 25 m/min	0 – 25 m/min	0 – 25 m/min
Wire feed mechanism		4-roll	4-roll	4-roll
Diameter of feed rolls		32 mm	32 mm	32 mm
Filler wires	∅ Fe, Ss	0.6 – 1.6 mm	0.6 – 1.6 mm	0.6 – 1.6 mm
	∅ Cored wire	0.8 – 1.6 mm	0.8 – 2.0 mm	0.8 – 2.0 mm
	∅ Al	1.0 – 1.6 mm	1.0 – 2.4 mm	1.0 – 2.4 mm
Wire spool	max. weight	5 kg	20 kg	20 kg
	max. ∅	200 mm	300 mm	300 mm
Gun connection		Euro	Euro	Euro
Operation temperature range		-20 ... +40 °C	-20 ... +40 °C	-20 ... +40 °C
Storage temperature range		-40 ... +60 °C	-40 ... +60 °C	-40 ... +60 °C
EMC class		A	A	A
Degree of protection		IP23S	IP23S	IP23S
External dimensions	L x W x H	510 x 200 x 310 mm	620 x 210 x 445 mm	625 x 243 x 247 mm
Weight		9.4 kg	11.1 kg	12.5 kg



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