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R08

FastMig

MXF 63, 65, 67

KEMPPI

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 operating manual and the safety instructions booklet 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.

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 FastMig Pulse, FastMig KMS and FastMig M power sources.

Which alternative panel to choose for MXF 63, 65 and 67 depends on the used power source i.e. FastMig KMS 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 panels FastMig Pulse power source can be connected. With FastMig M the MR 200, MR 300, MS 200 or MS 300 panels are used. Operation of wire feed units is 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.

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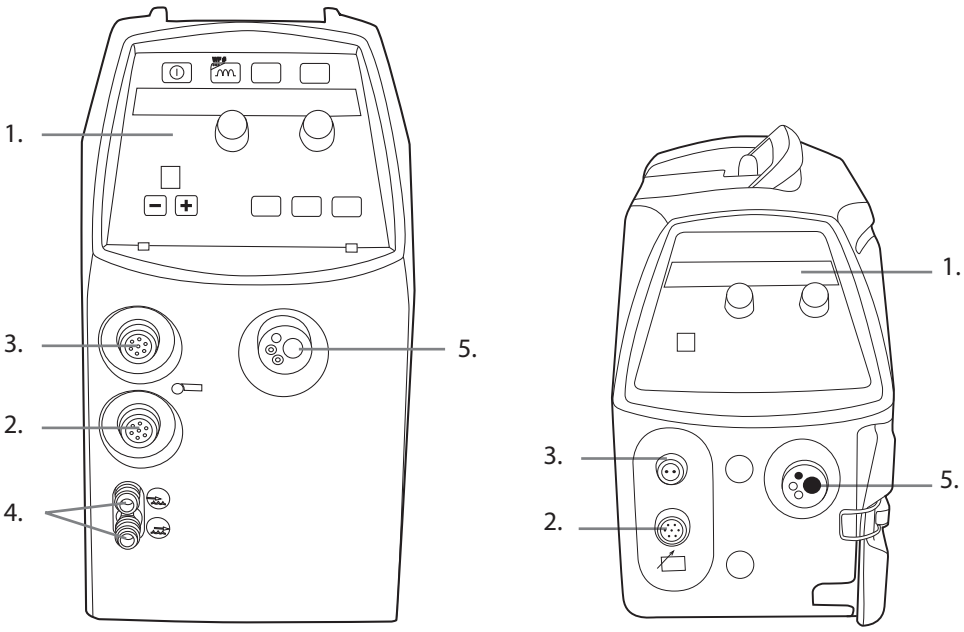
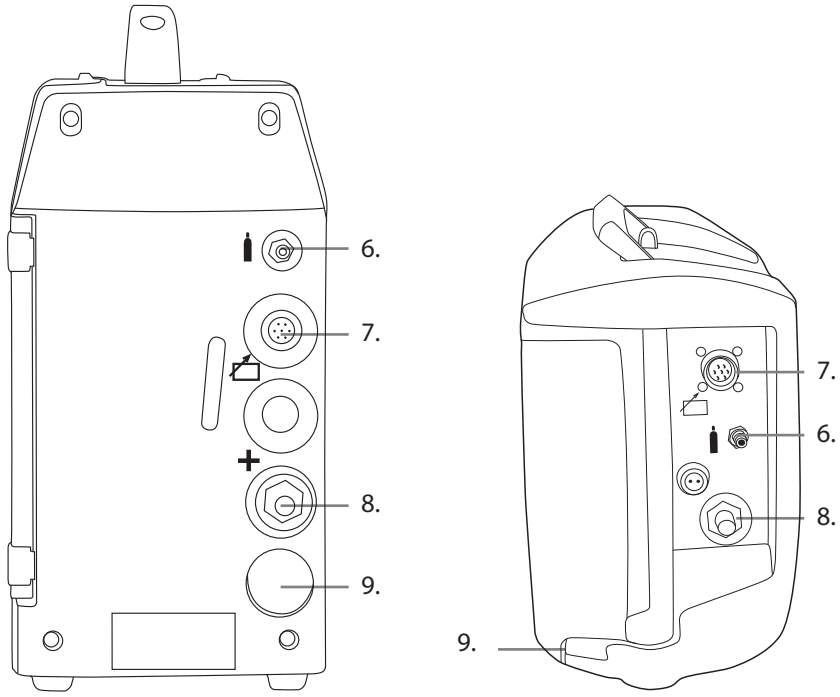
2. INSTALLATION

2.1 Machine introduction, MXF 63, MXF 65 and MXF 67



1. 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

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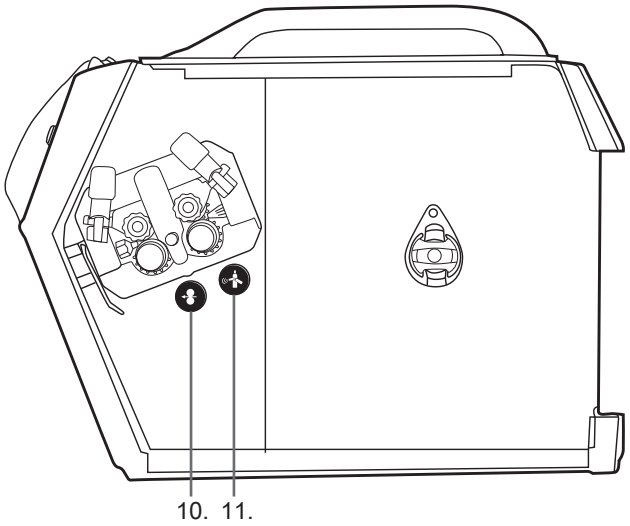
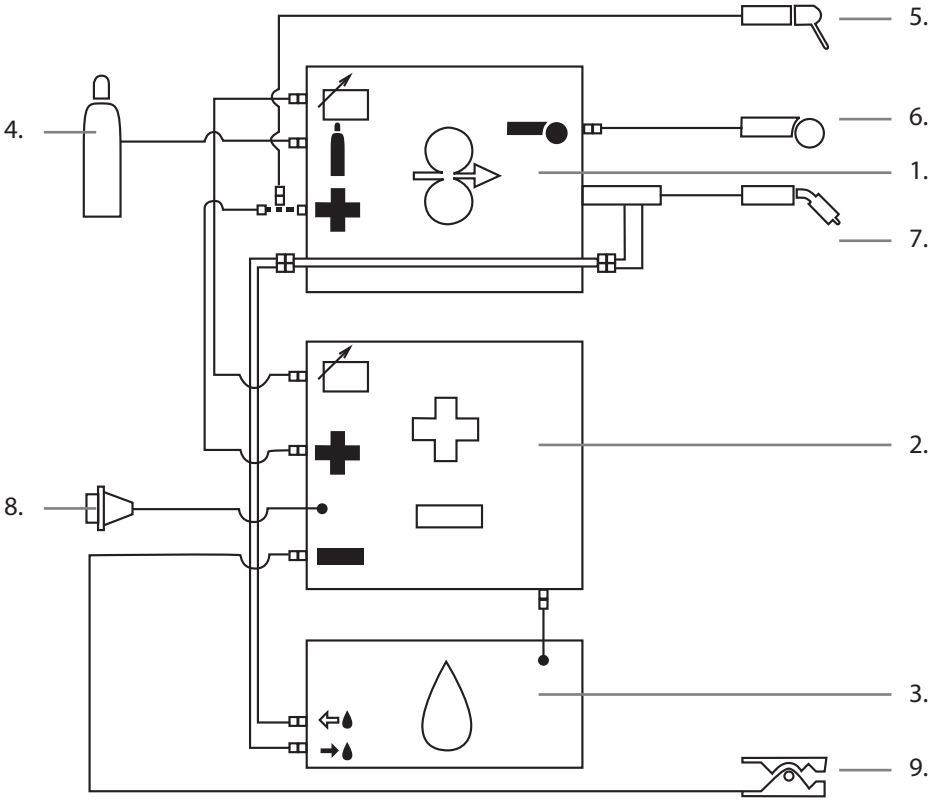


10. Wire Inch button
11. Gas Test button

2.2 Connection of system

2.2.1 Liquid 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

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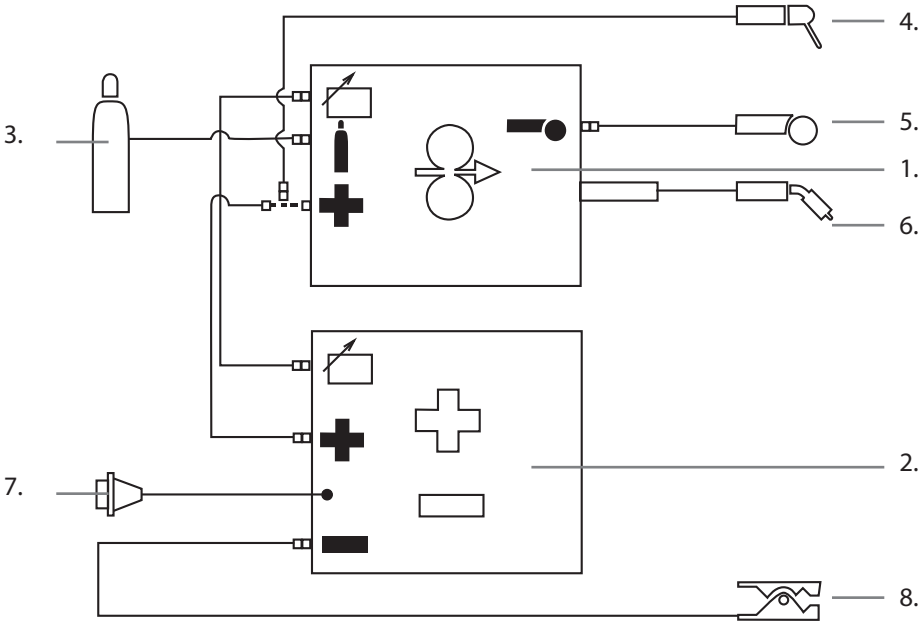
2.2.2 Air cooled system: FastMig power source + MXF



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 operating 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 the 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 part tables.

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 manufacturer's 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 air or liquid 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.

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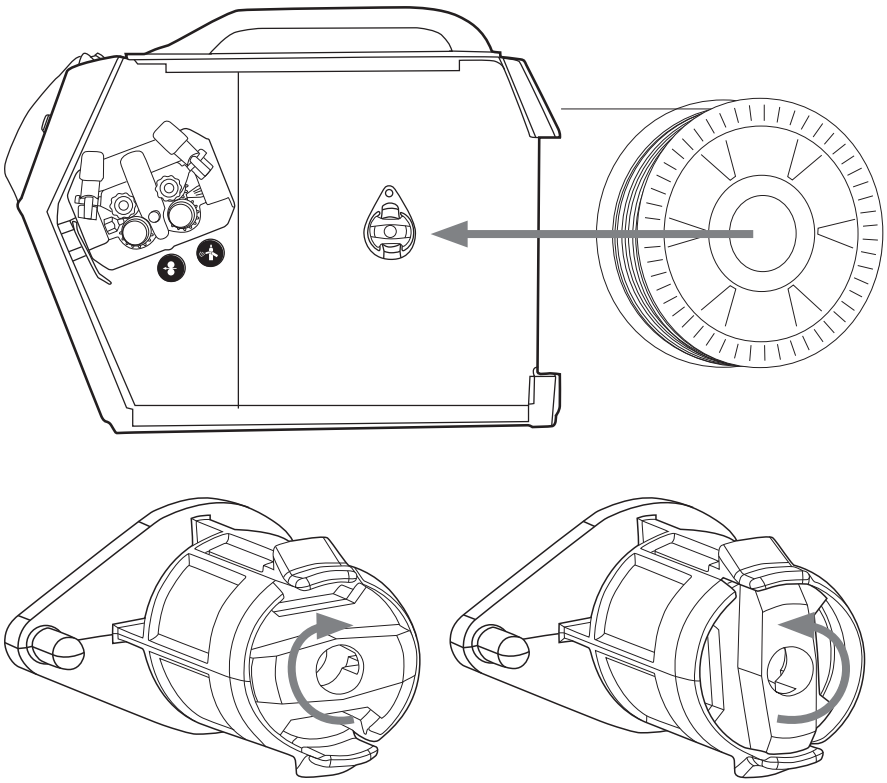
2.6 Mounting and locking of wire spool



NOTE! *Check that the 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.*

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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 to 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 20 cm 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 button on the wire feed panel or use the switch inside the wire spool cabinet. 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 overestimate 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

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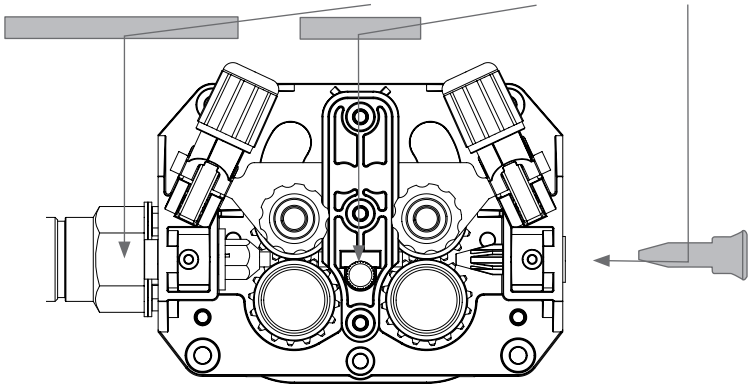
Wire guide tubes

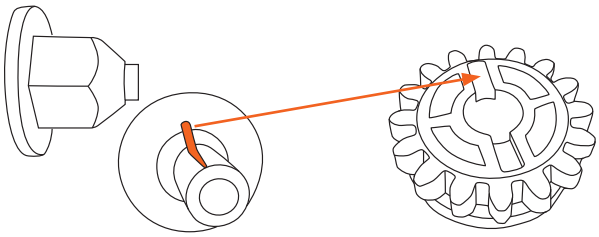
	ø mm		outlet tube	middle tube	inlet tube
Ss, Al, (Fe, Mc, Fc) plastic	0.6		SP007437	SP007429	SP007293
	0.8 – 0.9		SP007438	SP007430	SP007294
	1.0		SP007439	SP007431	SP007295
	1.2		SP007440	SP007432	SP007296
	1.4		SP007441	SP007433	SP007297
	1.6		SP007442	SP007434	SP007298
	2.0		SP007443	SP007435	SP007299
	2.4		SP007444	SP007436	SP007300
Fe, Mc, Fc metal	0.8 – 0.9		SP007454	SP007465	SP007536
	1.0		SP007455	SP007466	SP007537
	1.2		SP007456	SP007467	SP007538
	1.4 – 1.6		SP007458	SP007469	SP007539
	2.0		SP007459	SP007470	SP007540
	2.4		SP007460	SP007471	SP007541



Wire feed rolls, plastic				
	ø mm		lower	upper
Fe, Ss, (Al, Mc, Fc) V-groove V	0.6		W001045	W001046
	0.8 – 0.9		W001047	W001048
	1.0		W000675	W000676
	1.2		W000960	W000961
	1.4		W001049	W001050
	1.6		W001051	W001052
	2.0		W001053	W001054
	2.4		W001055	W001056
Fc, Mc, (Fe) V-groove, knurled V≡	1.0		W001057	W001058
	1.2		W001059	W001060
	1.4 – 1.6		W001061	W001062
	2.0		W001063	W001064
	2.4		W001065	W001066
Al, (Fc, Mc, Ss, Fe) U-groove U	1.0		W001067	W001068
	1.2		W001069	W001070
	1.6		W001071	W001072

Wire feed rolls, metal			
	ø mm	lower	upper
Fe, Ss, (Al, Mc, Fc) V-groove V	0.8 – 0.9	W006074	W006075
	1.0	W006076	W006077
	1.2	W004754	W004753
	1.4	W006078	W006079
Fc, Mc, (Fe) V-groove, knurled V≡	1.0	W006080	W006081
	1.2	W006082	W006083
	1.4 – 1.6	W006084	W006085
	2.0	W006086	W006087
Al, (Fc, Mc, Ss, Fe) U-groove U	1.0	W006088	W006089
	1.2	W006090	W006091
	1.6	W006092	W006093

NOTE! *Mount the lower feed roll, ensuring that the pin on the shaft fits in the cut on the feed roll.*



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2.9 Wire liners

Designed to suit specific filler wire materials and applications, Kemppi liners support the filler wire and ensure reliable delivery to the welding arc. The liner selection tables describe gun type, filler material, liner colour, item code and gun length. Steel spiral liners carry the same colour coding as Kemppi machine feed rolls and drive rolls, making wire size, liner and drive roll matching easier if the gun is connected to Kemppi equipment. Steel spiral liners are suitable for welding solid and cored filler wires of corresponding wire diameter.

Kemppi DL Chili -Teflon liners are the latest solution for reliable feeding of aluminium, stainless steel, acid-resistant and solid steel filler wires. Kemppi's patented technology, two layer DL Chili liner material significantly reduces friction losses between the filler wire material and liner wall, ensuring reliable and worry-free feeding for listed wires types, even with guns up to 8 meters in length. Please refer to the following tables to ensure accurate selection of liners for your chosen welding gun and application.

Wire liners for MMT, PMT guns

Steel/cored wire	Filler wire ø, mm	Order number, 3 m	Order number, 4.5 m
	0.6…0.8	4188571	4188572
	0.9…1.2	4188581	4188582
	1.4…1.6 (1.2)	4188591	4188592
	1.6…2.0	4188601	4188602
	2.0…2.4	4188611	4188612
	2.8…3.2	4188621	4188622
Steel/Aluminium/ Stainless steel	**Filler wire ø, mm**	**Order number, 3 m**	**Order number, 4.5 m**
DL Chili 5.9/1.5	0.6…1.0	W005920	W005937
DL Chili 5.9/2.0	1.0…1.2	W005921	W005938
DL Chili 5.9/2.5	1.2…1.6	W005922	W005939
Aluminium			
DL Chili 5.9/3.0	1.6	W007671	W007957

Wire liners for Weldsnake

Steel/Aluminium/ Stainless steel	Filler wire ø, mm	Order number, 6 m	Order number, 8 m
DL Chili 5.9/1.5	0.6…1.0	W005943	W005946
DL Chili 5.9/2.0	1.0…1.2	W005944	W005947
DL Chili 5.9/2.5	1.2…1.6	W005945	W005948
Aluminium			
DL Chili 5.9/3.0	1.6	W007672	W007958

2.10 Adjustment of pressure arms

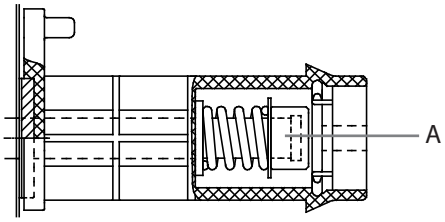
Adjust the drive pressure to the filler wire with the thumb screws mounted over the pressure arms. Notice the graduated scales indicating load. The load applied should be sufficient to overcome a light braking force applied by hand to the filler wire, as it exits the welding gun contact tip.

For smaller diameter and soft filler wires, less feed pressure is required. It should be possible to apply a light breaking 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.*

2.11 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.*

2.12 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.

2.13 Earth return cable

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

Always use a good quality, 70 mm^2 heavy copper cable, and if possible a screw type 600 A 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.

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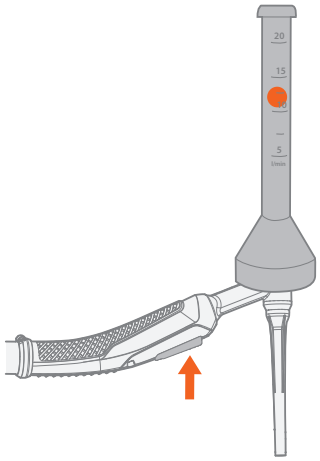
2.14 Shielding gas

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 programs 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.

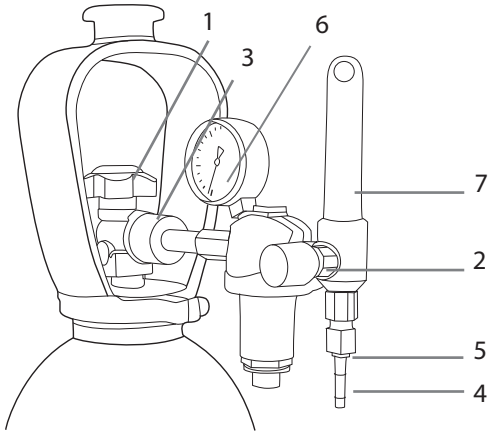


NOTE! *Shielding gas flow rate from the welding gun is set according to the application, weld joint, gas type and gas nozzle shape and size. The flow rate should be measured at the welding gun nozzle before welding via a rotameter, and normally measure's between 10 – 20 litres per minute for many welding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

2.14.1 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

2.15 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.

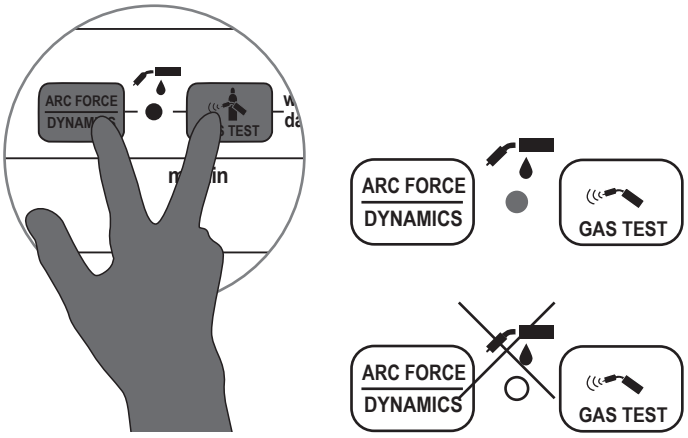
2.16 Operation of cooling unit, FastCool 10

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.

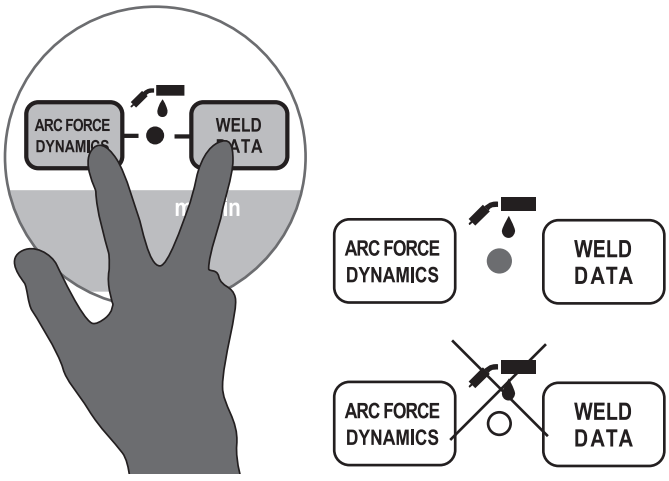
FastMig KMS and FastMig M

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



MR 200/MR 300



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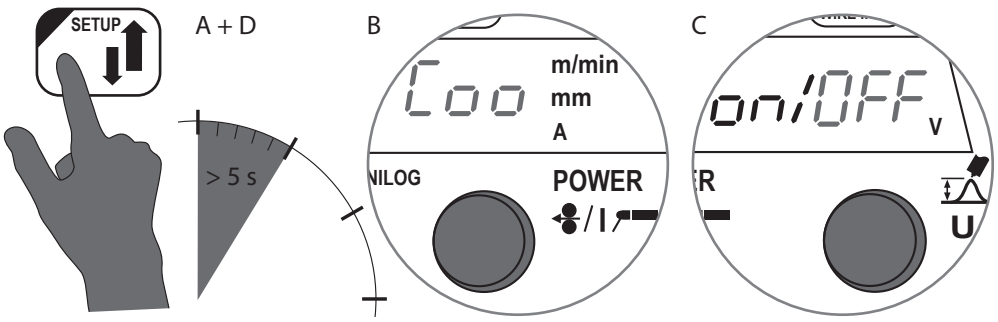
SF 52W/SF 53W and MS 200/MS 300



FastMig Pulse

The factory default setting for FastMig Pulse is AUTO. If a cooling unit is not connected and the operator tries to establish air cooled operation together with an air cooled gun, Err 27 is displayed. To establish air 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 control knob to setting 'Water Cooling:OFF', then press Back/Exit. Cooler will then be set to the 'OFF' state for air 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.

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2.17 MXF hanging kit

The MXF 63, 65 and 67 wire feed units can be hanged 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

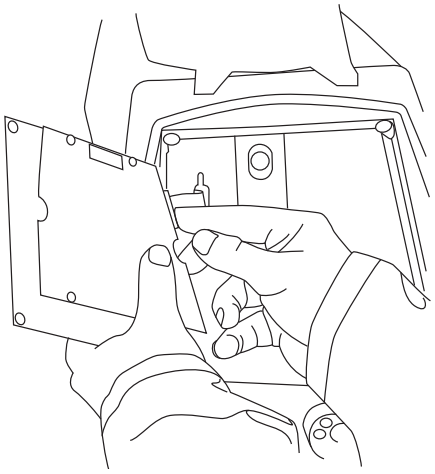
MXF wire feeders can be connected to either FastMig Pulse, FastMig KMS or FastMig M power sources.

PF 63 and PF 65 control panel are compatible with FastMig Pulse.

SF 53W and SF 54 or SF 51 and SF 52W panels enable compatibility with FastMig KMS power sources.

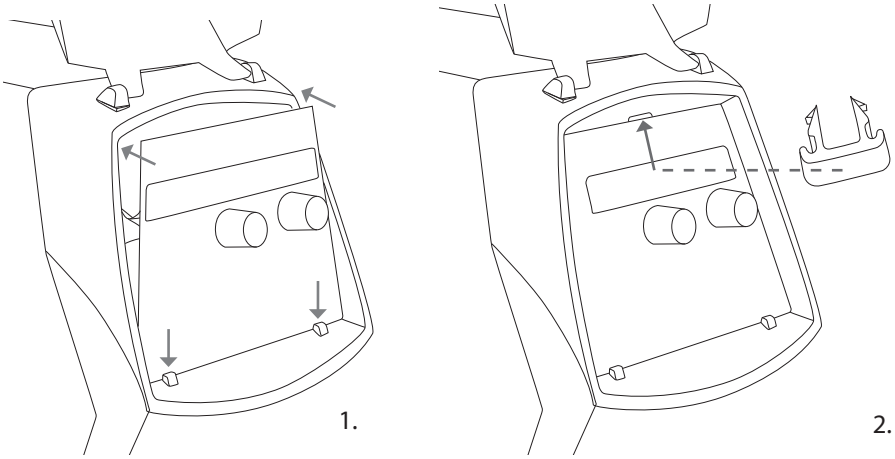
MR 200, MR 300, MS 200 and MS 300 panels are compatible with FastMig M power sources.

3.1 Connecting and mounting



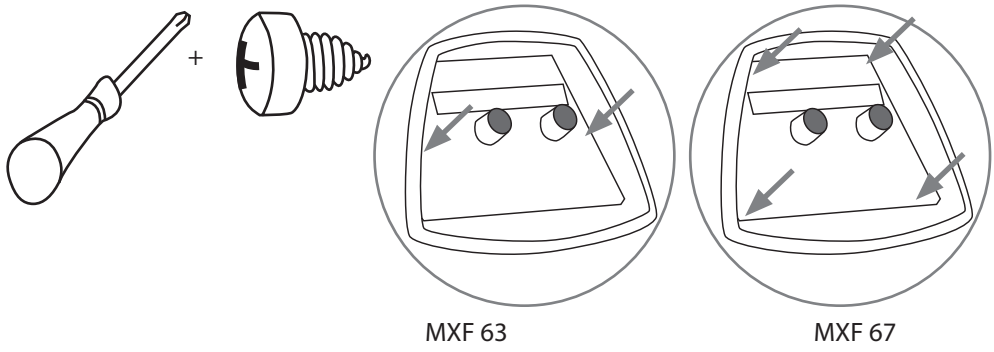
Fasten the ribbon cable connector from the MXF wire feed unit to the control panel. Attach the yellow-green earth lead into the fork connector on the PF panel.

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 snuggly if its positioned upside down.

MXF 63 + MXF 67



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4. WELDING SOFTWARE DELIVERY PROFILE

FastMig Pulse

The following information details welding software options for FastMig Pulse. 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. The tables below show typical welding programs, but there are more of them available. Please check availability from your supplier. If the delivery specification is focused to a specific project and you wish to update the machine in the future, you can select additional welding software from the Wise & Match software products. 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) minilog function, plus additional base material welding programs and optional panel function.

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

Kemppi DataStore offers new welding software packages and special enhanced arc performance solutions.

Customization of FastMig Pulse systems can make welding more efficient. Solutions offered are designed to meet the needs of wide ranging welding environments.

You can order materials specific welding programs and Wise solutions separately through Datastore or via your local supplier.

ALUMINIUM PACK

Group	Material	Wire ø (mm)	Shielding gas	Process	Number
Al	AlMg5	1.0	Ar	Pulse/Double Pulse	A01
Al	AlMg5	1.2	Ar	Pulse/Double Pulse	A02
Al	AlMg5	1.6	Ar	Pulse/Double Pulse	A03
Al	AlSi5	1.0	Ar	Pulse/Double Pulse	A11
Al	AlSi5	1.2	Ar	Pulse/Double Pulse	A12
Al	AlSi5	1.6	Ar	Pulse/Double Pulse	A13
Al	AlMg5	1.0	Ar	1-MIG	A01
Al	AlMg5	1.2	Ar	1-MIG	A02
Al	AlMg5	1.6	Ar	1-MIG	A03
Al	AlSi5	1.0	Ar	1-MIG	A11
Al	AlSi5	1.2	Ar	1-MIG	A12
Al	AlSi5	1.6	Ar	1-MIG	A13

STAINLESS STEEL PACK

Group	Material	Wire ø (mm)	Shielding gas	Process	Number
Ss	CrNiMo 19 12	0.8	Ar+2%CO_2	Pulse/Double Pulse	S01
Ss	CrNiMo 19 12	0.9	Ar+2%CO_2	Pulse/Double Pulse	S02
Ss	CrNiMo 19 12	1.0	Ar+2%CO_2	Pulse/Double Pulse	S06 Soft
Ss	CrNiMo 19 12	1.2	Ar+2%CO_2	Pulse/Double Pulse	S04
Ss	CrNiMo 19 12	1.0	Ar+He+CO_2	Pulse/Double Pulse	S26 Soft
Ss	CrNiMo 19 12	1.2	Ar+He+CO_2	Pulse/Double Pulse	S24
Ss	CrNiMo 19 12	0.8	Ar+2%CO_2	1-MIG	S01
Ss	CrNiMo 19 12	0.9	Ar+2%CO_2	1-MIG	S02
Ss	CrNiMo 19 12	1.0	Ar+2%CO_2	1-MIG	S03
Ss	CrNiMo 19 12	1.2	Ar+2%CO_2	1-MIG	S04
Ss	FC-CrNiMo 19 12	1.2	Ar+15–25%CO_2	1-MIG	S84
Ss	MC-CrNiMo 19 12	1.2	Ar+2%CO_2	1-MIG	S87

STEEL PACK

Group	Material	Wire ø (mm)	Shielding gas	Process	Number
Fe	Fe	0.8	Ar+15–25%CO_2	1-MIG	F01
Fe	Fe	0.9	Ar+15–25%CO_2	1-MIG	F02
Fe	Fe	1.0	Ar+15–25%CO_2	1-MIG	F03
Fe	Fe	1.2	Ar+15–25%CO_2	1-MIG	F04
Fe	Fe	0.8	CO_2	1-MIG	F21
Fe	Fe	0.9	CO_2	1-MIG	F22
Fe	Fe	1.0	CO_2	1-MIG	F23
Fe	Fe	1.2	CO_2	1-MIG	F24
Fe	Fe Metal	1.2	Ar+15–25%CO_2	1-MIG	M04
Fe	Fe Metal	1.2	CO_2	1-MIG	M24
Fe	Fe Rutil	1.2	Ar+15–25%CO_2	1-MIG	R04
Fe	Fe Rutil	1.2	CO_2	1-MIG	R14

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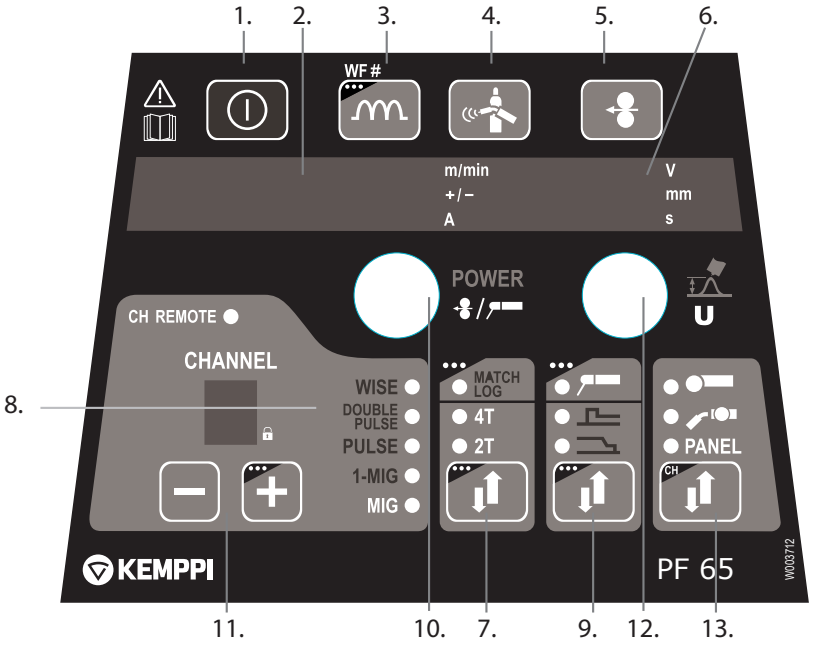
WORK PACK

Group	Material	Wire ø (mm)	Shielding gas	Process	Number
Al	AlMg5	1.2	Ar	Pulse/Double Pulse	A02
Al	AlSi5	1.2	Ar	Pulse/Double Pulse	A12
Fe	Fe	1.0	Ar+15–25%CO_2	Pulse/Double Pulse	F03
Fe	Fe	1.2	Ar+15–25%CO_2	Pulse/Double Pulse	F04
Ss	CrNiMo 19 12	1.0	Ar+2%CO_2	Pulse/Double Pulse	S06
Ss	CrNiMo 19 12	1.2	Ar+2%CO_2	Pulse/Double Pulse	S04
Al	AlMg5	1.2	Ar	1-MIG	A02
Al	AlSi5	1.2	Ar	1-MIG	A12
Fe	Fe	0.9	Ar+15–25%CO_2	1-MIG	F02
Fe	Fe	1.0	Ar+15–25%CO_2	1-MIG	F03
Fe	Fe	1.2	Ar+15–25%CO_2	1-MIG	F04
Fe	Fe	0.9	CO_2	1-MIG	F22
Fe	Fe	1.0	CO_2	1-MIG	F23
Fe	Fe	1.2	CO_2	1-MIG	F24
Fe	Fe Metal	1.2	Ar+15–25%CO_2	1-MIG	M04
Fe	Fe Metal	1.2	CO_2	1-MIG	M24
Fe	Fe Rutil	1.2	Ar+15–25%CO_2	1-MIG	R04
Fe	Fe Rutil	1.2	CO_2	1-MIG	R14
Ss	CrNiMo 19 12	1.0	Ar+2%CO_2	1-MIG	S03
Ss	CrNiMo 19 12	1.2	Ar+2%CO_2	1-MIG	S04
Ss	FC-CrNiMo 19 12	1.2	Ar+15–25%CO_2	1-MIG	S84

More welding programs are available by purchasing MatchCurve and MatchCustom products. You can also order welding program packs together with WiseFusion function.

5. PANEL BUTTON FUNCTIONS

5.1 PF 63 and PF 65 control panel for FastMig Pulse



1. ON/OFF button
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 test
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 in 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.

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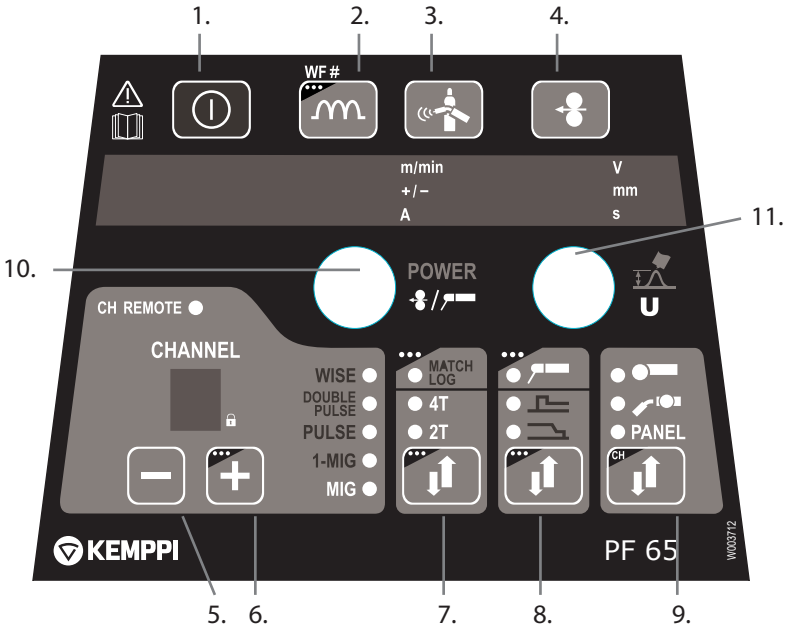
5.2 PF 63 and PF 65 control panel button functions



5.2.1 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#).

5.2.2 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.

5.2.3 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.

(Gas test can also be started by pressing the Gas Test button inside the wire spool cabinet.)

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5.2.4 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).

(Wire Feeder can also be started by pressing the Wire Inch button inside the wire spool cabinet.)

5.2.5 Channel -

5.

Memory channel down selection.

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

5.2.6 Channel +

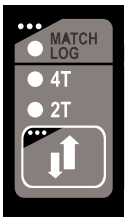
6.

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).

5.2.7 2T/4T button



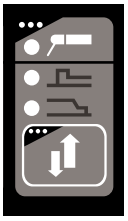
7.

Gun trigger logic selection.

Short Press: 2T / 4T selection.

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

5.2.8 Extra functions button



8.

Short Press: Crater Filling selection / Hot Start Selection.

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

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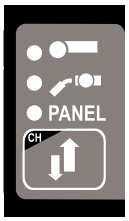
5.2.9 Remote Selection button

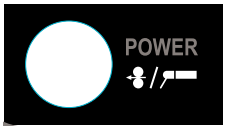


9.

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.

5.2.10 Power encoder control knob



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.

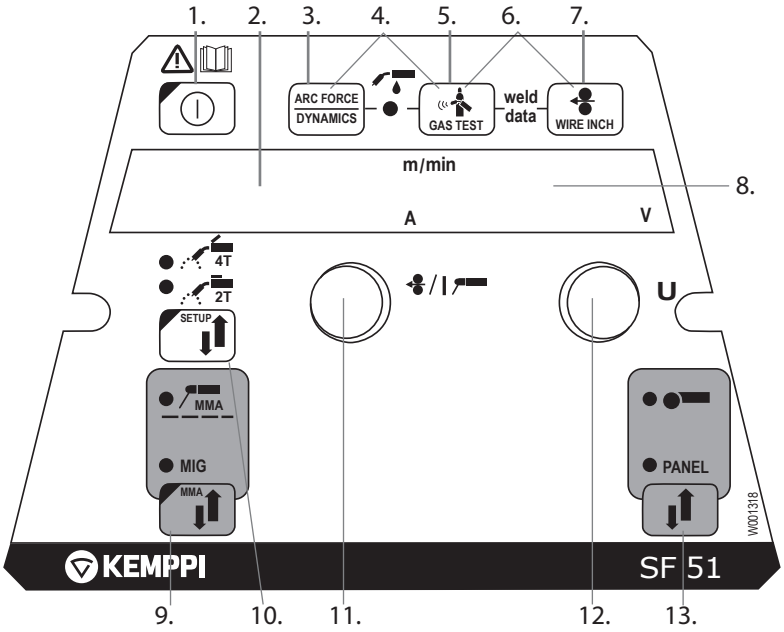
5.2.11 Arc length/voltage/adjustment control knob

11.

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

5.3 SF 51 and 54 control panel for FastMig KMS

For full operational descriptions for SF 51 and SF 54 control panels refer to the digital storage device delivered with the product.



1. ON/OFF button
2. a) Wire feed speed/welding current display
   b) Display of selected SETUP entry
3. MIG dynamics/MMA Arc Force selection
4. Selection of air/liquid cooled MIG gun
5. Gas test
6. Weld data: Last used welding parameters shown in displays
7. Wire inch
8. a) Welding voltage display
   b) Adjustable parameters display
9. Selection of MIG/MMA process
10. a) Selection of switching logic: 2T/4T
    b) Long press: Setting the basic parameters (SETUP)
11. a) Adjustment of wire feed speed
    b) Adjustment of MMA current
    c) Selection of SETUP parameter
12. a) Adjustment of welding voltage
    b) Adjustment of MIG dynamics or MMA Arc Force
    c) Adjustment of SETUP parameters
13. Manual control/remote control unit selection

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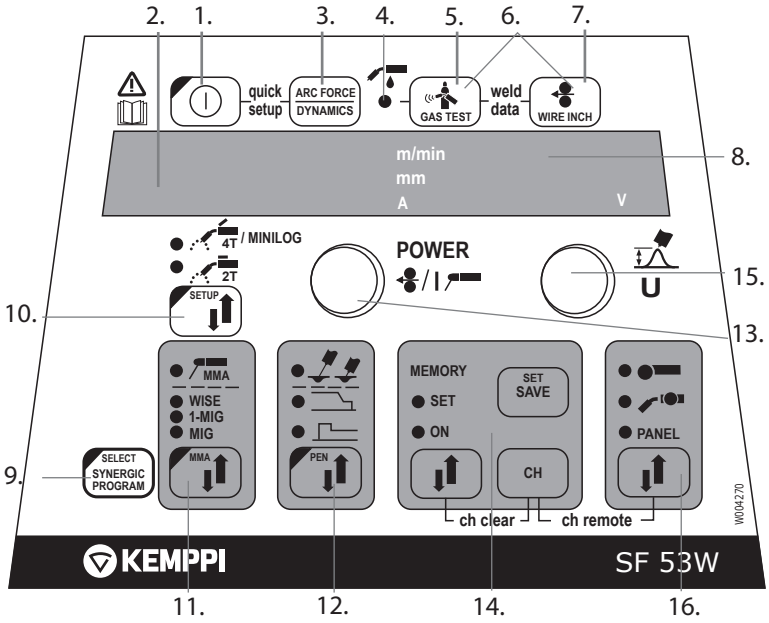
5.4 SF 52W and 53W control panel for FastMig KMS

For full operational descriptions for SF 52W and SF 53W control panels refer to the digital storage device delivered with the product.



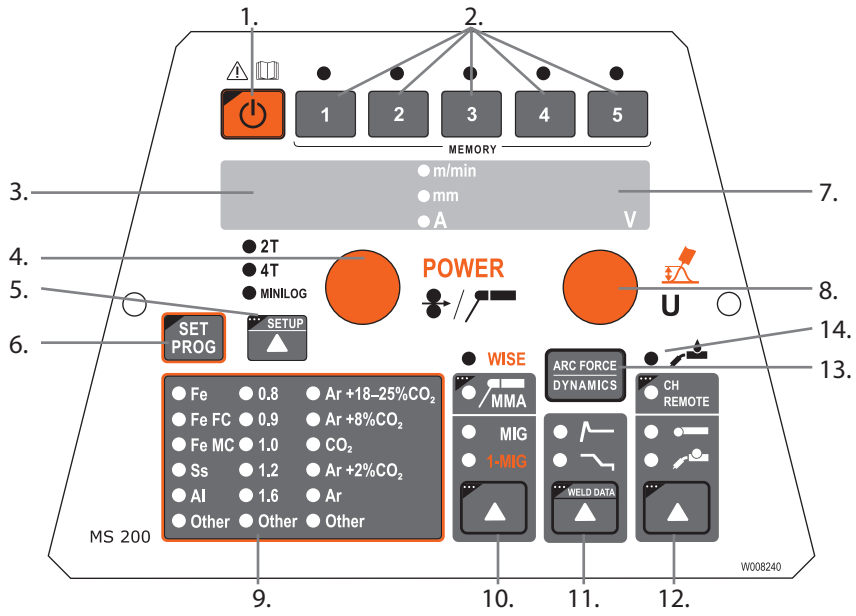
1. ON/OFF button
2. a) Wire feed speed/welding current/sheet thickness display
   b) Selected SETUP entry display
3. MIG dynamics/MMA Arc Force/Wise Forming Pulse selection **
4. Display of air/liquid cooled MIG gun (selection from setup)
5. Gas test
6. Weld data: Last used welding parameters shown in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

*) Minilog is not included in standard delivery

**) Wise products are available as optional welding process solutions. Not included in the standard delivery. Please visit www.kemppi.com or Kemppi Datastore.

5.5 MS 200 and MS 300 control panel for FastMig M

For full operational descriptions for MS 200 and MS 300 control panels refer to the digital storage device delivered with the product.



1. ON/OFF button
2. Memory channels for welding parameters (short press selects, long press saves)
3. a) Wire feed speed/welding current/sheet thickness display
   b) Selected SETUP entry display
4. a) Adjustment of wire feed speed
   b) Adjustment of welding power setting 1-MIG/WiseRoot/WiseThin **
   c) Adjustment of MMA current
   d) Selection of SETUP parameter
   e) Selection of 1-MIG/WiseRoot/WiseThin welding program (material group) **
5. a) Selection of switching logic: 2T/4T/4T Minilog *
   b) Long press: Setting the basic parameters (SETUP)
6. a) 1-MIG/WISE synergic welding program check **
   b) 1-MIG/WISE synergic welding program selection (long press) **
7. a) Welding voltage display
   b) Adjustable parameters display
8. 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 welding program (program number) **
   f) WiseRoot and WiseThin base current adjustment **
9. Selection LED indicators for synergic welding program – indicators for material, wire thickness and gas type
10. Selection of welding process
11. a) Activation of additional MIG function parameter adjustment
    b) Weld data: Show last used welding parameters in displays (long press)
12. Manual control/remote control unit selection (long press for channel remote usage)
13. MIG dynamics/MMA Arc Force/Wise Forming Pulse selection **
14. Display of air/liquid cooled MIG gun (selection from setup)

*) Minilog is not included in standard delivery

**) Wise products are available as optional welding process solutions. Not included in the standard delivery. Please visit www.kemppi.com or Kemppi Datastore.

NOTE! *With MS 200 and MS 300 panels 'Wire Inch' and 'Gas Test' buttons should be used from inside the wire feed unit.*

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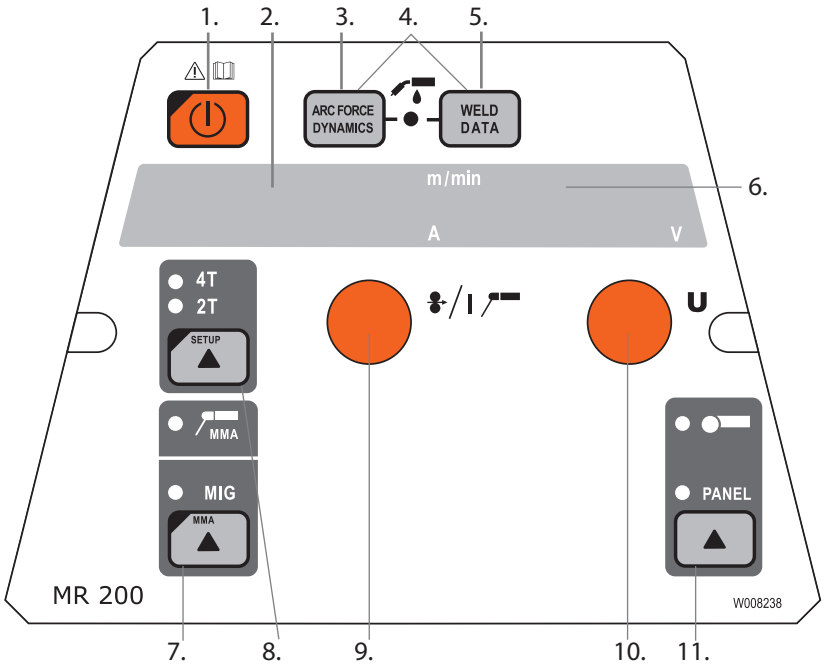
5.6 MR 200 and MR 300 control panel for FastMig M

For full operational descriptions for MR 200 and MR 300 control panels refer to the digital storage device delivered with the product.



1. ON/OFF button
2. a) Wire feed speed/welding current display
   b) Selected SETUP entry display
3. MIG dynamics/MMA Arc Force selection
4. Selection of air/liquid cooled MIG gun
5. Weld data: Last used welding parameters shown in displays
6. a) Welding voltage display
   b) Adjustable parameters display
7. Selection of MIG/MMA process
8. a) Selection of switching logic: 2T/4T
   b) Long press: Setting the basic parameters (SETUP)
9. a) Adjustment of wire feed speed
   b) Adjustment of MMA current
   c) Selection of SETUP parameter
10. a) Adjustment of welding voltage
    b) Adjustment of MIG dynamics
    c) Adjustment of SETUP parameters
11. Manual control/remote control unit selection

NOTE! *With MR 200 and MR 300 panels 'Wire Inch' and 'Gas Test' buttons should be used from inside the wire feed unit.*

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.*

Problem	Check the following
Machine won't work?	• Check mains plug is connected • Check mains power distribution is switched on • Check the mains fuse and or circuit breaker • Check power source 0/I switch is ON • Check interconnection cable set and connectors between the power source and wire feed unit are correctly fastened. See the manual schematic • Check earth return lead is connected • Check control panels are switched on – Orange buttons top left, long press.
Dirty, poor quality weld?	• Check shielding gas supply • Check and set gas flow rate • Check gas type for application • Check gun/electrode polarity. Example: Fe solid filler wire: Earth return should be connected to the – pole, wire feed unit to the + pole connector • Check correct welding program selected • Check correct memory channel selection • Check power supply – Phase down?
Variable welding performance?	• Check wire feed mechanism is correctly adjusted • Check correct drive rolls are fitted • Check wire spool overrun tension is correctly adjusted • Check gun liner is not blocked. Replace if necessary • Check correct gun liner is fitted for the filler wire size and type • Check contact tip for size, type and wear • Check gun is not over heating in application • Check cable connections and earth return clamp • Check welding parameter settings.
Filler wire won't feed?	• Check wire feed mechanism. Pressure arms are closed? Close and adjust • Check welding gun switch function. • Check euro gun collar is correctly fastened to euro block • Check gun liner is not blocked • Check contact tip, size, type, wear • Check and try alternative gun.
High spatter volume?	• Check welding parameter values • Check inductance/Dynamics values • Check cable compensation value if long cables are fitted • Check gas type and flow • Check welding polarity – cable connections • Check filler material selection • Check correct welding program selected • Check correct memory channel selection • Check filler wire delivery system • Check power supply – 3 x phase present?

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.*

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7. MAINTENANCE

When considering and planning routine maintenance, please consider 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

FastMig Pulse		
PF 63 panel		6155200
PF 65 panel		6155100
FastMig Pulse 350, 3 ~ 400V		6150400
FastMig Pulse 450, 3 ~ 400V		6150500
MXF 63 EL wire feeder	Work pack profile	6152300EL
MXF 65 EL wire feeder	Work pack profile	6152100EL
MXF 67 EL wire feeder	Work pack profile	6152200EL
MXF 63 wire feeder	Project pack custom	6152300
MXF 65 wire feeder	Project pack custom	6152100
MXF 67 wire feeder	Project pack custom	6152200
FastMig KMS		
MXF 63 wire feeder		6152300
MXF 65 wire feeder		6152100
MXF 67 wire feeder		6152200
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
FastMig M		
MXF 63 EL wire feeder	To be used with MS panels	6152300EL
MXF 65 EL wire feeder	To be used with MS panels	6152100EL
MXF 67 EL wire feeder	To be used with MS panels	6152200EL
MXF 63 wire feeder	To be used with MR panels	6152300
MXF 65 wire feeder	To be used with MR panels	6152100
MXF 67 wire feeder	To be used with MR panels	6152200
FastMig MR 200 panel		6136100
FastMig MR 300 panel		6136200
FastMig MS 200 panel		6136300
FastMig MS 300 panel		6136400
FastMig M 320, 3 ~ 400V		6132320
FastMig M 420, 3 ~ 400V		6132420
FastMig M 520, 3 ~ 400V		6132520

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Cooling unit FastCool 10		6068100
Sub feeder synchronisation unit MXF Sync 65		W004030
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
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
Remote control units		
R20	5 m	6185419
R30 DataRemote	5 m	6185420
R30 DataRemote	10 m	618542001
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
Interconnection cable, water cooled	1.8 m	6260410
Interconnection cable, water cooled	5 m	6260407
Interconnection cable, water cooled	10 m	6260334
Interconnection cable, water cooled	15 m	6260335
Interconnection cable, water cooled	20 m	6260337
Interconnection cable, water cooled	30 m	6260340
Other lengths available		

WiseFusion welding function		9991014
WisePenetration welding function		9991000
WiseRoot welding process		6265011
WiseThin welding process		9991013
WiseSynergicMig (for FastMig M)		9990420
MatchLog		9991017
MatchPIN		6265026
MMA welding process (for FastMig Pulse)		9991016
Welding program packages for FastMig Pulse		
Work Pack		99904230
Aluminium Pack		99904231
Steel Pack		99904232
Stainless Steel Pack		99904233
Work Pack + Wise Fusion		99904234
Aluminium Pack + Wise Fusion		99904235
Steel Pack + Wise Fusion		99904236
Stainless Steel Pack + Wise Fusion		99904237

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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	ø Fe, Ss	0.6 – 1.6 mm	0.6 – 1.6 mm	0.6 – 1.6 mm
	ø Cored wire	0.8 – 1.6 mm	0.8 – 2.0 mm	0.8 – 2.0 mm
	ø 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. ø	200 mm	300 mm	300 mm
Maximum gas pressure		0.5 MPa	0.5 MPa	0.5 MPa
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 476 mm
Weight		9.4 kg	11.1 kg	12.5 kg

For connection options of all gun and torch models and corresponding remote controls, refer to Kemppi Userdoc at https://kemp.cc/connectivity.

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