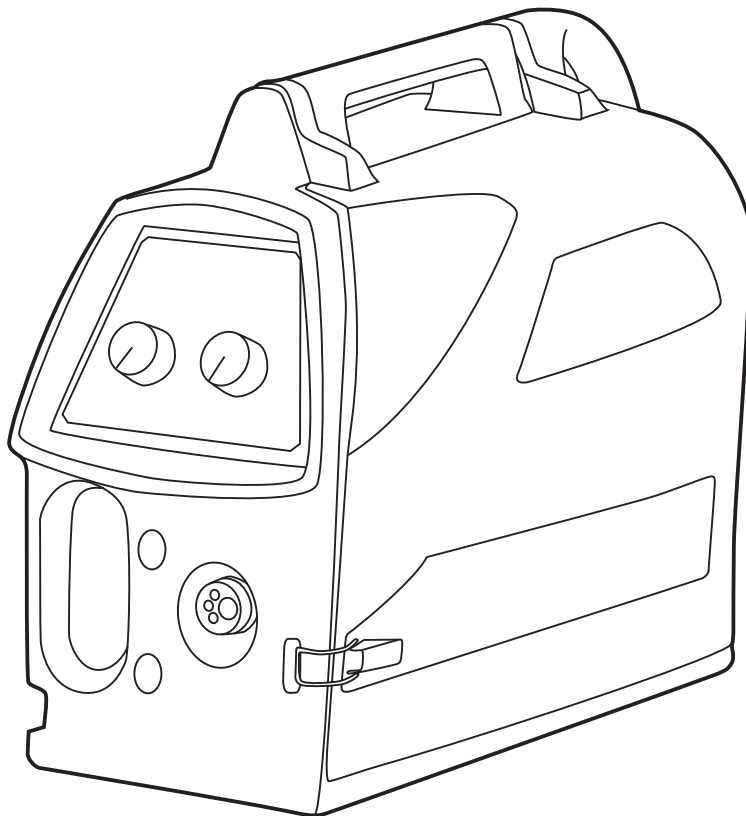


# FastMig

MF 33



Operating manual	<b>EN</b>
Bruksanvisning	<b>DA</b>
Gebrauchsanweisung	<b>DE</b>
Manual de instrucciones	<b>ES</b>
Käyttöohje	<b>FI</b>
Manuel d'utilisation	<b>FR</b>
Manuale d'uso	<b>IT</b>
Gebruiksaanwijzing	<b>NL</b>
Brugsanvisning	<b>NO</b>
Instrukcja obsługi	<b>PL</b>
Manual de utilização	<b>PT</b>
Инструкции по эксплуатации	<b>RU</b>
Bruksanvisning	<b>SV</b>



# OPERATING MANUAL

English

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EN

# 1. PREFACE

## 1.1 General

Congratulations on choosing the FastMig MF 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.

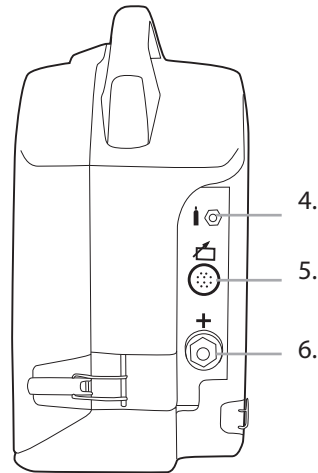
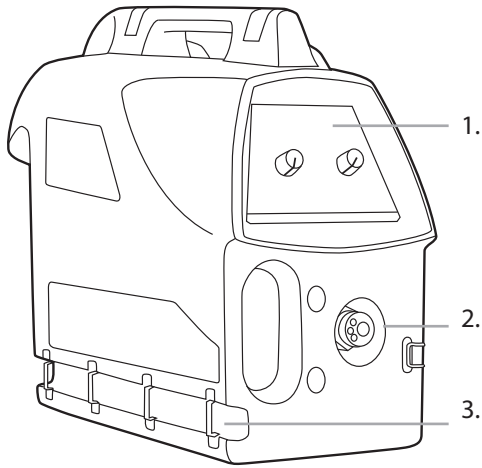
### **Disclaimer**

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.

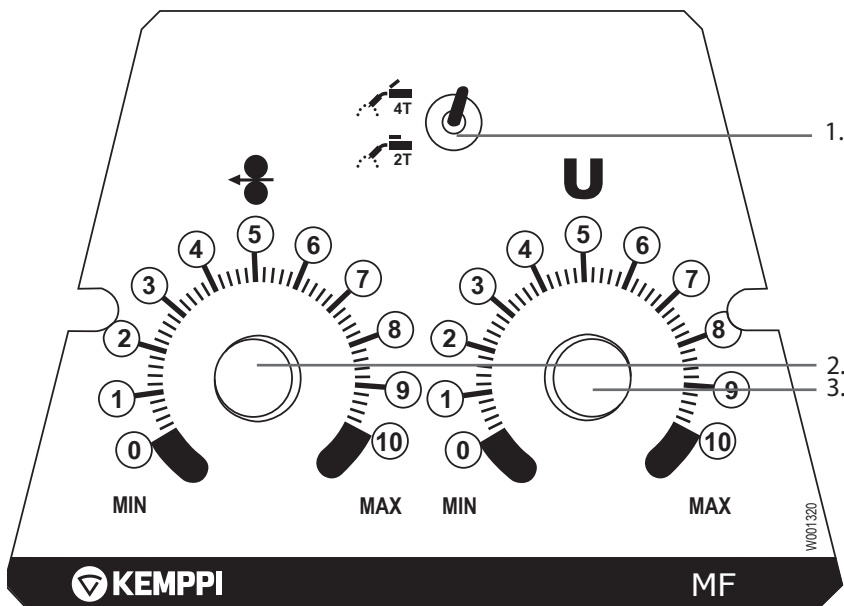
## 2. PRODUCT INTRODUCTION

FastMig MF is basic wire feeder designed for demanding environment. It can be used with Kemppi's basic FastMig power sources KM 300, KM 400, and KM 500.

### 2.1 Operation control and connectors

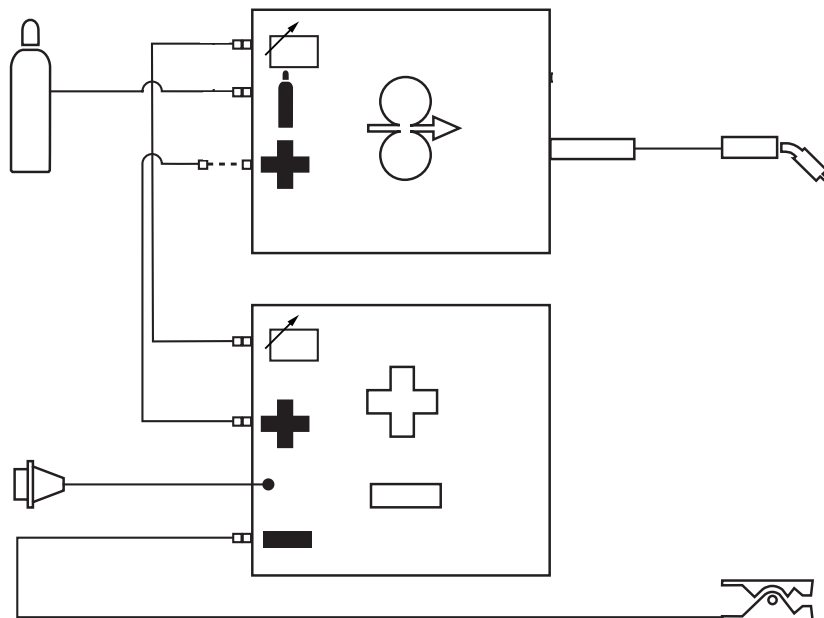
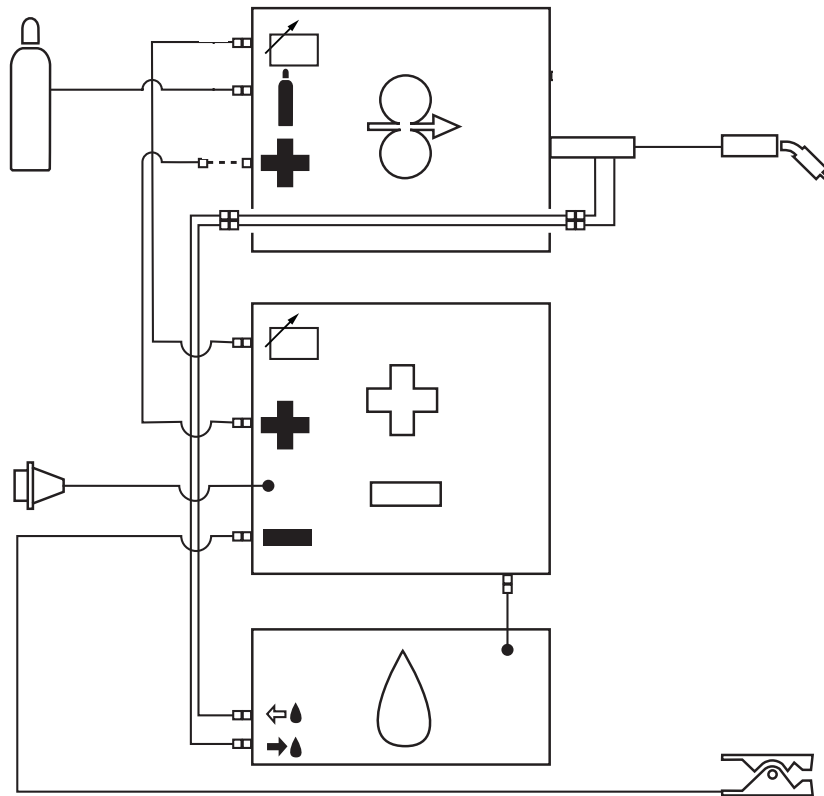


- |   |                                     |
|---|-------------------------------------|
| 1. Operation panel                              | 4. Shielding gas connection         |
| 2. Connection of welding gun EURO               | 5. Connection for control cable     |
| 3. Lead-in and clamping of cooling liquid hoses | 6. Welding current cable connection |



- |                                     |
|-------------------------------------|
| 1. Selection of gun switch function |
| 2. Adjustment of wire feed speed    |
| 3. Adjustment of welding voltage    |

## 2.2 Connection of system



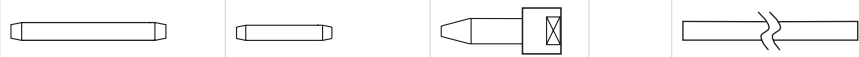
## 2.3 4-roll wire feed mechanism

Wire $\varnothing$ , mm	Wire guide tube $\varnothing$ , mm				
Fe, Mc, Fc	0,6...0,8	white 1,0 mm SP3134140	→	orange 2,0 mm SP3134120	plastic 2,0 mm SP4267220
					plastic 2,0 mm 4266970
	0,9...1,6	orange 2,0 mm SP3133700		plastic 4,0 mm 4270180	
	1,6...2,4	blue 4,0 mm SP3134130	→	blue 4,0 mm SP3134110	brass 4,0 mm SP4267030
Ss, Al	0,8...1,6	silver 2,5 mm SP3134290	→	silver 2,5 mm SP3134300	plastic 2,0 mm SP4267220
	1,6...2,4	yellow 3,0 mm 3134710	→	yellow 3,0 mm 3134720	plastic 4,0 mm 4270180

yellow 2,4 mm SP4268210

**for Promig 511**

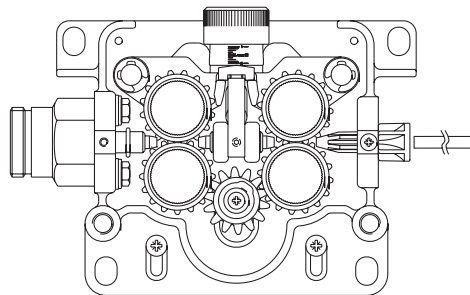
yellow 3,0 mm 4268560



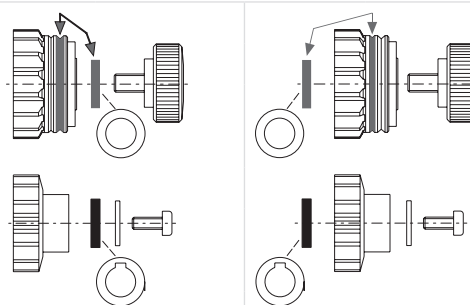
### Feed rolls, 4-rolls

	Colour	$\varnothing$ , mm	
Fe, Ss, Al Plain, V-groove	white	0,6/0,8	3133810
	white	0,8/0,8 (L)	3143180
	red	1,0/1,2	3133210
	red	1,0/1,0 (L)	3138650
	orange	1,2/1,2(L)	3137390
	yellow	1,4-1,6/2,0	3133820
	yellow	1,6/1,6 (L)	3141120
	black	2,4	3133880
	blue	3,2	3133910
	Fe, Fc, Mc Knurled, V-groove	red	1,0/1,2
orange		1,2/1,2 (L)	3137380
yellow		1,4-1,6/2,0	3133990
yellow		1,6/1,6 (L)	3141130
black		2,4	3134030
blue		3,2	3134060
Fe, Fc, Mc, Ss, Al Trapetoid groove	orange	1,2/1,2 (L)	3142210
	brown	1,4/1,4 (L)	3142220
	yellow	1,6/1,6 (L)	3142200
	grey	2,0/2,0 (L)	3142230
	black	2,4 (L)	3142240

(L) = Fitted with ball bearings



### Feed roll groove selection



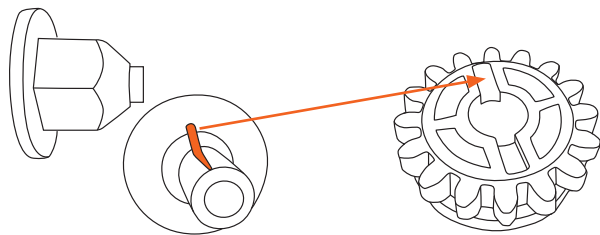
Transfer of gear wheel selector plate

### Gear wheel

$\varnothing$ 28 mm	(0–18 m/min)	SP4265240	plastic
$\varnothing$ 28 mm	(0–18 m/min)	4287860	steel
$\varnothing$ 40 mm	(0–25 m/min)	SP4265250	plastic
$\varnothing$ 40 mm	(0–25 m/min)	4297270	steel



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



### 3. INSTALLATION

#### 3.1 Assembly of MIG/MAG system

Assemble the units in order mentioned below and follow mounting and operation instructions which are delivered in packages.

##### **Installation of power source**

Read paragraph: "Installation" in operation instructions for FastMig power sources and carry out the installation according to that.

##### **Mounting of KM power sources to transport wagon**

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

##### **Mounting the FastMig MF on to the power source**

Screw the fastening pivot on the power source. Lift the wire feeder on fastening pivot.

##### **Connecting cables**

Connect the cables in accordance with the equipment notes provided.

The polarity of the welding wire (+ or -) can be changed by replacing the MF welding current cable and return current cable with the FastMig power source welding cable connector.

##### **Mounting of FastMig wire feed units to boom**

**NOTE!** Wire feed unit must be mounted to boom in such a way that its chassis is galvanic separated both from swing arm and boom.

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

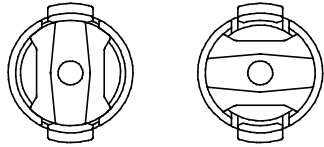
EN

### 3.2 Mounting of MIG welding gun

In order to ensure trouble-free welding check in operation instructions of gun used by you that wire guide tube and contact tip of gun are according to manufacturer's recommendation suitable to be used for wire feed diameter and type in question. To tight a wire guide tube might cause for wire feed unit a bigger stress than normally as well as disturbances in wire feed.

Screw snap connector of gun tight that there won't come any voltage losses on connecting surface. A loose connection will heat gun and wire feed unit and feeder.

### 3.3 Mounting and locking of wire spool



LOCKED

OPEN

- Release locking nails of wire spool hub by turning locking knob a quarter round.
- Mount the spool at its place. Note rotating direction of spool!
- Lock the spool with locking knob, locking nails of hub remain to outside position and will lock the spool.

**NOTE!** Check that in filler wire spool there are no parts sticking out, which could e.g. chafe against chassis or door of wire feed unit. Dragging parts might expose chassis of wire feed unit under voltage.

### 3.4 Automatic wire feed to gun

Automatic wire feed makes change of wire spool more rapid. In spool change the pressure of feed rolls need not to be released and filler wire goes automatically to correct wire line.

- Make sure that groove of feed roll matches the diameter of welding wire used.
- Release the wire end from spool and cut off the bent length. Be careful that the wire does not spill from the spool to sides!
- Straighten about 20 cm of the wire and see that the end of it has no sharp edges (file off if necessary). A sharp edge may damage the wire guide tube and contact tip of the welding gun.

#### FastMig MF wire feed units:

- Draw a bit of loose wire from wire spool. Feed wire through back liner to feed rolls. Do not release pressure of feed rolls!
- Press the gun switch and feed a bit wire until wire goes through feed rolls to gun. See that wire is in grooves of both feed roll pairs!
- Press still the gun switch until wire has come through contact tip.

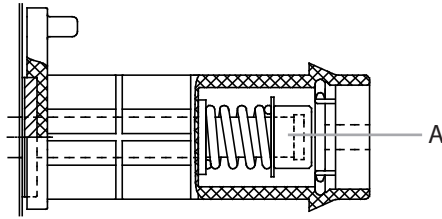
Automatic feed may sometimes fail with thin wires (Fe, Fc, Ss: 0,6 – 0,8 mm, Al: 0,8 – 1,0 mm). In that case you might have to open feed rolls and feed wire manually through feed rolls.

### 3.5 Adjustment of pressure

Adjust the pressure of feed rolls with the control screw so that the wire is fed into the wire guide tube evenly and allows a little braking when coming out from the contact tip without slipping at the feed rolls.

**NOTE!** Excessive pressure causes flattening of the filler wire and damage to the coating. It also causes undue wear of the feed rolls as well as friction.

### 3.6 Adjustment of tightness of spool brake



Brake force is adjusted through hole in locking device of spool hub by screwing the control screw (A) with screwdriver.

Adjust brake force as so big that the wire is not allowed to become too loose on the spool so that it would spill from the spool when the rotation of the spool stops. Need for brake force is increased with increase of wire feed speed.

Since the brake loads for its part the motor, you shouldn't keep it unnecessarily tight.

### 3.7 Burn back time

Electronics of feed unit controls stopping of welding automatically so that the wire end doesn't melt fastened to the contact tip or the work piece. Automatics work regardless of the wire feed speed. Can be adjusted also from power source SETUP-menu ('PoC').

### 3.8 Ground cable

Connecting of earth cable should be preferably connected directly to the welding material. Contact surface of press always should be as large as possible.

Clean the fastening surface from paint and rust!

Use in your MIG equipment at least 70 mm<sup>2</sup>. Thinner cross-sectional areas might cause overheating of connectors and insulations.

Make sure that the welding gun in your use is designed for max. welding current needed by you!

**NOTE!** Never use a damaged welding gun!

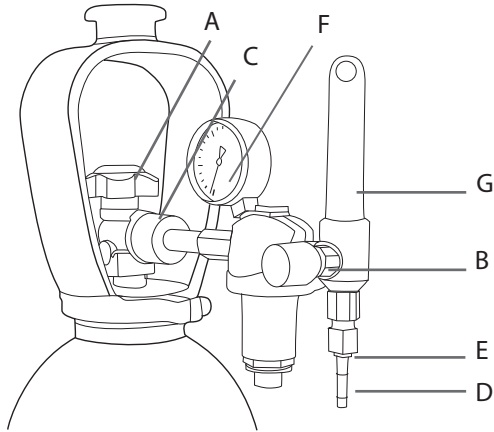
## 3.9 Shield gas

**NOTE!** Handle gas bottle with care. There is a risk for injury if gas bottle or bottle valve is damaged!

For welding stainless steels, mixed gases are normally used. Check that the gas bottle valve is suitable for the gas. The flow rate is set according to the welding power used in the job. A suitable flow rate is normally 8 – 10 l/min. If the gas flow is not suitable, the welded joint will be sporous. Contact your local Kemppi-dealer for choosing gas and equipment.

### 3.9.1 Installing gas bottle

**NOTE!** Always fasten gas bottle properly in vertical position in a special holder on the wall or on a carriage. Remember to close gas bottle valve after having finished welding.



#### Parts of gas flow regulator

- A. Gas bottle valve
- B. Press regulation screw
- C. Connecting nut
- D. Hose spindle
- E. Jacket nut
- F. Gas hose pressure meter

The following installing instructions are valid for most of the gas flow regulator types:

1. Step aside and open the bottle valve (A) for a while to blow out possible impurities from the bottle valve.
2. Turn the press regulation screw (B) of the regulator until no spring pressure can be felt.
3. Close needle valve, if there is one in the regulator.
4. Install the regulator on bottle valve and tighten connecting nut (C) with a wrench.
5. Install hose spindle (D) and jacket nut (E) into gas hose and tighten with hose clamp.
6. Connect the hose with the regulator and the other end with the wire feed unit. Tighten the jacket nut.
7. Open bottle valve slowly. Gas bottle pressure meter (F) shows the bottle pressure.

**NOTE!** Do not use the whole contents of the bottle. The bottle should be filled when the bottle pressure is 2 bar.

8. Open needle valve if there is one in the regulator.
9. Turn regulation screw (B) until hose pressure meter (G) shows the required flow (or pressure). When regulating flow amount, the power source should be in switched on and the gun switch pressed simultaneously.

**NOTE!** Close bottle valve after having finished welding. If the machine will be out of use for a long time, unscrew the pressure regulation screw.

### 3.10 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 light up, indicating the power source is ready for welding.

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

### 3.11 Operation of cooling unit, FastCool 10

Operation of cooling unit is controlled in such a way that pump is started when welding is started. After welding stop pump is rotating for approx. 5 min cooling the gun and the cooling liquid to ambient temperature.

Read in operation instructions for the FastCool 10 unit the trouble situations of the liquid circulation system and protection against torch etc. damage.

### 3.12 Hanging

MF 33 can be hanged from the handle to the barrier.

## 4. SERVICE, OPERATION DISTURBANCES

The amount of use and the working environment should be taken into consideration when planning the frequency of maintenance of MF. Careful use and preventive maintenance will help to ensure trouble-free operation.

**The following maintenance operations should be carried out at least every six months:**

Check:

- The wear of the grooves of the feed rolls. Excessive wear of grooves causes problems in wire feed.
- The wear of the wire guide tubes of wire feed. Badly worn feed rolls and wire guide tubes should be discarded.
- The wire guide tube in the gun should be set as near the feed rolls as possible, but not touching them and the wire must follow a straight line from the end of the tube to the groove of the feed roll.
- Spool brake adjustment.
- Electric connections
  - Oxidised couplings must be cleaned
  - Loose couplings must be tightened

Clean dust and dirt from the equipment.

Lubricate the feed rolls twice a year.

**NOTE!** When using compressed air, always protect your eyes with proper eye protection.

In case of problems contact your KEMPPPI dealer.

## 5. 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.

## 6. ORDERING NUMBERS

MF 33		6063300
KM 300	3-ph 400V	6033000
KM 400	3-ph 400V	6034000
KM 500	3-ph 400V	6035000
Cooling unit FastCool 10		6068100
Transport unit PM 500		6185291
<b>Accessories</b>		
KWF 300 protection slides		6185287
<b>MIG-guns</b>		
MMT 25	3 m	6252513MMT
MMT 25	4,5 m	6252514MMT
MMT 27	3 m	6252713MMT
MMT 27	4,5 m	6252714MMT
MMT 32	3 m	6253213MMT
MMT32	4,5 m	6253214MMT
MMT 35	3 m	6253513MMT
MMT 35	4,5 m	6253514MMT
MMT 42	3 m	6254213MMT
MMT 42	4,5 m	6254214MMT
MMT 30W	3 m	6253043MMT
MMT 30W	4,5 m	6253044MMT
MMT 42W	3 m	6254203MMT
MMT 42W	4,5 m	6254204MMT
MMT 52W	3 m	6255203MMT
MMT 52W	4,5 m	6255204MMT
<b>Interconnecting cables</b>		
KM 70-1.8-WH		6260411
KM 70-15-WH		6260412
KM 70-1.8-GH		6260413
KM 70-15-GH		6260414

## 7. TECHNICAL DATA

<b>MF 33</b>		
<b>Operating voltage (safety voltage)</b>		24 V DC
<b>Connection capacity</b>		100 W
<b>Output 40 °C</b>	60 % ED	520 A
	100 % ED	440 A
<b>Wire feed mechanism</b>		4-roll feed
<b>Diameter of feed roll</b>		32 mm
<b>Wire feed speed <sup>1)</sup></b>		0 – 25 m/min
<b>Filler wires</b>	∅ Fe, Ss	0.6 – 1.6
	∅ Cored wire	0.8 – 2.0
	∅ Al	1.0 – 2.4
<b>Wire spool</b>	max. weight	20 kg
	max. ∅	∅ 300 mm
<b>Gun connection</b>		Euro
<b>Operation temperature range</b>		-20 ... +40 °C
<b>Storage temperature range</b>		-40 ... +60 °C
<b>EMC class</b>		A
<b>Degree of protection</b>		IP23S
<b>External dimensions</b>	LxWxH	590x240x445 mm
<b>Weight</b>		13.6 kg

<sup>1)</sup> Changes of speed are carried out by changing gear wheel (D 28/D 40).

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