KEMPPI
The Joy of Welding

Kempoweld | 4200, 4200W, 5500W

Kempoweld 4200, 4200W, 5500W / © Kemppi Oy / 1117

OPERATING MANUAL

English

CONTENTS

1. PREFACE

1.1 GENERAL

Congratulations on your choice of the Kempoweld™ series power source. 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.

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 PRODUCT INTRODUCTION

The power sources Kempoweld 4200 and 4200W with wire feeder WIRE 400 make together 400 A MIG welding equipment, which is suitable for heavy industrial use. Kempoweld 5500W and wire feeder WIRE 550 make respectively 550 A MIG welding equipment. To the product range belongs also the power source Kempoweld 3200.

Power source

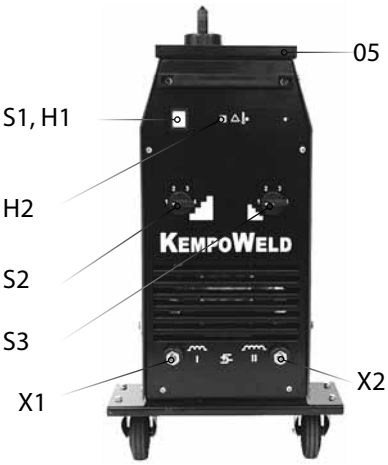
Supply voltage of the Kempoweld 4200 is either 3~ 230 V or 3~ 400 V; of these both power sources exist also types Kempoweld 4200W, which are equipped with inbuilt cooling unit. Kempoweld 5500W is a compact water cooled equipment with 3~ 400 V supply voltage. Voltage of power source is adjusted with turn type switches. The Volt/Ampere metering unit MSD-1 displays voltage or welding current.

Wire feeder unit

The wire feeder units WIRE 400 and WIRE 550 are 4-roll driven units, which are suitable for air- or liquid-cooled guns. The units may be turnable above the power source or they may be locked at their place. You can use the wire feeder units equipped also with interconnection cable and push-pull gun. KMW timer controls continuous, spot and cycle-arc welding. KMW sync is needed for connection and use of push-pull guns.

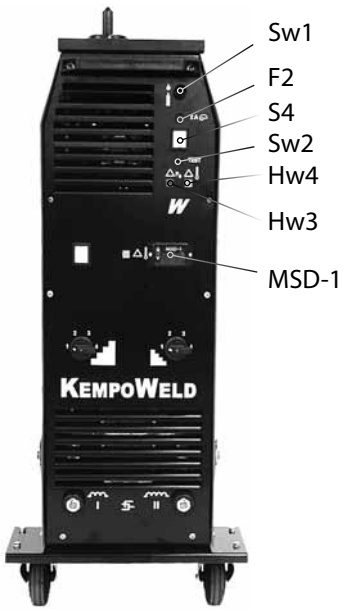
1.3 KEMPOWELD PANELS

1.3.1 Operation control and connectors



S1	Main switch (voltage range)
S2	Voltage selecting switch (coarse grading)
S3	Voltage selecting switch (fine grading)
H1	Pilot lamp for main switch
H2	Pilot lamp for overheating (power source)
X1	Return current connector (coarser arc)
X2	Return current connector (softer arc)
05	Accessory drawer
MSD-1	V/A metering unit (accessory for 4200 and 4200W)
MSD-1	V/A metering unit (included in delivery of 5500W)

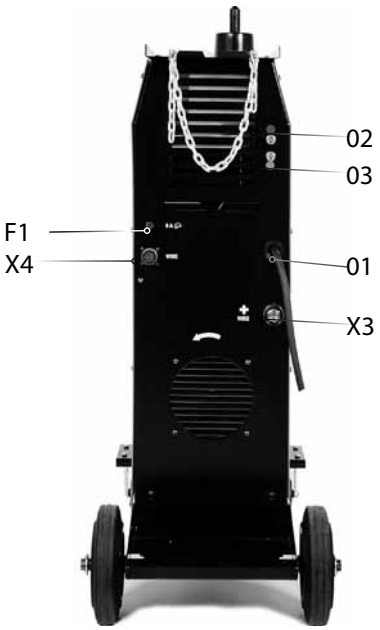
1.3.2 Parts of cooling unit Kempoweld 4200W and 5500W



S4	Main switch of cooling unit
Sw1	Selecting switch for gun´s cooling mode
Sw2	Water cooling test switch

Hw4 Pilot lamp for overheating
Hw3 Pilot lamp for lacking water pressure
F2 Fuse for cooling unit (2 A delayed / 4200W)
F2 Fuse for cooling unit (4 A delayed / 5500W)
02 Water circulation return connector
03 Water circulation output connector
04 Filler hole for water tank

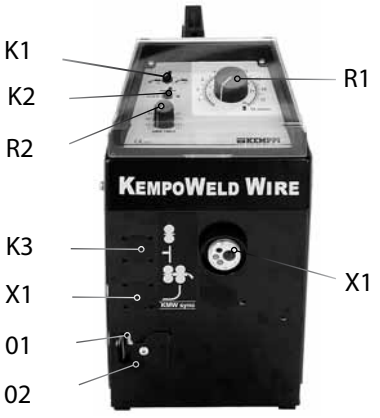
1.3.3 Rear plate of Kempoweld 4200, 4200W and 5500W



01 Inlet of mains cable
F1 Fuse of auxiliary transformer (8 A delayed)
X3 Welding current connector for wire feeder unit (+ pole)
X4 Control connector for wire feeder unit

1.4 WIRE FEEDER PANELS

1.4.1 Front panel



R1 Adjustment for wire feed
X1 Welding gun connector (EURO)

1.4.2 Accessories

KMW sync (Accessory)

K3 Wire feed adjustment selection (panel or push-pull gun)

X1 Control connector for push-pull gun (Binzel / Hulftegger)

1.4.3 Cooling unit connections

01 Return water connector for gun

02 Feed water connector for gun

04 Inlet of water hoses

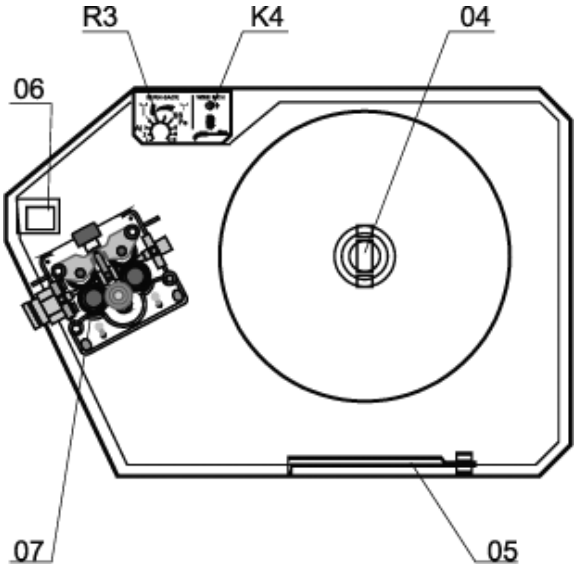
1.4.4 Rear panel

03 Shielding gas connector

X2 Control cable connector (Kempoweld or interconnection cable)

X3 Welding current connection (Kempoweld or interconnection cable)

1.4.5 Inside wire feeder unit



K4 Wire inch switch (wire feed into gun)

R3 Burn back time adjustment (according to filler material and wire feed)

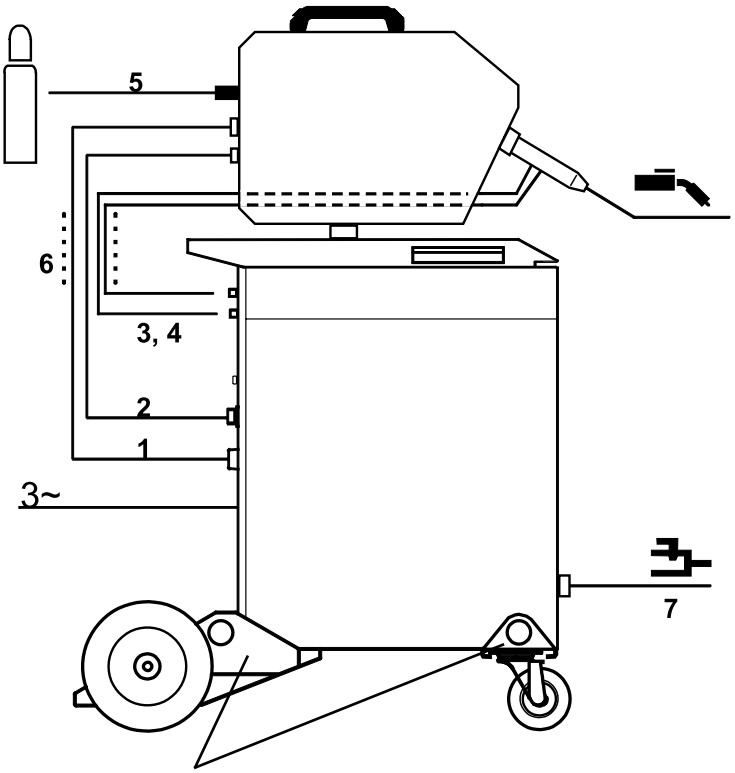
04 Locking device for wire reel

05 Box door latch

06 Box door lock

07 Wire feed mechanism

1.5 UNITS AND CABLES



NOTE! Lift points, lifting allowed without gas bottle!
(See Operation and use of power source)

1.5.1 Air-cooled interconnection cables

part	
1	welding current cable
2	control cable
5	shielding gas hose
6	protective hose

1.5.2 Liquid-cooled interconnection cables

part	
1	welding current cable
2	control cable
3	water hose, blue
4	water hose, green
5	shielding gas hose
6	protective hose

Marking of interconnection cable item:
Example: KW 50-5-WH
KW = identification letters
50 = welding cable cross-section mm^2
5 = nominal reach in meters
W = liquid cooling, K = air cooling
H = protective shield; no letter=no protective shield

2. INSTALLATION

2.1 TRANSPORT AND LIFTING OF THE MACHINE

On the power source bottom there are four fixed lifting points for lifting devices, hole diameter 47 mm. On the power source´s front panel and above the wire feeder unit there are handles designed for moving the units on the floor.

Lift the entire power source only from lifting points on the bottom! You may move the units from handles only by hands, it is forbidden to use any mechanical devices!

Ensure that the unit is kept during lifting between lifting linens. When necessary use additional binding round the lifting linens and the unit´s upper part. Use the protection between the lifting device and the unit in order to eliminate impacts and shocks.

2.2 POSITIONING OF THE MACHINE

Place the machine on a firm, dry and level surface. Where possible, do not allow dust or other impurities to enter the machines cooling air flow. Preferably site the machine above floor level; for example on a suitable carriage unit.

Notes for positioning the machine

- The surface inclination should not exceed 15 degrees.
- Ensure the free circulation of the cooling air. There must be at least 20 cm of free space in front of and behind the machine for cooling air to circulate.
- Protect the machine against heavy rain and direct sunshine.

NOTE! The machine should not be operated in the rain as the protection class of the machine, IP23S, allows for outside preserving and storage only.

NOTE! Never aim metallic grinding spray/sparks towards the equipment.

2.3 DISTRIBUTION NETWORK

All regular electrical devices without special circuits generate harmonic currents into distribution network. High rates of harmonic current may cause losses and disturbance to some equipment.

Kempoweld 4200, 4200W, 5500

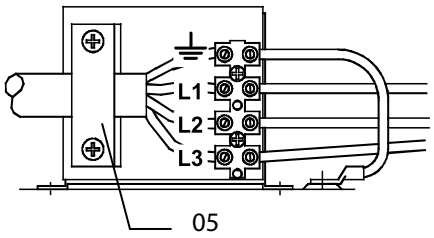
This equipment complies with IEC 61000-3-12 provided that the short-circuit power Ssc is greater than or equal to 1.3 MVA at the interface point between the user's supply and the public supply network. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to a supply with a short-circuit power Ssc greater than or equal to 1.3 MVA.

2.4 CONNECTION TO THE MAINS SUPPLY

Connection and change of the mains cable and the plug must be carried out only by a competent electrician.

Remove for the mounting of the mains cable the left side plate, seen from the front of the power source.

The Kempoweld power source is equipped with 5 m supply cable without plug. The mains cable is according to the marking H07RN-F of the norm Cenelec HD22.The mains cable must be changed if it does not meet local regulations.



Mounting of the mains cable

The cable is entered into the machine through the inlet ring on the rear wall of the machine and locked with a cable clamp (05).

The phase conductors of the cable are coupled to connectors L1, L2 and L3. The earth protection coloured green-yellow is coupled to connector marked with earth protection symbol ⏚. If you are using 5-conductor cable, you must cut the zero conductor to the level of the cable´s protective shield.

Sizes of mains cables and fuse ratings for the machine at 100% ED duty cycle are specified in the table below:

Kempoweld	4200		4200W		5500W
Rated voltage	230 V	400 V	230 V	400 V	400 V
Voltage range	220 – 240 V	380 – 415 V	220 V – 240 V	380 V – 415 V	380 – 415 V
Fuses, delayed	25 A	16 A	25 A	16 A	32 A
Connection cable	4 x 6.0 S mm^2	4 x 2.5 S mm^2	4 x 6.0 S mm^2	4 x 2.5 S mm^2	4 x 6.0 S mm^2

In cables of S type there is protective grounding conductor coloured green-yellow.

2.5 WELDING AND RETURN CURRENT CABLES

Use only copper cables with cross-sectional area of at least 50 mm^2. In enclosed table are shown typical loading capacities of rubber insulated copper cables, when ambient temperature is 25 °C and conductor temperature is 85 °C.

cable cross-section Cu	duty cycle ED			voltage loss / 10 m for 100 A
	100 %	60 %	40 %	
50 mm^2	285 A	370 A	450 A	0.35 V
70 mm^2	355 A	460 A	560 A	0.25 V
95 mm^2	430 A	560 A	680 A	0.18 V

NOTE! Fasten the earthing press of the return current cable carefully, preferably direct onto the piece to be welded. The contact surface area of the press should always be as large and steady as possible.
Do not overload welding cables over permissible values due to voltage losses and heating. Clean the contact surface from paint and rust.

2.6 OPERATION AND USE OF CONTROLS

See the page for Kempoweld panels. See the section for the Cooling unit.

2.6.1 Main switch (S1)

In zero position all control and welding current circuits of the equipment are dead (without voltage). In positions 15 – 28 V or 18 – 32 V and 28 – 48 V or 32 – 56 V the control circuits of the machine and the cooling unit become live (get voltage). The primary and welding circuit are dead, if the welding mode has not been started with the gun trigger.

Always switch on and switch off the machine from the main switch. Never use the mains plug for switching on or switching off the units and equipment!

2.6.2 Adjustment of welding voltage

With the main switch either the lower position (15 – 28 V or 18 – 32 V) or the higher position (28 – 48 V or 32 – 56 V) of welding voltage range is selected according to each welding case. The welding voltage is adjusted with two 4-step turn switches. The S2 is the switch for coarse control, where voltage value of each step can be fine-adjusted with the switch S3.

Table of adjustments, switch positions:

main switch voltage range			4200, 4200W	5500W
	coarse control	fine control	open circuit voltage	open circuit voltage
lower	1 / 4	1 / 4 – 4 / 4	14.6 – 16.3 V	18.0 – 20.0 V
	2 / 4	1 / 4 – 4 / 4	16.6 – 18.8 V	20.7 – 23.0 V
	3 / 4	1 / 4 – 4 / 4	19.2 – 22.0 V	23.8 – 26.8 V
	4 / 4	1 / 4 – 4 / 4	22.5 – 26.1 V	27.9 – 32.0 V
higher	1 / 4	1 / 4 – 4 / 4	27.1 – 30.0 V	31.1 – 33.1 V
	2 / 4	1 / 4 – 4 / 4	30.5 – 34.2 V	36.4 – 40.3 V
	3 / 4	1 / 4 – 4 / 4	34.9 – 39.7 V	41.8 – 46.9 V
	4 / 4	1 / 4 – 4 / 4	40.5 – 47.1 V	49.0 – 56.2 V

Instructions for welding voltage selection are described in operation instructions for Kempoweld WIRE feeders and in table on door interior surface of the unit´s reel box.

2.6.3 Pilot lamps

Pilot lamps of the machine report about electric function:

The green pilot lamp H1 indicating that the machine is ready for operation is always lit, when the machine is connected to mains voltage and you have selected welding voltage range from the main switch.

The yellow pilot lamp H2 is lit, when thermal protection of the welding circuit has released due to overheating. The protection releases if the power source is continuously loaded over rated values or the cooling air circulation has been obstructed.

The cooling fan is cooling down the machine and after the pilot lamp has switched off, the machine is again ready for welding from the gun trigger.

2.6.4 Control fuse (F1)

On the rear plate of the power source the fuse (F1) 8 A delayed is the short-circuit protection. Use the fuse size and type according to markings. Damage caused by a wrong type fuse is not covered by the guarantee. If the fuse is blowing again, send the unit to service.

2.6.5 Adjustment for arc roughness 

Arc roughness is adjusted by connecting the return current cable to the applicable one of the two dix-connectors on the front plate.

The connector marked with shorter symbol gives a rougher arc, which is used for welding of thin sheets and ferrous metals by 0.6 – 1.0 mm wires and especially with CO_2 shielding gas. The connector marked with longer symbol is suitable for thicker wires and especially for aluminium and stainless materials. The most suitable roughness is, however, most dependent on the welding case. You will find the best position by testing the different positions.

2.6.6 Operation of cooling fan

The cooling fan on the rear plate of the Kempoweld equipment is started and stopped according to use. The cooling fan is controlled by the gun trigger and control circuits. The cooling fan is started after ca. 15 s after weld start and stopped after ca. 10 min after weld end or release of the overheat protection.

NOTE! Do not switch off the unit with the main switch before the cooling fan has automatically stopped. By open circuit the cooling fan does not get started.

2.6.7 Accessory drawer

In the accessory drawer of the power source are included the parts, needed in welding of aluminium and stainless materials and the parts for changing also the max. wire feed speed. In the drawer are also the screw and the insulation bushings needed for locking of rotation of the wire feeder.

2.6.8 Adjustment for wire feed

The wire feed is adjusted from the potentiometer on the control panel of the wire feeder unit. The adjustment has been described in the operation instructions of the wire feeder unit.

2.7 VOLT / AMPERE METERING UNIT MSD-1

Included in the delivery of Kempoweld 5500W. Accessory for Kempoweld 4200 and 4200W.

For the mounting of the MSD-1 remove the cover plate on the front panel of the unit.
The connector of flat cable fastened to the cover plate is connected to the corresponding connector of the MSD-1. From the metering unit you can with lever switch select momentary display for either voltage or current. By open circuit only voltage value is displayed, because there is no welding current present.

The voltage value is the voltage between the unit´s welding connectors or terminal voltage. The value of the open circuit voltage has not very much importance for the welding, so that the display of the metering unit is adjusted according to the welding situation. The display of the open circuit voltage differs 2 – 3 V from the true voltage. During welding the terminal voltage is varying and the arc voltage differs from the terminal voltage due to cable etc. losses. Accuracy of voltage true value in respect to real value is ±4,0 %, ±0,2 V by welding values according to the norm. Accuracy of current true value in respect to real value is ±2,5 %, ±2 A.

The metering unit does not show wire feed values.

The MSD-1 does not need any calibration in the Kempoweld power source.

The switch positions: V = voltage display, A = current display.

2.8 COOLING UNIT

The Kempoweld 4200W and 5500W units have an inbuilt cooling unit inside the power source.

2.8.1 Installation of cooling

The cooling unit is connected to the gun by means of water hoses, which are mounted to the wire feeder unit. The interconnection cable contains also the water hoses, which are mountedto the gun through the wire feeder unit without any extension parts. See operation instruction for Kempoweld WIRE feeders.

Before connection check that in the hoses are no dirt, metal powder, rubber waste etc. The connectors for hoses and cooling unit are marked with red or blue identification rings or spots. Blue is colour for water supplied from cooling unit to gun and red is colour for water returning back from gun to cooling unit.

The cooling unit´s tank is filled with 40 % antifreeze according to British Standard BS3151. If the circumstances do not require frost resistance, you can use a more dilute mixture, or some other mixture, of which you have good experiences.

Tank volume is ca. 3 litres, volume of gun and interconnection cable is 0.3 – 1.5 litres. Filling of hoses takes 5 s – 3 min time. Check the return flow to the tank. Before filling check that tank, cooling water, pouring tank etc. are clean, and that there is no metal powder, waste etc.

NOTE! If the water does not start circulating, see paragraph Operation disturbances: "The water does not circulate ... etc.
Do not let any waste and dirt into the water circulation!
Check filling volume before starting to weld!
Use the cooling liquid according to recommendations, or the one you know as good beforehand.
Watch over liquid material´s quality and possible sediments in hoses of the gun.
Do not swallow cooling liquid. If somebody has swallowed the liquid, take him immediately to medical care. Avoid contact with skin and eyes, wash the liquid from your skin with clean water.

2.8.2 Operation switches

In zero (O) position of the power source´s main switch also all operations of the cooling unit are stopped.

Cooling unit´s main switch O / I

The electric supply for the pump motor is switched on by main switch key **O / I**, where the pilot lamp indicates the standby state **I**. In zero (**O**) position of the main switch the pump motor cannot get started, but the switches and pilot lamps are operating.

Fuse (F2)

The fuse on the front wall of the cooling unit is short-circuit protection. Use the fuse size and type according to markings. If the fuse is blowing again, send the unit to service.

Selecting switch for gun's cooling mode (Sw1)

The Kempoweld equipment are suitable to be used with both air- and water-cooled guns. Select cooling mode and correct use and protection functions with switch on the cooling unit´s panel.

If your choice is **GAS**, but you are using water-cooled gun, no protection is operating. The pilot lamp is illuminated in position I of the cooling unit´s main switch. However, the control does not start the pump.

The wrong choice will destroy the gun in short time!

If your choice is (water), but you are using air-cooled gun, the pump gets started by pressing on the trigger, if the cooling unit´s main switch is in position I.

Test switch (Sw5)

By TEST switch on the panel of the cooling unit you can circulate water without starting welding. It is used for filling the gun and interconnection cable with cooling water before starting welding. By disturbance situations you can always test the water circulation. Always check entry of return water into the tank before welding!

Pilot lamps

Pilot lamp for overheating (Hw4)

If the cooling water in the tank is overheating, the thermal protection will stop the power source. Operation of the cooling unit is continued for ca. 5 – 7 min automatically. The pilot lamp will switch off after the water in the tank has cooled down, after which the welding will start from the gun triggering.

Pilot lamp for lacking liquid pressure (Hw3)

If the pump does not step up sufficient supply pressure, e.g. when the water is running out or by disturbances in the pump, the whole equipment will stop after ca. 5 s and the red pilot lamp illuminates. Check the equipment like by the installation. See paragraph for Operation disturbances.

Operating control

The water circulation gets automatically started, when you are pressing on the gun trigger. The post-circulation of water will continue for ca. 5 – 7 min. after the weld end. The time is always counted from the latest trigger release.

3. OPERATION DISTURBANCES

By the operation or functional disturbances take the measures according to the following list.

If the disturbance cannot be eliminated, check the equipment according to the paragraphs Installation and Maintenance, and take contact with Authorized Kemppi repair shop.

The pump does not get started by test switch:

- check the fuse on the front plate of the cooling unit
- check the fuse on the rear plate of the power source
- check position for cooling mode selecting switch
- check positions for main switches

The water does not circulate by lever switch:

- check the tank filling volume
- disconnect the connector for the return water hose of the gun from the rear wall of the cooling unit and use thet test switch

If the water is pumped, close the connector and run again by the test switch

A good tip: Blow compressed air into the tank; closing the filling opening by hand is enough.

The water is pumping, but does not return back to the tank or the return flow is weak:

- filling of interconnection cable can take several minutes
- if you have lifted the gun or interconnection cable for the filling time many meters higher than the power source, the filling will happen considerably slower. Fill the hoses on the floor position.
- check the whole flowing line connector by connector

The water is pumping, but during welding the red pilot lamp for the water pressure is illuminated and the equipment is stopped:

- check the cooling water volume and return flow to the tank
- in the system are air bubbles or leakages, especially check the connections of the cooling unit.
- the pressure switch set value (ca. 1 bar) is unsuitable for the gun you are using:

1. Open the side plate. In the middle at the upper end of the pressure guard connected to the pump is the adjusting screw for limit value.
2. Use the pump during the adjustment by the test switch.
3. After ca. 5 s use twist the screw carefully until the pilot lamp is switched off.
4. Check the result by welding.
5. If the adjustment and checkings do not eliminate the disturbance, take contact with the Authorized Kemppi repair shop.

During welding the yellow pilot lamp for overheating is lit and the equipment is stopped:

- release the trigger. When the lamp is switched off, the operation has been reset automatically
- check if the gun is suitable for power you are using
- check condition of connectors and connections in the welding current circuit

4. MAINTENANCE

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

Cables

Check the condition of welding and connection cables daily. Do not use faulty cables! Make sure that the mains connection cables in use are safe and according to regulations! The repair and mounting of mains connection cables should be carried out only by an authorized electrician.

Power source

NOTE! Disconnect the plug of the power source from the mains socket before removing the cover plate.

Check at least every 6 months (twice a year):

- Electric connections of the unit - clean the oxidized parts and tighten the loosened ones.

NOTE! You must know correct tension torques before starting the repair of the joints.

- Clean the inner parts of the machine from dust and dirt e.g. with soft brush and vacuum cleaner.

Do not use compressed air, there is a risk that dirt is packed even more tightly into gaps of components!

Do not use pressure washing device!

Only authorized electrician shall carry out repairs to the machines.

Regular maintenance

Kemppi service repair shops make regular maintenance according to agreement.

The major points in the maintenance procedure are listed as follows:

- Cleaning of the machine
- Checking and maintenance of the welding tools
- Checking of connectors, switches and potentiometers
- Checking of electric connections
- Metering units checking
- Checking of mains cable and plug
- Damaged parts or parts in bad connection are replaced by new ones
- Maintenance testing. Operation and performance values of the equipment are checked, and adjusted when necessary by means of test equipment.

4.8.1 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.

5. ORDERING NUMBERS

Units		
Kempoweld 4000	230 V	6215402
Kempoweld 4000	400 V	6215404
Kempoweld 4000W	230 V	6216402
Kempoweld 4000W	400 V	6216404
Kempoweld 5500W	400 V	6216554
Wire feeder units		
Kempoweld WIRE 400		6217400
Kempoweld WIRE 550		6217550
Accessories:		
KMW timer		6219200
KMW sync		6219100
MSD-1		6185666
Hub for wire reel		4289880
Branche cable KMP/Kempoweld		3151360
MIG guns		
Air-cooled:		
MMT 35	3 m	6253513MMT
MMT 35	4,5 m	6253514MMT
MMT 42	3 m	6254213MMT
MMT 42	4,5 m	6254214MMT
KMP 300	6 m	6257306
KMP 300	10 m	6257310
Liquid-cooled:		
MT 51W	3 m	6255046
MT 51W	4,5 m	6255047
MMT 42W	3 m	6254203MMT
MMT 42W	4,5 m	6254204MMT
MMT 52W	3 m	6255203MMT
MMT 52W	4,5 m	6255204MMT
KMP 400W	6 m	6257406
KMP 400W	10 m	6257410
WS 42W (Al 1.2-1.6)	6 m	6254206A12
WS 42W (SS 1.0)	6 m	6254206S10
WS 42W (SS 1.2)	6 m	6254206S12
WS 42W (Al 1.2-1.6)	8 m	6254208A12
WS 42W (SS 1.0)	8 m	6254208S10
WS 42W (SS 1.2)	8 m	6254208S12

Air-cooled interconnection cables		
Mounting cables for short distance:		
KW 50-1.3-K		6260350
Interconnection cables for long distance:		
Multimig 50-5-K		6260104
Multimig 50-10-K		6260106
Multimig 50-5-KH		626010401
Multimig 50-10-KH		626010601
Liquid-cooled interconnection cables		
Mounting cables for short distance:		
KW 50-1.5-W		6260352
KW 95-1.5-W		6260391
Interconnection cables for long distance:		
KW 50-5-W		6260354
KW 50-10-W		6260356
KW 50-5-WH		626035401
KW 50-10-WH		626035601
KW 95-5-WH		6260393
KW 95-10-WH		6260394
Return current cable		
5 m - 50 mm2 **(part 7)**		6184511
5 m - 95 mm2 **(part 7)**		6184921

6. TECHNICAL DATA

Kempoweld		4200	4200W	5500W
Connection voltage				
	3 ~ 400 V	380 V -10% ... 415 V +6%		380 V -10% ... 415 V +6%
	3 ~ 230 V	220 V -10% ... 240 V +6%		- - -
Connection capacity 230 V / 400 V				
	40 % ED	18,5 kVA		- - -
	60 % ED	13,5 kVA		30 kVA
	100 % ED	9,0 kVA		20 kVA
Mains cable / fuse				
	220 - 240 V	4 x 6,0 mm2 / 25 A delayed		- - -
	380 - 415 V	4 x 2,5 mm2 / 16 A delayed		4 x 6,0 mm2 / 32 A delayed
Connection to wire feeder unit		30 V / 250 VA		30 V / 250 VA
- Fuse delayed		8 A		8 A
Loading capacity (nominal values)				
	40 % ED	420 A / 37,5 V		- - -
	60 % ED	325 A / 31 V		550 A / 42 V
	100 % ED	265 A / 27 V		430 A / 36 V
Control range		40 – 420 A / 15 – 37,5 V		50 – 550 A / 18 – 42 V
The amount of voltage steps				
	3 ~ 400 V	56		32
	3 ~ 230 V	32		- - -
Open circuit voltage		15 – 48 V		18 – 56 V
Open circuit power		< 50 W		< 50 W
Efficiency		75 % (420 A / 37,5 V)		80 % (550 A / 42 V)
Power factor		0,95 (420 A / 37,5 V)		0,95 (550 A / 42 V)
Temperature class		H (180 °C)		H (180 °C)
Operation temperature range		-20 ... +60 °C		-20 ... +60 °C
Storage temperature range		-40 ... +60 °C		-40 ... +60 °C
Degree of protection		IP 23S		IP 23S
EMC class		A		A
Minimun short circuit power Ssc of supply network *		1.3 MVA		1.3 MVA
Cooling unit power		- - -	230 V/250 VA	230 V/250 VA
- Fuse delayed		- - -	2 A	4 A
External dimensions				
	length	990 mm	990 mm	1075 mm
	width	530 mm	530 mm	480 mm
	height	880 mm	1090 mm	1140 mm
Weight		126 kg	138 kg	194 kg

* See paragraph 2.3.

KEMPPI OY
Hennalankatu 39
PL 13
FIN-15801 LAHTI
FINLAND
Tel +358 3 899 11
Telefax +358 3 899 428
export@kemppi.com
www.kemppi.com

Kotimaan myynti:
Tel +358 3 899 11
Telefax +358 3 734 8398
myynti.fi@kemppi.com

KEMPPI SVERIGE AB
Box 717
S-194 27 UPPLANDS VÄSBY
SVERIGE
Tel +46 8 590 783 00
Telefax +46 8 590 823 94
sales.se@kemppi.com

KEMPPI NORGE A/S
Postboks 2151, Postterminalen
N-3103 TØNSBERG
NORGE
Tel +47 33 346000
Telefax +47 33 346010
sales.no@kemppi.com

KEMPPI DANMARK A/S
Literbuen 11
DK-2740 SKOVLUNDE
DANMARK
Tel +45 4494 1677
Telefax +45 4494 1536
sales.dk@kemppi.com

KEMPPI BENELUX B.V.
Postbus 5603
NL-4801 EA BREDA
NEDERLAND
Tel +31 765717750
Telefax +31 765716345
sales.nl@kemppi.com

KEMPPI (UK) Ltd
Martti Kemppi Building
Fraser Road
Priory Business Park
BEDFORD, MK44 3WH
UNITED KINGDOM
Tel +44 (0)845 6444201
Telefax +44 (0)845 6444202
sales.uk@kemppi.com

KEMPPI FRANCE S.A.S.
65 Avenue de la Couronne des Prés
78681 EPONE CEDEX
FRANCE
Tel +33 1 30 90 04 40
Telefax +33 1 30 90 04 45
sales.fr@kemppi.com

KEMPPI GmbH
Otto-Hahn-Straße 14
D-35510 BUTZBACH
DEUTSCHLAND
Tel +49 6033 88 020
Telefax +49 6033 72 528
sales.de@kemppi.com

KEMPPI SPÓŁKA Z O.O.
Ul. Borzymowska 32
03-565 WARSZAWA
POLAND
Tel +48 22 7816162
Telefax +48 22 7816505
info.pl@kemppi.com

KEMPPI AUSTRALIA PTY LTD.
13 Cullen Place
P.O. Box 5256, Greystanes NSW 2145
SMITHFIELD NSW 2164
AUSTRALIA
Tel. +61 2 9605 9500
Telefax +61 2 9605 5999
info.au@kemppi.com

ООО KEMPPI
Polkovaya str. 1, Building 6
127018 MOSCOW
RUSSIA
Tel +7 495 739 4304
Telefax +7 495 739 4305
info.ru@kemppi.com

ООО КЕМППИ
ул. Полковая 1, строение 6
127018 Москва
Tel +7 495 739 4304
Telefax +7 495 739 4305
info.ru@kemppi.com

KEMPPI, TRADING (BEIJING) COMPANY, LIMITED
Room 420, 3 Zone, Building B,
No.12 Hongda North Street,
Beijing Economic Development Zone,
100176 Beijing
CHINA
Tel +86-10-6787 6064
+86-10-6787 1282
Telefax +86-10-6787 5259
sales.cn@kemppi.com

肯倍贸易（北京）有限公司
中国北京经济技术开发区宏达北路12号
创新大厦B座三区420室 (100176)
电话： +86-10-6787 6064
+86-10-6787 1282
传真： +86-10-6787 5259
sales.cn@kemppi.com

KEMPPI INDIA PVT LTD
LAKSHMI TOWERS
New No. 2/770,
First Main Road,
KAZURA Gardens,
Neelangarai,
CHENNAI - 600 041
TAMIL NADU
Tel +91-44-4567 1200
Telefax +91-44-4567 1234
sales.india@kemppi.com