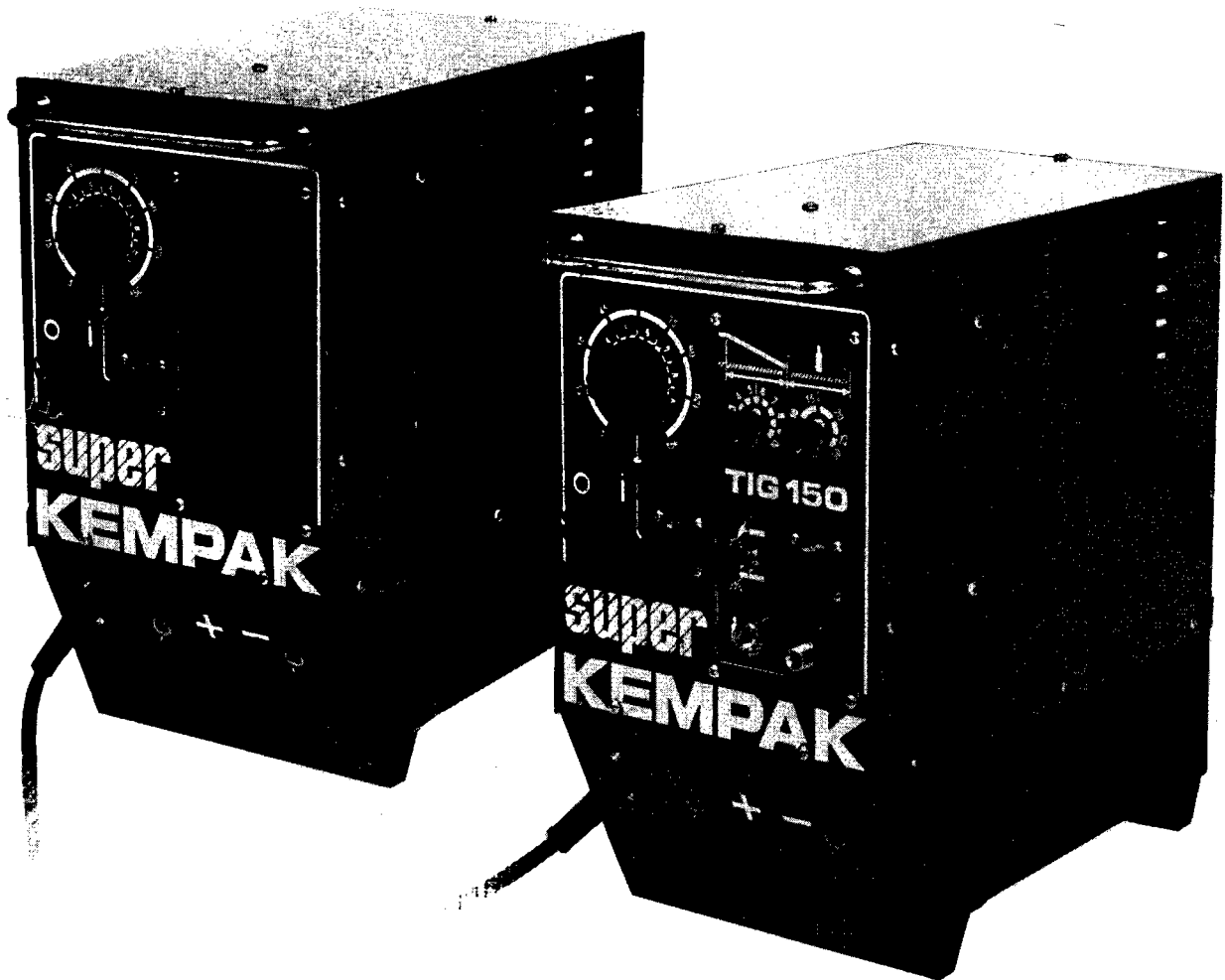


KÄYTTÖOHJE  
BRUKSANVISNING  
OPERATION INSTRUCTIONS  
GEBRAUCHSANWEISUNG

# SUPER KEMPAK SUPER KEMPAK TIG



1912130

Discontinued  
product

**SUPER KEMPAK** is a constant power source which is suitable for all  $\varnothing$  1,5 — 3,25 mm welding electrodes.

The current control is stepless, also with remote control devices C100C, C100D and C100P.

It is possible to connect the transport equipment to **SUPER KEMPAK**. The combination **SUPER KEMPAK - TIG 150** is suitable for TIG welding with DC with gas-cooled torches.

The TIG 150 unit includes the following control operations: contact ignition,

down-slope time, post gas flow time and selection for MMA/TIG welding.

The battery charger S B150 is connected to **SUPER KEMPAK** in the same way as the remote control device and it includes the control operations for charging of 12 V and 24 V battery and the corresponding operations for auxiliary start as well the selection of operation ways for the combination.

The S B150 is equipped with current setting and current meter.

## TECHNICAL DATA

Mains voltage (50/60 Hz)	220-240 V / 380-415 V
Rated power (100% duty cycle)	2,5 kVA
Fuse 220-240 V	16 A (20 A)
Fuse 380-415 V	10 A (16 A)
Welding current	5-150 A
Open-circuit voltage	40-45 V
Load regulation	10-26 V
Gas-cooled torch (50% duty cycle)	130 A
Gas-cooled torch (60% duty cycle)	65 A
Gas-cooled torch (100% duty cycle)	50 A
Dimensions (with handles)	225 x 425 x 175 mm
Weight	45 kg
Temperature class	F
Protection class	IP 22

## CHANGE OF MAINS VOLTAGE

Before you connect the machine to the mains, be sure that the machine is coupled on the corresponding voltage.

The change of voltage is carried out according to circuit diagram or instructions, given on page 2.

Discontinued  
product

At delivery the machine is coupled on 220 V connection voltage.

Connections of primary cable to the mains supply and changes to any internal primary voltage connectors should only be carried out by a competent electrician.

## CONTROL DEVICES (see page 2)

### SUPER KEMPAK: power source unit and MMA welding

Main switch	I/O
Selecting switch	local/remote
Current control	stepless
- memory scale	1 - 10
- current scale	5 - 150 A
Connection for remote control	10-poles amphenol-connector
- suitable remote control devices	C 100C, C 100D, C 100P
Connection for welding cable	2 pc DIX-connectors

### Control devices of the SUPER KEMPAK/TIG 150 unit:

Selecting switch	TIG/MMA
Down-slope time	0 - 13 s
Post gas flow time	5 - 30 s
Connection for welding torch	4-poles amphenol-connector and gas/current connector R1/4
Welding torch	gas-cooled
Shielding gas connector	connector R1/8

### S B150 battery charger:

Connection to power source	cable/10-poles amphenol-connector
Selecting	6 positions: welding; 0 = secondary side of the whole equipment combination without voltage; 12 V charging; 12 V auxiliary start; 24 V charging; 24 V auxiliary start
Control of charging current	scale
Current meter	scales: 0 - 50 A 0 - 200 A

## OPERATION WAYS

### MMA welding

The current is adjusted according to the electrode diameter and welding situation with the local control potentiometer on the front wall or with the potentiometer of the remote control device. The selecting switch for local/remote control has to be in corresponding position.

The selecting switch of the TIG unit is in position for MMA welding. The welding torch is connected to plus-DIX-connector and the return cable to minus-DIX-connector. (See page 3).

### TIG welding

The current control is carried out in the same way as in MMA welding.

The selecting switch of the TIG unit is in position for TIG welding.

Discontinued  
product

The TIG torch is connected to 4-poles amphenol-connector and to gas/current connector. The return cable is connected to plus-DIX-connector. The shielding gas hose is connected to connector

R1/8. (See page 3.)

**Because of short circuit danger, the cable of the electrode holder is not allowed to be connected to the machine during TIG welding.**

## Welding methods in TIG welding

### Contact ignition

The ignition is carried out by touching on the work piece with the electrode and it has been programmed so that the trigger of the torch does not require pressing down at the same time. The light arc will ignite with the pressing down of the trigger during touching when the electrode is raised immediately to the welding distance. The trigger may also be pressed down beforehand and then the light arc will ignite immediately through touching on the work piece. The gas flow begins with pressing of trigger.

### Pulse

By means of the control device C 100P the welding

current is pulsed according to values, selected on the control device.

### Down-slope

With the release of the trigger, the welding current goes evenly down to zero according to time, set with the down-slope potentiometer.

### Post gas flow time

With the post gas flow potentiometer is adjusted the wished gas flow time which begins when the current is cut off.

## Battery charger

You can use the battery charger connected to the remote control connector of the power source both with MMA and with MMA/TIG device. The selecting switch for local/remote control has to be in position for remote control and the possible remote control device cannot be connected at the same time.

### Conditions for operation

With connection of battery charger and battery to machine see to that the main switch of SUPER KEMPAK and the selecting switch of the battery charger are in position 'O' and the current control in minimum position.

As the following thing the current cables are connected to the battery according to diagram which you see on page 3.

If the battery has discharged to value which is less than half of the rated voltage the charger does not begin to operate.

**IF YOU CONNECT THE BATTERY INCORRECTLY YOU MAY DESTROY THE POWER SOURCE OR THE BATTERY.**

The operation ways of the whole system are defined on the selecting switch of the connected battery charger.

### Operation positions of the selecting switch:

#### O-position:

When the selecting switch of the battery charger is in O-position, the power source does not supply current for any operation, neither open circuit voltage.

### Welding

The MMA or TIG welding operate in the normal way when the basic machine's selecting switch for local/remote control is in local position.

**You may destroy the battery if you have it connected when the selecting switch is in welding position.**

#### 12 V and 24 V:

Before connection of the battery read carefully the paragraphs "CONDITIONS FOR OPERATION" and "CONNECTION DIAGRAMS". After you have connected the battery according to diagram which you see on page 3, turn the selecting switch of the battery into position according to the rated voltage of the battery, turn the main switch of the machine into position I and adjust the current to the wished value according to display of the current meter.

#### 12 and 24 V start: auxiliary start

When you turn the selecting switch of the battery charger during charging into start-position corresponding to rated voltage, the charging will continue in the normal way except during start effort, when the power source supplies auxiliary start current. Before auxiliary start effort you shall charge the battery for approx. half an hour so that the connection cables of the vehicle are released.

**START AND FINISH THE CHARGING OF THE BATTERY ON THE MAIN SWITCH OF THE BASIC MACHINE.**

Discontinued  
product

# BASIC MATTERS ABOUT WELDING

## MMA WELDING

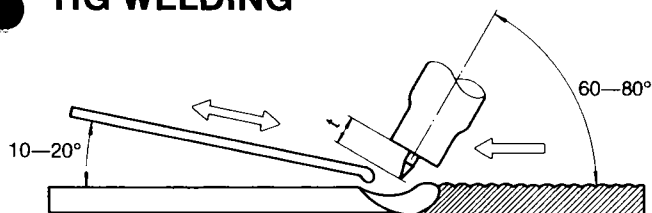
- Before you start welding, read paragraph "OPERATION WAYS".
- In electrode parcel has been given current range which is to be recommended for electrode in question. In flat position high values of current range are usually used and in vertical position usually low values of current range (in vertical position the welding is usually performed from below upwards).
- The welding is started by scraping the work piece

lightly with electrode tip. Before you ignite the same electrode again, take off carefully insulating slag from the electrode tip.

- After the light arc has been ignited, move the electrode evenly with drawing movement and keep the light arc as short as possible

**NOTE! Always use dry electrodes with undamaged coating. Keep the electrodes inside at dry storage.**

## TIG WELDING



- Before you start welding, read paragraph "OPERATION WAYS"
- TIG welding is shielding gas welding method in which the energy, required for welding, is got from light arc burning between durable tungsten electrode and working piece. Welding can be performed either without filler material or with filler material, see picture.
- TIG welding is well suitable for welding of thin materials. With TIG welding you can get very clean welding without spatter.
- Use Argon (Ar) as shielding gas and adjust the gas flow to value 5 - 10 l/min.
- Projecting part of electrode from gas nozzle  $t = 3 - 5$  mm, see picture.
- In order to get stable light arc the electrode tip has to be sharpened. Sharpening length is 1 - 2 times the electrode diameter.

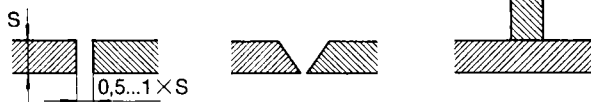
- Suitable welding distance = length of light arc is 2-5 mm.

### Groove types

Without filler material, material thickness smaller than 2 mm



With filler material



### Rated values

material thickness, mm	0,5	1,0	1,5	2,0
current, A	10-30	40-60	60-90	100-130
electrode diameter, mm	1,0	1,6	1,6	1,6
possible filler material diameter, mm	1,0	2,0	2,0	2,5

## MAINTENANCE

The welding object has to be dry; the gas shield may become weaker in wind.

The welding equipment has to be protected against hard rain. When necessary the equipment is cleaned with clean dry compressed air and all connections are checked.

The amount of use and the working conditions

should be taken into consideration in the maintenance of the machine. Careful use and preventive maintenance will ensure troublefree operation without unforeseeable service interruptions.

IN CASE OF PROBLEMS CONTACT THE KEMPPI WORKS IN LAHTI, FINLAND OR YOUR KEMPPI-DEALER.

Discontinued product

---

# GUARANTEE

The machines produced and products represented by Kemppi Oy are guaranteed against defects in material or manufacture. Within the limits of the guarantee the defective part will be replaced by a new one, or when possible, repaired free of charge. The guarantee is valid for one year provided that the machine is used in one-shift work. The guarantee does not compensate for damage

due to improper use, neglect or normal wear. Possible travelling costs or freight or postage charges are not covered by the Kemppi guarantee. Guarantee repairs shall be carried out only by Kemppi authorised representative. In case guarantee repair is demanded a certificate about validity of guarantee has to be presented.

Discontinued  
product