

# KEMPOTIG 50

9938

KÄYTTÖOHJE  
BRUKSANVISNING  
OPERATION INSTRUCTIONS  
GEBRAUCHSANWEISUNG  
GEBRUIKSAANWIJZING  
MANUEL D'UTILISATION

1927300

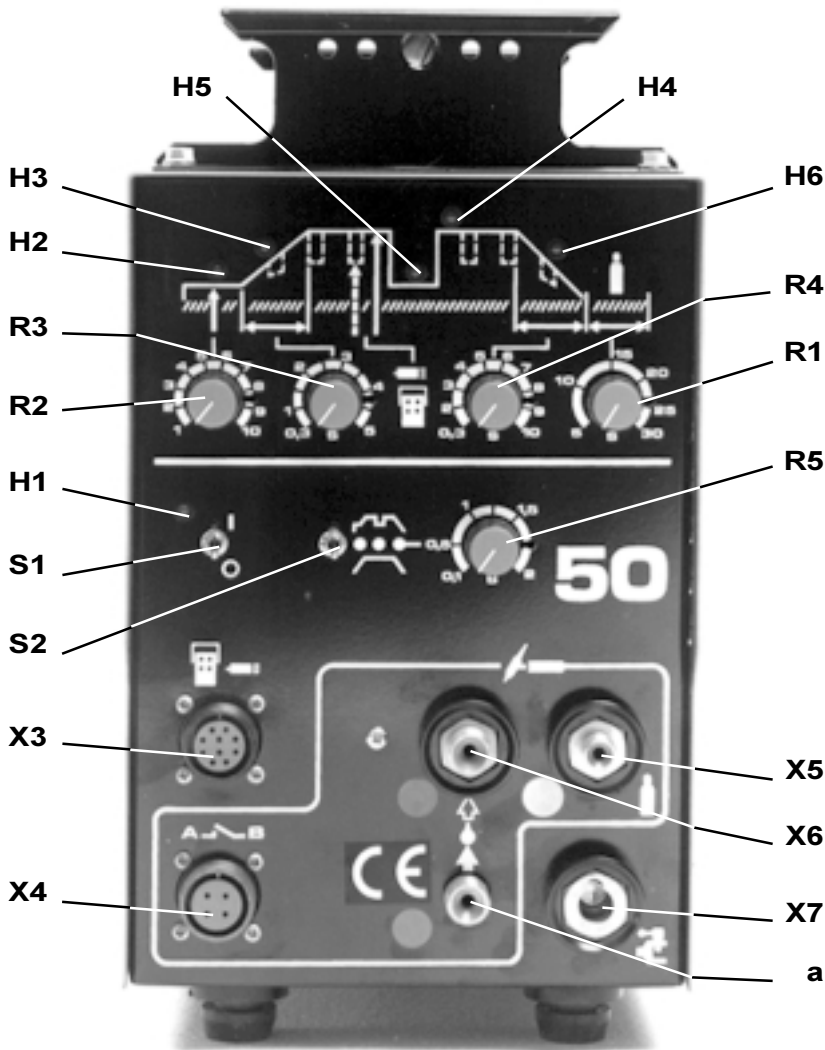


Lue ja perehdy tähän ohjeeseen ennen hitsauskoneen käyttöönottoa !  
Läs noga igenom denna bruksanvisningen före bruket av svetsmaskinen !  
Read carefully these instructions before you use the welding machine !  
Bitte, lesen Sie diese Gebrauchsanweisungen vor Gebrauch der Schweiß-  
maschine !  
Lees deze gebruiksaanwijzing aandachtig door voor u de lasmachine in  
gebruik neemt !  
Veuillez lire et appliquer ces instructions avant utilisation de la machine !



**KEMPPI**

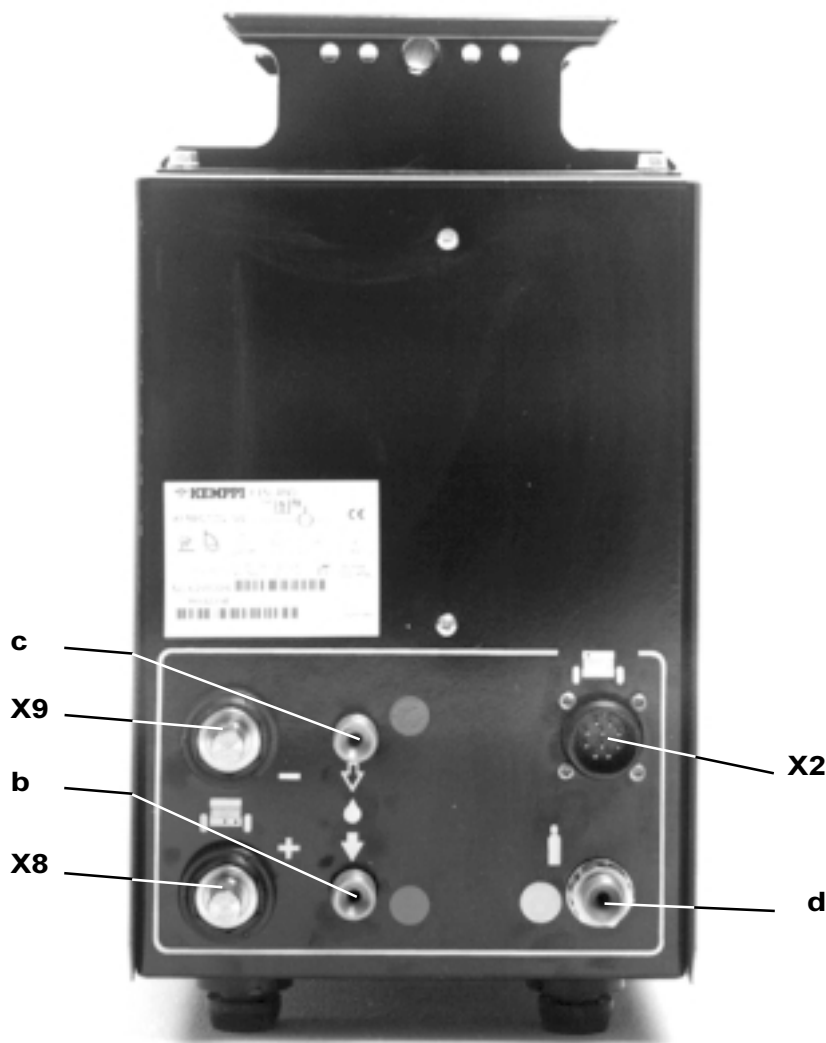
# Käyttösaätimet ja liittimet, Manöverorgan och anslutningar Operation control and connectors, Bedienungselemente und anschlüsse Bedieningselementen en aansluitingen, Commandes et connecteurs



- R3** Aloitus-slope ajan säätö  
Inställning för up-slope tid  
Up-slope control  
Einstellung für Stromanstiegzeit (up-Slope)  
Instelling voor stroomstijgtijd (up-slope)  
Réglage temps montée en intensité
- R4** Lopetus-slope ajan säätö  
Inställning för down-slope tid  
Down-slope control  
Einstellung für Stromabsenkzeit (down-Slope)  
Instelling voor stroomdaaltijd (down-slope)  
Réglage temps d'évanouissement
- R5** Pistehitsausajan säätö  
Inställning för punktsvetstid  
Control for spot welding time  
Einstellung für Punktschweißzeit  
Instelling voor puntlastijd  
Réglage temps soudage par points
- S1** I/O Kytkin  
I/O Brytare  
I/O Switch  
I/O Schalter  
I/O Schakelaar  
I/O Commutateur TIG/ARC
- S2** Minilog-valintakytkin  
Minilog-väljare  
Selecting switch for Minilog  
Wahlschalter für Minilog  
Keuzeschakelaar voor Minilog  
Sélecteur Minilog
- X2** Ohjauksenliitännä  
Anslutning av manöverspänning  
Control voltage connection  
Steuerspannungsanschluß  
Stuurspanningsaansluiting  
Connecteur câble de commande
- X3** Kaukosäätimen liitännä  
Anslutning av fjärrreglage  
Connector of remote control  
Fernregleranschluß  
Afstandsbedieningsaansluiting  
Connecteur commande à distance
- X4** Ohjauksliitännä, hitsauspoltin  
Manöveranslutning, svetsbrännare  
Control connection, welding torch  
Steueranschluß, Schweißbrenner  
Stuuraansluiting, lasbrander  
Connecteur gâchette torche
- X5** Kaasu-/hitsausvirtaliitännä, hitsauspoltin  
Gas-/svetsströmanslutning, svetsbrännare  
Gas-/welding current connection, welding torch  
Gas-/Schweißstromanschluß, Schweißbrenner  
Gas/lasstroomaansluiting, lasbrander  
Connecteur courant de soudage / gaz / torche
- X6** Neste-/hitsausvirtaliitännä, hitsauspoltin  
Vätske-/svetsströmanslutning, svetsbrännare  
Liquid-/welding current connection, welding torch  
Flüssigkeit-/Schweißstromanschluß, Schweißbrenner  
Vloeistof-/lasstroomaansluiting, lasbrander  
Connecteur courant de soudage/liquide/ torche
- X7** Paluukaapelliitännä  
Anslutning av återledare  
Connection of return cable  
Anschluß des Stromrückleitungskabels  
Aansluiting van de stroomterugvoer kabel  
Connecteur câble de masse

- H1** I/O Merkkivalo  
I/O Signallampa  
I/O Signal lamp  
I/O Signallampe  
I/O Signaallamp  
I/O Lampe-témoin TIG/ARC
- H2** Perusvirran merkkivalo  
Signallampa för grundström  
Signal lamp for basic current  
Signallampe für Grundstrom  
Signaallamp voor grondstroom  
Lampe-témoin courant de base
- H3** Aloitus-slopen merkkivalo  
Signallampa för up-slope  
Signal lamp for up-slope  
Signallampe für Stromanstiegzeit (up-Slope)  
Signaallamp voor stroomstijgtijd (up-slope)  
Lampe-témoin de montée en intensité
- H4** Hitsausvirran merkkivalo  
Signallampa för svetsström  
Signal lamp for welding current  
Signallampe für Schweißstrom  
Signaallamp voor lasstroom  
Lampe-témoin courant de soudage

- H5** Taukoperusvirran merkkivalo  
Signallampa för pausgrundström  
Signal lamp for pause basic current  
Signallampe für Pausengrundstrom  
Signaallamp voor pauze-grondstroom  
Lampe-témoin courant bas
- H6** Lopetus-slopen merkkivalo  
Signallampa för down-slope  
Signal lamp for down-slope  
Signallampe für Stromabsenkzeit (down-Slope)  
Signaallamp voor stroomdaaltijd (down-slope)  
Lampe-témoin évanouissement
- R1** Jälkikaasuajan säätö  
Inställning för gasefterströmtid  
Post gas time control  
Einstellung für Gasnachströmungszeit  
Instelling voor gasnastroomtijd  
Réglage temps postgaz
- R2** Perusvirran säätö  
Inställning för grundström  
Basic current control  
Einstellung für Grundstrom  
Instelling voor grondstroom  
Réglage courant de base



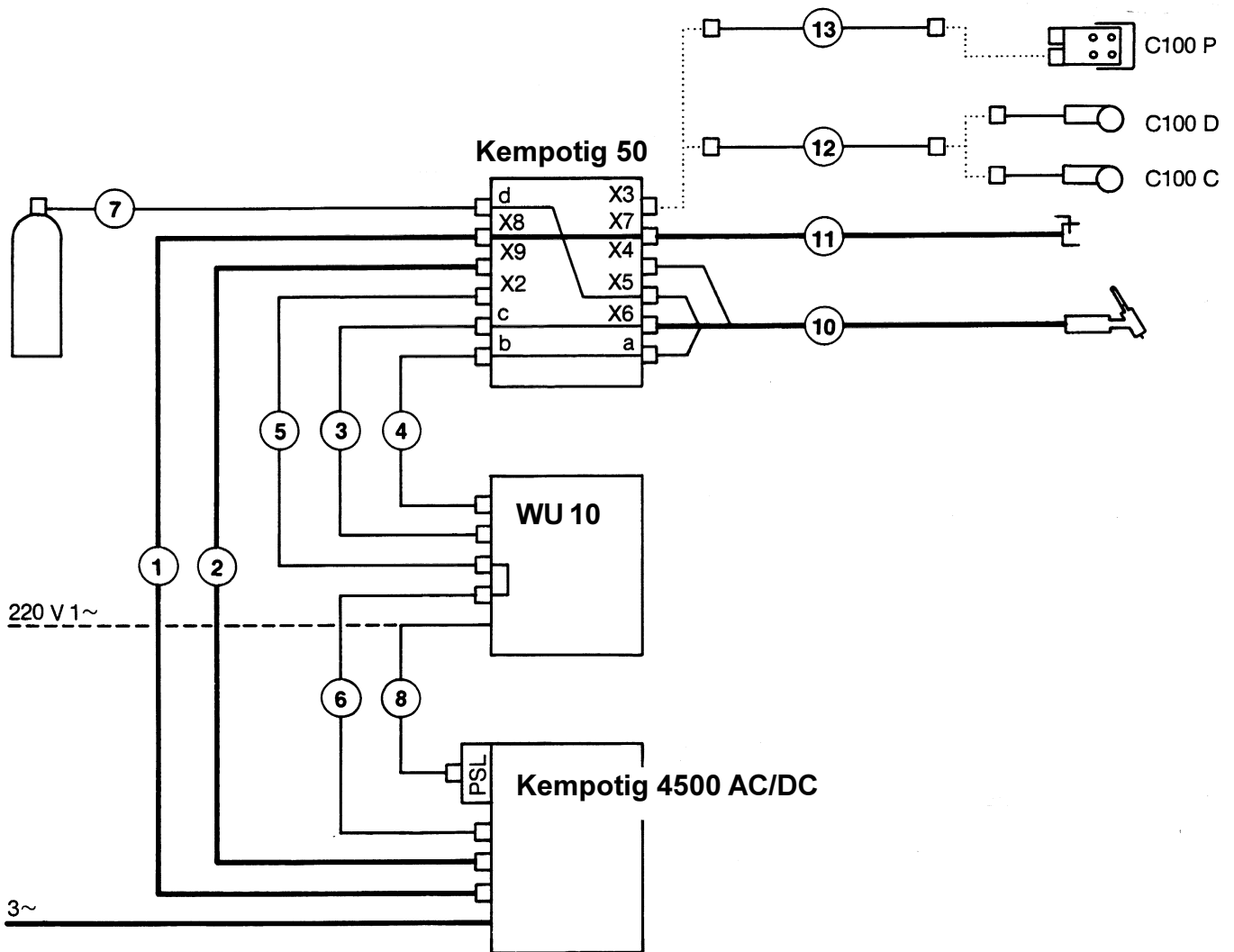
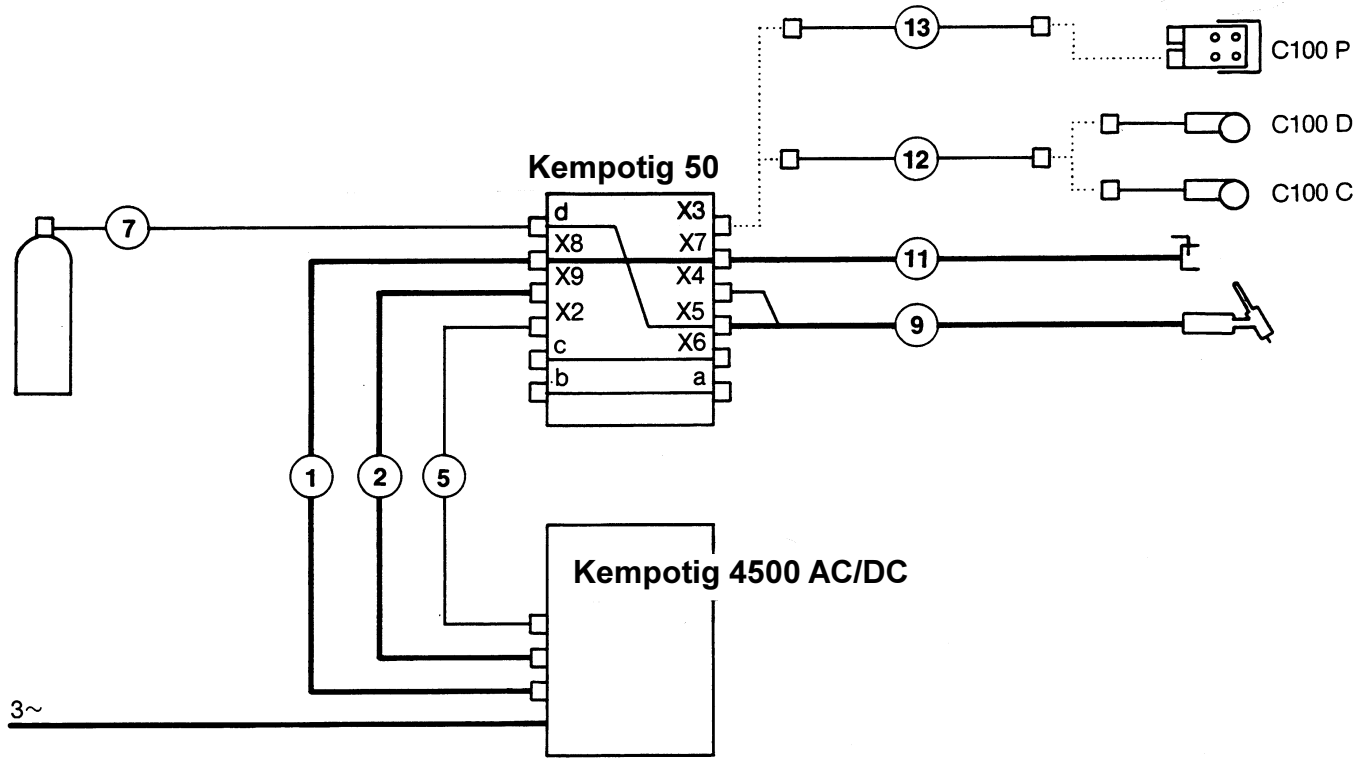
4. Jäähdytysnesteletku, syöttö  
Kylvätskeslang, inmatning  
Cooling liquid hose, supply  
Kühlflüssigkeitschlauch, einlauf  
Vloeistofslang, toevoer  
Alimentation liquide de refroidissement
5. Ohjauskaapeli  
Manöverkabel  
Control cable  
Steuerkabel  
Stuurkabel  
Câble de commande
6. Ohjauskaapeli  
Manöverkabel  
Control cable  
Steuerkabel  
Stuurkabel  
Câble de commande
7. Suojakaasuletku  
Skyddsgasslang  
Shielding gas hose  
Schutzgasschlauch  
Beschermgasslang  
Tuyau gaz de protection
8. WU:n verkkoliitäntäjohto  
Nätkabel för WU  
Mains cable for WU  
Netzkabel voor WU  
Câble d'alimentation pour WU
9. TIG-poltin, kaasujäähdytteinen  
TIG-brännare, gaskyld  
TIG-torch, gas-cooled  
WIG-Brenner, gasgekühlt  
WIG-brander, gasgekoeld  
Torche Tig, refroidie gaz
10. TIG-poltin, nestejäähdytteinen  
TIG-brännare, vätskeyld  
TIG-torch, liquid-cooled  
WIG-Brenner, flüssigkeitsgekühlt  
WIG-brander, vloeistofgekoeld  
Torche Tig, refroidie par liquide

11. Paluuvirtakaapeli  
Återledare  
Retur cable  
Stromrückleitungskabel  
Stroomterugvoerkabel  
Câble de masse
12. Kaukosäätövälikaapeli  
Mellankabel för fjärreglage  
Interconnection cable for remote control  
Zwischenkabel für Fernregelung  
Tussenkabel voor afstandsbediening  
Câble intermédiaire pour commande à distance
13. Kaukosäätövälikaapeli  
Mellankabel för fjärreglage  
Interconnection cable for remote control  
Zwischenkabel für Fernregelung  
Tussenkabel voor afstandsbediening  
Câble intermédiaire pour commande à distance

- 1-7. Toimitetaan välikaapelinippuna  
Levereras som mellankabelbunt  
Delivery as interconnection cable bundle  
Lieferung als Zwischenkabelbündel  
Levering als tussenkabelbundel  
Livré en un faisceau

- X8** Hitsausjänniteliitäntä, + napa  
Anslutning av svetskabel, pluspol  
Welding voltage connection, positive  
Schweißspannungsanschluß, Pluspol  
Lassspanningsaansluiting, pluspool  
Connecteur tension de soudage, positif
- X9** Hitsausjänniteliitäntä, – napa  
Anslutning av svetskabel, minuspol  
Welding voltage connection, negative  
Schweißspannungsanschluß, Minuspol  
Lassspanningsaansluiting, minpool  
Connecteur tension de soudage, négatif
- a** Jäähdytysnesteletku, hitsauspoltin  
Anslutning för kylvätska, svetsbrännare  
Cooling liquid connection, welding  
Anschluß für Kühlflüssigkeit, Schweiß-  
brenner  
Aansluiting voor koelvloeistof, lasbrander  
Connecteur liquide refroidissement/  
torche
- b** Jäähdytysnesteletku, syöttö  
Anslutning för kylvätska, inmatning  
Cooling liquid connection, supply  
Anschluß für Kühlflüssigkeit, Einlauf  
Aansluiting voor koelvloeistof, toevoer  
Connecteur alimentation liquide de  
refroidissement

- c** Jäähdytysnesteletku, paluu  
Anslutning för kylvätska, retur  
Cooling liquid connection, return  
Anschluß für Kühlflüssigkeit, Rücklauf  
Aansluiting voor koelvloeistof, retour  
Connecteur retour liquide de  
refroidissement
- d** Suojakaasuletku, syöttö  
Anslutning för skyddsgas, inmatning  
Connection for shielding gas, supply  
Anschluß für Schutzgas, Einlauf  
Aansluiting voor beschermgas, toevoer  
Connecteur alimentation gaz de protection
1. Hitsausvirtakaapeli, + napa  
Svetsströmkabel, pluspol  
Welding current cable, positive  
Schweißstromkabel, Pluspol  
Lasstroomkabel, pluspool
  2. Hitsausvirtakaapeli, – napa  
Svetsströmkabel, minuspol  
Welding current cable, negative  
Schweißstromkabel, Minuspol  
Lasstroomkabel, minpool
  3. Jäähdytysnesteletku, paluu  
Kylvätskeslang, retur  
Cooling liquid hose, return  
Kühlflüssigkeitschlauch, Rücklauf  
Vloeistofslang, retour  
Tuyau retour liquide de refroidissement



**Suomi**

Käyttösäätimet ja liittimet .....	2
Käyttöturvallisuus .....	6
Takuuehdot .....	6
Yleistä .....	7
Tekniset arvot .....	7
Säätimet .....	7
Käyttötavat .....	7
Huolto .....	7

**Svenska**

Manöverorgan och anslutningar .....	2
Driftsakerhet .....	8
Garantivillkor .....	8
Tekniska data .....	9
Allmänt .....	9
Manöverorgan .....	9
Tillämpning .....	9
Service .....	9

**English**

Operation control and connectors .....	2
Operation safety .....	10
Terms of guarantee .....	10
General .....	10
Technical data .....	11
Control devices .....	11
Operation ways .....	11
Maintenance .....	11

**Deutsch**

Bedienungselemente und anschlüsse .....	2
Betriebssicherheit .....	12
Garantiebedingungen .....	12
Allgemeines .....	13
Technische Daten .....	13
Bedienungselemente .....	13
Betriebsart .....	13
Wartung .....	13

**Nederlands**

Bedieningselementen en aansluitingen .....	2
Veilige werking .....	14
Garantie voorwaarden .....	14
Algemeen .....	15
Technische gegevens .....	15
Bedieningselementen .....	15
Werkwijze .....	15
Onderhoud .....	15

**Français**

Commandes et connecteurs .....	2
Consignes de sécurité .....	16
Conditions de garantie .....	16
Français .....	17
Caractéristiques techniques .....	17
Dispositifs de commande .....	17
Mode de fonctionnement .....	17
Entretien .....	17

## OPERATION SAFETY

### Never watch the arc without a face shield designed for arc welding!

The arc damages unprotected eyes!

The arc burns unprotected skin!

### Be careful for reflecting radiation of arc!

### Protect yourself and the surroundings against the arc and hot spray!

### Don't use power source for melting of frozen pipes!

### Remember general fire safety!

Pay attention to the fire safety regulations. Welding is always classified as a fire risk operation.

Welding where there is flammable or explosive material is strictly forbidden.

If it is essential to weld in such an area remove inflammable material from the immediate vicinity of the welding site.

Fire extinguishers must always be on site where welding is taking place.

**Note!** Sparks may cause fire many hours after completion of welding.

### Watch out for the mains voltage!

Take care of the cables - the connection cable must not be compressed, touch sharp edges or hot work pieces.

Faulty cables are always a fire risk and highly dangerous.

Do not locate the welding machine on wet surfaces.

Do not take the welding machine inside the work piece (i.E. In containers, cars etc.)

### Ensure that neither you nor gas bottles or electrical equipment are in contact with live wires or connections!

Do not use faulty welding cables.

Isolate yourself by using dry and not worn out protective clothes.

Do not weld on wet ground.

Do not place the TIG torch or the welding cables on the power source or other electrical equipment.

### Be careful of TIG ignition pulse voltage!

Don't press on torch switch, if the torch is not directed towards work piece.

Don't use wet TIG torch.

Do not use damaged TIG torch.

### Watch out for the welding fumes!

Ensure that there is sufficient ventilation.

Follow special safety precautions when you weld metals which contain lead, cadmium, zinc, mercury or beryllium.

### Note the danger caused by special welding jobs!

Watch out for the fire and explosion danger when welding container type work pieces.

## TERMS OF GUARANTEE

KEMPPI Oy provides a guarantee for products manufactured and sold by them if defects in manufacture and materials occur. Guarantee repairs must be carried out only by an Authorized KEMPPI Service Agent. Packing, freight and insurance costs to be paid by third party. The guarantee is effected on the day of purchase. Verbal promises which do not comply with the terms of guarantee are not binding on guarantor.

### Limitations on guarantee

The following conditions are not covered under terms of guarantee: defects due to natural wear and tear, non-compliance with operating and maintenance instructions, connection to incorrect or faulty supply voltage (including voltage surges outside equipment spec.), incorrect gas pressure, overloading, transport or storage damage, fire or damage due to natural causes i.e. lightning or flooding.

This guarantee does not cover direct or indirect travelling costs, daily allowances or accommodation.

**Note:** Under the terms of the guarantee, welding torches and their consumables, feed, drive rollers and feeder guide tubes are not covered. Direct or indirect damage due to a defective product is not covered under the guarantee. The guarantee is void if changes are made to the product without approval of the manufacturer, or if repairs are carried out using non-approved spare parts.

The guarantee is also void if repairs are carried out by non-authorized agents.

### Guarantee period

The guarantee is valid for one year from date of purchase, provided that the machine is used for single-shift operation.

The guarantee period for double and treble shift operation is six months and four months respectively.

### Undertaking guarantee repairs

Guarantee defects must be informed to KEMPPI or authorised KEMPPI Service Agents within the guarantee period. Before any guarantee work is undertaken, the customer must provide proof of purchase and serial number of the equipment in order to validate the guarantee.

The parts replaced under the terms of guarantee remain the property of KEMPPI.

Following the guarantee repair, the guarantee of the machine or equipment, repaired or replaced, will be continued to the end of the original guarantee period.

## GENERAL

**Kempotig 50 is AC/DC-TIG ignition and control unit. It includes connections for gas- as well as water-cooled torches.**

**Kempotig 50 unit has versatile operation ways. Among others stepless remote control of welding current with up- and down slope, Minilog-function as well as time control of shielding gas use enable even the most demanding welds.**

## TECHNICAL DATA

Kempotig 50		
Working voltage *)		30 V 50/60 Hz
Rated power		35 VA
Load capacity	ED 60 % ED 100 %	500 A 387 A
Dimension	length width height	400 mm 215 mm 400 mm
Weight		16 kg
Degree of protection		IP 23

\*) Note! Supply through safety isolating transformer.

**The products meet conformity requirements for CE marking.**

## CONTROL DEVICES

### Main switch

- in the **O**-position of the switch, the power source is directly controlled by the local- or remote control
- in the **I**-position of the switch the ignition and control circuits of the Kempotig 50 are switched on.

Welding and pulse current: remote control devices from C-series.

Basic current control	1 – 10
Up-slope control	0 – 5 s
Down-slope control	0 – 10 s
Spot welding time control	0 – 2 s
Potentiometer for post gas time	5 –30 s (Automatically controlled gas valve.)

### Torch switch:

- long signal > 0,7 s
- short signal < 0,7 s

### Selecting switch of control method:

- continuous welding
- spot welding
- Minilog control

## OPERATION WAYS

### Continuous welding

Immediately the torch switch is depressed the gas flow begins and the ignition pulse is developed. When the welding arc is established the welding current increases to a value set by the remote control at a uniform rate, dependent upon the adjusted up-slope time.

If the arc does not ignite, the switch must be released and depressed again.

When the switch is released the welding current decreases to zero at a uniform rate dependent upon the adjusted

down-slope time after which the adjusted post gas flow time begins.

### Spot welding

The operation is similar with the continuous welding but the spot time from beginning of up-slope to beginning of down-slope can be adjusted.

The adjusted time for post gas flow begins when the spot time is at the end and the switch released.

### Minilog control

The Minilog programme is controlled by signals from the torch switch given by the operator. The signals are termed a "short signal" and a "long signal".

When the torch switch is depressed gas flow begins. After the long signal time has elapsed the torch switch can be released, ignition pulses are then developed and a welding arc is established at a current level dependent upon the basic current potentiometer setting.

A short signal is then required to slope up the adjusted welding current, determined by the remote control.

The current is changed by means of further short signals between welding current and basic current settings.

To end the welding operation a long signal must be given after which the current decreases to zero from the welding or basic current level over the adjusted down slope time. The adjusted post gas flow time then begins.

It is possible to check the sequence of operations of the Minilog programme, with the LED lamps fitted to the fascia panel of the Kempotig 50 unit.

### Long pulse

Welding current can be pulsed with the control device C 100P.

The pulsing also operates during down-slope, however not when finishing from the basic current.

## MAINTENANCE

The amount of use and the working conditions should be taken into consideration in the maintenance of the Kempotig 50 equipment. Careful use and preventive maintenance will ensure troublefree operation without unforeseeable service interruptions.

The unit can be placed independently or on the transport trolley of the MULTISYSTEM.

In order to reduce the dust disturbances we recommend the siting height about 70 cm from the floor.

The unit should be protected against hard rain.

The dust from inside the unit can be blown out with dry compressed air.

The connectors should be tightened at regular intervals.

**When cleaning with dry compressed air, always protect your eyes with proper eye protection!**

**In case of problems contact the KEMPPI works or your KEMPPI-dealer.**