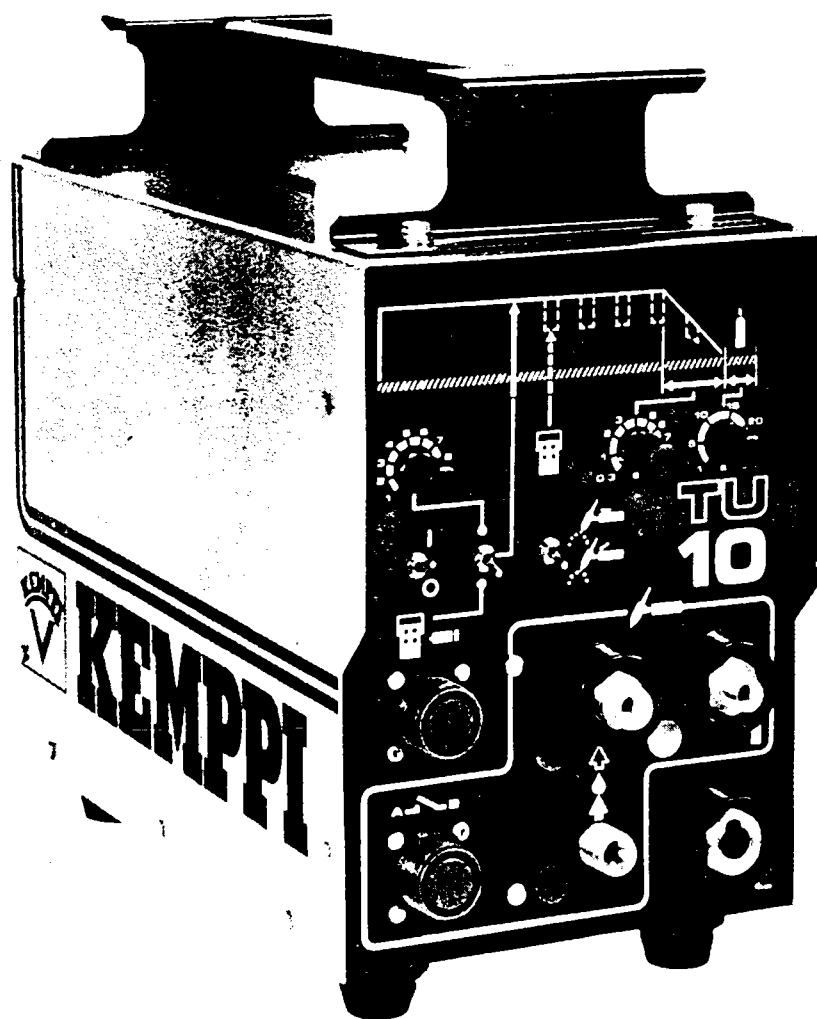


# KEMPPi

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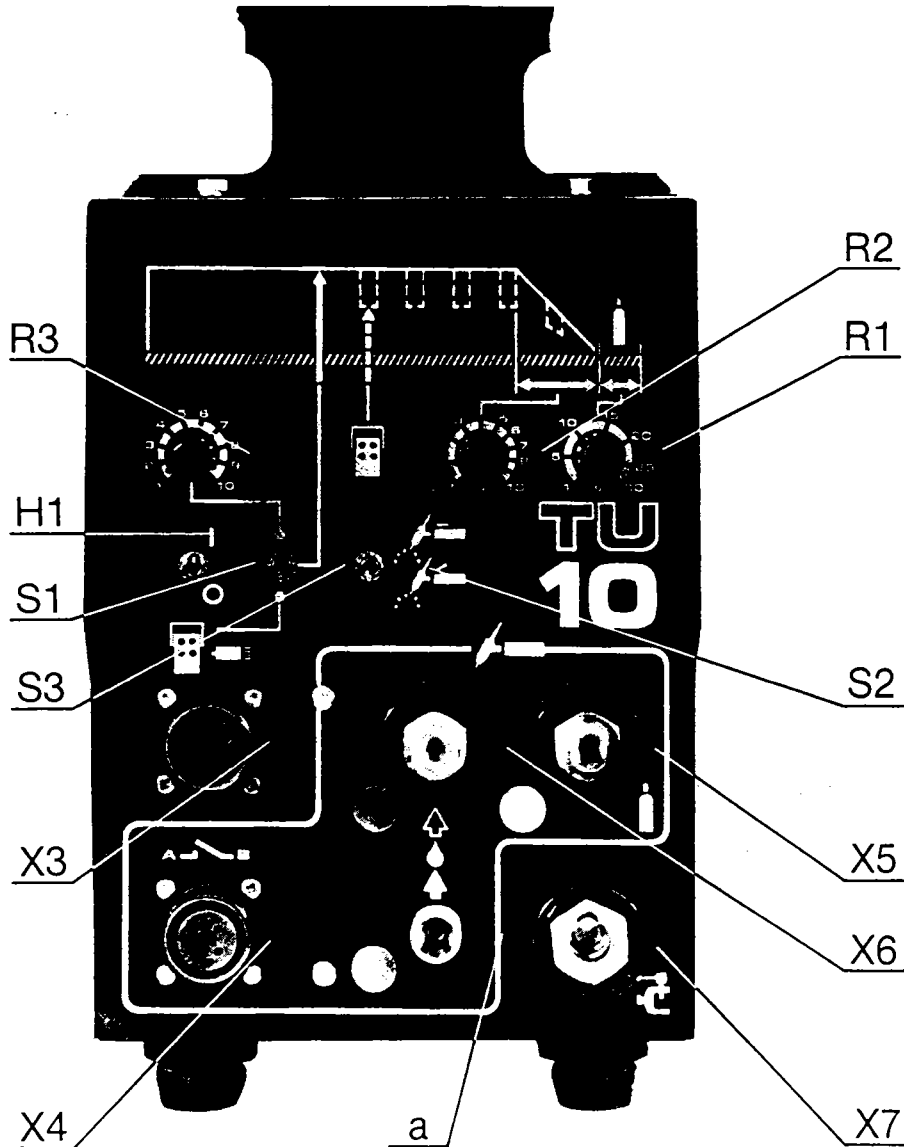
**KÄYTTÖOHJE  
BRUKSANVISNING  
OPERATION INSTRUCTIONS  
GEBRAUCHSANWEISUNG**



# TU 10

Discontinued  
product

**KÄYTTÖSÄÄTIMET JA LIITTIMET  
MANÖVERORGAN OCH ANSLUTNINGAR  
OPERATION CONTROL AND CONNECTORS  
BEDIENUNGSELEMENTE UND ANSCHLÜSSE**



**H1** I/O Merkkivalo  
I/O Signallampa  
I/O Signal lamp  
I/O Signallampe

**R1** Jälkikaasuajan säätö  
Inställning för gasefterströmtid  
Post gas time control  
Einstellung für Gasnachströmungszeit

**R2** Lopetus-slope ajan säätö  
Inställning för down-slope tid  
Down-slope control  
Einstellung für Stromabsenkzeit  
(down-Slope)

**R3** Hitsausvirran säätö  
Inställning för svetsström  
Welding current control  
Einstellung für Schweissstrom

**S1** I/O Kytin  
I/O Brytare  
I/O Switch  
I/O Schalter

**S2** Ohjaustavan valintakytkin  
Styrmetodväljare  
Selecting switch of control  
method  
Wahlschalter für Steuermethode

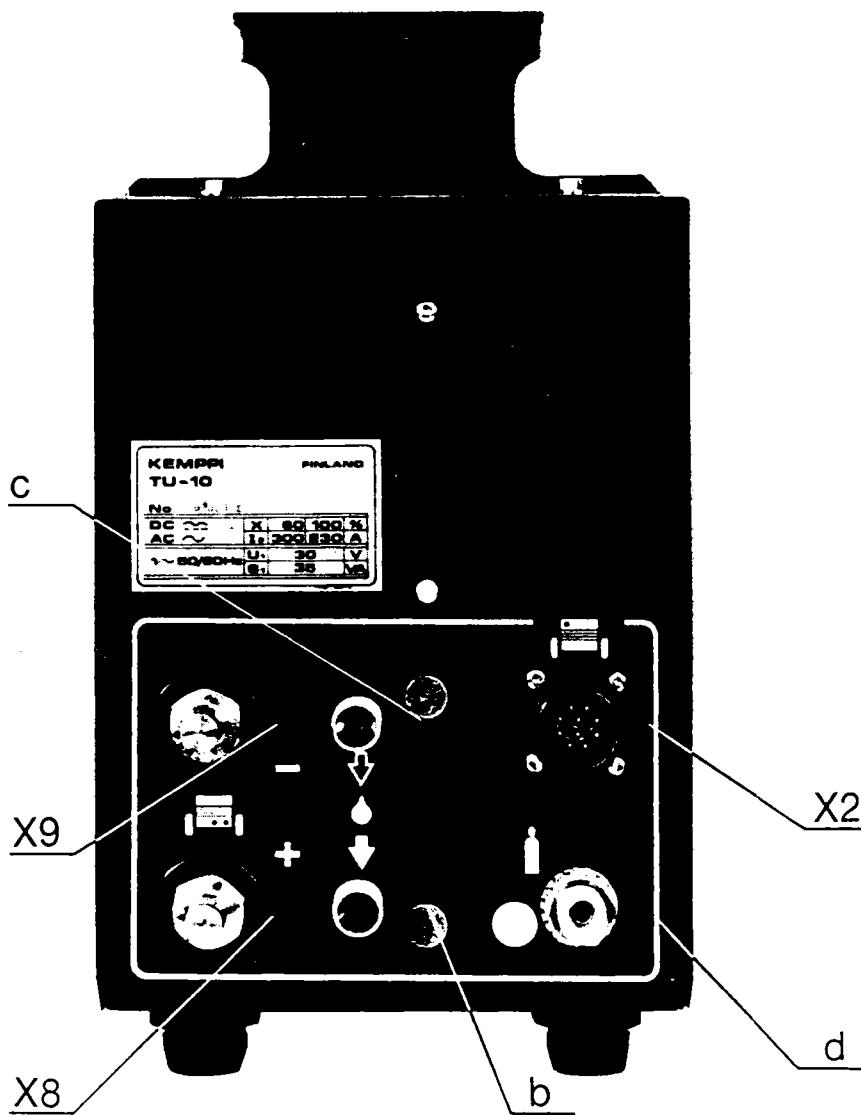
**S3** Lähi-/kaukosäädön valintakytkin  
Väljare för panel-/fjärreglering  
Selector switch for local/  
remote control  
Wahlschalter für Nah-/  
Fernregelung

**X2** Ohjausjänniteliitäntä  
Anslutning av manöverspänning  
Control voltage connection  
Steuerspannungsanschluss

**X3** Kaukosäätimen liitäntä  
Anslutning av fjärreglage  
Connector of remote control  
Fernregleranschluss

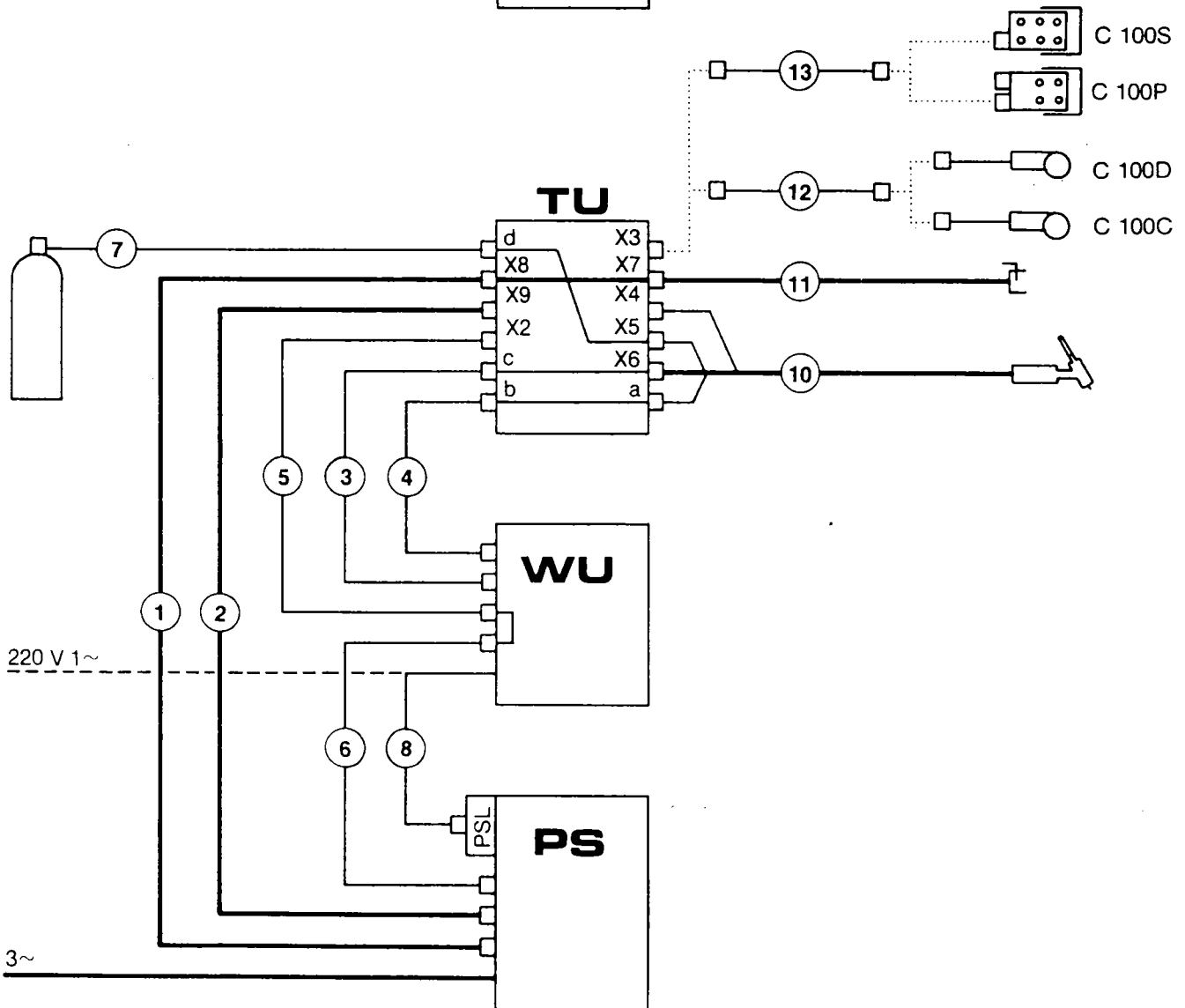
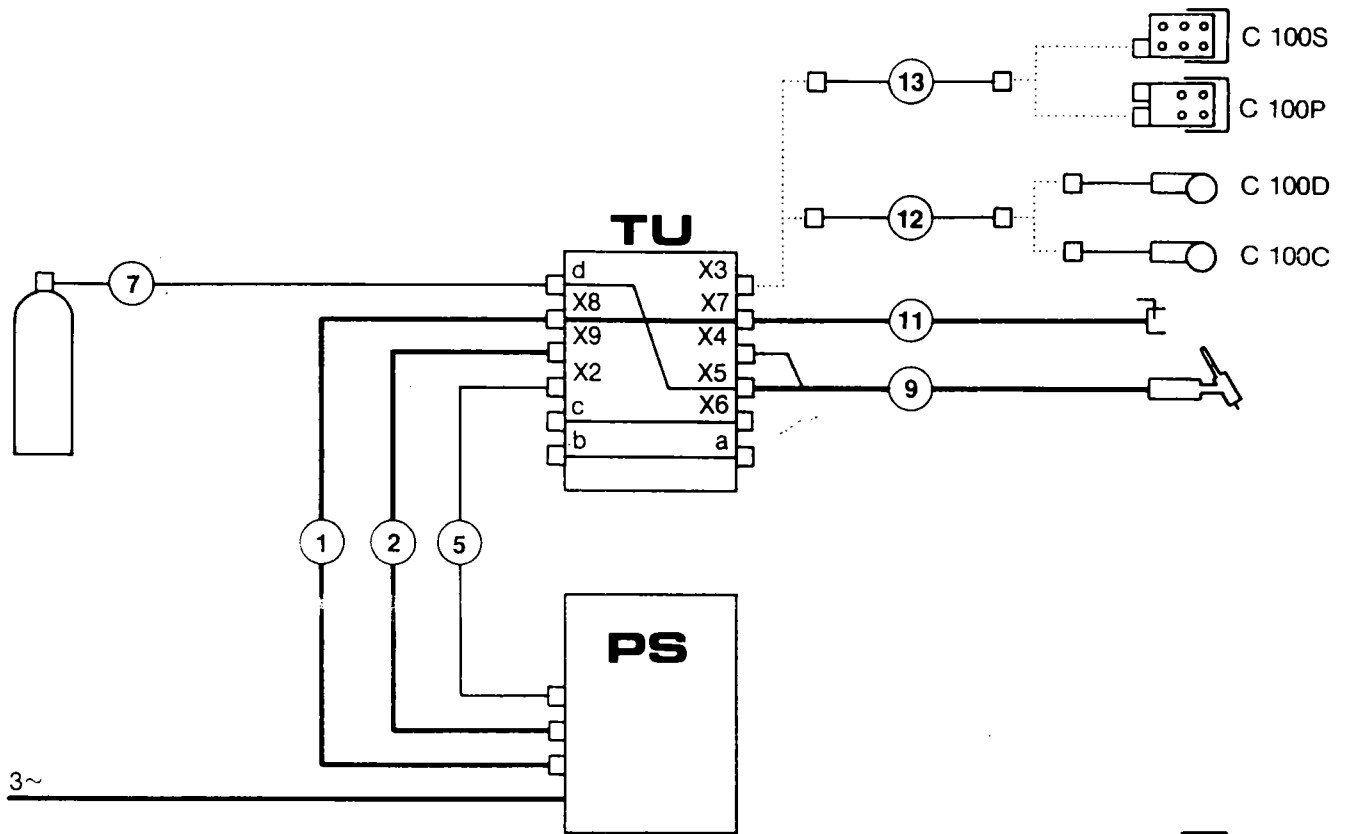
**X4** Ohjausliitäntä, hitsauspoltin  
Manöveranslutning, svetsbrännare  
Control connection, welding  
torch  
Steueranschluss, Schweiss-  
brenner

**X5** Kaasu-/hitsausvirtaliitäntä,  
hitsauspoltin  
Gas-/svetsströmanslutning,  
svetsbrännare  
Gas-/welding current  
connection, welding torch  
Gas-/Schweissstromanschluss,  
Schweissbrenner



1. Hitsausvirtakaapeli, +napa  
Svetsströmkabel, pluspol  
Welding current cable, positive  
Schweisstromkabel, Pluspol
  2. Hitsausvirtakaapeli, —napa  
Svetsströmkabel, minuspol  
Welding current cable, negative  
Schweisstromkabel, Minuspol
  3. Jäähdytysnesteletku, paluu  
Kylvätskeslang, retur  
Cooling liquid hose, return  
Kühlflüssigkeitschlauch, Rücklauf
  4. Jäähdytysnesteletku, syöttö  
Kylvätskeslang, inmatning  
Cooling liquid hose, supply  
Kühlflüssigkeitschlauch, Einlauf
  5. Ohjaukskaapeli  
Manöverkabel  
Control cable  
Steuerkabel
  6. Ohjaukskaapeli  
Manöverkabel  
Control cable  
Steuerkabel
  7. Suojakaasuletku  
Skyddsgasslang  
Shielding gas hose  
Schutzgasschlauch
  8. WU:n verkkoliitäntäjohto  
Nätkabel för WU  
Mains cable for WU  
Netzkabel für WU
  9. TIG-poltin, kaasujäähdytteinen  
TIG-brännare, gaskylid  
TIG-torch, gas-cooled  
WIG-Brenner, gasgekühlt
  10. TIG-poltin, nestejäähdytteinen  
TIG-brännare, vätsketyld  
TIG-torch, liquid-cooled  
WIG-Brenner, flüssigkeitsgekühlt
  11. Paluuvirtakaapeli  
Återledare  
Return cable  
Stromrückleitungskabel
  12. Kaukosäätövälikaapeli  
Mellankabel för fjärreglage  
Interconnection cable for remote control  
Zwischenkabel für Fernregelung
  13. Kaukosäätövälikaapeli  
Mellankabel för fjärreglage  
Interconnection cable for remote control  
Zwischenkabel für Fernregelung
- 1 - 7. toimitetaan välikaapelinippuna  
leverans som mellankabelbunt  
delivery as interconnection cable  
bundle  
Lieferung als Zwischenkabelbündel

- X9 Hitsausjänniteliitäntä, —napa  
Anslutning av svetskabel, minuspol  
Welding voltage connection, negative  
Schweissspannungsanschluss,  
Minuspol
- X6 Neste-/hitsausvirtaliitäntä,  
hitsauspoltin  
Vätska-/svetsströmanslutning,  
svetsbrännare  
Liquid-/welding current connection,  
welding torch  
Flüssigkeit-/Schweisstromanschluss,  
Schweiszbrenner
- X7 Paluukaapeliiliitäntä  
Anslutning av återledare  
Connection of return cable  
Anschluss des Stromrückleitungskabels
- X8 Hitsausjänniteliitäntä, +napa  
Anslutning av svetskabel, pluspol  
Welding voltage connection, positive  
Schweissspannungsanschluss, Pluspol
- a Jäähdytysnesteletöntä, hitsauspoltin  
Anslutning för kylvätska, svetsbrännare  
Cooling liquid connection, welding  
torch  
Anschluss für Kühlflüssigkeit,  
Schweiszbrenner
- b Jäähdytysnesteletöntä, syöttö  
Anslutning för kylvätska, inmatning  
Cooling liquid connection, supply  
Anschluss für Kühlflüssigkeit, Einlauf
- c Jäähdytysnesteletöntä, paluu  
Anslutning för kylvätska, retur  
Cooling liquid connection, return  
Anschluss für Kühlflüssigkeit, Rücklauf
- d Suojakaasuliitäntä, syöttö  
Anslutning för skyddsgas, inmatning  
Connection for shielding gas, supply  
Anschluss für Schutzgas, Einlauf



**Discontinued product**

THE **TU 10** IS AC/DC-TIG UNIT DESIGNED FOR USE WITH THE KEMPPI **MULTISYSTEM**. THE UNIT IS SUITABLE FOR USE WITH WATER- OR GAS-COOLED TIG-TORCHES.

THE **TU 10** DEVELOPES THE IGNITION PULSE REQUIRED FOR ESTABLISHING DC AND AC WELDING ARC AND CONTROLS THE WELDING CURRENT AND GAS FLOW. THE UNIT ALSO INCLUDES CONNECTIONS FOR REMOTE CONTROL AND COOLING.

## TECHNICAL DATA

Duty cycle	300 A 60 % ED 232 A 100 % ED
Connection/MULTISYSTEM*)	30 V 35 VA 50/60 Hz
Dimensions	190 x 290 x 400 mm
Weight	13 kg
Degree of protection	IP 33

\*) Note! Supply through safety isolating transformer.

The product meets 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 TU are switched on.

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

**Welding current control** scale 1 - 10

**Local-/remote control switch** 2 positions

**Continuous/hold -switch** 2 positions

**Down-slope control** scale 1 - 10 s

**Potentiometer for post gas time** 5 - 30 s.  
Automatically controlled gas valve.

## OPERATION WAYS

### Continuous



When the torch switch is depressed, the gas flow begins and the ignition pulse is developed. When the welding arc is established, the welding current gets the value set in the local or remote control potentiometer. If the TIG arc is not ignited the switch must be closed again. When the switch is opened the welding current decreases to zero during the adjusted slope time and the time for post gas flow begins.

**Discontinued  
product**



### Hold

When the welding torch switch is depressed, the gas flow begins.

When the switch is released, the ignition pulse is given and the arc is established.

To end the welding operation a signal must be given after which the current decreases to zero in the adjusted down-slope time.



### Long pulse

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

## MAINTENANCE

The amount of use and the working conditions should be taken into consideration in the maintenance of the TU 10 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 IN LAHTI, FINLAND OR YOUR KEMPPI-DEALER.**

## 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!**

**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.)

**Discontinued  
product**

**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 MIG gun or the welding cables on the power source or other electrical equipment.
- Don't press on MIG gun switch, if the gun is not directed towards work piece.

**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 accomodation.

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.

**Discontinued product**