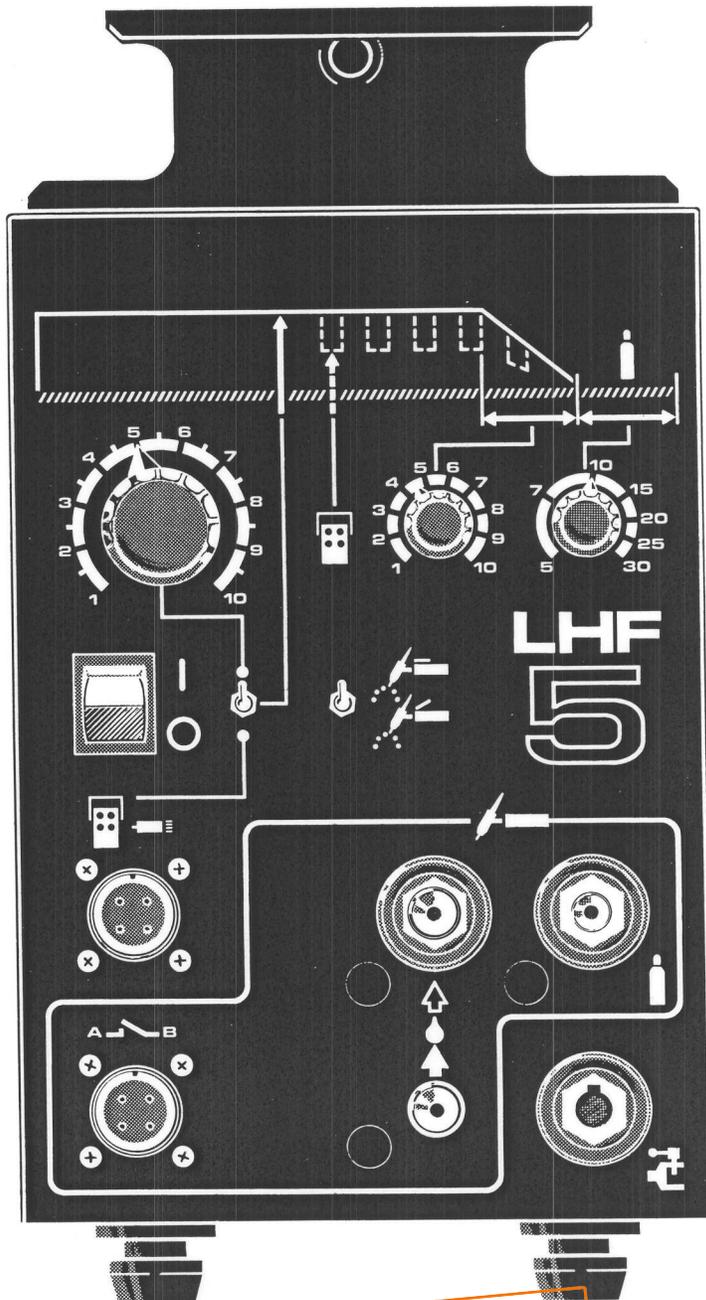


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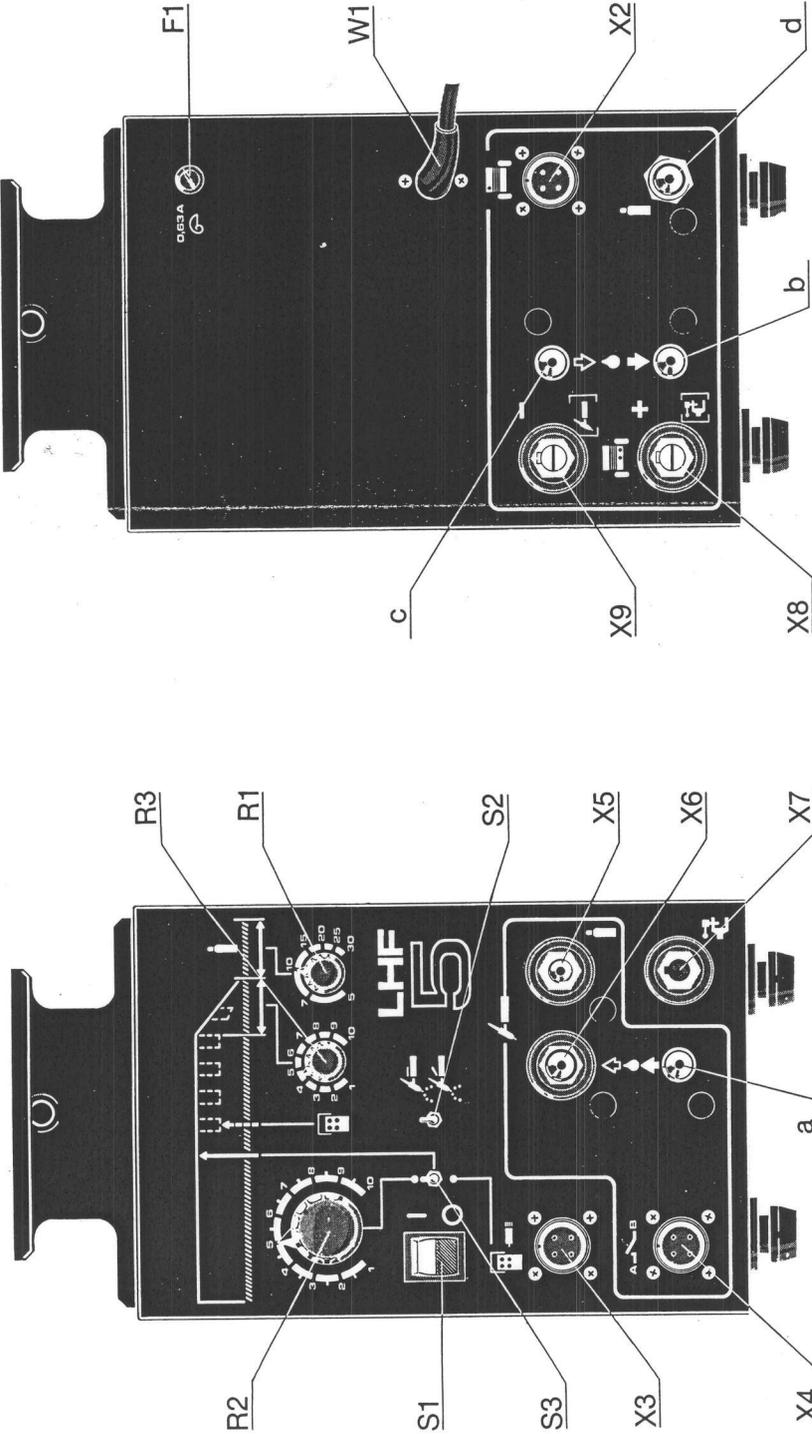
KÄYTTÖOHJE BRUKSANVISNING OPERATION INSTRUCTIONS GEBRAUCHSANWEISUNG

LHF 5



Discontinued
product

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



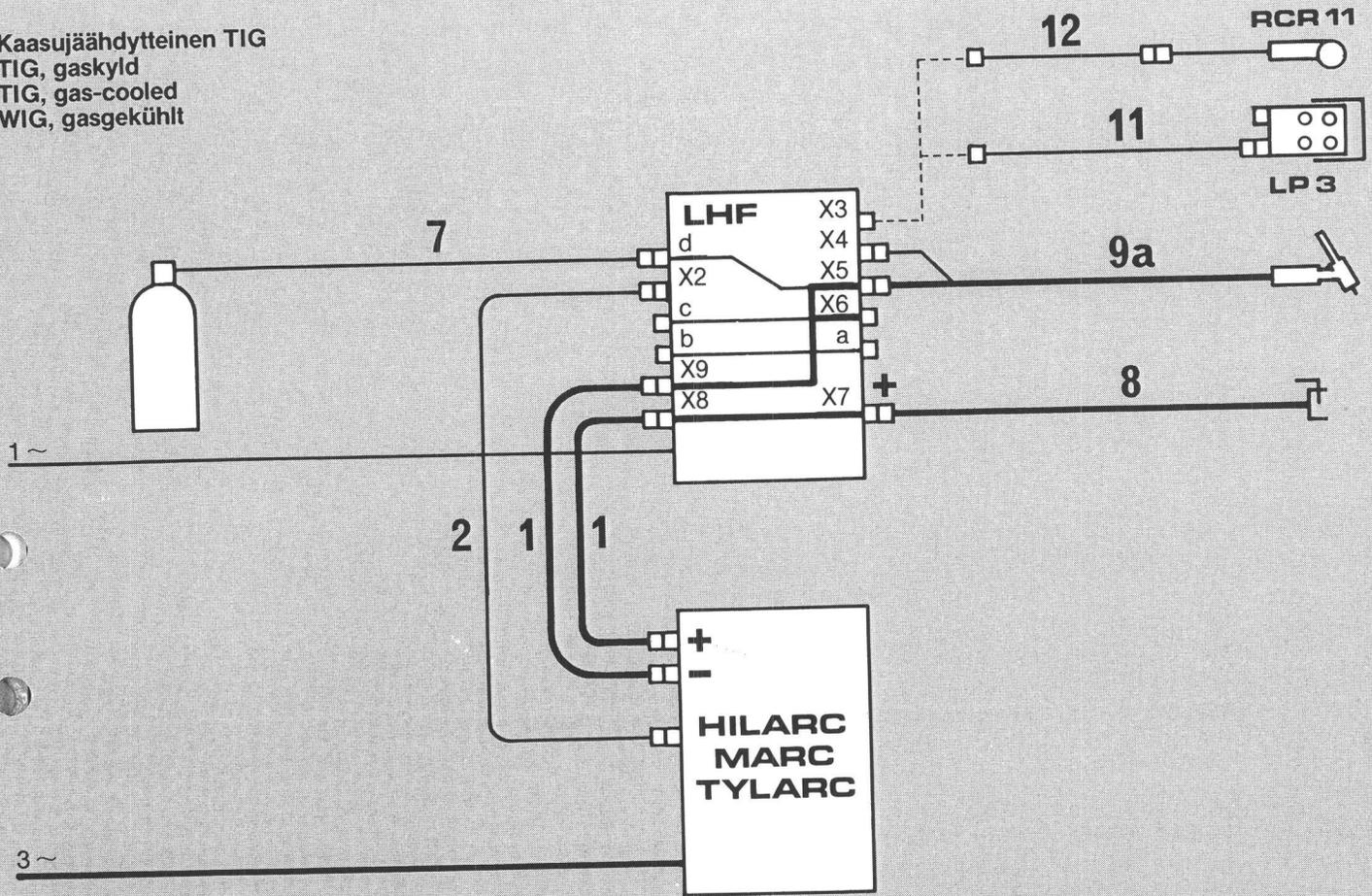
- F1** Sulake, 0,63 A (1,6 A, U_i = 110 V)
hidas I/O Blytare / Signallampa
Säkring, 0,63 A (1,6 A, U_i = 110 V)
trög I/O Schalter / Signallampe
- R1** Jälkikaasuajan säätö
Inställning för gasefterströmtid
Post gas time control
Einstellung für Gasnachströmungszeit
- R2** Hitsausvirran säätö
Inställning för sveitsström
Welding current control
Einstellung für Schweissstrom
- R3** Loppuslopeajan säätö
Inställning för down-slope tid
Down-slope control
Einstellung für Stromabsenkszeit (down-slope)
- S1** Sulake, 0,63 A (1,6 A, U_i = 110 V)
hidas I/O Blytare / Signallampa
Säkring, 0,63 A (1,6 A, U_i = 110 V)
trög I/O Schalter / Signallampe
- S2** Styrmetodväljäre
Sicherungs, 0,63 A
(1,6 A, U_i = 110 V) träge
- S3** Jälki-/kaukosäätöön valintakytkin
Väljäre för panel-/fjärrreglering
I/O Schalter / Signallampe
- W1** Verkkoilähtöjohto
Nätkabel
Netzkabel
- X2** Ohjauksenliittämät
Anslutning av manöverspänning
Control voltage connection
Steuerspannungsanschluss
- X3** Kaukosäätimen liittäjä
Anslutning av fjärrreglage
Connector of remote control
Fernregleranschluss
- X4** Ohjauksliittäjä, hitsauspolitin
Manöverslutning, sveitsbrännäre
Control connection, welding torch
Steueranschluss, Schweissbrenner
- X5** Kaasu-/hitsausvirraliittäjä, hitsauspolitin
Gas-/sveitsströmanslutning, sveitsbrännäre
Welding torch connection, welding torch
Wählschalter für Steuermethode
- X6** Neste-/hitsausvirraliittäjä, hitsauspolitin
Vätska-/sveitsströmanslutning, sveitsbrännäre
Liquid-/welding current connection, welding torch
Flüssigkeit-/Schweissstromanschluss, Schweissbrenner
- X7** Paluu-/hitsausvirraliittäjä
Anslutning av återledare
Connection of return cable
Anschluss des Stromrückleitungskabels
- X8** Hitsausjänniteläitäjä, +napa
Hitsauspolitin
Anslutning av sveitskabel, pluspol
Welding voltage connection, positive cable/welding current
Schweissspannungsanschluss, Pluspol
- X9** Hitsausjänniteläitäjä, -napa
Anslutning av sveitskabel, minuspol
Welding voltage connection, negative cable/Schweissspannungsanschluss, Minuspol

Discontinued product

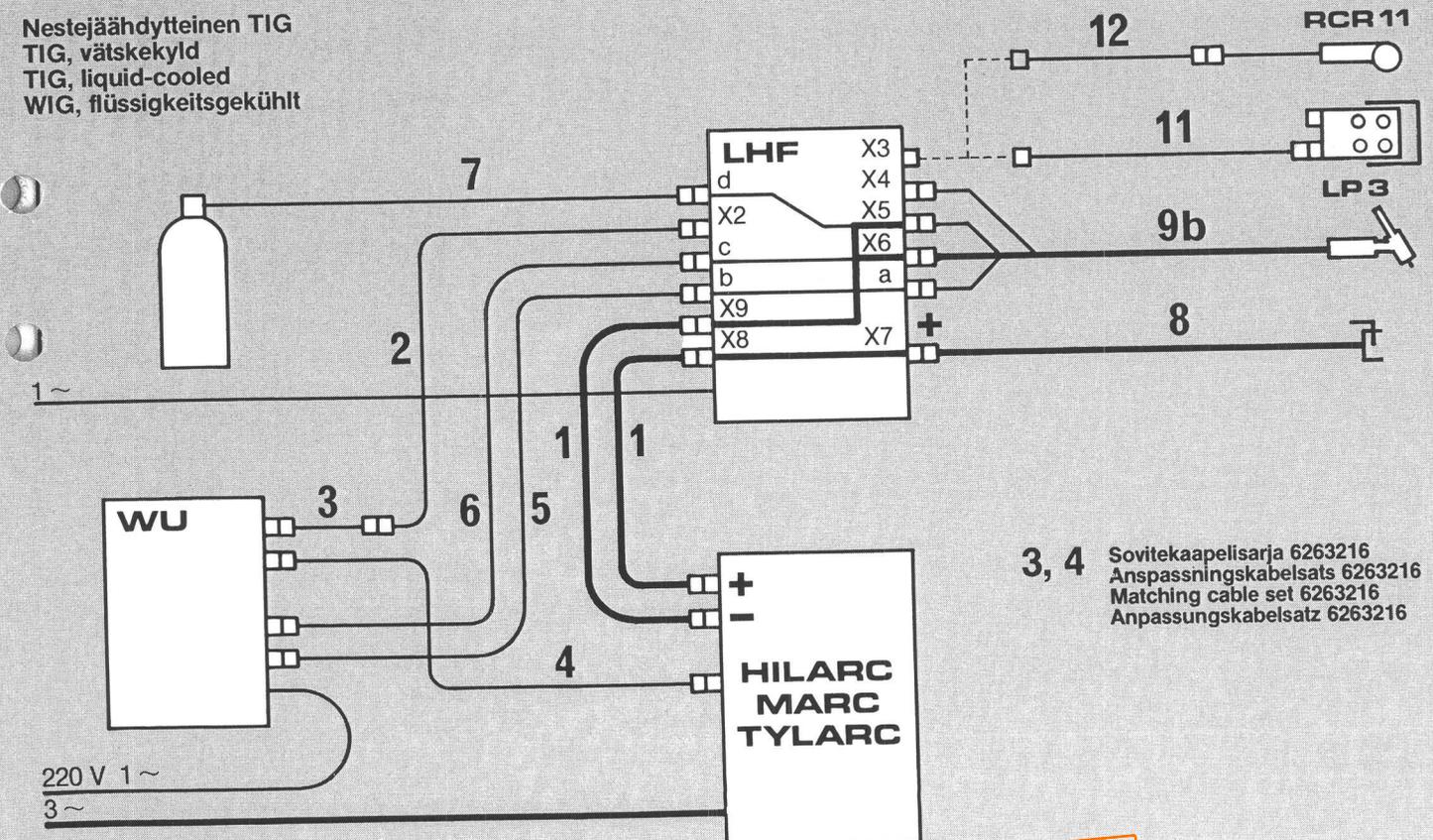
- 1** Hitsausvirtaakaapeli
Sveitsströmkabel
Welding current cable
Schweissstromkabel
- 2** Ohjaukskaapeli, 4-nap, järjesteimä
Manöverkabel, 4-poliigt system
Control cable, 4-poles system
Steuerkabel, 4-poliges System
- 3** Sovitekaapeli D, 10/4-nap, järjesteimä
Päättämiskaapeli D, 10/4-poliigt system
Main cable D, 10/4-poles system
Anpassungskabel D, 10/4-poliges System
- 4** Sovitekaapeli E, 10/4-nap, järjesteimä
Anpassingskabel E, 10/4-poliigt system
Matching cable E, 10/4-poles system
Anpassungskabel E, 10/4-poliges System
- 5** Jäähdytysnesteletku, syöttö
Kylvätskeslang, inmatning
Cooling liquid hose, supply
Kühlflüssigkeitsschlauch, Einlauf
R_{3/8} - R_{3/8}
R_{1/2} - R_{1/2}
R_{3/8} - R_{3/8}
- 6** Jäähdytysnesteletku, paluu
Kylvätskeslang, retur
Cooling liquid hose, return
Kühlflüssigkeitsschlauch, Rücklauf
R_{3/8} - R_{3/8}
R_{1/2} - R_{1/2}
R_{3/8} - R_{3/8}
- 7** Suojakaasuletku
Skyddsgasslang
Shielding gas hose
Schutzgasschlauch
R_{3/8}
R_{3/8}
R_{3/8}
- 8** Paluuvirtaakaapeli
Återledare
Return cable
Stromrückleitungskabel
- 9a** TIG-politin, kaasujäähdytteinen
TIG-brännäre, gaskyld
TIG-torch, gas-cooled
WIG-Brenner, gasgekühlt
- 9b** TIG-politin, nestejäähdytteinen
TIG-brännäre, vätskeyld
TIG-torch, liquid-cooled
WIG-Brenner, flüssigkeitsgekühlt
- 10** Pulkohitsauskaapeli
Kabel för elektronsveitsning
Cable for electroslag welding
Kabel für Elektroschweißen
- 11** Kaukosäätövälikkaapeli
Mellankabel för fjärrreglage
Interconnection cable for remote control
Zwischenkabel für Fernregelung
- 12** Kaukosäätövälikkaapeli
Mellankabel för fjärrreglage
Interconnection cable for remote control
Zwischenkabel für Fernregelung
- 13** Kuumakäynnistyskytkin
"Hot start"-blytare
"Hot start"-Schalter
- 14** Haaroitusliittimet
Förgreninganslutningar
Branch connectors
Abzweiganschlüsse

- a** Jäähdytysnesteletkittäjä, hitsauspolitin
Anslutning för kylvätska, sveitsbrännäre
Cooling liquid connection, welding torch
Anschluss für Kühlflüssigkeit, Schweissbrenner
- b** Jäähdytysnesteletkittäjä, syöttö
Anslutning för kylvätska, inmatning
Cooling liquid connection, supply
Anschluss für Kühlflüssigkeit, Einlauf
- c** Jäähdytysnesteletkittäjä, paluu
Anslutning för kylvätska, retur
Cooling liquid connection, return
Anschluss für Kühlflüssigkeit, Rücklauf
- d** Suojakaasuletkittäjä, syöttö
Anslutning för skyddsgas, inmatning
Connection for shielding gas, supply
Anschluss für Schutzgas, Einlauf

Kaasujäädytteinen TIG
 TIG, gaskylid
 TIG, gas-cooled
 WIG, gasgekühlt



Nestejäädytteinen TIG
 TIG, vätskekyld
 TIG, liquid-cooled
 WIG, flüssigkeitsgekühlt

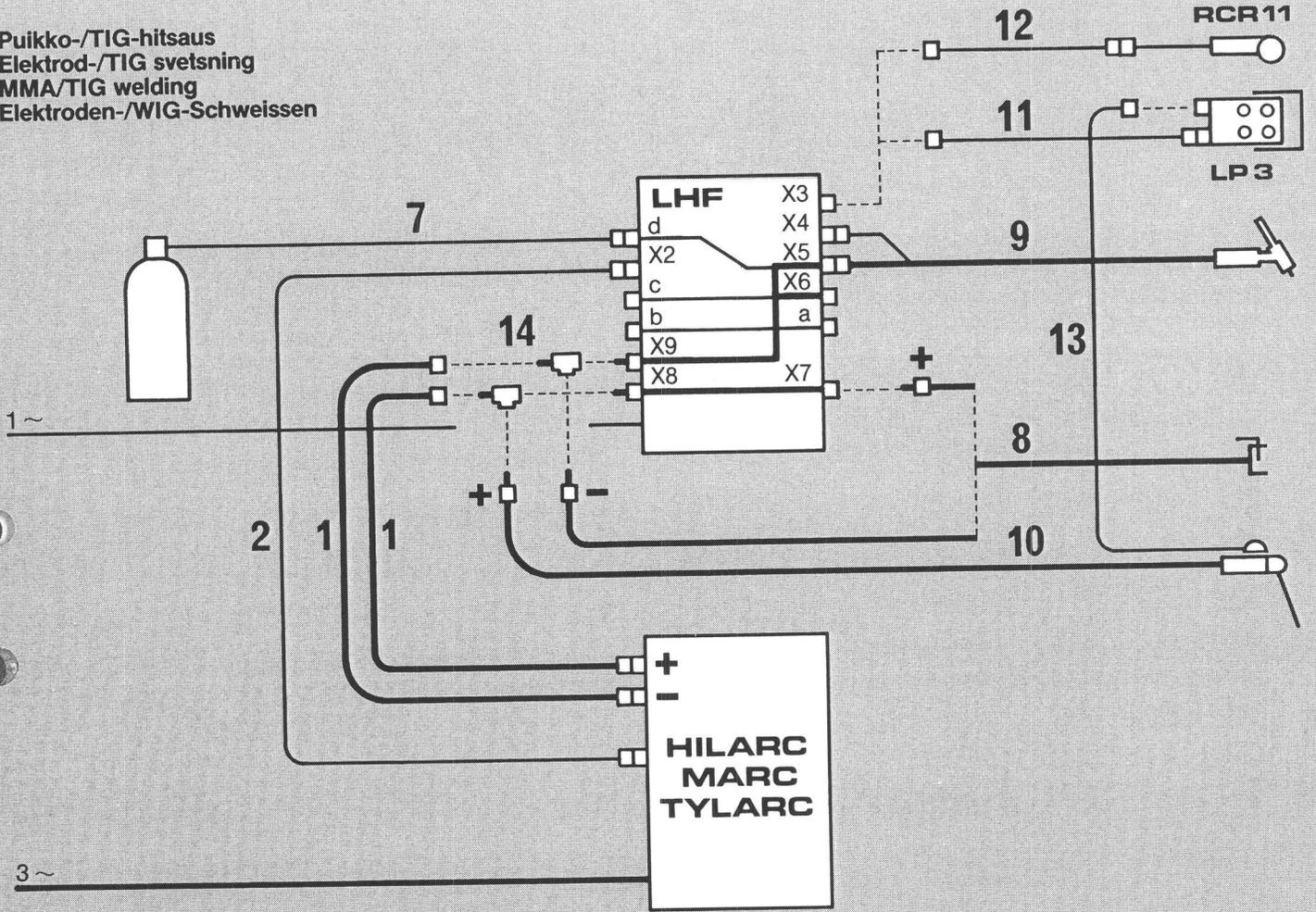


3, 4 Sovitekaapelisarja 6263216
 Anpassungskabelsatz 6263216
 Matching cable set 6263216
 Anpassungskabelsatz 6263216

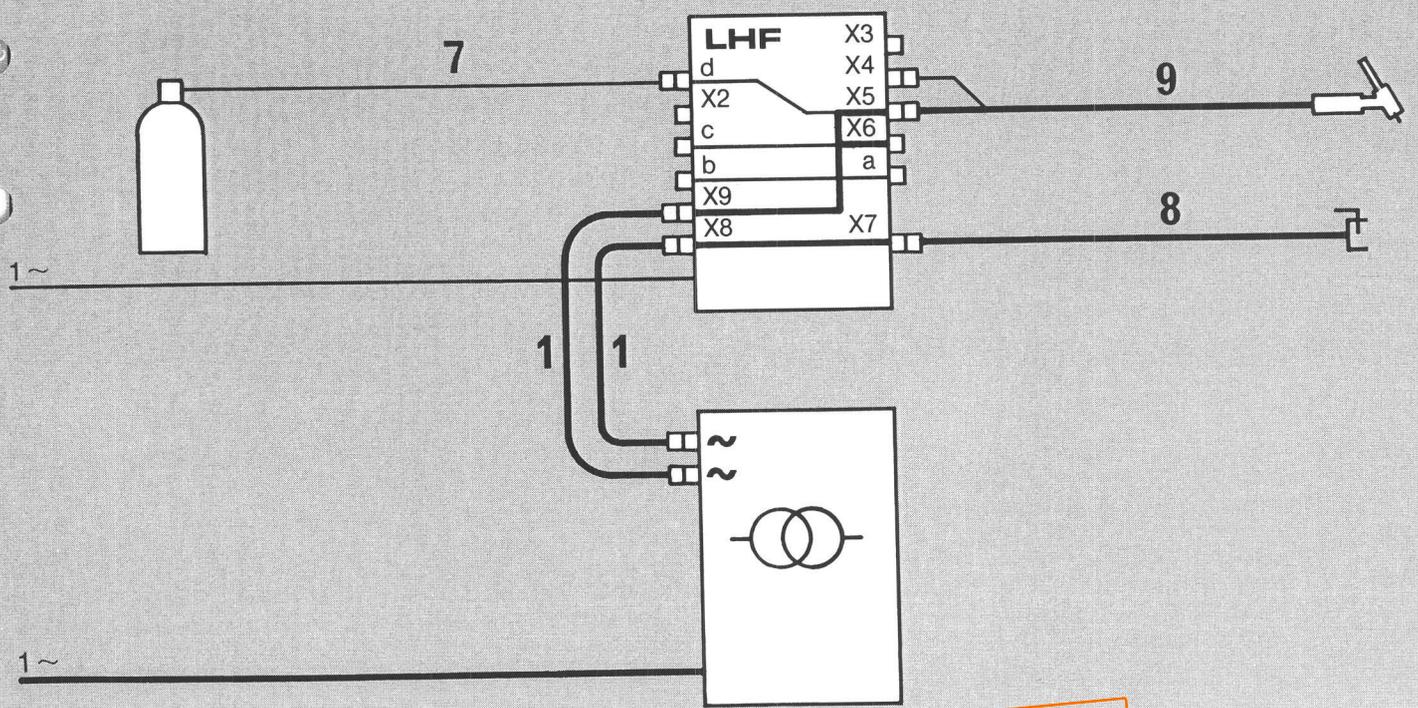
220 V 1~
 3~

Discontinued
 product

Puikko-/TIG-hitsaus
 Elektrod-/TIG svetsning
 MMA/TIG welding
 Elektroden-/WIG-Schweissen



Muuntaja virtalähteenä
 Transformator som strömkälla
 Transformer as power source
 Transformator als Stromquelle



Discontinued product

The LHF 5 is an AC/DC TIG unit designed for use as the ignition and control unit with the MARC, TYLARC and HILARC power sources as well as with the transformers. The LHF 5 includes the connections for as well the gas-cooled as liquid-cooled torch.

- LHF 5:** — develops the ignition pulse required for a light arc
 — includes the control devices for current and operation ways
 — includes the connections for remote control, shielding gas and cooling.

The LHF 5 can be fitted on following fastening plates with the HILARC power source and transport trolleys:

- T4 HILARC 250 order no. 6185251
 HILARC 450 order no. 6185252

or on rotating plates:

- T2 order no. 6185235
 T3 order no. 6185236

NOTE! The fastening dimensions of LHF 5 are the same as in TU 10 or 20 equipment.

TECHNICAL DATA

Working voltage	220/240 V 1~ 50/60 Hz	110/240 V 1~ 50/60 Hz
Rated power	70 VA	70 VA
Load capacity		
ED 60 %	500 A	500 A
ED 100 %	385 A	385 A
Dimensions		
length	400 mm	400 mm
width	215 mm	215 mm
height	400 mm	400 mm
Weight	17 kg	17 kg
Degree of protection	IP 23	IP 23
Construction standards	VDE 0542, ISO R700	VDE 0542, ISO R700

CONTROL DEVICES

Main switch

- in the O-position of the switch, the MARC, HILARC or TYLARC 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 LHF 5 are operating.

Welding and pulse current control:

scale 1—10

- local control potentiometer or remote control devices
- with use of the AC transformer adjust the current in the power source. The main switch is in position I, selecting switch for remote control in position 'remote control'.

Local-/remote control selecting switch

2 positions

Continuous/hold -switch

2 positions

Down-slope control

1—15 s

Post gas time control

5—30 s

Shielding gas valve

automatically controlled

**Discontinued
product**

OPERATION WAYS

Ignition

When you press on the torch switch, the equipment gives the ignition spark. The ignition can be ensured by touching the work piece with a ceramic gas nozzle of the torch just before the ignition.

Down-slope

Down-slope- and post gas time are adjusted on the potentiometer on the front wall of the machine.

There is no down-slope-time, if the welding time is short e.g. in tack welding or if the arc is not ignited. The welding time in question can be adjusted on the electronics card.

Down-slope does not operate with another power source than with that of MARC-, TYLARC- and HILARC-types.

Continuous welding



When the torch switch is depressed, the gas flow begins and the ignition pulse is developed and the welding current gets the set value.

If the light 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.

Hold



At the beginning of welding the torch switch is depressed and the gas flow begins.

The ignition operates when the switch is released.

The welding current stops after a new pressing in the adjusted slope-time.

Remote control

Connect the remote control unit RCR 1, RCR 11 or LP 3 to connector on the front wall.

Turn the selecting switch into position 'remote control'.

The pulsing controlled by the LP 3 operates also during the down-slope.

MAINTENANCE

The amount of use and the working conditions should be taken into consideration in the maintenance of the LHF 5 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.

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 clean 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.

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