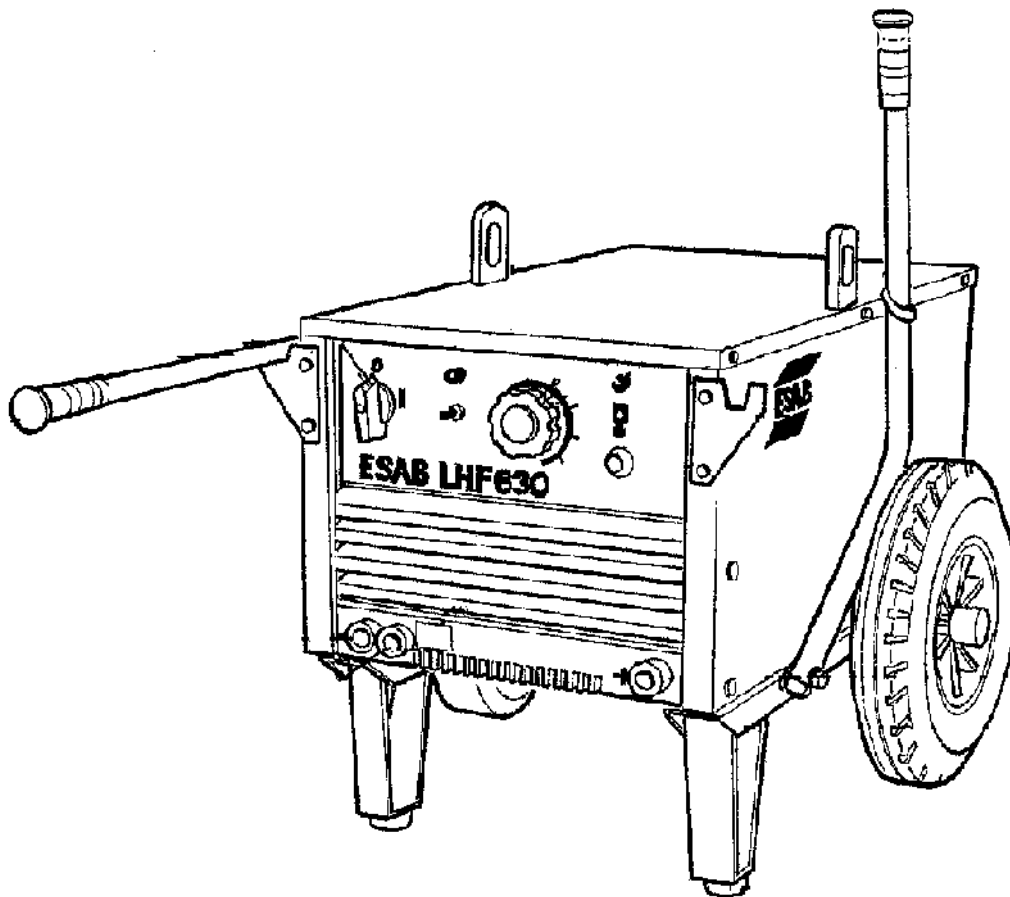




LHF

250/400/630/800



**Bruksanvisning
Brugsanvisning
Bruksanvisning
Käyttöohjeet
Instruction manual
Betriebsanweisung**

**Manuel d'instructions
Gebruiksaanwijzing
Instrucciones de uso
Istruzioni per l'uso
Manual de instruções
Οδηγίες χρήσεως**

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Rätt till ändring av specifikationer utan avisering förbehålles.
Ret til ændring af specifikationer uden varsel forbeholdes.
Ret til å ændre spesifikasjoner uten varsel forbeholdes.
Oikeudet muutoksiin pidätetään.
Rights reserved to alter specifications without notice.
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1 DIRECTIVE

DECLARATION OF CONFORMITY

Esab Welding Equipment AB, S-695 81 Laxå, Sweden, gives its unreserved guarantee that welding power source LHF 250/400/630/800 from serial number 550 complies with standard EN 60974-1, in accordance with the requirements of directive (73/23/EEC) and addendum (93/68/EEC) and with standard EN 50199 in accordance with the requirements of directive (89/336/EEC) and addendum (93/68/EEC).

Laxå 1995-04-10



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2 SAFETY



WARNING



ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.

ELECTRIC SHOCK - Can kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

ARC RAYS - Can injure eyes and burn skin.

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risk.

MALFUNCTION - Call for expert assistance in the event of malfunction.

READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!

3 INTRODUCTION

LHF 250/400/630/800 are thyristor controlled welding rectifiers designed for welding with coated electrodes, TIG welding and arc air gouging.

The welding rectifiers can be used with the following remote control devices:

PHA 1, PHA 2, PHA 5, PHB 1, PHB 2, och PHC 2.

An auxiliary control unit is required for TIG welding with high frequency arc ignition.

LHF 400/630, versions with meters and timed cooling fan.

These welding rectifiers are equipped with a volmeter, ammeter and a circuit that reduces the idle speed of the cooling fan.

The meters allow current and voltage settings to be read from the front of the rectifier.

To minimise the amount of dust and dirt that is drawn into the rectifier the fan runs at a reduced idle speed of 300 rpm. When welding with currents greater than 30 A the fan speed increases to its working speed of around 1350 rpm. A timer relay maintains the higher speed setting for 6 1/2 minutes after welding has stopped to ensure adequate cooling of the rectifier.

3.1 TECHNICAL DATA

	LHF 250	LHF 400	LHF 630	LHF 800
Maximum load				
35 % duty cycle	250 A/30 V	400 A/36 V	630 A/44 V	800 A/44 V
60 % duty cycle	200 A/28 V	315 A/33 V	500 A/40 V	630 A/44 V
100 % duty cycle	160 A/26 V	250 A/30 V	400 A/36 V	500 A/40 V
Setting range	8A/20V-250A/ 30(33)V	8A/20V-400A/ 36V	8A/20V-630A/ 44(49)V	8A/20V-800A/ 44(50)V
Open circuit volt.	78-84 V	80-87 V	65-72 V	65-72 V
Open circuit output at 400 V	300 W	340 W	615 W	640 W
Power factor (max current)	0,88	0,90	0,87	0,82
Efficiency (max current)	68 %	74 %	77 %	78 %
Enclosure class	IP 23	IP 23	IP 23	IP 23
Application class	S	S	S	S
Weight	160 kg	195 kg	260 kg	295 kg
Dimens. l x w x h	1310/765/705	1310/765/705	1310/765/705	1310/765/705

These welding power sources comply with the requirements of **IEC 974-1** och **EN 60974-1**.

The symbol **S** indicates that the power source is designed for use in areas with an increased electrical hazard. Equipment marked **IP 23** is designed for indoor and outdoor use.

4 INSTALLATION

WARNING

This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

- Installation must be carried out by a qualified electrician.
- Check that the welding rectifier is configured for the **available mains supply** before connecting it to the mains.
- See Connecting to mains for cable rating and fuse rating.
- Connect the mains cable to the rectifier according to the relevant regulations and install a suitable fuse in the main fuse box.
- Make sure the welding rectifier is not covered or positioned so that cooling is obstructed.

Connecting to mains

Mains supply	LHF 250	LHF 400	LHF 630	LHF 800
Frequency	50 Hz	50 Hz	50 Hz	50 Hz
Voltage	230/400/ 415/500 V	230/400/ 415/500 V	230/400/ 415/500 V	230/400/ 415/500 V
Current at 100% duty cycle	20/11/11/9A	34/19/19/16 A	65/38/38/30 A	86/49/49/40 A
Current at 60% duty cycle	25/14/14/11 A	42/24/24/20 A	81/47/47/38 A	107/62/60/50A
Current at 35% duty cycle	31/18/18/14 A	53/31/31/25 A	102/59/59/47A	136/79/79/63A
Fuse, slow	25/16/16/16 A	63/25/25/20 A	80/50/50/35 A	100/63/63/50A
Cable area (4xmm ²)	4/1,5/1,5/1,5	10/4/4/2,5	25/10/10/6	35/10/10/10

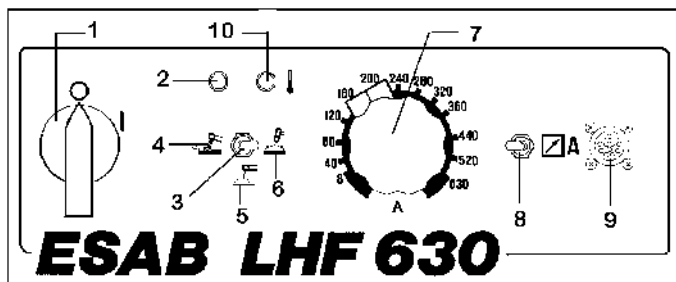
Frequency	60 Hz	60 Hz	60 Hz	60 Hz
Voltage	230/440/550V	230/440/550V	230/440/550V	230/440/550V
Current at 100% duty cycle	20/11/9 A	34/19/16 A	65/38/30 A	86/49/40 A
Current at 60% duty cycle	25/14/11 A	42/24/20 A	81/47/38 A	107/62/50 A
Current at 35% duty cycle	31/18/14 A	53/31/25 A	102/59/47 A	136/79/63 A
Fuse, slow	25/16/16 A	63/25/20 A	80/50/35 A	100/63/50 A
Cable area (4xmm ²)	4/1,5/1,5	10/4/2,5	25/10/6	35/10/10

Cable areas comply with Swedish regulations.

5 OPERATION

- Set switch (1) to position "I". The white lamp (2) will light and the fan will start.
- Select the welding method using the toggle switch (3).
- Adjust the welding current using the knob (7) on the front, and set the toggle switch (8) to the position nearest the socket.
- Select suitable earth and return cables and connect them to the terminals marked + and - on the front of the rectifier. Connect the return cable to the work piece.
- The rectifier is now ready for welding.

1. On/Off
2. White lamp (power on)
3. Method selector switch
4. Arc air gouging
5. MMA
6. TIG
7. Current setting
8. Remote switch
9. Remote socket
10. Yellow lamp (thermal cut-out)



bh10d001

The yellow lamp comes on when the thermal cut-out trips. When the rectifier has cooled down the thermal cut - out is automatically reset.

6 MAINTENANCE

LHF 250/400/630/800 normally do not require any maintenance. Once a year blow the inside of the welding rectifier clean using dry compressed air at reduced pressure. Repeat more often if the rectifier is used in a very dusty or dirty environment.

6.1 General

Note:

All warranty undertakings given by the supplier cease to apply if the customer attempts to rectify any faults on the machine during the warranty period.

7 ORDERING OF SPARE PARTS

A service manual and list of spare parts can be ordered through your nearest ESAB representative, see the last page of this booklet. When ordering spare parts please specify the machine model, serial number and the designation and order numbers of parts as shown in the list of spare parts. This simplifies dispatch and ensures correct delivery.