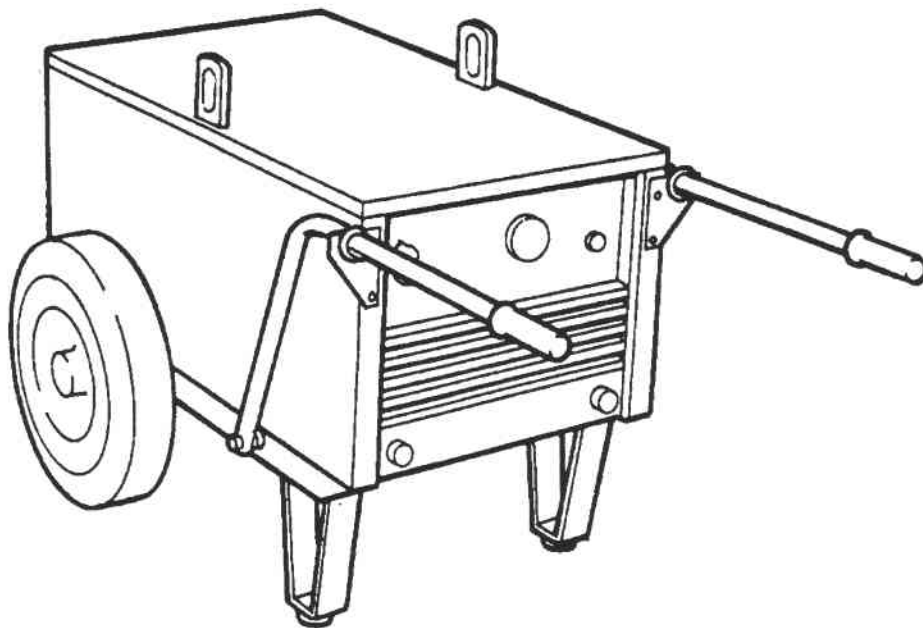




Operating Manual

Transarc DC 400E/630/800



transarc

**Please ensure that this
Operating Manual
is made available
to the user
of the equipment.**



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DECLARATION OF CONFORMITY

Murex Welding Products Ltd.

Declare hereby that:

Murex Transarc DC 400E/630/800 power sources
Part No. 1415261/1412217/1412218
From production Serial No. 550-xxx-xxx

- are manufactured in accordance with the Council Directive 73/23/EEC, amended by Council Directive 93/68/EEC relating to electrical equipment designed for use within certain voltage limits.
- are manufactured in accordance with EN 60 974-1. Safety requirements for arc welding equipment. Part 1: welding power sources.

On behalf of Murex Welding Products Ltd.
Hertford Rd
Waltham Cross
Herts. EN8 7RP
England

A handwritten signature in black ink, appearing to read "P. Karlsson".

.....
P.Karlsson
Managing Director.
Esab Welding Equipment AB
Date: 1 June 1995

Manufactured by Esab Welding Equipment AB.
S-695 81 Laxå Sweden

Warning



WARNING



This welding equipment has been designed, manufactured and tested to the highest standards to ensure long and trouble free life. However, regular maintenance is an essential part of keeping the machine operating in a reliable and safe manner and your attention is drawn to any maintenance instructions that are contained in this manual.

In general all welding equipment should be thoroughly inspected, tested and serviced at least annually. More frequent checking will be required when the equipment is heavily used.

Wear and tear, particularly in electro-mechanical and moving components, are gradual processes. Caught in time, repair costs are small and the benefits in performance reliability and safety are significant. Left alone they can put the equipment, and you, at risk.

Have this equipment regularly inspected and maintained by an approved service centre.



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!

SAFETY

In any arc welding or gouging operation, it is the responsibility of the user to observe certain safety rules to ensure his personal safety and to protect those working near him. Read all safety articles relevant to arc welding published by the WMA. Pay particular attention to any CAUTION or WARNING Notes included in this manual. CAUTION indicates possible equipment damage. WARNING indicates possible hazard to life.



WARNING



The ON/OFF switch on this equipment does not isolate the unit from the mains electrical supply. **AC POWER IS PRESENT ON THE ON/OFF SWITCH TERMINALS.**
The ON/OFF lamp is an indication that the supply is switched on and does not imply that the unit is isolated from the supply. **BEFORE REMOVING THE COVERS FOR MAINTENANCE, ISOLATE THE UNIT FROM THE MAINS ELECTRICAL SUPPLY.**

1. Electrical

- Treat electricity with respect. Even the open circuit voltage of this equipment can be dangerous. Adjustments to the torch or replacement of torch parts should be undertaken with the mains supply isolated from the unit. If damaged torch cables or torch components are found, the unit must be disconnected from the mains and defective parts must be replaced using only Murex spare parts.
- Do not work on live circuits or cables. Disconnect the main power supply before checking the machine or performing any maintenance operation.
- Be sure the case of the welding machine is properly connected to a good electrical earth.
- Have the wiring for the welding machine installed by a qualified electrician. All connections must be made according to specifications in force and to general safety standards.
- Do not stand in water or on damp floors while using an arc welder or cutter. Do not use in the rain.
- Do not operate with worn or poorly connected cables. Inspect all cables frequently for insulation failure, exposed wires and loose connections.
- Do not overload cables or continue to operate with overheating cables. Cables which are too small for the current carried will overheat, causing rapid deterioration of the insulation.
- Pay attention that live parts of the torch do not touch any metal which is connected to the earth cable. Fix an insulated hook to hang the torch on when it is not in use.

2. Ventilation

- Do not weld or cut on containers which have held combustible or flammable materials, or materials which give off flammable or toxic vapours when heated, without proper cleaning.
- Locate the welding/cutting operation far enough from any vapour-type degreaser using trichlorethylene or other chlorinated hydrocarbons as solvents. The ultraviolet light from the arc can decompose these vapours into toxic gases at a considerable distance from the arc, even though the concentration of the gases is low enough to be undetectable by smell.
- Be sure to provide adequate ventilation for removal and dilution of fume and gases. Fume exhaust facilities near the arc, or a ventilated helmet should be used when cutting in confined spaces or on toxic material.

3. Glare

- Never look at the arc without wearing eye protection.
Always use the proper protective clothing, filter glasses, and gloves. Be careful to avoid exposed skin areas. Do not use cracked or defective helmets or shields.
- Never strike an arc when there is someone near who is not protected from the strong light of the arc.
- Warn bystanders who are not aware of the dangers of ultraviolet light.

4. General

- Take care when lifting the unit.
- Ensure that cylinders are secured by chains.
- Locate the unit so that there is adequate air flow to the ventilation louvres.
- Always dress correctly to protect against glare, radiation and spatter.

5. Fire

- Ensure that the correct type of fire extinguisher is available in the welding area.
- Do not weld near flammable materials or liquids, in or near explosive atmospheres, or on pipes carrying explosive gases.

6. Vehicle electrics

- When working on motor vehicles, remove the battery and any circuitry which may be damaged by the arc.
- Whilst welding be aware of the possibility of 'hidden wires' behind panels or bulkheads.



INTRODUCTION

Murex Transarc DC 400E, 630&800 are thyristor controlled site welding rectifiers designed for welding with manual metal arc electrodes, TIG welding or arc air gouging.

The welding rectifiers can be used with various remote control devices including PHA 2, PHA 5, PHB 1, PHB 2, etc.

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

WARNING

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

TECHNICAL DATA

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

These welding power sources comply with the requirements of **EN 60974-1** or **BS 638 pt 10**.

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.

INSTALLATION

- Installation must be carried out by a qualified electrician.
- Check that the welding rectifier is tapped for the **correct mains supply** before connecting it to the mains, se page 10&12.
- See Connecting to mains for cable and fuse ratings.
- Connect the mains cable to the rectifier according to the relevant regulations. UK machines are supplied with a fitted primary cable suitable for use on 400/415 V supplies, and install suitable fuses in the main fuse box.
- Make sure the welding rectifier is not covered or positioned so that cooling is obstructed.

Connecting to mains

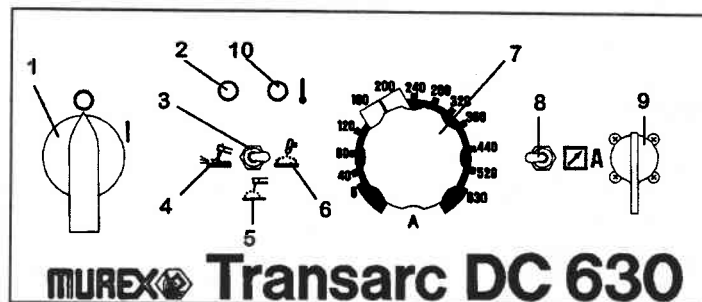
| Mains supply | 400 E | 630 | 800 |
|---------------------------------|-----------------------|-----------------------|-----------------------|
| Frequency | 50 Hz | 50 Hz | 50 Hz |
| Voltage | 230/400/ 415/500 V | 230/400/ 415/500 V | 230/400/ 415/500 V |
| Current at 100% duty cycle | 34/19/19/16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

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

OPERATION

- Set switch (1) to position "I". The white lamp (2) will light and the fan will start. **WARNING with the On/Off switch in the On position open circuit/welding voltage is present at the output terminals.**
- Select the welding method using the toggle switch (3).
- Adjust the welding current using the knob (7) on the front, when using a remote control unit, set the toggle switch (8) to the position nearest the socket, and connect the remote unit to 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, switch
2. White lamp (power on)
3. Process selector switch
4. Arc air gouging
5. MMA
6. TIG
7. Current setting
8. Remote / local control switch
9. Remote control socket
10. Yellow lamp (thermal cut-out)



bh13d00
1

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

MAINTENANCE

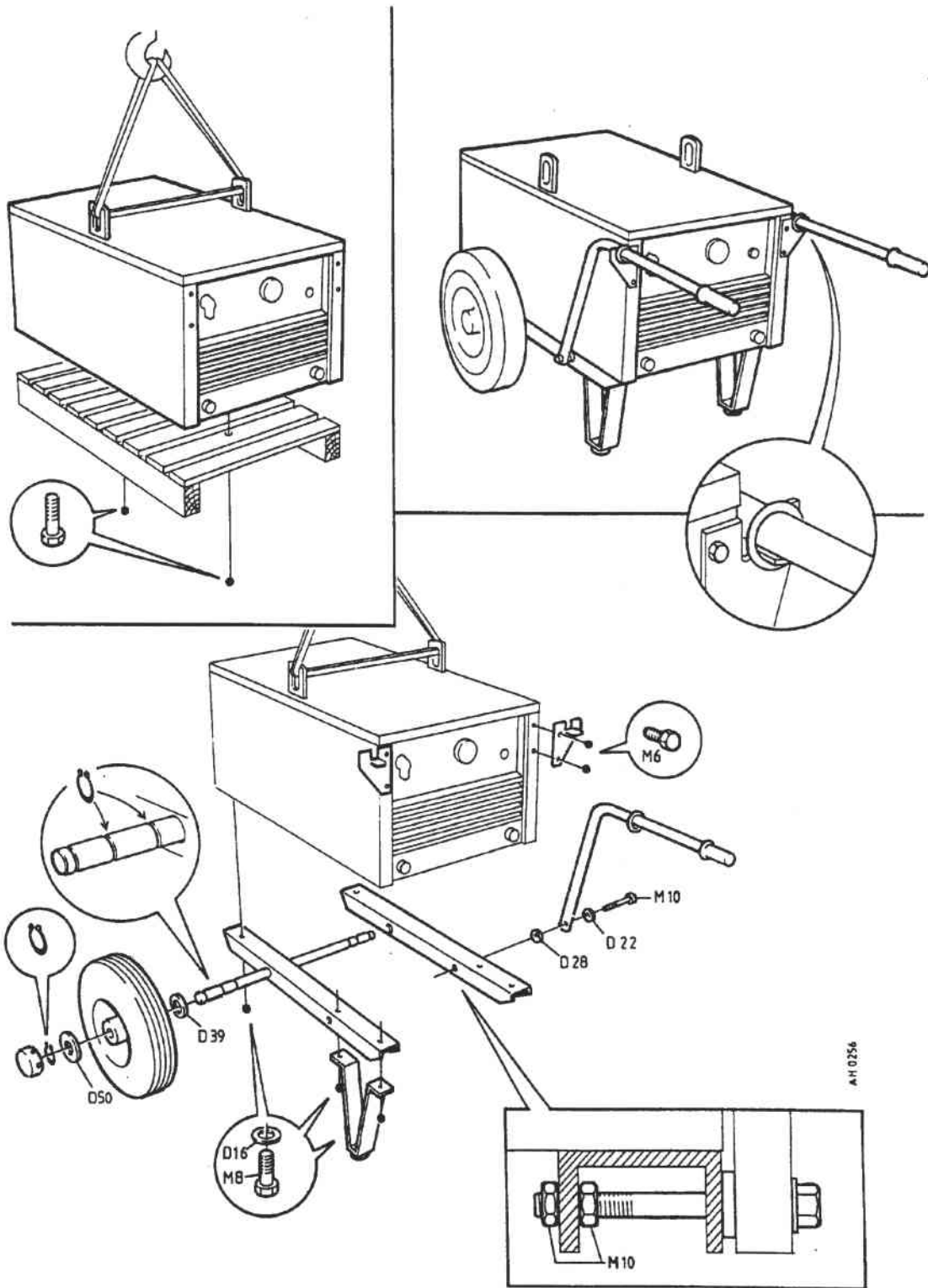
Transarc DC 400 E/630/800 do not normally require any maintenance, however once a year blow the inside of the welding rectifier clean using dry compressed air at reduced pressure.

Repeat more often if the rectifier is used in a very dusty or dirty environment.

NOTE!

The supplier's liability under guarantee is invalidated if the customer or non-approved agent attempts to carry out any internal repairs himself during the guarantee period.

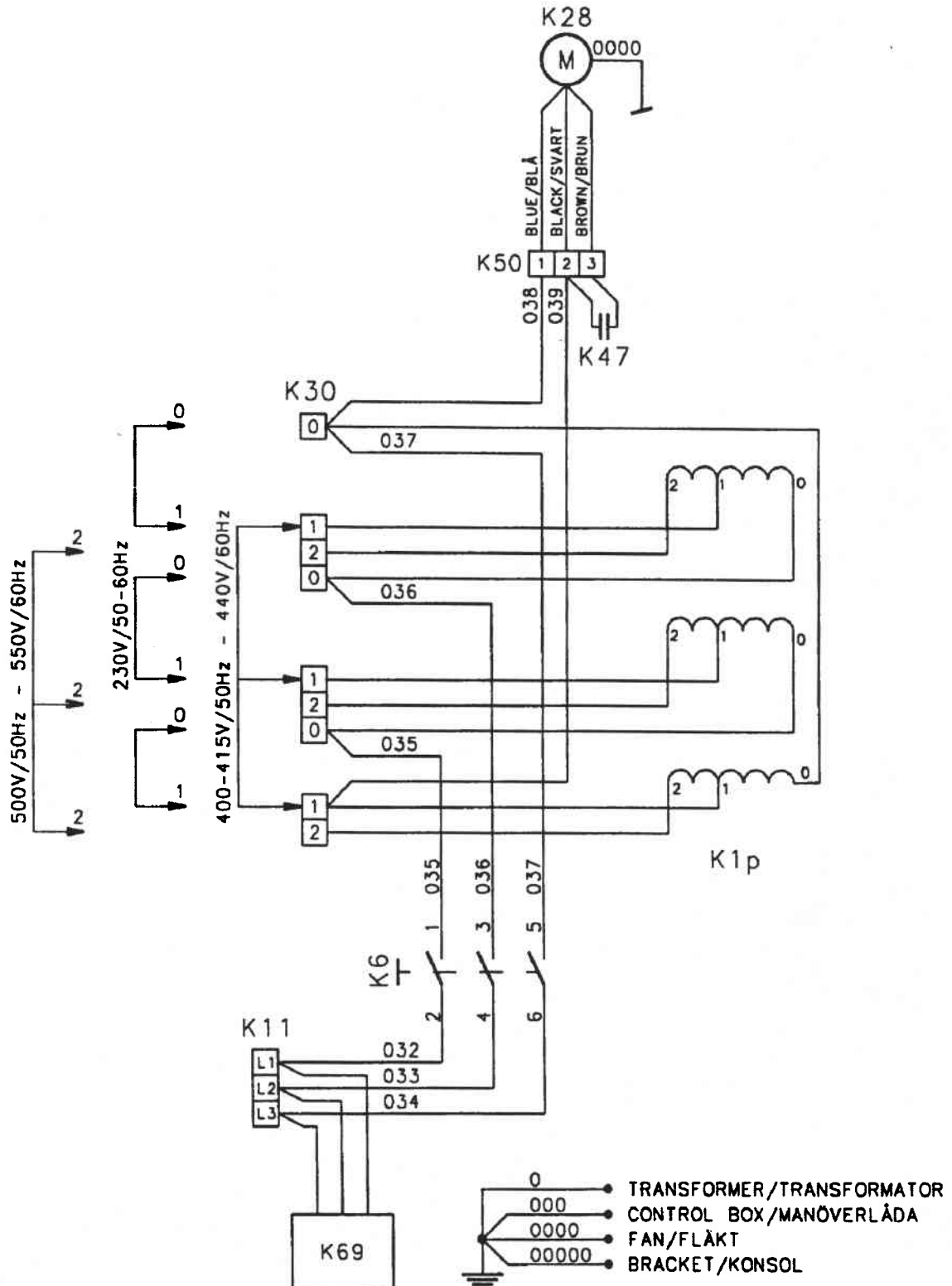
ASSEMBLY INSTRUCTION



bh10d002

DIAGRAM

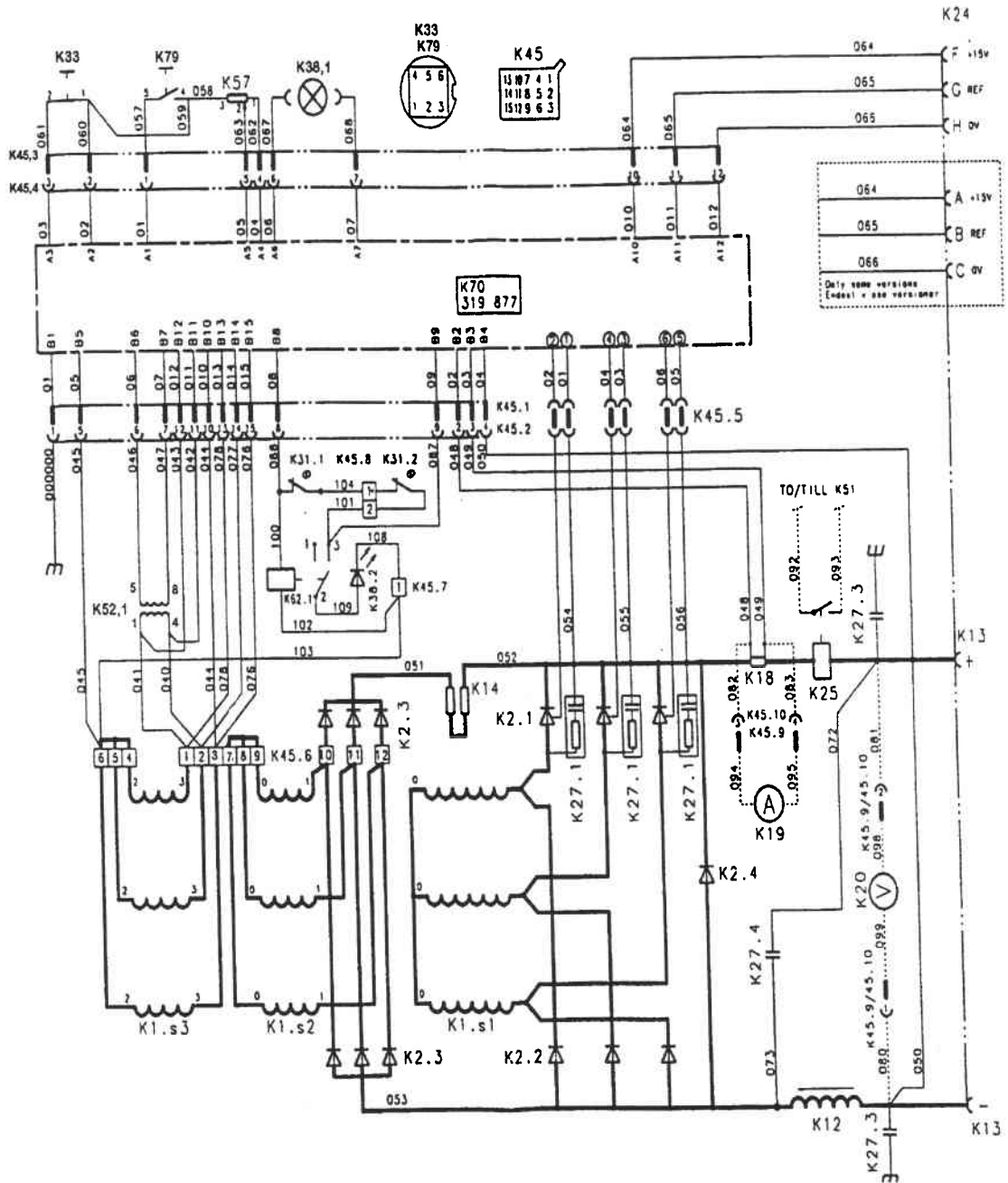
Transarc DC 400E Primary circuit



bh13e001






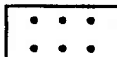
DIAGRAM

Transarc DC 400E Secondary circuit



DIAGRAM

Transarc DC 630/800 Primary circuit

| 230V/50-60Hz | 400-415V/50Hz 440V/60Hz | 500V/50Hz 550V/60Hz |
|---|---|---|
|  K30.2 |  K30.2 |  K30.2 |
|  K30.1 |  K30.1 |  K30.1 |

