

MASTER

9804

Operation instructions
Gebrauchsanweisung
Gebruiksaanwijzing
Manuel d'utilisation

1913080E

MASTER 1400 Stick



Francais Nederlands Deutsch English

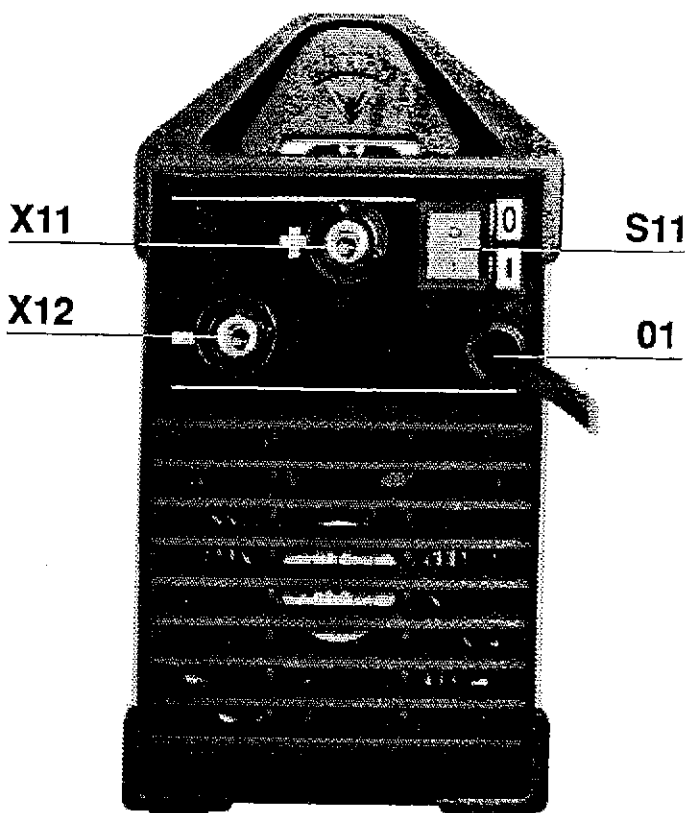
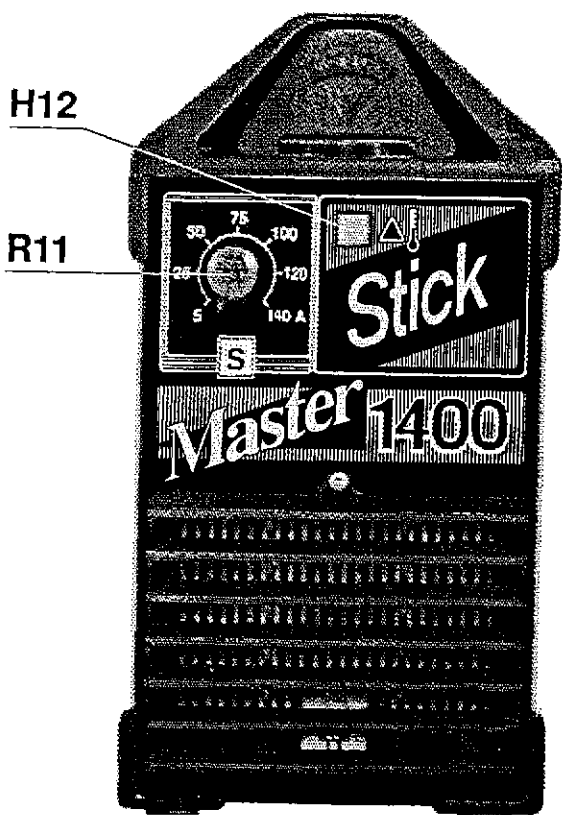
Read carefully these instructions before you use the welding machine !

Bitte lesen Sie diese Gebrauchsanweisungen vor Gebrauch der Schweißmaschine !

Lees deze gebruiksaanwijzing aandachtig door voor u de lasmachine in gebruik neemt !

Veuillez lire et appliquer ces instructions avant utilisation de la machine !

 **KEMPPi**



**OPERATION CONTROL AND CONNECTORS
BEDIENUNGSELEMENTE UND ANSCHLÜSSE
BEDIENING EN AANSLUITINGEN
COMMANDES ET CONNECTEURS**

H12 Warning lamp for thermal shield
Warnungslampe für Wärmeschutz
Waarschuwinglicht voor warmteafvoerspiraal
Feu indicateur pour écran thermique

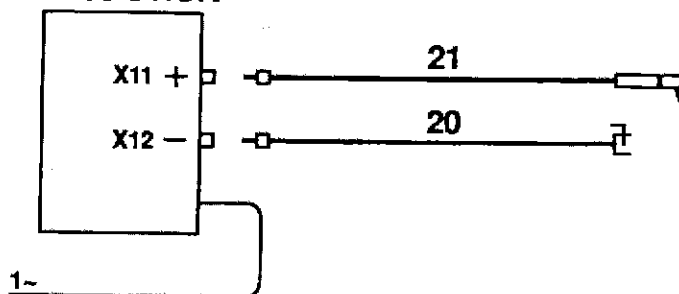
R11 Adjustment of welding current
Einstellung für Schweißstrom
Regeling voor lasstroom
Réglage du courant de soudage

S11 I/O main switch with signal lamp
I/O Hauptschalter mit Signallampe
I/O hoofdschakelaar met signaallamp
I/O interrupteur principal avec lampe témoin

X11 Welding and return current connections
Schweiß- und Rückleitungsanschlüsse
X12 Aansluiting voor las- en werkstuk kabel
Connecteur courant de soudage et de masse

01 Inlet of mains cable
Durchführung des Netzkabels
Doorvoer voor aansluitkabel
Passe-câbles

**MASTER
1400 STICK**



20 Return current cable
Stromrückleitungskabel
Werkstukkabel
Câble de masse

21 Cable for MMA welding
Kabel für Stabelektrodenschweißen
Kabel voor elektrodenlassen
Câble soudage Electrode

20	/5 m – 16 mm ²	6184015
21	/5 m – 16 mm ²	6184005

ENGLISH

MASTER 1400 STICK is a DC power source for demanding professional MMA welding.

MASTER 1400 STICK is a 1-phase 140 A inverter power source which is protected against overload with overcurrent protections and thermal releases. Operation of a thermal release is indicated with a signal lamp on the front wall of the machine.

The delivery package of MASTER 1400 STICK welding power sources includes carrying strap and connection cable with fixed mounted euro-schuko-plug.

Mains voltage	1~, 50/60 Hz	220 V -10 % ... 240 V +6 %
Rated power	20 % ED	140 A / 6,2 kVA
	60 % ED	105 A / 4,4 kVA
	100 % ED	75 A / 2,9 kVA
Connection cable / fuse		3 x 1,5S – 3 m / 16 A slow-blow
Welding current range	MMA	15 A / 20,0 V ... 140 A / 25,6 V
Max. welding voltage		31,0 V / 140 A
Electrode sizes to be welded		ø 1,5 ... 3,25 mm
Welding current control		traploos
Open circuit voltage		80 V
Efficiency		80 % (140 A / 25,6 V)
Power factor		0,75 (140 A / 25,6 V)
Open circuit power		approx. 10 W
Storage temperature range		- 40 ... + 60 °C
Operation temperature range		- 20 ... + 40 °C
Temperature class		H (180 °C) / B (130 °C)
Degree of protection		IP 23
External dimensions:	length	390 mm
	width	155 mm
	height	285 mm
Weight		10 kg

The product meets conformity requirements for CE marking.

INSTALLATION

Siting the machine

By siting of the machine you should consider the following:

- Site the machine on a fixed dry base, from which there doesn't come any dust etc. into suction air.

SEE TO THAT THE MACHINE IS POSITIONED AWAY FROM THE LINE OF PARTICLE SPRAY, CREATED BY GRINDING TOOLS ETC.

Preferably site the machine somewhat higher above the floor level.

- See to that in front of the machine as well as at the rear of the machine there is at least 20 cm free distance to allow good circulation of the cooling air through the machine.


- **PROTECT THE MACHINE AGAINST HEAVY RAIN AND IN HOT CIRCUMSTANCES AGAINST DIRECT SUNSHINE.** Ensure the free circulation of the cooling air.

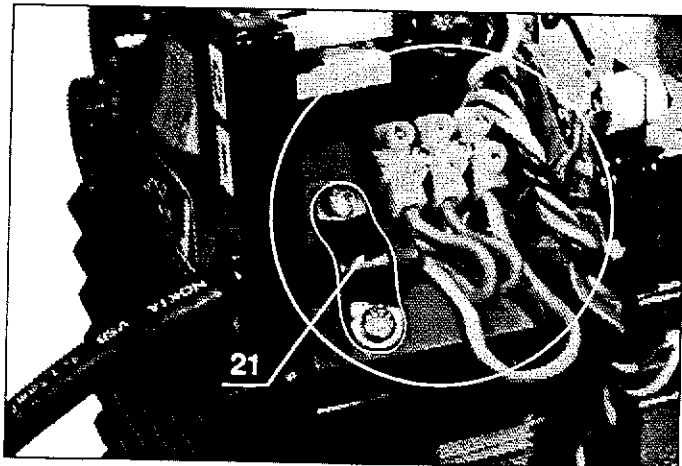
Connection to the mains supply

MASTERTIG 1400 STICK is delivered with a schuko-plug mains cable for connection into the 230 V mains supply.

CONNECTION OF THE MAINS CABLE AND MOUNTING AND CHANGE OF THE PLUG SHOULD ONLY BE CARRIED OUT BY A COMPETENT ELECTRICIAN.

BEFORE CONNECTING THE MAINS CABLE REMOVE HANDLE AND CASING PLATE OF THE MACHINE

By change of the mains cable take into attention the following:
The cable is entered into the machine through the inlet ring on the rear panel of the machine and fastened with a cable clamp (21). The phase lead of the cable is connected to terminal L, the blue N-lead is connected to terminal N and the earth protection coloured green-yellow is connected to terminal .



Sizes of the mains cables and fuse ratings for the machine at 100 % duty cycle are specified in the table below:

Rated voltage	230 V 1~
Mains voltage range	220 V -10 % ... 240 V +6 %
Fuse	16 A slow-blow
Connection cable	3 x 1,5 mm ² S *) max. 3 m
Extension cables (recommendation)	3 x 2,5 mm ² S *) max. 50 m

*) In cables of S type there is a protective grounding conductor coloured green-yellow.

EXTENSION CABLES

A long extension cable will cause a voltage loss which reduces max. voltage given by the machine in MMA welding. Effect might appear at high currents as breaking of arc.

Use the extension cable shown in the table above in order to reduce cable voltage loss and heating. Because of excessive heating it is not advisable to keep the cable coiled if you weld at high currents.

Welding and return current cables

Use only copper cable, cross-sectional area at least 16 mm²

DON'T USE THINNER CABLES due to voltage losses and heating.

Fasten the earthing press of the return current cable carefully, preferably direct onto the piece to be welded. The contact surface of the press should always be as large as possible.

CLEAN THE FASTENING SURFACE FROM PAINT AND RUST!

OPERATION CONTROL SWITCHES AND POTENTIOMETERS AND THEIR USE

Main switch I/O

When you press the switch into I-position, pilot lamp on switch is lit, open circuit voltage comes to welding cable connectors and the machine is ready for use.

ALWAYS START AND SWITCH OFF THE MACHINE WITH THE MAIN SWITCH, NEVER USE THE MAINS PLUG AS A SWITCH.

Adjustment of welding current

You can adjust welding current with potentiometer R11. Potentiometer is equipped with current scale.

Pilot lamp

Pilot lamps of machine indicate electric operation:

ON

Orange pilot lamp is connected with main switch. Pilot lamp is on when the machine is connected to mains supply and the main switch is in I-position.



Yellow pilot lamp H12 of thermal protection is on when thermostat has released due to overheating of machine. The cooling fan is cooling down the machine and when the pilot lamp goes off, the machine is again ready for welding.

Operation of the cooling fan

The cooling fan of MASTER starts during welding and operates for some time after welding has been stopped.

Electrodes to be welded

By the MASTER power sources you can use all electrodes designed for DC or AC welding within the current limits of the machine in question.

The MASTER power sources are not suitable for carbon arc gouging or cutting.

OPERATION SAFETY

NEVER WATCH THE ARC WITHOUT A FACE SHIELD DESIGNED FOR ARC WELDING!

THE ARC DAMAGES UNPROTECTED EYES!
THE ARC BURNS UNPROTECTED SKIN!

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 IGNITION 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 WELDING CABLES ON THE POWER SOURCE OR OTHER ELECTRICAL EQUIPMENT.

WATCH OUT FOR THE WELDING FUMES!

ENSURE THAT THERE IS SUFFICIENT VENTILATION. FOLLOW SPECIAL SAFETY MEASURES 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.

MAINTENANCE

The amount of use and the working environment should be taken into consideration when planning the frequency of maintenance of the machine. Careful use and preventive maintenance will help to ensure trouble-free operation.

Cables

Check the condition of welding and connection cables daily.

DO NOT USE FAULTY CABLES!

Make sure that the mains connection cables in use are safe and according to laid down regulations.

THE REPAIR OF MAINS CONNECTION CABLES MUST BE CARRIED OUT ONLY BY AN AUTHORISED ELECTRICIAN.

Power source

NOTE! DISCONNECT THE PLUG OF THE MACHINE FROM THE MAINS SOCKET AND WAIT APPROX. 2 MINUTES (CAPACITOR CHARGE) BEFORE REMOVING THE CASING PLATE

Check at least every half year:

- Electric connections of the machine - clean the oxidized parts and tighten the loosened ones

NOTE! YOU MUST KNOW CORRECT TENSION TORQUES BEFORE STARTING THE REPARATION OF THE JOINTS.

- Clean the inner parts of the machine from dust and dirt e.g. with a soft brush and vacuum-cleaner.

DO NOT USE COMPRESSED AIR, THERE IS A RISK THAT DIRT IS PACKED EVEN MORE TIGHTLY INTO GAPS OF COOLING PROFILES!

DO NOT USE PRESSURE WASHING DEVICE!

ONLY AUTHORISED ELECTRICIAN SHALL CARRY OUT REPAIRS TO THE MACHINES.

Regular maintenance

KEMPPI-SERVICE REPAIR SHOPS MAKE REGULAR MAINTENANCE ACCORDING TO AGREEMENT.

The major points in the maintenance procedure are listed as follows:

- Cleaning of the machine

- Checking and maintenance of the welding tools

- Checking of switches and potentiometers

- Checking of electric connections

- Checking of mains cable and plug

- Damaged parts or parts in bad connection are replaced by new ones

- Maintenance testing. Operation and performance values of the machine are checked, and adjusted when necessary by means of test equipment

OPERATION DISTURBANCES

IN CASE OF PROBLEMS CONTACT THE KEMPPI WORKS IN LAHTI, FINLAND OR YOUR KEMPPI-DEALER.

Check the maintenance objects before the machine is sent to the service repair shop.

Operation of the overload protection



Yellow pilot lamp H12 of thermal protection is lit when thermostat has operated due to overheating of machine.

The thermostat of machine will operate, if machine is continuously loaded over rated values or cooling air circulation is blocked.

COOLING FAN COOLS DOWN THE MACHINE AND WHEN THE PILOT LAMP GOES OFF THE MACHINE IS AUTOMATICALLY READY FOR WELDING.

Control fuses

As the machine protection there is on control card an 1,0 A slow-blow cartridge fuse in the safety voltage circuit.

– Reason for burning of a fuse might be a damaged control card.

Use same type and rating of fuse which is marked beside the fuse adapter.

DAMAGE CAUSED BY A WRONG TYPE FUSE, IS NOT COVERED BY THE GUARANTEE.

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.

DEUTSCH

MASTER 1400 STICK ist eine Gleichstrom-Stabelektroden-Schweißstromquelle für anspruchsvollen Fachmannsgebrauch.

MASTER 1400 STICK ist eine 1-Phasen 140 A Inverterstromquelle, die gegen die Überlastung mit Überstromschutten und Thermorelais geschützt ist. Über die Funktion des Thermorelais wird durch eine Signallampe an der Frontwand der Maschine informiert.

Zum Lieferumfang von **MASTER 1400 STICK-Schweißstromquellen** gehören Tragriemen und Netzanschlußkabel, das mit einem festen Euro-Schuko-Stecker versehen ist.

Anschlußspannung 1~, 50/60 Hz	220 V -10 % ... 240 V +6 %
Anschlußleistung	20 % ED 140 A / 6,2 kVA 60 % ED 105 A / 4,4 kVA 100 % ED 75 A / 2,9 kVA
Anschlußkabel / Sicherung	3 x 1,5S – 3 m / 16 A träge
Schweißstrombereich Stabelekt.	15 A / 20,0 V ... 140 A / 25,6 V
Max. Schweißspannung	31,0 V / 140 A
Die zu schweißenden Stabelektrodengrößen	ø 1,5 ... 3,25 mm
Einstellung für Schweißstrom	stufenlos
Leerlaufspannung	80 V
Wirkungsgrad	80 % (140 A / 25,6 V)
Leistungsfaktor	0,75 (140 A / 25,6 V)
Leeraufleistung	ca. 10 W
Lagertemperaturbereich	- 40 ... + 60 °C
Betriebstemperaturbereich	- 20 ... + 40 °C
Isolierstoffklasse	H (180 °C) / B (130 °C)
Schutzart	IP 23
Maße:	Länge 390 mm Breite 155 mm Höhe 285 mm
Gewicht	10 kg

Die Anlage erfüllt die Konformitätsansprüche des CE-Zeichens.

INBETRIEBNAHME

Aufstellen

Bei der Wahl des Aufstellungsplatzes muß folgendes berücksichtigt werden:

– Stellen Sie die Maschine auf einer festen Unterlage auf, von der sich kein Staub u.s.w. in die Absaugluft löst.

BITTE DARAUFGAHTEN, DASS DER STRAHL DER SCHLEIFMASCHINE NICHT GEGEN DIE STROMQUELLE GERICHTET WIRD.

Am liebsten stellen Sie die Anlage höher als das Bodenniveau auf.

– Bitte darauf achten, daß vor und hinter der Maschine einen freien Raum von mindestens 20 cm für einen freien Kühlluft-Kreislauf gibt.

– **SCHÜTZEN SIE DIE MASCHINEN GEGEN STARKEN**