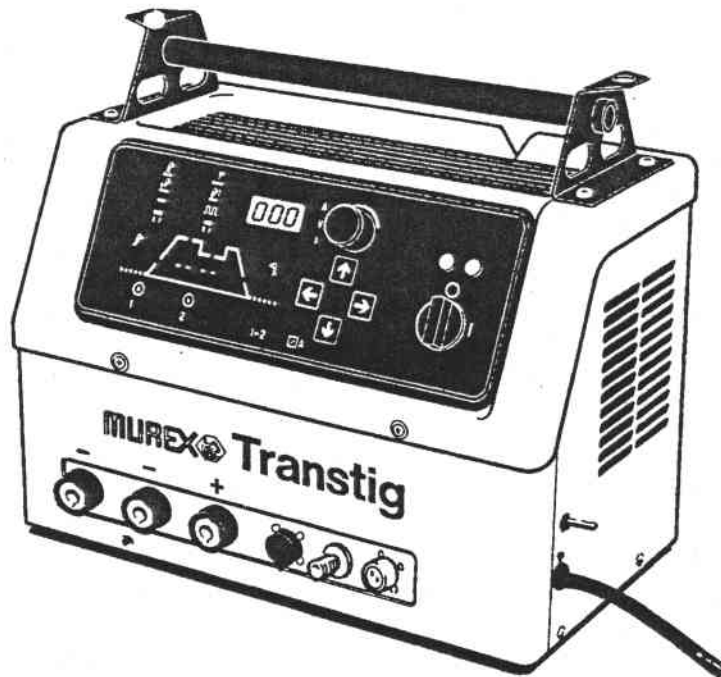


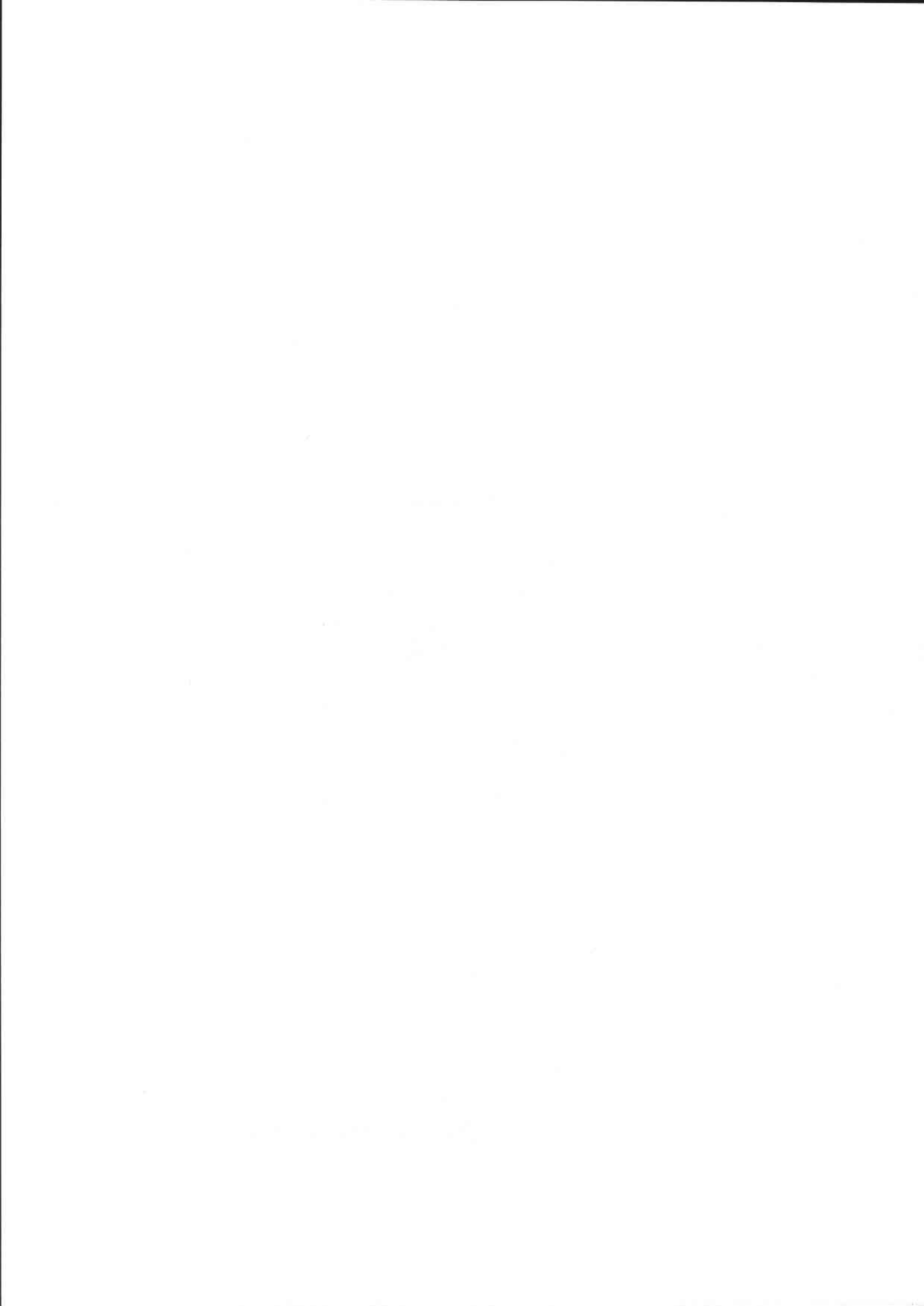


Operating Manual

Transtig DC 160i/200i/250i



**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 Transtig DC 160i/200i Power Source

Part No.1415263/1415265

Manufactured after 1 st January 1996

- conform with the requirements of Council Directive 73/23/EEC, amended by Council Directive 93/68/EEC, relating to electrical equipment designed for use within certain voltage limits.
- conform with the requirements of Council Directive 89/336/EEC, amended by Council Directive 93/68/EEC, relating to electromagnetic compatibility.
- are manufactured in accordance with EN 60974-1 Safety Requirements for Arc Welding Equipment.
- are manufactured in accordance with EN 50199 Electromagnetic Compatibility for Arc Welding Equipment.

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

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

.....
P.Karlsson
Managing Director.
Esab Welding Equipment AB
January 1996

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



DECLARATION OF CONFORMITY

Murex Welding Products Ltd.

Declare hereby that:

Murex Transtig DC 250i Power Source

Part No.1415403

Manufactured after 1 st May 1998

- conform with the requirements of Council Directive 73/23/EEC, amended by Council Directive 93/68/EEC, relating to electrical equipment designed for use within certain voltage limits.
- conform with the requirements of Council Directive 89/336/EEC, amended by Council Directive 93/68/EEC, relating to electromagnetic compatibility.
- are manufactured in accordance with EN 60974-1 Safety Requirements for Arc Welding Equipment.
- are manufactured in accordance with EN 50199 Electromagnetic Compatibility for Arc Welding Equipment.

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


.....
Anders Birgersson
Managing Director.
Esab Welding Equipment AB
May 1998

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

Note!
This product is solely intended for arc welding.

Transtig DC 160i/200i and 250i are rectifiers designed using inverter technology and are intended for TIG and MMA welding using coated electrodes. Inverter technology contributes towards low power consumption, low weight and compact dimensions.

The advanced electronics with microprocessor control provides, amongst other features fast response and top class welding characteristics.

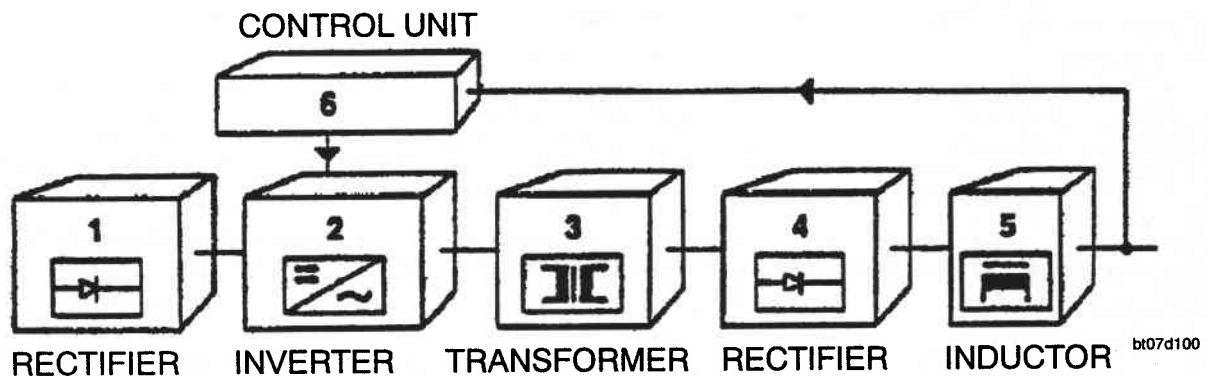
These machines are equipped with **ARC PLUS**, a new type of control that for MMA welding provides a more intensive, more concentrated and smoother arc. It reacts quicker after a short circuiting drop transfer, which reduces the risk of the electrode sticking.

In addition, the machine is equipped with Arc Force, which means that the power source's dynamics can be adjusted, softer or harder depending on the type of electrode and the welder's preference.

ARC PLUS – because of the regulator's good characteristics it is only necessary to change the Arc Force settings in exceptional circumstances.

When make and break welding using stainless steel electrodes a special feature of the machine can be activated to facilitate welding.

Transtig DC 160i/200i and 250i are designed using inverter technology according to the following principle:



1. The primary current is rectified.
2. The current is converted in a transistor module to a very high frequency.
3. The current is transformed to a suitable level for welding.
4. The current is rectified.
5. The current passes an inductor that "equalizes" the current.
6. The microprocessor based electronics control the process.

The rectifier, transistor module, transformer, secondary rectifier and inductor are integrated in a single air-cooled unit.

The control unit consists of the control electronics and the operator control panel. The machine is built into a single case of heavy duty steel plate which is surfaced finished using an aluminum/zinc alloy.

TECHNICAL DATA

	Transtig DC 160i	Transtig DC 200i	Transtig DC 250i
Permitted load at			
35 % duty cycle, TIG	160 A/16 V	200 A/18 V	250 A/20 V
35 % duty cycle, MMA	140 A/26 V	200 A/28 V	250 A/30 V
60 % duty cycle	110 A/24 V	150 A/26 V	180 A/27 V
100 % duty cycle	80 A/23 V	115 A/25 V	140 A/26 V
Setting range, TIG	3–160 A	3–200 A	3–250 A
Setting range, MMA	4–140 A	4–200 A	4–250 a
Slope up	0–10 s	0–10 s	0–10 s
Slope down	0–10 s	0–10 s	0–10 s
Gas pre-flow	0–25 s	0–25 s	0–25 s
Gas post-flow	0–25 s	0–25 s	0–25 s
Pulse time	0.02–5.0 s (0.001–5.0 s)	0.02–5.0 s (0.001–5.0 s)	0,02–5,0 s (0,001–5,0 s)
Pause time	0.02–5.0 s (0.001–5.0 s)	0.02–5.0 s (0.001–5.0 s)	0.02–5.0 s (0.001–5.0 s)
Open-circuit voltage	70 V	70 V	70–80 V
Open-circuit power	30 W	50 W	40 W
Useful Power, P at max current MMA	4.8 kW	7.2 kW	8,78 kW
Apparent Power, S at max current MMA	6.9 kVa	11.7 kVa	13,3 kVa
Power factor, at max current MMA	0.69	0.63	0,65
Efficiency, at max current MMA	0.75	0.78	0,85
Fuse, slow rupture	16 A	10 A	16 A
Mains cable, cross section	3x2.5 mm ²	4x1.5 mm ²	4x1,5 mm ²
Dimensions l x w x h	515x285x415	515x285x415	515x285x415
Weight	23 kg	23 kg	25 kg
Application class	S	S	S
Class of enclosures	IP 23	IP 23	IP 23

These welding power sources comply with the requirements of EN 60974–1 or BS 638 pt10.

The symbol **S** indicates that this power source is designed for use in areas where there is an increased electrical hazard.

The IP code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects and water.

Equipment marked IP 23 is designed for in- and outdoor use.

INSTALLATION

	Transtig DC 160i	Transtig DC 200i	Transtig DC 250i
Mains voltage	230 V \pm 10 %, 1-phase	400 V \pm 10 % , 3-phase	400 V \pm 10 % , 3-phase
Mains frequency	50-60 Hz	50-60 Hz	50-60 Hz
Fuse, slow rupture	16 A*)	10 A	16 A
Mains cable, cross section	3x2.5 mm ²	4x1.5 mm ²	4x1.5 mm ²
Welding cable, cross sect.	25 mm ²	25 mm ²	35 mm ²

*) When welding with max 100 A a 13 A slow rupture fuse is sufficient.

The DC 160i/200i and 250i are equipped with mains voltage compensation, which means that a \pm 10 % variation in the mains voltage only results in a \pm 0,2 % variation in the welding current.

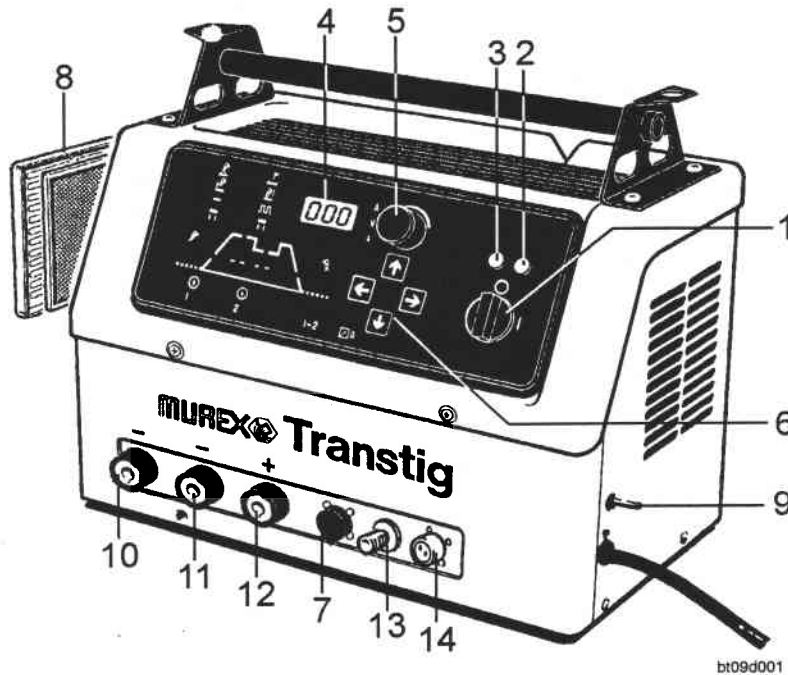
1. Place the equipment in a suitable place and make sure the rectifier is not covered or set-up so that cooling is prevented.
2. Make sure the machine is connected to the correct mains voltage. Earth according to applicable directives.
3. Connect the shielding gas.
4. Connect the TIG torch or MMA electrode holder and the return cable.

The machine is now ready for welding.

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.

OPERATION



1	Mains power on/off switch	9	Gas nipple (connection to gas regulator)
2	Yellow thermal overload indicator lamp	10	Connection for TIG torch power
3	White power on indicator lamp	11	MMA connection
4	Digital display	12	Connection for return cable when TIG welding
5	Setting control	13	Gas outlet connection to torch
6	Push-buttons	14	Torch switch connection
7	Remote control connection		
8	Dust filter		

The welding cable and return cable should be connected to 11 and 12 for MMA.


When the main power switch is switched on, the white indicating lamp on the front comes on.


To eliminate the risk of overloading the machine it has been equipped with an integrated thermostat that trips if the temperature becomes too high.

When this occurs the welding current is cut out and the yellow indicating lamp comes on. In addition, the error code "E13" is displayed. When the temperature has dropped the thermostat automatically resets.

Control panel

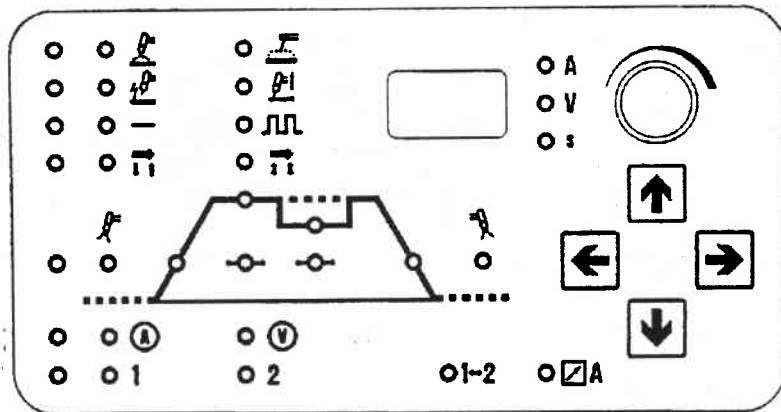
On the front of the machine there is a control panel for the selection of functions and setting of parameters. This consists of a display, setting control, LEDs and push-buttons. By using the push-buttons you can move between the different functions. The selected function is indicated by the respective LEDs coming on.

One row at a time is set, the row is indicated by a red LED. Movement between rows takes place using the red arrow keys  .



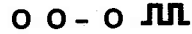

Movement between each column takes place using the green arrow keys  . All numeric settings are made using the setting control. The LEDs to the right of the display indicate the actual unit (ampere/volt/seconds). On the rows where only a function is selected, "----" is shown on the display.

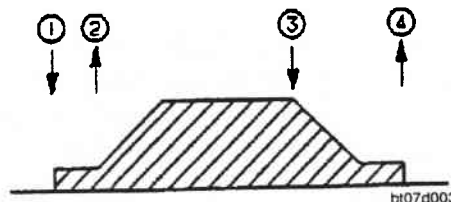
Description of the functions:

- Row 1
- Row 2
- Row 3
- Row 4
- Row 5
- Row 6
- Row 7



bt07d002

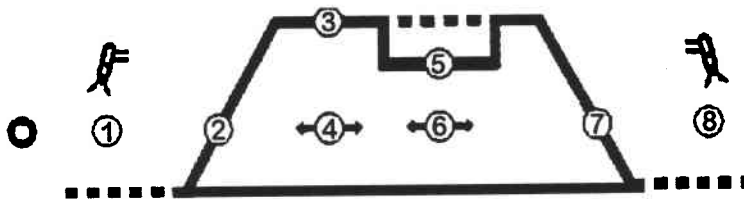
- Row 1** TIG welding or MMA welding 
If MMA welding is chosen, the current is set here and rows 2-5 are ignored.
- Row 2** TIG/HF ignition or TIG/Liftarc ignition 
For a description of Liftarc ignition, see page 14.
- Row 3** Continuous current or pulsed current 
- Row 4** 2 stroke or 4 stroke trigger action 
2 stroke trigger action means that the arc is ignited when the torch trigger is pressed in and is extinguished when the trigger is released. 4 stroke trigger action means that when the torch trigger is pressed in "1" the machine starts with the pilot current and then slopes up to the set current when the trigger is released "2". When the trigger is pressed in again "3" the machine slopes down to the pilot current. The arc is extinguished when the trigger is released "4".



bt07d003

Row 5 Parameter setting

- | | |
|--|--------------------------|
| 1. Gas pre flow | 0-25 s |
| 2. Slope up | 0-10 s |
| 3. Pulse current or continuous current | 3-160 A alt. 3-200 A |
| 4. Pulse time | 0,02-5,0 s (0.001-5.0 s) |
| 5. Background current | 3-160 A alt. 3-200 A |
| 6. Background time | 0.02-5.0 s (0.001-5.0 s) |
| 7. Slope down | 0-10 s |
| 8. Gas post flow | 0-25 s |



Row 6 Digital display A V

Shows the welding current or arc voltage during the present welding run. The measurement instrument has a hold function that locks the measurement value when the welding run is stopped.

Row 7 Welding data memory 0 1 2 01-2 A



Four different sets of welding data settings can be stored in the machine's memory, two for TIG mode and two for MMA mode.

IMPORTANT



The following can be stored:

TIG: selected option from row 3 (continuous or pulsed current)
All settings in row 5.

MMA: Welding current

The welding data memory is changed using the green arrow keys  .

Changes can also be made by quickly pressing the torch trigger, regardless of whether welding or not.

To activate the possibility of jumping between programs both the green arrow   keys should be pressed simultaneously.

When the jump function is activated an indicating lamp comes on.

0 1-2 If the 4 stroke trigger action is selected, quickly pressing the trigger will switch the welding data. The same thing applies in 2 stroke trigger action if you are not welding. During welding, using 2 stroke trigger action, you release the trigger momentarily to change the welding data.


Transtig 160i/200i and 250i have battery backup so that the settings remain in memory even when the machine is switched off or disconnected from the power supply.

OTHER FUNCTIONS

Make & break welding (MMA)


Make & break welding can be used when welding with stainless steel electrodes. The technique involves the arc switching between igniting and extinguishing to allow better control over the heat transfer. The electrode only needs to be lifted a little for the arc to be extinguished.

The machine should be in the current setting mode when the function is activated.

Press both of the green arrow  keys simultaneously for 2 seconds and the symbol "--_" indicates that the function is activated.

This mode remains active even if the machine is switched off. The machine is reset for normal welding again using the same method and "----" is then indicated on the display.

Arc Force (MMA)

The Arc Force setting changes the machine's dynamic characteristic. A softer or harder arc can be obtained. The machine should be in the current setting mode when activating the function by pressing the two red arrow keys  simultaneously for 2 seconds. The display shows a value between 0 and 100. The higher the value the harder the arc.

Press one of the buttons and the power source returns to the normal operating mode. The set Arc Force value remains. Different Arc Force settings can be stored in the machine's two sets of welding data memory.

Pulse time/Background time (TIG)


Normally the setting range for these parameters is 0.02–5.0 s. By pressing the two green arrows simultaneously for 2 seconds, times down to 0.001 s can be set. This extended setting range remains until the machine is reset using the same method. When activating the function the machine should be in the mode for setting the pulse time/background time. Note that times below 0.250 s are displayed without the decimal point.

Remote control

Using the remote control socket on the machine the current can be remotely varied in TIG and MMA modes.

If pulsed current is selected in TIG mode, it is the pulsed current that is remotely regulated. The set value from the remote control is shown on the display by stepping to the position where the current should be set when not using the remote control.

Switching to the remote mode takes place automatically when the unit is connected.

This is confirmed by the LED coming on 0  A.

(NOTE! the pins L and M in the remote control's connecting plug must be linked for automatic connection to take place).

The following remote controls can be connected: PHA1, PHA2, PHB1, PHB2, PHC2 and FS002.

NOTE!

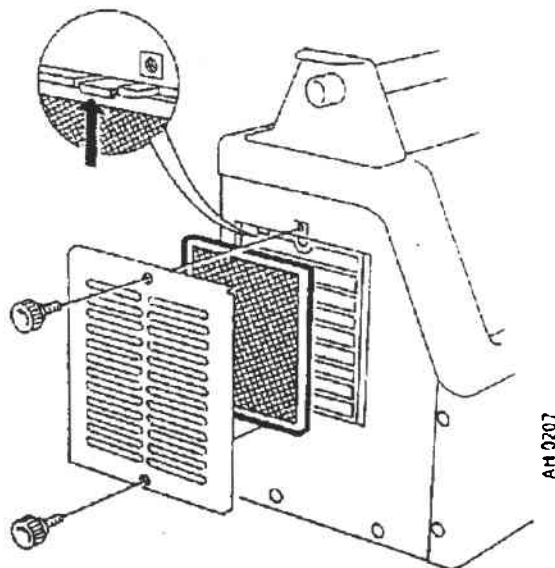
When using FS002 the slope-up and slope-down times should be set to 0 sec.

MAINTENANCE

Generally, Transtig DC 160i/200i and 250i do not require any maintenance. Normally, it is sufficient to blow out the machine using clean, compressed air annually, and the dust filter should be cleaned regularly.

If the machine is set up in dusty or dirty environments the machine and dust filter should be cleaned more often.

Dismantling the filter.



bt07d109

Error Codes

The DC 160i/200i and 250i are equipped with integrated error monitoring. If an error should occur then an error code is displayed. The error codes are as follows:

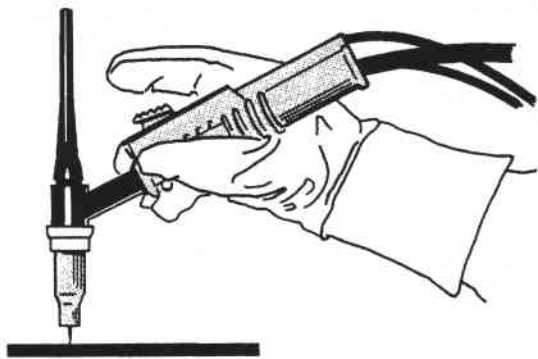
- E01** Memory error, internal RAM
- E02** Memory error, external RAM
- E03** Memory error, EPROM
- E04** Memory error, random test of battery backed up RAM
- E05** Memory error, variable value outside limit in battery backed up RAM
- E06** Low battery voltage
- E10** Incorrect supply voltage 20 V
- E11** Incorrect supply voltage -15 V
- E13** High temperature, thermal switch protection
- E14** Current-servo error

The error indications are shown if the machine is not able to maintain the set current, for example, while MMA welding with an extremely long arc. The indication should disappear after welding for a few seconds under normal conditions.

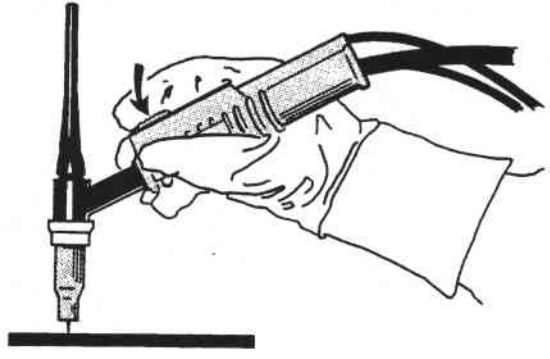
If any of these error codes are displayed permanently or recur frequently an authorized Murex service centre should be consulted.

NOTE! All warranty undertakings given by the supplier cease to apply if the customer or non authorized engineer attempts to rectify any faults on the machine during the warranty period.

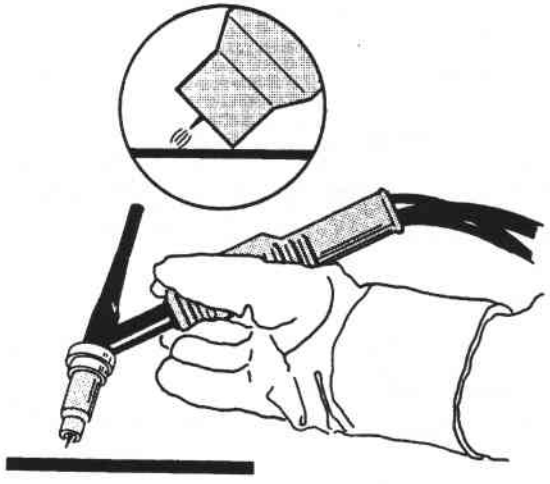
LIFTARC



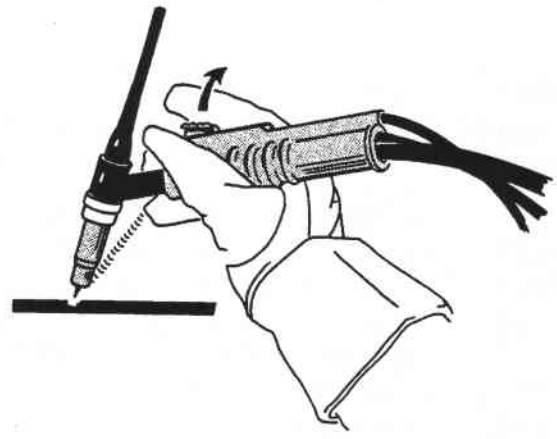
Place the electrode against the workpiece.



Press in the torch switch.



Tilt the torch a little, lift and an arc is produced.



To stop - release the torch switch

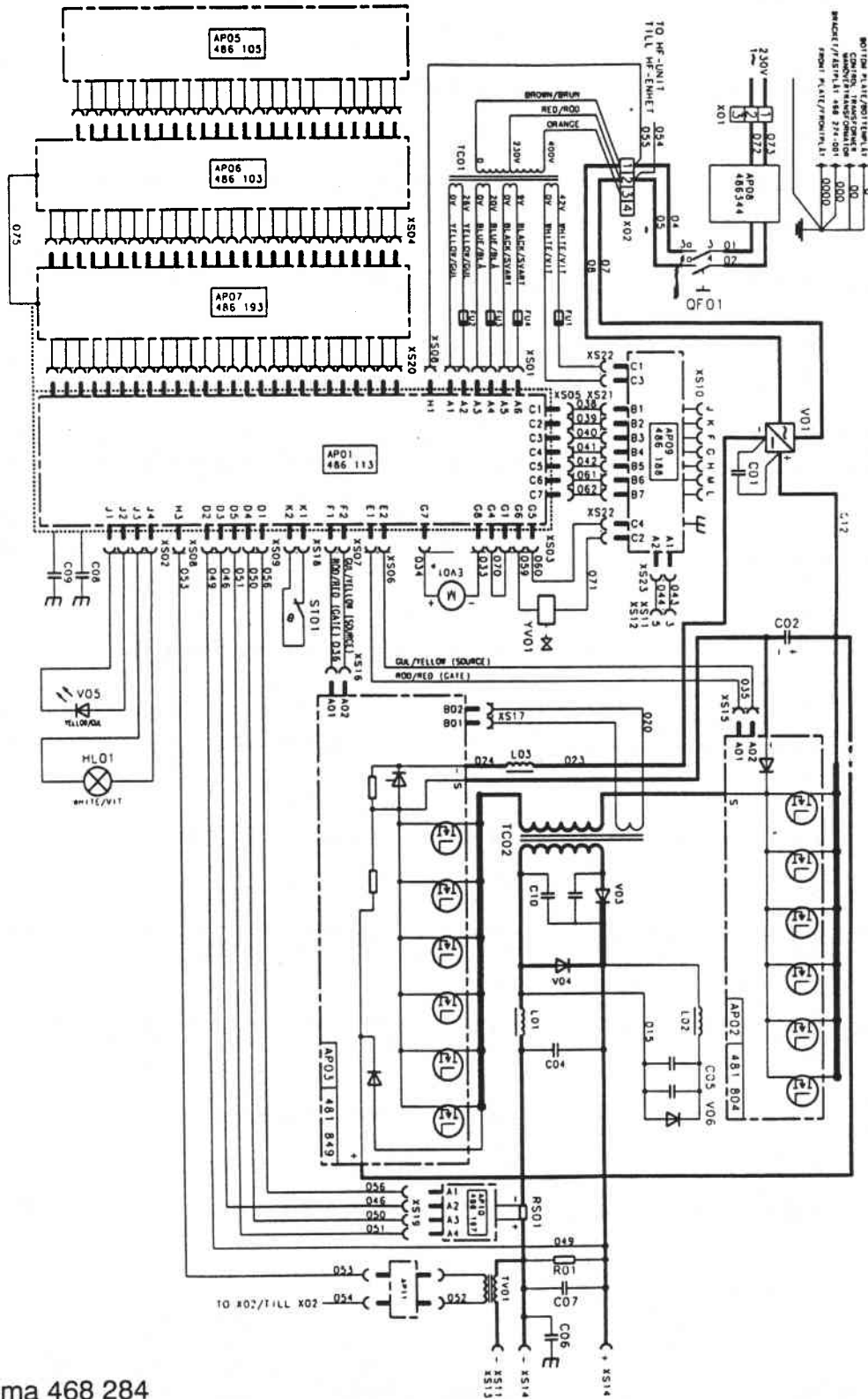
bt09d002



Notes

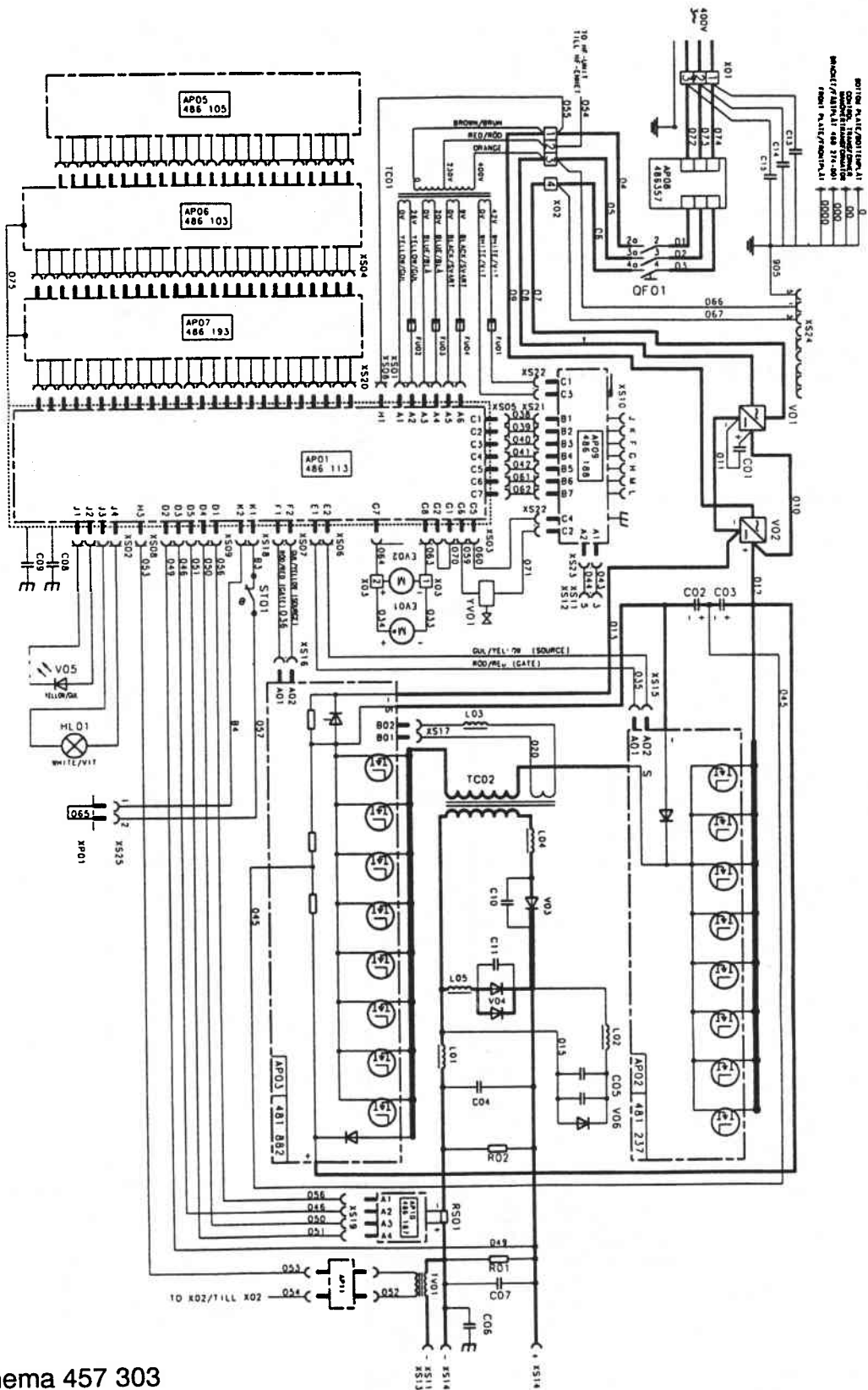
A series of 15 horizontal dotted lines, spaced evenly down the page, intended for writing notes.

DIAGRAM Transtig DC 160i



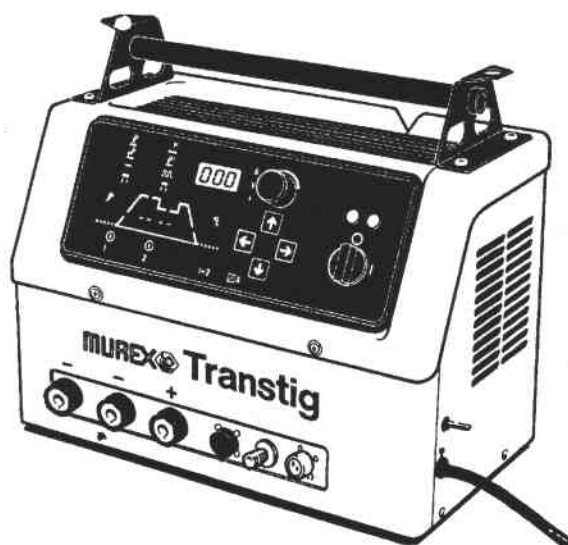
Schema 468 284

Transtig DC 250i



Schema 457 303

SPARE PARTS LIST



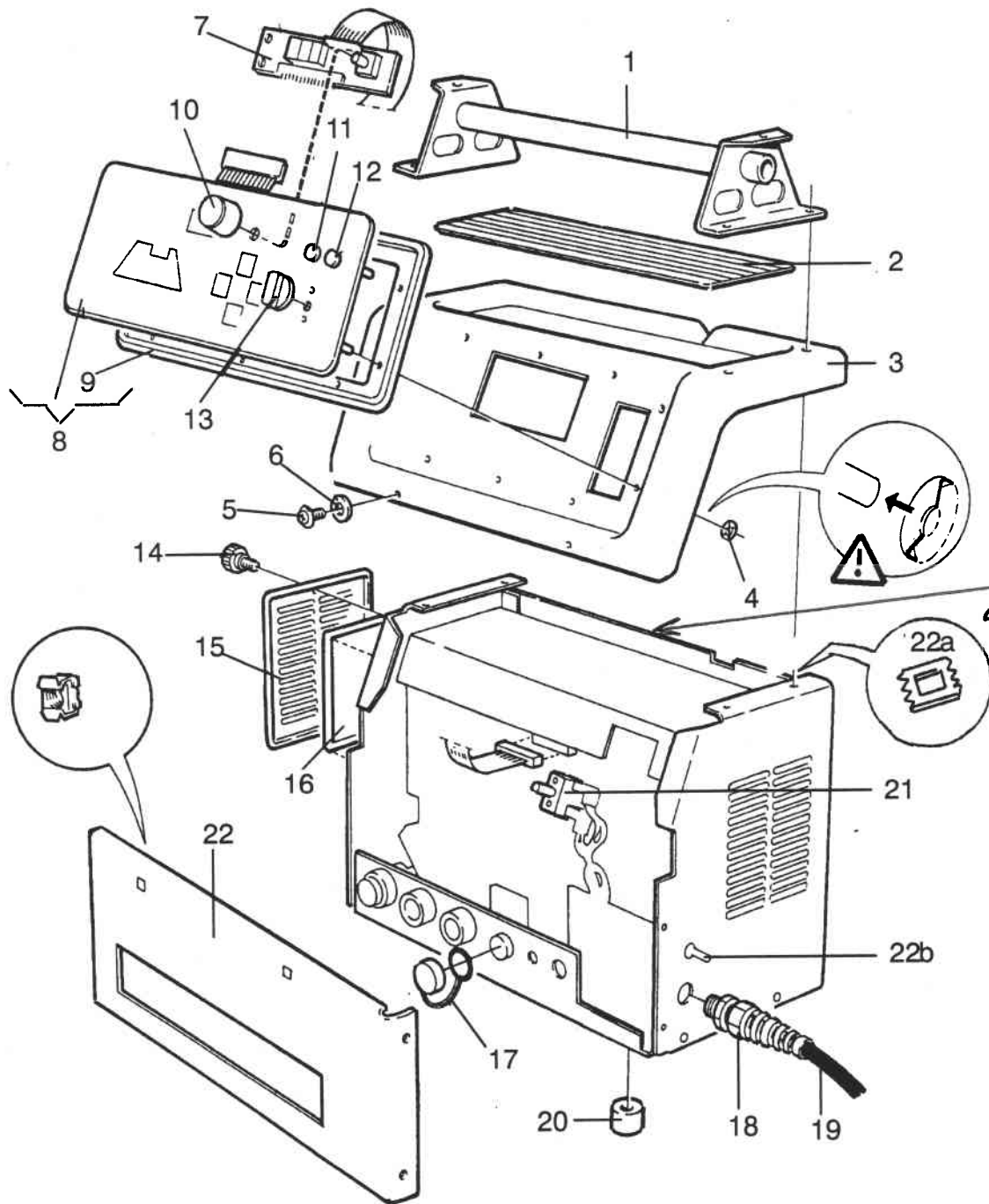
Ordering no.	Denomination	Notes
0468 300 880	Transtig DC160i 230V,50/60 Hz	OKC-connection
0468 300 887	Transtig DC200i 400V 50/60 Hz	OKC-connection
0468 300 897	Transtig DC 250i 400V 50/60 Hz	OKC-connection



NOTE! Spare parts for DC160i/200i/250i

C = component designation in the circuit diagram

lte no.	Qty 160i	Qty 200i	Qty 250i	Ordering no.	Denomination	Notes	C
1	1	1	1	468 543-881	Handle	Complete	
2	1	1	1	468 529-001	Rubber mat		
3	1	1	1	468 278-002	Cover	When the cover is replaced, items 4 and 9 must also be replaced	
4	10	10	10	192 859-006	Locking washer	Must be pressed with 50 kg pressure, when fitted	
5	23	23	23	468 532-001	Screw		
6	2	2	2	193 392-119	Insulating bushing		
7	1	1	1	486 102-880	Display board		AP06
8	1	1	1	468 308-881	Control panel		AP05
9	1	1	1	469 402-880	Rubber seal	12 pcs of item 4 included	
10	1	1	1	321 475-889	Knob		
11	1	1	1	193 759-001	Indicating lamp	White, 28 V	HL01
12	1	1	1	193 759-002	Light-emit. diode	Yellow	V05
13	1	1	1	366 296-002	Knob		
14	2	2	2	441 819-001	Screw		
15	1	1	1	468 275-002	Protection grill		
16	1	1	1	468 519-001	Filter		
17	1	1	1	366 285-001	Protection cap		
18	1	1	1	193 307-104	Grommet inlet		
19	1	-	-	369 761-001	Mains cable	3 x 2.5 mm ² with plug	
	-	1	1	468 516-882	Mains cable	4 x 1.5 mm ²	
20	4	4	4	467 695-001	Rubber foot		
21	1	1	1	366 295-004	Switch		QF01
22	1	-	-	455 953-001	Front cover		
	-	1	-	455 954-001	Front cover		
	-	-	1	457 814-001	Front cover		
-	1	1	1	193 260-154	Connector	6-pole for 0.75 mm ² conductor	XS01
-	1	1	1	193 260-003	Connector	4-pole for 0.35 mm ² conductor	XS02
-	1	1	1	193 260-156	Connector	8-pole for 0.75 mm ² conductor	XS03
-	2	2	2	193 260-155	Connector	7-pole for 0.75 mm ² conductor	XS05, XS21
-	5	5	5	193 260-001	Connector	2-pole for 0.35 mm ² conductor	XS06, XS07, XS15, XS16, XS18
-	1	1	1	193 260-151	Connector	3-pole for 0.75 mm ² conductor	XS08
-	1	1	1	193 260-153	Connector	5-pole for 0.75 mm ² conductor	XS09
-	1	1	1	193 669-002	Connector	2-pole	XS17
-	2	2	2	193 590-302	Sleeve	For connector XS17	
-	2	2	2	193 260-152	Connector	4-pole for 0.75 mm ² conductor	XS19, XS22
-	1	1	1	193 260-150	Connector	2-pole for 0.75 mm ² conductor	XS23
22a	4	4	4	320 029-002	Washer		
22b	1	1	1	193 054-104	Nipple		





NOTE! Spare parts for DC160i/200i/250i

lte. no.	Qty 160i	Qty 200i	Qty 250i	Ordering no.	Denomination	Notes	C
23	1	1	1	367 268-002	HF unit		AP11
24	5	5	5	365 534-001	Spacer washer	Rubber washer	
25	2	2	2	193 312-101	Ferrite core		
26	1	1	-	468 523-880	HF coil		TV01
			1	468 523-880	HF coil		TV01
27	2	2	2	192 859-006	Locking washer		
28	1	1	1	468 527-001	Holding plate		
29	2	2	2	365 584-002	Nail		
30	2	2	2		Busbar	included in item X2 (Spare parts sets)	
31	1	1	1	190 315-102	Hose	To be ordered per metre 0.6 metre as delivered	
32	5	5	5	320 029-002	Earth contact washer		
34	1	1	1	468 295-001	Control transformer		TC01
						315 mAs	FU01
						800mAs	FU02
						1,0As	FU03
						630mAs	FU04
35	1	1	1	193 045-011	Terminal block	Delivered as 12-pole, to be cut to 4-pole	X02
36	1	1	1	193 054-004	Solenoid valve		YV01
37	1	1	1	193 045-011	Terminal block	Delivered as 12-pole, to be cut to 3-pole	X01
38	1	1	1	455 861-880	Holding plate		
39	1	-	-	468 545-001	Sign		
	-	1	1	468 545-002	Sign		
40	1	-	-	486 343-880	Circuit board	Suppression board	AP08
	-	1	1	486 356-880	Circuit board	Suppression board	AP08
41	1	1	1		Connector, socket	12-pole	XS10
41a	1	1	1	366 285-001	Protection cap		
42	1	1	1	486 187-880 ^①	Circuit board	Suppression board complete	AP09
43	2	2	2	160 362-881	Welding current connector		XS14
44	3	3	3	466 325-001	Gasket		
45	1	1	1	5385 009-02	Connector, socket		XS12
45a	1	1	1	457 626-001	Protection cap		XS12
46	1	1	1	2521 035-01	Hose nipple		
47	1	1	1	156 867-001	Hose connector		
48	1	1	1	156 868-880	Welding current connector		XS13
49	1	-	-	467 809-880	Primary inductor		L03
50	1	-	-	468 521-001	Insulation		
50a	-	-	1	468 547-883	Capacitor	0,01 µF 250V (Y)	C13,C14 C15
50b	-	-	1	457 519-001	Fan	24V DC	EV02

① For DC 250i use 486187883