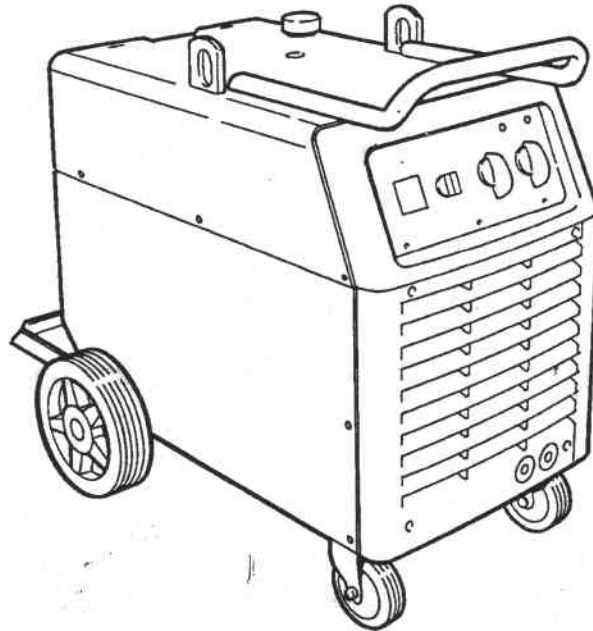


# **Transmig 253/353/353 W**



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



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## Contents

	Page
● <b>DECLARATION OF CONFORMITY .....</b>	<b>3</b>
● <b>Varning .....</b>	<b>4</b>
● <b>Introduction .....</b>	<b>6</b>
● <b>Specification Transmig 253 .....</b>	<b>6</b>
● <b>Specification Transmig 353/353W .....</b>	<b>7</b>
● <b>Installation .....</b>	<b>8</b>
● <b>Operation .....</b>	<b>10</b>
● <b>Maintenance .....</b>	<b>11</b>
● <b>Accessories .....</b>	<b>11</b>
● <b>Circuit Diagram .....</b>	<b>12</b>
● <b>Spare parts Transmig 253 .....</b>	<b>14</b>
● <b>Spare parts Transmig 353/353W .....</b>	<b>18</b>



## DECLARATION OF CONFORMITY

### Murex Welding Products Ltd.

Declare hereby that:

Murex Transmig 253/353/353W power sources  
Part No. 1415282/1415283/1415284  
From production Serial No. 518-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



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 Transmig 253, 353 & 353W** are industrial 3 phase flat characteristic power sources for MIG/MAG welding with solid or cored wires.

The are normally used together with a Murex Transmatic wire feed unit for dip through spray transfer processes.

Transmig 353 W incorporates a MIG torch water cooling unit.

## Specification Transmig 253

**Pt. No. 1415282**

### Standard delivery:

Power source.

Mains cable 5 m (fitted).

Includes: Handle, (fitted with 2 screws), gas cylinder shelf (fitted with 2 screws).

Mounting post for wire feed unit.

<b>Voltage</b>	<b>400-415V, 3-50 Hz</b>
Permissible load at 100 % duty cycle	195 A/24 V
60 % duty cycle	250 A/27 V
35 % duty cycle	320 A/30 V
Setting range (DC)	40A/16(14)V-320A/30V
Open circuit voltage	16-40 V
Open circuit power	40 W
Efficiency	0,75
Power factor	0,94
Control voltage	42 V, 50/60 Hz
Dimensions l x w x h	770x520x620
Weight	110 kg
Enclosure class	IP 23
Application classification	<b>S</b>



## Specification Transmig 353/353W

Pt. No. 1415283/1415284

### Standard delivery:

Power source, (TM 353 W includes inbuilt torch water cooler).

Mains cable 5 m (fitted)

### Includes:

Gas cylinder shelf, (fitted with 2 screws).

Mounting post for wire feed unit.

<b>Voltage</b>	<b>400-415V, 3-50 Hz</b>
Permissible load at 100 % duty cycle	280 A/28 V
60 % duty cycle	350 A/32 V
50 % duty cycle	380 A/33 V
Setting range (DC)	50A/17(15)V-380A/33V
Open circuit voltage	17-45 V
Open circuit power	130 W 340 W/TM 353W
Efficiency	75 %
Power factor	0,96
Control voltage	42 V, 50/60 Hz
Dimensions l x w x h	800x640x835
Weight	143 kg 157 kg/TM 353W
Enclosure class	IP 23
Application classification	<b>S</b>

**TM 253,353 & 353W** comply with the requirements of **EN 60974-1** or **BS 638 pt 10**.

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.

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

## Installation

### Important

- Electrical installation must be carried out by a qualified electrician.
- Site the unit so that ventilation grilles are clear of obstructions.
- Ensure all flammable materials are removed from the area.
- Ensure the gas cylinder retaining strap is installed when mounting the gas cylinder.
- The front panel on/off switch does not isolate the mains electrical supply.

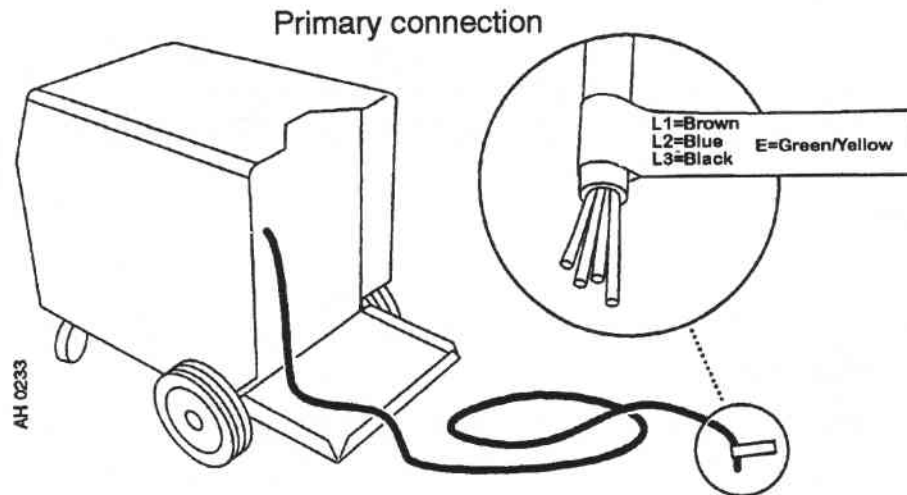
Mains supply		Transmig 253	Transmig 353/353W
Voltage		400/415 V	400/415 V
Frequency		50 Hz	50 Hz
Input Current at	100% duty	9 A	16 A
	60% duty	14 A	23 A
	35% duty	20 A	27 A
Reconnected primary cable		4x4 mm <sup>2</sup>	4x4 mm <sup>2</sup>
Reconnected primary fuse (slow)		16 A	20 A

Note:

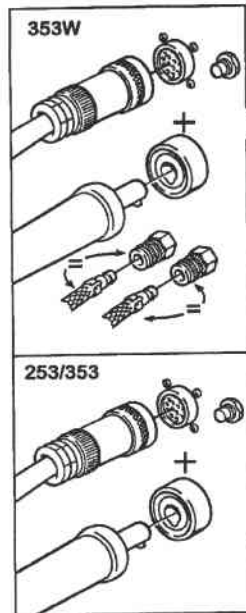
4.5kVA .

20kVA .

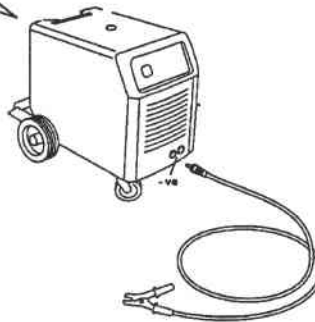
Transmig 253, 353 & 353W are supplied with a fitted 5 m primary cable.



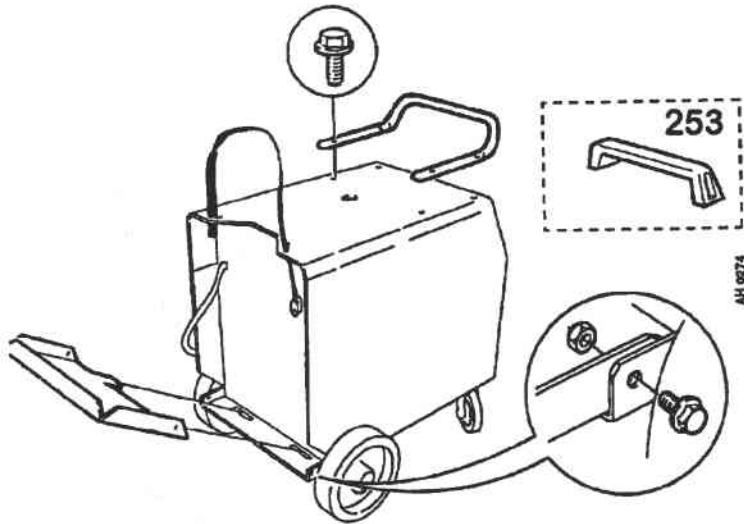
ba19d001



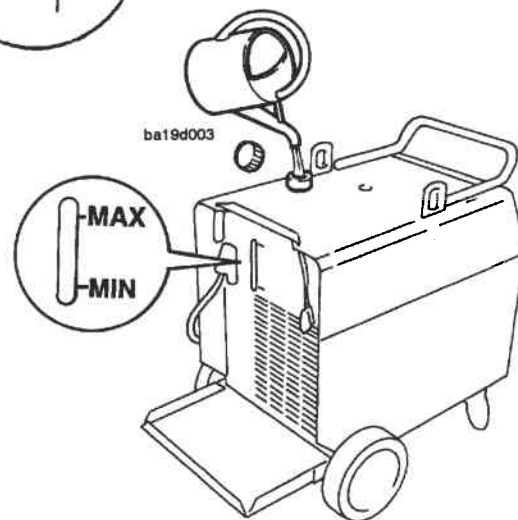
Assembly of components



ba19d00  
2



AH 0274



Recheck water level after fitting torch

ba11kyla

## Operation

Transmig 253, 353 & 353W utilise "switched" primary control providing 40 (4x10) welding voltage selections.

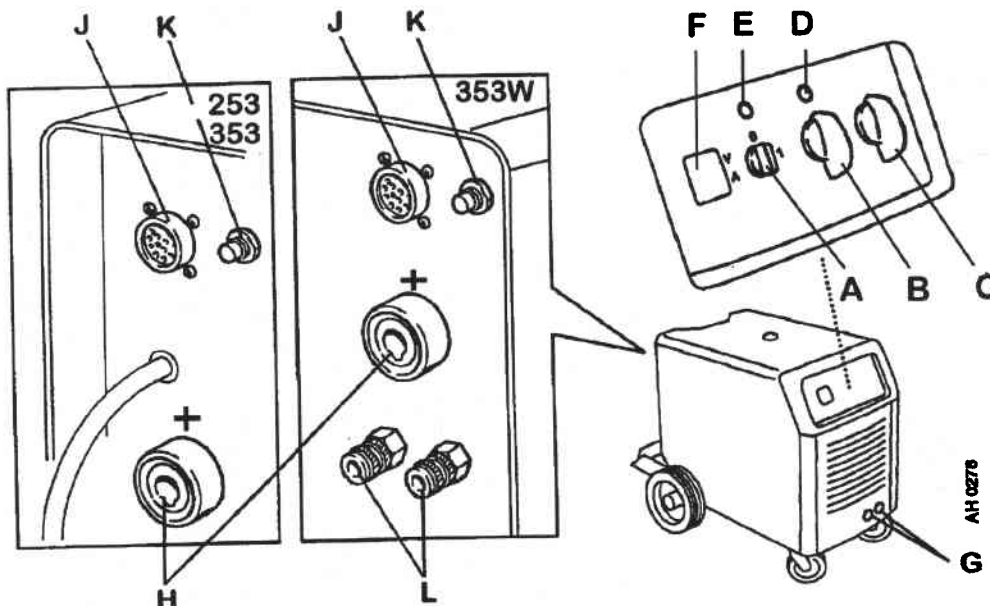
In addition 2 different inductance levels can be selected at the - ve welding outlets (normally the work connection) on the lower front panel.

The machines are fan cooled, 2 speed thermostatic on the 353 & 353W models, and incorporate thermal overload protection.

If the machine is overheated the orange warning light will illuminate and welding output will stop.

In this event have the machine switched on with the fan running, resetting is automatic when the unit has cooled.

- A - Main switch on/off
- B - Voltage selector 4-step Coarse
- C - Voltage selector 10-step Fine
- D - Indicator lamp thermal overload, lights up in case of overheating
- E - Mains on indicator lamp
- F - Digital meters (meters incorporate last reading hold feature)
- G - Inductance connection - Negative output
- H - Welding socket - Positive output
- J - Sleeve socket 23-pol. wire feed unit
- K - Circuit breaker 42 V AC-circuit
- L - Quick coupling water, (353W)



ba15s004

ba19d004



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## Maintenance

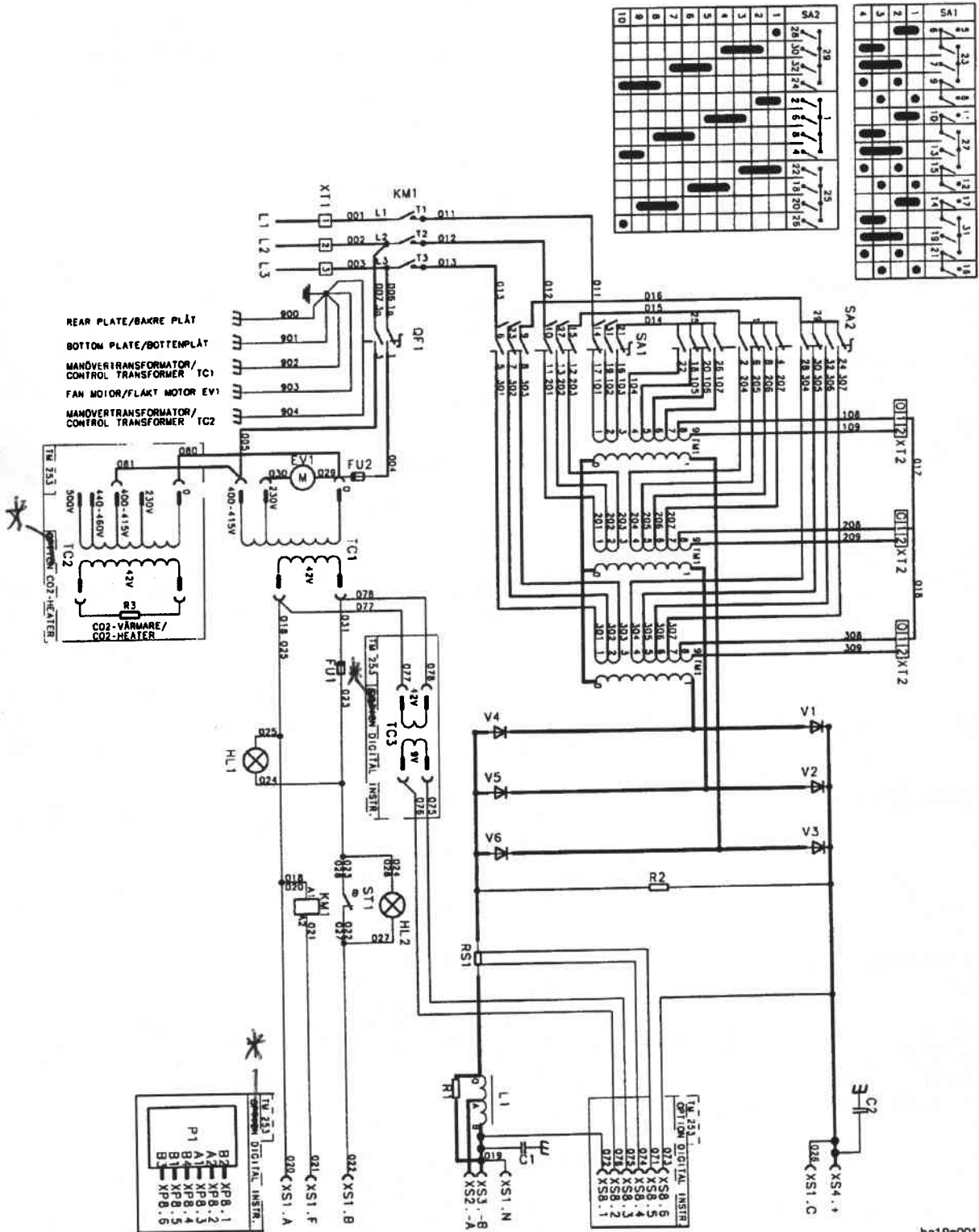
- Regular maintenance is important for reliable and safe operation.
  
- **Daily**
  - Check all welding and electrical connections and cables for signs of deterioration
  - Check the gas supply, hoses and connectors
  - Check the water cooling unit (353W only) and top up if necessary
  - Check the fan is operating normally
  
- **At least annually**
  - Disconnect the machine from the mains electrical supply
  - Remove the top and side covers
  - Blow out the inside of the unit with clean dry compressed air at low pressure
  - Check the security of all wiring, connections and components
  - Refit the covers
  
- **Annually**
  - Have an insulation and earth continuity test carried out by an approved service agent

## Accessories

1415285	5m Interconnection to Transmatic feeder
1415286	10m Interconnection to Transmatic feeder
1415287	15m Interconnection to Transmatic feeder
1409320	3,5m Work return lead & clamp (50 mm <sup>2</sup> )
1380438	CCC DINZ- Plug 50/70
1414015	Water hose 6,6 m (2 required for 353W)
334627	Primary cable 4x4 mm <sup>2</sup> (per metre)
368541-005	Burndy plug 23 way (excl.pins)
323945-004	Burndy pin (3 required)

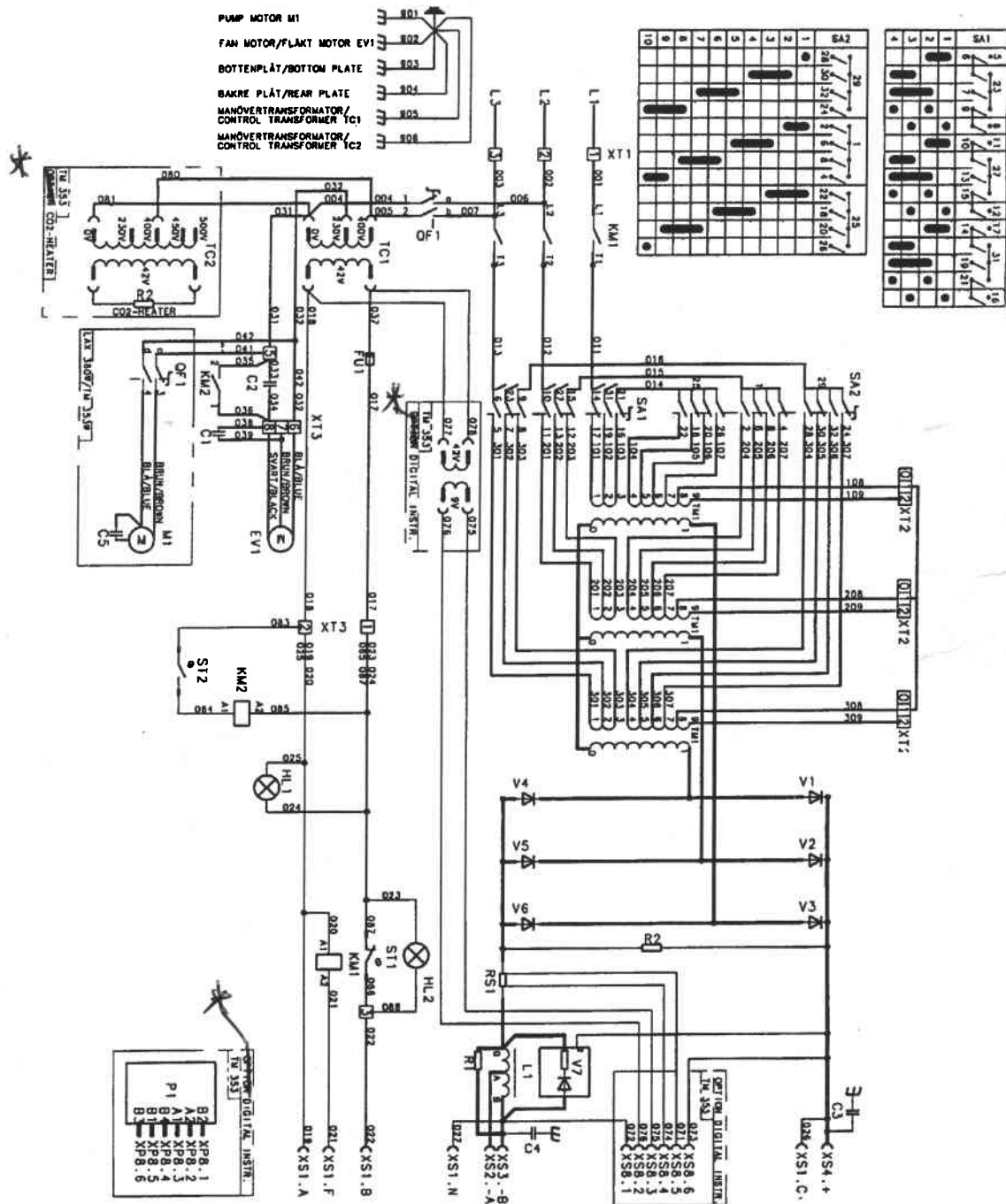
## Circuit Diagram

### Transmig 253 (400-415 V)



ba19e001

## Transmig 353 /353W (400-415 V)



ba19e003

## Spare parts Transmig 253

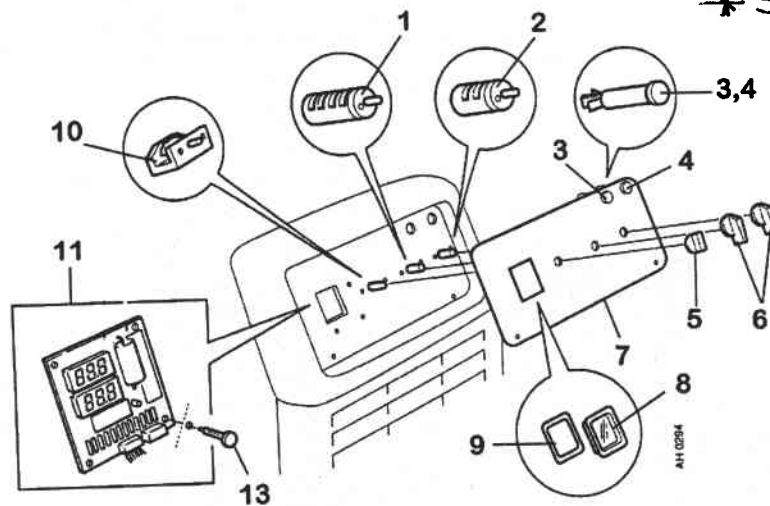
### Ordering numbers for Transmig 253 welding rectifiers

Ordering no.	Denomination	Notes
1415282	TM 253	400-415 V 3~ 50 Hz

### Spare parts list

Spare parts can be ordered through the nearest Murex distributor.

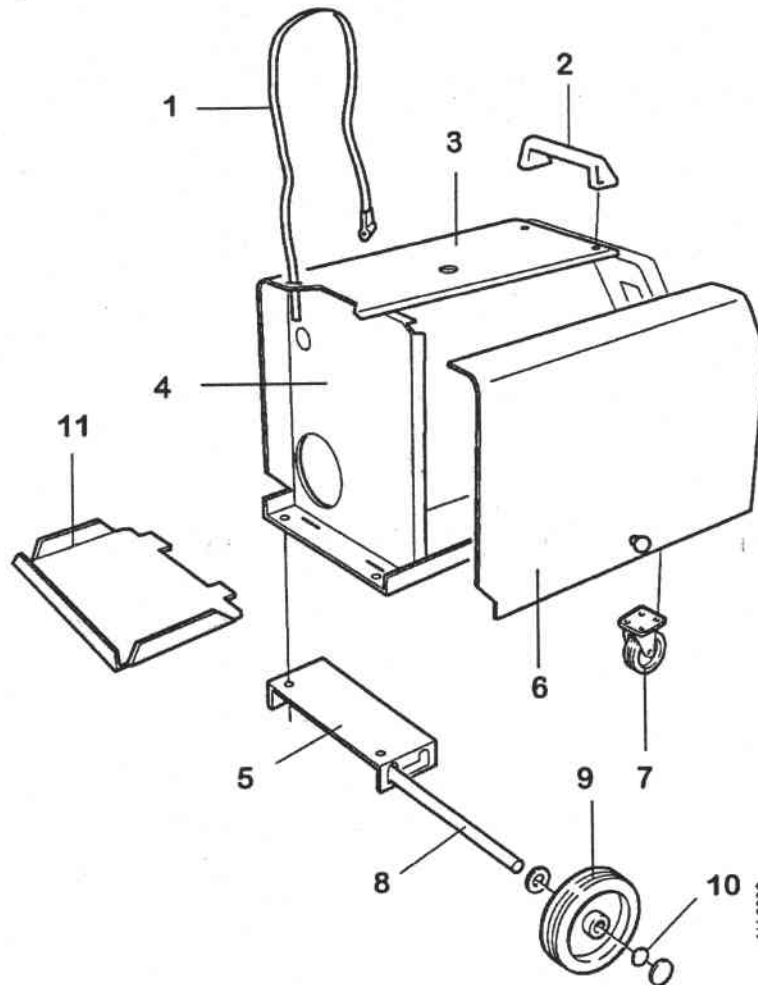
Item no.	Qty	Ordering no.	Denomination	Notes
1	1	193 942-001	Switch ✓	4 step, item 6 is included
2	1	193 945-001	Switch	10 step, item 6 is included
3	1	369 733-002	Indicating lamp ✓	48 VAC, orange
4	1	369 733-007	Indicating lamp ✓	42 VAC, white - on/off.
5	1	366 296-002	Knob ✕	Included in items 1 and 2
6	2		Knob ✕	
7	1	455 610-001	Panel with text	
8	1	455 174-001	Seal	
9	1	455 172-001	Protection glass	
10	1	366 295-002	Switch ✓	
11	1	486 317-880	Circuit board	For digital instrument ,
13	3	455 226-010	Spacer	For circuit board



ba19s001

Item no.	Qty	Ordering no.	Denomination	Notes
1	1	368 265-002	Securing strap	
2	1	455 833-002	Handle	
3	1	456 026-001	Cover with text	
4	1	455 474-001	Rear panel	
5	1	455 814-001	Clamp	
6	1	456 025-001	Side panel with txt	
7	2	455 467-001	Castor wheel	∅ 100mm h=125mm
8	1	469 516-003	Shaft	
9	2	455 457-001	Wheel	∅ 200mm
10	2	192 859-126	Locking washer	
11	1	469 684-001	Shelf	

45562002 Front Panel



AH 0296

ba19s00

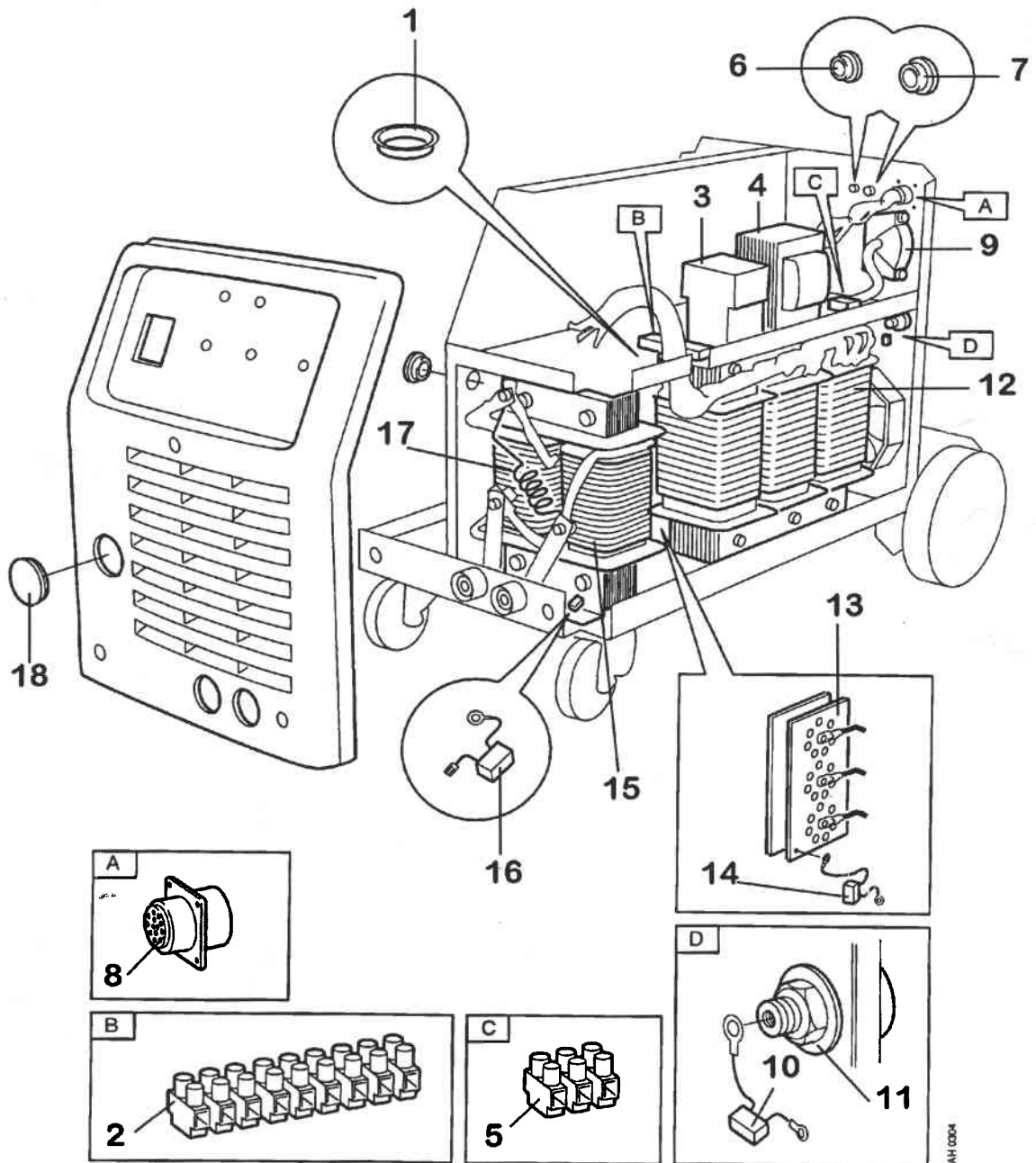
Fan - 455838001  
 Air outlet grill 455839001

Item no.	Qty	Ordering no.	Denomination	Notes
1	1	192 041-139	Grommet	
2	1	193 655-012	Terminal	12-pole
3	1	193 923-001	Contacteur	400-415 V mains voltage
4	1	455 633-001	Transformer	255 VA
5	1	162 781-002	Terminal	3-pole
6	1	192 230-110	Cover	ø 20mm
7	1	368 544-005	Sleeve socket	23-pole
8		323 945-003	Sleeve	
9	1	469 950-880	Cable inlet	
10	1	467 911-881	Capacitor	with cable lugs
11	3	160 362-881	Terminal	OKC 50
12	1	455 618-880	Transformer	Complete, 400-415 V
13	1	455 815-881	Diode bridge	Complete
14	1	469 380-881	Capacitor	
15	1	455 328-880	Inductor	
16	1	467 911-881	Capacitor	
17	1	466 479-002	Resistor	
18	1	192 230-117	Cover plug	ø 50 mm

NOT SHOWN 1 455 639-001 CO2 TRANSFORMER

NOT SHOWN 2 160362881 Dinse Socket

Z<sub>1</sub> mounting support bkt 456005001.



AN 0304

ba19s006

## Spare parts Transmig 353/353W

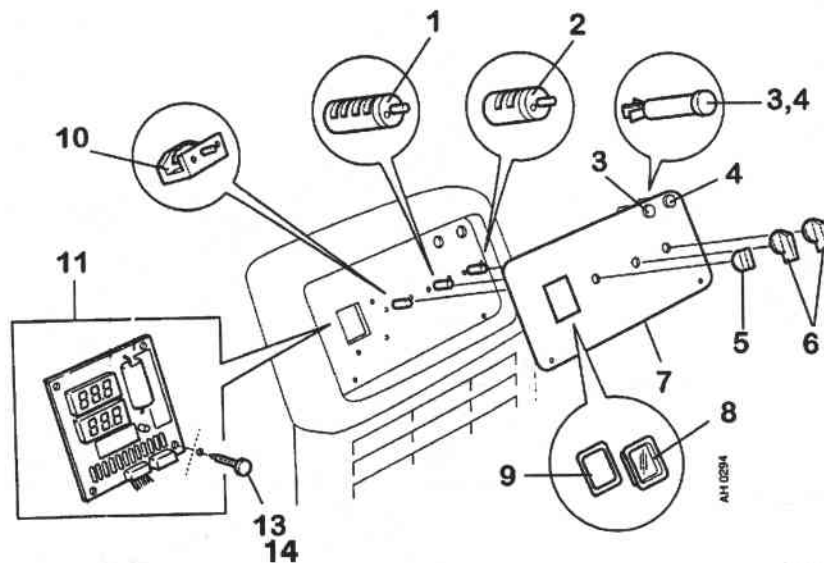
Ordering numbers for Transmig 353 /353W welding rectifiers

Ordering no.	Denomination	Notes
1415283	TM 353	400-415 V 3~ 50 Hz
1415284	TM 353 W	400-415 V 3~ 50 Hz

### Spare parts list

Spare parts can be ordered through the nearest Murex distributor.

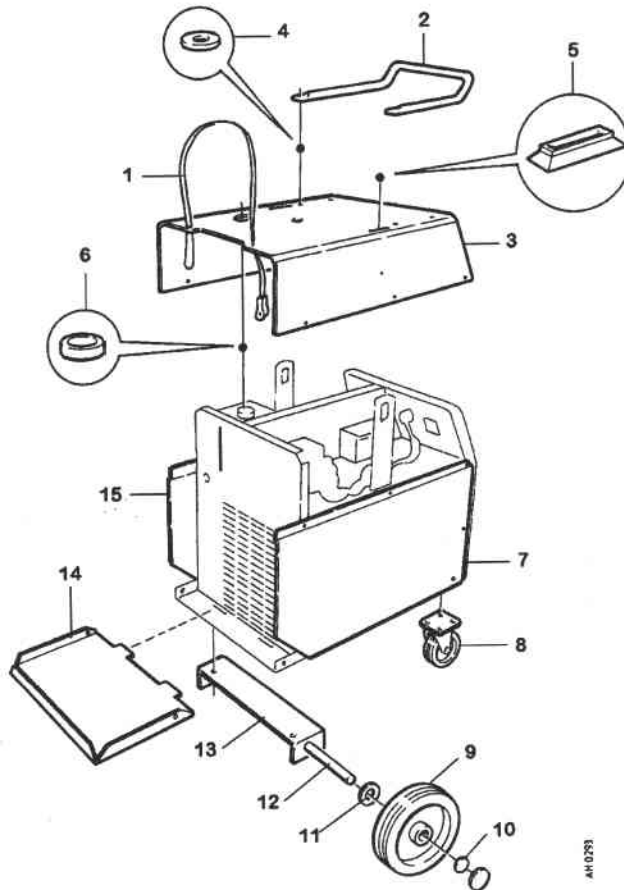
Item no.	Qty	Ordering no.	Denomination	Notes
1	1	193 942-001	Switch	4 step, item 6 is included
2	1	193 945-001	Switch	10 step, item 6 is included
3	1	369 733-007	Indicating lamp	42 VAC, white
4	1	369 733-002	Indicating lamp	48 VAC, orange
5	1	366 296-001	Knob	Included in items 1 and 2
6	2		Knob	
7	1	455 877-002	Panel with text	
8	1	455 174-001	Seal	
9	1	455 172-001	Protection glass	
10	1	366 295-002	Switch	
11	1	486 317-880	Digital instrument	
13	2	455 226-010	Spacer	For circuit board
14	1	455 226-004	Spacer	For circuit board



ba19s001

SHUNT 456 027 881

Item no.	Qty	Ordering no.	Denomination	Notes
1	1	368 265-002	Securing strap	
2	1	469 868-002	Handle	
3	1	469 681-002	Cover	
4	4	366 481-002	Seal	
5	2	468 797-001		
6	1	366 481-003	Seal	
7	1	455 811-001	Side panel with text	Left
8	2	469 873-001	Castor wheel	∅ 125mm h=150mm
9	2	469 872-001	Wheel	∅ 250mm
10	2	192 859-126	Locking washer	
11	2	2151 000-37	Washer	
12	1	469 516-002	Shaft	
13	1	469 685-001	Clamp	
14	1	<del>469 684-001</del>	Shelf 4566830d	
15	1	456 023-001	Side panel with text	Right

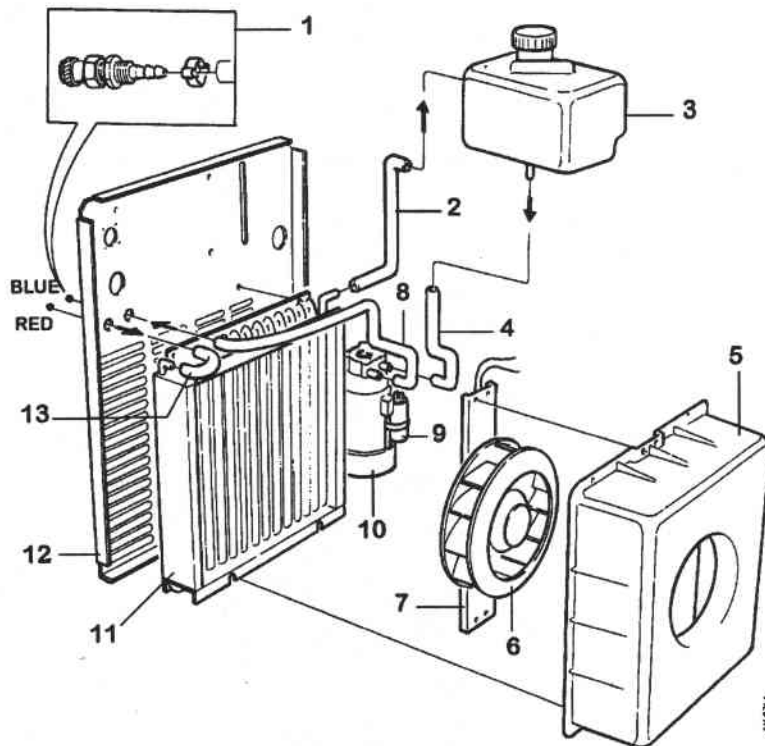


Swivel Post 455 834 880

ba19e0  
02

Item no.	Qty	Ordering no.	Denomination	Notes
1	1	365 803-008	Quick connector	Female, red
1	1	365 803-009	Quick connector	Female, blue
2	1	455 162-001	Hose	
3	1	469 689-001	Water tank ✓	
4	1	455 164-001	Hose	
5	1	469 893-001	Fan housing ✓	
6	1	369 827-001	Fan ✓	
7	1	455 165-001	Attachment	
8	1	455 163-001	Hose	
9	1	191 085-206	Capacitor ✓	5 $\mu$ F 400 V
10	1	469 692-001	Pump ✓	1A 0.2kW 230V 50Hz,
11	1	469 688-001	Cooler ✓	
12	1	469 677-001	Rear panel with text	
13	1	455 161-001	Hose	

EMC FILTER 486 364 880  
(none used in 253)

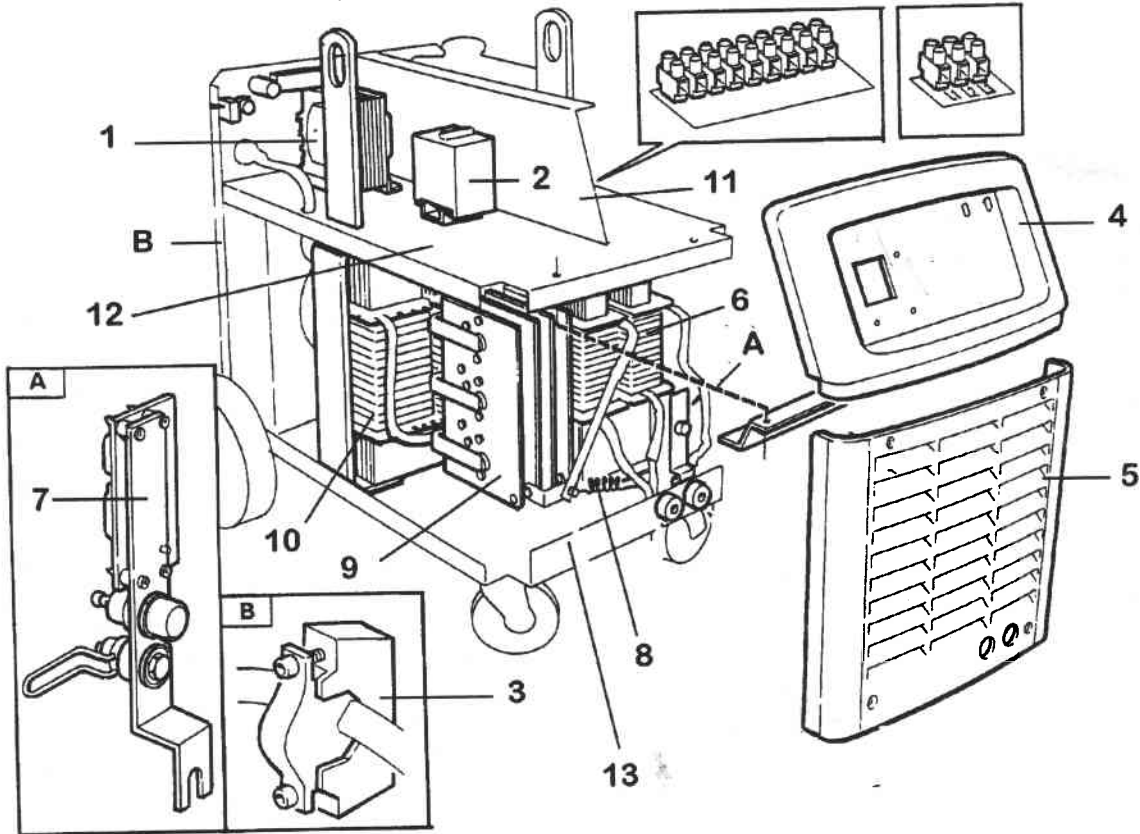


ba19s003

Item no.	Qty	Ordering no.	Denomination	Notes
1	1	455 628-001	Control transformer	400-415 V
2	1	193 923-001	Contactor	400-415 V
3	1	469 950-880	Cable inlet	
4	1	469 704-002	Front panel	
5	1	469 703-002	Front grill	
6	1	455 627-880	Inductor	
7	1	367 070-881	Inductor short-circuiter	
8	1	466 479-001	Resistor	
9	1	455 488-880	Diode bridge	
10	1	455 498-881	Transformer	400-415 V
11	1	469 678-001	Centre plate	
12	1	455 830-001	Intermediate plate	
13	1	469 672-001	Base plate	

NOT SHOWN 1 455 63900 CO2 TRANSFORMER

mounting support bkt 456005001.



ba19s004

