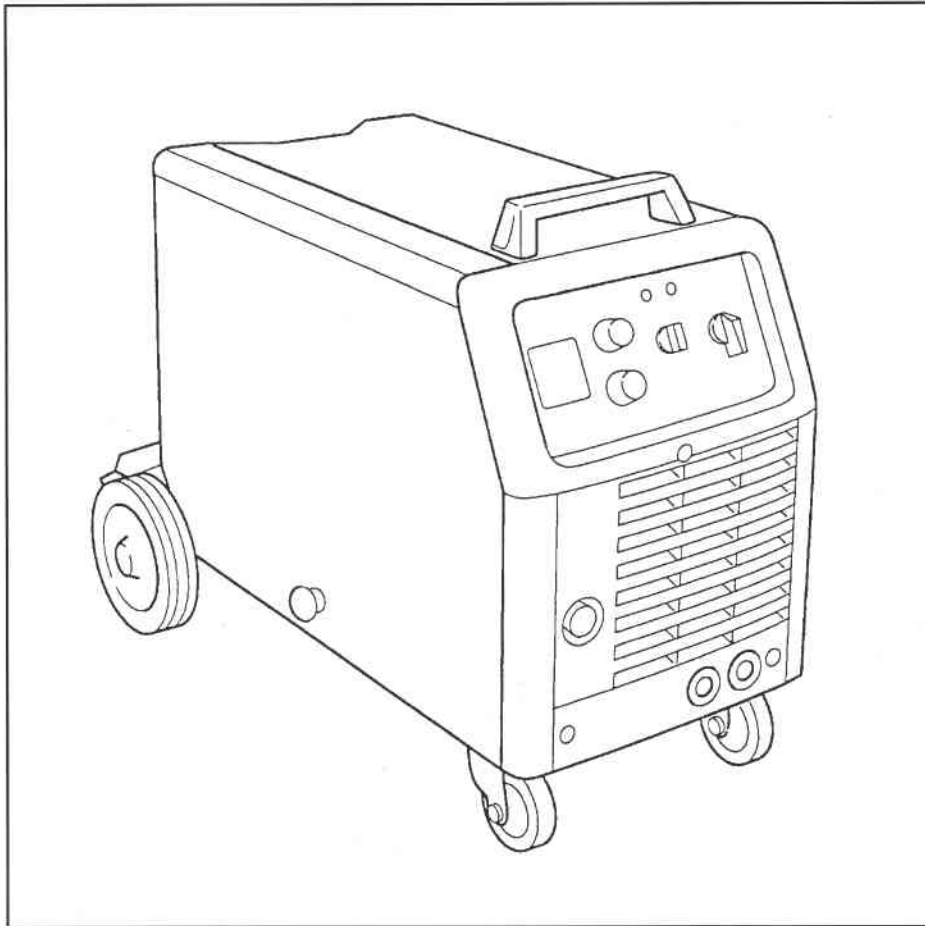


# Tradesmig 283/333S



**Please ensure that this  
Instruction Manual and Parts List  
is made available to the user of  
the equipment**



## DECLARATION OF CONFORMITY

### Murex Welding Products Ltd.

Declare hereby that:

#### **Murex Tradesmig 283/333S Power Sources**

Part No.1416111/1416113

Manufactured after 1 st September 2002

- 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 "P. Karlsson".

.....  
P.Karlsson  
Managing Director.  
Esab Welding Equipment AB  
August 2002

Manufactured by Esab Welding Equipment AB.

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●	<b>WARNING</b> .....	4
●	<b>INTRODUCTION</b> .....	6
●	<b>TECHNICAL SPECIFICATION: Tm 283</b> .....	6
●	<b>TECHNICAL SPECIFICATION: Tm 333</b> .....	7
●	<b>INSTALLATION</b> .....	8
●	<b>OPERATION</b> .....	10
●	<b>MAINTENANCE</b> .....	12
●	<b>WEAR COMPONENTS</b> .....	13
●	<b>SPARE PARTS LIST</b> Tradesmig 283 .....	16
●	<b>SPARE PARTS LIST</b> Tradesmig 333 .....	24

## 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 Tradesmig 283S and 333S are 3 phase flat characteristic power sources with inbuilt wire feed units for MIG/MAG welding with solid or cored wire. Tradesmig 283S incorporates a spot weld timer where as the more powerful 333S has a torch switch latching function providing pre and post gas purging. Both units have adjustable burn-back timers.

A polarity reversing facility inside the wire feed compartment enables flux cored wires of both gasless and basic varieties to be run.

### 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 SPECIFICATION: Tm 283S

### Standard delivery:

Power source equipped with spot welding function and adjustable burnback time. Integral wire feed mechanism with feed roller for solid wire, diameter 0.8/1.0 mm.

Fitted mains cable 3 m and gas hose.

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

<b>Voltage</b>		400-415 V, 3-50/60 Hz
<b>Permissible load at</b>	100% duty cycle	150 A/22 V
	60 % duty cycle	190 A/24 V
	30 % duty cycle	265 A/27 V
<b>Setting range (DC)</b>		30A/15V-265A/27V
<b>Open circuit voltage</b>		15-38 V
<b>Open circuit power</b>		40 W
<b>Efficiency</b>		0.73
<b>Power factor</b>		0.94
<b>Control voltage</b>		42 V, 50/60 Hz
<b>Dimensions l x w x h mm</b>		770x520x620
<b>Weight</b>		92 kg
<b>Enclosure class</b>		IP 23
<b>Application classification</b>		<b>S</b>

## TECHNICAL SPECIFICATION: Tm 333S

### Standard delivery:

Power source equipped with switch for 2/4 step trigger action with gas pre-flow and gas post-flow in the 4 step mode and adjustable burnback time.

Integral wire feed mechanism with feed roller for solid wire, diameter 1.0/1.2mm.

Fitted mains cable 5 m and gas hose.

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

<b>Voltage</b>		400-415 V, 3-50/60 Hz
<b>Permissible load at</b>	100% duty cycle	195 A/24 V
	60 % duty cycle	250 A/27 V
	35 % duty cycle	320 A/30 V
<b>Setting range (DC)</b>		40A/16(14)V-320A/30V
<b>Open circuit voltage</b>		16-40 V
<b>Open circuit power</b>		40 W
<b>Efficiency</b>		0.75
<b>Power factor</b>		0.94
<b>Control voltage</b>		42 V, 50/60 Hz
<b>Dimensions l x w x h mm</b>		770x520x620
<b>Weight</b>		112 kg
<b>Enclosure class</b>		IP 23
<b>Application classification</b>		<b>S</b>

Tradesmig 283S and 333S 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 the ventilation grilles are clear of obstructions.
- Ensure all flammable materials are removed from the area.
- Ensure the rear wheel/axle assembly is in its rear position when using the cylinder carrier.
- 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

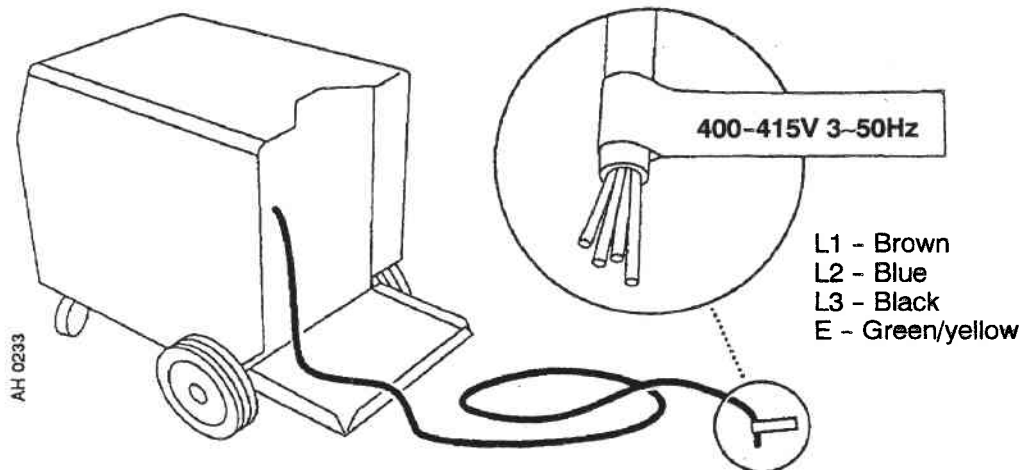
		Tradesmig 283S	Tradesmig 333S
Voltage		400/415 V	400/415 V
Frequency		50/60 Hz	50/60 Hz
Input current at	100% duty	7 A	9 A
	60% duty	10 A	14 A
	35% duty	-	20 A
	30% duty	16 A	-
Recommended primary cable *		4 x 1.5 mm <sup>2</sup>	4 x 2.5 mm <sup>2</sup>
Recommended primary fuse (slow)		16 A	16 A

\* Tradesmig 283S and 333S are supplied with a fitted 5 m primary cable

### Electrical installation

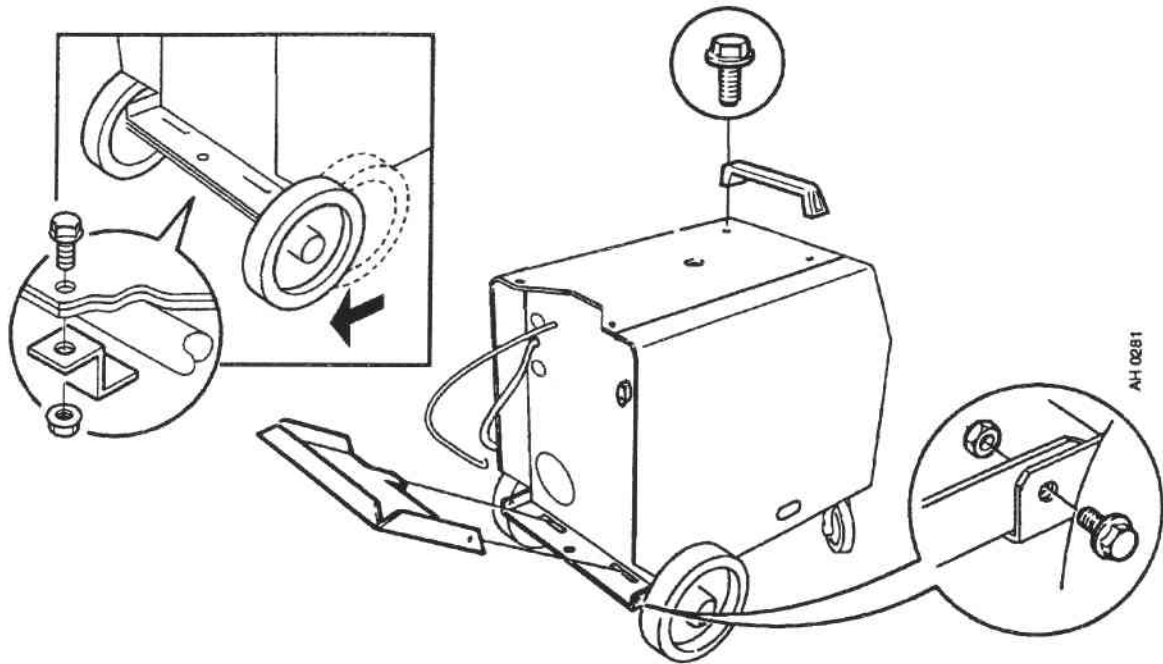


#### Primary connection

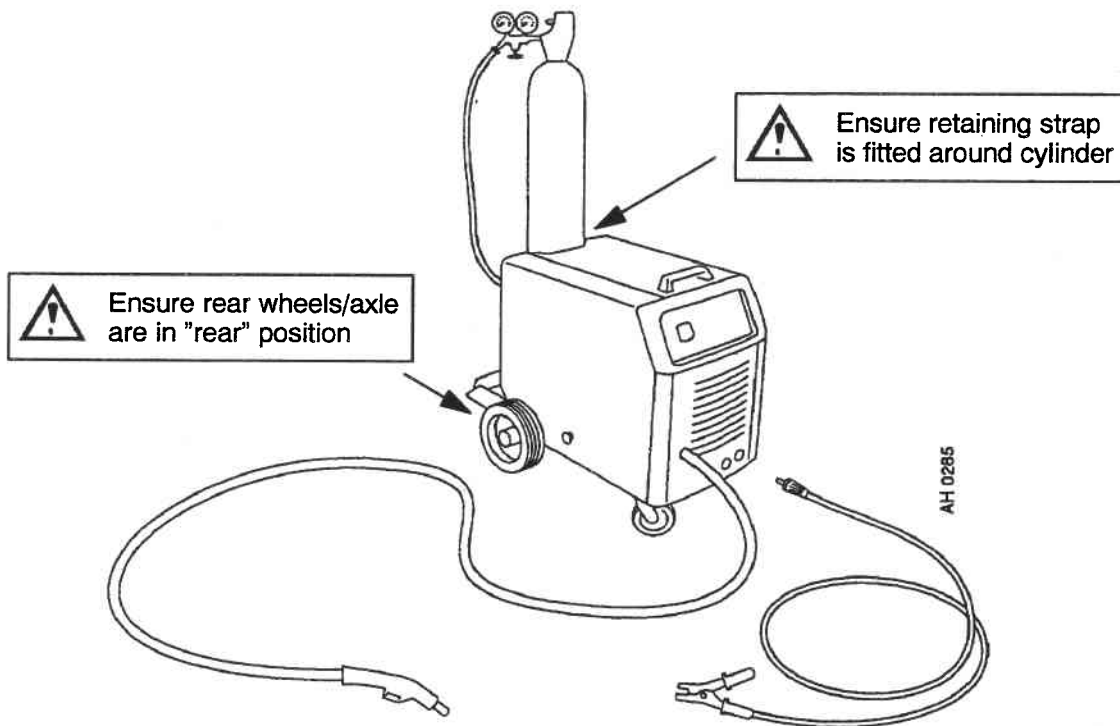


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## Tradesmig assembly



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ba14s008

## OPERATION

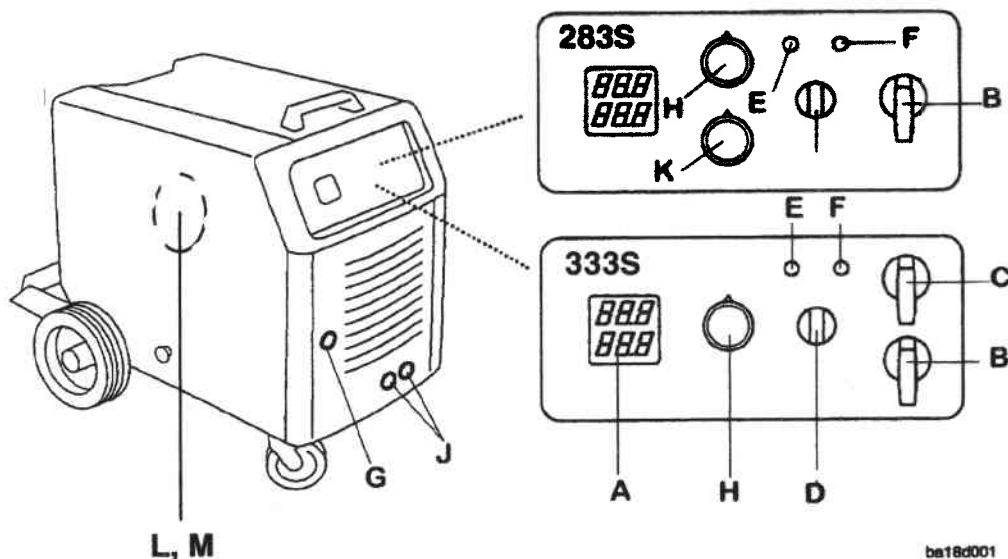
Tradesmig 283S and 333S utilise "switched" primary control providing 10 (283) / 40 (333) welding voltage selections. Two different inductance levels can be selected at the work return connection on the lower front panel. The built-in wire feeder accepts 5, 15 or 18 kg reels/wire baskets and will feed 0.6-1.2 mm diameter wires with the relevant feed rolls.

The polarity of the welding output can be reversed inside the wire feed compartment.

The machines are fan cooled 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. An optional digital volt/ampmeter with built in hold function can be installed in the control panel.

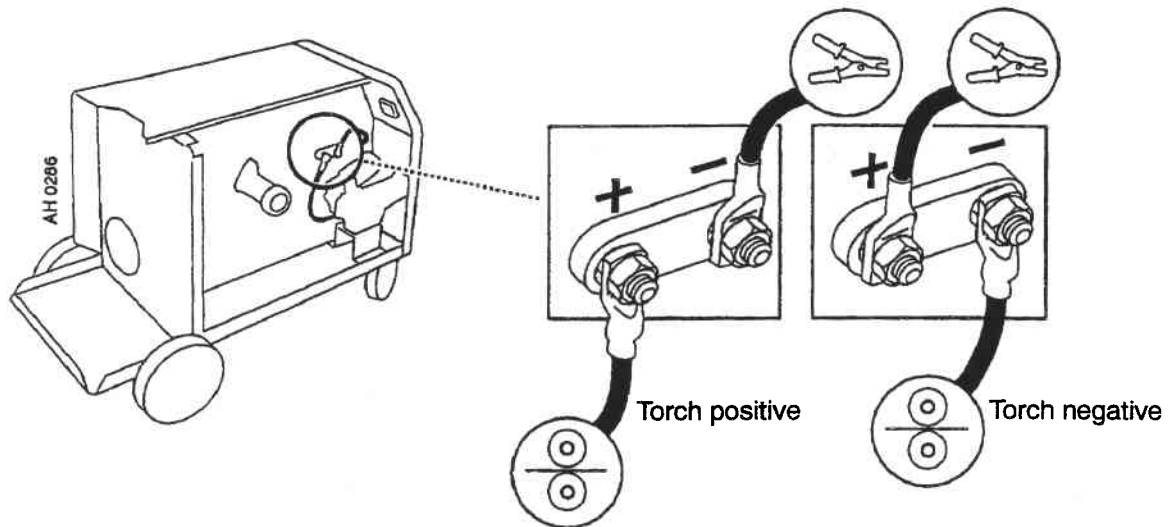
- A - Space for digital meters (optional)
- B - Voltage selector, 10-step (fine)
- C - Voltage selector, 4-step (coarse)
- D - Main switch, on/off
- E - Mains indicator lamp
- F - Thermal overload warning lamp, lights up in case of overheating
- G - Welding torch Euro connection
- H - Wire speed control
- J - Work return connection (2 inductance positions)
- K - Spot welding times
- L - Burnback control (inside wire feed compartment)
- M - 2/4 stroke torch switch selector (inside wire feed compartment)

## Controls



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## Welding polarity selection



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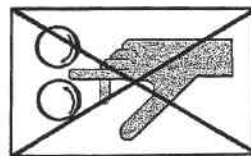
### IMPORTANT!

To prevent the reel sliding off the hub: Lock the reel in place by turning the red nut until the wire reel is held securely.



### WARNING!

Rotating parts can cause injury, take great care.



## MAINTENANCE

Regular maintenance is important for reliable and safe operations.

- **Daily**

- Check all welding and electrical connections and cables for signs of deterioration.

- Check the gas supply, hoses and connectors.

- Check the feed rollers and mechanism, remove any accumulated dust.

- Check the fan is operating normally.

- **At least yearly**

- 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.

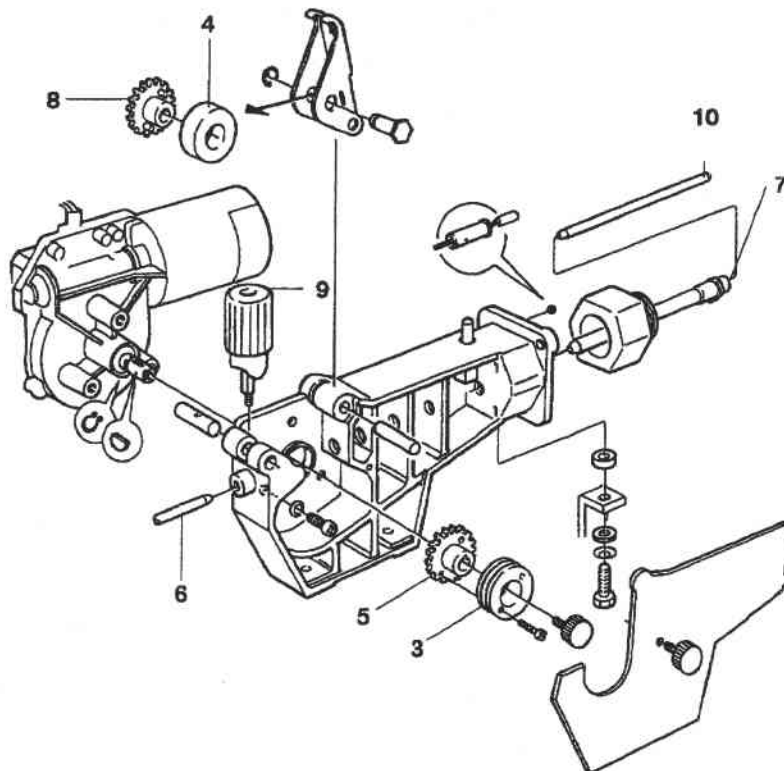
- Refit the covers.

- **Annually**

- Have the unit inspected, serviced and tested by an approved Murex service agent.

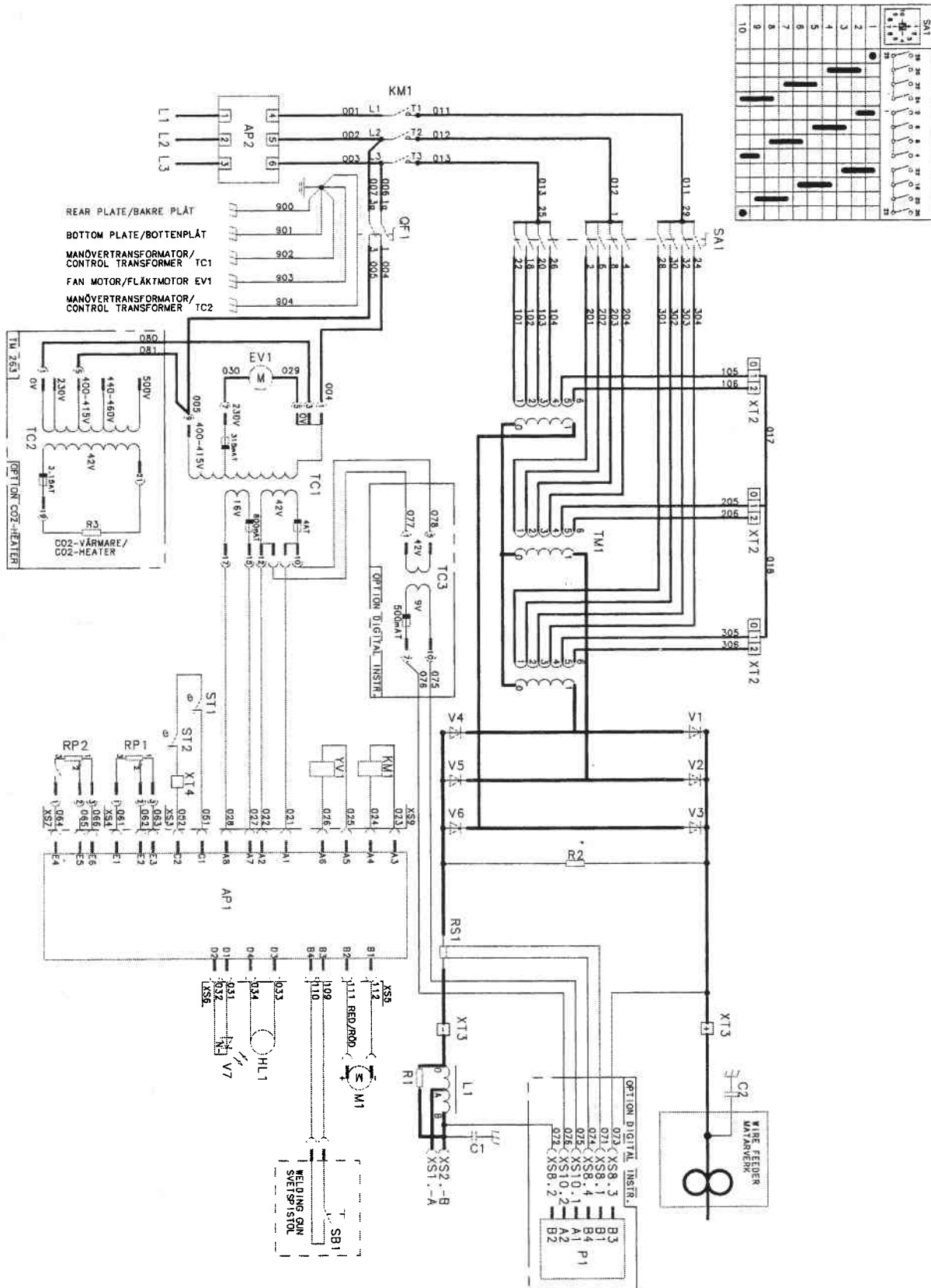
## WEAR COMPONENTS

Item	Ordering no.	Denomination	265	323
3	1411470	Feed roll 0.6-0.8 Hard	x	
	1411471	Feed roll 0.8-1.0 Hard	x	
	1411493	Feed roll 1.0-1.2 Hard	x	
	1411494	Feed roll 1.2(-1.6) Cored	x	
	1411489	Feed roller 1.0-1.2 Soft	x	
	1413458	Feed roller 0.6-0.8 Hard		x
	1413459	Feed roller 0.8-1.0 Hard		x
	1413486	Feed roller 1.0-1.2 Hard		x
	1413487	Feed roller 1.2(-1.6) Cored		x
	1413460	Feed roller 1.0-1.2 Soft		x
4	455 907-001	Pressure roll	x	
	1413844	Pressure roll		x
5	1413452	Feed roll carrier		x
8	1411790	Pressure roll carrier		x
7	455 885-001	Outlet support tube	x	x
9	368 749-880	Pressure adjuster	x	x
10	455 894-001	Outlet guide tube	x	x
6	466 074-001	Inlet guide	x	x
-	456 008-881	Digital meter kit	x	x
-	456 010-881	42 V heater supply kit	x	x

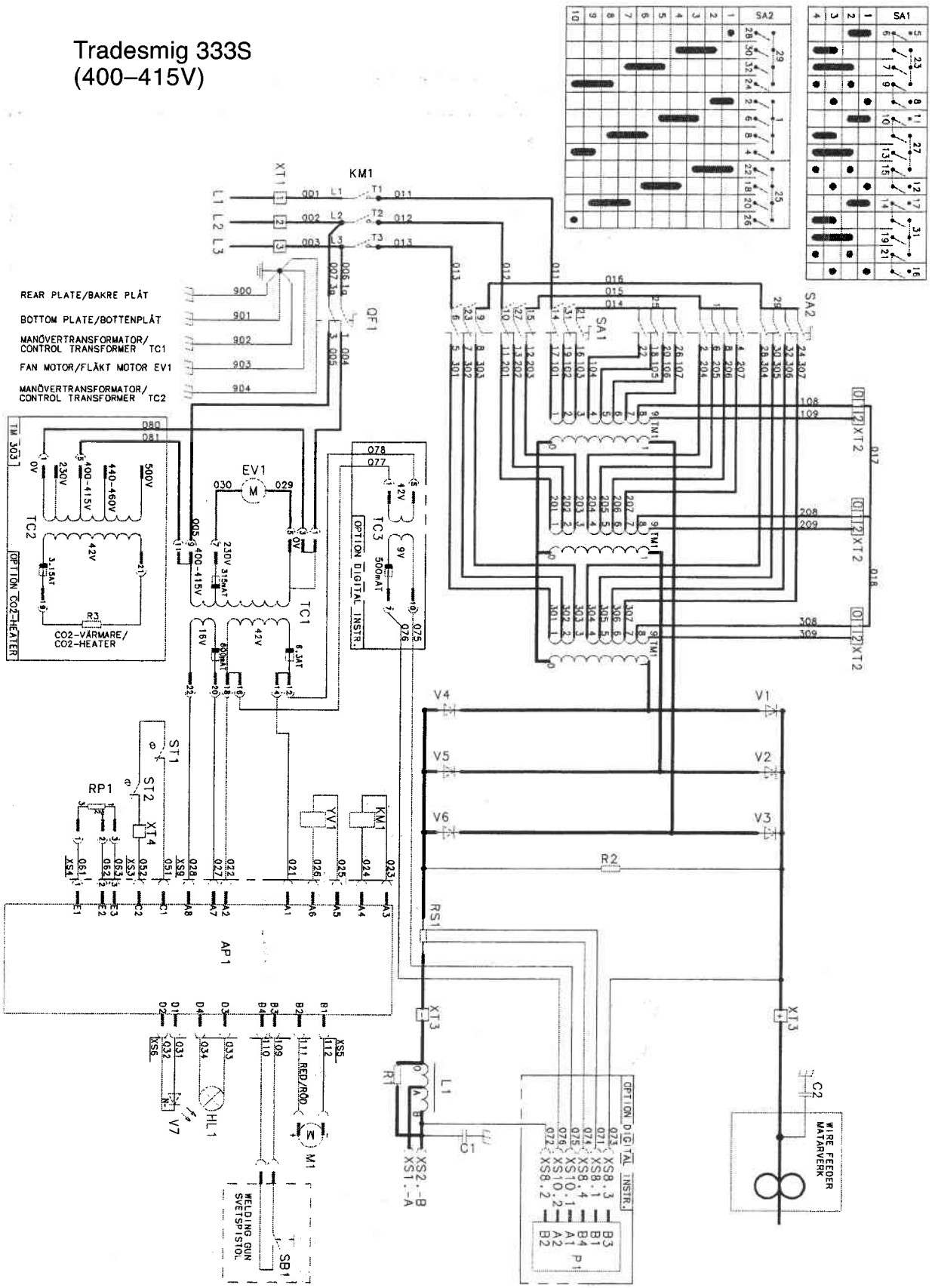


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## DIAGRAM Trademig 283S (400-415V)

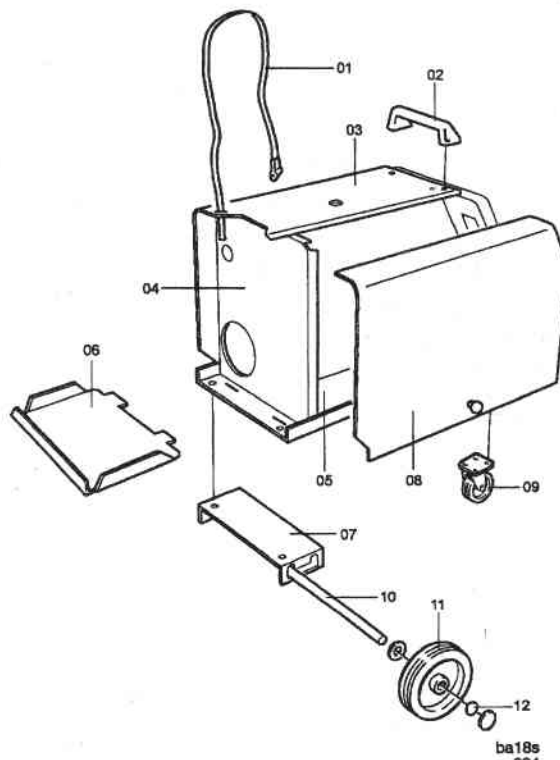


## Tradesmig 333S (400-415V)



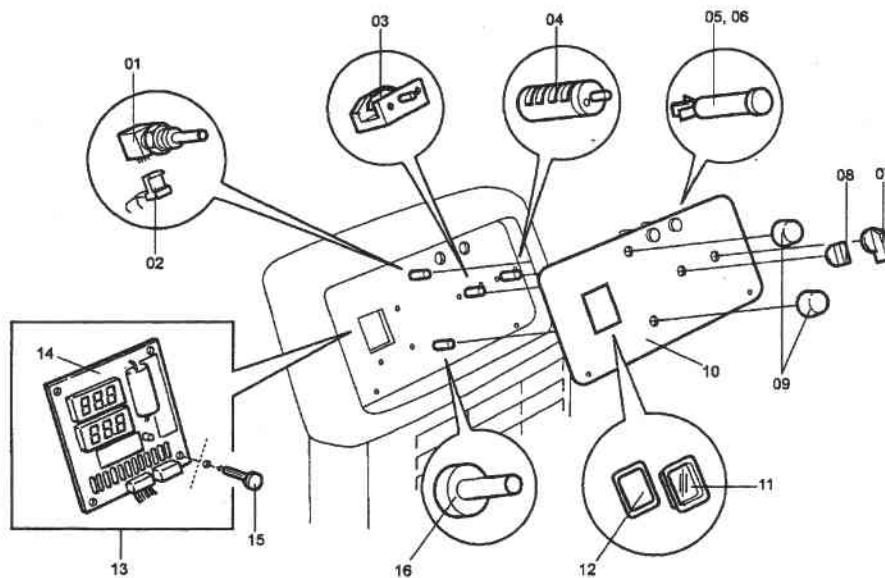
## SPARE PARTS LIST Tradesmig 283S

Item	Qty	Ordering no.	Denomination	Notes
01	1	0368 265 002	Securing strap	
02	1	0455 833 002	Handle	
03	1	0456 026 001	Cover with text	
04	1	0455 474 001	Rear panel	
05	1	0455 476 001	Base plate	
06	1	0455 986 001	Shelf	
07	1	0455 814 001	Clamp	
08	1	0456 025 001	Side panel with text	
09	2	0455 467 001	Castor wheel	∅ 100mm h=125mm
10	1	0469 516 003	Shaft	
11	2	0455 457 001	Wheel	∅ 200mm
12	2	0192 859 126	Locking washer	



C = component designation in the circuit diagram

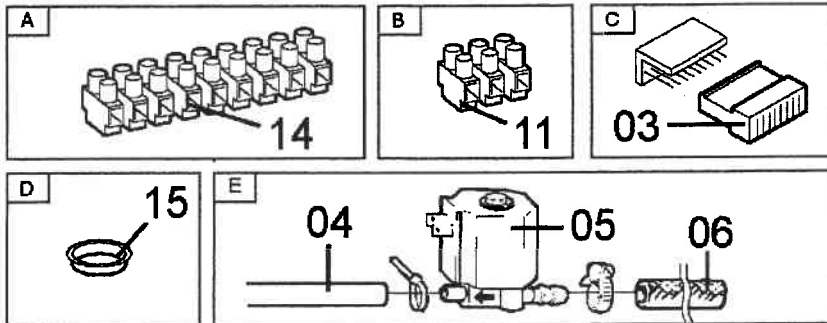
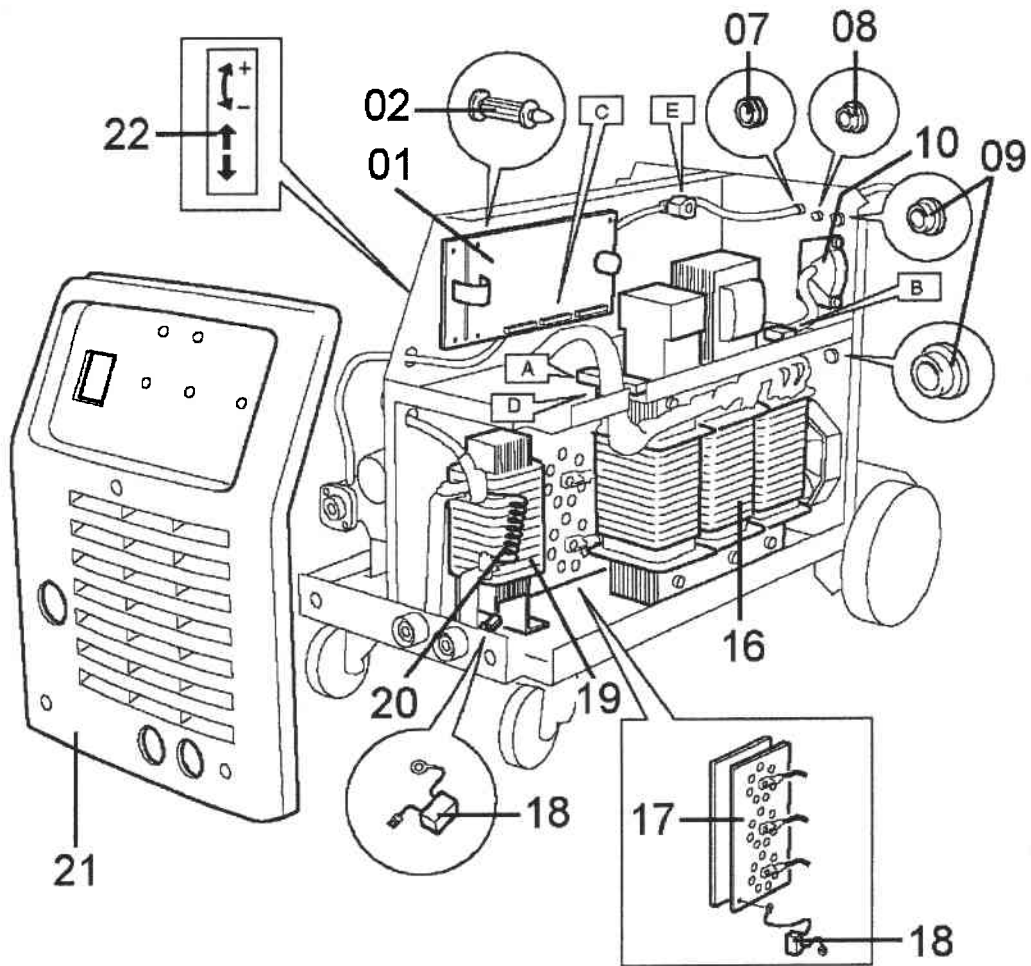
Item	Qty	Ordering no.	Denomination	Notes	C
01	1	0191 870 616	Potentiometer	10 k $\Omega$	RP1
02	1	0193 260 063	Connector	4 pole	
03	1	0366 295 002	Switch		QF1
04	1	0193 945 001	Switch	10 step, item 07 is included	SA2
05	1	0369 733 005	Light-emitting diode	Yellow	V7
06	1	0369 733 007	Indicating lamp	42 VAC, white	HL1
07	1		Knob	Included in item 04	
08	1	0366 296 001	Knob		
09	2	0321 475 882	Knob		
10	1	0455 828 001	Panel with text		
11	1	0455 172 001	Protection glass		
12	1	0455 174 001	Seal		
13	1	0456 008 880	Digital instrument	Option, complete.	PI
14	1	0486 317 880	Circuit board	For digital instrument	
15	2	0455 226 010	Spacer	For circuit board (digital instr.)	
	1	0455 226 004	Spacer	For circuit board (digital instr.)	
16	1	0455 847 882	Potentiometer, compl.	10 k $\Omega$ + 1 pole	RP2



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nnc

**C = component designation in the circuit diagram**

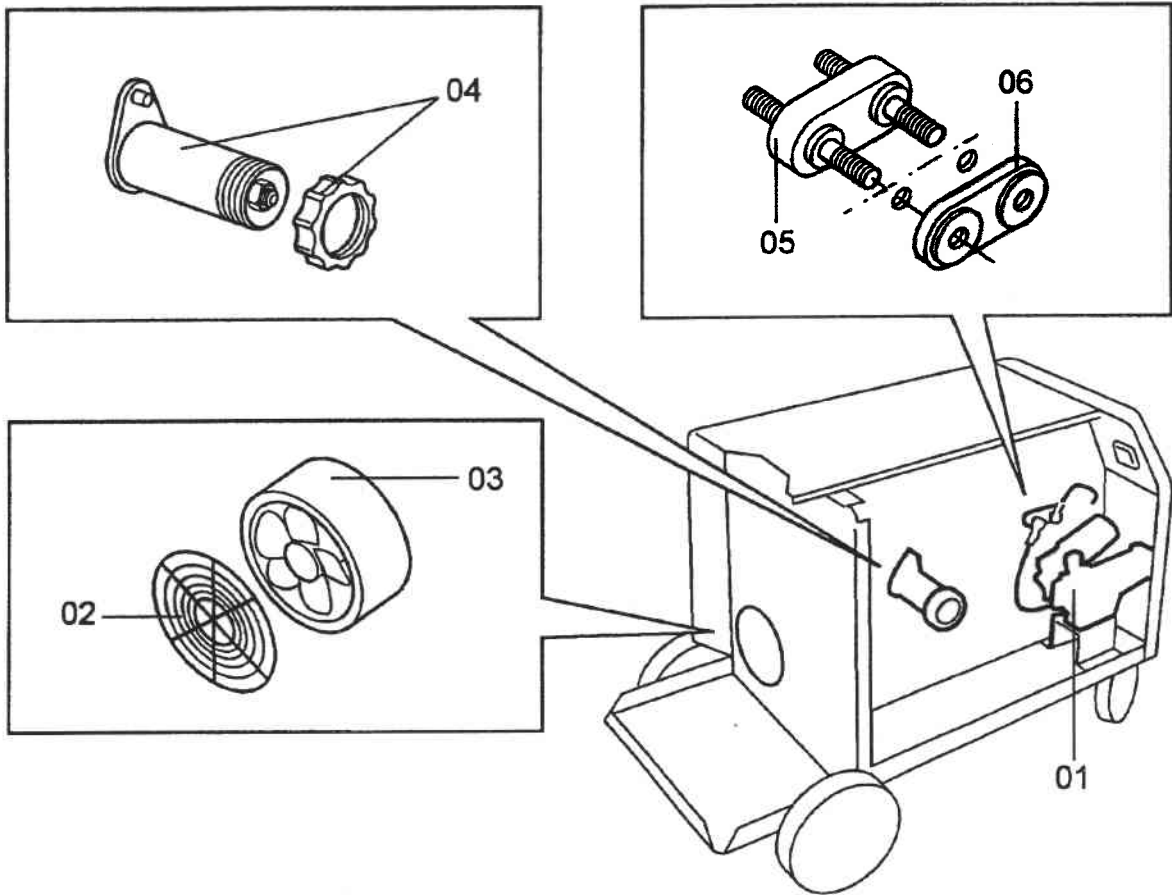
Item	Qty	Ordering no.	Denomination	Notes	C
01	1	0486 305 881	Circuit board		AP1
02	5	0455 226 005	Spacer		
03	1	0193 260 150	Connector	2-pole	XS3
	2	0193 260 152	Connector	4-pole	XS5, XS6
	2	0193 260 062	Connector	3-pole	XS4, XS7
	1	0193 260 156	Connector	8-pole	XS9
04	1	0191 954 101	Hose	∅ 8/5 To be ordered per metre, x,xx metre as delivered.	
05	1	0193 054 002	Solenoid valve	42V	YV 1
06	1	0190 315 102	Hose	∅ 11/4.8 reinforced PVC. To be ordered per metre, x metre as delivered.	
07	1	0040 859 404	Grommet		
08	1	0192 230 110	Cover	∅ 20mm	
09	2	0192 230 114	Cover	∅ 30mm	
10	1	0469 950 880	Cable inlet		
11	1	0486 364 880	Terminal	3-pole	XT1
12	1	0455 637 001	Control transformer	163 VA, 400-415 V mains voltage	TC1
13	1	0193 922 001	Contacteur	400-415 V mains voltage	KM1
14	0.75	0193 655 012	Terminal	12-pole	XT2
15	1	0192 041 139	Grommet		
16	1	0455 486 880	Transformer	Complete, 400-415 V mains voltage	TM1
17	1	0455 815 880	Diode bridge	Complete	V1-V 6
18	2	0469 380 881	Capacitor	0.1 µF 250 Vf with cable lugs	C1, C2
19	1	0455 818 880	Inductor		L1
20	1	0368 593 001	Resistor		R1
21	1	0455 620 002	Front		



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**C = component designation in the circuit diagram**

<b>Item</b>	<b>Qty</b>	<b>Ordering no.</b>	<b>Denomination</b>	<b>Notes</b>	<b>C</b>
01	1	0455 890 892	Wire feeder		
02	1	0455 839 001	Air outlet grill		
03	1	0455 838 001	Fan		EV1
04	1	0469 474 001	Brake hub		
05	1	0469 377 001	Connection block		XT3
06	1	0469 378 001	Insulation		



ba18s007

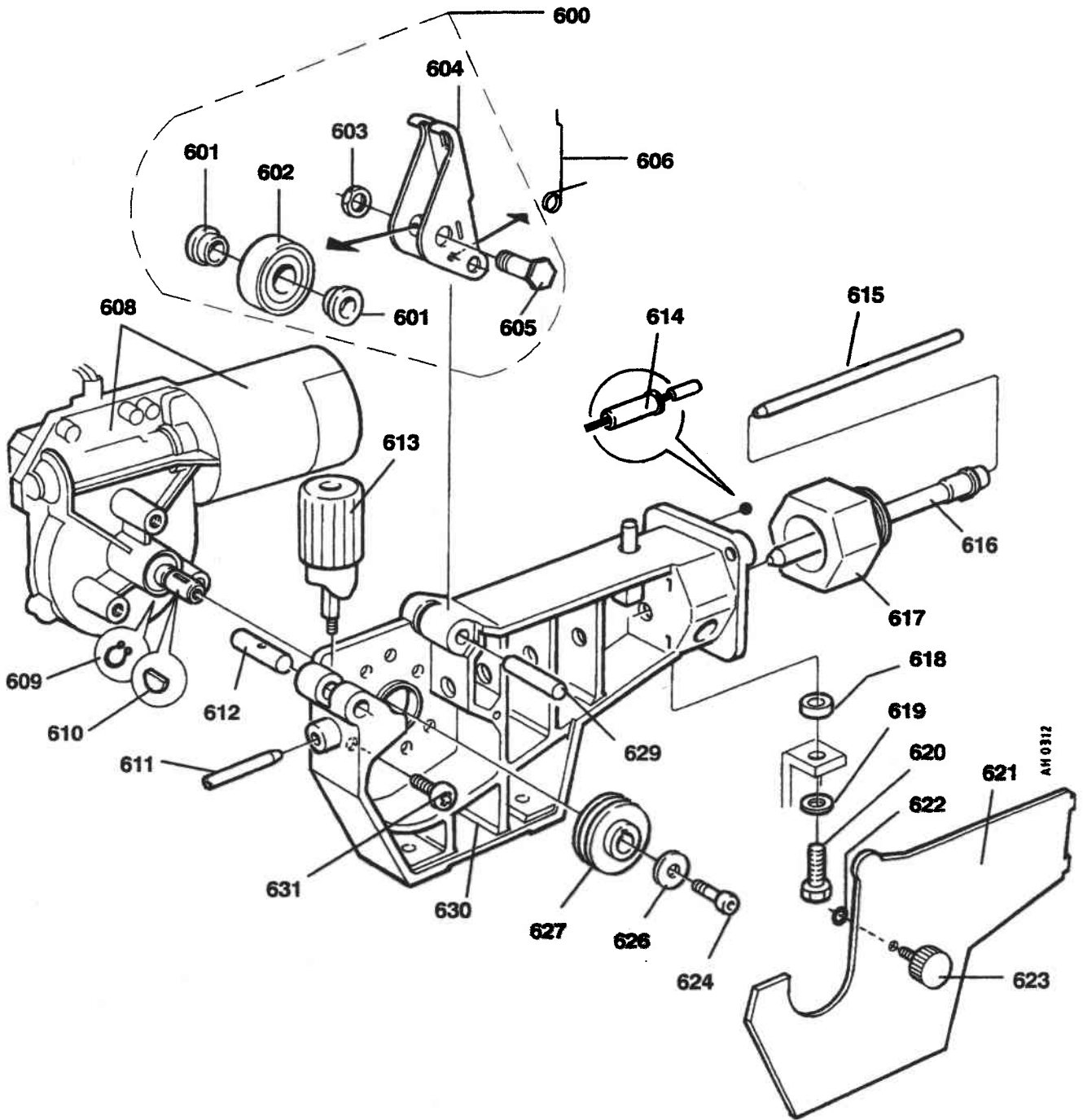


## WIRE FEED UNIT TM 283S

C = component designation in the circuit diagram

Item	Qty	Ordering no.	Denomination	Notes	C
-	-	0455 890 892	Feed unit	Complete, contains items 601 - 631	
600	1	0367 529 001	Pressure arm	Complete, contains items 601 - 605	
601	1	0455 906 001	Spacer sleeve		
602	1	0455 907 001	Pressure roller		
		0466 262 001	Pressure roller *		
603	1		Nut		
604	1		Holder		
605	1		Shaft	Knurled SGA D8	
606	1	0455 896 001	Spring		
608	1	0466 489 001	Drive unit		M01
609	1	0215 701 007	Locking washer	Included in item 608	
610	1	0191 496 114	Key	Included in item 608	
611	1	0466 074 001	Inlet nozzle		
612	1	0367 528 001	Pin bolt		
613	1	0368 749 880	Pressure transducer		
614	2	0368 750 001	Insulating sleeve		
615a	1	0455 894 001	Insert tube	Plastic, must be used together with item 616a	
615b	1	0455 889 001	Insert tube	Steel, must be used together with item 616b Delivered from machine no. XXX 640 XXXX	
616a	1	0455 885 001	Outlet nozzle	Must be used together with item 615a	
616b	1	0455 886 001	Outlet nozzle	Must be used together with item 615b Delivered from machine no. XXX 640 XXXX	
617	1	0455 882 001	Current sleeve		
618	1	0455 883 001	Spacer sleeve	∅ 16/8.2x0.9	
619	1		Washer	∅ 16/8.4x1.5	
620	1		Screw	M8x20	
621	1	0455 881 001	Protection plate		
622	1	0215 201 202	O-ring		
623	1	0455 898 001	Screw	(M5x12)	
624	1		Screw	M4x12	
626	1	0193 104 002	Washer		
627	1	1411470 0367 556 001	Feed roller *	For ∅ 0.6 - 0.8 mm Fe, Ss wire	
	1	1411471 0367 556 002	Feed roller	For ∅ 0.8 - 1.0 mm Fe, Ss wire	
	1	1411494 0367 556 006	Feed roller *	For ∅ 1.0 - 1.2 mm cored wire	
	1	1411489 0367 556 004	Feed roller *	For ∅ 1.0 - 1.2 mm Al wire	
629	1	0455 893 001	Shaft		
630	1	0455 884 001	Gear housing		
631	3		Screw	M6x16	

\* = accessories



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