

TUBE MILL

RS 90 / 4,0 - 150

VAI SEUTHE

Tube & pipe mill technology

GAUGE FORM TECHNOLOGY

NO NEED TO CHANGE THE MODEL

ONLY ADJUST MODEL

2. PLANT DESCRIPTION

In the tube welding line, strip is coiled, trimmed to the required width and continuously formed into longitudinally welded, cut-to-length tubes and sections.

2.1 STRIP PREPARATION PLANT

In the strip preparation plant, the coil is reeled off, levelled and welded.

The coils are drawn from the coil storage and individually fed onto the coiler mandrel by means of a column crane. The mandrel is hydraulically expanded.

After the strap has been manually removed, the coil is opened by means of a hydraulically operated coil opener, and the strip is inserted into the plant by a drive roll.

Prelevelling is carried out in the preleveller.

The crop shear cuts the leading and trailing ends of the strip true-to-angle, and the trailing end of the incoming strip is welded to the trailing end of the outgoing strip using the welding machine with inert gas equipment.

The spiral accumulator provides for strip reserve as required in case of strip preparation downtimes.

The endless strip obtained thereby is stored in the strip accumulator, thus allowing for continuous operation of the tube welding line.

2.2 STRIP ACCUMULATOR

The strip is guided into the vertical on a twisting line, slewed through 90°, and fed into the accumulator table by the insert pinch roll.

On the exit side, the strip is guided into the horizontal via the entering stand and withdrawn by the profiling machine.

The accumulator capacity is large enough to bridge the handling time for coil charging, inserting, cropping and welding, with an adequate strip length provided, thus allowing for continuous operation of the tube welding line.

2.3 PROFILING MACHINE

The profiling machine forms the strip passing through into a slit tube by means of tool rolls. In the breakdown stand, the strip is preformed.

In the three fin-pass stands, the slit tube is properly adjusted for welding.

The complete forming section with the entry table, the five breakdown stands, the three fin-pass stands and the seven Intermediate stands, rest on a base frame.

2.4

HF WELDING MACHINE

The HF welding machine closes the slit tube into a tube by longitudinal seam welding, during which the strip edges are heated by an induction coil, which is fed by an HF generator. Finally, the red hot strip edges are pressed against each other by the edging rolls (2 rolls, with 2 additional top rolls) and thus welded together.

Behind the welding table the the outside scarfing unit with two scarfing tools which can be pneumatically lifted is fixed.

Above of the scarfing unit is the chip coiler fixed which is so designed that the chip ball can be thrown out automatically by a push button.

At the end of the welding line an intermediate stand is mounted, before the tube passes through the emulsion cooling line to cool down

Two 4m cooling lines are provided behind the welding machine.

The cooling line is designed so that the tube is guided in the whole cooling line with polyamid rolls and so that the tube is below the emulsion level, between the two cooling line segments a separate guiding-/Supporting roll is installed.

2.5

CALIBRATING MACHINE

The calibrating machine calibrates the welded tube to the exact nominal size or forms it into square or rectangular tubes. The complete calibrating machine rest on a base frame.

The tube is finish-calibrated and straightened by means of the turks heads.

A welding seam tester and a colour marker, which marks the reject tubes, is be mounted to the base frame of the calibrating machine.

2.7 AUXILIARY EQUIPMENT

2.7.1 Operating Tools

Operating tools comprise only those special tools which are not included in the standard scope of tools of the operating and maintenance personnel.

2.7.2 Emulsion Plant

The emulsion plant supplies the tube welding line with emulsion. The emulsion is returned via ducts, cleaned and cooled in the emulsion line and then feed again to the tube welding line.

1.1 TECHNICAL DATA

1.1.1 Production Program

Round tubes acc. to DIN 2440, DIN 2441,
DIN 2394, DIN 2458

Round tube dimensions min. 16,0 mm
max. 88,9 mm

Wall thickness min. 0,8 mm
max. 4,0 mm

Wall thickness to
tube diameter ratio from 1:8 to 1:50

Shaped tubes isoperimetrical square and rectangular tubes formed from round
tubes acc. to DIN 59411

Square tubes min. 15 x 15 mm
max. 70 x 70 mm

Rectangular tubes min. 35 x 15 mm
max. 85 x 35 mm

Width to height ratio max. 1:3

1.1.2 Input Material

QualityStrip suitable for HF welding, hot or cold-rolled, pickled or unpickled, with trimmed or untrimmed edges acc. to DIN 1016 and DIN 1624 or equivalent standards.

Strip width	min. 40 mm
	max. 280 mm

Strip thickness	min. 0,8 mm
	max. 4,0 mm

Tensile Strength	max. 480 N/mm ²
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Tolerances of strip thickness, strip width, strip sabre and flatness according to DIN 1016, DIN 1451, DIN 1523 and DIN 1544

OPTRONIC AG CNC D171/01

VAI 
SEUTHE

D171/01 A3 Version 1.x

E3000 A3 Version 1.x

Length
Program

Actual
Values

Set up
Param.

Service
Values

Main
tenance

CNC
Messages

PLC
Messages

Main
Menu

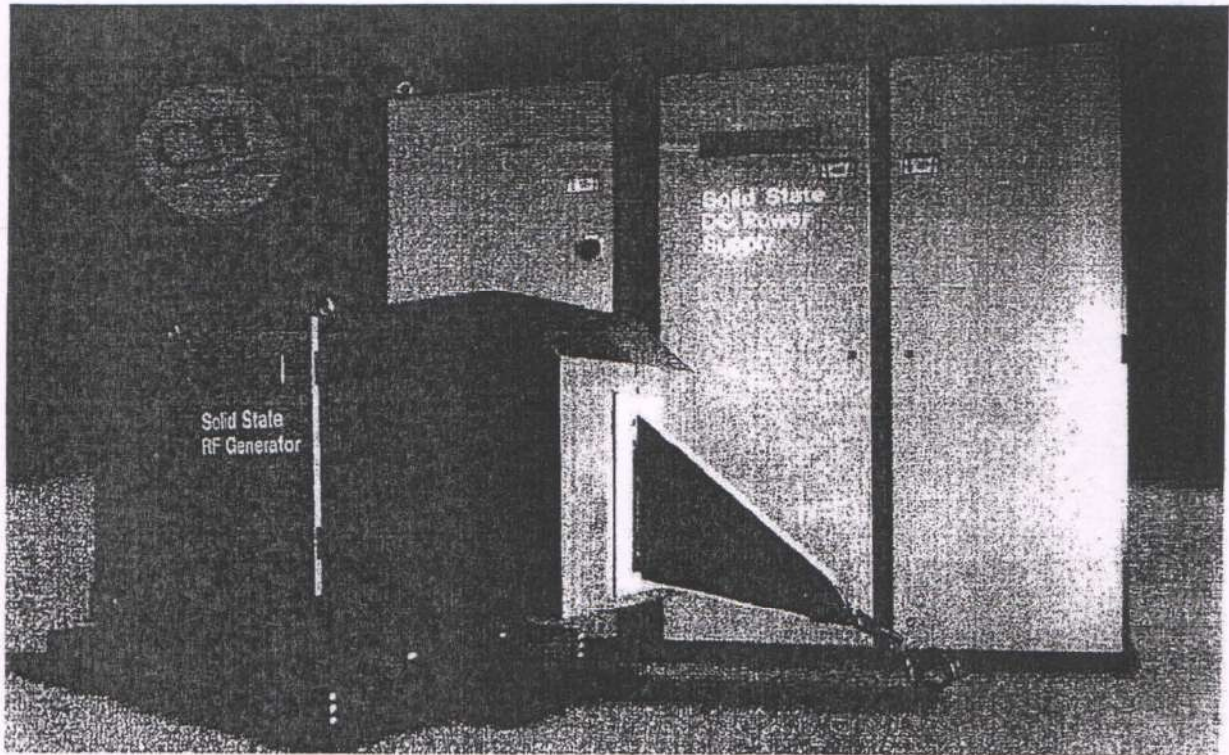
Operating Instructions

D171/01 / E3000



Optron AG

Unteregger Strasse 53
CH-9403 Goldach
SWITZERLAND



Thermatool CFI Solid State Welder

Technical Support Manual

**Customer: Mavisso
Greece**

Serial No : CS. 9710483

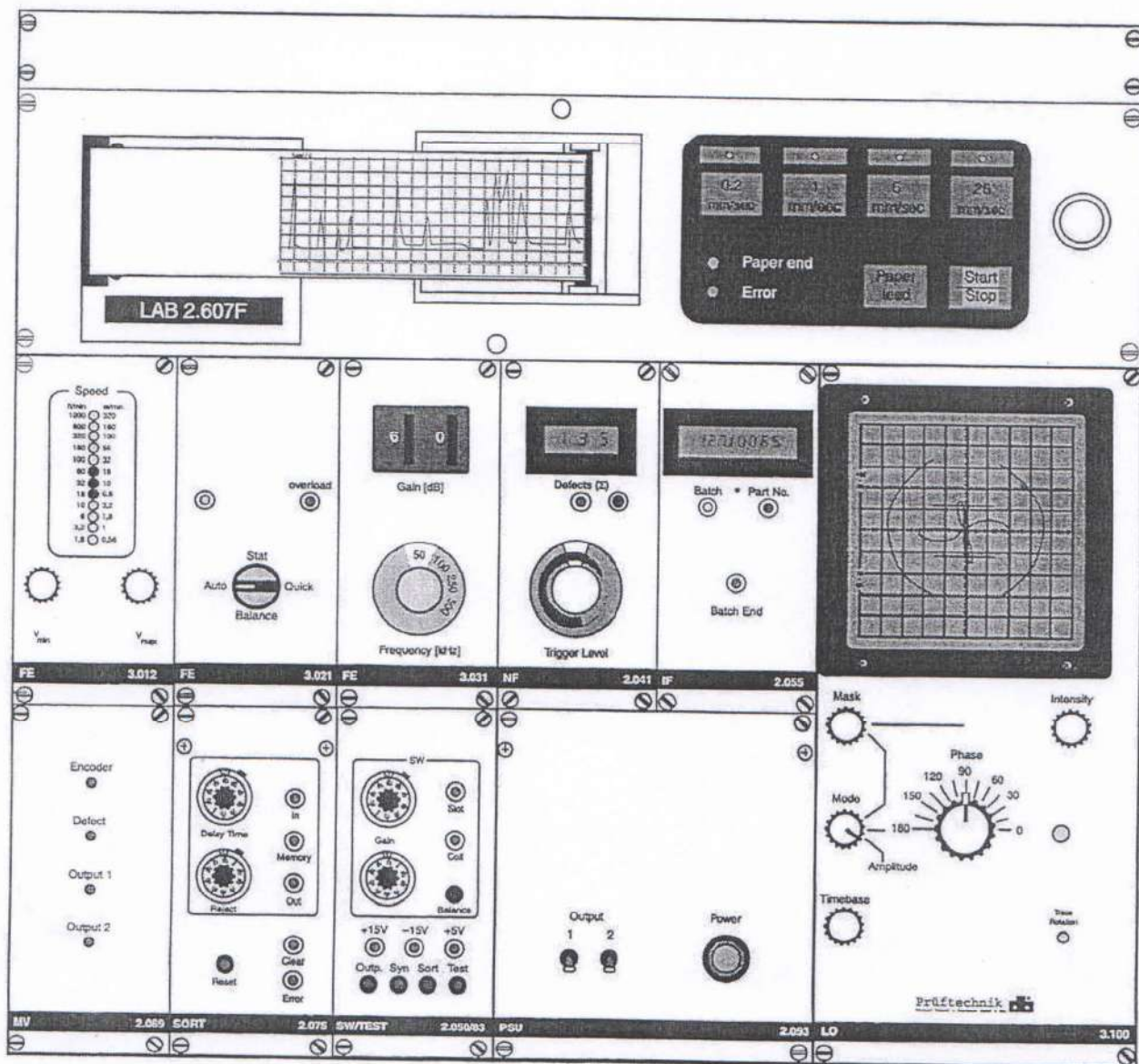
EDDYCHEK® LAB 2

Operating Manual

 **PRÜFTECHNIK AG**

EDDYCHECK LAB 2

with Oscilloscope Module 3.100



Kunde
Mavisso, Greece
Rohrschweißanlage/ Unit
TS 90 K11



9.2.6 Flying saw

Running direction	from right to left
Tube diameter	16 - 90 mm
Wall thickness	1,0 - max 4,0 mm
Clamping device	45° double clamping cylinder
Operation	150 m/min
Tube length	4 - 9 m
Length tolerance	+/- 1mm at 6 m tube(60m/min) +/- 2mm at 9m tube(120m/min)
Production path	constant tube center line
Total length of the base	6230 mm
Total length of the unit with rack outlet	9430 mm
Height bottom edge tube/floor	1025 mm
Saw aggregate cold saw	11,0 kw / 1500 Rpm
max. saw blade diameter	560 mm
Periphery speed cold saw	80-240 m/min.

9.2 Technical data

9.2.1 Connection data

Connection load

Connection voltage 400 V; 50 Hz

Control voltage 24 V

Solenoid valve voltage 24 V

9.2.2 Main drive

DC-drive ABB
DMG 225L, B3
136 kW, 921 min⁻¹
420 V, 359 A, Cooling IC 06

9.2.3 Saw motor cold saw

AC-drive - ABB
MBT 132 MB
11,0 kW, 1450 min⁻¹, B3

9.2.5 Hydraulic motor

AC-drive
MBT 132 S 4
5,5 kW, 1500 min⁻¹, B5



AUTOMATIC PACKAGING LINE

Mod. **PACK PIPE SQHEX90/D/5/SL**

Ref. **MAVISSO project**

OPERATION AND MAINTENANCE HANDBOOK

Customer **VAI-SEUTHE GmbH.**

2. TECHNICAL SPECIFICATIONS OF THE LINE (CEE 89/392 p. 1.1.2 and p. 1.7.2. ; EN 292 2nd part p.5)

PACKAGING CAPACITY

Material hot rolled steed tube
Size of round tubes: \emptyset 16 \div 88,9 mm
Size of square tubes \square 15x15 \div 70x70 mm
Size of rectangular tubes: \square 14x10 \div 100x400 mm
Tube length mt 3 \div 9
Tube wall thickness: mm 0,8 \div 5 mm

PACK DIMENSIONS

Side base of hexagonal pack mm 115 \div 300 mm
Side base of rectangular pack: mm 200x200 \div 600x500
Pack max. weight: Kg 3000

ELECTRICS

Electrical standards I.E.C.
Power supply: 400 V 50 Hz
Auxiliary devices: 24 V DC
Installed electrical power KWA 60
Programmable logic: SIEMENS S5-115U
Personal Computer: type "ENDEAVOR XL" EPSON

COMPRESSED AIR SYSTEM

Compressed air supply bar 5
Solenoid valves: FESTO
Air cylinders: FESTO

OPERATION, PARTS AND SAFETY MANUAL

SIGNODE[®]

M-22
POWER STRAPPING MACHINE

IMPORTANT!
DO NOT DESTROY

It is the customer's responsibility to
have all operators and servicemen
read and understand this manual.

Contact your local Signode representative
for additional copies of this manual.

U.S. PATENT NOS.
2,915,003
2,915,004
3,023,693

READ ALL INSTRUCTIONS BEFORE OPERATING THIS SIGNODE PRODUCT

SIGNODE • 3610 W. LAKE AVENUE • GLENVIEW, ILLINOIS 60025

Master sheet

Trolley 4/751676/ 1/ 18/70

Hoist : GM3063L06-203.41.064.E
FEM group : 3m

Manufacturer	: ABUS Kransysteme GmbH		
Year of constr.	: 1997	Load capacity	: 6300 kg
Location	: Indoor	Flange width	: 300 mm
		Trolley weight	: 650 kg
		Number of wheels	: 4 Pcs.
		Wheel diameter	: 160 mm

Type of control : Bay operation via push-button switch
Control : electrical

Trolley travel drive

Hoist

Load capacity	:		6300 kg
Serial number	:		59600
Nr. of driveunit:		GE 1218	
Speed	:	5.0/20.0 m/min	5.00/ .80 m/min
Power	:	.28/ .06 kW	6.00/ 1.00 kW
Duty cycle	:	25/ 15 %ED	40/ 20 %ED
Type protection	:	IP 55	IP 54
Brake	:	Disc brake	Disc brake

Hook : see certificate

Load sus-
pension device : see supplementary sheet for hook

Special
equipment : Electronic overload protection

Remarks :



WEIGHING STATION

Mod.

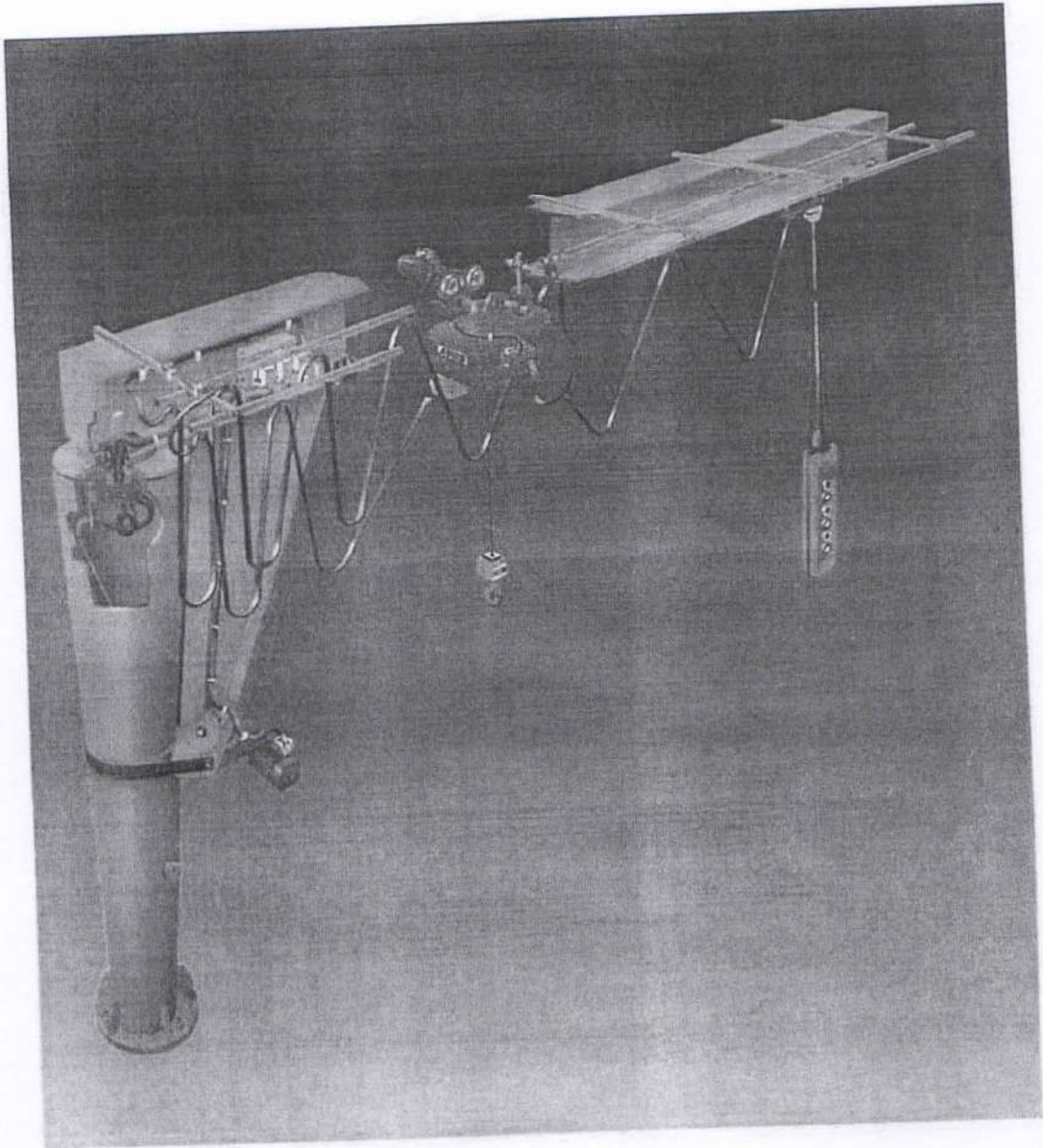
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Ref.

.....**MAVISSO project**

OPERATION AND MAINTENANCE HANDBOOK

Customer.....**VAI-SEUTHE GmbH**





CHAPTER 1

INTRODUCTION

1.1 GENERAL REMARKS

a. GENERAL INFORMATION

Thermatool Europe Limited
Thermatool House
Crockford Lane
Basingstoke
Hampshire
RG 24 8NA
England

Telephone: + 44 (0) 1256 335533
Fax: + 44 (0) 1256 467224
Telex: 858557

OUTPUT POWER:	350kW
NOMINAL FREQUENCY:	300kHz
SERIAL NUMBER:	CS. 9710483
CUSTOMER:	Mavisso Greece

SAW

TS 90 K 11

(OPTRONIC CONTROL COLD SAW)

Kunde
Mavisso, Greece
Rohrschweißanlage/ Unit
TS 90 K11

VAI 
SEUTHE
Tube & Pipe Mill Technology

VAI 
SEUTHE
Tube & Pipe Mill Technology

TS 90 K11

Assembly Number	MAV-RRS-11.30.10
Rohrschweißlinie:	PR 190/3,6
Order No.	20.9744.107
Customer	Mavisso
Location	Greece
Cold saw	11,0 kW
Tube dimensions	16 - 90 mm
Wall thickness	1,0 - max 4,0
Operation speed	150 m/min

MADE BY :

VAI SEUTHE GmbH
Elsa-Brandström-Straße 21
D-58675 Hemer

Tel.: (+49 - 23 72) 506 - 0
Fax: (+49 - 23 72) 32 62

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