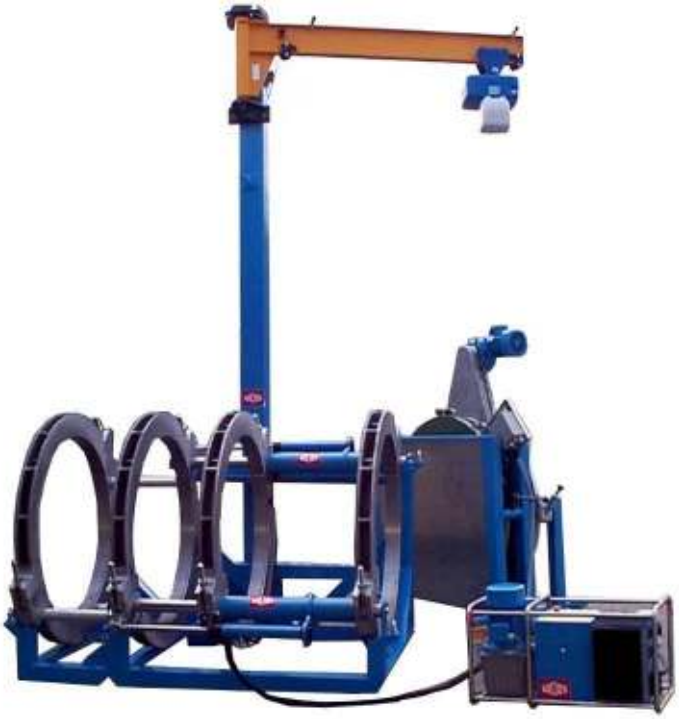
Heating Element Butt Welding Machine
with CNC-Control Unit

WIDOS 8000 CNC 3.5



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Keep for further use!

Product Identification

Modell:	Heating element butt welding machine with CNC-control unit
Type:	WIDOS **8000 CNC 3.5**
Serial number, year of construction:	see type plate

1. Description of Product

1.1 Usage and Purpose-Oriented Use

The **WIDOS 8000 CNC 3.5** has only been designed for processing and loging of butt weldings. Any other use of this control unit is considered not be purpose-oriented.

The manufacturer is not liable for damages due to a wrong handling.

Only the user is liable for damages resulting out of this !

The control unit is reliable in the use when it is used according to the prescriptions together with a welding machine designed by WIDOS.

Also part of the purpose oriented use is

- the respect of all the displays of the working instructions and
- the performing of the inspection and maintenance works.

1.2 Safety Measures

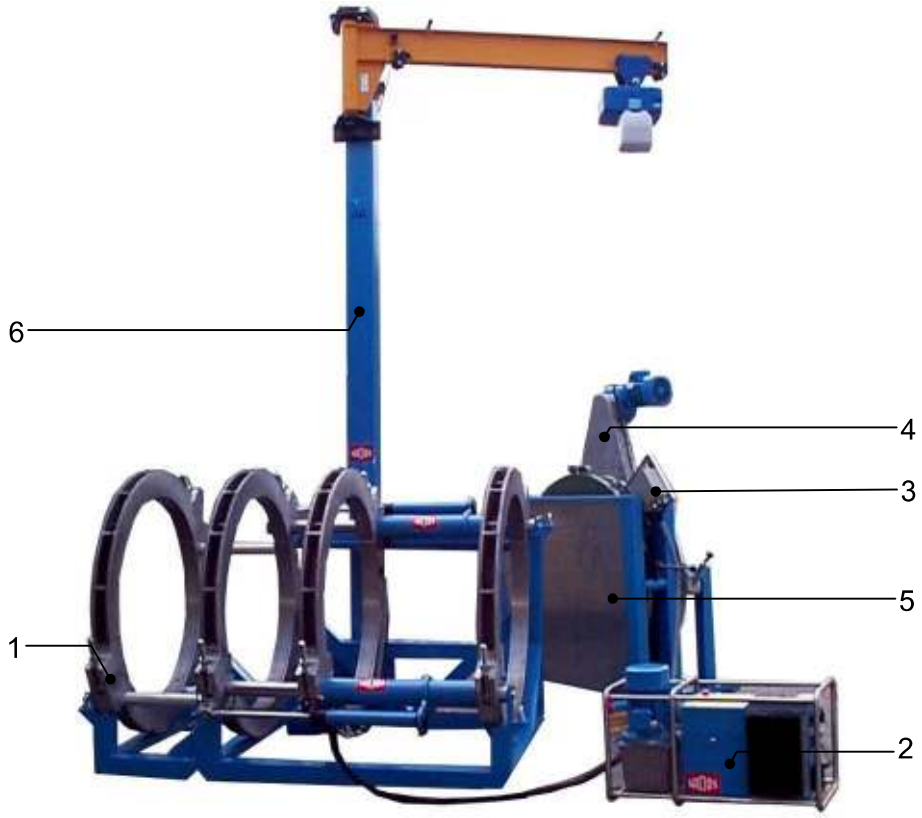
In case of wrong use, wrong operation or wrong maintenance the machine itself or products being in the surrounding can be damaged or destroyed.
Persons being in the endangered area may be injured.
Therefore this working instructions have to be thouroughly red and the corresponding safety advises necessarilly need to be followed.

1.3 Conformity

The machine corresponds in its construction to the valid recommendations of the European Community as well as to the according European standard specifications.

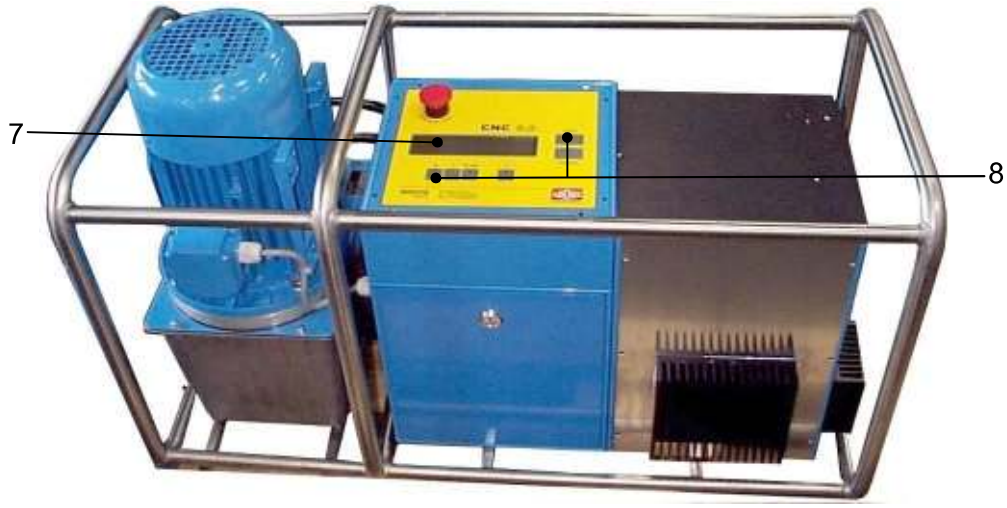
The development, manufacturing and mounting of the machine were made very carefully.

Machine Overview



No.	*Denomination*
1	Basic machine
2	Control unit
3	Heating element
4	Planer
5	Reception box
6	Lift-off device (optional)

Structure of the CNC 3.5 Control Unit



No.	*Denomination*
7	Display
8	Operating field

1.6.1.1 WIDOS 8000 CNC 3.5 General Data

Pipe dimension:	outside-∅ = 450 - 800 mm
Material:	PP, PE 80, PE 100
Emissionen	- The sound intensity level is below 86 dB (A). - Through the use of the stated plastic materials during within a temperature range of up to 260° C poisonous vapours might be generated.
Environment	- Keep the workshop clean (especially welding area must be clean) - do not weld below 5° C, if necessary heat-up before welding - avoid strong sunlight - if it is windy shut the pipe endings

1.6.1.2 Control unit CNC 3.5

Weight: Dimensions (LxBxH):	96 kg appr. 940 x 440 x 600 (mm)
Power:	2,2 kW
Voltage:	400 V (± 10%)
Current:	5,0 A
Frequency:	50 Hz
Phase shift:	Appr. 18°
Insulation system:	IP 44
Hydraulic oli tank:	Appr. 10 l
Mounted elements:	Connecting cable with plug
Power emergency generator-set:	380 V/3~; Please ask the manufacturer of your aggregate for the necessary power.
Electro motor and pump:	
Driving speed (t/min):	1430
max. working pressure of the pump:	110 bar
Working pressure:	100 bar
Volume flow :	9,0 l/min.

Description of Product

1.6.1.3 Basic Frame

Frame material:	Construction steel
Clamping tool material	Steel
Cylinder-∅ / cylinder piston-∅:	63 / 32
Cylinder stroke lenght:	450 mm
max. force: (F=P*A)	46 kN
Weight with reducer inserts :	appr. 1210 kg

1.6.1.4 Heating Element

Voltage:	400 V (± 10 %)
Current:	44,0 A
Frequency:	50 Hz
Outside-∅:	906 mm
Surface:	Anti-sick coated
Mounted elements:	Control lamps Connecting cable with 6-pole plug
Weight:	Appr. 150 kg

1.6.1.5 Planer

Motor:	3 phase-rotary current motor
Voltage:	400 V (± 10 %)
Current:	6,13 A
Frequency:	50 Hz / 3 ~
Weight:	appr. 165 kg

1.6.1.6 Reception Box

Dimension:	appr. 1150 x 1000 x 1100 mm
Weight:	appr. 73 kg

1.6.1.7 Lift-off Device (optional)

Lift capacity:	300 kg
Weight (complete):	appr. 235 kg

Equipment and Accessories

Following accessories are part of the delivery:

1 x	- Key for front plate / hydraulic
1 x	- Socket spanner SW 46
1 x	- Curved allen key SW 14

Following optional accessories are available on request:

- WICON-program for reading out the data
- Data transmission cable
- Serial printer
- Stub end holder

. Functional Description

The WIDOS **CNC 3.5** control unit performs a butt welding process with the plastic welding machine WIDOS **8000** after entering the pipe diameter and the pipe wall thickness.

The welding processes are recorded and can be printed out in a short or a long version by means of a serial interface, or be saved on a PCMCIA card or be transmitted on a laptop for e.g. by means of WICON and a serial interface.

The corresponding pipe data are entered manually through the operation field or by reading in the corresponding pipe data card with the bar code reader.

Welding with the WIDOS **8000 CNC 3.5** works as following:

The plastic pipes are clamped by means of the clamping tools (Basic machine) and the pipe ends are cut plane and parallel by means of the planer.

As soon as the pipes are plane and parallel and the misalignment smaller than 0,1 X pipe wall thickness you can start welding.

The heating element has to be cleaned and checked before insertion and the real temperature prescribed by the DVS must have been reached.

The clamped pipes drive in direction of the heating element under pressure and are heated up to the equivalent value under the defined adjustment pressure (**Adapting**), the duration of the adjustment is called **Adapting time**.

During the adjustment the **bead construction** prescribed by the DVS is performed.

After reaching the prescribed bead height the control unit automatically switches into the **heating time**.

During the heating time the basic machine is in a pressureless state and the pipe ends are heated.

After completion of the warming up time the sledge moves apart and the heating element should be removed as fast as possible.

The time period between the removal of the heating element and the closing of the pipes is called **change over time**.

According to the maximum time prescribed by the DVS the pipes ends are then driven together and an equal welding pressure is built up.

The pipe then cools down unter the prescribed welding pressure (**Cooling time**).

After completion of the cool down time the pressure on the pipes is automatically removed and the welded pipe can be unclamped.

The welding process is then completed.