



Ritmo

PLASTIC WELDING TECHNOLOGY



BUTT FUSION MACHINES

MANUAL BUTT FUSION MACHINES

These welders are controlled directly by the operator who, by hand or by means of a mechanical spring system, supplies the welding force directly to the elements to join. Their use is recommended when the operator must weld pipes and/or fittings that will not be subjected to stress due to internal pressure after being laid. They are particularly suitable for liquid drainage systems in both civil and industrial fields, made in Polyethylene (PE).

- **HEATING PLATES** pag. 14
- **GAMMA** pag. 16
- **MINI 160 JOYT** pag. 18
- **VR 160 JOYT** pag. 20
- **VR 250** pag. 22
- **MAXI 315** pag. 24



TP 125



TP 125/45°



TP 200



TP 300



Fork support

HEATING PLATES SERIES FOR BUTT WELDING

Series of manual instruments equipped with an aluminum heating plate Teflon-coated (PTFE) and a practical heat-insulated plastic handle. Available in two versions: one with a fixed mechanical thermostat (TF) and one with an adjustable electronic thermoregulator (TE). The heating plates are available in different shapes and working ranges according to the operator's requirements.

SUPPLIED WITH

All the models are supplied with:

- **A basic heating plate**
- **A fork support**

ON REQUEST (ACCESSORIES)

- **Bench vice support** (the same for all models except TP 300)
- **Transportation box** in electro-painted steel.

TECHNICAL FEATURES

Power supply (*)	230 V - Single phase - 50/60 Hz
Working temperature	TE: 180 ÷ 280°C (A)
Ambient temperature	-5 ÷ +40°C
Time to reach welding temperature	TE: ~ 10 min.
(A) Materials	PE, PP, PB, PVDF



Bench vice



Steel cases

Model	Pipe max Ø (O.D.)	Absorbed power	Dimensions (W x D x H)	Weight
TP 125	125 mm	700 W	140 x 50 x 410 mm	2,16 Kg
TP 125/45°	110 mm	500 W	140 x 130 x 370 mm	1,95 Kg
TP 200	180 mm	1200 W	200 x 50 x 440 mm	3,21 Kg
TP 300	280 mm	1300 W	300 x 50 x 550 mm	5,09 Kg

Fork supports

Dimensions (W x D x H)	Weight
225 x 195 x 90 mm	0,40 Kg
160 x 360 x 240 mm - TP 300	0,60 Kg - TP 300

Model

Bench vice

Dimensions (W x D x H)	Weight
75 x 65 x 225 mm	0,75 Kg
75 x 65 x 270 mm - TP 300	0,80 Kg - TP 300

Steel case

Model	Dimensions (W x D x H)	Weight
TP 125	300 x 100 x 480 mm	3,12 Kg
TP 125/45°	260 x 127 x 440 mm	3,20 Kg
TP 200	295 x 104 x 550 mm	3,50 Kg
TP 300	350 x 170 x 620 mm	4,83 Kg

(*) Available in 110 V -Single-phase - 50/60 Hz for **TP 125 TE** -700 W, **TP 200 TE** -850 W and **TP 300 TE** -1300 W



GAMMA 110



Machine body



Heating plate



Milling
cutter



Bends clamps



3-leg machine support



Milling cutter/heating plate support

GAMMA 110

Portable welding machine for the **construction of segmented bends**. Thanks to a special clamp, this machine can also weld moulded fittings like **bends, tees, wyes (Y) and flange** necks up to $\text{Ø}110$ mm. Necks with a highly reduced tang can be welded with the help of a **special tool** (on request), applied to the clamps.

Composed of:

- a **machine body** with pressure regulating device, a **support base** and a **bench vice** for the heating plate;
- an **extractable heating plate** with an automatic electronic temperature control device;
- an electrically controlled extractable milling cutter for levelling the ends of the pipe and/or fitting;
- a **pair of special clamps** for making bends (useful also for straight welding);
- a **special right clamp** for welding fittings;
- a **three-leg** machine support;
- a **support** for the milling cutter and the heating plate;
- two **tripod supports** to sustain the pipe;
- a special **bench vice** so the machine can be used on a work bench.

SUPPLIED WITH

- **Machine body** with a support base and bench bracket for the heating plate;
- **TP GAMMA 110 TE plate**;
- **Milling cutter**;
- **Bends clamps $\text{Ø} 110$ mm** (2 pcs.) with **adapters from $\text{Ø} 40$ to 90 mm** (4 pcs./ Ø);
- **Three legs** to sustain the machine (3-leg machine support);
- **Milling cutter/heating plate support**;
- **Pipe support tripod** (2 pcs.);
- **Special vice** (to fix to the welding machine's bench);
- **Wooden transport case**;
- **Steel case** containing a **right special clamp $\text{Ø} 110$ mm** (lower half), extractable upper jaws (1 pc./ Ø) and lower clamp adapters (1 pc./ Ø) $\text{Ø} 40 \div 110$ mm (56 mm Ø excluded), and **tool kit**.

ON REQUEST (ACCESSORIES)

- **Bends clamps adapters $\text{Ø} 25$ and 32 mm** (4 pcs./ Ø) [Ø supplied singly, but $\text{Ø} 32$ mm is required to weld $\text{Ø} 25$ mm];
- **Right special clamp adapters $\text{Ø} 25, 32, 56$ mm** (1 pc. up + 1 pc. down/ Ø) [Ø supplied singly];
- **Left special clamp $\text{Ø} 110$ mm** (for fitting-fitting welding);
- **Left special clamp adapters from $\text{Ø} 25$ to $\text{Ø} 90$ mm** (1 pc. up + 1 pc. down/ Ø) [Ø supplied singly];
- **Tool for flange necks**;



TECHNICAL FEATURES

Working range	25 ÷ 110 mm	
Power supply	110 V	230 V
	Single phase - 50/60 Hz	
Power absorbed by the TP	800 W	800 W
Power absorbed by the milling cutter	450 W	650 W
Total absorbed power	1250 W	1450 W
Working temperature	180 ÷ 280°C (A)	
Outside temperature range	-5 ÷ +40°C	
Time to reach welding temperature	~ 10 min.	
(A) Materials	PE,PP,PVDF and other plastic materials	

DIMENSIONS (W x D x H)	
Machine body (without clamps)	540 x 180 x 110 mm D: 320 mm (with handwheel)
Heating plate (TP)	430 x 50 x 270 mm
Milling cutter	470 x 85 x 370 mm
Bends clamps with adapters ("Supplied with")	170 x 85 x 200 mm
3-leg machine support	770 x 620 x 740 mm
Milling cutter/heating plate support	225 x 260 x 445 mm
Pipe support tripod	410 x 350 x 880 mm
Transport wooden case	840 x 470 x 390 mm
Steel case	335 x 150 x 90 mm
Right special clamp (lower part)	200 x 60 x 190 mm
Machine being transported (in case)	840 x 470 x 390 mm
Machine working (with 3-leg machine support)	770 x 620 x 1070 mm
Left special clamp	200 x 60 x 190 mm
Tool for flange necks	180 x 110 x 320 mm

WEIGHT	
Machine body (without clamps)	8,00 Kg
Heating plate (TP)	2,30 Kg
Milling cutter	5,55 Kg
Bends clamps with adapters ("Supplied with")(2 pcs.)	5,16 Kg
3-leg machine support	4,00 Kg
Milling cutter/heating plate support	3,30 Kg
Pipe support tripod	2,38 Kg
Transport wooden case	18,00 Kg
Steel case	1,34 Kg
Right special clamp (lower part)	0,95 Kg
Total (GAMMA 110 only)	55,76 Kg
Left special clamp	1,29 Kg
Tool for flange necks	1,64 Kg

Weight (Kg) - bends clamps adapters (4 pcs./Ø - Ø 25 and 32 mm on request)								
Ø 25	Ø 32	Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	
0,10	0,10	0,16	0,12	0,20	0,36	0,56	1,00	

Weight (Kg) right special clamp extractable upper jaws (1 pc./Ø)								
Ø 25	Ø 32	Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	Ø 110
0,25	0,25	0,30	0,30	0,30	0,31	0,39	0,39	0,39

Weight (Kg) right special clamp lower adapters (*) (1 pc./Ø)								
Ø 25	Ø 32	Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	
0,20	0,19	0,17	0,16	0,16	0,14	0,12	0,10	

Weight (Kg) left special clamp adapters (*) (2 pcs./Ø)								
Ø 25	Ø 32	Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	
0,40	0,38	0,34	0,32	0,32	0,28	0,24	0,20	

(*): The right special clamp lower adapters are the same as the left special clamp adapters (up and down)



3-leg pipe support



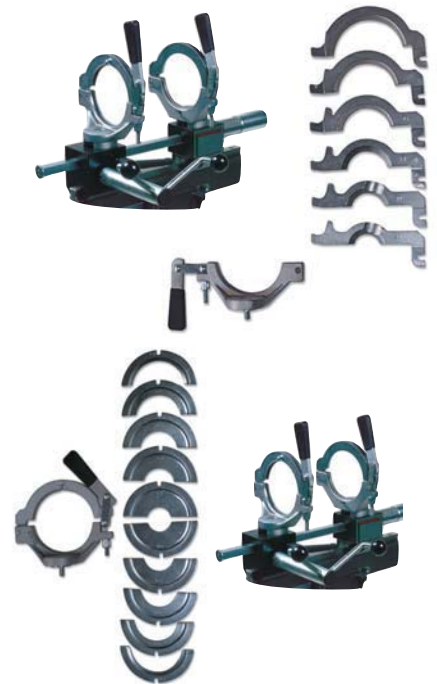
Special bench vice



Transport wooden case



Steel case



Special clamps



MINI 160 JOYT



Machine body



Lateral supports and inserts



TP 200

MINI 160 JOYT

Portable butt fusion welder for drainage pipes up to Ø 160 mm. This machine is characterized by the extractable heating plate, the safety micro-switches on the milling cutter to avoid accidental starting, the articulated lateral supports and the double-function frame that can be used either as a work bench or as a protection for the transportation of the machine.

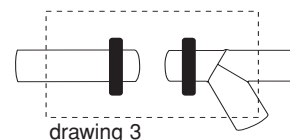
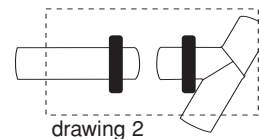
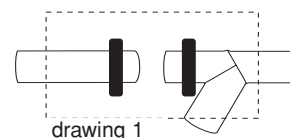
- **The machine body** includes a spring-loaded pressure-regulating device and the rack-feed movement of the carriage provided by a handwheel.
- **The rapid-lock clamps**, in order to be able to lock elbows (also with a very short neck), tees and Y-branches without the need of any additional device.
- **The protection housing** around the heating element.
- Thanks to the Ø 135 mm adapters included in the kit and also to the blades made of special anti-wear steel, it is possible to face and weld pipe/fittings "Silent" type (Geberit).

SUPPLIED WITH

- **Machine body** (with milling cutter, lateral supports and keys)
- Heating plate **TP 200 TE**
- **Right clamp** group Ø 160 **JOYT**
- **Left clamp** group Ø 160 **JOYT**
- Frame **MINI 160 JOYT**
- **Case** with the complete set of **clamps and lateral supports' adapters** Ø 40 ÷ 140 mm

The meaning of **JOYT**

This word identifies the type of clamps adopted on this machine. They have been specifically designed to be able to lock Y-branches in all the possible positions (drawings 1,2,3).





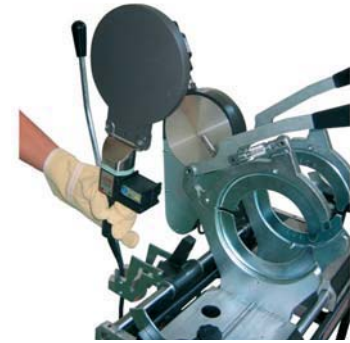
TECHNICAL FEATURES

Working range	40 ÷ 160 mm
Power supply	230 V - Single phase -50/60Hz
Power absorbed by the TP	1200 W
Power absorbed by the milling cutter	760 W
Total absorbed power	1960 W
Working temperature	TE: 180 ÷ 280°C
Ambient temperature	-5 ÷ +40°C
Time to reach welding temperature	TE: ~ 10 min.
(A) Materials	PE, PP, PB, PVDF



Inserts JOYT

DIMENSIONS (W x D x H)	
Machine with "SUPPLIED WITH"	664 x 520 x 1235 mm
TP 200 plate	200 x 50 x 440 mm
Frame	740 x 664 x 520 mm
Steel case with adapters	240 x 400 x 125 mm



Extractable Heating Plate

WEIGHT	
Machine with "SUPPLIED WITH"	54,00 Kg
TP 200 plate	3,21 Kg
Frame	4,00 Kg
Steel case with adapters	3,80 Kg

Weight (Kg) clamp adapters (4 pieces/Ø)										
Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	Ø 110	Ø 125	Ø 135	Ø 140	Ø 160
1,22	1,24	1,25	1,22	1,16	1,08	0,98	0,88	0,78	0,78	0,58
Total weight: 11,17 Kg										



Wye/Branch clamping

Weight (Kg) clamp adapters (2 pieces/Ø)									
Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	Ø 110	Ø 125	Ø 135	Ø 140
0,35	0,34	0,33	0,33	0,31	0,28	0,23	0,19	0,16	0,16
Total weight: 2,68 Kg									



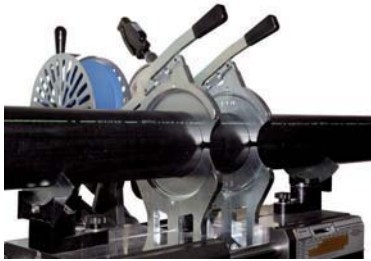
Frame for transport/support



Steel case with inserts



VR 160 JOYT



Machine body



Lateral supports and inserts



TP 200

VR 160 JOYT

Portable butt fusion welder for drainage pipes up to \varnothing 160 mm. This machine is characterized by the extractable heating plate, the safety micro-switches on the milling cutter to avoid accidental starting, the articulated lateral supports and the double-function steel box that can be used either as a work bench or as a protection for transportation.

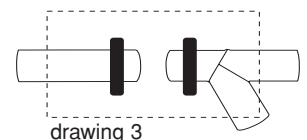
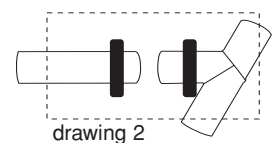
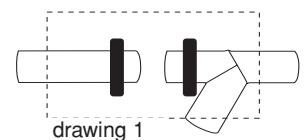
- **The machine body** includes a spring-loaded pressure-regulating device and rack-feed movement of the carriage provided by a handwheel.
- **The rapid-lock clamps**, in order to be able to lock bends (also with a very short neck), tees and Y-branches without the need of any additional device.
- **The protection housing** around the heating element
- Thanks to the \varnothing 135 mm adapters included in the kit and also to the blades made of special anti-wear steel, it is possible to face and weld added pipe/fittings type "Silent" (Geberit).

SUPPLIED WITH

- **Machine body** (with milling cutter, lateral supports and keys)
- Heating plate **TP 200 TE**
- **Right clamp** group \varnothing 160 **JOYT**
- **Left clamp** group \varnothing 160 **JOYT**
- Frame **MINI 160 JOYT**
- **Case with the complete set of clamps and lateral supports' adapters** \varnothing 40 ÷ 140 mm

The meaning of **JOYT**

This word identifies the type of clamps adopted on this machine. They have been specifically designed to be able to lock Y-branches in all the possible positions (drawings 1,2,3).



TECHNICAL FEATURES

Working range	40 ÷ 160 mm
Power supply	230 V - Single phase - 50/60 Hz
Power absorbed by the TP	1200 W
Power absorbed by the milling cutter	650 W
Total absorbed power	1850 W
Working temperature	TE: 180 ÷ 280°C
Ambient temperature	-5 ÷ +40°C
Time to reach welding temperature	TE: ~ 10 min.
Materials	PE, PP, PB, PVDF



JOYT clamps

DIMENSIONS (W x D x H)	
Steel case	805 x 565 x 705 mm
TP 200 plate	200 x 50 x 440 mm
Machine being transported	835 x 565 x 760 mm
Machine being used	1055 x 925 x 1310 mm

WEIGHT	
Steel case	20,00 Kg
TP 200 plate	3,21 Kg
Machine with "SUPPLIED WITH"	98,50 Kg

Weight (Kg) clamp adapters (4 pieces/Ø)										
Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	Ø 110	Ø 125	Ø 135	Ø 140	Ø 160
1,22	1,24	1,25	1,22	1,16	1,08	0,98	0,88	0,78	0,78	0,58
Total weight: 11,17 Kg										

Weight (Kg) clamp adapters (2 pieces/Ø)									
Ø 40	Ø 50	Ø 56	Ø 63	Ø 75	Ø 90	Ø 110	Ø 125	Ø 135	Ø 140
0,35	0,34	0,33	0,33	0,31	0,28	0,23	0,19	0,16	0,16
Total weight: 2,68 Kg									



JOYT inserts



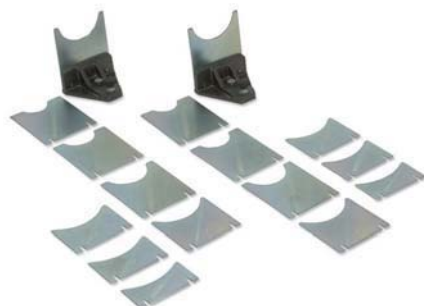
Steel box (bench and transport)



VR 250



Machine body



Lateral supports and adapters



Heating plate

VR 250

A professional welding machine ideal for medium sized pipes and sewers up to \varnothing 250 mm. It consists of a machine body with a pressure regulating device, a pair of clamps, two lateral supports, an electrically controlled milling cutter for levelling the ends of the pipe and/or fitting with a safety microswitch, an extractable heating plate with automatic device to control the temperature, a sliding support and a steel case that acts as a work bench and cover when transporting the machine.

The VR 250 can weld fittings such as **bends and tees**. Branches can also be welded thanks to the **upper extractable jaws** (on request) called **SUPRA**. Available in 110 V and 230 V.

SUPPLIED WITH

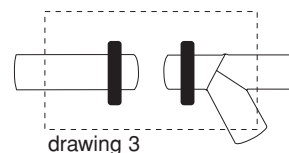
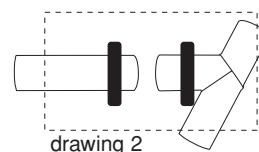
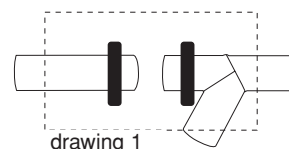
- **Machine body** with a **milling cutter, lateral supports, clamps adapters and lateral supports adapters** \varnothing 75 - \varnothing 250 mm (\varnothing 140 and 180 mm on request) and service spanners;
- **TP VR 250 TE plate**;
- **Right clamp** \varnothing 250;
- **Left clamp** \varnothing 250;
- **Steel case** (for transporting and for use as a work bench).

ON REQUEST (ACCESSORIES)

- **Clamps adapters** \varnothing 140 and 180 mm (4 pieces/ \varnothing) [\varnothing supplied singly];
- **Lateral supports adapters** \varnothing 140 and 180 mm (2 pieces/ \varnothing) [\varnothing supplied singly];
- Sets of **extractable upper jaws SUPRA** \varnothing 75, 90, 110, 125, 140, 160, 180, 200, 225 mm (2 pieces/ \varnothing) [\varnothing supplied singly];
- **Blades** made of special anti wear steel for face pipe/fittings "Silent" type Geberit.
- **Wooden case** for SUPRA extractable upper jaws;

The meaning of **SUPRA**

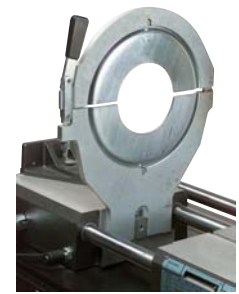
This word identifies the different type of clamps mounted on this welding machine. They have been specifically designed to be able to lock "branch" fittings (shaped like a Y): with extractable and interchangeable jaws, shaped according to the diameter to weld, it is possible to lock all branch points (drawings 1, 2, 3).





TECHNICAL FEATURES

Working range	75 ÷ 250 mm	
Power supply	110 V	230 V
	Single phase - 50/60Hz	
Power absorbed by the TP	1300 W	1300 W
Power absorbed by the milling cutter	450 W	760 W
Total absorbed power	1750 W	2060 W
Working temperature	180 ÷ 280°C (A)	
Ambient temperature	-5 ÷ +40°C	
Time to reach welding temperature	~ 20 min.	
Materials	PE, PP, PB, PVDF	



Basic clamps and adapters

DIMENSIONS (W x D x H)	
Steel case	805 x 565 x 705 mm
TP VR 250 TE plate	450 x 50 x 440 mm
Wooden case for SUPRA extractable upper jaws	390 x 200 x 430 mm
Machine being transported	835 x 565 x 760 mm
Machine being used	835 x 1240 x 1530 mm

WEIGHT	
Steel case	20,00 Kg
TP VR 250 TE	5,84 Kg
Machine with "SUPPLIED WITH"	123,00 Kg
Wooden case for SUPRA extractable upper jaws	5,50 Kg

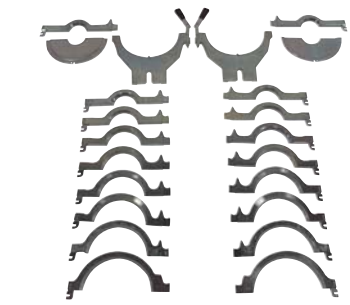


Steel case

Weight (Kg) clamps adapters (4 pieces/Ø)									
Ø 75	Ø 90	Ø 110	Ø 125	Ø 140	Ø 160	Ø 180	Ø 200	Ø 225	
3,80	3,00	2,90	2,80	2,50	2,20	1,90	1,50	1,50	
Total weight: 22,10 Kg									



Weight (Kg) lateral support adapters (2 pieces/Ø)									
Ø 75	Ø 90	Ø 110	Ø 125	Ø 140	Ø 160	Ø 180	Ø 200	Ø 225	Ø 250
1,20	1,1	1,00	1,10	0,90	0,80	0,70	0,60	0,50	0,40
Total weight: 8,30 Kg									



SUPRA extractable upper jaws

Weight (Kg) SUPRA extractable jaws (2 pieces/Ø)									
Ø 75	Ø 90	Ø 110	Ø 125	Ø 140	Ø 160	Ø 180	Ø 200	Ø 225	
2,30	2,30	2,40	2,40	2,50	2,50	2,50	2,30	2,60	
Total weight: 21,80 Kg									



Wooden case



Maxi 315

MAXI 315

A professional welding machine ideal for medium sized pipes and sewers up to Ø 315 mm. It consists of a machine body with pressure regulating device, a pair of clamps, two lateral supports, an electrically controlled milling cutter for levelling the ends of the pipe and/or fitting with a safety microswitch, an extractable heating plate with automatic electronic device to control the temperature, a sliding support, a tip-up metal frame on wheels that acts as a work bench and protection when transporting the machine.

The **MAXI 315** can weld fittings such as **bends and tees**. **Branches** can also be welded thanks to the single clamps (available on request) indicated for all diameters in the working range.

Available in 110 V and 230 V.

SUPPLIED WITH

- **Machine body** with a milling cutter and lateral supports;
- **TP 315 TE plate**;
- **Right clamp Ø 315**;
- **Left clamp Ø 315**;
- **Steel frame on wheels (for transporting and for use as a work bench)**;
- **Wooden case containing the clamps and lateral supports adapters Ø 200 and 250 mm (Ø 90 to 280 mm on request), and the service spanners.**



Machine body

ON REQUEST (ACCESSORIES)

- **Clamp adapters Ø 90, 110, 125, 140, 160, 180, 225, 280 mm**
(4 pieces/Ø) [Ø supplied singly];
- **Lateral supports adapters Ø 90, 110, 125, 140, 160, 180, 225, 280 mm**
(2 pieces/Ø) [Ø supplied singly];
- **Wyes (Y) clamps (for welding branches) Ø 90, 110, 125, 140, 160, 180, 200, 225, 250, 280, 315 mm** (2 pieces/Ø)
[Ø supplied singly];
- **Blades made of special anti wear steel for face pipe/fittings "Silent" type Geberit.**
- **Special transport wooden case;**



Lateral supports and adapters



Heating plate



TECHNICAL FEATURES

Working range	90 ÷ 315 mm	
Power supply	110 V	230 V
	Single phase - 50/60 Hz	
Power absorbed by the TP	3000 W	3000 W
Power absorbed by the milling cutter	800 W	705 W
Total absorbed power	3800 W	3705 W
Working temperature	180 ÷ 280°C (A)	
Ambient temperature	-5 ÷ + 40°C	
Time to reach welding temperature	~ 20 min.	
(A) Materials	PE, PP, PB, PVDF	



Clamps and adapters

DIMENSIONS (W x D x H)	
Frame on wheels	1200 x 680 x 1045 mm
TP 315 MAXI TE plate	580 x 80 x 490 mm
Wooden case for adapters	510 x 410 x 245 mm
Machine being transported	1200 x 680 x 1045 mm
Machine being used	1420 x 1300 x 1570 mm
Special transport wooden case	1325 x 855 x 1275 mm



Frame on wheels

WEIGHT	
Frame on wheels	30,00 Kg
TP 315 MAXI TE plate	10,56 Kg
Basic clamps	7,30 Kg
Wooden case for adapters	183,00 Kg
Special transport wooden case	75,00 Kg

Weight (Kg) clamps adapters (4 pieces/Ø)									
Ø 90	Ø 110	Ø 125	Ø 140	Ø 160	Ø 180	Ø 200	Ø 225	Ø 250	Ø 280
6,30	6,10	5,90	5,50	5,20	4,80	4,70	3,70	3,00	2,00
Total weight: 47,20 Kg									



Case for adapters

Weight (Kg) lateral support adapters (2 pieces/Ø)									
Ø 90	Ø 110	Ø 125	Ø 140	Ø 160	Ø 180	Ø 200	Ø 225	Ø 250	Ø 280
1,10	1,00	1,00	0,90	0,80	0,70	0,60	0,50	0,40	0,30
Total weight: 7,30 Kg									



Clamps

Weight (Kg) wyes (Y) clamps (2 pieces/Ø)										
Ø 90	Ø 110	Ø 125	Ø 140	Ø 160	Ø 180	Ø 200	Ø 225	Ø 250	Ø 280	Ø 315
5,56	6,28	6,74	7,20	7,62	9,06	9,70	9,50	9,54	13,42	14,14
Total weight: 98,76 Kg										