

**Uponor**

# Butt welding field machines



## PT series

Hydraulic operated butt welding machines suitable for PE, PP, PVDF and other thermoplastic pipes and fittings. The self-aligning frame and the compact dimensions make the machines highly suitable for working in road construction, ditches, aqueducts, gas ducts, sewers and irrigation systems. All PT-machines are equipped with LDU connections and can be supplied as or converted to a CNC machine.



The basic machine is equipped with four main clamps. The third clamp can be axially moved and adjusted for the welding of fittings. The basic machine includes as well an automatic detaching device especially designed to break off the melted pipe ends from the heating plate at the end of heating time.



Removable PTFE-coated heating plate with an electronic temperature control.



Removable electric cutter with a reduction gear and reversible double cutting edge blades. Safety microswitch enables to start the cutter only when it is locked in working position. A mechanical lock excludes the disengagement of the cutter during the operation.

Heater plate and cutter are supplied with solid storage and transport holder. Hydraulic unit provides the welding machine with the compressing power. The unit controls makes possible the exact pressure regulating. The accumulator ensures the exact holding of the pressure.



Light weight reduction inserts incl. 8 inserts: 6 wide inserts for pipes and 2 narrow inserts for fittings. The new system of reducing inserts, called "click-clack", is patented and shortens assembling time of the machines extremely. Stub end holder for pipe-to-flange connections.

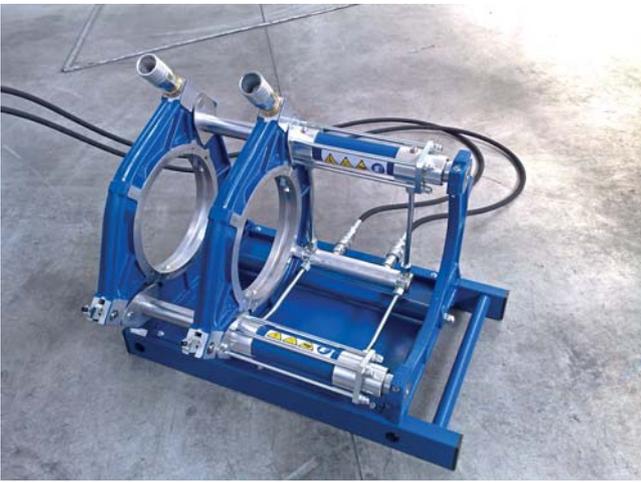
## LDU and CNC Models

The LDU-protocolling units are developed and designed to get a full-function protocolling system for existing machine-systems. I.E. The LDU is suitable for all hydraulically working butt fusion machines available on the market. The complete welding cycle is recorded. The easy menu-guiding supports the welder one by one during the welding steps.

The development of the CNC is based on the concept of the LDU data loggers. These have demonstrated their suitability in daily use and their quality hundredfold. Both machines are designed to comply with ISO 12176 and ISO 11414.



The cutting procedure is running automatically after the cutting device is put in. After the preparation procedure (incl. cutting, alignment control, cleaning, bead formation control, removal of heater plate) the automatic welding cycle starts. Now the welder is permanently informed about the progress of the welding procedure by the comfortable and modern graphic display, showing an active "Pressure-time-diagram".



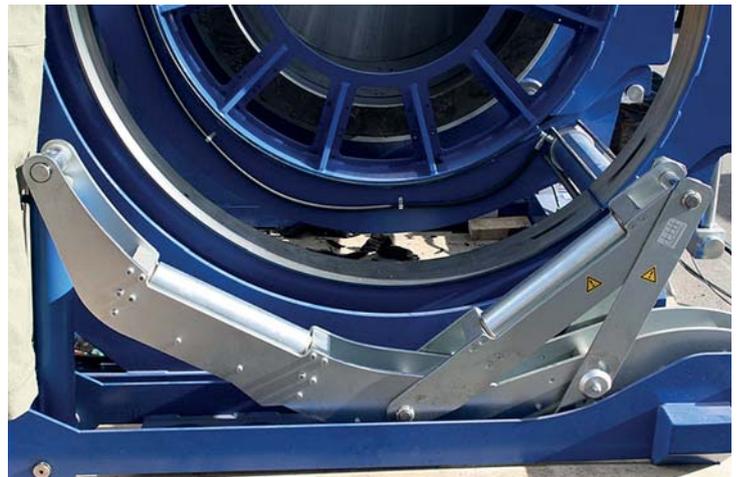
### PT-L, PT-HR, PT-HR-CNC

PT-LM series are equipped with a manual hydraulic pump to apply the required pressure easily by hand. The LH series are equipped with the standard electro-hydraulic unit. The LDU data logger can be even used with the LH series. Both, LM and LH series, have a solid basic frame known from the standard PT machines but with

only two clamps. One fixed on the frame, the other one moving with the hydraulic cylinder. The PT 250 LH/LM have 45° inclined clamps, the PT 400 LM/LH have horizontal clamps with a heating element and facing tool mounted on the basic machines frame.

PT-HR Series are especially designed to maximize the grade of automation and ease the work for large diameter trench machines (OD 630 – 1600 mm). All the machines are equipped with hydraulic side supports with rollers to support the pipe during the welding process. After welding the side supports can be lifted to heave the pipe up from its position for easy handling and preparing for the next joint.

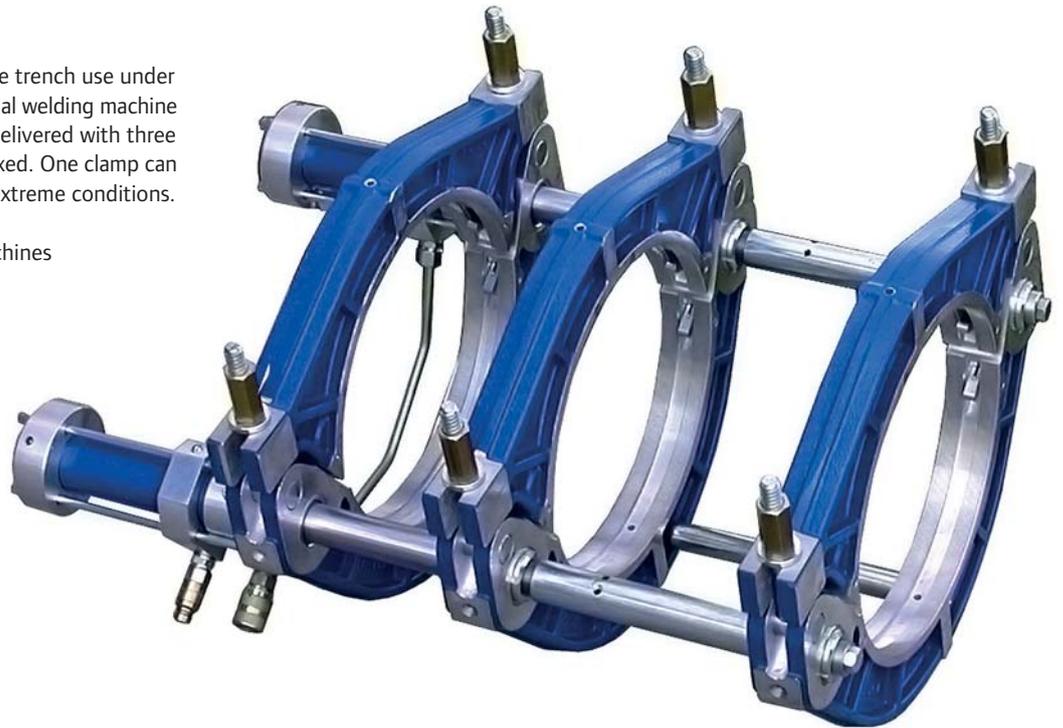
For the easy handling of the heating element and the facing tool a lifting device with electric hoist is mounted on the back of the machine. The clamping system to span the pipes is fully hydraulically operated. All hydraulic elements are operated by one hydraulic unit mounted on a trolley with wheels. All machines can be equipped with the data logging system "LDU". PT 1000 HR and PT 1200 HR are also available as CNC controlled machines.



## WA

WA series are designed for the inside trench use under constrained conditions where a normal welding machine cannot be used. The machines are delivered with three main clamps, one moving and two fixed. One clamp can be disassembled for the use under extreme conditions.

The accessories of the standard machines can be used.



## E-Boxes

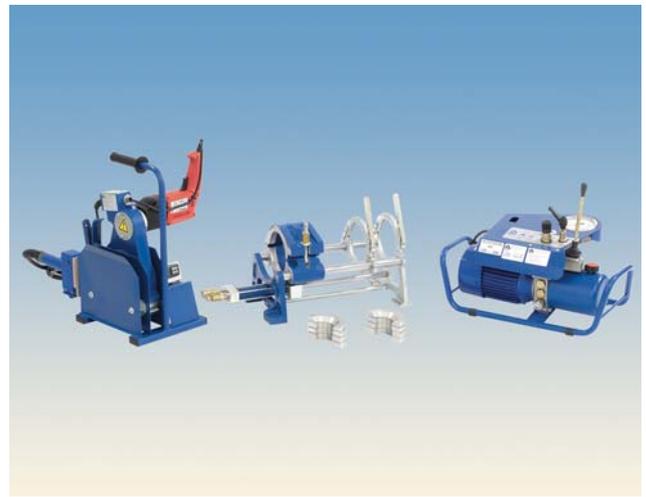
### Electro fusion boxes

For welding pipes with electro fusion fittings of any manufacturer and any size. Two available models: "E-box Manual" and "E-box Control". E-box Manual requires the manual input of welding time and fitting voltage; E-box Control has a polyvalent barcode and manual acquisition data system. The traceability management is according to ISO 12176. The stored welding reports can be transferred to Laptop/PC by USB-Flash stick. Both boxes can be delivered with a solid polyethylene transport box.



**PT 125** 230 V 50 Hz (standard) - 1,5 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 40 - 125	
Basic machine	OD 125	15
PTFE-coated heating mirror with electronic thermostat.		4
Electric facing tool with safety micro switch		5
Support for facing tool and mirror		4
Hydraulic unit		24
Reducing inserts for pipes and fittings.	OD 40, 50, 63, 75, 90, 110	9
Transport box		15
<b>Total weight</b>		<b>76</b>



PT 125

**PT 160** 230 V 50 Hz (standard) - 2,1 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 40 - 160	
Basic machine	OD 160	35
PTFE-coated heating mirror with electronic thermostat.		5
Electric facing tool with safety micro switch		11
Support for facing tool and mirror		7
Hydraulic unit		26
Reducing inserts for pipes and fittings.	OD 40, 50, 63, 75, 90, 110, 125, 140	27
Stub device	OD 40 - 160	4
Transport box	100 x 95 x 75	47
<b>Total weight</b>		<b>162</b>



PT 160

**PT 200** 230 V 50 Hz (standard) - 2,7 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 63 - 200	
Basic machine	OD 200	46
PTFE-coated heating mirror with electronic thermostat.		7
Electric facing tool with safety micro switch		13
Support for facing tool and mirror		8
Hydraulic unit		26
Reducing inserts for pipes and fittings.	OD 63, 75, 90, 110, 125, 140, 160, 180	29
Stub device	OD 63 - 200	4
Transport box	100 x 95 x 75	47
<b>Total weight</b>		<b>180</b>



PT 200

**PT 250** 230 V 50 Hz (standard) - 3,3 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 63 - 250	
Basic machine	OD 250	45
PTFE-coated heating mirror with electronic thermostat.		10
Electric facing tool with safety micro switch		15
Support for facing tool and mirror		12
Hydraulic unit		26
Reducing inserts for pipes and fittings.	OD 63, 75, 90, 110, 125, 140, 160, 180, 200, 225	64
Stub device	OD63 - 250	7
Transport box	105 x 100 x 76	55
<b>Total weight</b>		<b>234</b>



PT 250

**PT 250 LM** 230 V 50 Hz (standard) - 3 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 75 - 250	
Basic machine	OD 250	40
PTFE-coated heating mirror with electronic thermostat.		10
Electric facing tool with safety micro switch		15
Support for facing tool and mirror		12
Manual hydraulic pump		26
Reducing inserts for pipes and fittings.	OD 75, 90, 110, 125, 140, 160, 180, 200, 225	32
Stub device	OD63 - 250	7
Transport box	105 x 100 x 76	55
<b>Total weight</b>		<b>202</b>

**PT 250 LM****PT 250 LH** 230 V 50 Hz (standard) - 3,3 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 75 - 250	
Basic machine	OD 250	40
PTFE-coated heating mirror with electronic thermostat.		10
Electric facing tool with safety micro switch		15
Support for facing tool and mirror		12
Hydraulic unit		26
Reducing inserts for pipes and fittings.	OD 75, 90, 110, 125, 140, 160, 180, 200, 225	32
Stub device	OD63 - 250	7
Transport box	105 x 100 x 76	55
<b>Total weight</b>		<b>202</b>

**PT 250 LH****PT 315 / (PT 315 S)** 230 V 50 Hz (standard) - 4,8 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 90 - 315	
Basic machine	OD 315	78
PTFE-coated heating mirror with electronic thermostat.		13
Electric facing tool with safety micro switch		27
Support for facing tool and mirror		16 (10)
Hydraulic unit		28
Reducing inserts for pipes and fittings.	OD 90, 110, 125, 140, 160, 180, 200, 225, 250, 280	77
Stub device	OD 90 - 315	8
Transport box	126 x 114 x 85	68
<b>Total weight</b>		<b>315 (309)</b>

**PT 315 and PT 315 S****PT 355** 230 V 50 Hz (standard) - 4,8 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 90 - 355	
Basic machine	OD 355	96
PTFE-coated heating mirror with electronic thermostat.		19
Electric facing tool with safety micro switch		28
Support for facing tool and mirror		17
Hydraulic unit		28
Reducing inserts for pipes and fittings.	OD 90, 110, 125, 140, 160, 180, 200, 225, 250, 280, 315	79
Stub device	OD 90 - 355	16
Transport box	126 x 120 x 85	77
<b>Total weight</b>		<b>360</b>

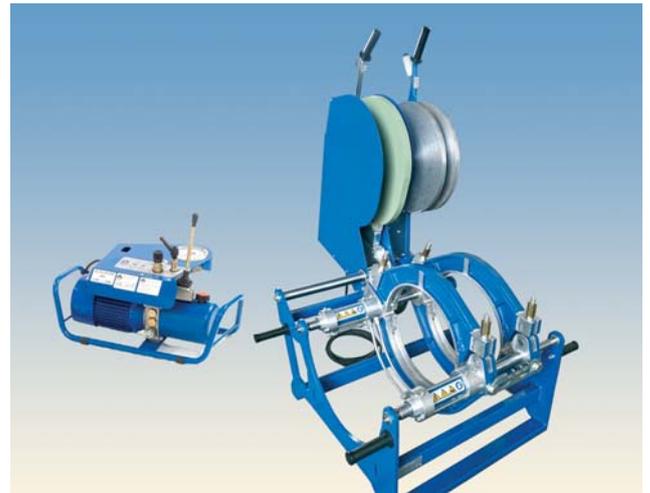
**PT 355**

**PT 400 LM** 230 V 50 Hz (standard) - 5,1 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 200 - 400	
Basic machine with facing tool and heater plate	OD 400	180
Manual hydraulic pump		28
Reducing inserts for pipes and fittings.	OD 200, 225, 250, 280, 315, 355	52
Side rollers	OD 200 - 400	25
Transport box	162 x 150 x 126	145
<b>Total weight</b>		<b>402</b>

**PT 400 LM****PT 400 LH** 230 V 50 Hz (standard) - 4,8 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 200 - 400	
Basic machine with facing tool and heater plate	OD 400	180
Manual hydraulic pump		28
Reducing inserts for pipes and fittings.	OD 200, 225, 250, 280, 315, 355	52
Side rollers	OD 200 - 400	25
Transport box	162 x 150 x 126	145
<b>Total weight</b>		<b>402</b>

**PT 400 LH****PT 500** 230 V 50 Hz (standard) - 8,4 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 200 - 500	
Basic machine	OD 500	171
PTFE-coated heating mirror with electronic thermostat.		27
Electric facing tool with safety micro switch		69
Support for facing tool and mirror		31
Hydraulic unit		28
Reducing inserts for pipes and fittings.	OD 200, 225, 250, 280, 315, 355, 400, 450	144
Stub device	OD 200 - 500	33
Transport box	162 x 150 x 126	145
<b>Total weight</b>		<b>648</b>

**PT 500****PT 630** 400 V 50 Hz (standard) - 11,5 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 315 - 630	
Basic machine	OD 630	229
PTFE-coated heating mirror with electronic thermostat.		47
Electric facing tool with safety micro switch		107
Support for facing tool and mirror		36
Hydraulic unit		41
Reducing inserts for pipes and fittings.	OD 315, 355, 400, 450, 500, 560	210
Stub device	OD 315 - 630	41
Crane with electrical hoist		50
Transport box	177 x 157 x 131	154
<b>Total weight</b>		<b>915</b>

**PT 630**

**PT 800** 400 V 50 Hz (standard) - 13,9 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 450 - 800	
Basic machine	OD 800	565
PTFE-coated heating mirror with electronic thermostat.		59
Electric facing tool with safety micro switch		160
Support for facing tool and mirror		62
Hydraulic unit		38
Reducing inserts for pipes and fittings.	OD 450, 500, 560, 630, 710	282
Stub device	OD 450 - 800	42
Crane with electrical hoist		220
Packing incl. transport box for crane		150
<b>Total weight</b>		<b>1578</b>



PT 800, PT 1000

**PT 1000** 400 V 50 Hz (standard) - 17,4 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 630 - 1000	
Basic machine	OD 1000	1030
PTFE-coated heating mirror with electronic thermostat.		93
Electric facing tool with safety micro switch		273
Support for facing tool and mirror		163
Hydraulic unit		49
Reducing inserts for pipes and fittings.	OD 630, 710, 800, 900	730
Stub device	OD 630 - 1000	120
Crane with hoist weight		290
Packing incl. transport box for crane		280
<b>Total weight</b>		<b>3028</b>

**PT 1200** 400 V 50 Hz (standard) - 21,7 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 630 - 1200	
Basic machine	OD 1200	1300
PTFE-coated heating mirror with electronic thermostat.		140
Electric facing tool with safety micro switch		352
Support for facing tool and mirror		240
Hydraulic unit		49
Reducing inserts for pipes and fittings.	OD 630, 710, 800, 900, 1000	920
Stub device	OD 630 - 1200	150
Crane with electrical hoist		420
Packing incl. transport box for crane		310
<b>Total weight</b>		<b>3881</b>



PT 1200, PT 1600

**PT 1600** 400 V 50 Hz (standard) - 54 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 1000 - 1600	
Basic machine	OD 1600	2560
PTFE-coated heating mirror with electronic thermostat.		260
Electric facing tool with safety micro switch		858
Support for facing tool and mirror		460
Hydraulic unit		54
Reducing inserts for pipes and fittings.	OD 1000, 1200, 1400	1896
Stub device	OD 1000 - 1600	350
Crane with electrical hoist		420
Packing		360
<b>Total weight</b>		<b>7218</b>



### PT 1000 HR 400 V 50 Hz

Machines Composition	sizes (mm)	weight on request
Welding range	630-1000	
Basic machine with hydraulically moving clamps and hydraulic pipe rollers.		
Facing tool		
Heating mirror		
Hydraulic unit		
Support for facing tool and heating mirror		
Stub end device		
Crane with electric hoist		
Reducing inserts	OD 630, 710, 800, 900 mm	

### PT 1200 HR 400 V 50 Hz

Machines Composition	sizes (mm)	weight on request
Welding range	630-1200	
Basic machine with hydraulically moving clamps and hydraulic pipe rollers.		
Facing tool		
Heating mirror		
Hydraulic unit		
Support for facing tool and heating mirror		
Stub end device		
Crane with electric hoist		
Reducing inserts	OD 630, 710, 800, 900, 1000 mm	

### PT 1600 HR 400 V 50 Hz - 62 kW

Machines Composition	sizes (mm)	weight (kg)
Welding range	1000-1600	
Basic machine with hydraulically moving clamps and hydraulic pipe rollers.		3960
Facing tool		910
Heating mirror		260
Hydraulic unit		175
Support for facing tool and heating mirror		460
Stub end device		350
Crane with electric hoist		980
Reducing inserts	1000 - 1200	192
Reducing inserts	1400 - 1600	744
Reducing inserts	1200 - 1600	960
Packing		350
<b>Total weight</b>		<b>9341</b>



Taylor made machines of any sizes are available on request.



PT 2000



PT 3.2 m (machines in all dimensions can be produced)

## WA 250

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 63 - 250	
Basic machine	OD 250	38

## WA 315

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 90 - 315	
Basic machine	OD 315	50



WA 250, WA 315

## WA 355

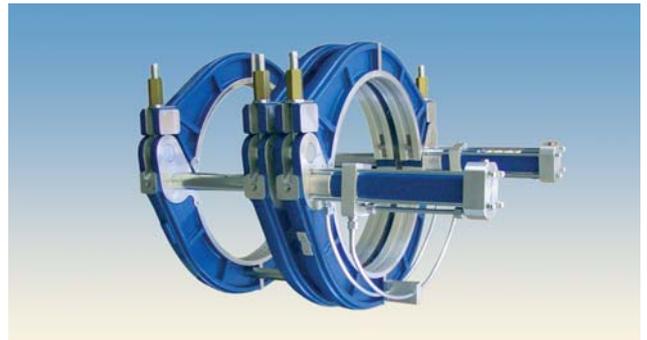
Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 90 - 355	
Basic machine	OD 355	58



WA 355

## WA 500

Machines Composition	sizes (mm)	weight (kg)
Welding range	OD 200 - 500	
Basic machine	OD 500	90



WA 500

## LDU

### Technical Data:

Power	230 ± 20% V
Frequency	50/60 ± 10% Hz
Consumption	30 W IP41
Weight	7 Kg
Dimensions	340x180x180
Maximum working pressure	160 bar
Operating temperature range	-20 ... +70 °C
Stocking temperature range	-40 ... +85 °C
Humidity (without condensation)	95%

### Features:

- integrated micro printer
- EPP Emergency Power Pack. Battery for bridging eventual currency interruptions
- modern and simple menu guiding for operator
- all known welding standards available
- modification of welding parameters with supervisor code
- 10 different languages incl. cyrillic (Russian, Bulgarian)
- Printing languages same as display version
- number of reports 1500
- modern graphic display with active pressure-time diagram
- print menu "Black Box"
  - >single protocols can be printed directly on-site by the new sort-out function
- data transfer via USB cable or serial cable
- data transfer via USB flash memory stick
- databank software for PC/Notebook Memoplan
- welder identification based on ISO 12176 but with I-Button (easy access)



### Options:

- Global Positioning System (GPS) for exact traceability of each single joint composed by internal receiver and external GPS-antenna
- I-Button (welder identification key / access-key)

## CNC machines and CNC-Kits (230 V up-to PT 500/ 400 V on request)

### Technical Data:

Power	230 ± 20% V	Max 7,7 KW 32 A
Frequency	50/60 ± 10% Hz	
Consumption		
PT500 CNC	7,7 KW	32 A
PT355 CNC	5,1 KW	23 A
PT315 CNC	5,1 KW	23 A
PT250 CNC	3,7 KW	16 A
PT200 CNC	2,8 KW	12 A
PT160 CNC	2,4 KW	10 A
PT 630 - 1600 (400 V)	data on request	
Weight	52 Kg	
Dimensions	630 x 310 x 435	
Maximum working pressure	130 bar	
Pump's Capacity	3,4 l/min 2800 rpm	
Oil Tank	1 l	
Hydraulic Oil	ISO 46	
Operating temperature range	-20 ... +60°C	
Storage temperature range	-40 ... +85°C	
Humidity (without condensation)	95%	

### CNC features:

- integrated micro printer
- EPP Emergency Power Pack. Battery for bridging eventual currency interruptions
- data transfer via USB cable
- data transfer via USB stick
- databank software for PC/Notebook
- welder identification based on ISO 12176 but with I-Button (easy access)
- modern and simple menu guiding for operator
- all known welding standards available
- modification of welding parameters with supervisor code



- Multiple-Language-Display (all-in-one)
- Printing languages same as display version
- number of reports 1500
- modern graphic display with active pressure-time diagram
- print menu iBlack Boxi
  - >single protocols can be printed directly on-site by the new sort-out function

### Options:

- traceability of each joint by GPS (integrated receiver/external GPS antenna)
- path measurement with welding bead recognition by encoder-system
- I-Button (welder identification key / access-key)



### E-box control

#### Technical Data:

ISO 12176-2 Reference	P24US1VKADX
Fitting range	Up to 1200 mm
CTF Reference	TBC01071013E
Principle	Low voltage controller Polyvalent barcode and manual system
Input	230V 50/60Hz
Fitting Voltage	8-48V
ISO Barcode	24: Electrofusion Standard – ISO 13950 26: Traceability – ISO 12176-4 30: Operator Card – ISO 12176-3 40: Pipes-Accessory traceability – ISO 12176-4
Power	3200 VA – 80 Amps. – D.C.:60%
Max Current	110A
Temperature	-10°C + 45 °C (adjustable range)
Protection	IP 54
Output connector	4mm
Interface	Serial: 9600 ; USB A for data transfer
External Memory	USB Memory flash disk
Stored Fusions	970
Softwares	EXCEL format file
Presentation	Compact inox enclosure with polyethylen transport box
Certification	CE, ISO9001
Size	L 320 * W 200 * H 290
Weight	About 19 Kg



### E-box manual

#### Technical Data:

ISO 12176-2 Reference	P24US1KADX
Fitting range	Up to 1200 mm
CTF Reference	TEC01070001
Principle	Low voltage controller Polyvalent Manual system
Input	230V 50/60Hz
Fitting Voltage	8-48V / 0-9999 sec
Power	3200 VA – 80 Amps. – D.C.:60%
Max Current	110A
Temperature	-10°C + 45 °C (adjustable range)
Protection	IP 54
Output connector	4mm
Interface	Serial: 9600
External Memory	-
Softwares	-
Presentation	Compact inox enclosure
Certification	CE, ISO9001
Size	L 320 * W 200 * H 290
Weight	About 19 Kg
Option	Polyethylen Transport box

# Butt welding field machines



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