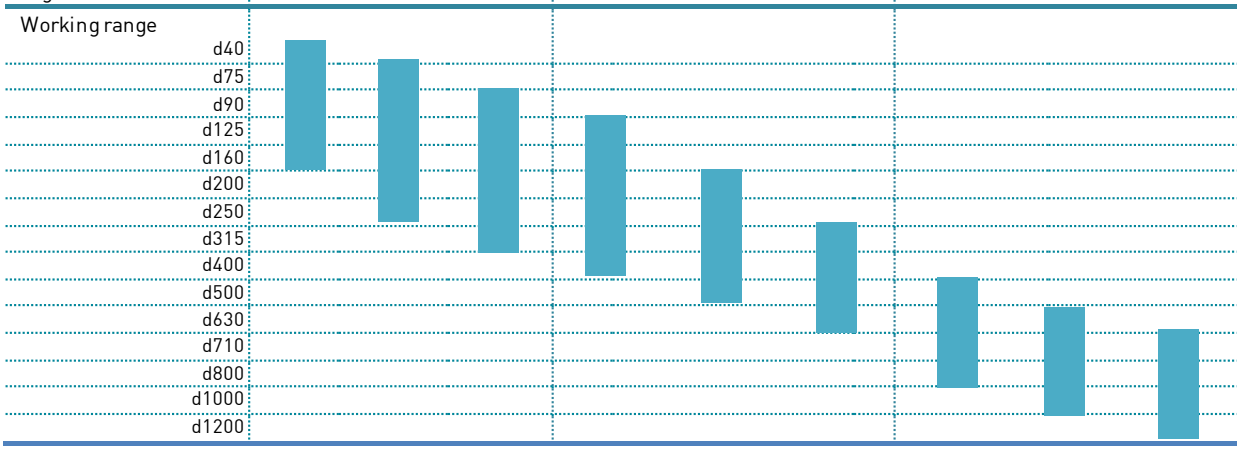
Utility Range

Trench Machines

Product Range Overview

Characteristics	ECOS-TOP-CNC 160	250	315	TOP-CNC 400	500	630	GF 800	1000	1200
Max jointing diameter (mm)	160	250	315	400	500	630	800	1000	1200
Jointing material	PE, PP, PB			PE,PP,PB			PE,PP		
Working range (°C)	-10/+45			-10/+45			-10/+45		
Input voltage (Vac)	230/115	230	230	400	400	400	400	400	400
Operation control	Manual, CNC			Manual, CNC			Manual		
Performance (W)	1900	3250	3850	5700	6300	11000	15000	19500	20500
Reduction inserts / Flange adapter clamp	Optional			Optional			Optional		
Hoist unit				Optional			Optional		
Chamfered upper clamp	Optional			Optional					
Fusion protocols, transfer via USB stick	WR 200 (Optional), CNC			WR 200 (Optional), CNC			WR 200 (Optional)		
Remote data transfer via smartphone	TOP, CNC			TOP, CNC					
Traceability	CNC			CNC					
Weight – base machine (Kg)	22	47	53	95	169	222	690	1238	1370



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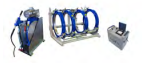	CNC 4.0 400 - 500 - 630	26
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TOP 2.0 160 - 250 - 315

TOP 2.0 160 - 250 - 315
Butt fusion machine for construction site

INDUSTRY 4.0

Butt Fusion machine to joint PE, PP, PB pipes and fittings for pressure piping systems on building sites and in trenches.
Hydraulically operated with manual control unit.
TOP hydraulic unit with integrated control panel and power outlets.
Including transport packaging (wooden crate); reduction clamping inserts and other accessories to be ordered separately.

- **BASE MACHINE**
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- Weight: Type 160 = 22 kg, Type 250 = 47 kg, Type 315 = 53 kg
- **HYDRAULIC UNIT**
- Compact aluminium case with innovative design
- Intuitive control panel provided with digital indication of hydraulic pressure, electronic heating element temperature controller, 2-channel welding timer
- Automatic pressure control during the cooling time
- Built-in data logger and realtime communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and fusion data download, working in combination with TOP WeldinAir mobile application
- Precise pressure setting and fine adjusting
- Push-button operation of machine carriage
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Max operating pressure: 160 bar
- Weight: 31 kg
- **PLANER**
- Powerful parallel planer for single or double-sided facing of pipe ends
- Ergonomic, weight-balanced handling
- Self-locking mechanism in working position
- Safety microswitch to prevent undesired start-up
- Weight: Type 160 = 7 kg, Type 250 = 14 kg, Type 315 = 17 kg
- **HEATING ELEMENT**
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Weight: Type 160 = 5.5 kg; Type 250 = 8 kg; Type 315 = 10 kg
- Input power: Type 160 = 1200 W, Type 250 = 2000 W, Type 315 = 2500 W
- **CASE**
- For safe storage of planer and heating element
- Weight: Type 160 = 4.8 kg, Type 250 = 8 kg, Type 315 = 9 kg

Type	d-d (mm)	Performance	Code	Weight (kg)
TOP 2.0 160	40 - 160	230 V/1900 W	**790 150 011**	126.000
TOP 2.0 250	75 - 250	230 V/3270 W	**790 151 011**	191.000
TOP 2.0 315	90 - 315	230 V/3870 W	**790 152 026**	206.000

ECOS 160 - 250 - 315

ECOS 160 - 250 - 315
Butt fusion machine for construction site

Butt Fusion machine to joint PE, PP, PB pipes and fittings for pressure piping systems on building sites and in trenches.
Hydraulically operated with manual control unit.
Temperature controller integrated in the heating element handle.
Including transport packaging (carton pallet); reduction clamping inserts and other accessories to be ordered separately.

- **BASE MACHINE**
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- Weight: Type 160 = 22 kg, Type 250 = 47 kg, Type 315 = 53 kg
- **HYDRAULIC UNIT**
- Compact construction with protection frame
- Precise pressure setting and fine adjusting
- Joystick operation of machine carriage
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Integrated interface for welding recorder
- Max operating pressure: Type 160 = 100 bar, Type 250 - 315 = 160 bar
- Weight: 22 kg
- **PLANER**
- Powerful parallel planer for single or double-sided facing of pipe ends
- Ergonomic, weight-balanced handling
- Self-locking mechanism in working position
- Safety microswitch to prevent undesired start-up
- Weight: Type 160 = 7 kg, Type 250 = 14 kg, Type 315 = 17 kg
- **HEATING ELEMENT**
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Weight: Type 160 = 5.5 kg, Type 250 = 8 kg, Type 315 = 10 kg
- Input power: Type 160 = 1200 W, Type 250 = 2000 W, Type 315 = 2500 W
- **CASE**
- For safe storage of planer and heating element
- Weight: Type 160 = 4.8 kg, Type 250 = 8 kg, Type 315 = 9 kg

Type	d-d (mm)	Performance	Description	Code	Weight (kg)
ECOS 160	40 - 160	230 V/1900 W	Without crate (carton pallet only)	**790 150 009**	78.000
ECOS 250	75 - 250	230 V/3270 W	Without crate (carton pallet only)	**790 151 013**	116.000
ECOS 315	90 - 315	230 V/3870 W	Without crate (carton pallet only)	**790 152 028**	129.000
ECOS 160	40 - 160	230 V/1900 W	With wooden transport crate	**790 150 073**	108.000
ECOS 250	75 - 250	230 V/3270 W	With wooden transport crate	**790 151 073**	166.000
ECOS 315	90 - 315	230 V/3870 W	With wooden transport crate	**790 152 073**	179.000

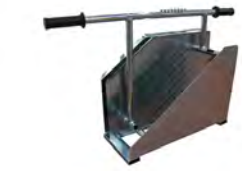
CNC 4.0 160 - 250 - 315

CNC 4.0 160 - 250 - 315
Automatic butt fusion machine for construction site

Butt Fusion machine to joint PE, PP, PB pipes and fittings for pressure piping systems on building sites and in trenches.
Hydraulically operated with automatic CNC control unit.
Including transport packaging (wooden crate); reduction clamping inserts and other accessories to be ordered separately.

- **BASE MACHINE**
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete working process
- Weight: Type 160 = 22 kg, Type 250 = 47 kg, Type 315 = 53 kg
- **HYDRAULIC UNIT**
- Compact aluminium case with innovative design
- Intuitive colour touch screen interface
- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines
- Real time communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and the data management, working in combination with WeldinAir mobile application
- Operator ID (ISO 12176-3), job number and pipe codes (ISO 12176-4) input by means of the smartphone
- Transfer of collected fusion data directly from jobsite to the headquarter by means of the smartphone
- Integrated GPS receiver
- 10 freely programmable fusion cycles (e.g. for non standard pipe dimensions)
- Selection of language
- On site check of the memorized fusion protocols status directly on the touchscreen
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- Fusion protocols compatible with Welding Book application
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Max operating pressure: 160 bar
- Weight: 33 kg
- **PLANER**
- Powerful parallel planer for single or double-sided facing of pipe ends
- Ergonomic, weight-balanced handling
- Self-locking mechanism in working position
- Safety microswitch to prevent undesired start-up
- Weight: Type 160 = 7 kg, Type 250 = 14 kg, Type 315 = 17 kg
- **HEATING ELEMENT**
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Weight: Type 160 = 5.5 kg, Type 250 = 8 kg, Type 315 = 10 kg
- Input power: Type 160 = 1200 W, Type 250 = 2000 W, Type 315 = 2500 W
- **CASE**
- For safe storage of planer and heating element
- Weight: Type 160 = 4.8 kg, Type 250 = 8 kg, Type 315 = 9 kg

Type	d-d (mm)	Performance	Code	Weight (kg)
CNC 4.0 160 WeldinAir	40 - 160	230 V/2000 W	**790 150 076**	125.000
CNC 4.0 250 WeldinAir	75 - 250	230 V/3150 W	**790 151 076**	195.000
CNC 4.0 315 WeldinAir	90 - 315	230 V/3750 W	**790 152 076**	215.000



CNC 4.0 250 - 315 AHE
Automatic butt fusion machine for construction site with heating element ejection system

Butt Fusion machine to joint PE, PP, PB pipes and fittings for pressure piping systems on building sites and in trenches.
Hydraulically operated with automatic CNC control unit.
Automatic ejection system for the heating element.
Including transport packaging (wooden crate); reduction clamping inserts and other accessories to be ordered separately.

- **BASE MACHINE**
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- The heating element is removed automatically during the change-over phase
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete working process
- Weight: Type 250 = 54 kg, Type 315 = 60 kg
- **HYDRAULIC UNIT**
- Compact aluminium case with innovative design
- Intuitive colour touch screen interface
- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines
- Real time communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and the data management, working in combination with WeldinAir mobile application
- Operator ID (ISO 12176-3), job number and pipe codes (ISO 12176-4) input by means of the smartphone
- Transfer of collected fusion data directly from jobsite to the headquarter by means of the smartphone
- Integrated GPS receiver
- 10 freely programmable fusion cycles (e.g. for non standard pipe dimensions)
- Selection of language
- On site check of the memorized fusion protocols status directly on the touchscreen
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- Fusion protocols compatible with Welding Book application
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Max operating pressure: 160 bar
- Weight: 33 kg
- **PLANER**
- Powerful parallel planer for single or double-sided facing of pipe ends
- Ergonomic, weight-balanced handling
- Self-locking mechanism in working position
- Safety microswitch to prevent undesired start-up
- Weight: Type 250 = 14 kg, Type 315 = 17 kg
- **HEATING ELEMENT**
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Weight: Type 250 = 15 kg, Type 315 = 19 kg
- Input power: Type 250 = 2000 W, Type 315 = 2500 W
- **CASE**
- For safe storage of planer and heating element
- Weight: Type 250 = 9 kg, Type 315 = 10 kg

Type	d-d (mm)	Performance	Code	Weight (kg)
CNC 4.0 250 AHE WeldinAir	75 - 250	230 V/3150 W	**790 151 077**	208.000
CNC 4.0 315 AHE WeldinAir	90 - 315	230 V/3750 W	**790 152 077**	223.000

ECOS - TOP - CNC Accessories

Type 160 Reduction clamping inserts

- d 40 - 140 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- We recommend 4 wide and 4 narrow half shells.
- Reductions in inch sizes or special diameters upon request

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
40	**790 114 027**	0.330	**790 114 023**	0.300
50	**790 114 016**	0.310	**790 114 009**	0.290
63	**790 114 017**	0.300	**790 114 010**	0.293
75	**790 114 018**	0.280	**790 114 011**	0.270
90	**790 114 019**	0.260	**790 114 012**	0.250
110	**790 114 020**	0.220	**790 114 013**	0.220
125	**790 114 021**	0.190	**790 114 014**	0.200
140	**790 114 022**	0.130	**790 114 015**	0.180

Type 250 Reduction clamping inserts

- d 75 - 225 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- We recommend 4 wide and 4 narrow half shells.
- Reductions in inch sizes or special diameters upon request

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
75	**790 115 029**	0.768	**790 115 028**	0.902
90	**790 115 016**	0.719	**790 115 008**	0.940
110	**790 115 017**	0.734	**790 115 009**	0.841
125	**790 115 018**	0.661	**790 115 010**	0.829
140	**790 115 019**	0.762	**790 115 011**	0.647
160	**790 115 020**	0.574	**790 115 012**	0.727
180	**790 115 021**	0.561	**790 115 013**	0.676
200	**790 115 022**	0.479	**790 115 014**	0.733
225	**790 115 023**	0.385	**790 115 015**	0.477

Type 315 Reduction clamping inserts

- d 90 - 280 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- We recommend 4 wide and 4 narrow half shells.
- Reductions in inch sizes or special diameters upon request

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
90	**790 112 098**	1.265	**790 112 088**	1.000
110	**790 112 099**	1.220	**790 112 089**	0.945
125	**790 112 100**	1.215	**790 112 090**	0.957
140	**790 112 101**	1.139	**790 112 091**	0.950
160	**790 112 102**	1.080	**790 112 092**	0.980
180	**790 112 103**	1.006	**790 112 093**	0.931
200	**790 112 104**	0.945	**790 112 094**	0.880
225	**790 112 105**	0.833	**790 112 095**	0.940
250	**790 112 106**	0.712	**790 112 096**	0.754
280	**790 112 107**	0.562	**790 112 097**	0.750

Reduction clamping inserts-set

- 4 wide and 4 narrow clamping inserts of each dimension
- Reductions in inch sizes or special diameters upon request

d-d (mm)	Code	Weight (kg)
40 - 140	**790 114 156**	17.000
75 - 225	**790 115 156**	63.000
90 - 280	**790 112 156**	78.000

Chamfered upper clamp

- Necessary for welding short-leg bends having diameters equal of the machine dimension: e.g. bend Ø250 mm with a TM 250
- Left: bend is clamped left from the heating element position
- Right: bend is clamped right from the heating element position

Type	Left Code	Right Code	Weight (kg)
Type 160	**790 150 205**	**790 150 206**	0.800
Type 250	**790 151 205**	**790 151 206**	1.850
Type 315	**790 152 205**	**790 152 206**	2.681

Flange adapter clamping units

- For correct clamping and fusion jointing of short-ended stub ends

d-d (mm)	Code	Weight (kg)
40 - 160	**790 319 007**	5.800
75 - 250	**790 115 044**	5.594
90 - 315	**790 112 073**	11.000

Pipe lifter

- Convenient movement of the welded pipes through the base machine
- Lifting the pipes out of the clamps or inserts, to let the bead pass without blocking
- Supporting the welded pipes on height adjustable rollers
- The pipe lifter could be easily assembled to the base machine
- The delivery contains one left and one right pipe lifter and one lever

Type	Code	Weight (kg)
Type 160	**790 150 050**	9.000
Type 250	**790 151 050**	11.000
Type 315	**790 152 050**	12.500

Set of replacement blades for planer

- Blade has 2 cutting edges (1 set = 2 blades)

d-d (mm)	Code	Weight (kg)
40 - 160	**790 113 056**	0.059
75 - 250	**790 115 024**	0.083
90 - 315	**790 112 110**	0.129

Pressure Shut-Off Valve

- Time saving in the butt fusion process, by working with 2 base machines
- Enabling to disconnect the base machine under pressure from the hydraulic unit during the cooling time
- Close the pressure valve, release pressure at the hydraulic unit, disconnect the hoses from the base machine. Keep the joint cooling down
- Use the cooling time for pipe preparation and welding of the next join by connecting the hydraulic unit hoses to a second base machine

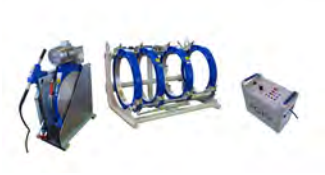
Type	Code	Weight (kg)
Type 250 - 315	**790 151 002**	1.500

Label printer cable for CNC machines

- Cable to connect the CNC 4.0 to same label printer (code 790131066) used with automatic IR welding machines

Type	Code	Weight (kg)
Cable with special connector	**790 155 343**	0.120

TOP 2.0 400 - 500 - 630



TOP 2.0 400 - 500 - 630
Butt fusion machine for construction site

INDUSTRY 4.0

Butt Fusion machine to joint PE, PP, PB pipes and fittings for pressure piping systems on building sites and in trenches.
Hydraulically operated with manual control unit.
TOP hydraulic unit with integrated control panel and power outlets.
Including transport packaging (wooden crate); reduction clamping inserts and other accessories to be ordered separately.

- **BASE MACHINE**
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 45° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- Weight: Type 400 = 80 kg, Type 500 = 157 kg, Type 630 = 222 kg
- **HYDRAULIC UNIT**
- Compact aluminium case with innovative design
- Intuitive control panel provided with digital indication of hydraulic pressure, electronic heating element temperature controller, 2-channel welding timer
- Automatic pressure control during the cooling time
- Built-in data logger and realtime communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and fusion data download, working in combination with TOP WeldinAir mobile application
- Precise pressure setting and fine adjusting
- Push-button operation of machine carriage
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Max operating pressure: Type 400 = 160 bar, Type 500 - 630 = 200 bar
- Weight: 34 kg
- **PLANER**
- Powerful parallel planer for single or double-sided facing of pipe ends
- Ergonomic, weight-balanced handling
- Self-locking mechanism in working position
- Safety microswitch to prevent undesired start-up
- Weight: Type 400 = 47 kg, Type 500 = 58 kg, Type 630 = 102 kg
- For Type 500 a special version is available, with enhanced performance to work with PP pipes and fittings up to d 500 mm SDR 11
- **HEATING ELEMENT**
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Weight: Type 400 = 16 kg, Type 500 = 26 kg, Type 630 = 51 kg
- Input power: Type 400 = 3.5 kW, Type 500= 4.0 kW, Type 630 = 8.0 kW
- **CASE**
- For safe storage of planer and heating element
- Weight: Type 400 = 30 kg, Type 500 = 38 kg, Type 630 = 62 kg

Type	d-d (mm)	Performance	Code	Weight (kg)
TOP 2.0 400	125 - 400	400 V/5700 W	**790 153 011**	310.000
TOP 2.0 500	200 - 500	400 V/6300 W	**790 154 011**	448.000
TOP 2.0 630	315 - 630	400 V/11000 W	**790 155 011**	588.000

CNC 4.0 400 - 500 - 630

CNC 4.0 400- 500 - 630
Automatic butt fusion machine for construction site

INDUSTRY 4.0

Butt Fusion machine to joint PE, PP, PB pipes and fittings for pressure piping systems on building sites and in trenches.
Hydraulically operated with automatic CNC control unit.
Including transport packaging (wooden crate); reduction clamping inserts and other accessories to be ordered separately.

- **BASE MACHINE**
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete working process
- Weight: Type 400 = 80 kg, Type 500 = 157 kg, Type 630 = 222 kg
- **HYDRAULIC UNIT**
- Compact aluminium case with innovative design
- Intuitive colour touch screen interface
- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines
- Real time communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and the data management, working in combination with WeldinAir mobile application
- Operator ID (ISO 12176-3), job number and pipe codes (ISO 12176-4) input by means of the smartphone
- Transfer of collected fusion data directly from jobsite to the headquarter by means of the smartphone
- Integrated GPS receiver
- 10 freely programmable fusion cycles (e.g. for non standard pipe dimensions)
- Selection of language
- On site check of the memorized fusion protocols status directly on the touchscreen
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- Fusion protocols compatible with Welding Book application
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Max operating pressure: 160 bar
- Weight: 37 kg
- **PLANER**
- Powerful parallel planer for single or double-sided facing of pipe ends
- Ergonomic, weight-balanced handling
- Self-locking mechanism in working position
- Safety microswitch to prevent undesired start-up
- Weight: Type 400 = 47 kg, Type 500 = 58 kg, Type 630 = 102 kg
- For Type 500 a special version is available, with enhanced performance to work with PP pipes and fittings up to d 500 mm SDR 11
- **HEATING ELEMENT**
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Weight: Type 400 = 16 kg, Type 500 = 26 kg, Type 630 = 51 kg
- Input power: Type 400 = 3.5 kW, Type 500= 4.0 kW, Type 630 = 8.0 kW
- **CASE**
- For safe storage of planer and heating element
- Weight: Type 400 = 30 kg, Type 500 = 38 kg, Type 630 = 62 kg

Type	d-d (mm)	Performance	Code	Weight (kg)
CNC 4.0 400 WeldinAir	125 - 400	400 V/5700 W	**790 153 076**	320.000
CNC 4.0 500 WeldinAir	200 - 500	400 V/6300 W	**790 154 076**	455.000
CNC 4.0 630 WeldinAir	315 - 630	400 V/11000 W	**790 155 076**	595.000

TOP CNC 400 - 500 - 630 Accessories

Type 400 Reduction clamping inserts

- d 125-355 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- We recommend 4 wide and 4 narrow half shells.
- Reductions in inch sizes or special diameters upon request

In order to mount the inserts d 125/d 140/d 160/d 180/d 200/d 225/d 250/d 280, the reduction clamping insert d 315 mm, code 790 127 101, must also be used

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
125	**790 112 100**	1.215	**790 112 090**	0.957
140	**790 112 101**	1.139	**790 112 091**	0.950
160	**790 112 102**	1.080	**790 112 092**	0.980
180	**790 112 103**	1.006	**790 112 093**	0.931
200	**790 112 104**	0.945	**790 112 094**	0.880
225	**790 112 105**	0.833	**790 112 095**	0.940
250	**790 112 106**	0.712	**790 112 096**	0.754
280	**790 112 107**	0.562	**790 112 097**	0.750
315	**790 127 111**	1.830	**790 127 101**	1.830
355	**790 127 112**	0.900	**790 127 102**	1.830

Type 500 Reduction clamping inserts

- d 200 - 450 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- We recommend 4 wide and 4 narrow half shells.
- Reductions in inch sizes or special diameters upon request

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
200	**790 116 016**	3.714	**790 116 008**	3.650
225	**790 116 017**	3.443	**790 116 009**	3.640
250	**790 116 018**	3.700	**790 116 010**	3.569
280	**790 116 019**	3.891	**790 116 011**	3.612
315	**790 116 020**	3.622	**790 116 012**	3.698
355	**790 116 021**	3.267	**790 116 013**	3.727
400	**790 116 022**	2.383	**790 116 014**	3.836
450	**790 116 023**	2.273	**790 116 015**	3.276

Type 630 Reduction clamping inserts

- d 315 - 630 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- We recommend 4 wide and 4 narrow half shells.
- Reductions in inch sizes or special diameters upon request

In order to mount the inserts d 315/d 355/d 400/d 450 to the base clamp d 630, the reduction clamping insert d 500 mm, code 790 117 012, must also be used

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
315	**790 116 020**	3.622	**790 116 012**	3.698
355	**790 116 021**	3.267	**790 116 013**	3.727
400	**790 116 022**	2.383	**790 116 014**	3.836
450	**790 116 023**	2.273	**790 116 015**	3.276
500	**790 117 238**	3.700	**790 117 012**	4.500
560	**790 117 239**	3.000	**790 117 013**	4.900

Reduction clamping inserts-set

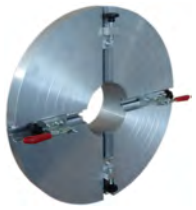
- 4 wide and 4 narrow clamping inserts of each dimension
- For machine type 400 (d 125 - d 355), 8 wide clamping inserts d 315 are included
- For machine type 500 a complete set (d 200 - d 450) and a reduced set (d 250 - d 450) are available
- For machine type 630 (d 315 - d 560), 8 wide clamping inserts d 500, d 560 are included
- Reductions in inch sizes or special diameters upon request

d-d (mm)	Code	Weight (kg)
125 - 355	**790 127 156**	95.000
200 - 450	**790 116 157**	241.000
250 - 450	**790 116 156**	165.000
315 - 560	**790 117 021**	201.000

Chamfered upper clamp

- Necessary for welding short-leg bends having diameters equal of the maximum machine dimension

d (mm)	Code	Weight (kg)
400	**790 153 117**	3.750
500	**790 340 261**	8.000
630	**790 345 233**	10.490



Flange adapter clamping unit

- For correct clamping and fusion jointing of short-ended stub ends

d (mm)	Code	Weight (kg)
400	**790 127 045**	24.600
500	**790 116 045**	22.000
630	**790 117 029**	29.000

Hoist unit

- To be assembled on the base machine
- Consisting of framework, rotating arm and weight compensator (type 400, 500) / electric motor (type 630)
- Motor (type 630) 400 V with 2 hoisting speeds

d (mm)	Code	Weight (kg)
400	**790 153 028**	93.000
500	**790 340 066**	80.000
630	**790 117 102**	255.000

Lifting cylinder

- Accessory for type 630 hoist unit
- To raise up the hoist column during the installation, operated by means of the machine hydraulic unit

Code	Weight (kg)
790 117 094	13.000

Set of replacement blades for planer

- Blade has 2 cutting edges (1 set = 2 blades)

d (mm)	Code	Weight (kg)
400	**790 112 110**	0.129
500	**790 340 045**	0.157
630	**790 117 041**	0.229

Label printer cable for CNC machines

- Cable to connect the CNC 4.0 to same label printer (code 790131066) used with automatic IR welding machines

Type	Code	Weight (kg)
Cable with special connector	**790 155 343**	0.120

GF 800 - 1000 - 1200

GF 800 - 1000 - 1200
Butt fusion machine for construction site

Butt Fusion machine to joint PE, PP pipes and fittings for pressure piping systems on building sites and in trenches.
Hydraulically operated with manual control unit.
Control box with integrated temperature controller and power outlets.
For proper handling of the heating element and planer we recommend the assembling of the hoist unit (to be ordered separately).
Including transport packaging (wooden crate); reduction clamping inserts and other accessories to be ordered separately.

- **BASE MACHINE**
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 45° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- Weight: Type 800 = 690 kg, Type 1000 = 1238 kg, Type 1200 = 1370 kg
- **HYDRAULIC UNIT**
- Compact and robust, with full closed metal housing and two handles for carrying
- Precise pressure setting and fine adjusting
- Joystick operation of machine carriage
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Max operating pressure: 200 bar
- Weight: 41 kg
- **PLANER**
- Powerful parallel planer for single or double-sided facing of pipe ends
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up
- Weight: Type 800 = 185 kg, Type 1000 = 308 kg, Type 1200 = 356 kg
- **HEATING ELEMENT**
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Input voltage: 400 V
- Weight: Type 800 = 56 kg, Type 1000 = 88 kg, Type 1200 = 101 kg
- Input power: Type 800 = 12 kW, Type 1000= 15 kW, Type 1200 = 16 kW
- **CONTROL BOX**
- Contains all safety and functional components such as static relay, FI protective switch, temperature control
- Compact unit in steel box with enamel-coated protective frame
- Integrated power outlets for all machine components, only 1 plug to the generator
- Weight: 29 kg
- **CASE**
- For safe storage of planer and heating element
- Weight: Type 800 = 226 kg, Type 1000 = 341 kg, Type 1200 = 412 kg

Type	d-d (mm)	Performance	Code	Weight (kg)
GF 800	500 - 800	400 V/15000 W	**790 123 025**	1550.000
GF 1000	630 - 1000	400 V/19500 W	**790 124 025**	2443.000
GF 1200	710 - 1200	400 V/20500 W	**790 125 025**	2668.000

GF 800 - 1000 - 1200 Accessories

Type 800 Reduction clamping inserts

- d 500 - 710 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- Reductions in inch sizes or special diameters upon request

In order to mount the inserts d 500/d 560, the reduction clamping insert d 630, code 790 123 011 must also be used

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
500	**790 117 238**	3.700	**790 117 012**	4.500
560	**790 117 239**	3.000	**790 117 013**	4.900
630	**790 123 219**	9.000	**790 123 011**	11.000
710	**790 123 220**	9.000	**790 123 012**	12.500

Type 1000 Reduction clamping inserts

- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- Reductions in inch sizes or special diameters upon request

In order to mount the inserts d 710, the reduction clamping insert d 800 mm, code 790 124 011, must also be used

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
630	**790 123 219**	9.000	**790 123 011**	11.000
710	**790 123 220**	9.000	**790 123 012**	12.500
800			**790 124 011**	18.000
900			**790 124 012**	19.000

Type 1200 Reduction clamping inserts

- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- Reductions in inch sizes or special diameters upon request

In order to mount the inserts d 710, the reduction clamping insert d 800 mm, code 790 124 011, must also be used

In order to mount the inserts d 800/d 900, the reduction clamping insert d 1000, code 790 125 011, must also be used.

d (mm)	narrow Code	Weight (kg)	wide Code	Weight (kg)
710	**790 125 030**	9.000	**790 125 028**	12.500
800			**790 124 011**	18.000
900			**790 124 012**	19.000
1000			**790 125 011**	20.000

Reduction clamping inserts-set

- 8 wide clamping inserts per dimension

d-d (mm)	Code	Weight (kg)
500 - 710	**790 350 019**	0.001
710 - 900	**790 355 019**	340.000
800 - 1000	**790 360 019**	422.000

Flange adapter clamping unit

- For correct clamping and fusion jointing of short-ended stub ends

d-d (mm)	Code	Weight (kg)
500 - 800	**790 123 029**	120.000
630 - 1000	**790 124 029**	153.000
710 - 1200	**790 125 029**	231.000

Hoist unit

- To be assembled on the base machine
- Consisting of framework, rotating arm and electric motor
- Motor 400 V with 2 hoisting speeds
- Height from floor: Type 800 = 4.06 m, Type 1000 = 4.65 m, Type 1200 = 5.00 m

d (mm)	Code	Weight (kg)
800	**790 123 016**	270.000
1000	**790 124 016**	300.000
1200	**790 125 016**	308.000

Set of replacement blades for planer

- Blade has 2 cutting edges
- 1 set = 2 blades (Type 800) or 4 blades (Type 1000, 1200)

d (mm)	Code	Weight (kg)
800	**790 117 041**	0.229
1000	**790 124 021**	0.299
1200	**790 125 021**	0.405

RU 160-630

RU Repair Unit

- Frameless butt fusion machine with 2 clamping devices
- Designed to fit narrow working spaces or to be used directly on piping systems
- For repairing or installing pipelines into trenches or inside buildings and industrial plants
- To be used in combination with heating element, planer, hydraulic unit of corresponding manually operated machine size TOP 2.0 (all sizes) or ECOS (up to d 315 mm)
- Fully compatible with clamp reduction inserts of standard TOP/ECOS butt fusion machines
- Additional outer clamp available as optional to improve the alignment of the components to be welded

Type	Code	Weight (kg)
RU 160	**790 150 045**	8.800
RU 250	**790 151 045**	18.000
RU 315	**790 152 045**	20.000
RU 400	**790 153 045**	30.500
RU 500	**790 154 045**	49.500
RU 630	**790 155 045**	65.500

RU Outer Clamp

- An additional clamping device can be mounted on the cylinders to improve the alignment of the components to be welded.

Type	Code	Weight (kg)
RU 160	**790 150 046**	2.000
RU 250	**790 151 046**	4.400
RU 315	**790 152 046**	5.400
RU 400	**790 153 046**	9.000
RU 500	**790 154 046**	19.500
RU 630	**790 155 046**	25.000

WR 200

WR 200 / WR 200 S
Welding Recorder for manually operated butt fusion machines (ECOS, TOP, GF)

The WR 200 / WR 200 S assists the welder to ensure the quality of the butt-fusion jointing according to country specific standards. The user is guided through all preparation and fusion steps. The selection of the fusion data like the used material, welding standard, diameter and wall thickness (SDR) is supported by a menu. The complete fusion sequence is supervised and recorded. The welding protocols can be easily exported via USB stick to any personal computer for further management or printout. The welding protocols can be directly printed out at jobsite by means of the on-board printer (WR 200 only). The recorder is protected by a robust plastic case of IP 65 protection class. The power and connecting cables are stored in a separate box (WR 200) or in a compartment directly integrated in the case (WR 200 S). The WR 200 can be connected to hydraulically operated butt-fusion machines for construction site, even by later retrofitting of machines in service centres. The WR 200 S **ECO version** is also available, to specifically work in combination with ECO S machine models.

Description:

- Intuitive user guidance menu
- Welding standard selection e.g. DVS, UNI, WIS, ISO
- Welding process customisable: 4 user-defined cycles available
- Additional data input as: operator-ID, job and order number, joint number, GPS coordinates from an independent device
- On-board printer for direct print pout of welding protocols at jobsite (WR 200 only)
- USB interface for welding protocols transfer
- Internal memory capacity: 250 protocols
- Selection of operator language
- Battery support for an autonomy of 10 hours (no data loss during power interruption)
- “Rent Guardian” function to set and control the rental period of the unit
- Available protocols format: TXT for easy printout, CSV for database management with Welding Book application
- Fully compatible with butt-fusion machines already working with former welding recorder models SUVI® 50 and WR 100
- Working temperature range: -10°C to +50°C

Type	Performance	Dimensions	Code	Weight (kg)
WR 200 S - ECO	230 V	350x300x250 mm	**790 119 452**	5.000
WR 200 S	230 V	350x300x250 mm	**790 119 451**	5.000
WR 200	230 V	350x300x250 mm	**790 119 401**	5.000
WR 200 S - ECO CYRILLIC	230 V	350x300x250 mm	**790 119 455**	5.000
WR 200 S CYRILLIC	230 V	350x300x250 mm	**790 119 454**	5.000
WR 200 CYRILLIC	230 V	350x300x250 mm	**790 119 425**	5.500

Utility Range

Trench Machines

IPS dimensional range

IPS Nominal pipe diameter	Machine size								
	160	250	315	400	500	630	800*	1000*	1200*
1 ½"									
2"									
2 ½"									
3"									
4"									
5"									
6"									
8"									
10"									
12"									
13"									
14"									
16"									
18"									
20"									
22"									
24"									
26"									
28"									
30"									
32"									
36"									
40"									
42"									
48"									

* Machine suitable for the maximum dimension of the range (32" for GF 800, 40" for GF 1000, 48" for GF 1200) available on request

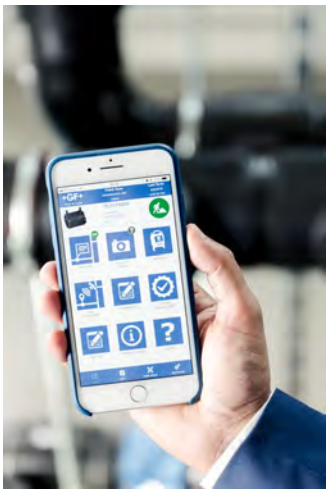
Trench Machines

Components codes

Machine type	Base Machine	Hydraulic Unit	Planer	Heating Element	Case	Control Box
ECOS 160	790 150 001	790 150 013	790 150 014	790 150 031	790 150 295	-
ECOS 250	790 151 030	790 152 009	790 151 014	790 151 056	790 151 027	-
ECOS 315	790 152 024	790 152 009	790 152 014	790152 034	790 152 027	-
TOP 2.0 160	790 150 001	790 151 006	790 150 000	790 114 004	790 150 295	-
TOP 2.0 250	790 151 001	790 151 006	790 151 000	790 115 004	790151 027	-
TOP 2.0 315	790 152 001	790 151 006	790 152 000	790 112 083	790 152 027	-
CNC 4.0 160	790 150 001 + 790 150 002*	790 151 026	790 150 000	790 114 004	790 150 295	-
CNC 4.0 250	790 151 001 + 790 152 002*	790 151 026	790 151 000	790 115 004	790 151 027	-
CNC 4.0 315	790 152 001 + 790 152 002*	790 151 026	790 152 000	790 112 083	790 152 027	-
TOP 2.0 400	790 153 007	790 153 012	790 153 002	790 127 004	790 127 005	-
CNC 4.0 400	790 153 007 + 790 153 010*	790 153 026	790 153 002	790 127 004	790 127 005	-
TOP 2.0 500	790 340 001	790 154 012	790 154 022	790 154 003	790 116 006	-
CNC 4.0 500	790 340 001 + 790 116 043*	790 154 026	790 154 022	790 154 003	790 116 006	-
TOP 2.0 630	790 117 034	790 154 012	790 155 008	790 155 007	790 117 018	-
CNC 4.0 630	790 117 034 + 790 117 031*	790 154 026	790 155 008	790 155 007	790 117 018	-
GF 800	790 123 023	790 123 010	790 123 003	790 123 004	790 123 007	790 123 009
GF 1000	790 124 023	790 123 010	790 124 003	790 124 004	790 124 006	790 123 009
GF 1200	790 125 023	790 123 010	790 125 003	790 125 004	790 125 006	790 125 009

* Potentiometer kit

Specialized Solution



Track & Trace

Track & Trace is a cloud-based asset manager for piping systems. It registers the precise position of all your components and monitors the installation progress and quality in real time. The Track & Trace service collects the data via Mobile Apps for iOS and Android, with all the data stored centrally and securely in the cloud. Project owners can access this information conveniently via the web interface. Using Track & Trace eliminates paperwork, saves time, and reduces costs. Trouble spots are easily located, which ensures reliable operations and the best installation quality. Worksite statistics are available any time, meaning trips to jobsites can be reduced by at least 30%. Track & Trace enables effective installation management and simplifies your workflows. Interacting with your on-site team is easy and efficient.

Technical Data:

- Reduced paperwork and simplified data management with central cloud stored documentation
- Improved installation management and quality
- Real-time interaction with on-site team
- Convenient app (iOS, Android) and desktop web interface

	Type	Code
Track&Trace Setup Fee		**700 900 004**
Track&Trace Advance QC Service		**700 900 005**
Track&Trace License for 10 Users		**700 900 007**
Track&Trace GPS Antenna System		**700 900 009**
Track&Trace SmartNet GPS Annual License		**700 900 010**
Track&Trace Weldin Air Bluetooth USB Plug		**790 156 033**
Track&Trace Rugged Industrial Mobile Device		**790 156 224**

"Fit for Service" NDT (Non-Destructive Testing)

Using ultrasonic technology, we are able to offer our customers the highest quality control NDT for our butt fusion welds in ecoFIT, Design-Flow, PROGEF and electrofusion for ELGEF. Key projects around the world rely on NDT technology to ensure high safety and quality welds in metal piping. Today, GF Piping Systems' approach to total quality management has resulted in the world's first NDT Service with a pass or fail statement on the butt fusion and electrofusion weld of ecoFIT, Design-Flow, PROGEF and ELGEF systems. Once passed we offer a 10 year weld warranty.

Technical Data:

- Proven NDT process
- Unique documented weld and pass / fail process
- Higher number of tests per day vs existing solutions
- No onsite health & safety risk compared to X-ray technology
- Cost efficient compared to existing solutions

	Type	Code
Fit for Service NDT - Daily Rate		**700 900 104**
Fit for Service NDT - Daily Rate min 5 Days		**700 900 105**
Fit for Service NDT - Crew Travel		**700 900 107**
Fit for Service NDT - Expense Unit Rate		**700 900 108**
Fit for Service NDT - Site Safety Instruction for crew		**700 900 109**