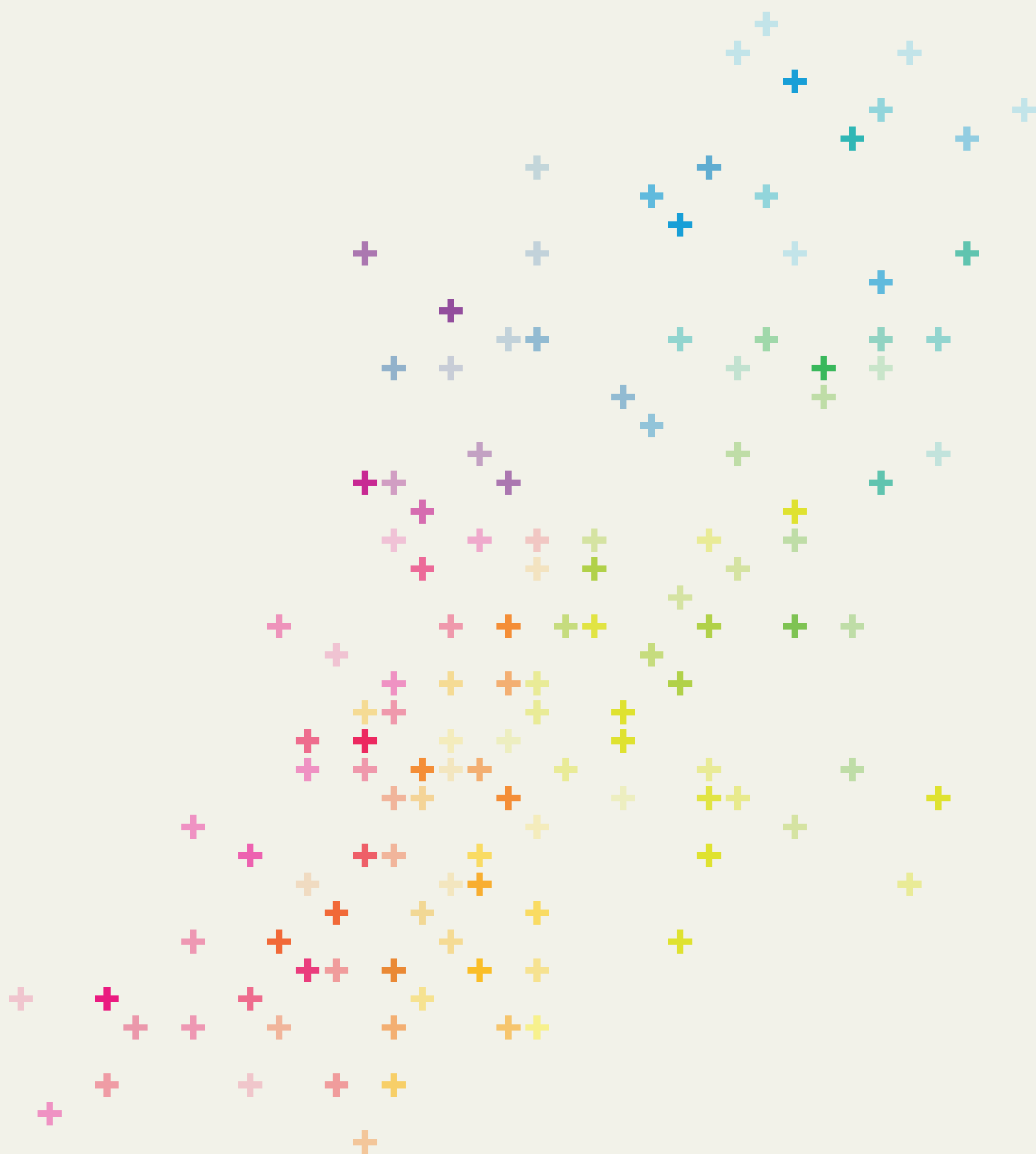


Machines & Tools 2021

Product Catalogue





Utilities, Water Treatment and Marine Range

Industry and Building Technology Range

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Utility Range

MSA Machines

Product Range Overview

Characteristics	 MSA 125	 MSA 315	 MSA 330	 MSA 340	 MSA 2.0	 MSA 2.1	 MSA 2 MULTI	 MSA 2 CF	 MSA 4.0	 MSA 4.1
Fittings material	PE,PP	PE,PP	PE,PP	PE,PP	PE,PP	PE,PP	PE,PP,PB, PVDF	PE,PP,PB, PVDF	PE,PP	PE,PP
Working temperature range (°C)	-10/+45	-10/+45	-10/+45	-10/+45	-20/+50	-20/+50	-20/+50	-20/+50	-20/+50	-20/+50
Protection factor	IP54	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Electrical switch	✓	✓	✓	✓		✓		✓	✓	✓
Input voltage (Vac)	230	230	230/115	230/115	230	230	230	115	230	230
Output voltage (Vac)	8-42	8-42	8-48	8-48	8-48	8-48	3.6-40	3.6-40	8-48	8-48
Output current (Amps)	50	70	100	100	90	90	90	90	110	110
Barcode input via scanner	Optional	Optional	✓	✓	✓	✓	✓	✓	✓	Wireless
Manual fusion input	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Operator badge/Job code		✓	✓	✓		✓	✓	✓	✓	✓
Data records	350	500	1000	1000	350	1000	500	1000	5000	5000
Data protocol format	PDF, CSV	PDF, CSV	PDF, CSV	PDF, CSV		PDF, BIN	PDF, BIN	PDF, BIN	PDF, BIN	PDF, BIN
Traceability (ISO 12176-4)				✓					✓	✓
GPS				✓					✓	✓
Communication interface	USB	USB	USB	USB	USB	USB	USB	USB	USB	USB
Built in Bluetooth						✓			✓	✓
Configurable/admin. protected menus			✓	✓		✓		✓	✓	✓
Weight (Kg)	13	17	19	19	11.9	11.9	11.9	12.5	12.5	12.5
Mains / fusion cable length	4m/3m	4m/3m	4m/4m	4m/4m	4m/3m	4m/4m	4m/3m	4m/4m	4m/4m	4m/4m
Connectors / adapters	4mm	4mm	4-4.7mm	4-4.7mm	4mm	4-4.7mm	4mm	4mm	4-4.7mm	4-4.7mm
Transport box	✓	Optional	Optional	Optional	✓	✓	✓	✓	✓	✓
Welding book application	Optional	Optional	Optional	Optional		✓	✓	✓	✓	✓
WeldinAir			Optional	Optional	Optional			Optional		
Rental time App			✓	✓					✓	✓



MSA 4

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MSA 2

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MSA 315 / MSA 330 / MSA 340

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MSA 125

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MSA Accessories

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MSA 4.0
Electrofusion Unit with full traceability and GPS functions



High performance, light electro-fusion unit based on inverter technology, providing a complete documentation of the welding including operator badge, job codes, full traceability data (ISO 12176) and GPS coordinates added automatically to each fusion record.

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive, the configurable workflow to fit all needs, from the simplest to the most plenty of details.

The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

For operator identity card, job identification and fusion data input a 1D (or 2D in case of Unitary QR code availability) barcode scanner is connected.

The internal Bluetooth Low Energy device offers the possibility to enter data, monitor the fusion from remote and collect the data recorded via wireless with consumer smartphones, to send them to the headquarter even in real time.

The internal memory has a capacity of 5000 jointing records, which can be retrieved using a USB memory stick. The fusion protocols are delivered as PDF, CSV files (both manageable with standard and free PC software applications). For a more sophisticated usage, a BIN file is also available, compatible with the MSA Welding Book to sort, filter out and combine protocols and photos captured from multiple MSA units.

Robust aluminum die casting enclosures and comfortable plastic handle ensure a weight balanced carrying.

Rental time period programmable by the machine owner, unit blocks on expiring date, reset by a dynamic code can be activated.

Scope of delivery: transport case, angle adapters (4,0 mm and 4,7 mm), operation instructions, START/STOP badge, configuration chart and USB memory stick with PC applications.

- Technical Data:**
- Mains frequency: 50-60 Hz
 - Fusion data input mode: bar code, manual
 - Mains voltage: 230V (190V - 265V)
 - Suggested power generators: 3.5 kVA
 - Welding technique: Voltage controlled
 - Fusion voltage: 8-48 V
 - Fusion current: 110 A (max)
 - USB Port: Type A
 - Operating temperature: -20°C to +50°C
 - Internal memory capacity: 5000 protocols
 - Protocols format: PDF, CSV and BIN (compatible with MSA Welding Book)
 - Protection factor: Class 1 / IP 65
 - Mains cable: 4 m
 - Fusion cable: 4 m
 - Dimensions: 280 x 480 x 220 mm
 - Weight: ca. 12.8 kg
 - Display: Graphical LCD, adjustable contrast
 - Languages support: 27
 - Bluetooth radio interface

Type	Description	Code	Weight (kg)
MSA 4.0	1D barcode scanner	790 156 011	12.400
MSA 4.0	2D barcode scanner (QR code reading)	790 156 012	12.400
MSA 4.0	1D barcode scanner, 8m welding cables	790 156 014	13.400

MSA 4.1

Electrofusion Unit with full traceability, GPS functions and wireless scanner



High performance, light electro-fusion unit based on inverter technology, providing a complete documentation of the welding including operator badge, job codes, full traceability data (ISO 12176) and GPS coordinates added automatically to each fusion record.

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive, the configurable workflow to fit all needs, from the simplest to the most plenty of details.

Operator identity, job identification and fitting data are captured using a wireless scanner, with 1D (for barcode labels on the fitting) and 2D (in case of Unitary QR code availability). The wireless scanner is based on a rugged mobile phone with a software application installed for reading the barcode and giving evidence of the barcode type (operator, fusion data, traceability...). The wireless device can be used also for communication purposes as well as for accessing to GFPS online web services

The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

The internal memory has a capacity of 5000 jointing records, which can be retrieved using a USB memory stick. The fusion protocols are delivered as PDF, CSV files (both manageable with standard and free PC software applications). For a more sophisticated usage, a BIN file is also available, compatible with the MSA Welding Book to sort, filter out and combine protocols and photos captured from multiple MSA units.

Robust aluminum die casting enclosures and comfortable plastic handle ensure a weight balanced carrying.

Rental time period programmable by the machine owner, unit blocks on expiring date, reset by a dynamic code can be activated.

Scope of delivery: transport case, wireless scanner as rugged mobile phone with battery charger, angle adapters (4,0 mm and 4,7 mm), operation instructions, START/STOP badge, configuration chart and USB memory stick with PC applications.

Technical Data:

- Mains frequency: 50-60 Hz
- Fusion data input mode: bar code, manual
- Mains voltage: 230V (190V - 265V)
- Suggested power generators: 3.5 kVA
- Welding technique: Voltage controlled
- Fusion voltage: 8-48 V
- Fusion current: 110 A (max)
- USB Port: Type A
- Operating temperature: -20°C to +50°C
- Internal memory capacity: 5000 protocols
- Protocols format: PDF, CSV and BIN (compatible with MSA Welding Book)
- Protection factor: Class 1 / IP 65
- Mains cable: 4 m
- Fusion cable: 4 m
- Dimensions: 280 x 480 x 220 mm
- Weight: ca. 12.8 kg
- Display: Graphical LCD, adjustable contrast
- Languages support: 27

Type	Description	Code	Weight (kg)
MSA 4.1	2D wireless scanner (QR code reading)	790 156 013	12.400

MSA 2



MSA 2.0 Automatic Electrofusion Unit

The MSA 2.0 automatic electro fusion unit combines light weight and high efficiency, thanks to its inverter technology. The unit is extremely fast and simple, with three basic operations required to operator: connect, scan, start the fusion.

The MSA 2.0 has 350 protocols permanently stored in the internal memory.

It is robust, safe and ergonomic.

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive. The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

Scope of delivery includes: transport box, 4.0 mm angle adapters, START/STOP badge and operating instructions.

Technical Data:

- Operating temperature: -20°C to +50°C
- Mains voltage and frequency: 230V (190V - 265V), 50-60Hz
- Fusion current: 90 A (max)
- Suggested power generators: 3.5 kVA
- Fusion voltage: 8-42 V (48 V)
- Fusion data input mode: bar code, manual
- USB Port: Type A
- Protection factor: Class 1 / IP 65
- Mains cable: 4 m / Fusion cable: 3 m
- Dimensions: 280 x 480 x 220 mm
- Weight: ca. 11.9 kg
- Display: Graphical LCD, adjustable contrast
- Independent from languages

Type	Code	Weight (kg)
Barcode scanner, transport case	790 156 001	11.900
Barcode scanner, transport case, Swiss plug	790 156 004	11.900

MSA 2.1 Automatic Electrofusion Unit with protocols retrieval



The MSA 2.1 automatic electro fusion unit combines light weight and high efficiency, thanks to its inverter technology and furthermore provides fusion documentation in PDF. The unit is extremely fast and simple, with three basic operations required to operator: connect, scan, start the fusion. It is robust, safe and ergonomic.

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive. The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

The internal Bluetooth Low Energy device offers the possibility to enter data, monitor the fusion from remote and collect the data recorded via wireless with consumer smartphones, to send them to the headquarter even in real time.

The unit has 1000 protocols permanently stored in the internal memory. The user can copy the fusion reports in an USB stick to print them out in PDF format.

Scope of delivery includes: transport box, angle adapters (4.0 mm and 4.7 mm), operating instructions, START/STOP badge and USB memory stick with PC applications.

Technical Data:

- Operating temperature: -20°C to +50°C
- Mains voltage and frequency: 230V (190V - 265V), 50-60Hz
- Fusion voltage: 8-42 V (48 V)
- Fusion data input mode: bar code, manual
- Fusion current: 90 A (max)
- Suggested power generators: 3.5 kVA
- USB Port: Type A
- Protection factor: Class 1 / IP 65
- Mains cable: 4 m / Fusion cable: 4 m
- Weight: ca. 11.9 kg
- Display: Graphical LCD, adjustable contrast
- Independent from languages

Type	Code	Weight (kg)
Barcode scanner, transport case, mini Welding Book	790 156 003	11.900
Barcode scanner, transport case, mini Welding Book, Swiss plug	790 156 006	11.900
Barcode scanner, transport case, mini Welding Book, 8m fusion cable	790 156 010	12.900

MSA 2 MULTI Automatic Electrofusion Unit for PE/PP/PVDF/PB



The MSA 2 MULTI automatic electro fusion unit combines light weight and high efficiency, thanks to its inverter technology. The unit is suitable for welding PE, PP, INSTAFLEX PB d125-225, Fuseal d1 1/2"-12" and PPro-Seal 1/2"-3".

It is robust, safe and ergonomic.

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive. The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

The unit has 500 protocols permanently stored in the internal memory. The user can copy the fusion reports in an USB stick to print them out in PDF format.

Scope of delivery includes: 1 pair of angle adapter clips 4.0 mm, operating instructions, START/STOP badge, USB memory stick and robust transport case

Technical Data:

- Operating temperature: -20°C to +50°C
- Mains voltage and frequency: 230V (190V - 265V), 50-60Hz
- Fusion data input mode: bar code, manual
- Fittings range: d16-630 mm , 1/2"-12"
- Fusion voltage: 3.6-40 V
- Fusion current: 90 A (max)
- Suggested power generators: 3.5 kVA
- USB Port: Type A
- Protection factor: Class 1 / IP 65
- Mains cable: 4 m / Fusion cable: 3 m
- Weight: ca. 11.9 kg
- Display: Graphical LCD, adjustable contrast

Type	Code	Weight (kg)
Full package plus mini Welding Book	790 156 021	11.900
Full package plus mini Welding Book, SeaDrain adapters and barcodes	790 156 022	11.900

MSA 2 CF @ 115V - Automatic Electrofusion Unit with protocols retrieval



The MSA 2 CF electro fusion unit combines light weight and high efficiency, thanks to its power switching technology and furthermore provides fusion documentation in PDF. The unit is extremely fast and simple, like COOL-FIT installations, with three basic operations required to the operator: connect, scan, start the fusion.

It is robust, safe and ergonomic.

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive. The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

The unit has 1000 protocols permanently stored in the internal memory. The user can copy the fusion reports in an USB stick to print them out in PDF format.

Scope of delivery includes: transport box, standard and long angle adapters (4.0 mm), operating instructions, START/STOP badge and USB memory stick with PC applications.

The unit is suitable for welding PE, PP, INSTAFLEX PB d125-225, Fuseal d1 1/2"-12" and PPro-Seal 1/2"-3".

Technical Data:

- Operating temperature: -20°C to +50°C
- Mains voltage: 90V - 135V AC
- Mains frequency: 50-60 Hz
- Fusion data input mode: bar code, manual
- Fusion voltage: 3.6-42 V
- Fusion current: 90 A (max)
- Suggested power generators: 3.5 kVA
- Fittings range: d20-d450 (inner diameter) COOL-FIT 2.0/4.0
- Protocols format: PDF and binary (compatible with mini Welding Book)
- USB Port: Type A
- Protection factor: Class 1 / IP 65
- Mains cable: 4 m / Fusion cable: 4 m
- Weight: ca 12.5 kg
- Display: Graphical LCD, adjustable contrast
- Independent from languages

Type	Code	Weight (kg)
Barcode scanner, transport case, mini Welding Book	790 156 023	13.000

MSA 315 / MSA 330 / MSA 340



MSA 315 Automatic Electrofusion Unit up to d315

The MSA 315 automatic electro fusion unit combines performance and compact design, for installers who need to weld fittings up to diameter 315mm, in building technology and gas/water distribution applications. The unit is extremely simple to use, with a few basic operations required to operator: connect, confirm, scan, and start the fusion. The installer can also track operator and job code if needed.

It is robust, safe and ergonomic.

The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

The unit has 500 protocols permanently stored in the internal memory. The user can copy the fusion reports in an USB stick to print them out in PDF format.

Scope of delivery includes: 1 pair of angle adapter clips 4.0 mm, operating instructions and optionally a transport case

Technical Data:

- Operating temperature: -10°C to 45°C
- Fusion data input mode: bar code, manual
- Welding technique: Voltage controlled
- Mains voltage and frequency: 230V (190V - 265V), 50-60Hz
- Fusion voltage: 8-42 V
- Fusion current: 70 A (max)
- Fittings range: d20-315 mm
- Internal memory capacity: 500 protocols
- Protocols format: PDF, CSV
- Protection factor: Class 1 / IP 65
- USB Port: Type A
- Mains cable: 4 m / Fusion cable: 3 m
- Weight: 17 kg
- Display: Graphical LCD, adjustable contrast

Type	Code	Weight (kg)
Manual mode, carton box	790 128 040	17.000
Automatic, with barcode reader, carton box	790 128 041	17.000
Transport box, automatic with barcode reader	790 128 042	17.000



MSA 330 Electrofusion Unit with fusion data recording

The MSA 330 electrofusion unit combines high performance in jointing with easy and safe handling. The internal memory has a capacity of 1000 jointing records, for data transfer the unit is equipped with an USB interface. The record formats are PDF and CSV, both manageable with common and free PC software applications. An intuitive operation menu guides you through the complete jointing process. For fusion data input a scanner is connected. The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time. Robust aluminum housing with convenient cable winding and handle for weight balanced transport. The unit is suitable for jointing in series. Scope of delivery: transport case, angle adapters (4.0 mm and 4.7 mm), operation instructions and configuration chart.

Technical Data:

- Ambient temperature: -10°C to +45°C
- Mains voltage: 230 V (±15%) or 115 V (±15%)
- Mains frequency: 40 Hz - 70 Hz
- Fusion voltage: 8 - 48V AC
- Fusion current: 100 A (max)
- Suggested power generator: 3.5 kVA (5.0 kVA for fittings with d>200mm)
- Protection factor: Class 1 / IP 65
- Mains cable: 4 m / Fusion cable: 4 m
- Interface: USB (type A) for PC communication and software updates
- Weight: 19 kg
- Dimensions (WxHxD): 280 x 480 x 240 mm
- Display: LCD (20 alphanumerical char. x 4 lines), contrast adjustment
- Configurable languages: 11

description	Voltage	Code	Weight (kg)
Barcode scanner, carton box	230 V	790 160 060	18.000
Barcode scanner, transport case	230 V	790 160 061	18.000
Barcode scanner, carton box	115 V	790 160 070	18.000
Barcode scanner, transport case	115 V	790 160 071	18.000



MSA 340 Electrofusion Unit with traceability and GPS function

High performance electrofusion unit providing fusion documentation, including traceability data (ISO 12176-4), operator ID, job code and automatic GPS coordinates in each fusion record. The internal memory has a capacity of 1000 jointing records. For data transfer the unit is equipped with an USB interface. The record formats are PDF and CSV, both manageable with common and free PC software applications. An intuitive operation menu guides you through the complete jointing process. For fusion data input a barcode scanner is connected. The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and indication of cooling time. Robust aluminum housing with convenient cable winding and handle for weight balanced transport. The unit is suitable for jointing in series. Scope of delivery: transport case, angle adapters (4.0 mm and 4.7 mm), operation instructions and configuration chart.

Technical Data:

- Ambient temperature: -10°C to +45°C
- Mains voltage: 230 V (±15%) or 115 V (±15%)
- Mains frequency: 40 Hz - 70 Hz
- Fusion voltage: 8 - 48V AC
- Fusion current: 100 A (max)
- Suggested power generator: 3.5 kVA (5.0 kVA for fittings with d>200mm)
- Mains cable: 4 m / Fusion cable: 4 m
- Protection factor: Class 1 / IP 65
- Interface: USB (type A) for PC communication and software updates
- Weight: 19 kg
- Dimensions (WxHxD): 280 x 480 x 240 mm
- Display: LCD (20 alphanumerical char. x 4 lines), contrast adjustment
- Configurable languages: 11

description	Voltage	Code	Weight (kg)
Barcode scanner, carton box	230 V	790 160 062	18.000
Barcode scanner, transport box	230 V	790 160 063	18.000
Barcode scanner, carton box	115 V	790 160 072	18.000
Barcode scanner, transport box	115 V	790 160 073	18.000

MSA 125



MSA 125 Automatic Electrofusion Unit up to d125

The MSA 125 automatic electro fusion unit combines light weight and compact design, for installers who need to weld fittings up to diameter 125mm (160mm if ELGEF) , in building technology and gas/water distribution applications. The unit is extremely simple to use, with a few basic operations required to operator: connect, confirm, scan, and start the fusion. It is robust, safe and ergonomic.

The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

The unit has 350 fusion protocols permanently stored in the internal memory. The user can copy the fusion reports in an USB stick to print them out in PDF format.

Scope of delivery includes: 1 pair of angle adapter clips 4.0 mm, operating instructions and robust transport case

Technical Data:

- Operating temperature: -10°C to 45°C
- Fusion data input mode: bar code, manual
- Mains voltage: 230V (205V - 255V)
- Mains frequency: 50-60 Hz
- Welding technique: Voltage controlled
- Fusion voltage: 8-42 V
- Fusion current: 50 A (max)
- Internal memory capacity: 350 protocols
- Fittings range: d20-125 mm (ELGEF up to d160)
- Protocols format: PDF, CSV
- USB Port: Type A
- Protection factor: Class 1 / IP 54
- Fusion cable: 3 m
- Mains cable: 4 m
- Weight: 13 kg
- Display: Graphical LCD, adjustable contrast
- Languages support: English, Italian, Chinese and French

Type	Code	Weight (kg)
Manual mode version	790 160 040	12.000
Barcode (scanner) and manual mode version	790 160 042	15.000

MSA Accessories



WeldinAir



High performance radio equipment, working in combination with WeldinAir mobile application. The USB Bluetooth Low Energy device controls the real time communication between the electro-fusion machine and a mobile smartphone (at least iOS 11 or Android 7), during the welding process and the data management. The WeldinAir product is backward compatible with most of MSA electro-fusion units: the hardware can be plugged into the USB socket of MSA 2.0, MSA 2.1, MSA 4.0 without built-in Bluetooth, MSA 330 and MSA 340. Useable stand alone, with WeldinOne or Track&Trace, the Quality and Asset Management Service of GFPS.

Scope of delivery: WeldinAir dongle, USB memory stick with MSA software drivers, User instructions and packing

Technical Data:

- Operating temperature: -20°C to +50°C
- Input voltage: 5V DC
- Input current (max): 50 mA
- Protection class IP 65

Type	Code	Weight (kg)
WeldinAir	790 156 033	0.150

WeldinOne



Software applications to assist installers during welding and asset maintenance. The applications are suitable for all GF electrofusion, butt fusion and InfraRED machines able to generate fusion protocols at the end of the jointing.

- The **Welding Book** creates PDF books including the protocols automatically captured by the machine, the maps for the welding place and the photos of scraping activities and proper alignment.
- The **Barcode Generator** creates operator badge, job number, tools identifier to support the installation companies in tracking their work.
- The **MSA Configurator** graphically creates different configurations for the MSA 4.0 and MSA 4.1, to be downloaded, via USB stick, on these machines. Furthermore, it can create the bar-codes used to configure the MSAplus family workflow.

Type	Code	Weight (kg)
WeldinOne	790 160 201	0.100
Welding Book only	790 156 030	0.050

Rugged PDA



Rugged PDA used in combination with MSA 4.1 as wireless scanner, remote fusion control and monitoring. The embedded application enables the user to interact with the MSA 4.1 via Bluetooth connection, download immediately the fusion protocols, connect to Wifi and 3G network, share in real time welding data with the installation company headquarter. The PDA is a compatible device for Track&Trace, Quality and Asset Management Service of GFPS.

Type	Description	Code	Weight (kg)
MSA 4.1	Rugged PDA with embedded 2D scanner, MSA 4.1 and Track&Trace Apps	790 156 224	0.250



Barcode Scanner

Barcode scanner for automatic fusion and traceability data reading of fittings and pipes

Description	Code	Weight (kg)
MSAplus scanner and cable	790 160 227	0.250
MSA330/MSA340 rugged scanner and cable	790 160 225	0.250
MSA 2.0 barcode scanner	790 156 160	0.250
MSA 2.1 and MSA 4.0 1D barcode scanner	790 156 260	0.250
MSA 4.0 2D barcode scanner	790 156 261	0.250
Barcode scanner with pouch for old MSA and MSAplus	799 350 419	0.521
MSA 125 / MSA 315 scanner and cable	790 160 251	0.250
MSA330/MSA340 rugged USB scanner and cable	790 160 252	0.350
MSA330/MSA 340 V3 scanner only	790 160 256	0.225



Geothermal cables kit

- Ability to joint in parallel 2 couplers of a Y fitting
- Welding voltage: 0 – 48 Volt
- Welding current: 40 A (max.)
- Content of delivery: 2 cables, pouch, protection caps, operation manual
- Recommended in combination with ELGEF fittings
- Compatible with all MSA Units
- Connector: 4 mm (90°)
- Cable length: 290 mm

Description	Code	Weight (kg)
MSA geothermal cables	790 160 176	0.385



Adapters for MSA electro-fusion units

- Adapters for Electrofusion units with 4 mm connectors.
- Compatible with all MSA Units

Type	Code	Weight (kg)	Description
4,0 mm	799 350 340	0.058	Angle adapter, black
4,7 mm	799 350 341	0.057	Angle adapter, grey
4,7 mm	799 350 462	0.014	Adapter, white



Long adapters

- Adapters for Electrofusion units with 4 mm connectors.
- Longer version, suitable for all COOL-FIT 4.0 dimensions.

Type	Code	Weight (kg)	Description
4,0 mm	790 128 035	0.058	Angle adapters pair, black



COOL-FIT Y cables kit

- The COOL-FIT Y cables are used to speed up the installation of the fixed points electrofusion tapes. The Y cables allow the welding in parallel of 2 E-Tapes, halving the total duration of the fusion process.
- Compatible with all MSA Units

Type	Code	Weight (kg)
4 leads cable with 2mm plugs in output	790 156 032	0.385



SeaDrain/FUSEAL cable adapters

- Ability to joint in parallel up to 4 coils, for SeaDrain, SeaDrain PLUS, Fuseal, PPRo-Seal and Fuseal 25/50
- Compatible with all MSA Units

Type	Code	Weight (kg)
4 leads cable, 0.6m length	790 156 184	0.400
4 leads cable, 1.6m length	790 156 195	0.400



Transport Box MSA electro-fusion units

- Large, robust transport box for MSA machines

Type	Dimension (mm)	Code	Weight (kg)
MSA230 Ver.1	320x310x510	790 128 121	6.300
MSA330 / MSA340 / MSA230 Ver.2	370x350x520	790 160 010	8.000
MSA 2 / MSA 4	315x315x525	790 156 228	6.600
MSAplus 250-400	330x220x470	799 350 472	5.248
MSA250-400	300x200x330	799 350 401	4.781
MSA330 / MSA340 Ver3 & MSA315	315x315x525	790 156 328	6.000

Utility Range

MSA Machines

Accessories Code

								
Machine Type	Transport Box	Scanner	Adapters	CoolFit Y cables	Long adapters	SeaDrain cable adapters	Geothermal kit	WeldinAir
								
MSA 4.1	790 156 228	790 156 224	799 350 340/1	790 156 032	790 128 035	-	790 160 176	-
MSA 4.0	790 156 228	790 156 260/1	799 350 340/1	790 156 032	790 128 035	-	790 160 176	-
MSA 2.1	790 156 228	790 156 260	799 350 340/1	790 156 032	790 128 035	-	790 160 176	-
MSA 2.0	790 156 228	790 156 160	799 350 340/1	790 156 032	790 128 035	-	790 160 176	790 156 033
MSA 2 MULTI	790 156 228	790 156 160	799 350 340/1	790 156 032	790 128 035	790 156 195	790 160 176	-
MSA 2 CF	790 156 228	790 156 260	799 350 340/1	790 156 032	790 128 035	-	790 160 176	790 156 033
								
MSA 340 V3	790 156 328	790 160 256	799 350 340/1	790 156 032	790 128 035	-	790 160 176	790 156 033
MSA 340 V3	790 156 328	790 160 256	799 350 340/1	790 156 032	790 128 035	-	790 160 176	790 156 033
								
MSA 340 V2	790 160 010	790 160 225	799 350 340/1	790 156 032	790 128 035	-	790 160 176	790 156 033
MSA 330 V2	790 160 010	790 160 225	799 350 340/1	790 156 032	790 128 035	-	790 160 176	790 156 033
MSA 230 V2	790 160 010	790 128 119	799 350 462	-	-	-	790 160 176	-
								
MSA 315	790 156 328	790 160 251	799 350 340/1	790 156 032	790 128 035	-	790 160 176	-
								
MSA 125	-	790 160 251	799 350 340/1	-	-	-	790 160 176	-












Utility Range

Trench Machines

Product Range Overview



Characteristics	ECOS-TOP-CNC			TOP-CNC			GF		
	160	250	315	400	500	630	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
Working range									
d40									
d75									
d90									
d125									
d160									
d200									
d250									
d315									
d400									
d500									
d630									
d710									
d800									
d1000									
d1200									

	TOP 2.0 160 - 250 - 315	18
	ECOS 160 - 250 - 315	19
	CNC 4.0 160 - 250 - 315	20
	ECOS - TOP - CNC Accessories	22
	TOP 2.0 400 - 500 - 630	25
	CNC 4.0 400 - 500 - 630	26
	TOP CNC 400 - 500 - 630 Accessories	27
	GF 800 - 1000 - 1200	30
	GF 800 - 1000 - 1200 Accessories	31
	RU 160-630	33
	WR 200	34

TOP 2.0 160 - 250 - 315



TOP 2.0 160 - 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.

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 joining 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

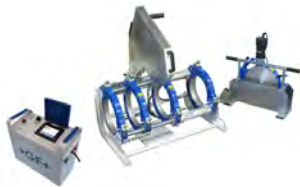
• HEATING ELEMENT

- 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

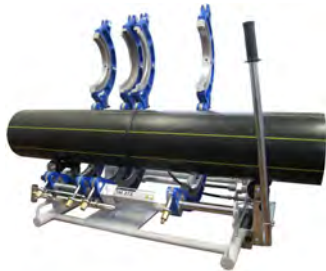
Type	Left Code	Right Code	Weight (kg)
Type 160	790 150 205	790 150 206	0.800
Type 250	790 151 205	790 151 206	1.850
Type 315	790 152 205	790 152 206	2.681



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

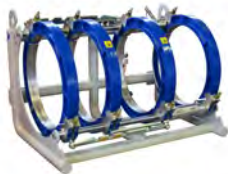
Type	Code	Weight (kg)
Cable with special connector	790 155 343	0.120

TOP 2.0 400 - 500 - 630



TOP 2.0 400 - 500 - 630

Butt fusion machine for construction site



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



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

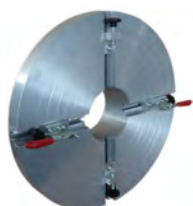
d-d (mm)	Code	Weight (kg)
125 - 355	790 127 156	95.000
200 - 450	790 116 157	241.000
250 - 450	790 116 156	165.000
315 - 560	790 117 021	201.000



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:

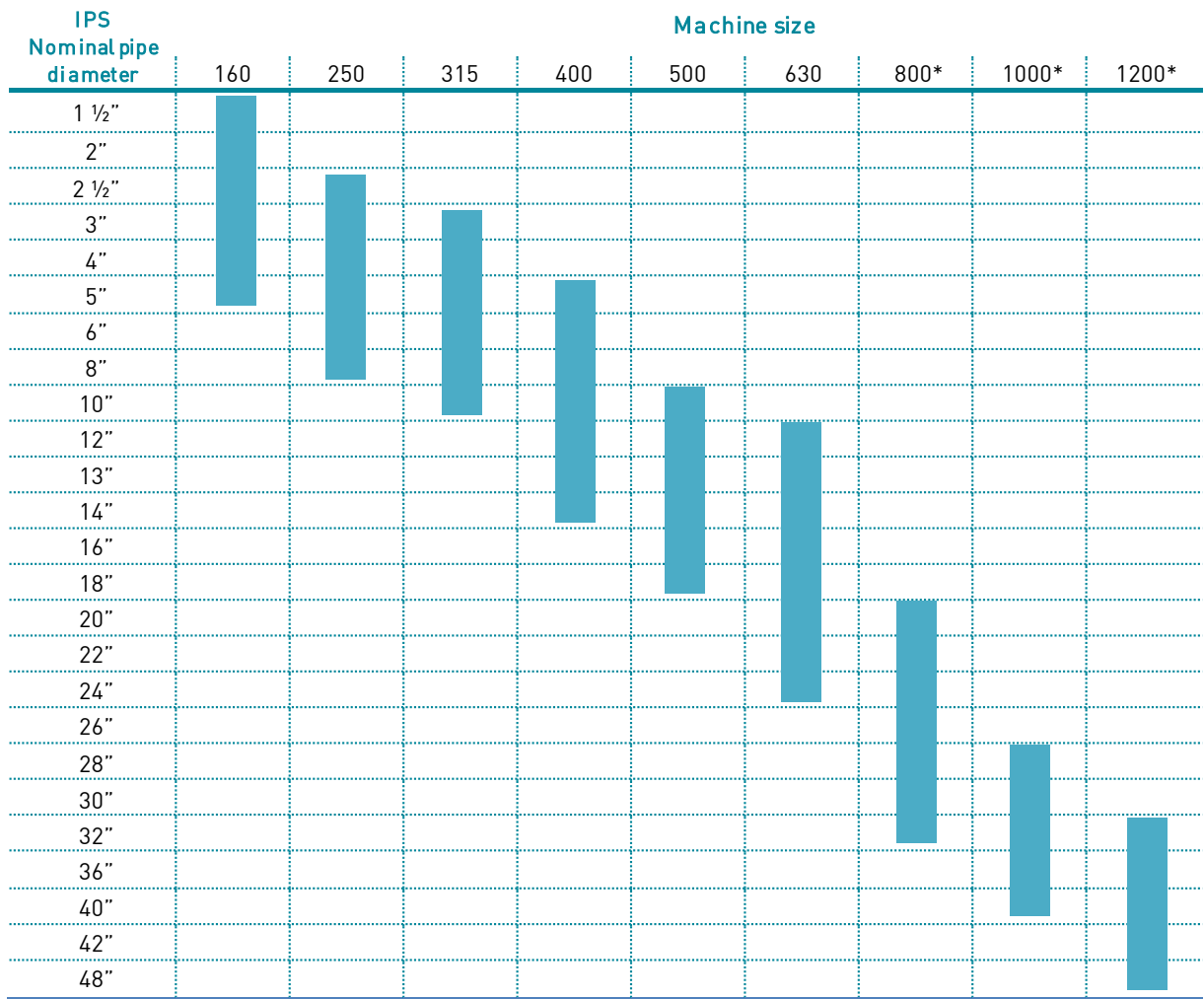
- Intuitive user guidance menu
- Welding standard selection e.g. DVS, UNI, WIS, ISO
- Welding process customisable: 4 user-defined cycles available
- Additional data input as: operator-ID, job and order number, joint number, GPS coordinates from an independent device
- On-board printer for direct printout 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



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

Utility Range

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	790 152 034	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	790 151 027	-
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:

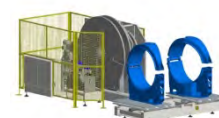
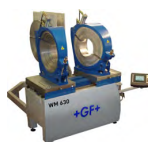
- Proven NDT process
- Unique documented weld and pass / fail process
- Higher number of tests per day vs existing solutions
- No onsite health & safety risk compared to X-ray technology
- Cost efficient compared to existing solutions

	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









Utility Range

Workshop Machines

Product Range Overview



Characteristics	WM 315	WM 630	WM 1200	WM 1200 PLUS
Max jointing diameter (mm)	315	630	1200	1200
Jointing material	PE, PP, PB, PVDF			
Working range (°C)	-10/+45	-10/+45	-10/+45	-10/+45
Input voltage (Vac)	400	400	400	400
Operation control	Manual, CNC	Manual, CNC	Manual+WR	Manual+WR
Performance (W)	4620	15600	41000	59000
Reduction clamping inserts	✓	✓	✓	✓
Wide clamps for pipes	✓	✓	✓	✓
Narrow clamps for fittings	Optional	Optional		
Flange adapter clamping unit	Optional	Optional		
T, X, Y clamping units	Optional	Optional	Optional	Optional
Fusion protocols, transfer via USB stick	CNC version	CNC version	✓	✓
Weight (Kg)	475	2300	8290	11590
Working range	Bends X,Y,T Fittings	Bends X,Y,T Fittings	Bends X,Y,T Fittings	Bends X,Y,T Fittings
d90				
d250				
d315				
d500				
d630				
d900				
d1200				

	WM 315	40
	WM 315 Accessories	42
	WM 630	44
	WM 630 Accessories	45
	WM 1200	47
	WM 1200 Accessories	48
	WM 1200 Plus	49
	WM 1200 Plus Accessories	50

WM 315



WM 315 TOP 2.0 Workshop butt fusion machine



- Machine for jointing segmented fittings for applications with pressure piping systems
- Maximum jointing angle 45°
- Dimensional range d90 - 315 mm
- To produce T and Y fittings in the dimensional range d90 - 250 mm, special accessories are required
- **Machine description**
- 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
- The clamping units are mounted on supports, each of which can be adjusted transversely
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d90 - 280 mm
- Precision heating element with electronic temperature control (3000 W)
- High-quality PTFE coating with long service life
- Heating element pull-off mechanism
- Powerful planer (1200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Mechanical stops to provide single sided planing and accurate facing depth
- Planer is secured with a mechanical locking system and a micro switch
- Including transport packaging, without accessories

d-d (mm)	Performance	Description	Code	Weight (kg)
90 - 315	400 V/4620 W	With wide clamping units for fittings	790 118 060	475.000
90 - 315	400 V/4620 W	With narrow clamping units for fittings	790 118 014	475.000



WM 315 CNC 4.0 Automatic workshop butt fusion machine



- Machine for jointing segmented fittings for applications with pressure piping systems
- Fully automated fusion process by the use of state of the art PLC and touch screen
- Maximum jointing angle 45°
- Dimensional range d90 - 315 mm
- To produce T and Y fittings in the dimensional range d90 - 250 mm, special accessories are required
- **Machine description**
- 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 smartphone during the welding process, the data transfer and fusion protocols collection, in combination with WeldinAir mobile application
- Transfer of collected fusion data directly from jobsite to the headquarter by means of the smartphone
- Compatible with label printer
- 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
- The clamping units are mounted on supports, each of which can be adjusted transversely
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d90 - 280 mm
- Precision heating element with electronic temperature control (3000 W)
- High-quality PTFE coating with long service life
- The heating element is removed automatically during the change-over phase
- Powerful planer (1200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Mechanical stops to provide single sided planing and accurate facing depth
- Planer is secured with a mechanical locking system and a micro switch
- Including transport packaging, without accessories

d-d (mm)	Performance	Description	Code	Weight (kg)
90 - 315	400 V/4620 W	With wide clamping units for pipes	790 118 009	525.000
90 - 315	400 V/4620 W	With narrow clamping units for fittings	790118016	525.000

WM 315 Accessories



Flange adapter clamping unit

- For centric fusion of flange adapters
- Easy, correct attachment of clamping unit in the basic machine

d-d (mm)	Code	Weight (kg)
90 - 315	790 118 031	16.000



Base clamping unit for fittings with adapter ring, wide

- For clamping fittings of d315 mm as well as for fastening reduction clamping inserts for fittings d90 to 280 mm. Guide shaft for pipe support und back stop, with pipe support d315 mm
- Each clamping unit can be turned up to 15°
- L = left
- R = right

d	Type	Code	Weight (kg)
315	L	790 118 011	15.000
315	R	790 118 012	15.000



Reduction clamping inserts, narrow

- d 90 - 280 mm
- Each code number defines 1 piece of reduction clamping insert.

d (mm)	Code	Weight (kg)
90	790 112 098	1.265
110	790 112 099	1.220
125	790 112 100	1.215
140	790 112 101	1.139
160	790 112 102	1.080
180	790 112 103	1.006
200	790 112 104	0.945
225	790 112 105	0.833
250	790 112 106	0.712
280	790 112 107	0.562



Clamping insert, narrow, d 315

- For clamping of elbows, flange adapters, etc., d = 315 mm, 1 piece = 1 Alu-half-shell
- Each code number defines 1 piece reduction clamping insert. Per outer base clamping unit 2 reduction clamping inserts are needed.

d (mm)	Code	Weight (kg)
315	790 118 028	0.741



Set of pipe supports

d-d (mm)	Code	Weight (kg)
90 - 280	790 118 025	6.700



T-fitting clamping unit

- For the rational manufacturing of 90° T-fittings in the sizes d 90 - 250 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Integrated eyelets for lifting
- **Complete** with reduction clamping inserts d 90 - 225 mm

d-d (mm)	Code	Weight (kg)
90 - 250	790 118 032	120.000



Y-fitting clamping unit

- For the rational manufacturing of 30° to 45° Y-fittings in the sizes d 90 to 250 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- **Complete** with reduction clamping inserts d 90 - 225 mm

d-d (mm)	Code	Weight (kg)
90 - 250	790 118 033	179.000



Back stop

- Prevents the components from slipping out of the clamping device during fusion.

Code	Weight (kg)
790 118 026	4.000



Set of replacement blades for planer

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

description	Code	Weight (kg)
long	790 118 042	0.220
short	790 118 043	0.045



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

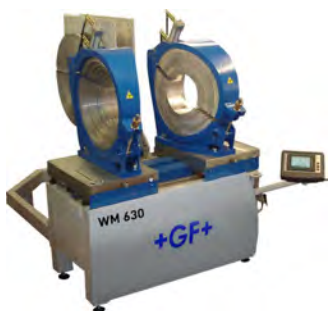
WM 630



WM 630

- Machine for jointing segmented fittings for applications with pressure piping systems
- Maximum jointing angle 45°
- Dimensional range d315 - 630 mm
- To produce T and Y fittings in the dimensional range d315 - 500 mm, special accessories are required
- Control panel assembled with pressure adjustment valve, pressure selection switch (planing or fusion pressure), selection switch for single or double sided planing process, gauge, joy stick and emergency stop
- The clamping units are mounted on supports, each of which can be adjusted transversely
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d315 - 560 mm
- Hydraulically opening and closing of the upper clamping tools, manual locking with bolts and nuts
- Hydraulically operated insertion of planer and heating element
- Precision heating element with electronic temperature control (12000 W)
- High-quality PTFE coating with long service life
- Powerful planer (1100 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories

d-d (mm)	Performance	Code	Weight (kg)
315 - 630	400 V / 15600 W	790 108 020	1870.000



WM 630 CNC 4.0

Automatic workshop butt fusion machine



- Machine for jointing segmented fittings for applications with pressure piping systems
- Fully automated fusion process by the use of state of the art PLC and touch screen
- Maximum jointing angle 45°
- Dimensional range d315 - 630 mm
- To produce T and Y fittings in the dimensional range d315 - 500 mm, special accessories are required
- 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 smartphone during the welding process, the data transfer and fusion protocols collection, in combination with WeldinAir mobile application
- Compatible with label printer
- 10 freely programmable fusion cycles (e.g. for non standard pipe dimensions)
- Selection of language
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- On site check of the memorized fusion protocols status directly on the touchscreen
- Fusion protocols compatible with Welding Book application
- The clamping units are mounted on supports, each of which can be adjusted transversely
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d315 - 560 mm
- Hydraulically opening and closing of the upper clamping tools, manual locking with bolts and nuts
- Hydraulically operated insertion of planer and heating element
- Precision heating element with electronic temperature control (12000 W)
- High-quality PTFE coating with long service life
- Powerful planer (1100 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories

d-d (mm)	Performance	Code	Weight (kg)
315 - 630	400 V/15600 W	790 108 101	1870.000

WM 630 Accessories



Flange adapter clamping unit

- For centric fusion of flange adapters
- Easy, correct attachment of clamping unit in the basic machine

d-d (mm)	Code	Weight (kg)
315 - 630	790 108 031	194.000



Base clamping unit for fittings

- For clamping fittings of d630 mm as well as for the reduction clamping inserts for fittings of d315 to 560 mm. Guide shaft for pipe support and back stop, with pipe support d630 mm
- L = left
- R = right

d (mm)	Type	Code	Weight (kg)
630	L	790 108 017	150.000
630	R	790 108 018	150.000



Reduction clamping inserts, narrow

- Each code number defines 1 piece of reduction clamping insert. 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)	Code	Weight (kg)
315	790 116 020	3.622
355	790 116 021	3.267
400	790 116 022	2.383
450	790 116 023	2.273
500	790 117 238	3.700
560	790 117 239	3.000



Reduction clamping inserts, wide

- Each code number defines 1 piece of reduction clamping insert. 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)	Code	Weight (kg)
355	790 116 013	3.727
315	790 116 012	3.698
400	790 116 014	3.836
450	790 116 015	3.276
500	790 117 012	4.500
560	790 117 013	4.900



Set of pipe supports

d-d (mm)	Code	Weight (kg)
315 - 560	790 108 009	16.000



T-fitting clamping unit

- For the rational manufacturing of 90° T-fittings in the sizes d 315 to 500 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Integrated eyelets for lifting
- Complete with reduction clamping inserts

d-d (mm)	Code	Weight (kg)
315 - 500	790 108 032	491.000



Y-fitting clamping unit

- For the rational manufacturing of 30° to 45° Y-fittings (branches) in the sizes d 315 - 500 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Integrated eyelets for lifting
- Complete with reduction clamping inserts

d-d (mm)	Code	Weight (kg)
315 - 500	790 108 033	650.000



Back stop

- Prevents the components from slipping out of the clamping device during fusion.

Code	Weight (kg)
790 108 026	32.000



Set of replacement blades for planer

- (1 set = 4 blades)

Code	Weight (kg)
790 108 043	0.518



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

WM 1200



WM 1200
Workshop butt fusion machine



- Machine for jointing segmented fittings for applications with pressure piping systems
- Equipped with Welding Recorder
- Maximum jointing angle 45°
- Dimensional range d630 - 1200 mm
- To produce T and Y fittings in the dimensional range d630 - 900 mm, special accessories are required
- **Machine description**
- Moveable control panel assembled with potentiometer to adjust the fusion and the planing pressure, selection switch for single or double sided planing process, gauge, Open/Close and pressure release button, emergency stop
- 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
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- Fusion protocols compatible with Welding Book application
- The clamping units are mounted on supports, each of which can be adjusted transversely
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d630 - 1000 mm
- Hydraulically opening and closing of the clamping units
- Hydraulic locking mechanism of the clamping units
- Hydraulically operated insertion of planer and heating element
- Hardened, hard chrome plated linear guide rails for extreme loads
- Precision heating element with electronic temperature control (30000 W)
- High-quality PTFE coating with long service life
- Powerful planer (2200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories
- Dimensions: 2400 L x 1400 W x 2070 H in mm

d-d (mm)	Performance	Code	Weight (kg)
630 - 1200	400 V/41000 W	790 126 001	8000.000

WM 1200 Accessories



T-fitting clamping unit

- For the rational manufacturing of 90° T-fittings in the sizes d 630 - 900 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Integrated eyelets for lifting
- Complete with reduction clamping inserts

d-d (mm)	Code	Weight (kg)
630 - 900	790 126 011	4620.000



Y-fitting clamping unit

- For the rational manufacturing of 30° to 45° Y-fittings (branches) in the sizes d 630 - 900 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Integrated eyelets for lifting
- Complete with reduction clamping inserts

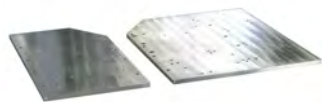
d-d (mm)	Code	Weight (kg)
630 - 900	790 126 012	5500.000



X-fitting clamping unit

- To weld a X-piece the T-piece unit is necessary

d-d (mm)	Code	Weight (kg)
630 - 900	790 126 013	2900.000



Base Plate T-Y-X pieces

- To mount the T-Y-X pieces to the support plate

Code	Weight (kg)
790 126 014	1000.000

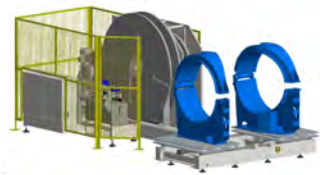


Set of replacement blades for planer

- 4 blades mounted on each planer disk
- (1 set = 4 blades)

Code	Weight (kg)
790 126 043	0.500

WM 1200 Plus



WM 1200 Plus
Workshop butt fusion machine



- Machine for jointing segmented fittings for applications with pressure piping systems
- Equipped with Welding Recorder
- Maximum jointing angle 45°
- Dimensional range d800 - 1200 mm; d630, d710 mm available on demand
- To produce T and Y fittings in the dimensional range d630 - 1200 mm, special accessories are required
- **Machine description**
- Moveable control panel assembled with potentiometer to adjust the fusion and the planing pressure, selection switch for single or double sided planing process, gauge, Open/Close and pressure release button, emergency stop
- 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
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- The clamping units are mounted on supports, each of which can be adjusted transversely
- Fusion protocols compatible with Welding Book application
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d800 - 1000 mm; d630, d710 mm available on demand
- Hydraulically opening and closing of the clamping units
- Hydraulic locking mechanism of the clamping units
- Hardened, hard chrome plated linear guide rails for extreme loads
- Hydraulically operated insertion of planer and heating element
- Precision heating element with electronic temperature control (52000 W)
- High-quality PTFE coating with long service life
- Powerful planer (3000 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories
- Dimensions: 6200 L x 3100 W x 2800 H in mm

d-d (mm)	Performance	Code	Weight (kg)
800 - 1200	400 V/590000 W	790 126 051	1590.000

WM 1200 Plus Accessories



T-fitting clamping unit

- For the rational manufacturing of 90° T-fittings in the sizes d 800 - 1200 mm; d 630, 710 mm available on demand
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Integrated eyelets for lifting
- Complete with reduction clamping inserts

d-d (mm)	Code	Weight (kg)
800 - 1200	790 126 061	9000.000



Y-fitting clamping unit

- For the rational manufacturing of 30° to 45° Y-fittings (branches) in the sizes d 800 - 1200 mm; d 630, 710 mm available on demand
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Integrated eyelets for lifting
- Complete with reduction clamping inserts

d-d (mm)	Code	Weight (kg)
800 - 1200	790 126 062	1142.000



X-fitting clamping unit

- To weld a X-piece the T-piece unit is necessary

d-d (mm)	Code	Weight (kg)
800 - 1200	790 126 063	5382.000



Base Plate T-Y-X pieces

- To mount the T-Y-X pieces to the support plate

Code	Weight (kg)
790 126 064	1622.000

Utility Range

Workshop Machines

Accessories codes

Machine Type							
	Clamping unit for fittings	Clamping unit for pipes	Flange adapter clamping unit	T-fitting clamping unit	Y-fitting clamping unit	X-fitting clamping unit	Back stop
WM 315 FC	Included	790 302 020					
WM 315 PC	790 118 011* (Left)	Included	790 118 031	790 118 032 (d 90 - 250)	790 118 033 (d 90 - 250)	790 118 032 + 790118038 + 790118039 (d 90 - 250)	790 118 026
	790 118 012* (Right)						
WM 630	790 108 017* (Left)	Included	790 108 031	790 108 032 (d 315 - 500)	790 108 033 (d 315 - 500)	790 108 032 + 790 108 077 + 790 108 081 (d 315 - 500)	790 108 026
	790 108 018* (Right)						
WM 1200	-	Included	-	790 126 012 + 790 126 014 (d 630 - 900)	790 126 013 + 790 126 014 (d 630 - 900)	790 126 012 + 790 126 013 (d 630 - 900)	-
WM 1200 Plus	-	Included	-	790 126 061 + 790 126 044 (d 800 - 1200**)	790 126 062 + 790 126 044 (d 800 - 1200**)	790 126 063 + 790 126 044 (d 800 - 1200**)	-

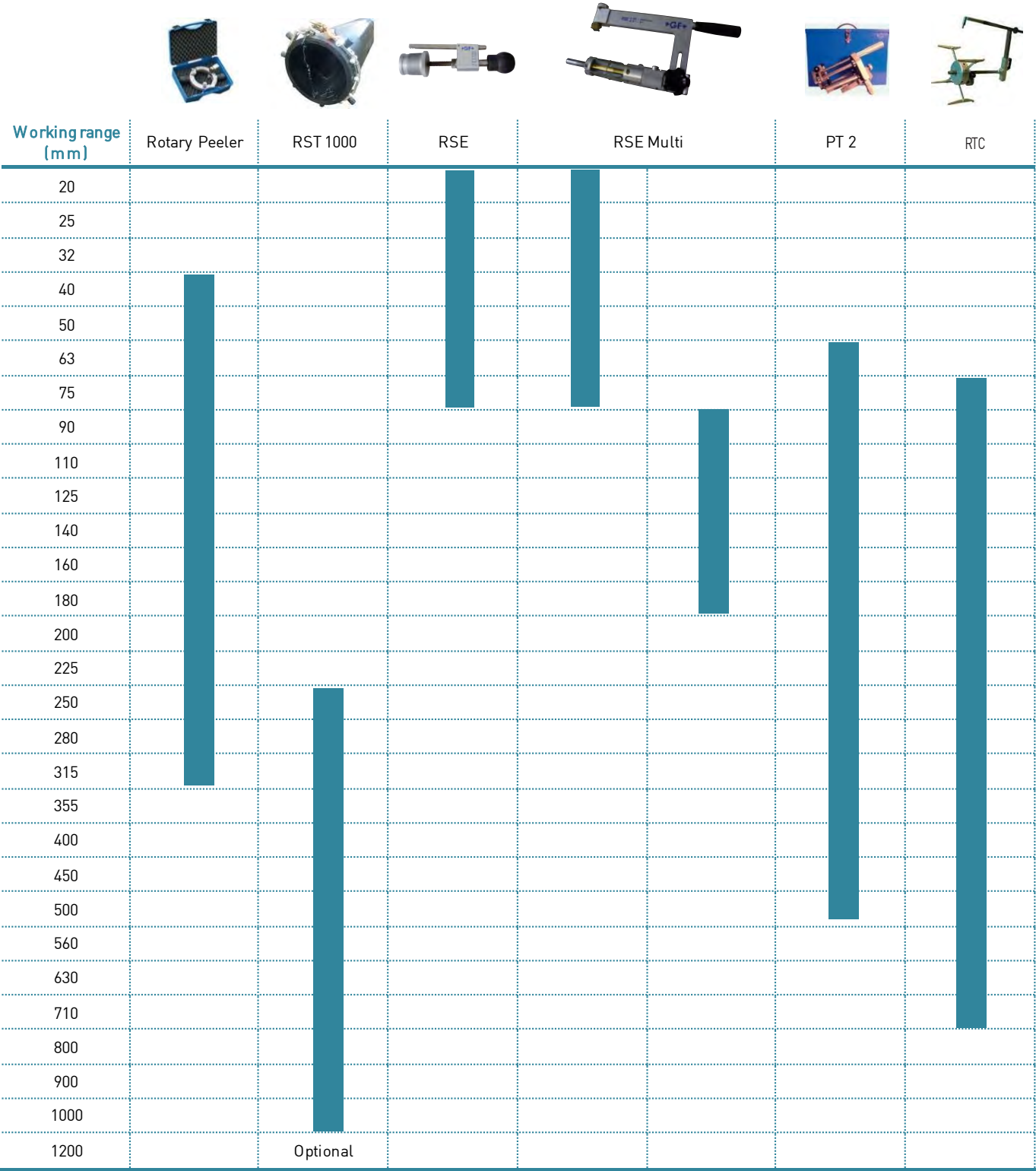
* Without reduction inserts for clamps (narrow type) and pipe supports: to be ordered separately

** d 630, 710 mm available on demand

Utility Range

Peeling Tools

Product Range Overview



Rotary peelers



Rotary Peeler RS

Note:

This innovative Rotary Peeler RS is designed to use for universal peeling at the pipe end, for electrofusion couplings, tees and elbows and as well as for electrofusion saddles. Suitable for peeling of pipes made out of PE 80, PE 100, PEX, PP.

d (mm)	Article	Code	Weight (kg)
40	RS 40	790 136 001	2.340
50	RS 50	790 136 002	2.115
63	RS 63	790 136 003	2.090
75	RS 75	790 136 004	2.350
90	RS 90	790 136 005	2.460
110	RS 110	790 136 006	2.430
125	RS 125	790 136 007	3.895
140	RS 140	790 136 008	3.890
160	RS 160	790 136 009	3.790
180	RS 180	790 136 010	4.150
200	RS 200	790 136 011	3.995
225	RS 225	790 136 012	3.935
250	RS 250	790 136 013	5.575
280	RS 280	790 136 014	5.440
315	RS 315	790 136 015	5.380



Replacement blade to Rotary Peeler RS

d-d (mm)	Description	Code	Weight (kg)
40 - 315	Hard metal	790 136 100	0.013



Transport cases for Rotary Peeler RS

- Included in the scope of delivery of the Rotary Peeler RS

Article	Code	Weight (kg)	Dimension (mm)	Description
RSTC 40-63	790 136 221	0.718	343 - 277 - 125	for RS 40-RS 63
RSTC 75-110	790 136 222	0.870	343 - 277 - 125	for RS 75-RS 110
RSTC 125-160	790 136 223	0.870	490 - 400 - 153	for RS 125-RS 160
RSTC 180-225	790 136 213	1.796	450 - 360 - 132	for RS 180-RS 225
RSTC 250-315	790 136 214	2.901	566 - 435 - 156	for RS 250-RS 315



Rotary peeling tool RST 1000

- The flexible peeling tool RST 1000 is suitable for preparing welding zones of saddle and coupler jointings for Electrofusion fittings
- To ensure the constant removal of the oxidation layer for PE80 and PE100, a long lasting peeling blade made of carbide is used
- Easy-to-hinge chain links enable the staged operation of pipes d250 to d1000 mm
- Compensation for ovality and variable pipe diameters with loaded spring component in the chain
- Scope of delivery includes: various chain links, spare blade, transport box
- Size transport box = 58 x 48 x 15cm

d-d (mm)	Code	Weight (kg)
250 - 1000	799 300 799	10.552



Replacement blade for rotary peeling tool RST 1000

d-d (mm)	Code	Weight (kg)	Description
250 - 1000	799 300 802	0.020	Replacement blade in carbide



Transportbox RST 1000 with inlays

- Included in the scope of delivery of the Rotary Peeler RST 1000
- Size transport box = 58 x 48 x 15cm

d-d (mm)	Code	Weight (kg)
250 - 1000	799 300 806	0.250



Spare part RST 1000

d-d (mm)	Code	Weight (kg)	Description	L (mm)
250 - 1000	799 300 795	0.50	Roller wagon w/link piece 55 mm	215
250 - 1000	799 300 796	0.54	Roller wagon w/link piece 85 mm	245

Pipe end peelers



Pipe end peeler RSE

- **Rotary peeler for reliable pipe preparation prior to electrofusion**
- Consisting of 1 tool including corresponding pipe insert
- Applicable on pipe ends and spigot ends of fittings
- Applicable for straight and coiled pipes
- Applicable for metric pipes according to EN12201 und EN1555
- Applicable on pipe material: PE100RC, PE100, PE-Xa, PP
- Operation: manual or with cordless screwdriver
- Maximum peeling length = 85mm
- Peeling blade as reversing knife with 2 cutting edges
- Delivery in transport box

d (mm)	Code	Weight (kg)	SDR	e (mm)	L (mm)	B (mm)	H (mm)
20	799 300 376	0.60	11	2.0	280	50	50
25	799 300 377	0.65	11	2.3	280	50	50
32	799 300 378	0.65	11	3.0	280	50	50
40	799 300 379	0.70	11	3.7	280	55	55
50	799 300 380	0.80	11	4.6	280	65	65
63	799 300 381	1.00	11	5.8	280	85	85
75	799 300 382	1.15	11	6.8	280	95	95



Pipe end peeler RSE multi

- **Rotary peeler for reliable pipe preparation prior to electrofusion**
- The adjustable basic tool is suitable for holding dimensional pipe inserts from d20 to d75 mm.
- Applicable on pipe ends and spigot ends of fittings
- Applicable for straight and coiled pipes
- Applicable for metric pipes according to EN12201 und EN1555
- Applicable on pipe material: PE100RC, PE100, PE-Xa, PP
- Operation: manual or with cordless screwdriver
- Maximum peeling length = 75mm
- Peeling blade as reversing knife with 2 cutting edges
- Scope of delivery either without or with the pipe inserts specified in the description
- Supplementary pipe inserts to be ordered separately

d (mm)	Description	Code	Weight (kg)	SDR	e (mm)	L (mm)	B (mm)	H (mm)
	Basic tool + box	799 300 350	0.58			280	95	98
	Basic tool + case	799 300 351	1.45			391	304	134
	Basic tool+case+d32+d63	799 300 352	1.88	11		391	304	134
	Basic tool+case +d32+d40+d50+d63	799 300 353	2.18	11		391	304	134
20	Insert RSE	799 300 354	0.10	7	3.0	45	20	20
20	Insert RSE	799 300 356	0.05	11	2.0	45	20	20
25	Insert RSE	799 300 355	0.10	9	3.0	45	25	25
25	Insert RSE	799 300 357	0.10	11	2.3	45	25	25
32	Insert RSE	799 300 358	0.10	11	3.0	50	30	30
40	Insert RSE	799 300 359	0.10	11	3.7	50	40	40
50	Insert RSE	799 300 360	0.20	11	4.6	60	50	50
50	Insert RSE	799 300 370	0.20	17	3.0	60	50	50
63	Insert RSE	799 300 361	0.33	11	5.8	60	60	60
63	Insert RSE	799 300 371	0.33	17	3.8	60	60	60
75	Insert RSE	799 300 362	0.47	11	6.8	60	70	70
75	Insert RSE	799 300 372	0.47	17	4.5	60	70	70
	Blade RSE	799 300 347	0.01			7	7	3
	Handle RSE	790 308 450	0.08			60	50	50
	Case RSE multi	790 308 312	0.87			391	304	134



Pipe end peeler RSE multi

- **Rotary peeler for reliable pipe preparation prior to electrofusion**
- Consisting of 1 tool to cover pipe range
- Applicable on pipe ends and spigot ends of fittings
- Applicable for metric pipes according to EN12201 und EN1555
- Applicable for inch pipes of the corresponding sizes (d90-180mm corr. to 3"-6")
- Applicable on pipe material: PE100RC, PE100, PE-Xa, PP
- Operation: manual
- Hard metal peeling blade (Code-no. 790136100, identical to RS peeler)
- Delivery in solid transport case

d (mm)	d1 (mm)	Code	Weight (kg)
90	180	799 300 364	4.80



Transport cases for pipe end peeler RSE multi

- Transport case is included in the scope of delivery of the peeling tool
- Replacement case including foam inlay

d (mm)	d1 (mm)	Code	Weight (kg)
20	75	790 308 312	0.870
90	180	790 308 313	1.900



Peeling tool PT 2

- Scope of delivery: 1 tool (size 1, 2 or 3) in a metal carrying case.
- The rotating Peeling Tools PT 2 are suitable for preparing pipe ends (when installing Electrofusion couplers and fittings). The tool ensures a constant peeling quality on the complete peeling surface and is suitable for PE80, PE100 and PEX pipes.

d-d (mm)	Code	Weight (kg)
63 - 250	799 300 752	7.500
110 - 400	799 300 755	9.900
110 - 500	799 300 756	10.500



PT 2

Replacement blade for peeling tool PT 2

d-d (mm)	Code	Weight (kg)
63 - 500	799 150 355	0.008



Peeling tool RTC

- **Rotary peeler for reliable pipe preparation prior to electrofusion**
- Applicable on pipe ends and spigot ends of fittings
- **Scope of delivery 315:** 1 Scraper arm, 1 Self-centering chuck base, 1 Aluminium transport case
- **Scope of delivery 710:** 1 Scraper arm, 1 Self-centering chuck base, 2 Aluminium transport case

d-d (mm)	Code	Weight (kg)
75 - 315	799 150 423	9.616
355 - 710	799 300 757	31.400



Replacement blade for peeling tool RTC

d-d (mm)	Piece	Code	Weight (kg)
355 - 710	1	799 300 586	0.020



COOL-FIT 2.0/4.0 Foam removal and peeling tool

Model:

- Tool for foam removal and peeling of COOL-FIT 2.0 and 4.0 pipes

d (mm)	Code	Weight (kg)
32-90	799 738 001	10.500
110-225	799 738 003	16.500
250-450	799 738 004	71.000



Hand scraper

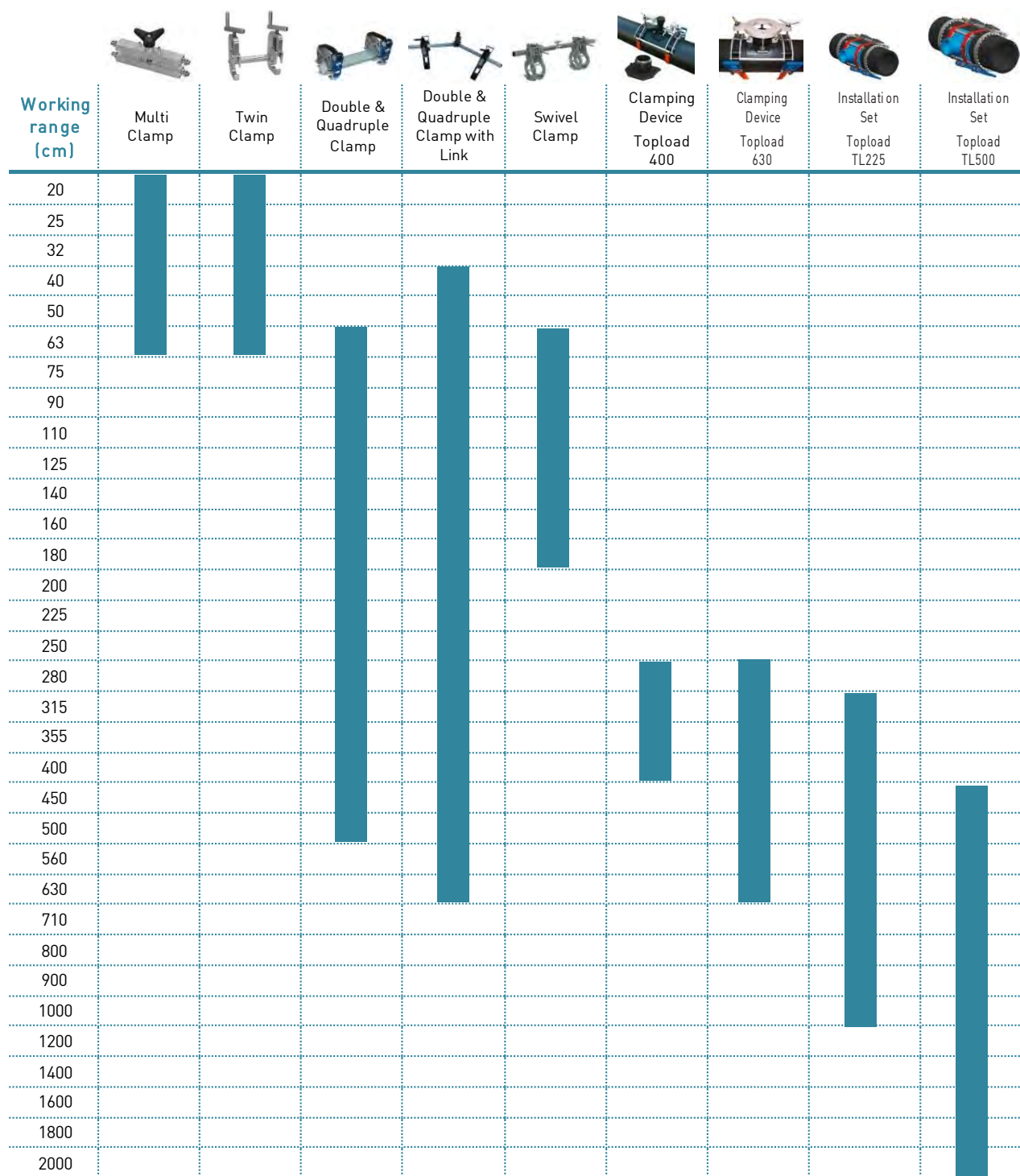
- The Hand Scraper can be used to prepare the fusion zone on PE80 pipes.

Code	Weight (kg)
799 198 094	0.143

Utility Range

Clamping and Installation Tools

Product Range Overview



Pipe clamps



Twin clamp

- The easy-to-use Twin Clamp is suitable for coupler connections on straight or coiled pipe. The clamps prevent pullout and pipe movements during the fusion and cooling time.
- Scope of delivery: 1 complete tool.

d (mm)	Code	Weight (kg)
20	799 301 536	0.658
25	799 301 537	0.471
32	799 301 538	0.756
40	799 301 539	1.079
50	799 301 540	1.326
63	799 301 541	1.618



Multi clamp

- This tool is quick and easy to use and is suitable for straight forward connections to straight lengths of pipe or saddle branch outlets with electrofusion couplers.
- Scope of delivery: 1 tool without accessories.

d-d (mm)	Code	Weight (kg)
20 - 63	799 301 575	0.800



Inserts for multi clamp

- The inserts are easily and quickly exchanged. A set consists of 4 inserts, each insert with 2 different dimensions.

d-d (mm)	Code	Weight (kg)
25 - 20	799 150 385	0.500
32 - 20	799 150 386	0.500
32 - 25	799 150 387	0.500
40 - 32	799 150 388	0.500
50 - 40	799 150 389	0.500
63 - 32	799 150 390	0.500
63 - 40	799 150 391	0.500
63 - 50	799 150 392	0.500



Double clamp

- The user-friendly Double Clamps are suitable for coupler connections. They are quickly and easily put into position and prevent pullout and pipe movements during the fusion time and cooling time.
- Scope of delivery: 1 tool consisting of 1 beam (compact), 2 V-clamps complete with ratchet and belt.



d-d (mm)	Code	Weight (kg)
63 - 125	799 301 484	3.506
110 - 225	799 301 486	7.918
225 - 500	799 301 488	14.735



Quadruple clamp

- The professional Quadruple Clamps are suitable for coupler connections. They are quickly and easily put into position and ensure a stress-free fusion. They prevent pullout and pipe movements during the fusion and cooling times.
- Recommended for difficult site conditions with large installation-induced stresses.
- Scope of delivery: 1 tool consisting of 1 beam (long), 4 V-clamps complete with ratchet and belt.

d-d (mm)	Code	Weight (kg)
63 - 125	799 301 459	7.142
110 - 225	799 301 461	16.490
225 - 500	799 301 463	28.500

Spare parts for clamps



Pos	Dimension (mm)	Code	Weight (kg)
1	63-125, 45mm	799 900 414	1.700
	110-225, 60mm	799 900 405	3.500
	225-500, 80mm	799 900 394	6.000
2	63-125, 45mm	799 900 413	3.600
	110-225, 60mm	799 900 404	6.500
	225-500, 80mm	799 900 387	11.500
4	63-125	799 900 421	0.977
	110-225	799 900 423	2.000
	225-500	799 900 425	4.500
	63-125	799 150 313	0.232
	110-225	799 150 315	0.496
	225-500	799 150 319	1.415
7		799 150 314	0.050



Double clamp with universal link

- Recommended for the installation of fittings ELGEF Plus and ecoFIT d40 - 200 and d160 - 630mm
- Recommended for the installation of fittings COOL-FIT d32/D75 - d140/D200 and d160/D250 - d450/D630
- The clamping allows installation without tension and avoids movement during fusion and cooling time
- The centrally located adjustable universal link allows installation of electrofusion couplers, elbows and reducers
- Works above, below and alongside the joint
- Adaptor for use with Tee-pieces available (see accessories)

d (mm)	d1 (mm)	Code	Weight (kg)
40	200	799 301 490	4.200
160	630	799 301 496	14.100



Quadruple clamp with universal link

- Recommended for the installation of fittings ELGEF Plus and ecoFIT d40 - 200 and d160 - 630mm
- Recommended for the installation of fittings COOL-FIT d32/D75 - d140/D200 and d160/D250 - d450/D630
- The clamping allows installation without tension and avoids movement during fusion and cooling time
- The centrally located adjustable universal link allows installation of electrofusion couplers, elbows and reducers
- Universal use; works above, below and alongside the joint
- Adaptor for use with Tee-pieces available (see accessories)

d (mm)	d1 (mm)	Code	Weight (kg)
40	200	799 301 489	8.300
160	630	799 301 495	23.300



Tee adaptor

- Suitable for clamping tool (799301489 - 495)

d (mm)	d1 (mm)	Code	Weight (kg)
40	200	799 301 491	0.610
160	630	799 301 497	3.500



V-block

- Suitable for clamping tool (799301489 - 495)

d (mm)	d1 (mm)	Code	Weight (kg)
40	200	799 301 492	1.000
160	630	799 301 498	3.200



Bar extension

- Suitable for clamping tool (799301489 - 495)

d (mm)	d1 (mm)	Code	Weight (kg)
160	630	799 301 499	1.000



Swivel clamp

- The Swivel Clamp centralises pipes with dimensions from d63 to 180 mm automatically. Suitable for coupler connections as well as reductions and bends. The 15° adjustment makes an exact positioning from 15° to 90° possible.

d-d (mm)	Code	Weight (kg)
63 - 180	799 350 358	13.000

Topload clamps



Clamping device topload 400

- This clamp and mounting tool is used for top-load Saddles on pipes.
- Proper use: ELGEF Plus electrofusion saddles dimension d280-400mm with outlet d63mm
- Scope of delivery: 1 base mounting clamp, 1 bracket, 2 clamping screws, 2 ratchet straps, 1 transport box

d-d (mm)	Code	Weight (kg)
280 - 400	799 350 475	20.000



Clamping device topload 630

- This clamp and mounting tool is used for top-load Saddles on pipes.
- Proper use: ELGEF Plus electrofusion saddles dimension d280-400mm with outlet d63mm
ELGEF Plus Branch fitting for dimension d280-630mm with outlet d90/110/125mm
- Scope of delivery: 1 base mounting clamp, 1 clamping attachment, 1 bracket, 2 clamping screws, 2 ratchet straps, 1 transport box

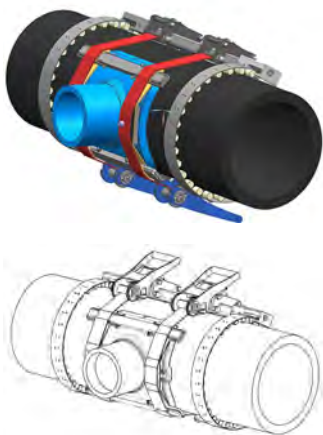
d-d (mm)	Code	Weight (kg)
280 - 630	799 350 477	28.400



Clamping attachment topload 630

- Clamping attachment as single part for extension of Topload tool 400 (799 350 475)
- Suitable for Branch fittings dimension d 280 mm – 630 mm

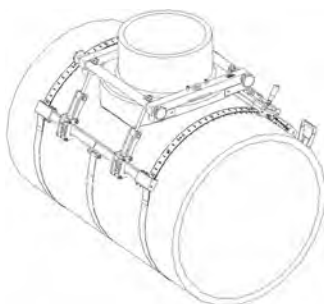
d-d (mm)	Code	Weight (kg)
280 - 630	799 350 476	11.343



Installation set Topload TL 225

- Suitable for branch saddle d315-1000mm with spigot outlet d160/d225
- Use of set is mandatory for the installation of branch saddles
- Set includes frame with tension belts, peeling tool, clamp and transport box
- Patent pending

Code	Weight (kg)
799 300 807	48.000



Installation set Topload TL 500

- Suitable for ELGEF Plus branch saddle d450-2000mm with spigot outlet d315 and d500
- Use of set is mandatory for the installation of branch saddles
- Set includes frame with tension belts, peeling tool, clamp for outlet d315mm/500mm and transport box
- Patent pending

Code Weight
(kg)

799 300 809 124.000



Accessories / single parts for Installation set Topload

Description	Code	Weight (kg)
Transport box TL 225 (860x700x180)	799 300 923	18.500
Frame TL 225 incl. tension belt up to 1000mm	799 300 820	14.000
Peeling tool TL 225	799 300 835	5.600
Clamp TL 225	799 300 920	9.900
Peel cutter TL	799 300 831	0.066



Multiple use assembly tool branch saddle d140mm

- Only to be used with Branch Saddle d140mm
- Delivered as complete Kit including screws and belt

d (mm)	Code	Weight (kg)
140	193 281 027	0.724

Cleaning and Accessories for job sites

Cleaners and markers



Tangit KS-Cleaning Tissues

- Special cleaner for plastic fusion connections in the material of PP, PE, PVDF and PB
- Suitable for Tangit Rapid. Must not be used for solvent cementing
- for plastic welding joints PB, PE, PP, PVDF
- DW 5290 BR 0464
- DVGW approved

Contents	Code	Weight (kg)
1 dispenser with 100 tissues	799 298 024	0.333



Tangit KS Cleaner

- Special cleaner for plastic fusion connections in the material of PP, PE, PVDF and PB
- Suitable for Tangit Rapid. Must not be used for solvent cementing
- DVGW approved
- DW 5290 BR 0464

Size	Code	Weight (kg)
1 liter	799 298 023	0.872



Degreasing Tissues

- For degreasing the PE pipe surface prior to fusion

description	Type	Code	Weight (kg)
For pipes up to d225 mm	large	799 496 011	0.008



Marker

Type	Code	Weight (kg)
silver	799 350 364	0.010

Support tools



Chamfering tools

- Chamfering tool (15° bevel) for plastic pipes. Fast and reliable adjustment to the different pipe diameters and wall thickness.

d-d (mm)	description	Code	Weight (kg)
25 - 110	Special version for INSTAFLEX PB	790 309 005	1.100
25 - 110	Standard version	790 309 006	1.100
25 - 200	Standard version	790 309 003	1.300
63 - 400	Standard version	790 309 004	2.600



Chamfering tools

- Chamfering tool (15° bevel) for plastic pipes. Fast and reliable adjustment to the different pipe diameters and wall thickness.

d-d (mm)	Code	Weight (kg)
40 - 200	790 309 001	1.300
50 - 315	790 309 002	2.600



Outer bead remover

d-d (mm)	Code	Weight (kg)
110 - 160	790 109 241	1.240
140 - 250	790 109 242	1.950
180 - 315	790 109 243	2.090
280 - 450	790 109 244	2.700



Deburring tool

- Replacable blade

Code	Weight (kg)
790 205 082	0.058



Chamfering / deburring tool

- 10 mm - 54 mm / 1/2" - 2"
- Inside and outside
- Ideal for adhesive jointing

Code	Weight (kg)
790 205 085	0.450



Measuring tape (circumference and diameter)

- Circumference: 2 m / 79 inch
- Diameter: 630 mm / 25 inch

Code	Weight
	(kg)
790 205 087	0.045



Spare blades for deburring tool

- 10 pieces

Code	Weight
	(kg)
790 205 083	0.031



Roller support 315

- For pipes up to d 315 mm, with base plate, galvanised
- The piping can be pulled with little effort
- Protects pipes from damage
- Reduces resistance during fusion
- Maximum load 300 kg

d-d	Code	Weight
(mm)		(kg)
20 - 315	790 109 110	4.500



Roller support 630

- Up to d 630 mm, with base plate, galvanised
- **adjustable height** (60 mm)
- The piping can be pulled with little effort
- Protects pipes from damage
- Reduces resistance during fusion
- Maximum load 1000 kg

d-d	Code	Weight
(mm)		(kg)
110 - 630	790 109 109	4.725

Rerounding and Squeeze-off tools

Rerounding tools



Re-rounding tool

- Re-rounding tools are used to re-round oval pipes during fusion as well as during the cooling time.

d (mm)	Code	Weight (kg)	Description
25	799 199 127	0.577	Type nut cracker
32	799 199 128	0.500	Type nut cracker
40	799 199 129	1.500	Type nut cracker
50	799 199 130	1.616	Type nut cracker
63	799 199 131	0.742	Type hinged collar
75	799 199 132	0.791	Type hinged collar
90	799 199 133	1.690	Type hinged collar
110	799 199 134	1.537	Type hinged collar
125	799 199 135	1.917	Type hinged collar
160	799 199 137	2.318	Type hinged collar
180	799 199 138	2.493	Type hinged collar
200	799 199 139	2.500	Type split collar
225	799 199 140	3.361	Type split collar
250	799 199 141	1.872	Type split collar



Re-rounding tool

- Enables mechanical re-rounding of out-of-roundness PE pipes for fusion preparation
 - Recommended for installation of electrofusion couplers and electrofusion saddles
 - We generally recommend the use of 2 re-rounding tools (1 x left and 1 x right of the installed fitting)
 - Facilitates the installation and improves connection quality
 - Pipe ovality before re-rounding max. 6% at +20°C (3% at ambient temperature of 0°C)
 - Required ringspanner is not included in scope of delivery
- ¹ Material: Galvanized steel, Scope of delivery: 2 x Crossbar, 2 x Spindle, 2 x Nut AF 30, 2 x Spindle protection, Transport box
- ² Material: Aluminium, Scope of delivery: 2 x Crossbar, 2 x Spindle, 2 x Nut AF 55, 2 x Spindle protection

	d (mm)	d1 (mm)	Code	Weight (kg)	L (mm)	B (mm)	H (mm)
1	280	450	799 350 688	25.000	650	290	260
1	450	630	799 350 689	38.000	830	290	260
1	630	900	799 350 690	49.000	1100	290	260
2	900	1400	799 350 695	192.300	2000	650	600
2	1400	2000	799 350 696	254.200	2650	650	600



Transport box for Re-rounding tool

- Suitable for Re-rounding tool (799350688 - 696)

d (mm)	d1 (mm)	Code	Weight (kg)
280	450	799 350 691	7.800
450	630	799 350 692	9.200
630	900	799 350 693	11.000
900	1400	799 350 697	40.000
1400	2000	799 350 698	50.000



Crossbeam for Re-rounding tool

- Suitable for Re-rounding tool (799350688 - 696)

d (mm)	d1 (mm)	Code	Weight (kg)
280	450	799 350 706	9.500
450	630	799 350 707	15.700
630	900	799 350 708	19.800
900	1400	799 350 709	55.000
1400	2000	799 350 710	75.000



Pipe gauge

- Pipe gauge enables check of pipe ovality on existing pipelines
- Applicable on any user-defined spot within the pipeline
- Strongly recommended for all installations of brach saddles on pipes d315mm and above (193135402-748)
- Plug gauge (799350659) for exact measuring of out-of roundness deviations is not included in scope of delivery
- Material: aluminium

d (mm)	Code	Weight (kg)
315	799 350 660	0.271
355	799 350 661	0.255
400	799 350 662	0.257
450	799 350 663	0.245
500	799 350 664	0.334
560	799 350 665	0.324
630	799 350 666	0.319
710	799 350 667	0.310
800	799 350 668	0.311
900	799 350 669	0.425
1000	799 350 670	0.420
1200	799 350 671	0.413
1400	799 350 672	0.410
1600	799 350 673	0.407
2000	799 350 674	0.403



Pipe gauge set

- Pipe gauge set enables check of pipe ovality on existing pipelines
- Applicable on any user-defined spot within the pipeline
- Strongly recommended for all installations of brach saddles on pipes d315mm and above (193135402-748)
- Scope of delivery: Pipe gauges of listed dimension range; plug gauge (799350659) for exact measuring of out-of roundness deviations
- Each with 1 pipe gauge per main dimension
- Material: aluminium

d (mm)	d1 (mm)	Code	Weight (kg)	Description
315	2000	799 350 685	12.200	Pipe gauge set complete; 15 pipe gauges, 1 plug gauge, 1 transport box

Accessories / single parts for Re-rounding tool

- Suitable for Re-rounding tool (799350688 - 696)

d (mm)	d1 (mm)	Code	Weight (kg)	Description
280	450	799 350 706	9.500	1 x Crossbeam compl. for 799350688
450	630	799 350 707	15.700	1 x Crossbeam compl. for 799350689
630	900	799 350 708	19.800	1 x Crossbeam compl. for 799350690
900	1400	799 350 709	55.000	1 x Crossbeam compl. for 799350695
1400	2000	799 350 710	75.000	1 x Crossbeam compl. for 799350696
280	450	799 350 701	1.150	1 x Spindle for 799350688
450	630	799 350 702	1.650	1 x Spindle for 799350689
630	900	799 350 703	2.300	1 x Spindle for 799350690
900	1400	799 350 704	14.400	1 x Spindle for 799350695
1400	2000	799 350 705	20.000	1 x Spindle for 799350696
280	900	799 350 700	0.220	1 x Nut AF 30 for 799350688-90
900	2000	799 350 724	0.440	1 x Nut AF 30 for 799350695-96
280	900	799 350 735	0.100	1 x Washer for 799350688-90
900	2000	799 350 736	0.330	1 x Washer for 799350695-96
280	900	799 350 728	0.240	1 x Bolt for 799350688-90
900	2000	799 350 727	1.400	1 x Bolt for 799350695-96
280	2000	799 350 737	0.100	1 x Spring cotter pin for 799350688-96
900	2000	799 350 729	0.370	1 x Linch pin for 799350695-96
280	450	799 350 691	7.800	1 x Transport box for 799350688
450	630	799 350 692	9.200	1 x Transport box for 799350689
630	900	799 350 693	11.000	1 x Transport box for 799350689



Single parts for pipe gauge

- Suitable for pipe gauge (799350660 - 685)

d (mm)	d1 (mm)	Code	Weight (kg)	Description
315	2000	799 350 659	0.112	For exact measuring of out-of roundness deviations
		799 350 686	7.000	Empty transport box for all pipe gauge set (1+2+3+4)

Squeeze-off tools



Squeeze-off tool type S1

- This mechanical device is used to squeeze-off PE pipes during repair and extension work. In order not to over-stress the pipe, the tool is equipped with adjustable end stops for SDR 11 (ISO S5) pipes. Due to different wall thickness` of the pipes, the squeezing degree may differ up to 0,8.

d-d (mm)	Code	Weight (kg)	Description
20 - 63	799 350 107	4.901	S1 for PE pipes SDR 11



Squeeze-off tool type S2

- This mechanical device is used to squeeze off PE pipes during repair and extension work. In order not to over-stress the pipe, the tool is equipped with adjustable end stops for SDR 11 (ISO S5) and SDR 17 (ISO S8) pipes.

d-d (mm)	Code	Weight (kg)	Description
63 - 180	799 350 108	36.500	S2 for PE pipes SDR 11 and SDR 17; Jack Force: 15 t



Squeeze-off tool A25

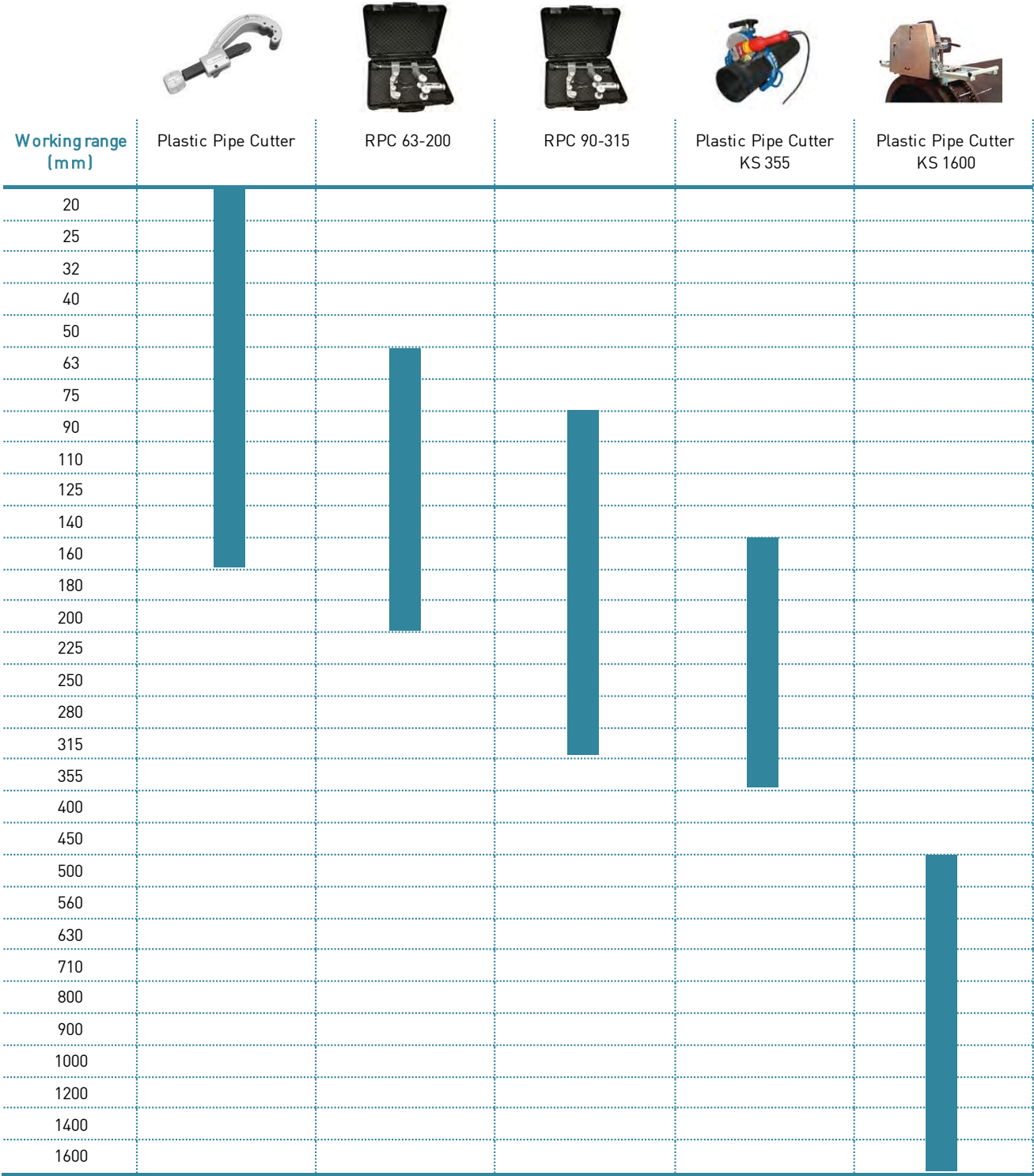
- This mechanical device is used to squeeze off PE pipes during repair and extension work. In order not to over-stress the pipe, the tool is equipped with adjustable end stops for SDR 11 (ISO S5) and SDR 17 (ISO S8) pipes.

d-d (mm)	Code	Weight (kg)	Description
160 - 250	799 350 270	60.000	A25 for PE pipes SDR 11 and SDR 17; Jack Force: 25 t

Utility Range

Cutting Tools

Product Range Overview





Manual cutting tools

74



Electric cutting tools

75

Manual cutting tools



PPC Plastic pipe cutter

For cutting plastic pipes d10 - d160

d-d (mm)	Article	Code	Weight (kg)	Closest inch (inch)
10 - 63	PPC 63, s max. = 7.2mm	790 109 001	0.865	1/8 - 2
50 - 110	PPC 110, s max. = 12.7mm	790 109 002	1.624	1 1/2 - 4
110 - 160	PPC 160, s max. = 19.0mm	790 109 003	2.212	4 - 6



Replacement cutting wheels

For plastic pipe cutter

d-d (mm)	Article	Code	Weight (kg)
10 - 63	SR 63 max. s=7,2 mm	790 109 011	0.004
50 - 110	SR 110/160 max. s=12,7 mm	790 109 012	0.015
110 - 160	SR 160 max. s=19,0 mm	790 109 013	0.023



Rotary Pipe Cutter d63-200 mm

- Tool for simple right angle precision cutting of plastic pipe with a wall thickness up to 12 mm PVDF/PVC and up to 20 mm PP/PE --> blade for PP/PE must be ordered separately (Code 790109861)
- Including transport box

d-d (mm)	Code	Weight (kg)
63 - 200	790 109 850	7.000



Rotary Pipe Cutter d90-315 mm

- Tool for simple right angle precision cutting of plastic pipe with a wall thickness up to 15 mm PVDF/PVC and up to 30 mm PP/PE --> blade for PP/PE must be ordered separately (Code 790109861)
- Including transport box

d-d (mm)	Code	Weight (kg)
90 - 315	790 109 851	5.000



Knife for Rotary Pipe Cutter d63-200 and d90-315 for PP/PE pipe

d-d (mm)	Code	Weight (kg)
63 - 315	790 109 861	0.050

Electric cutting tools



KS 355 Plastic pipe cutter

- The KS 355 is the ideal tool for right-angled cuts with no misalignment of PE, PP and PVC pipes
- Pipe outer dimension from 160 – 355 mm, wall-thickness from 8 – 40 mm
- Unique clamping mechanism, no additional tools like belts, chains or reduction inserts necessary
- Weight of the saw: 13,0 kg
- Supplied with transport box: Dimension 700 x 350 x 500 mm; Weight 17,0 kg

d-d (mm)	Code	Weight (kg)	Power
160 - 355	790 202 001	35.000	1750 W; 230 V; 50/60 Hz



Plastic pipe cutter

- The easy handling and an optimal safety do make the saw indispensable on each construction site
- Motor hand-circular saw with chain guiding
- The machine consists of a motorized hand saw, with guide carriage and tensioning chain for each pipe diameter
- The tensioning chain is to be out around the pipe and tightened by means of the chain tensioner. The carriage is applied with the hand circular saw. The pipe is cut by moving the carriage around the pipe.
- A quick, clean and right angled cut is the result

The KS 1600 is used for cutting plastic pipes fast, cleanly and properly right-angled from diameter 500 mm up to 1600 mm with a wall thickness of max. 60 mm. For each pipe diameter, the appropriate chain length is necessary. The saw is to be put on the tensioned chain as per user manual which serves as a guiding device for the saw over a full 360° turn.

The guard plate covers the saw blade also during operation and provides full protection for the user at all times.

The KS 1600 basic kit consists of a circular-hand saw, 230 V / 2200 W with carriage, 2 tension chains for d560 mm and d630 mm as well as a chain tensioner. The whole equipment comes in a convenient and robust transport box.

The easy handling and the optimal safety features make this tool indispensable on every building site.

Scope of delivery:

1 Circular-hand saw, 1 tensioning chain d560 mm, 1 tensioning chain d630 mm, 1 chain tensioner, 1 hex-wrench size 5, 1 hex-wrench size 6, 1 operating instruction, transport-box

Technical data:

Dimension range:	d500 –1600 mm (In combination with the respective tensioning chain)
Plug:	EU-Plug
Voltage:	230 V AC
Power:	2200 Watt
Frequency:	50-60 Hz
Circular saw blade outer-Ø:	240 mm
RPM:	4100
Sound level:	104 dB (A)
Weight saw:	15, 5 kg
Weight KS 1600 Basic-Kit:	43,5 kg
Dimensions saw (WxHxD):	790 x 330 x 335 mm
Dimensions Transport-Box:	950 x 400 x 395 mm

d-d (mm)	Type	Code	Weight (kg)
500 - 1600	KS 1600 Basic Kit	790 109 600	43.000



Replacement saw blade Ø 180x30 for KS 355

	Code	Weight (kg)
	790 202 011	0.354



Replacement saw blade for KS 1600

description	Code	Weight (kg)
Saw Blade 250X3.5X3.0, 18 teeth punched	790 109 618	0.653



Tensioning Chains

- Chains for d560 and d630 mm are included in the scope of delivery of the KS 1600 Basic-Kit (790 109 600).

d (mm)	Code	Weight (kg)
500	790 109 605	5.200
560	790 109 606	5.600
630	790 109 607	6.630
710	790 109 608	7.900
800	790 109 609	9.100
900	790 109 610	10.100
1000	790 109 611	11.000
1100	790 109 612	12.000
1200	790 109 613	13.500
1400	790 109 614	15.500
1600	790 109 615	17.800



Chain tensioner

- Chain tensioner is included in the scope of delivery of the KS 1600 Basic Kit (790 109 600).

d-d (mm)	Code	Weight (kg)
500 - 1600	790 109 616	0.400

Tapping and Pressure testing tools

Tapping tools

Assembly and tapping key for saddles



- Combination tool for tapping and tightening of fixation screws.

Type	Code	Weight (kg)	Description
8/10/17	799 198 047	0.798	For all saddles

Tapping key for saddles



- With adjustable tapping depth.

Type	Code	Weight (kg)	Description
WS - 10	799 198 080	0.114	for Monobloc d 40 mm and d 50 mm
WS - 17	799 198 079	0.556	for Monobloc d 63 mm, d 90 - 160 mm and all Duobloc saddles
WS - 12.7	799 198 091	0.600	for spigot saddle with cutter

Tapping Adapter for saddles



- The Adapter is used for gas-free tapping under pressure. Type S 54 for tapping saddles with rotatable outlet d 20 - 40 mm (Tapping Tee d 32 mm). Type S 67 for tapping saddles with rotatable outlet d 50 - 63 mm (Tapping Tee d 63 mm).

Type	Code	Weight (kg)	Description
S 54	799 100 061	0.785	for Tapping Tee d 32 mm
S 67	799 100 062	1.011	for Tapping Tee d 63 mm

Hexagon key for saddles and branch fittings



- For tightening fixation screws.

Type	Code	Weight (kg)	Description
SW8	799 150 378	0.129	For all saddles and branch fittings

Hexagon key for PVC saddles



- The Hexagon Key is suitable for tapping water and gas mains under pressure.
- Scope of delivery: 1 hexagon key, protective cover, without rotating pin.

d-d (mm)	Code	Weight (kg)	s (mm)	G (inch)
32 - 40	799 150 008	0.496	27	38
50 - 63	799 150 009	0.690	27	47



Cutter for PE pipes

- This cutter is suitable for PE pipes and can be used on pipes of up to d 225 mm with a wall thickness of up to 21 mm.

d (mm)	Code	Weight (kg)	Description
39	799 198 012	0.215	accessories Basic Tool Box



PE repair plug

- PE Repair Plugs are suitable for use with ELGEF Plus Repair Saddles

d (mm)	Code	Weight (kg)
39	799 199 089	0.019



Core cutter set for PE pipes

- Suitable for drilling of pressureless PE pipes
- Set includes core cutter, centre drill, adapter SDS max, ejector rod and transport box
- Suitable for branch saddle with spigot outlet (193135202 - 748)
- Core cutter is especially developed for plastic material
- Enables quick drilling
- Cutout stays in the core cutter

Technical information: **Core cutter:** L = 300 mm; d = spigot outlet fitting in mm; d1 = spot boring diameter in mm; Max. wall thickness = 120 mm, **Pilot drill:** d = 14mm; L = 400 mm, **Ejector rod:** d = 12mm; L = 500 mm, **Connection drill machine:** SDS max, **Connection core cutter:** G 1/2" (female thread) d160, 225, 315; G 1 1/4" (female thread) d500, **Machine suggestion:** Effective power minimum 100 watt; Rotation speed 100-200 rpm

d (mm)	d1 (mm)	Code	Weight (kg)	Description
160	123	799 198 101	7.200	Core cutter set in transport box
225	172	799 198 102	10.000	Core cutter set in transport box
315	238	799 198 103	13.400	Core cutter set in transport box
500	420	799 198 104	34.000	Core cutter set in transport box



Transport box for Core cutter set

- Suitable for core cutter set (799198101 - 104)

d (mm)	Description	Code	Weight (kg)
160	Transport box 160; 565x170x180mm	799 198 121	3.900
225	Transport box 225; 565x220x230mm	799 198 122	4.700
315	Transport box 315; 280x280x565mm	799 198 123	7.500
500	Transport box 500; 465x465x565mm	799 198 124	9.000



Drill stand for Core cutter set

- Suitable for safe and guided drilling of pressureless PE pipes
- Set includes drill stand, drilling machine, extension arm and standtracks
- Suitable for branch saddle with spigot outlet (193135402 - 748)
- Suitable for core cutter set (799198101 - 104)
- Tension belts for the fixation of the drill stand onto the PE pipe are not included in scope of delivery
- Use of Core cutters 160/225/315 requires additionally adaptor 1 1/4" - 1/2" (799198138)
- In case of using the pilot drill for core cutters 160/225/315 adaptor 1/2" M - 1/2" F (799198106) is required

Description	Code	Weight (kg)
Drill stand BS400 with vulcanised-rubber bonded standtracks. Extension arm suitable for branch saddle 4-drift drill machine D38-BB	799 198 137	68.000



Accessories for Core cutter set

- Suitable for core cutter set (799198101 - 104)

Description	Code	Weight (kg)
Pilot drill d = 14mm; L = 365 mm	799 198 133	0.300
Ejector rod d = 12mm; L = 500 mm	799 198 131	0.450
Adaptor 1 1/4" UNC-R- 1/2"	799 198 138	0.520
Adaptor drill chuck 13	799 198 105	0.160
Adaptor thread	799 198 106	0.180
Adaptor SDS-max	799 198 107	0.300

W410 drilling device (3/4" - 8")



Basic Drilling Device W410 including ratchet (all accessories to be added)

Model:

- Including: hex key 3 mm, hex key 6 mm and screwdriver

Description	Code	Weight (kg)
basic device including ratchet	709 700 100	7.800



Drill shafts

Model:

- Drill shafts to be selected depending on build up length of your configuration

Description	Code	Weight (kg)
drill shaft 620 mm	709 700 010	1.200
drill shaft 775 mm	709 700 021	1.500
drill shaft 1070 mm	709 700 023	2.070



Mandrel combined with pilot drill

Model:

- mandrel including special pilot drill 6mm with dual retention wires

Description	Code	Weight (kg)
hole saw mandrel 9/16 inch - 1 3/16 inch with retain pilot drill	709 701 260	1.000
hole saw mandrel 1 1/4 inch - 6 inch with retain pilot drill	709 701 261	1.000



Flange adaptors

Model:

- Suitable for flange to flange connections
- Not included flange bolts / gasket
- Flange adaptor for W410
- Suitable for MULTI/JOINT® flange adaptor / connection to PE spigot

Description	Drilling pattern	Code	Weight (kg)
flange adaptor DN50	PN16	709 702 045	1.850
flange adaptor DN65	PN16	709 702 046	2.250
flange adaptor DN80	PN16	709 702 047	3.090
flange adaptor DN100	PN16	709 702 048	3.840
flange adaptor DN150	PN16	709 702 050	6.530
flange adaptor DN200	PN10	709 702 051	8.800



Pilot drill

Model:

- pilot drill 6 mm with dual retention wires

Description	Code	Weight (kg)
pilot drill 6 mm with dual retention wires	709 800 006	0.010



Cup drill

PE chipless Ø45, Ø60, Ø63, Ø80 and Ø84 mm

Model:

- Maximum PE pipe d630 SDR11
- Suitable for under pressure drilling
- Push rod for coupon release out of the cup drill
- For demanding drillings on PE



Description	Code	Weight (kg)
PE cup drill chipless 45 mm x 60 mm	709 810 410	0.510
PE cup drill chipless 60 mm x 60 mm	709 810 412	0.580
PE cup drill chipless 63 mm x 60 mm	709 810 414	0.590
PE cup drill chipless 80 mm x 60 mm	709 810 415	0.880
PE cup drill chipless 84 mm x 60 mm	709 810 416	0.910
PE cup drill chipless 45 mm x 120 mm	709 810 420	0.800
PE cup drill chipless 60 mm x 120 mm	709 810 422	0.890
PE cup drill chipless 63 mm x 120 mm	709 810 424	0.890
PE cup drill chipless 80 mm x 120 mm	709 810 425	1.340
PE cup drill chipless 84 mm x 120 mm	709 810 426	1.370
PE cup drill push rod	709 700 024	0.400



Heavy duty transport / storage box for W410 drilling device

Model:

- Outside dimension transport / warehouse box: 120 x 40 x 40 cm

Description	Code	Weight (kg)
Heavy duty transport / storage box for W410 drilling device	709 706 414	15.500

Pressure test cap for Tapping saddles



- The cap has a Rp 3/8" connection thread and is made from galvanised steel.
- **Overview of Tapping Adapter types and Pressure Test Cap**
- M For Monobloc d 40 and 50 mm (outlets d 20 - 32 mm)
- S 54 For all saddles with rotatable outlet (outlets d 20 - 40 mm) i.e. Tapping Tee d 20 - 40 mm.
- S 67 For all Saddles with rotatable outlet (outlets d 50 and 63 mm) i.e. Tapping Tee d 63 mm.

Type	Code	Weight (kg)	Description
M	799 199 282	0.116	for Monobloc d 40 mm and d 50 mm
S 54	799 199 283	0.260	for Tapping Tee d 20 - 40 mm
S 67	799 199 286	0.430	for Tapping Tee outlet d 63 mm
MB	799 199 287	0.037	for Monobloc d63-160 mm and Branch saddle outlet d160/225 mm



Pressure Test Cap

- Enables pressure testing of branch saddles ELGEF Plus after fusion and before tapping the main pipe
- Suitable for branch saddle with spigot outlet (193435402- 748 and 193135202- 304)
- Recommended maximum test pressure at +20°C according DVS 2210-1 = 18 bar water (SDR11) / 11 bar water (SDR 17)
- Recommended test duration = 60 minutes
- Connecting thread for pressure test is female thread G 3/8"

d (mm)	Code	description	L (mm)	B (mm)	H (mm)
160 - 225	799 199 287	Suitable for branch saddle with spigot outlet d160 and d225mm and Tapping saddles Monobloc main dimension d63-160mm; Material: Aluminum; Scope of delivery: 1 x Pressure test cap, 1 x O-ring 25.07 x 2.62	26	36	39
315	799 199 288	Suitable for branch saddle with spigot outlet d315mm; Scope of delivery: 1 x pressure test cap, 1 x O-Ring, 1 x GEKA-plus hose nipple, 1 x GEKA-plus transition female thread G3/8", 1 x Transport box	310	310	320
500	799 199 289	Suitable for branch saddle with spigot outlet d500mm; Scope of delivery: 1 x pressure test cap, 1 x O-Ring, 1 x GEKA-plus hose nipple, 1 x GEKA-plus transition female thread G3/8", 1 x Transport box	465	465	400

Butt/socket fusion machines

Product Range Overview



Characteristics		SG 125	IM 160	IM 315	SG 160
Max jointing diameter (mm)		125	160	315	160
SDR range			41-11	41-11	41-11
Jointing technology		Socket	Butt	Butt	Butt - Socket
Jointing material		PE,PP,PVDF	PE,PP,PB,PVDF	PE,PP,PB,PVDF	PE,PP,PB,PVDF
Working range (°C)		-10/+45	-10/+45	-10/+45	-10/+45
Input voltage (Vac)		230/115	230/115	230/115	230/115
Performance (W)		1500	1700	3500	2200
Segmented fittings fabrication				✓	
Digital force measurement				Optional	
Back stop		✓	✓	✓	✓
Transport box		✓	✓	✓	✓
Weight - without box (Kg)		52	55	169	53 - 59
Working range	d16				
	d20				
	d32				
	d75				
	d90				
	d110			Socket	
	d125				
	d160				
	d225				Butt
	d250				
	d315				



IM 160

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IM 160 Accessories

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IM 315

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IM 315 / IM 315 - D Accessories

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SG 125

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SG 125 Accessories

89



SG 160

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IM 160



IM 160

Butt fusion machine for industrial applications

- Butt fusion machine for PP, PE, PB and PVDF pipes and fittings for industrial applications with pressure piping systems.
- Compact and sturdy design for use in the workshop and on jobsites.
- Designed to provide the highest flexibility to adapt to different sizes or shapes of fittings.
- Dimensional range: d32 - 160 mm, from SDR 41 up to SDR 11 with PE, PP d160 mm.
- **BASE MACHINE**
 - High precision, distortion-free and robust machine base
 - Handwheel for easy moving of machine carriage
 - Exact pressure adjustment via direct spring load transfer
 - Fast-locking base clamping plates, right and left, d 160 mm
 - Weight (including planer and heater): 53 kg
- **PLANER**
 - Load transfer via robust chain drive
 - Optimized cutting geometry for even and chatter-free planing
 - Swivel mounted for ergonomic handling
 - Mechanical stop to provide single sided planing and defined facing depth
- **HEATER**
 - High performance, electronically controlled heating element
 - High accuracy of +/- 4°C over the entire heating surface
 - High quality, non-stick PTFE coating
 - Metal sheet cover to protect the heating plate in idle position
 - The heating element can be used as manual fusion tool
- **ADDITIONAL STANDARD EQUIPMENT**
 - Complete reduction clamping inserts set d 32 - 140 mm
 - V-shaped pipe support with inserts d 32 - 140 mm
 - Timer to clock fusion times
 - Machine specific tool set
 - Wooden transport crate, usable as working bench, also available as special version made of coated plywood with aluminium profiles, optimized design for pallet truck handling and storage drawer for reduction inserts and tools

d-d (mm)	Performance	Description	Code	Weight (kg)
32 - 160	230 V/1700 W	Standard transport crate	790 141 001	123.000
32 - 160	230 V/1700 W	Special transport crate	790 141 003	157.000
32 - 160	115 V/1700 W	Standard transport crate	790 141 008	123.000
32 - 160	115 V/1700 W	Special transport crate	790 141 009	157.000

IM 160 Accessories



Back-stop

- Prevents the components from slipping out of the clamping device during fusion.

Code	Weight (kg)
790 141 061	1.919



Special transport crate

- Optimized design for pallet truck handling, with storage drawer for reduction inserts and tools

Code	Weight (kg)
790 141 065	93.000



Set of replacement blades for planer

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

Code	Weight (kg)
790 113 056	0.059

IM 315



IM 315

Butt fusion machine for industrial applications

- Butt fusion machine for PP, PE, PB and PVDF pipes and fittings for industrial applications with pressure piping systems.
- Extremely sturdy design for use in the workshop and on job sites.
- Designed to provide the highest flexibility to adapt to different sizes or shapes of fittings.
- Angular jointing provided up to 30° (2x15°) for prefabrication of segmented fittings.
- Dimensional range: d90-315 mm, from SDR 41 up to SDR 11 with PE,PP d315 mm
- 115 V on request!
- **BASE MACHINE**
 - High precision, distortion-free and robust machine base
 - Integrated swivel tables for angular jointing up to 30° (2x15°)
 - Handwheel for easy moving of machine carriage
 - Exact pressure adjustment via direct spring load transfer
 - Fusion pressure is maintained with a user friendly fast-locking handle
 - Inner left and right clamping elements, for picking up reduction clamping inserts d 90-315 mm, with fast-locking handle
 - Optional outer, horizontally removable clamping devices available
 - Weight (including planer and heater): 169 kg
- **PLANER**
 - Optimized cutting geometry for even and chatter-free planing
 - Swivel mounted for ergonomic handling
 - Mechanical stop to provide single sided planing and defined facing depth
 - Integrated safety switch to prevent unintentional start-up
 - Self-locking mechanism in working position
- **HEATER**
 - High-performance and precision heater with electronic temperature control (2500W)
 - High accuracy of +/- 4°C over the entire heating surface
 - High quality, non-stick PTFE coating
 - Pull-off mechanism to automatically detach the heating plate from pipe ends
 - Metal sheet cover to protect the heating plate in idle position
 - Integrated thermometer for fast visual check of plate temperature
- **ADDITIONAL STANDARD EQUIPMENT**
 - Reduction clamping inserts set d 90-315 mm
 - Pipe supports for picking up reduction supporting inserts d 90-315 mm
 - Reduction pipe supporting inserts set d 90-315 mm
 - Timer to clock fusion times
 - Machine specific tool set

d-d (mm)	Performance	Description	Code	Weight (kg)
90 - 315	230 V / 3500 W	Without transport crate	790 143 005	229.000
90 - 315	230 V / 3500 W	With standard transport crate	790 143 001	269.000
90 - 315	230 V / 3500 W	With special transport crate	790 143 003	366.000



IM 315 - D

Butt fusion machine for industrial applications

- Butt fusion machine for PP, PE, PB and PVDF pipes and fittings for industrial applications with pressure piping systems.
- Equipped with a load cell and digital display for easy viewing and precise indication of the welding force.
- Extremely sturdy design for use in the workshop and on job sites.
- Designed to provide the highest flexibility to adapt to different sizes or shapes of fittings.
- Angular jointing provided up to 30° (2x15°) for prefabrication of segmented fittings.
- Dimensional range: d90-315 mm, from SDR 41 up to SDR 11 with PE,PP d315 mm
- 115 V on request!
- **BASE MACHINE**
 - High precision, distortion-free and robust machine base
 - Integrated swivel tables for angular jointing up to 30° (2x15°)
 - Handwheel for easy moving of machine carriage
 - Exact pressure adjustment via direct spring load transfer
 - Digital display for force indication
 - Fusion pressure is maintained with a user friendly fast-locking handle
 - Inner left and right clamping elements, for picking up reduction clamping inserts d 90-315 mm, with fast-locking handle
 - Optional outer, horizontally removable clamping devices available
 - Weight (including planer and heater): 169 kg
- **PLANER**
 - Optimized cutting geometry for even and chatter-free planing
 - Swivel mounted for ergonomic handling
 - Mechanical stop to provide single sided planing and defined facing depth
 - Integrated safety switch to prevent unintentional start-up
 - Self-locking mechanism in working position
- **HEATER**
 - High-performance and precision heater with electronic temperature control (2500W)
 - High accuracy of +/- 4°C over the entire heating surface
 - High quality, non-stick PTFE coating
 - Pull-off mechanism to automatically detach the heating plate from pipe ends
 - Metal sheet cover to protect the heating plate in idle position
 - Integrated thermometer for fast visual check of plate temperature
- **ADDITIONAL STANDARD EQUIPMENT**
 - Reduction clamping inserts set d 90-315 mm
 - Pipe supports for picking up reduction supporting inserts d 90-315 mm
 - Reduction pipe supporting inserts set d 90-315 mm
 - Timer to clock fusion times
 - Machine specific tool set

d-d (mm)	Performance	Description	Code	Weight (kg)
90 - 315	230 V / 3500 W	With standard transport crate	790 143 002	269.000
90 - 315	230 V / 3500 W	With special transport crate	790 143 004	366.000

IM 315 / IM 315 - D Accessories



Outer base clamping devices

d (mm)	Type	Code	Weight (kg)
315	L	790 143 030	15.867
315	R	790 143 031	15.867



Reduction clamping inserts set

- Dedicated to a single clamping device: 2 clamping inserts of each dimension.

d-d (mm)	Code	Weight (kg)
90 - 280	790 143 032	17.500



Back stop

- Prevents the components from slipping out of the clamping device during fusion.

Code	Weight (kg)
790 142 061	3.175



Tool box

- Wooden case designed for storage and transportation of machine standard reduction inserts set and tools.

Code	Weight (kg)
790 143 066	27.187



Special transport crate

- Especially designed for easy transportation of the machine with standard equipment and complete accessories set, providing the most comfortable working position for the operator.

Code	Weight (kg)
790 143 065	148.125



Set of replacement blades for planer

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

Code	Weight (kg)
790 112 110	0.129

SG 125



SG 125 Socket fusion machine

- Portable heating element - socket fusion machine for use in the workshop and on job sites.
- For fusion jointing of PP and PE pipes and fittings
- **BASE MACHINE**
- Compact, sturdy design, distortion-free machine bed
- Handwheel with torque locking mechanism for the slide movement
- Fast selection of insertion depth according to the pipe dimension
- **HEATER**
- With electronic temperature control
- High temperature accuracy over the entire heating surface
- **ADDITIONAL STANDARD EQUIPMENT**
- Universal, left and right prismatic clamping devices, complete, for clamping pipe and fittings. Additional set of prismatic clamping devices for outer clamping of pipes available as an option.
- V-shaped pipe support
- Back stop
- Machine specific tool set
- Timer to clock fusion times
- Including transport packaging, without accessories

d-d (mm)	Performance	Code	Weight (kg)
16 - 125	230 V/1500 W	790 310 034	52.000
16 - 125	115 V/1500 W	790 310 036	52.000

SG 125 Accessories



Heating spigots and bushes

- For socket fusion systems in PP, PE
- For specific PVDF socket fusion jointing
- Always delivered in pairs (also usable for SG 110, SG 125, not for SG 160)
- Type B according to DVS 2208-1 (mechanical calibrated pipe ends)

d (mm)	Code	Weight (kg)
16	799 300 155	0.085
20	799 300 156	0.090
25	799 300 157	0.154
32	799 300 158	0.211
40	799 300 159	0.309
50	799 300 160	0.434
63	799 300 161	0.594
75	799 300 162	0.981
90	799 300 163	1.452
110	799 300 164	2.008
125	799 300 165	2.200



Set heating spigots and bushes Type B

- For socket fusion systems in PP, PE
- For specific PVDF socket fusion jointing
- Always delivered in pairs (also usable for SG 110, SG 125, not for SG 160)
- Type B according to DVS 2208-1 (mechanical calibrated pipe ends)

d-d (mm)	Code	Weight (kg)
20 - 125	790 310 023	8.600



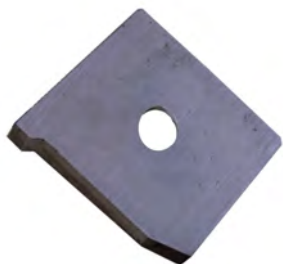
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Temperature (°C)	Code	Weight (kg)
253	799 496 008	0.169
274	799 496 009	0.013



Manual pipe peeling and chamfering tools

d (mm)	Code	Weight (kg)
20	799 300 260	0.087
25	799 300 270	0.080
32	799 300 280	0.099
40	799 300 290	0.240
50	799 300 300	0.244
63	799 300 310	0.507
75	799 300 320	0.680
90	799 300 330	1.006
110	799 300 340	1.355



Spare blades for calibration tools Peeling tool blade

- 3 pieces are required per dimension

d (mm)	Code	Weight (kg)
20	799 300 266	0.013
25	799 300 276	0.015
32	799 300 286	0.005
40	799 300 296	0.018
50	799 300 306	0.019
63	799 300 316	0.024
75	799 300 326	0.028
90	799 300 336	0.041
110	799 300 346	0.043



Spare konus handle for calibration tools

d-d (mm)	Article	Code	Weight (kg)
45 - 50	M6	799 300 295	0.021
63 - 110	M8	799 300 315	0.056

SG 160



SG 160
Combined butt and socket fusion machine
for industrial applications

Mobile, very compact and universal plastic fusion machine for PP, PE and PVDF pipes and fittings for use in the workshop and on job sites.
Butt fusion d 32 - 160 mm, all pressure ratings up to PE/PP SDR 11; PVDF SDR 21.
Socket fusion d 16 - 110 mm

Base machine

- high precision, distortion-free and robust machine base
- handwheel for easy moving of machine carriage
- exact pressure adjustment via direct load transfer
- hardened, hard-chrome plated guide shafts for extreme loads
- handle for safe transport of machine
- All clamping possibilities for base clamping plates, pipe supports, back stop and prismatic clamping devices.

Planer

- planing device made of light cast aluminium
- optimised cutting geometry for even and chatter-free planing
- powerful parallel planer, swivels in and out for single or double-sided facing of pipe ends 620 W
- integrated pick up for easy mounting of calibration tools for machining of pipe ends in socket fusion

Heater

- high-performance and precision heater with electronic temperature control 1500 W
- high accuracy of +/- 4C over the entire heating surface
- heater temperature can be set exactly with digital LCD
- high quality, non-stick, easy to change PTFE fabric

Additional standard equipment on the basic model

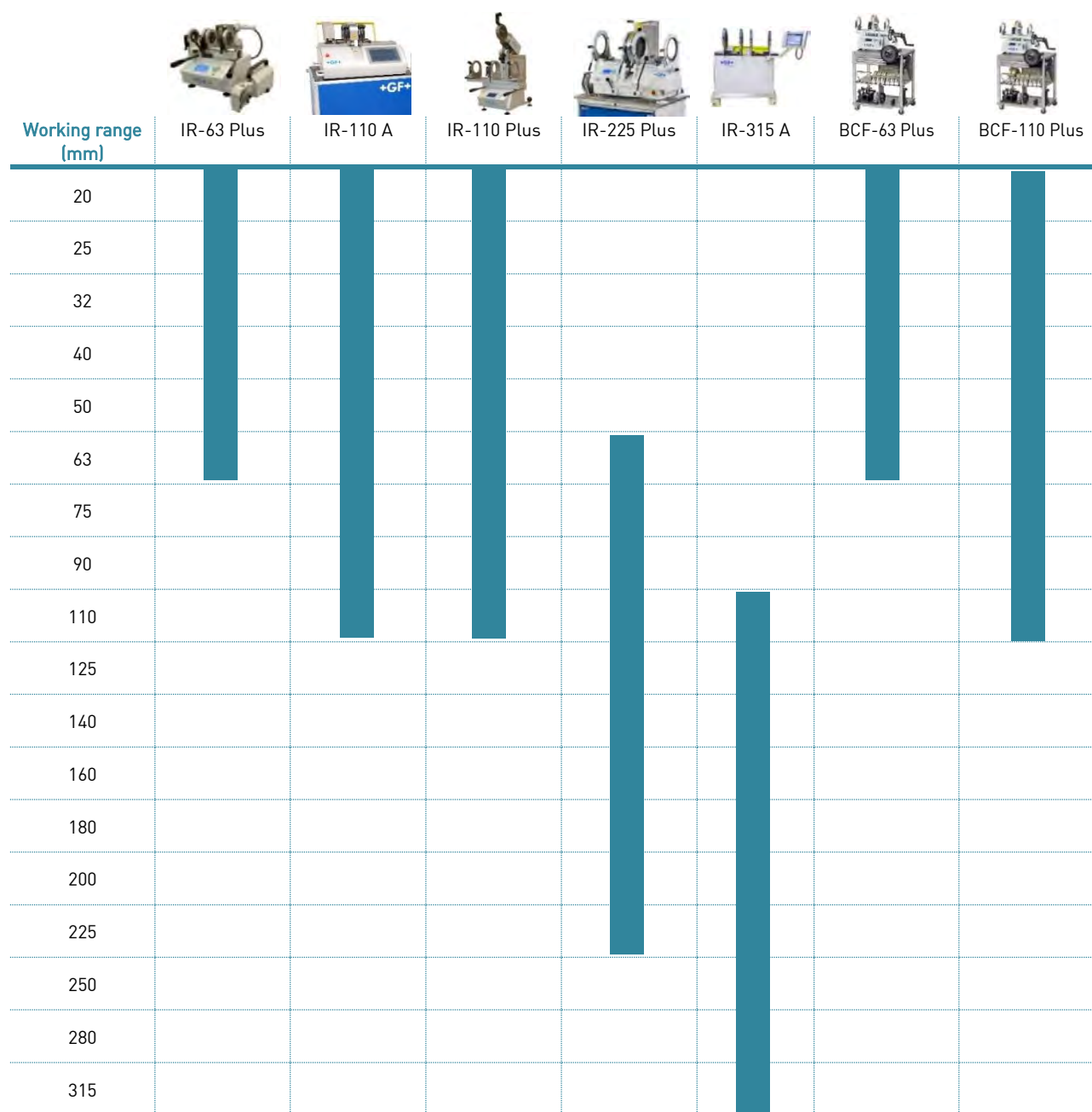
- V-shaped pipe supports d 16 - 160 mm for fittings
- timer to clock fusion times
- tool set specified to machine
- Including transport packaging, without accessories








d-d	Performance	Code	Weight
(mm)			(kg)
16 - 160	230 V/2200 W	790 103 004	223.000

Industry Range

IR Plus and BCF Plus Fusion Machines

Product Range Overview



	IR-110 A Automated Fusion Machine and Accessories	94
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IR-110 A Automated Fusion Machine and Accessories



IR-110 A Automated Fusion Machine

Model:

- Fully equipped automated infrared fusion machine with integrated working table for use under clean room conditions
- Welding of PVDF SYGEF (Standard/Plus), ECTFE SYGEF, PP grey PROGEF (Standard/Plus), PP-n PROGEF Natural, PE100 ecoFIT
- Dimensions d20-110 mm
- User friendly touch-screen interface 12.1" with various languages
- 4 USB interfaces, LAN Ethernet interface, 230 V Output
- Automated facer, clamping slide and heater
- Integrated video camera and temperature sensors
- Movable clamping units
- Clamping inserts d20-90 mm (8 pcs. per dimension)
- End caps PE d20-110 mm (4 pcs. per dimension)
- Shavings collection tray
- Transport box with integrated pallet
- 1-phase AC (50/60 Hz) 230V L/N/PE
- Power supply cable 230V EU Standard
- Torx key for facing blades (KW3)
- Cleaning brush
- Label printer
- Instruction manual

d-d (mm)	Code	Weight (kg)
20 - 110	790 164 001	250.000



Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	790 164 022	0.099	1
25	790 164 023	0.097	1
32	790 164 024	0.093	1
40	790 164 025	0.088	1
50	790 164 026	0.081	1
63	790 132 156	0.085	1
75	790 132 157	0.087	1
90	790 132 158	0.064	1



Set of facing knives

- A set includes two facing knives and six screws. Each facing knife has four blades. The blade may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 110	790 132 061	0.007	2



Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	790 131 030	0.040	4
25	790 131 031	0.010	4
32	790 131 032	0.088	4
40	790 131 033	0.005	4
50	790 131 034	0.005	4
63	790 131 035	0.023	4
75	790 133 036	0.095	4
90	790 133 037	0.028	4
110	790 133 038	0.180	4



Torx key with T-bar handle

- For facing knives

Description	Code	Weight (kg)
T10	790 131 129	0.029

IR-315 A Automated Fusion Machine and Accessories



IR-315 A Automated Fusion Machine and Accessories

Model:

- Fully equipped automated infrared fusion machine and working table designed for industrial applications and clean room conditions
- Welding of PVDF SYGEF (Standard/Plus), PP grey PROGEF (Standard/Plus), PE100 ecoFIT ($d \leq d225$ mm)
- Dimensions d110-315 mm
- Automated facer, clamping slide and heater
- Integrated cooling system
- User friendly touch-screen interface 12.1" with various languages
- 4 USB interfaces, LAN Ethernet interface, 230 V Output
- Integrated video camera and temperature sensors
- Clamping inserts d110-280 mm (8 pcs. per dimension)
- End caps PE d110-315 mm (4 pcs. per dimension)
- Transport cases with integrated Euro-pallet (fusion machine and working table)
- 3-phase AC (50/60 Hz) 400 V L1/L2/L3/N/PE
- Set of facing knives (2 pcs.)
- Torx key (T25) for facing knife
- Hexagon keys (10 mm + 8 mm)
- Fork key (24 mm)
- Cleaning brush
- Label printer (incl. ribbon 24 mm)
- Instruction manual

d-d (mm)	Code	Weight (kg)
110 - 315	790 165 001	1049.000



Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
110	790 165 010	1.500	1
125	790 165 011	1.400	1
140	790 165 012	1.300	1
160	790 165 013	1.300	1
180	790 165 014	1.200	1
200	790 165 015	1.100	1
225	790 165 016	1.000	1
250	790 165 017	0.900	1
280	790 165 018	0.700	1



Set of facing knives

- A set includes two facing knives and ten screws. Each facing knife has four blades. In case of a blunt blade the facing knife may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
110 - 315	790 165 549	0.100	2



Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
110	790 133 038	0.180	4
125	790 133 039	0.150	4
140	790 133 040	0.180	4
160	790 133 041	0.045	4
180	790 133 494	0.400	4
200	790 133 042	0.080	4
225	790 133 043	0.400	4
250	790 134 151	0.400	4
280	790 134 152	0.400	4
315	790 134 153	0.400	4



Torx key with T-bar handle

- For facing knives

Description	Code	Weight (kg)
T25	790 133 577	0.063



Cleaning brush

Code	Weight (kg)
790 133 198	0.055

IR-63 Plus Fusion Machine and Accessories



IR-63 Plus Fusion Machine

Model:

- Fully-equipped manually operated infrared fusion machine with integrated remote welding unit
- Welding of PVDF SYGEF (Standard/Plus), ECTFE SYGEF, PP-H PROGEF (Standard/Plus), PP-n PROGEF Natural, PE100 ecoFIT, PFA
- Dimensions d20-63 mm
- Monochrome display with icons and various languages
- 2 USB interfaces
- Heating and facing element
- Clamping slide with movable clamping units
- Clamping inserts d20-63 mm (8 pcs. per dimension)
- End caps PE d20-63 mm (4 pcs. per dimension)
- Pipe stop
- Clean-room compatible accessory tray with tools
- Transport box
- 1-phase AC (50/60 Hz) 230V L/N/PE
- Power supply cable 230 V
- Extension cable for clamping slide, heater and facing tool for remote welding (5m each)
- Label printer
- Instruction manual

Note:

Clamping inserts PFA (inch) on request

d-d (mm)	Code	Weight (kg)
20 - 63	790 131 005	60.000



Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	790 131 038	0.140	1
25	790 131 039	0.090	1
32	790 131 040	0.052	1
40	790 131 041	0.074	1
50	790 131 042	0.100	1
63	790 131 043	0.035	1



Clamping inserts PFA Sch. 40 rigid pipe

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (inch)	Code	Weight (kg)	Pieces
1/4"	790 131 446	0.057	1
1/2"	790 131 447	0.055	1
3/4"	790 131 448	0.053	1
1"	790 131 449	0.051	1
1 1/2"	790 131 452	0.043	1
2"	790 131 450	0.041	1



Clamping inserts CONTAIN-IT Plus

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- 4x CONTAIN-IT Plus clamping inserts are needed for the two inner clamping devices.

d (mm)	D (mm)	Code	Weight (kg)	Pieces
20	50	790 131 090	0.060	1
25	50	790 131 091	0.060	1
32	63	790 131 092	0.060	1
40	75	790 131 093	0.050	1



Set of facing knives

- A set includes two facing knives and six screws. Each facing knife has four blades. The blade may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	790 131 045	0.016	2



Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	790 131 030	0.040	4
25	790 131 031	0.010	4
32	790 131 032	0.088	4
40	790 131 033	0.005	4
50	790 131 034	0.005	4
63	790 131 035	0.023	4



Pipe stop

- The pipe stop defines the allowance when the pipes are clamped into position.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	790 131 046	0.430	1



Extension cable for clamping slide

- The extension cable enables the fusion e. g. under the ceiling.

d-d (mm)	Code	Weight (kg)	Length (m)
20 - 63	790 131 047	0.700	5



Extension cable for heater

- The extension cable enables the fusion e. g. under the ceiling.

d-d (mm)	Code	Weight (kg)	Length (m)
20 - 63	790 131 049	0.767	5



Extension cable for facing tool

- The extension cable enables the fusion e. g. under the ceiling.

d-d (mm)	Code	Weight (kg)	Length (m)
20 - 63	790 131 048	0.438	5



Heater protection shield

- Protects the heater from plastic chips during the facing process.

Code	Weight (kg)	Pieces
790 131 051	0.205	1

IR-110 Plus Fusion Machine and Accessories



IR-110 Plus Fusion Machine

Model:

- Fully-equipped manually operated infrared fusion machine for use under clean room conditions
- Welding of PVDF SYGEF (Standard/Plus), ECTFE SYGEF, PP-H PROGEF (Standard/Plus), PP-n PROGEF Natural, PE100 ecoFIT, PFA
- Dimensions d20-110 mm
- Monochrome display with icons and various languages
- 2 USB interfaces
- Heating and facing element
- Clamping slide with movable clamping units
- Clamping inserts d20-90 mm (8 pcs. per dimension)
- End caps PE d20-110 mm (4 pcs. per dimension)
- Pipe stop
- Clean-room compatible accessory tray with tools
- Transport box with integrated pallet
- 1-phase AC (50/60 Hz) 230V L/N/PE
- Power supply cable 230V
- Label printer
- Instruction manual

Note:

Clamping inserts PFA (inch) on request

d-d (mm)	Code	Weight (kg)
20 - 110	790 132 001	75.000



Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	790 132 051	0.108	1
25	790 132 052	0.106	1
32	790 132 053	0.104	1
40	790 132 054	0.100	1
50	790 132 055	0.095	1
63	790 132 156	0.085	1
75	790 132 157	0.087	1
90	790 132 158	0.064	1



Clamping inserts PFA Sch. 40 rigid pipe

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (inch)	Code	Weight (kg)	Pieces
¼	790 132 062	0.109	1
½	790 132 063	0.107	1
¾	790 132 064	0.106	1
1	790 132 065	0.103	1
2	790 132 066	0.088	1



Clamping inserts CONTAIN-IT Plus

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- 4x CONTAIN-IT Plus clamping inserts are needed for the two inner clamping devices.

d (mm)	D (mm)	Code	Weight (kg)	Pieces
20	50	790 132 190	0.100	1
25	50	790 132 191	0.130	1
32	63	790 132 192	0.120	1
40	75	790 132 193	0.120	1
50	90	790 132 194	0.110	1



Set of facing knives

- A set includes two facing knives and six screws. Each facing knife has four blades. The blade may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 110	790 132 061	0.007	2



Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	790 131 030	0.040	4
25	790 131 031	0.010	4
32	790 131 032	0.088	4
40	790 131 033	0.005	4
50	790 131 034	0.005	4
63	790 131 035	0.023	4
75	790 133 036	0.095	4
90	790 133 037	0.028	4
110	790 133 038	0.180	4



Pipe stop

- The pipe stop defines the allowance when the pipes are clamped into position.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 110	790 132 059	0.700	1

IR-225 Plus Fusion Machine



IR-225 Plus Fusion Machine

Model:

- Fully-equipped manually operated infrared fusion machine with integrated working table for use under clean room conditions
- Welding of PVDF SYGEF (Standard/Plus), ECTFE SYGEF, PP-H PROGEF (Standard/Plus), PP-n PROGEF Natural, PE100 ecoFIT
- Dimensions d63-225 mm
- Monochrome display with icons and various languages
- 2 USB interfaces
- Heating and facing element
- Clamping slide with movable clamping units
- Cooling fan
- Clamping inserts d63-225 mm (8 pcs. per dimension)
- End caps PE d63-225 mm (4 pcs. per dimension)
- Pipe stop
- Transport box with integrated pallet (stainless steel)
- 1-phase AC (50/60 Hz) 230V L/N/PE or 3-phase AC (50/60 Hz) 400V/230VL1/L2/L3/N/PE
- Connecting cable 400V - 230V
- Additional tools
- Label printer
- Instruction manual

d-d (mm)	Code	Weight (kg)
63 - 225	790 133 009	453.000



Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
63	790 133 026	0.700	1
75	790 133 027	0.400	1
90	790 133 028	0.691	1
110	790 133 029	0.644	1
125	790 133 030	0.500	1
140	790 133 031	0.600	1
160	790 133 032	0.600	1
180	790 133 463	0.560	1
200	790 133 033	0.700	1
225	790 133 034	0.270	1



Clamping inserts CONTAIN-IT Plus

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- 4x CONTAIN-IT Plus clamping inserts are needed for the two inner clamping devices.

d (mm)	D (mm)	Code	Weight (kg)	Pieces
63	110	790 133 090	0.730	1
75	125	790 133 091	0.700	1
90	140	790 133 092	0.600	1
110	160	790 133 093	0.620	1
125	180	790 133 094	0.580	1



Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
63	790 131 035	0.023	4
75	790 133 036	0.095	4
90	790 133 037	0.028	4
110	790 133 038	0.180	4
125	790 133 039	0.150	4
140	790 133 040	0.180	4
160	790 133 041	0.045	4
180	790 133 494	0.400	4
200	790 133 042	0.080	4
225	790 133 043	0.400	4



Set of facing knives

- A set includes two facing knives and eight screws. Each facing knife has four blades. The blade may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
63 - 225	790 133 046	0.125	2



Pipe stop

- The pipe stop defines the allowance when the pipes are clamped into position.

d-d (mm)	Code	Weight (kg)	Pieces
63 - 225	790 133 047	0.150	1



Torx key with T-bar handle

- For facing knives

Description	Code	Weight (kg)
T25	790 133 577	0.063

BCF Plus Fusion Machines

BCF Plus Plastic Fusion Jointing Machine



BCF-63 Plus Fusion Machine

Model:

- Fully-equipped manually operated fusion machine with integrated remote welding unit for bead and crevice free jointing for use under clean room conditions
- Welding of PVDF SYGEF (Standard/Plus), PP-n PROGEF Natural
- Dimensions d20-63 mm
- Monochrome display with icons and various languages
- 2 USB interfaces
- Heating stations d20-63 mm (6 pcs.)
- Facing tool incl. facing inserts d20-63 mm (6 pcs.)
- Facing tool support
- Movable clamping units
- Cooling fan
- Clamping units (2 pcs.) with clamping inserts d20-63 mm (4 pcs. per dimension)
- Supporting tools d20-63 mm (2 pcs.)
- Transport box with integrated pallet
- 1-phase AC (50/60 Hz) 115 / 230 V L/N/PE
- Extension cable for remote welding (8m)
- Bladder Remove Tool (BReT)
- Hose box incl. air hose (16m)
- Hose cutter
- Label printer
- Instruction manual

Note:

Bladders to be ordered separately.

d-d (mm)	Code	Weight (kg)
20 - 63	790 121 002	153.000



BCF-63 Plus Basic Machine

Model:

- Manually operated fusion machine with integrated remote welding unit for bead and crevice free jointing for use under clean room conditions
- Welding of PVDF SYGEF (Standard/Plus), PP-n PROGEF Natural
- Dimensions d20-63 mm
- Monochrome display with icons and various languages
- 2 USB interfaces
- Facing tool incl. facing inserts d20-63 mm (6 pcs.)
- Facing tool support
- Movable clamping units
- Cooling fan
- Clamping units (2 pcs.) with clamping inserts d20-63 mm (4 pcs. per dimension)
- Supporting tools d20-63 mm (2 pcs.)
- Transport box
- 1-phase AC (50/60 Hz) 115 / 230 V L/N/PE
- Extension cable for remote welding (8m)
- Bladder Remove Tool (BReT)
- Hose box incl. air hose (16m)
- Hose cutter
- Instruction manual

d-d (mm)	Code	Weight (kg)
20 - 63	790 121 004	144.000



BCF-110 Plus Fusion Machine

Model:

- Fully-equipped manually operated fusion machine with integrated remote welding unit for bead and crevice free jointing for use under clean room conditions
- Welding of PVDF SYGEF (Standard/Plus), PP-n PROGEF Natural
- Dimensions d20-110 mm
- Monochrome display with icons and various languages
- 2 USB interfaces
- Heating stations d20-110 mm (9 pcs.)
- Facing tool with facing inserts d20-63 mm (6 pcs.)
- Facing tool with facing inserts d75-110 mm (3 pcs.)
- Facing tool support
- Movable clamping units
- Cooling fan
- Clamping units (2 pcs.) with clamping inserts d20-63 mm (4 pcs. per dimension)
- Clamping units (2 pcs.) with clamping inserts d75-110 mm (4 pcs. per dimension)
- Adapter for clamping unit d75-110 mm (2 pcs.)
- Supporting tools d20-63 mm (2 pcs.)
- Supporting tools d75-110 mm (2 pcs.)
- Transport box with integrated pallet
- 1-phase AC (50/60 Hz) 115 / 230 V L/N/PE
- Extension cable for remote welding (8m)
- Bladder Remove Tool (BReT)
- Hose box incl. air hose (16m)
- Hose cutter
- Label printer
- Instruction manual

Note:

Bladders to be ordered separately.

d-d (mm)	Code	Weight (kg)
20 - 110	790 121 001	188.000



BCF Plus Heating stations

d (mm)	Code	Weight (kg)	Pieces
20	790 121 111	1.818	1
25	790 121 112	1.822	1
32	790 121 113	1.910	1
40	790 121 114	2.396	1
50	790 121 115	2.406	1
63	790 121 116	2.197	1
75	790 121 117	3.600	1
90	790 121 118	3.600	1
110	790 121 119	3.520	1



BCF Plus Bladder for SYGEF PVDF

- d20-d63: Only suitable for welding SYGEF PVDF. **Silver bladder head!**
- d75-110: Suitable for welding SYGEF PVDF and PROGEF Natural PP-n. **Silver bladder head!**

d (mm)	Code	Weight (kg)	Pieces
20	790 122 041	0.014	1
25	790 122 042	0.020	1
32	790 122 043	0.037	1
40	790 122 044	0.078	1
50	790 122 045	0.132	1

table continued on the next page

d (mm)	Code	Weight (kg)	Pieces
63	790 122 046	0.138	1
75	790 121 047	0.203	1
90	790 121 048	0.265	1
110	790 121 049	0.552	1



BCF Plus Bladder for PROGEF Natural PP-n

- d20-63: Only suitable for welding PROGEF Natural PP-n. **Blue bladder head!**
- d75-110: Suitable for welding PROGEF Natural PP-n and SYGEF PVDF. **Silver bladder head!**

d (mm)	Code	Weight (kg)	Pieces
20	790 122 091	0.038	1
25	790 122 092	0.021	1
32	790 122 093	0.040	1
40	790 122 094	0.050	1
50	790 122 095	0.105	1
63	790 122 096	0.138	1
75	790 121 047	0.203	1
90	790 121 048	0.265	1
110	790 121 049	0.552	1



BCF Plus facing tool

- Inclusive crank handle, mounting material and clamping inserts. Suitable for SYGEF PVDF as well as for PROGEF Natural PP-n.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	790 121 052	2.339	1
75 - 110	790 121 053	3.000	1



BCF Plus clamping inserts for the facing tool

- These dimension-specific parts are inserted into the facing tool, in order to be able to face the end of the pipes smoothly and parallel.

d (mm)	Code	Weight (kg)	Pieces
20	790 121 061	0.160	1
25	790 121 062	0.146	1
32	790 121 063	0.135	1
40	790 121 064	0.125	1
50	790 121 065	0.100	1
63	790 121 066	0.050	1
75	790 121 067	0.300	1
90	790 121 068	0.200	1
110	790 121 069	0.090	1



BCF Plus facing tool mounting plate

- To fix the facing tool on the workbench.

d-d (mm)	Code	Weight (kg)
20 - 110	790 121 055	1.200

BCF Plus Large Dimension Package d75-110mm

- This package is necessary to complete BCF Plus machines which are only equipped for small dimensions d 20-63 mm.
- **Delivery includes:**
- Facing tool d 75-110 mm with facing inserts d 75-110 mm (3 pcs.)
- Supporting tools d 75-110 mm (2 pcs.)
- Clamping units d75-110 mm (2 pcs.) with clamping inserts d75-110 mm (8 pcs.)
- Adapter for clamping unit d 75-110 mm (2 pcs.)

Note:

Heating stations not included

d-d (mm)	Code	Weight (kg)
75 - 110	790 121 022	8.000



BCF Plus clamping units

- The clamping units are adjustable, so that all types of pipes and fittings can be clamped.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	790 121 034	0.600	1
75 - 110	790 121 035	0.900	1



BCF Plus adapter for clamping unit d 75-110 mm

- The adapter makes it possible, to insert clamping inserts with d 20-63 mm in clamping units with d 75-110 mm to be able to clamp pipes and fittings with d 20-63 mm with these clamping units.

d-d (mm)	Code	Weight (kg)	Pieces
75 - 110	790 121 038	0.250	1



BCF Plus clamping inserts

- The clamping inserts are suitable for the clamping units of the BCF Plus machine. They are used to clamp the piping components.
- **No** clamping inserts are needed for **d 110 mm!**

d (mm)	Code	Weight (kg)	Pieces
20	790 131 038	0.140	1
25	790 131 039	0.090	1
32	790 131 040	0.052	1
40	790 131 041	0.074	1
50	790 131 042	0.100	1
63	790 131 043	0.035	1
75	790 121 036	0.143	1
90	790 121 037	0.095	1



BCF Plus hose box incl. hose

- For the clean and professional storage of the air hose.

d (mm)	Code	Weight (kg)	Length (m)	Pieces
4	790 121 151	1.114	16	1



BCF Plus hose

- Connection hose for the BCF Plus bladder.

d (mm)	Code	Weight (kg)	Length (m)
4	790 122 087	0.121	16



BCF Plus supporting tool

- Helpful to fix 45°- angle components.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	790 121 072	0.542	1
75 - 110	790 121 073	0.900	1



BCF Plus bladder/ hose remove tool (BReT)

- Helpful to remove bladders easily.

Code	Weight (kg)	Pieces
790 121 075	0.079	1



BCF Plus extension cable

- The extension cable enable the fusion e. g. under the ceiling.

Code	Weight (kg)	Length (mm)
790 122 989	1.000	8

Accessories for the BCF Plus plastic fusion jointing machine



Hose cutter

d-d (mm)	Code	Weight (kg)	Pieces
4 - 6	790 122 106	0.031	1



Socket for compressed air hose

d (mm)	Code	Weight (kg)	Pieces
4	790 122 104	0.002	1

Accessories for IR Plus, IR-A and BFC Plus fusion machines



Label Printer

- Label 36 mm included, order Label 24 mm separately

description	Code	Weight (kg)
Label Printer Brother PT-P900W	790 131 066	2.740
Ribbon 24 mm Brother TZe-251	790 131 065	0.100



Thermal Printer Ribbon for TLP-2742 / TLP-2844

- The thermal transfer ribbon is specially suited for printing polyester labels.

Code	Weight (kg)	Pieces
790 131 029	0.076	1



Thermal Transfer Labels

- Label size: 38 x 19 mm
- Specification information available on request from George Fischer.
- The labels are made of white polyester. The printing, as well as the labels themselves, are resistant against:
 - UV resistant
 - Temperatures up to 140 °C (284 °F)
 - Up to 95% humidity
 - Cleaning agents (Isopropylalcohol etc.)
- Two identical labels are printed for each weld. Each roll contains 2500 labels.

Code	Weight (kg)	Pieces
790 131 028	0.400	1



Power supply lead

Performance	Code	Weight (kg)
230V	790 122 246	0.150



Cleaning tissue KO-TON-R

Minimum order quantity 100 pieces

- This cleaning tissue is suitable for the cleaning of the welding zone of piping components, because it is lint free and clean room checked.

Code	Weight (kg)
790 122 085	0.005



Tangit KS Cleaner

- Special cleaner for plastic fusion connections in the material of PP, PE, PVDF and PB
- Suitable for Tangit Rapid. Must not be used for solvent cementing
- DVGW approved
- DW 5290 BR 0464

Size	Code	Weight (kg)
1 liter	799 298 023	0.872



Cleaning brush

Code	Weight (kg)
790 133 198	0.055

Butt/socket fusion machines

Product Range Overview



Characteristics	MC 110	MD 160	JIG 125	PSO 701
Max jointing diameter (mm)	110	160	125	160
SDR Range	41-11	41-11		41-17.6
Jointing technology	Butt	Butt	Socket	Butt
Jointing material	PE, PP	PE, PP	PE, PP	PE
Working range (°C)	-10/+45	-10/+45	-10/+45	-10/+45
Input voltage (Vac)	230/115	230/115	230/115	230
Performance (W)	1360	1800	1500	1360
Heating element useable as manual tool	✓	✓	✓	✓
Heating temperature control	Therm/Electronic	Electronic	Electronic	Therm.
Transport box useable as working bench				✓
Weight - Base machine (Kg)	6	14	10	47
Working range				
d20				
d40				
d50				
d63				
d110				
d125				
d160				



MC 110

114



MC 110 Accessories

115



MD 160/JIG 125

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PSO 701

118

MC 110



MC 110 Portable butt fusion machine

- Portable butt fusion machine for use in the workshop and on job sites. For fusion jointing of PP and PE pipes and fittings as well as prefabrication of segments in the size range d 20 - 110 mm and up to SDR 11.
- Machine MC 110 complete includes: machine mounting, base machine, 2 base clamping plates (wide), base clamping plate (left narrow) , table clamp and transport box. Depending on the configuration chosen, the planer can be electrically or manually operated, and the heater can be electronic or thermostatic controlled.
- Including transport packaging, without accessories

Type	d-d (mm)	Performance	Code	Weight (kg)
MC 110 with electric planer, electronic heater	20 - 110	230V/1360W	790 109 347	31.000
MC 110 with electric planer, thermostatic heater	20 - 110	230V/1360W	790 109 303	31.000
MC 110 with electric planer, thermostatic heater	20 - 110	115V/1360W	790 109 321	31.000
MC 110 with manual planer, thermostatic heater	20 - 110	230V/800W	790 109 301	28.000

MC 110 Accessories



Base clamping plate, right narrow

- 110 mm for fitting/pipe joints
- For mounting the narrow reduction clamping inserts
- Freely adjustable (max. 15°)

d (mm)	Code	Weight (kg)
110	790 109 310	0.945



Set reduction clamping inserts

- The set for the wide clamps contains 4 half shells of each dimension
- The set for the narrow clamp contains 2 half shells of each dimension

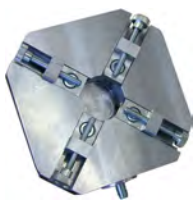
d-d (mm)	wide Code	Weight (kg)	narrow Code	Weight (kg)
20 - 90	790 300 019	4.532	790 300 029	3.478



Reduction clamping inserts

- 20 - 90 mm
- Each code number defines 1 half shell. Per wide base clamping plate 2 reduction half -shells are needed.

d (mm)	wide Code	Weight (kg)	narrow Code	Weight (kg)
20	790 109 326	0.150	790 109 334	0.263
25	790 109 327	0.139	790 109 335	0.135
32	790 109 328	0.133	790 109 336	0.136
40	790 109 329	0.130	790 109 337	0.258
50	790 109 330	0.113	790 109 338	0.239
56	790 109 342	0.137	790 109 343	0.115
63	790 109 331	0.120	790 109 339	0.108
75	790 109 332	0.110	790 109 340	0.193
90	790 109 333	0.100	790 109 341	0.148



Flange adapter clamping unit

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

d-d (mm)	Code	Weight (kg)
25 - 110	790 109 316	1.630



Set of replacement blades for planer

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

Code	Weight (kg)
790 118 043	0.045

MD 160/JIG 125



COMBI MD 160/JIG 125 Compact machine for fusion of PE and PP pipes and fittings

- One single base machine with 2 different specific clamping units and the complete components set for quick set-up for butt fusion (**MD 160** configuration) and socket fusion (**JIG 125** configuration) jointing
- Provided with special transport box for easy transportation of all machine components
- Including machine specific tool set

Performance	Code	Weight (kg)
230 V/2500 W	790 109 004	97.000
115 V/2500 W	790 109 005	97.000



MD 160 Compact butt fusion machine

- Portable butt fusion machine for use in the workshop and on job site
- For jointing PE, PP pipes and fittings in the dimensional range d 50 – 160 mm, up to wall thickness of SDR 11
- Light and sturdy base machine (13.8 kg weight with clamping units) suitable for direct use on the installed pipeline
- Suitable for prefabrication of segmented elbows and bends, with maximum jointing angle of 30° (table support included)
- Each clamping unit consists of a narrow clamp, suitable also for short-end fittings, and the pipe support
- The complete reductions inserts set d 50 – 140 mm for clamps and pipe supports is included
- Additional clamps, to be placed at the left and right outer sides, are available as accessories
- Handwheel for easy moving of machine carriage
- Exact pressure adjustment via direct spring load transfer
- Powerful parallel planer for single or double-sided facing of pipe ends
- High performance, electronically controlled heating element
- Including transport packaging and machine specific tool set

d-d (mm)	Performance	Code	Weight (kg)
50 - 160	230 V/1800 W	790 109 006	57.000
50 - 160	115 V/1800 W	790 109 007	57.000



JIG 125 Compact socket fusion machine

- For jointing PE, PP pipes and fittings in the dimensional range d 63 – 125 mm
- Light and sturdy base machine (10.3 kg weight with clamping units) specifically designed for direct use on the installed pipeline
- Prismatic clamping units, specifically designed for pipes (double clamp) and fittings (single clamp)
- Back-stop included to enhance clamping action onto the fittings
- Handwheel for easy moving of machine carriage
- High performance, electronically controlled heating element
- Complete set of heating spigots and bushes d 63 – 125 mm (Type A according to DVS 2208-1)
- Including transport packaging and machine specific tool set

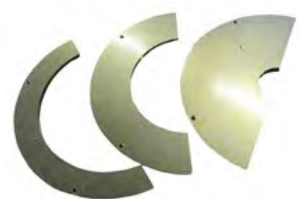
d-d (mm)	Performance	Code	Weight (kg)
63 - 125	230 V/1500 W	790 310 006	28.000
63 - 125	115 V/1500 W	790 310 007	28.000

MD 160 Accessories



Additional outer clamps

d (mm)	Type	Code	Weight (kg)
160	Left	790 109 058	2.600
160	Right	790 109 057	2.600



Reduction inserts set

- Dedicated to a single clamp: 2 clamping inserts of each dimension

d-d (mm)	Code	Weight (kg)
50 - 140	790 109 064	5.400



Table clamp

- Specifically designed for placing the heater on a working bench

Code	Weight (kg)
790 109 315	0.660

PSO 701



PSO 701

Butt fusion machine for sanitary applications

- Compact and mobile butt fusion machine for PE pipes for the use in the workshop and on the building site. Perfect for sanitary installations and wastepipes. The wooden box is usable as working bench as well as for transportation
- Pressure adjustment via direct load transfer (max. force 100 kp). PE max. d 160 mm SDR 17,6.
- Planer and heating element could be swivelled in and out
- High performance heating element thermostatic controlled (PTFE coated)
- The heating element can be used as manual fusion tool
- Fast-locking base clamping plates, right and left, d 160 mm
- Complete reduction clamping inserts set d 40 - 140 mm
- V-shaped pipe support with inserts d 40 - 140 mm
- Machine specific tool set

d-d (mm)	Performance	Code	Weight (kg)
40 - 160	230 V/1360 W	790 301 000	107.000

PSO 701 Accessories



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







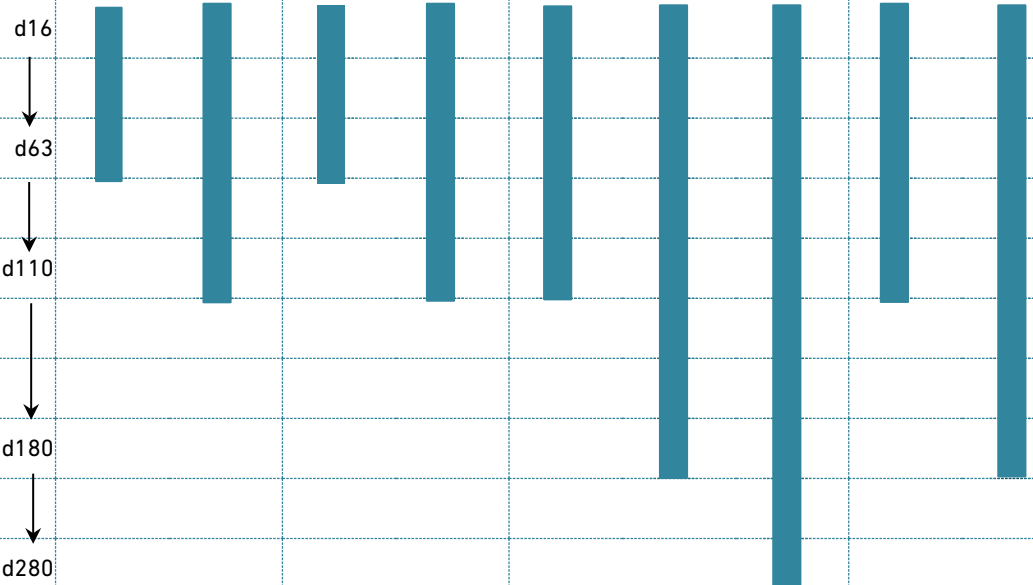
Cutter for PE pipes

- This cutter is suitable for PE pipes and can be used on pipes of up to d 225 mm with a wall thickness of up to 21 mm.

d (mm)	Code	Weight (kg)	Description
39	799 198 012	0.215	accessories Basic Tool Box

Manual fusion tools

Product Range Overview

Characteristics	 MSE63 MSE110		 MSE63 MSE110 Toolset Toolset		 SSE120 SSE200 SSE300			 SSE200 SSE300 Toolset Toolset	
Max jointing diameter (mm)	63	110	1400	1400	1200	1200	800	1400	1400
Jointing technology	Socket	Socket	Socket	Socket	Butt	Butt	Butt	Butt	Butt
Jointing material	PE, PP	PE, PP	PE,PP	PE,PP	PE,PP	PE,PP	PE,PP	PE,PP	PE,PP
Working range (°C)	-10/+45	-10/+45	-10/+45	-10/+45	-10/+45	-10/+45	-10/+45	-10/+45	-10/+45
Input voltage (Vac)	230/115	230/115	230/115	230/115	230	230	230	230	230
Heating temperature control	Therm. or Electronic	Therm. or Electronic	Therm. or Electronic	Therm. or Electronic	Therm. or Electronic	Therm. or Electronic	Therm. or Electronic	Therm. or Electronic	Therm. or Electronic
Performance (W)	800	1500	800	1500	400	800	1500	800	1500
Bushes and spigots included			✓	✓					
Table clamp			✓	✓				✓	✓
Toolbox			✓	✓				✓	✓
Allen screws and key			✓	✓					
Weight (Kg)	1.8	3.2	8.7	17.7	2.4	3.0	4.8	7.7	12.5
Power supply cable length	2m	2m	2m	2m	2m	2m	2m	2m	2m
Working range									

Socket fusion tools



MSE 63/MSE 110 Socket fusion toolset

- For fusion jointing of PP and PE pipes and fittings
- All devices equipped with on/off switch, mains and temperature control lamp
- Choice of electronic or thermostatic temperature control
- Support for heating bushes and spigots of d 16 to 63 mm (110 mm)
- Pick up for floor stand or table clamp
- Monitoring and setting of heating element temperature
- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Heating bushes and spigots
- Available as a complete set in a practical metal case
- Table clamp
- Floor stand for MSE 63
- Allen screws and key
- T = thermostatic temperature control / E = electronic temperature control

d-d (mm)	Type	Performance	Code	Weight (kg)
16 - 63	MSE 63 T	230 V/800 W	790 105 085	8.700
16 - 63	MSE 63 E	230 V/800 W	790 105 086	8.700
16 - 63	MSE 63 T	115 V/800 W	790 105 098	8.600
16 - 63	MSE 63 E	115 V/800 W	790 105 099	9.979
16 - 110	MSE 110 T	230 V/1500 W	790 105 087	17.700
16 - 110	MSE 110 E	230 V/1500 W	790 105 088	16.523
16 - 110	MSE 110 T	115 V/1500 W	790 105 128	17.700
16 - 110	MSE 110 E	115 V/1500 W	790 105 129	18.000

MSE 63/MSE 110 Socket fusion tool



- For fusion jointing of PP and PE pipes and fittings
- Choice of electronic or thermostatic temperature control
- Support for heating bushes and spigots of d 16 to 63 mm (110 mm)
- Pick up for floor stand or table clamp
- Monitoring and setting of heating element temperature
- High temperature accuracy over the entire heating surface
- T = thermostatic temperature control / E = electronic temperature control

d-d (mm)	Type	Performance	Code	Weight (kg)
16 - 63	MSE 63 T	230 V/800 W	790 105 081	1.700
16 - 63	MSE 63 E	230 V/800 W	790 105 082	1.800
16 - 63	MSE 63 T	115 V/800 W	790 105 096	2.075
16 - 63	MSE 63 E	115 V/800 W	790 105 097	2.145
16 - 110	MSE 110 T	230 V/1500 W	790 105 083	3.200
16 - 110	MSE 110 E	230 V/1500 W	790 105 084	3.200
16 - 110	MSE 110 T	115 V/1500 W	790 105 126	3.200
16 - 110	MSE 110 E	115 V/1500 W	790 105 127	3.200

Butt fusion tools



SSE 200/SSE 300 Butt fusion toolset

- Heating element diameter 200mm or 300mm
- High-quality, non-stick PTFE-coating with long service life
- High temperature accuracy over the entire heating surface
- All devices equipped with on/off switch, mains and temperature control lamp
- Monitoring and setting of heating element temperature
- Available as a complete set in a practical metal case
- Table clamp
- Pick up for floor stand or table clamp
- Choice of electronic or thermostatic temperature control
- T = thermostatic temperature control / E = electronic temperature control

Type	d-d (mm)	Performance	Code	Weight (kg)
SSE 200 T	16 - 180	230 V/800 W	790 105 054	7.800
SSE 200 E	16 - 180	230 V/800 W	790 105 061	7.700
SSE 300 T	16 - 280	230 V/1500 W	790 105 055	12.200
SSE 300 E	16 - 280	230 V/1500 W	790 105 062	12.500



SSE Butt fusion tools

- All devices equipped with on/off switch, mains and temperature control lamp
- Choice of electronic or thermostatic temperature control
- Heating element diameter 120 mm, 200 mm and 300 mm
- The SSE 120 heater plate is bent 45°
- Pick up for floor stand or table clamp
- High-quality, non-stick PTFE-coating with long service life
- Monitoring and setting of heating element temperature
- High temperature accuracy over the entire heating surface
- T = thermostatic temperature control / E = electronic temperature control

Type	d (mm)	Performance	Code	Weight (kg)
SSE 120 T	110	230 V/400 W	790 105 051	3.300
SSE 120 E	110	230 V/400 W	790 105 058	2.400
SSE 200 T	180	230 V/800 W	790 105 052	3.000
SSE 200 E	180	230 V/800 W	790 105 059	3.000
SSE 300 T	280	230 V/1500 W	790 105 053	4.780
SSE 300 E	280	230 V/1500 W	790 105 060	5.640

Accessories/Wearing parts for manual fusion tools



Table clamp

- Specifically designed for placing the heater on a working bench

Code	Weight (kg)
790 109 315	0.660



Floor stand for manual fusion tools SSE/MSE

Code	Weight (kg)
790 105 063	0.380



Heating spigots and bushes

- For socket fusion systems in PP, PE
- For specific PVDF socket fusion jointing
- Type B according to DVS 2208-1 (mechanical calibrated pipe ends)
- Always delivered in pairs (also usable for SG 110, SG 125, not for SG 160)

d (mm)	Code	Weight (kg)
16	799 300 155	0.085
20	799 300 156	0.090
25	799 300 157	0.154
32	799 300 158	0.211
40	799 300 159	0.309
50	799 300 160	0.434
63	799 300 161	0.594
75	799 300 162	0.981
90	799 300 163	1.452
110	799 300 164	2.008

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700 900 004	37	790 105 129	120	790 109 611	76	790 115 019	22
700 900 005	37	790 108 009	45	790 109 612	76	790 115 020	22
700 900 007	37	790 108 017	45	790 109 613	76	790 115 021	22
700 900 009	37	790 108 018	45	790 109 614	76	790 115 022	22
700 900 010	37	790 108 020	44	790 109 615	76	790 115 023	22
700 900 104	37	790 108 026	46	790 109 616	76	790 115 024	23
700 900 105	37	790 108 031	45	790 109 618	76	790 115 028	22
700 900 107	37	790 108 032	46	790 109 850	74	790 115 029	22
700 900 108	37	790 108 033	46	790 109 851	74	790 115 044	23
700 900 109	37	790 108 043	46	790 109 861	74	790 115 156	23
709 700 010	79	790 108 101	44	790 112 073	23	790 116 008	27
709 700 021	79	790 109 001	74	790 112 088	22	790 116 009	27
709 700 023	79	790 109 002	74	790 112 089	22	790 116 010	27
709 700 024	80	790 109 003	74	790 112 090	22, 27	790 116 011	27
709 700 100	79	790 109 004	116	790 112 091	22, 27	790 116 012	27, 27, 45
709 701 260	80	790 109 005	116	790 112 092	22, 27	790 116 013	27, 27, 45
709 701 261	80	790 109 006	116	790 112 093	22, 27	790 116 014	27, 27, 45
709 702 045	80	790 109 007	116	790 112 094	22, 27	790 116 015	27, 27, 45
709 702 046	80	790 109 011	74	790 112 095	22, 27	790 116 016	27
709 702 047	80	790 109 012	74	790 112 096	22, 27	790 116 017	27
709 702 048	80	790 109 013	74	790 112 097	22, 27	790 116 018	27
709 702 050	80	790 109 057	117	790 112 098	22, 42	790 116 019	27
709 702 051	80	790 109 058	117	790 112 099	22, 42	790 116 020	27, 27, 45
709 706 414	81	790 109 064	117	790 112 100	22, 27, 42	790 116 021	27, 27, 45
709 800 006	80	790 109 109	66	790 112 101	22, 27, 42	790 116 022	27, 27, 45
709 810 410	80	790 109 110	66	790 112 102	22, 27, 42	790 116 023	27, 27, 45
709 810 412	80	790 109 241	65	790 112 103	22, 27, 42	790 116 045	28
709 810 414	80	790 109 242	65	790 112 104	22, 27, 42	790 116 156	28
709 810 415	80	790 109 243	65	790 112 105	22, 27, 42	790 116 157	28
709 810 416	80	790 109 244	65	790 112 106	22, 27, 42	790 117 012	27, 31, 45
709 810 420	80	790 109 301	114	790 112 107	22, 27, 42	790 117 013	27, 31, 45
709 810 422	80	790 109 303	114	790 112 110	23, 29, 88	790 117 021	28
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790 105 058	121	790 109 331	115	790 114 016	22	790 118 014	40
790 105 059	121	790 109 332	115	790 114 017	22	790 118 025	42
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General Condition of Supply of Georg Fischer Omicron Srl, Padova

1 General

- 1.1 These General Conditions shall apply to all Products supplied by Georg Fischer Omicron Srl («Georg Fischer») to the Purchaser. They shall also apply to all future business even when no express reference is made to them.
- 1.2 Any deviating or supplementary conditions especially Purchaser's general conditions of purchase and verbal agreements shall only be applicable if accepted in writing by Georg Fischer.
- 1.3 The written form shall be deemed to be fulfilled by all forms of transmission, evidenced in the form of text, such as telefax, e-mail, etc.

2 Tenders

- Tenders shall only be binding if they contain a specifically stated period for acceptance.

3 Scope of Delivery

- 3.1 Georg Fischer's product range is subject to change.
- 3.2 The confirmation of order shall govern the scope and execution of the contract.

4 Data and Documents

- 4.1 Technical documents such as drawings, descriptions, illustrations and data on dimensions, performance and weight as well as the reference to standards are for information purposes only. They are not warranted characteristics and are subject to change.
- 4.2 All technical documents shall remain the exclusive property of Georg Fischer and may only be used for the agreed purposes or as Georg Fischer may consent.

5 Confidentiality, Protection of Personal Data

- 5.1 Each party shall keep in strict confidence all commercial or technical information relating to the business of the other party, of which it has gained knowledge in the course of its dealing with the other party. Such information shall neither be disclosed to third parties nor used for other purposes than those for which the information has been supplied.
- 5.2 In the context of the contractual relation with the Purchaser personal data may be processed. The Purchaser agrees to the disclosure of said data to third parties such as foreign subcontractors and suppliers etc.

6 Local Laws and Regulations, Export Controls

- 6.1 The Purchaser shall bring to the attention of Georg Fischer all local laws and regulations at the place of destination which bear connection with the execution of the contract and the adherence to relevant safety regulations and approval procedures.
- 6.2 In case of re-exports, Purchaser shall be responsible for compliance with pertinent export control regulations.

7 Price

- 7.1 Unless agreed otherwise, the prices shall be deemed quoted net ex works (according to Incoterms 2010 of the ICC, or latest version) including standard packing. All supplementary costs such as the cost of carriage, insurance, export-, transit- and import- licences etc. shall be borne by the Purchaser. The Purchaser shall also bear the costs of all taxes, fees, duties etc. connected with the contract.
- 7.2 If the costs of packing, carriage, insurance, fees and other supplementary costs are included in the tender price or contract price or are referred to specifically in the tender or confirmation of order, Georg Fischer reserve the right to revise their prices accordingly should any change occur in the relevant tariffs.

8 Terms of Payment

- 8.1 The Purchaser shall make payment in the manner agreed by the parties without any deductions such as discounts, costs, taxes or dues.
- 8.2 The Purchaser may only withhold or off-set payments due against counter claims which are either expressly acknowledged by Georg Fischer or finally awarded to the Purchaser. In particular, payment shall still be made when unessential items are still outstanding provided that the Products already delivered are not rendered unusable as a result.

9 Retention of Title

- 9.1 The Products shall remain the property of Georg Fischer until the Purchaser shall have settled all claims, present and future, which Georg Fischer may have against him.
- 9.2 Should the Purchaser resell Products to which title is reserved, in the ordinary course of business, he shall hereby be deemed to have tacitly assigned to Georg Fischer the proceeds deriving from their sale together with all collateral rights, securities and reservations of title until all claims held by Georg Fischer shall have been settled. Until revoked by Georg Fischer, this assignment shall not preclude Purchaser's right to collect the assigned receivables.
- 9.3 To the extent the value of the Products to which title is reserved together with collateral securities exceeds Georg Fischer's claims against the Purchaser by more than 20%, Georg Fischer shall re-assign the above proceeds to Purchaser at his request.

10 Delivery

- 10.1 The term of delivery shall commence as soon as the contract has been entered into, all official formalities such as import and payment permits have been obtained and all essential technical issues have been settled. The term of delivery shall be deemed duly observed when, upon its expiry, the Products are ready for despatch.
- 10.2 Delivery is subject to the following conditions, i.e. the term of delivery shall be reasonably extended:
- a) if Georg Fischer are not supplied in time with the information necessary for the execution of the contract or if subsequent changes causing delays are made by the Purchaser.
- b) if Georg Fischer are prevented from performing the contract by force majeure. Force majeure shall equally be deemed to be any unforeseeable event beyond Georg Fischer's control which renders Georg Fischer's performance commercially impractical or impossible, such as delayed or defective supplies from sub contractors labour disputes, governmental orders or regulations, shortages in materials or energy, serious disturbances in Georg Fischer's works, such as the total or partial destruction of plant and equipment or the breakdown of essential facilities, serious disruptions in transport facilities, e.g. impassable roads. Should the effect of force majeure exceed a period of six (6) months, either party may cancel the contract forthwith. Georg Fischer shall not be liable for any damage or loss of any kind whatsoever resulting from the reform, any suspension or cancellation being without prejudice to Georg Fischer's right to recover all sums due in respect of consignments delivered and costs incurred to date.
- c) if the Purchaser is in delay with the fulfilment of his obligations under the contract, in particular, if he does not adhere to the agreed conditions of payment or if he has failed to timely provide the agreed securities.
- 10.3 If for reasons attributable to Georg Fischer the agreed term of delivery or a reasonable extension thereof is exceeded, Georg Fischer shall not be deemed in default until the Purchaser has granted to Georg Fischer in writing a reasonable extension thereof of not less than one (1) month which equally is not met. The Purchaser shall then be entitled to the remedies provided at law, it being however understood that, subject to limitations of Art. 16, damage claims shall be limited to max. 10% of the price of the delayed delivery.
- 10.4 Part shipments shall be allowed and Georg Fischer shall be entitled to invoice for such partial deliveries.
- 10.5 If the Purchaser fails to take delivery within a reasonable time of Products notified as ready for despatch, Georg Fischer shall be entitled to store the Products at the Purchaser's expense and risk and to invoice them as delivered. If Purchaser fails to effect payment, Georg Fischer shall be entitled to dispose of the Products.

- 10.6 Should Purchaser cancel an order without justification and should Georg Fischer not insist on the performance of the contract, Georg Fischer shall be entitled to a penalty amounting to 10% of the contract price, Georg Fischer's right to prove and claim higher damages remaining reserved.

Purchaser shall be entitled to prove, that Georg Fischer has suffered no or a considerably lower damage than the penalty forfeited.

11 Packing

- If the Products are provided with additional packing over and above the standard packing, such packing shall be charged additionally.

12 Passing of Risk

- 12.1 The risk in the Products shall pass to the Purchaser as soon as they have left Georg Fischer's works (EX WORKS, Incoterms 2010 ICC, or latest version), even if delivery is made carriage-paid, under similar clauses or including installation or when carriage is organized and managed by Georg Fischer.
- 12.2 If delivery is delayed for reasons beyond Georg Fischer's control, the risk shall pass to the Purchaser when he is notified that the Products are ready for despatch.

13 Carriage and Insurance

- 13.1 Unless agreed otherwise, the Purchaser shall bear the cost of carriage.
- 13.2 The Purchaser shall be responsible for transport insurance against damage of whatever kind. Even when such insurance is arranged by Georg Fischer it shall be deemed taken out by the order of and for the account of the Purchaser and at his risk.
- 13.3 Special requests regarding carriage and insurance shall be communicated to Georg Fischer in due time. Otherwise carriage shall be arranged by Georg Fischer at their discretion, but without responsibility, by the quickest and cheapest method possible. In case of carriage-paid delivery transport arrangements shall be made by Georg Fischer. If the Purchaser specifies particular requirements, any extra costs involved shall be borne by him.
- 13.4 In the event of damage or loss of the Products during carriage the Purchaser shall mark the delivery documents accordingly and immediately have the damage ascertained by the carrier. Not readily ascertainable damages sustained during carriage shall be notified to the carrier within six (6) days after receipt of the Products.

14 Inspection, Notification of Defects and Damages

- 14.1 The Products will be subject to normal inspection by Georg Fischer during manufacture. Additional tests required by the Purchaser shall be agreed upon in writing and shall be charged to the Purchaser.
- 14.2 It shall be a condition of Georg Fischer's obligation under the warranties stated hereinafter that Georg Fischer be notified in writing by the Purchaser of any purported defect immediately upon discovery. Notice concerning weight, numbers or apparent defects is to be given latest within 30 days from receipt of the Products, notice of other defects immediately latest within seven (7) working days after discovery, in any event within the agreed warranty period.
- 14.3 Purchaser shall not dispose of allegedly defective Products until all warranty and/or damage claims are finally settled. At its request, defective Products are to be placed at Georg Fischer's disposal.
- 14.4 At its request, Georg Fischer shall be given the opportunity to inspect the defect and/or damage, prior to commencement of remedial work, either itself or by third party experts.

15 Warranty

- 15.1 At the written request of the Purchaser, Georg Fischer undertakes to repair or replace at its discretion, as quickly as possible and free of charge, all Products supplied which demonstrably suffer from faulty design, materials or workmanship, from faulty operating or installation instructions or which become defective or unusable due to faulty advice. In order to protect employees from toxic or radioactive substances which may have been transported through defective parts returned to Georg Fischer's sales organisation, said parts must be accompanied by a Material Safety Disclosure Form. The form may be obtained from Georg Fischer's local sales company or via www.piping.georgfischer.com. Replaced parts shall become property of Georg Fischer, unless Georg Fischer waives such claim.
- 15.2 For Products which are manufactured to specifications, drawings or patterns supplied by the Purchaser, Georg Fischer's warranty shall be restricted to proper materials and workmanship.
- 15.3 The Purchaser shall be entitled to rescind the contract or to demand a reduction of the contract price if
- the repair or replacement of the defective Product is impossible
 - the defective Product is not repaired or replaced within a reasonable period
 - Georg Fischer refuses the repair or replacement or if for reasons attributable to Georg Fischer the repair or replacement is delayed.
- 15.4 For Products or essential components manufactured by a third party and supplied by Georg Fischer under this contract, Georg Fischer's warranty is limited to the warranty provided by said third party.
- 15.5 This warranty shall not apply to damage resulting from normal wear and tear, improper storage and maintenance, failure to observe the operating instructions, overstressing or overloading, unsuitable operating media, unsuitable construction work or unsuitable building ground, improper repairs or alterations by the Purchaser or third parties, the use of other than original spare parts and other reasons beyond Georg Fischer's control.
- 15.6 No action or claim may be brought by the Purchaser on account of any alleged breach of warranty or any other obligation of Georg Fischer after the expiration of twelve (12) months from receipt of the Products by the end user or at the latest within eighteen (18) months of the Products being despatched by Georg Fischer.

16 Limitation of Liability

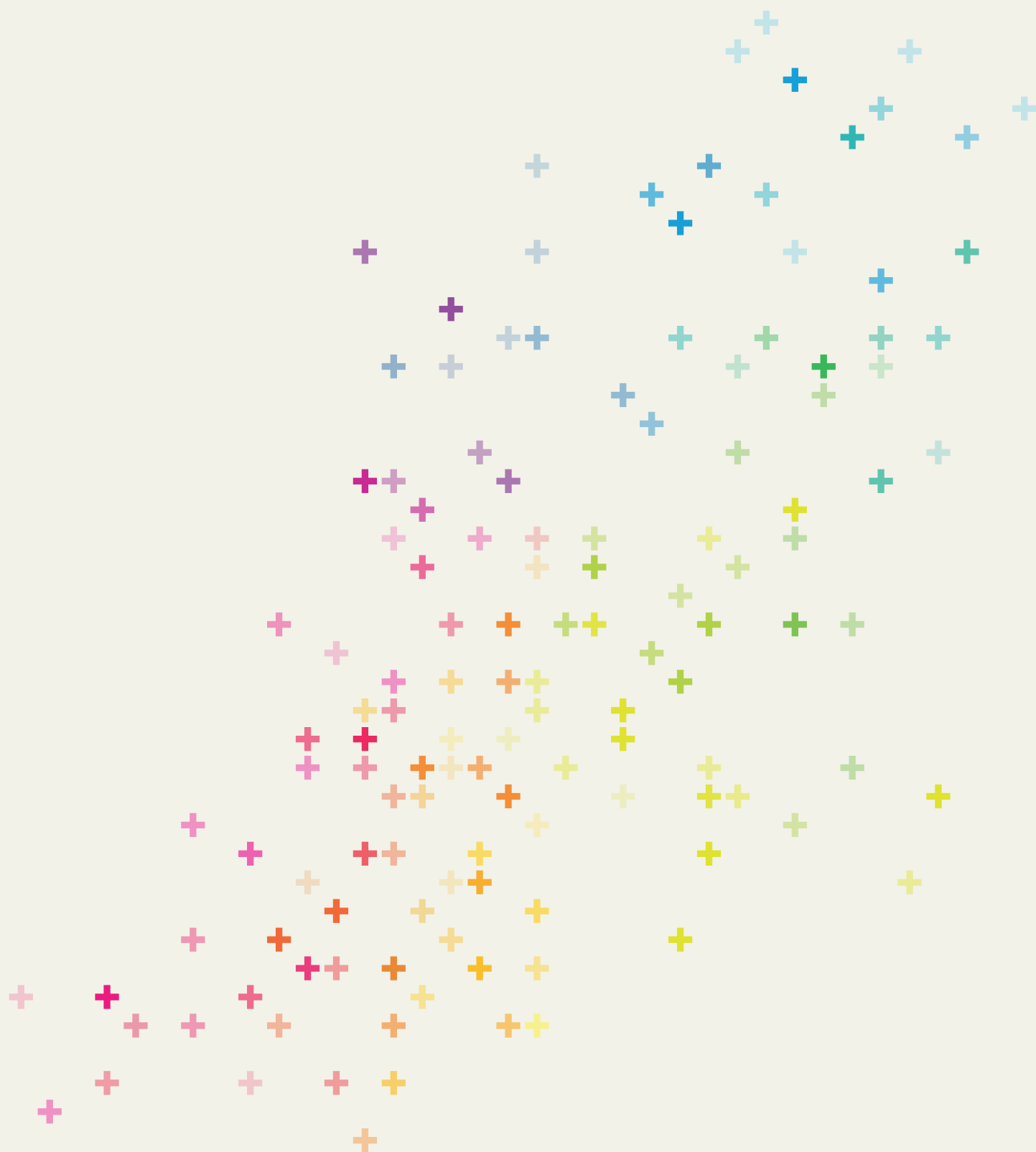
The rights and remedies of the customer shall be exclusively governed by these General Conditions of Supply and shall be in lieu of any remedies at law. All further claims for damages, reduction of the purchase price, termination of or rescission of the contract are excluded. In no case whatsoever shall the customer be entitled to claim damages other than compensation for costs of remedying defects in the supplies. This in particular refers, but shall not be limited, to loss of production, loss of use, loss of orders, loss of profit, third party recovery claims and other direct or indirect or consequential damages. This limitation of liability equally applies to the extent Georg Fischer is liable for acts or omissions of its employees or third parties engaged for the performance of its obligations. It does not apply in case unlawful intent or gross negligence on the part of Georg Fischer's management and in case of Georg Fischer's statutory liability, in particular under applicable product liability laws.

17 Severability

- Should any term or clause of these General Conditions in whole or in part be found to be unenforceable or void, all other provisions shall remain in full force and effect and the unenforceable or void provision shall be replaced by a valid provision, which comes closest to the original intention of the unenforceable or invalid provision.

18 Place of Performance and Jurisdiction

- 18.1 Place of performance for the Products shall be the Georg Fischer works from which the Products are despatched.
- 18.2 The contract shall be governed by Italian law without regard to conflict of law provisions that would require the application of another law.
- 18.3 Any civil action based upon any alleged breach of this contract shall be filed and prosecuted exclusively in the courts of Padova, Italy. Georg Fischer however reserves the right to file actions in any court having jurisdiction over controversies arising out of or in connection with the present contract.



Worldwide at home

Our sales companies and representatives ensure local customer support in more than 100 countries.

www.gfps.com

Argentina / Southern South America

Georg Fischer Central Plastics Sudamérica S.R.L.
Buenos Aires / Argentina
Phone +54 11 4512 02 90
gfcentral.ps.ar@georgfischer.com
www.gfps.com/ar

Australia

George Fischer Pty Ltd
Riverwood NSW 2210
Phone +61 (0) 2 9502 8000
australia.ps@georgfischer.com
www.gfps.com/au

Austria

Georg Fischer Rohrleitungssysteme GmbH
3130 Herzogenburg
Phone +43 (0) 2782 856 43-0
austria.ps@georgfischer.com
www.gfps.com/at

Georg Fischer Fittings GmbH
3160 Traisen
Phone +43 (0) 2762 90300
fittings.ps@georgfischer.com
www.fittings.at

Belgium / Luxembourg

Georg Fischer NV/SA
1600 Sint-Pieters-Leeuw / Belgium
Phone +32 (0) 2 556 40 20
Fax +32 (0) 2 524 34 26
be.ps@georgfischer.com
www.gfps.com/be

Brazil

Georg Fischer Sist. de Tub. Ltda.
04571-020 São Paulo/SP
Phone +55 (0) 11 5525 1311
br.ps@georgfischer.com
www.gfps.com/br

Canada

Georg Fischer Piping Systems Ltd
Mississauga, ON L5T 2B2
Phone +1 (905) 670 8005
Fax +1 (905) 670 8513
ca.ps@georgfischer.com
www.gfps.com/ca

China

Georg Fischer Piping Systems Ltd
Shanghai 201319
Phone +86 21 3899 3899
china.ps@georgfischer.com
www.gfps.com/cn

Chinaust Plastics Corp. Ltd.
Songlindian, Zhuozhou city,
Hebei province, China, 072761
Phone +86 312 395 2000
Fax +86 312 365 2222
chinaust@chinaust.com
www.chinaust.com.cn

Denmark / Iceland

Georg Fischer A/S
2630 Taastrup / Denmark
Phone +45 (0) 70 22 19 75
info.dk.ps@georgfischer.com
www.gfps.com/dk

Finland

Georg Fischer AB
01510 Vantaa
Phone +358 (0) 9 586 58 25
Fax +358 (0) 9 586 58 29
info.fi.ps@georgfischer.com
www.gfps.com/fi

France

Georg Fischer SAS
95932 Roissy Charles de Gaulle Cedex
Phone +33 (0) 1 41 84 68 84
fr.ps@georgfischer.com
www.gfps.com/fr

Germany

Georg Fischer GmbH
73095 Albershausen
Phone +49 (0) 7161 302 0
info.de.ps@georgfischer.com
www.gfps.com/de

India

Georg Fischer Piping Systems Pvt. Ltd
400 083 Mumbai
Phone +91 22 4007 2000
Fax +91 22 4007 2020
branchoffice@georgfischer.com
www.gfps.com/in

Indonesia

PT Georg Fischer Indonesia
Karawang 41371, Jawa Barat
Phone +62 267 432 044
Fax +62 267 431 857
indonesia.ps@georgfischer.com
www.gfps.com/id

Italy

Georg Fischer S.p.A.
20864 Agrate Brianza (MB)
Phone +39 02 921 86 1
Fax +39 02 921 86 24 7
it.ps@georgfischer.com
www.gfps.com/it

Georg Fischer TPA S.r.l.
16012 Busalla (GE)
Phone +39 010 962 47 11
tpa.ps@georgfischer.com
www.gfps.com/it

Japan

Georg Fischer Ltd
530-0003 Osaka
Phone +81 (0) 6 6341 2451
jp.ps@georgfischer.com
www.gfps.com/jp

Korea

Georg Fischer Korea Co. Ltd
Unit 2501, U-Tower
120 Heungdeok Jungang-ro
(Yeongdeok-dong)
Giheung-gu, Yongin-si, Gyeonggi-do
Phone +82 31 8017 1450
Fax +82 31 217 1454
kor.ps@georgfischer.com
www.gfps.com/kr

Malaysia

George Fischer (M) Sdn. Bhd.
41200 Klang, Selangor Darul Ehsan
Phone +60 (0) 3 3122 5585
Fax +60 (0) 3 3122 5575
my.ps@georgfischer.com
www.gfps.com/my

Mexico / Northern Latin America

Georg Fischer S.A. de C.V.
CP 66603 Apodaca, Nuevo León / Mexico
Phone +52 (81) 1340 8586
Fax +52 (81) 1522 8906
mx.ps@georgfischer.com
www.gfps.com/mx

Middle East

Georg Fischer Piping Systems (Switzerland) Ltd
Dubai / United Arab Emirates
Phone +971 4 289 49 60
gcc.ps@georgfischer.com
www.gfps.com/int

Netherlands

Georg Fischer N.V.
8161 PA Epe
Phone +31 (0) 578 678 222
nl.ps@georgfischer.com
www.gfps.com/nl

Georg Fischer Waga N.V.
NL-8160 AG Epe
Phone +31 (0) 578 678 378
waga.ps@georgfischer.com
www.waga.nl

New Zealand

Georg Fischer Ltd
5018 Upper Hutt
Phone +04 527 9813
Fax +04 527 9834
nz.ps@georgfischer.com
www.gfps.com/nz

Norway

Georg Fischer AS
1351 Rud
Phone +47 67 18 29 00
no.ps@georgfischer.com
www.gfps.com/no

Poland

Georg Fischer Sp. z o.o.
05-090 Sekocin Nowy
Phone +48 (0) 22 31 31 0 50
poland.ps@georgfischer.com
www.gfps.com/pl

Romania

Georg Fischer Piping Systems (Switzerland) Ltd
020257 Bucharest - Sector 2
Phone +40 (0) 21 230 53 80
ro.ps@georgfischer.com
www.gfps.com/int

Russia

Georg Fischer Piping Systems (Switzerland) Ltd
Moscow 125040
Phone +7 495 748 11 44
ru.ps@georgfischer.com
www.gfps.com/ru

Singapore

George Fischer Pte Ltd
528 872 Singapore
Phone +65 6747 0611
Fax +65 6747 0577
sgp.ps@georgfischer.com
www.gfps.com/sg

Spain / Portugal

Georg Fischer S.A.
28046 Madrid / Spain
Phone +34 (0) 91 781 98 90
es.ps@georgfischer.com
www.gfps.com/es

Sweden

Georg Fischer AB
117 43 Stockholm
Phone +46 (0) 8 506 775 00
info.se.ps@georgfischer.com
www.gfps.com/se

Switzerland

Georg Fischer Rohrleitungssysteme (Schweiz) AG
8201 Schaffhausen
Phone +41 (0) 52 631 3026
ch.ps@georgfischer.com
www.gfps.com/ch

Taiwan

Georg Fischer Co. Ltd
San Chung Dist., New Taipei City
Phone +886 2 8512 2822
Fax +886 2 8512 2823
www.gfps.com/tw

United Kingdom / Ireland

Georg Fischer Sales Limited
Coventry, CV2 2ST / United Kingdom
Phone +44 (0) 2476 535 535
uk.ps@georgfischer.com
www.gfps.com/uk

USA / Caribbean

Georg Fischer LLC
92618 Irvine, CA / USA
Phone +1 714 731 88 00
Fax +1 714 731 62 01
us.ps@georgfischer.com
www.gfps.com/us

Georg Fischer Central Plastics LLC
Shawnee, OK 74801 / USA
Phone +1 (405) 273 63 02
gfcentral.ps@georgfischer.com
www.centralplastics.com

Vietnam

George Fischer Pte Ltd
Representative Office
Ho Chi Minh City
Phone +84 28 3948 4000
Fax +84 28 3948 4010
sgp.ps@georgfischer.com
www.gfps.com/vn

International

Georg Fischer Piping Systems (Switzerland) Ltd
8201 Schaffhausen / Switzerland
Phone +41 (0) 52 631 3003
Fax +41 (0) 52 631 2893
info.export@georgfischer.com
www.gfps.com/int

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