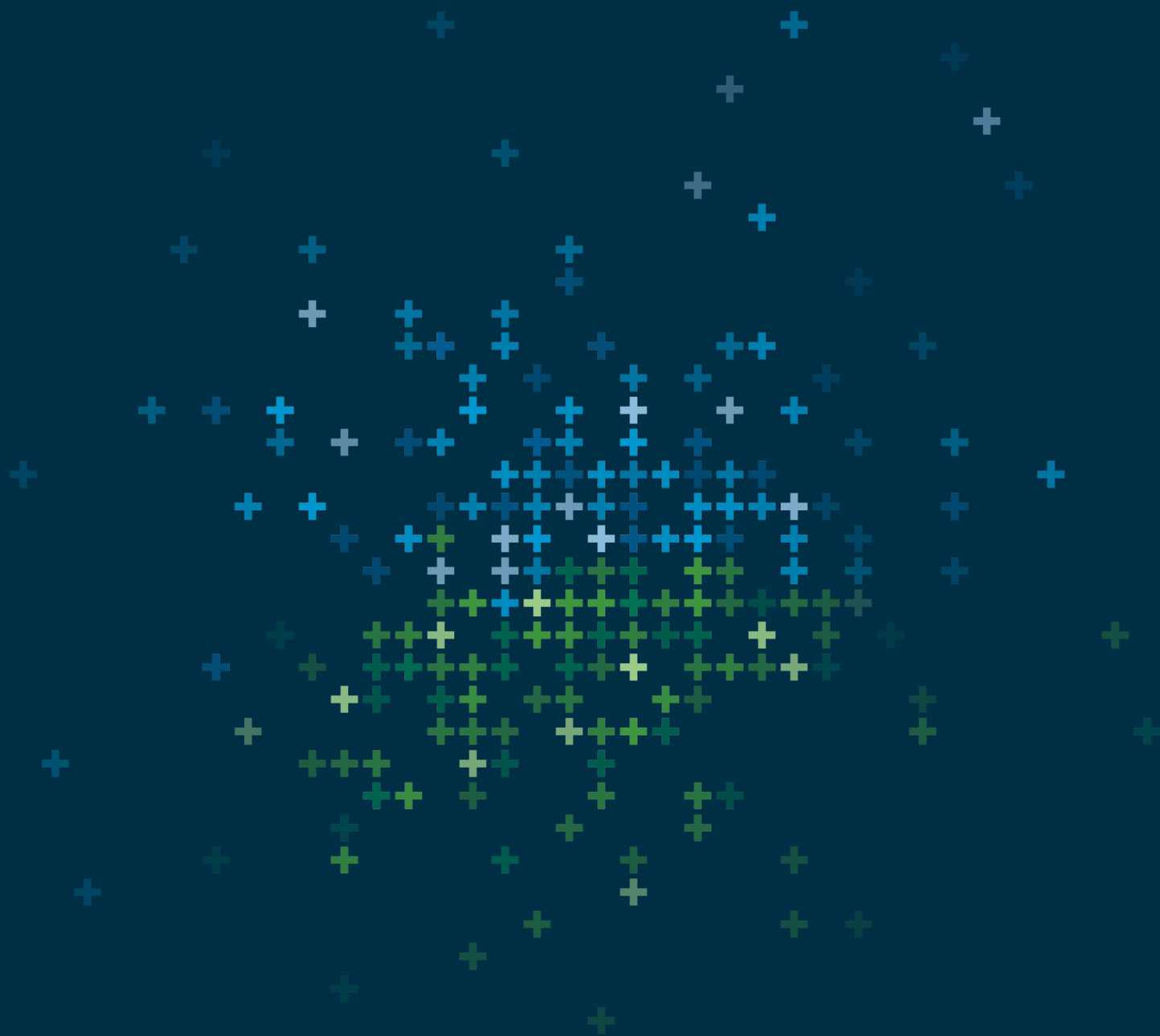


**+GF+**

# Product Catalogue





# Utilities, Water Treatment and Marine Range

# Industry and Building Technology Range

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Utility Range

# MSA Machines

## Product Range Overview

| Characteristic                      |  <b>MSA 160</b> |  <b>MSA 315</b> |  <b>MSA 340</b> |  <b>MSA 2.0</b> |  <b>MSA 2.1</b> |  <b>MSA 2 MULTI</b> |  <b>MSA 2 CF</b> |  <b>MSA 4.0</b> |
|-------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Fittings material                   | PE,PP                                                                                            | PE,PP                                                                                            | PE,PP                                                                                            | PE,PP                                                                                            | PE,PP                                                                                            | PE,PP,PB, PVDF                                                                                         | PE,PP,PB, PVDF                                                                                      | PE,PP                                                                                              |
| Working temperature range (°C)      | -10/+45                                                                                          | -10/+45                                                                                          | -10/+45                                                                                          | -20/+50                                                                                          | -20/+50                                                                                          | -20/+50                                                                                                | -20/+50                                                                                             | -20/+50                                                                                            |
| Protection factor                   | IP54                                                                                             | IP65                                                                                             | IP65                                                                                             | IP65                                                                                             | IP65                                                                                             | IP65                                                                                                   | IP65                                                                                                | IP65                                                                                               |
| Electrical switch                   | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                |                                                                                                  | ✓                                                                                                |                                                                                                        | ✓                                                                                                   | ✓                                                                                                  |
| Input voltage (Vac)                 | 230                                                                                              | 230                                                                                              | 230/115                                                                                          | 230                                                                                              | 230                                                                                              | 230                                                                                                    | 115                                                                                                 | 230                                                                                                |
| Output voltage (Vac)                | 8-42                                                                                             | 8-42                                                                                             | 8-48                                                                                             | 8-48                                                                                             | 8-48                                                                                             | 3.6-40                                                                                                 | 3.6-40                                                                                              | 8-48                                                                                               |
| Output current (Amps)               | 50                                                                                               | 70                                                                                               | 100                                                                                              | 90                                                                                               | 90                                                                                               | 90                                                                                                     | 90                                                                                                  | 110                                                                                                |
| Barcode input via scanner           | Optional                                                                                         | Optional                                                                                         | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                      | ✓                                                                                                   | ✓                                                                                                  |
| Manual fusion input                 | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                      | ✓                                                                                                   | ✓                                                                                                  |
| Operator badge/Job code             |                                                                                                  | ✓                                                                                                | ✓                                                                                                |                                                                                                  | ✓                                                                                                | ✓                                                                                                      | ✓                                                                                                   | ✓                                                                                                  |
| Data records                        | 500                                                                                              | 500                                                                                              | 1000                                                                                             | 350                                                                                              | 1000                                                                                             | 500                                                                                                    | 1000                                                                                                | 5000                                                                                               |
| Data protocol format                | PDF, CSV                                                                                         | PDF, CSV                                                                                         | PDF, CSV                                                                                         |                                                                                                  | PDF, BIN                                                                                         | PDF, BIN                                                                                               | PDF, BIN                                                                                            | PDF, BIN                                                                                           |
| Traceability (ISO 12176-4)          |                                                                                                  |                                                                                                  | ✓                                                                                                |                                                                                                  |                                                                                                  |                                                                                                        |                                                                                                     | ✓                                                                                                  |
| GPS                                 |                                                                                                  |                                                                                                  | ✓                                                                                                |                                                                                                  |                                                                                                  |                                                                                                        |                                                                                                     | ✓                                                                                                  |
| Communication interface             | USB                                                                                              | USB                                                                                              | USB                                                                                              | USB                                                                                              | USB                                                                                              | USB                                                                                                    | USB                                                                                                 | USB                                                                                                |
| Built in Bluetooth                  |                                                                                                  |                                                                                                  |                                                                                                  |                                                                                                  | ✓                                                                                                |                                                                                                        |                                                                                                     | ✓                                                                                                  |
| Configurable/admin. protected menus |                                                                                                  |                                                                                                  | ✓                                                                                                |                                                                                                  | ✓                                                                                                |                                                                                                        | ✓                                                                                                   | ✓                                                                                                  |
| Weight (Kg)                         | 13                                                                                               | 17                                                                                               | 19                                                                                               | 11.9                                                                                             | 11.9                                                                                             | 11.9                                                                                                   | 12.5                                                                                                | 12.5                                                                                               |
| Mains / fusion cable length         | 4m/3m                                                                                            | 4m/3m                                                                                            | 4m/4m                                                                                            | 4m/3m                                                                                            | 4m/4m                                                                                            | 4m/3m                                                                                                  | 4m/4m                                                                                               | 4m/4m                                                                                              |
| Connectors / adapters               | 4mm                                                                                              | 4mm                                                                                              | 4-4.7mm                                                                                          | 4mm                                                                                              | 4-4.7mm                                                                                          | 4mm                                                                                                    | 4mm                                                                                                 | 4-4.7mm                                                                                            |
| Transport box                       | ✓                                                                                                | Optional                                                                                         | Optional                                                                                         | ✓                                                                                                | ✓                                                                                                | ✓                                                                                                      | ✓                                                                                                   | ✓                                                                                                  |
| Welding book application            | Optional                                                                                         | Optional                                                                                         | Optional                                                                                         |                                                                                                  | ✓                                                                                                | ✓                                                                                                      | ✓                                                                                                   | ✓                                                                                                  |
| WeldinAir                           |                                                                                                  |                                                                                                  | Optional                                                                                         | Optional                                                                                         |                                                                                                  |                                                                                                        | Optional                                                                                            |                                                                                                    |
| Rental time App                     |                                                                                                  |                                                                                                  | ✓                                                                                                |                                                                                                  |                                                                                                  |                                                                                                        |                                                                                                     | ✓                                                                                                  |



MSA 4

4



MSA 2

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MSA 315 / MSA 340

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MSA 160

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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 exported 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 a comfortable plastic handle ensure a weight balanced carrying.

Rental time period programmable by the machine owner, with block of the unit on the 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<br>(kg) |
|---------|--------------------------------------|-------------|----------------|
| MSA 4.0 | 2D barcode scanner (QR code reading) | 790 156 012 | 19.500         |

# 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 can keep up to 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<br>(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 can keep up to 1000 protocols permanently stored in the internal memory. The user can export the fusion reports to 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 (8 m only for code 790156010) / Fusion cable: 4 m
- Weight: ca. 11.9 kg
- Display: Graphical LCD, adjustable contrast
- Independent from languages
- Bluetooth radio interface

| Type                                                                | Code        | Weight<br>(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 can keep up to 500 protocols permanently stored in the internal memory. The user can export the fusion reports to a 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<br>(kg) |
|---------------------------------------------------------------------|-------------|----------------|
| 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 can keep up to 1000 protocols permanently stored in the internal memory. The user can export the fusion reports to a 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<br>(kg) |
|----------------------------------------------------|-------------|----------------|
| Barcode scanner, transport case, mini Welding Book | 790 156 023 | 13.000         |

# MSA 315 / MSA 340



## MSA 315 Automatic Electrofusion Unit

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 can keep up to 500 protocols permanently stored in the internal memory. The user can export the fusion reports to 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<br>(kg) |
|----------------------------------------------|------|-------------|----------------|
| Manual mode, carton box                      |      | 790 128 040 | 17.000         |
| Automatic, with barcode reader, carton box   |      | 790 128 041 | 18.500         |
| Transport box, automatic with barcode reader |      | 790 128 042 | 17.000         |



### 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<br>(kg) |
|--------------------------------|---------|--------------------|----------------|
| Barcode scanner, carton box    | 230 V   | <b>790 160 062</b> | 18.000         |
| Barcode scanner, transport box | 230 V   | <b>790 160 063</b> | 18.000         |
| Barcode scanner, carton box    | 115 V   | <b>790 160 072</b> | 18.000         |
| Barcode scanner, transport box | 115 V   | <b>790 160 073</b> | 18.000         |

# MSA 160



## MSA 160 Automatic Electrofusion Unit

The MSA 160 automatic electro fusion unit combines light weight and compact design, for installers who need to weld fittings up to diameter 160mm, 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 can keep up to 500 fusion protocols permanently stored in the internal memory. The user can export the fusion reports to 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: 500 protocols
- Fittings range: d20-160 mm
- 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<br>(kg) |
|-------------------------------------------|-------------|----------------|
| Manual mode version                       | 790 160 065 | 12.000         |
| Barcode (scanner) and manual mode version | 790 160 066 | 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 CONNECT Conrivo, 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<br>(kg) |
|-----------|--------------------|----------------|
| WeldinAir | <b>790 156 033</b> | 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 barcodes used to configure the MSAPlus family workflow.

| Type              | Code               | Weight<br>(kg) |
|-------------------|--------------------|----------------|
| WeldinOne         | <b>790 160 201</b> | 0.100          |
| Welding Book only | <b>790 156 030</b> | 0.050          |

## Barcode Scanner



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

- Refer to machine S/N to check the proper version with sales support
- The product codes indicated with \* do not include the connection cable, just the barcode scanner, therefore the cable must be ordered separately (refer to the specific item "Cable for barcode scanner" to check the correct code to order); all other codes already include the cable.

| Description                                        | Code               | Weight<br>(kg) |
|----------------------------------------------------|--------------------|----------------|
| MSAPlus barcode scanner and cable                  | <b>790 160 227</b> | 0.250          |
| MSA330/MSA340 rugged scanner and cable             | <b>790 160 225</b> | 0.250          |
| MSA 2.0 barcode scanner*                           | <b>790 156 160</b> | 0.250          |
| MSA 2.1 and MSA 4.0 1D barcode scanner*            | <b>790 156 260</b> | 0.250          |
| MSA 4.0 2D barcode scanner*                        | <b>790 156 261</b> | 0.250          |
| Barcode scanner with pouch for old MSA and MSAPlus | <b>799 350 419</b> | 0.521          |
| MSA 125 / MSA 160 barcode scanner and cable        | <b>790 160 251</b> | 0.250          |
| MSA330/MSA340 rugged USB scanner and cable         | <b>790 160 252</b> | 0.350          |
| MSA 330/340 V3 and MSA 315 barcode scanner*        | <b>790 160 256</b> | 0.225          |



### Cable for barcode scanner

Cable to connect the barcode scanner to the corresponding MSA electro-fusion unit

| Description                                                                                                                              | Code               | Weight<br>(kg) |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|
| Cable for MSAplus scanner                                                                                                                | <b>790 160 226</b> | 0.100          |
| Cable for MSA 330 / 340 rugged scanner (ref. code 790 160 225)                                                                           | <b>790 128 172</b> | 0.100          |
| Cable for scanner of MSA 2.0 (ref. code 790 156 160), MSA 2.1 and MSA 4.0 1D (ref. code 790 156 260), MSA 4.0 2D (ref. code 790 156 261) | <b>790 156 308</b> | 0.100          |
| Cable for MSA 125 / 160 scanner (ref. code 790 160 251)                                                                                  | <b>790 128 234</b> | 0.100          |
| Cable for MSA 330 / 340 rugged USB scanner                                                                                               | <b>790 128 244</b> | 0.100          |
| Cable for MSA 330 / 340 V3 and MSA 315 barcode scanner (ref. code 790 160 256)                                                           | <b>790156308B</b>  | 0.100          |



### 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<br>(kg) |
|-----------------------|--------------------|----------------|
| MSA geothermal cables | <b>790 160 176</b> | 0.385          |



### Adapters 4.0mm for MSA

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

| Type   | Code               | Weight<br>(kg) | Description          |
|--------|--------------------|----------------|----------------------|
| 4,0 mm | <b>799 350 340</b> | 0.058          | Angle adapter, black |



### Adapters 4.7mm for MSA

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

| Type   | Code               | Weight<br>(kg) | Description         |
|--------|--------------------|----------------|---------------------|
| 4,7 mm | <b>799 350 341</b> | 0.057          | Angle adapter, grey |



### Adapters 4.7mm straight for MSA

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

| Type   | Code               | Weight<br>(kg) | Description    |
|--------|--------------------|----------------|----------------|
| 4,7 mm | <b>799 350 462</b> | 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<br>(kg) | Description                |
|--------|--------------------|----------------|----------------------------|
| 4,0 mm | <b>790 128 035</b> | 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<br>(kg) |
|----------------------------------------|--------------------|----------------|
| 4 leads cable with 2mm plugs in output | <b>790 156 032</b> | 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<br>(kg) |
|----------------------------|--------------------|----------------|
| 4 leads cable, 0.6m length | <b>790 156 184</b> | 0.400          |
| 4 leads cable, 1.6m length | <b>790 156 195</b> | 0.400          |



### Barcode cards set

Barcodes kit for SeaDrain and SeaDrain+ fittings, including coil tester  
Compatible with MSA 2 MULTI, MSA 2 CF and MSA 250 EX-MULTI.

| Type                                          | Code               | Weight<br>(kg) |
|-----------------------------------------------|--------------------|----------------|
| Barcode set and tester for MSA 2 CF and MULTI | <b>790 156 194</b> | 0.400          |



### Transport Box MSA electro-fusion units

- Large, robust transport box for MSA machines
- Refer to machine S/N to check the proper version with sales support

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



Utility Range

# MSA Machines

## Accessories Code

|                                                                                     |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Machine type                                                                        | Transport Box                                                                     | Scanner                                                                           | Cable for scanner                                                                 | Adapters                                                                          | CoolFit Y cables                                                                   | Long adapters                                                                       | Geothermal kit                                                                      | WeldinAir                                                                           |
|    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| MSA 4.0                                                                             | 790 156 228                                                                       | 790 156 260/1**                                                                   | 790 156 308                                                                       | 799 350 340/1                                                                     | 790 156 032                                                                        | 790 128 035                                                                         | 790 160 176                                                                         | -                                                                                   |
| MSA 2.1                                                                             | 790 156 228                                                                       | 790 156 260**                                                                     | 790 156 308                                                                       | 799 350 340/1                                                                     | 790 156 032                                                                        | 790 128 035                                                                         | 790 160 176                                                                         | -                                                                                   |
| MSA 2.0                                                                             | 790 156 228                                                                       | 790 156 160**                                                                     | 790 156 308                                                                       | 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**                                                                     | 790 156 308                                                                       | 799 350 340/1                                                                     | 790 156 032                                                                        | 790 128 035                                                                         | 790 160 176                                                                         | -                                                                                   |
| MSA 2 CF                                                                            | 790 156 228                                                                       | 790 156 260**                                                                     | 790 156 308                                                                       | 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**                                                                     | 790 156 308B                                                                      | 799 350 340/1                                                                     | 790 156 032                                                                        | 790 128 035                                                                         | 790 160 176                                                                         | 790 156 033                                                                         |
| MSA 330 V3                                                                          | 790 156 328                                                                       | 790 160 256**                                                                     | 790 156 308B                                                                      | 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***                                                                    | 790 128 172                                                                       | 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***                                                                    | 790 128 172                                                                       | 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***                                                                    | 790 128 172                                                                       | 799 350 462                                                                       | 790 156 032                                                                        | 790 128 035                                                                         | 790 160 176                                                                         | -                                                                                   |
|  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| MSA 315                                                                             | 790 156 328                                                                       | 790 160 256***                                                                    | 790 128 234                                                                       | 799 350 340/1                                                                     | 790 156 032                                                                        | 790 128 035                                                                         | 790 160 176                                                                         | -                                                                                   |
|  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| MSA 125-160                                                                         | -                                                                                 | 790 160 251***                                                                    | 790 128 234                                                                       | 799 350 340/1                                                                     | -                                                                                  | -                                                                                   | 790 160 176                                                                         | -                                                                                   |

\* Just for this electrofusion unit type, the SeaDrain cable adapters are available as accessory with code 790 156 195

\*\* Cable not included ( see next column to check the correct cable code if needed)

\*\*\* This code also includes the cable





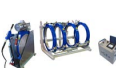
Utility Range

# Trench Machines

## Product Range Overview



| Characteristic                           | ECOS-TOP-CNC           |      |      | ECOS-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               |      |       |                   |       |       |
|                                          | 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 160 - 250 - 315 Accessories | 22 |
|    | TOP 2.0 400 - 500 - 630                      | 25 |
|    | ECOS 400 - 500 - 630                         | 26 |
|    | CNC 4.0 400 - 500 - 630                      | 27 |
|   | ECOS / TOP / CNC 400 - 500 - 630 Accessories | 28 |
|  | GF 800 - 1000 - 1200                         | 31 |
|  | GF 800 - 1000 - 1200 Accessories             | 32 |
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|  | WR 200                                       | 35 |

# 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
- Clear control panel consisting of digital system pressure display, electronic heating element temperature control, timer with 2 stop times
- 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
- Carriage movements are carried out by means of pushbuttons
- 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<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-------------------------|-------------|--------------|--------------------|----------------|
| TOP 2.0 160             | 40 - 160    | 230 V/1900 W | <b>790 150 011</b> | 126.000        |
| TOP 2.0 250             | 75 - 250    | 230 V/3270 W | <b>790 151 011</b> | 191.000        |
| TOP 2.0 315             | 90 - 315    | 230 V/3870 W | <b>790 152 026</b> | 206.000        |
| TOP 2.0 160, Swiss plug | 40 - 160    | 230 V/1900 W | <b>790 150 060</b> | 126.000        |
| TOP 2.0 250, Swiss plug | 75 - 250    | 230 V/3270 W | <b>790 151 083</b> | 191.000        |
| TOP 2.0 315, Swiss plug | 90 - 315    | 230 V/3870 W | <b>790 152 081</b> | 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

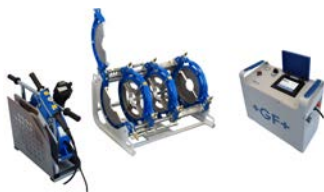
- High performance, electronically controlled heating element
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Weight: Type 160 = 5.5 kg, Type 250 = 8 kg, Type 315 = 10 kg
- Input power: Type 160 = 1200 W, Type 250 = 2000 W, Type 315 = 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<br>(mm) | Performance  | Description                        | Code               | Weight<br>(kg) |
|----------|-------------|--------------|------------------------------------|--------------------|----------------|
| ECOS 160 | 40 - 160    | 230 V/1900 W | Without crate (carton pallet only) | <b>790 150 009</b> | 78.000         |
| ECOS 250 | 75 - 250    | 230 V/3270 W | Without crate (carton pallet only) | <b>790 151 013</b> | 116.000        |
| ECOS 315 | 90 - 315    | 230 V/3870 W | Without crate (carton pallet only) | <b>790 152 028</b> | 129.000        |
| ECOS 160 | 40 - 160    | 230 V/1900 W | With wooden transport crate        | <b>790 150 073</b> | 108.000        |
| ECOS 250 | 75 - 250    | 230 V/3270 W | With wooden transport crate        | <b>790 151 073</b> | 166.000        |
| ECOS 315 | 90 - 315    | 230 V/3870 W | With wooden transport crate        | <b>790 152 073</b> | 179.000        |

# CNC 4.0 160 - 250 - 315



## CNC 4.0 160 - 250 - 315

### Automatic butt fusion machine for construction site

Butt Fusion machine to joint PE, PP, PB pipes and fittings for pressure piping systems on building sites and in trenches.

Hydraulically operated with automatic CNC control unit.

Including transport packaging (wooden crate); reduction clamping inserts and other accessories to be ordered separately.

#### • BASE MACHINE

- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete working process
- Weight: Type 160 = 22 kg, Type 250 = 47 kg, Type 315 = 53 kg

#### • HYDRAULIC UNIT

- Compact aluminium case with innovative design
- Intuitive colour touch screen interface
- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines
- Real time communication with mobile smartphone during the welding process, the data transfer and fusion protocols collection, 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
- Compatible with label printer
- 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<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-----------------------------------|-------------|--------------|--------------------|----------------|
| CNC 4.0 160 WeldinAir             | 40 - 160    | 230 V/2000 W | <b>790 150 076</b> | 125.000        |
| CNC 4.0 250 WeldinAir             | 75 - 250    | 230 V/3150 W | <b>790 151 076</b> | 195.000        |
| CNC 4.0 315 WeldinAir             | 90 - 315    | 230 V/3750 W | <b>790 152 076</b> | 215.000        |
| CNC 4.0 160 WeldinAir, Swiss plug | 40 - 160    | 230 V/2000 W | <b>790 150 061</b> | 125.000        |
| CNC 4.0 250 WeldinAir, Swiss plug | 75 - 250    | 230 V/3150 W | <b>790 151 084</b> | 195.000        |
| CNC 4.0 315 WeldinAir, Swiss plug | 90 - 315    | 230 V/3750 W | <b>790 152 082</b> | 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 smartphone during the welding process, the data transfer and fusion protocols collection, 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
- Compatible with label printer
- 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<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|---------------------------|-------------|--------------|--------------------|----------------|
| CNC 4.0 250 AHE WeldinAir | 75 - 250    | 230 V/3150 W | <b>790 151 077</b> | 208.000        |
| CNC 4.0 315 AHE WeldinAir | 90 - 315    | 230 V/3750 W | <b>790 152 077</b> | 223.000        |



## ECOS / TOP / CNC 160 - 250 - 315 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<br>(mm) | narrow<br>Code     | Weight<br>(kg) | wide<br>Code       | Weight<br>(kg) |
|-----------|--------------------|----------------|--------------------|----------------|
| 40        | <b>790 114 027</b> | 0.330          | <b>790 114 023</b> | 0.300          |
| 50        | <b>790 114 016</b> | 0.310          | <b>790 114 009</b> | 0.290          |
| 63        | <b>790 114 017</b> | 0.300          | <b>790 114 010</b> | 0.293          |
| 75        | <b>790 114 018</b> | 0.280          | <b>790 114 011</b> | 0.270          |
| 90        | <b>790 114 019</b> | 0.260          | <b>790 114 012</b> | 0.250          |
| 110       | <b>790 114 020</b> | 0.220          | <b>790 114 013</b> | 0.220          |
| 125       | <b>790 114 021</b> | 0.190          | <b>790 114 014</b> | 0.200          |
| 140       | <b>790 114 022</b> | 0.130          | <b>790 114 015</b> | 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<br>(mm) | narrow<br>Code     | Weight<br>(kg) | wide<br>Code       | Weight<br>(kg) |
|-----------|--------------------|----------------|--------------------|----------------|
| 75        | <b>790 115 029</b> | 0.768          | <b>790 115 028</b> | 0.902          |
| 90        | <b>790 115 016</b> | 0.719          | <b>790 115 008</b> | 0.940          |
| 110       | <b>790 115 017</b> | 0.734          | <b>790 115 009</b> | 0.841          |
| 125       | <b>790 115 018</b> | 0.661          | <b>790 115 010</b> | 0.829          |
| 140       | <b>790 115 019</b> | 0.762          | <b>790 115 011</b> | 0.647          |
| 160       | <b>790 115 020</b> | 0.574          | <b>790 115 012</b> | 0.727          |
| 180       | <b>790 115 021</b> | 0.561          | <b>790 115 013</b> | 0.676          |
| 200       | <b>790 115 022</b> | 0.479          | <b>790 115 014</b> | 0.733          |
| 225       | <b>790 115 023</b> | 0.385          | <b>790 115 015</b> | 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<br>(mm) | narrow<br>Code     | Weight<br>(kg) | wide<br>Code       | Weight<br>(kg) |
|-----------|--------------------|----------------|--------------------|----------------|
| 90        | <b>790 112 098</b> | 1.265          | <b>790 112 088</b> | 1.000          |
| 110       | <b>790 112 099</b> | 1.220          | <b>790 112 089</b> | 0.945          |
| 125       | <b>790 112 100</b> | 1.215          | <b>790 112 090</b> | 0.957          |
| 140       | <b>790 112 101</b> | 1.139          | <b>790 112 091</b> | 0.950          |
| 160       | <b>790 112 102</b> | 1.080          | <b>790 112 092</b> | 0.980          |
| 180       | <b>790 112 103</b> | 1.006          | <b>790 112 093</b> | 0.931          |
| 200       | <b>790 112 104</b> | 0.945          | <b>790 112 094</b> | 0.880          |
| 225       | <b>790 112 105</b> | 0.833          | <b>790 112 095</b> | 0.940          |
| 250       | <b>790 112 106</b> | 0.712          | <b>790 112 096</b> | 0.754          |
| 280       | <b>790 112 107</b> | 0.562          | <b>790 112 097</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 40 - 140    | <b>790 114 156</b> | 17.000         |
| 75 - 225    | <b>790 115 156</b> | 63.000         |
| 90 - 280    | <b>790 112 156</b> | 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

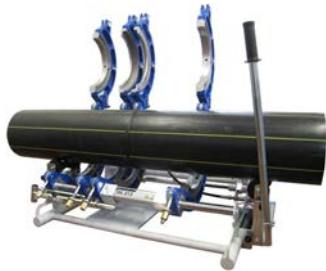
| Type     | Left<br>Code       | Right<br>Code      | Weight<br>(kg) |
|----------|--------------------|--------------------|----------------|
| Type 160 | <b>790 150 205</b> | <b>790 150 206</b> | 0.800          |
| Type 250 | <b>790 151 205</b> | <b>790 151 206</b> | 1.850          |
| Type 315 | <b>790 152 205</b> | <b>790 152 206</b> | 2.681          |



### Flange adapter clamping units

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 40 - 160    | <b>790 319 007</b> | 5.800          |
| 75 - 250    | <b>790 115 044</b> | 5.594          |
| 90 - 315    | <b>790 112 073</b> | 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<br>(kg) |
|----------|--------------------|----------------|
| Type 160 | <b>790 150 050</b> | 9.000          |
| Type 250 | <b>790 151 050</b> | 11.000         |
| Type 315 | <b>790 152 050</b> | 12.500         |



### Set of replacement blades for planer

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 40 - 160    | <b>790 113 056</b> | 0.059          |
| 75 - 250    | <b>790 115 024</b> | 0.083          |
| 90 - 315    | <b>790 112 110</b> | 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<br>(kg) |
|----------------|--------------------|----------------|
| Type 250 - 315 | <b>790 151 002</b> | 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<br>(kg) |
|------------------------------|--------------------|----------------|
| Cable with special connector | <b>790 155 343</b> | 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
- Clear control panel consisting of digital system pressure display, electronic heating element temperature control, timer with 2 stop times
- 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
- Carriage movements are carried out by means of pushbuttons
- 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<br>(mm) | Performance   | Code               | Weight<br>(kg) |
|-------------|-------------|---------------|--------------------|----------------|
| TOP 2.0 400 | 125 - 400   | 400 V/5700 W  | <b>790 153 011</b> | 310.000        |
| TOP 2.0 500 | 200 - 500   | 400 V/6300 W  | <b>790 154 011</b> | 448.000        |
| TOP 2.0 630 | 315 - 630   | 400 V/11000 W | <b>790 155 011</b> | 588.000        |

# ECOS 400 - 500 - 630



## ECOS 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.

Separate remote temperature controller 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 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 and robust, with full closed cast aluminium housing
- 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
- Interface for welding recorder available as accessory
- Max operating pressure: 160 bar
- Weight: 31 kg

### • PLANER

- Powerful parallel planer for single or double-sided facing of pipe ends
- 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

### • 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

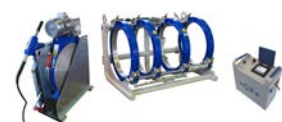
- For safe storage of planer and heating element
- Weight: Type 400 = 30 kg, Type 500 = 38 kg, Type 630 = 62 kg

| Type     | d-d<br>(mm) | Performance   | Code               | Weight<br>(kg) |
|----------|-------------|---------------|--------------------|----------------|
| ECOS 400 | 125 - 400   | 230 V/5700 W  | <b>790 127 013</b> | 336.000        |
| ECOS 500 | 200 - 500   | 400 V/7000 W  | <b>790 140 010</b> | 463.000        |
| ECOS 630 | 315 - 630   | 400 V/11000 W | <b>790 345 012</b> | 593.000        |

# 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 smartphone during the welding process, the data transfer and fusion protocols collection, 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
- Compatible with label printer
- 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: Type 400 = 160 bar, Type 500 - 630 = 200 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<br>(mm) | Performance   | Code               | Weight<br>(kg) |
|-----------------------|-------------|---------------|--------------------|----------------|
| CNC 4.0 400 WeldinAir | 125 - 400   | 400 V/5700 W  | <b>790 153 076</b> | 320.000        |
| CNC 4.0 500 WeldinAir | 200 - 500   | 400 V/6300 W  | <b>790 154 076</b> | 455.000        |
| CNC 4.0 630 WeldinAir | 315 - 630   | 400 V/11000 W | <b>790 155 076</b> | 595.000        |

## ECOS / TOP / CNC 400 - 500 - 630 Accessories



### Type 400 Reduction clamping inserts

- d 125-355
  - 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<br>(mm) | narrow<br>Code | Weight<br>(kg) | wide<br>Code | Weight<br>(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    | 1.200          | 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<br>(mm) | narrow<br>Code | Weight<br>(kg) | wide<br>Code | Weight<br>(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<br>(mm) | narrow<br>Code | Weight<br>(kg) | wide<br>Code | Weight<br>(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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 125 - 355   | <b>790 127 156</b> | 95.000         |
| 200 - 450   | <b>790 116 157</b> | 241.000        |
| 250 - 450   | <b>790 116 156</b> | 165.000        |
| 315 - 560   | <b>790 117 021</b> | 201.000        |



### Chamfered upper clamp

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

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 400       | <b>790 153 117</b> | 3.750          |
| 500       | <b>790 340 261</b> | 8.000          |
| 630       | <b>790 345 233</b> | 10.490         |



### Flange adapter clamping unit

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

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 400       | <b>790 127 045</b> | 24.600         |
| 500       | <b>790 116 045</b> | 22.000         |
| 630       | <b>790 117 029</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 400       | <b>790 153 028</b> | 93.000         |
| 500       | <b>790 340 066</b> | 80.000         |
| 630       | <b>790 155 027</b> | 261.000        |



### 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<br>(kg) |
|--------------------|----------------|
| <b>790 117 094</b> | 13.000         |



### Set of replacement blades for planer

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

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 400       | <b>790 112 110</b> | 0.129          |
| 500       | <b>790 340 045</b> | 0.157          |
| 630       | <b>790 117 041</b> | 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<br>(kg) |
|------------------------------|--------------------|----------------|
| Cable with special connector | <b>790 155 343</b> | 0.120          |



### Connecting interface to WR200 for ECOS 400-500-630

- To connect the ECOS hydraulic unit to the welding recorder WR 200 ECO version, for fusion pressure monitoring in real time
- Just plug it directly in between the hydraulic quick couplers of the unit and the outlet hose, no need of tools to assemble

| Type                          | Code               | Weight<br>(kg) |
|-------------------------------|--------------------|----------------|
| Connecting interface to WR200 | <b>790 117 060</b> | 1.300          |



# 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<br>(mm) | Performance   | Code               | Weight<br>(kg) |
|---------|-------------|---------------|--------------------|----------------|
| GF 800  | 500 - 800   | 400 V/15000 W | <b>790 123 025</b> | 1550.000       |
| GF 1000 | 630 - 1000  | 400 V/19500 W | <b>790 124 025</b> | 2443.000       |
| GF 1200 | 710 - 1200  | 400 V/20500 W | <b>790 125 025</b> | 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<br>(mm) | narrow<br>Code     | Weight<br>(kg) | wide<br>Code       | Weight<br>(kg) |
|-----------|--------------------|----------------|--------------------|----------------|
| 500       | <b>790 117 238</b> | 3.700          | <b>790 117 012</b> | 4.500          |
| 560       | <b>790 117 239</b> | 3.000          | <b>790 117 013</b> | 4.900          |
| 630       | <b>790 123 219</b> | 9.000          | <b>790 123 011</b> | 11.000         |
| 710       | <b>790 123 220</b> | 9.000          | <b>790 123 012</b> | 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<br>(mm) | narrow<br>Code     | Weight<br>(kg) | wide<br>Code       | Weight<br>(kg) |
|-----------|--------------------|----------------|--------------------|----------------|
| 630       | <b>790 123 219</b> | 9.000          | <b>790 123 011</b> | 11.000         |
| 710       | <b>790 123 220</b> | 9.000          | <b>790 123 012</b> | 12.500         |
| 800       |                    |                | <b>790 124 011</b> | 18.000         |
| 900       |                    |                | <b>790 124 012</b> | 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.

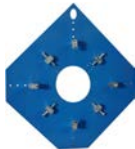
| d<br>(mm) | narrow<br>Code     | Weight<br>(kg) | wide<br>Code       | Weight<br>(kg) |
|-----------|--------------------|----------------|--------------------|----------------|
| 710       | <b>790 125 030</b> | 9.000          | <b>790 125 028</b> | 12.500         |
| 800       |                    |                | <b>790 124 011</b> | 18.000         |
| 900       |                    |                | <b>790 124 012</b> | 19.000         |
| 1000      |                    |                | <b>790 125 011</b> | 20.000         |



### Reduction clamping inserts-set

- 8 wide clamping inserts per dimension

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 500 - 710   | <b>790 350 019</b> | 278.000        |
| 710 - 900   | <b>790 355 019</b> | 340.000        |
| 800 - 1000  | <b>790 360 019</b> | 422.000        |



### Flange adapter clamping unit

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 500 - 800   | <b>790 123 029</b> | 120.000        |
| 630 - 1000  | <b>790 124 029</b> | 153.000        |
| 710 - 1200  | <b>790 125 029</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 800       | <b>790 123 060</b> | 220.000        |
| 1000      | <b>790 124 060</b> | 350.000        |
| 1200      | <b>790 125 060</b> | 368.000        |



### Set of replacement blades for planer

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

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 800       | <b>790 117 041</b> | 0.229          |
| 1000      | <b>790 124 021</b> | 0.299          |
| 1200      | <b>790 125 021</b> | 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<br>(kg) |
|--------|--------------------|----------------|
| RU 160 | <b>790 150 045</b> | 8.800          |
| RU 250 | <b>790 151 045</b> | 18.000         |
| RU 315 | <b>790 152 045</b> | 20.000         |
| RU 400 | <b>790 153 045</b> | 31.000         |
| RU 500 | <b>790 154 045</b> | 62.000         |
| RU 630 | <b>790 155 045</b> | 73.000         |



## 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<br>(kg) |
|--------|--------------------|----------------|
| RU 160 | <b>790 150 046</b> | 2.000          |
| RU 250 | <b>790 151 046</b> | 4.400          |
| RU 315 | <b>790 152 046</b> | 5.400          |
| RU 400 | <b>790 153 046</b> | 9.300          |
| RU 500 | <b>790 154 046</b> | 13.500         |
| RU 630 | <b>790 155 046</b> | 24.700         |

# 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: particularly, to fit the ECO S 400 - 500 - 630, a special connection interface for the hydraulic unit is needed (available as accessory - product code 790 117 060).

**Description:**

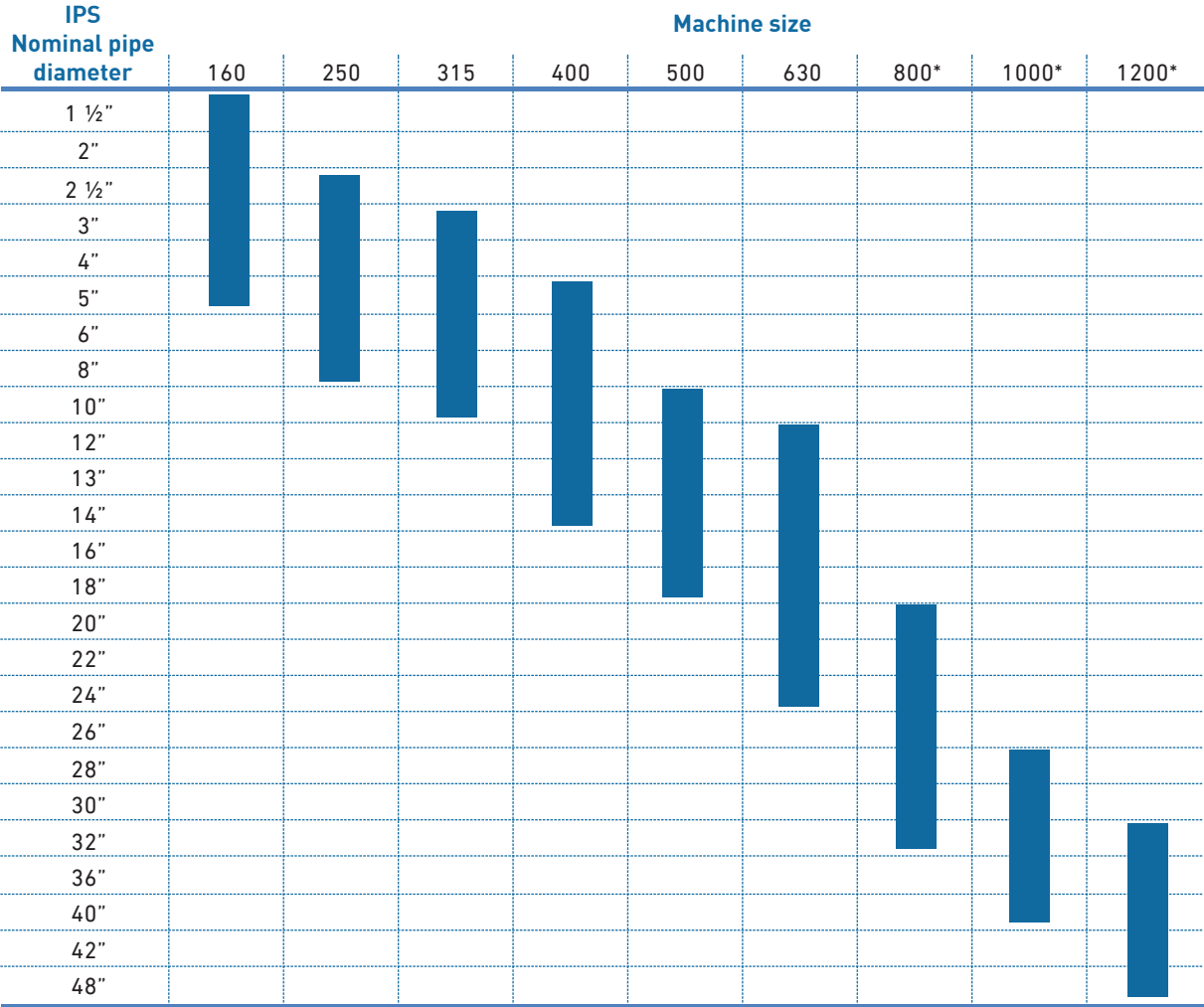
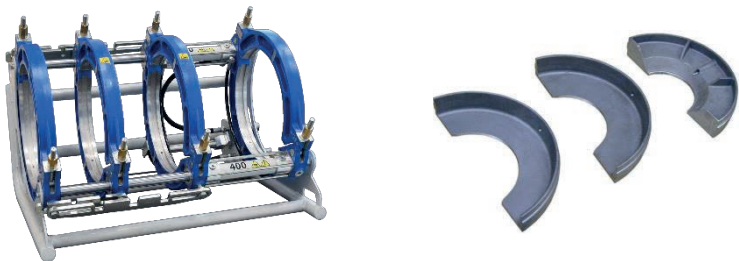
- Intuitive user guidance menu
- Welding standard selection e.g. DVS, UNI, WIS, ISO
- Welding process customisable: 4 user-defined cycles available
- Additional data input as: operator-ID, job and order number, joint number, GPS coordinates from an independent device
- On-board printer for direct print out 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<br>(kg) |
|-------------------------|-------------|----------------|--------------------|----------------|
| WR 200 S - ECO          | 230 V       | 350x300x250 mm | <b>790 119 452</b> | 5.000          |
| WR 200 S                | 230 V       | 350x300x250 mm | <b>790 119 451</b> | 5.000          |
| WR 200                  | 230 V       | 350x300x250 mm | <b>790 119 401</b> | 5.000          |
| WR 200 S - ECO CYRILLIC | 230 V       | 350x300x250 mm | <b>790 119 455</b> | 5.000          |
| WR 200 S CYRILLIC       | 230 V       | 350x300x250 mm | <b>790 119 454</b> | 5.000          |
| WR 200 CYRILLIC         | 230 V       | 350x300x250 mm | <b>790 119 425</b> | 5.500          |

Utility Range

# Trench Machines

## IPS dimensional range

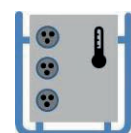
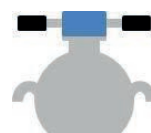


\* Machine suitable for the maximum dimension of the range (32" for GF 800, 40" for GF 1000, 48" for GF 1200)  
available on request

Utility Range

# Trench Machines

## Components codes



| Machine type | Base Machine                     | Hydraulic Unit | Planer      | Heating Element | Case        | Temp. controller / 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    | 790 151 041 | 790 151 056     | 790 151 027 | -                              |
| ECOS 315     | 790 152 024                      | 790 152 009    | 790 152 041 | 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    | 790 151 038 | 790 115 004     | 790 151 027 | -                              |
| TOP 2.0 315  | 790 152 001                      | 790 151 006    | 790 151 038 | 790 112 083     | 790 152 027 | -                              |
| CNC 4.0 160  | 790 150 001<br>+<br>790 150 002* | 790 151 026    | 790 150 000 | 790 114 004     | 790 150 295 | -                              |
| CNC 4.0 250  | 790 151 001<br>+<br>790 152 002* | 790 151 026    | 790 151 038 | 790 115 004     | 790 151 027 | -                              |
| CNC 4.0 315  | 790 152 001<br>+<br>790 152 002* | 790 151 026    | 790 151 038 | 790 112 083     | 790 152 027 | -                              |
| ECOS 400     | 790 153 007                      | 790 340 042    | 790 127 003 | 790 127 004     | 790 127 005 | 790 153 006                    |
| 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<br>+<br>790 153 010* | 790 153 026    | 790 153 002 | 790 127 004     | 790 127 005 | -                              |
| ECOS 500     | 790 340 001                      | 790 340 005    | 790 154 020 | 790 116 004     | 790 116 006 | 790 340 012                    |
| 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<br>+<br>790 116 043* | 790 154 026    | 790 154 022 | 790 154 003     | 790 116 006 | -                              |
| ECOS 630     | 790 117 034                      | 790 340 005    | 790 117 003 | 790 117 017     | 790 117 018 | 790 340 012                    |
| 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<br>+<br>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

# Services



## "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. Under certain conditions, a 10-year warranty is possible.

**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 |





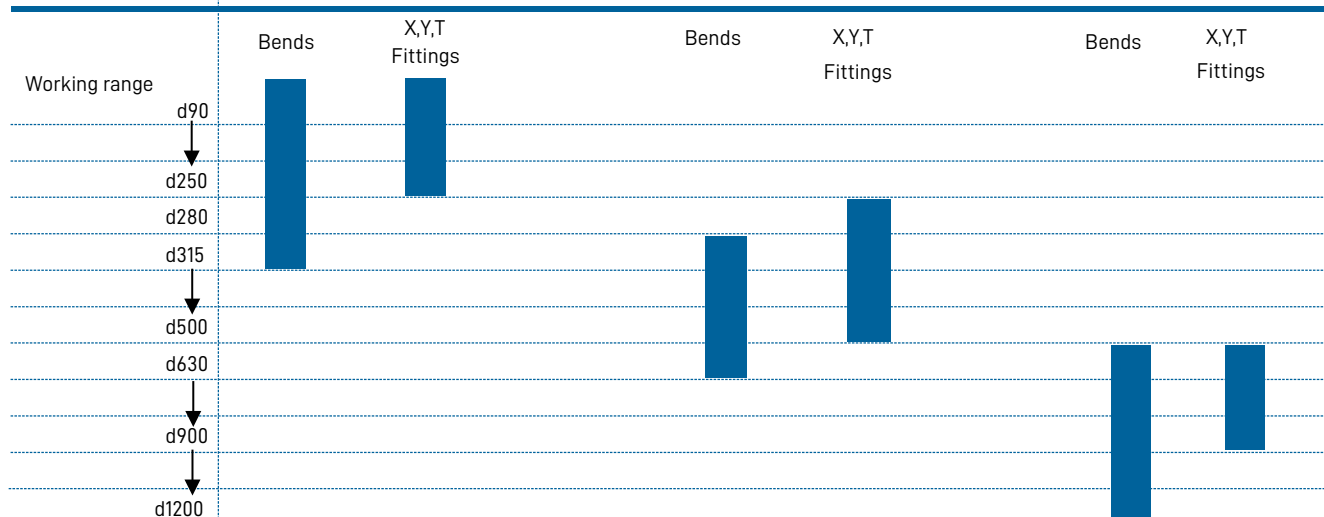
Utility Range

# Workshop Machines

## Product Range Overview



| Characteristic                           | WM 315           | WM 630      | WM 1200   |
|------------------------------------------|------------------|-------------|-----------|
| Max jointing diameter (mm)               | 315              | 630         | 1200      |
| Jointing material                        | PE, PP, PB, PVDF |             |           |
| Working range (°C)                       | -10/+45          | -10/+45     | -10/+45   |
| Input voltage (Vac)                      | 400              | 400         | 400       |
| Operation control                        | Manual, CNC      | Manual, CNC | Manual+WR |
| Performance (W)                          | 4620             | 15600       | 41000     |
| clamping inserts                         | ✓                | ✓           | ✓         |
| Wide clamps for pipes                    | ✓                | ✓           | ✓         |
| fittings                                 | Optional         | Optional    |           |
| Flange adapter clamping unit             | Optional         | Optional    |           |
| T, X, Y clamping units                   | Optional         | Optional    | Optional  |
| Fusion protocols, transfer via USB stick | CNC version      | CNC version | ✓         |
| Weight without package (Kg)              | 460              | 1870        | 8000      |





WM 315

42



WM 315 Accessories

44



WM 630

46



WM 630 Accessories

48



WM 1200

51



WM 1200 Accessories

52

# 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**
  - Clear control panel consisting of digital system pressure display, electronic heating element temperature control, timer with 2 stop times
  - 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
  - Carriage movements are carried out by means of pushbuttons
  - 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<br>(mm) | Performance  | Description                             | Code               | Weight<br>(kg) |
|-------------|--------------|-----------------------------------------|--------------------|----------------|
| 90 - 315    | 400 V/4620 W | With wide clamping units for pipes      | <b>790 118 005</b> | 522.000        |
| 90 - 315    | 400 V/4620 W | With narrow clamping units for fittings | <b>790 118 006</b> | 522.000        |



## 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
- Integrated LAN port on a built-in advanced communication module to directly connect the machine with the IT control system operating in the workshop, for real time monitoring of the fusion parameters and to make possible for the customer to implement on his own (according to his specific needs) the digital information flow from/to the machine
- 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<br>(mm) | Performance  | Description                             | Code               | Weight<br>(kg) |
|-------------|--------------|-----------------------------------------|--------------------|----------------|
| 90 - 315    | 400 V/4620 W | With wide clamping units for pipes      | <b>790 118 009</b> | 546.000        |
| 90 - 315    | 400 V/4620 W | With narrow clamping units for fittings | <b>790118016</b>   | 546.000        |

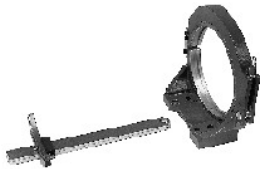
## WM 315 Accessories



### Flange adapter clamping unit

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 90 - 315    | <b>790 118 031</b> | 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<br>(mm) | Type | Code               | Weight<br>(kg) |
|-----------|------|--------------------|----------------|
| 315       | L    | <b>790 118 011</b> | 15.000         |
| 315       | R    | <b>790 118 012</b> | 15.000         |



### Reduction clamping inserts, narrow

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

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 90        | <b>790 112 098</b> | 1.265          |
| 110       | <b>790 112 099</b> | 1.220          |
| 125       | <b>790 112 100</b> | 1.215          |
| 140       | <b>790 112 101</b> | 1.139          |
| 160       | <b>790 112 102</b> | 1.080          |
| 180       | <b>790 112 103</b> | 1.006          |
| 200       | <b>790 112 104</b> | 0.945          |
| 225       | <b>790 112 105</b> | 0.833          |
| 250       | <b>790 112 106</b> | 0.712          |
| 280       | <b>790 112 107</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 315       | <b>790 118 028</b> | 0.741          |



### Set of pipe supports

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 90 - 280    | <b>790 118 025</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 90 - 250    | <b>790 118 032</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 90 - 250    | <b>790 118 033</b> | 179.000        |



### Back stop

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 118 026</b> | 4.000          |



### Set of replacement blades for planer

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

| description | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| long        | <b>790 118 042</b> | 0.220          |
| short       | <b>790 118 043</b> | 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<br>(kg) |
|------------------------------|--------------------|----------------|
| Cable with special connector | <b>790 155 343</b> | 0.120          |

# WM 630



## WM 630

- Machine for joining 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 d280 - 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<br>(mm) | Performance     | Code               | Weight<br>(kg) |
|-------------|-----------------|--------------------|----------------|
| 315 - 630   | 400 V / 15600 W | <b>790 108 020</b> | 2300.000       |





### 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 d280 - 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
- Integrated LAN port on a built-in advanced communication module to directly connect the machine with the IT control system operating in the workshop, for real time monitoring of the fusion parameters and to make possible for the customer to implement on his own (according to his specific needs) the digital information flow from/to the machine
- 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<br>(mm) | Performance   | Code               | Weight<br>(kg) |
|-------------|---------------|--------------------|----------------|
| 315 - 630   | 400 V/15600 W | <b>790 108 101</b> | 2300.000       |

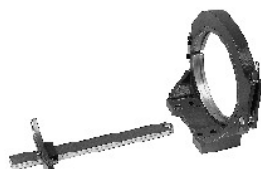
## WM 630 Accessories



### Flange adapter clamping unit

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 315 - 630   | <b>790 108 031</b> | 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<br>(mm) | Type | Code               | Weight<br>(kg) |
|-----------|------|--------------------|----------------|
| 630       | L    | <b>790 108 017</b> | 150.000        |
| 630       | R    | <b>790 108 018</b> | 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

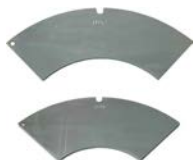
| d<br>(mm) | Code               | SP | Weight<br>(kg) |
|-----------|--------------------|----|----------------|
| 315       | <b>790 116 020</b> | 1  | 3.622          |
| 355       | <b>790 116 021</b> | 1  | 3.267          |
| 400       | <b>790 116 022</b> | 1  | 2.383          |
| 450       | <b>790 116 023</b> | 1  | 2.273          |
| 500       | <b>790 117 238</b> | 1  | 3.700          |
| 560       | <b>790 117 239</b> | 1  | 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 355       | <b>790 116 013</b> | 3.727          |
| 315       | <b>790 116 012</b> | 3.698          |
| 400       | <b>790 116 014</b> | 3.836          |
| 450       | <b>790 116 015</b> | 3.276          |
| 500       | <b>790 117 012</b> | 4.500          |
| 560       | <b>790 117 013</b> | 4.900          |



### Set of pipe supports

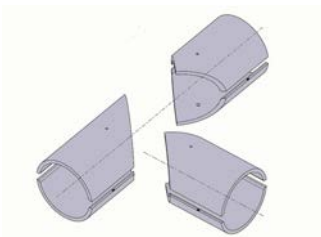
| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 315 - 560   | <b>790 108 009</b> | 16.000         |



### 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 315 - 500   | <b>790 108 032</b> | 491.000        |



### Additional clamping inserts set d280 mm for T-fitting

- To be used in combination with clamping unit code 790 108 032 for the manufacturing of T-fittings with pipe size d280 mm (from SDR 33 to SDR 11) with WM630
- If to be used with already existing WM630 machines, please, get in touch with GF Omicron directly to get information about compatibility and relevant machine upgrade

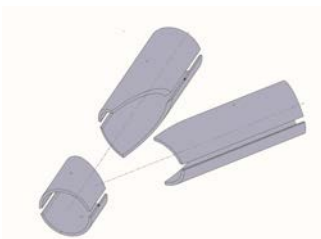
| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 280       | <b>790 108 359</b> | 49.300         |



### 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 315 - 500   | <b>790 108 033</b> | 650.000        |



### Additional clamping inserts set d280 mm for Y-fitting

- To be used in combination with clamping unit code 790 108 033 for the manufacturing of Y-fittings with pipe size d280 mm (from SDR 33 to SDR 11) with WM630
- If to be used with already existing WM630 machines, please, get in touch with GF Omicron directly to get information about compatibility and relevant machine upgrade

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 280       | <b>790 108 360</b> | 70.600         |



### Back stop

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 108 026</b> | 32.000         |



### Set of replacement blades for planer

- (1 set = 4 blades)

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 108 043</b> | 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<br>(kg) |
|------------------------------|--------------------|----------------|
| Cable with special connector | <b>790 155 343</b> | 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
- 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
- Additional hydraulic cylinder assembled on top of the clamping units to guarantee an optimized application of the fusion force, especially for pipe sizes bigger than d900 mm
- 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<br>(mm) | Performance   | Code               | Weight<br>(kg) |
|-------------|---------------|--------------------|----------------|
| 630 - 1200  | 400 V/41000 W | <b>790 126 001</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 630 - 900   | <b>790 126 011</b> | 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

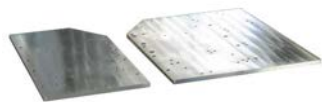
| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 630 - 900   | <b>790 126 012</b> | 5500.000       |



### X-fitting clamping unit

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 630 - 900   | <b>790 126 013</b> | 2900.000       |



### Base Plate T-Y-X pieces

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 126 014</b> | 1000.000       |



### Set of replacement blades for planer

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 126 043</b> | 0.500          |

Utility Range

# Workshop

## Accessories codes

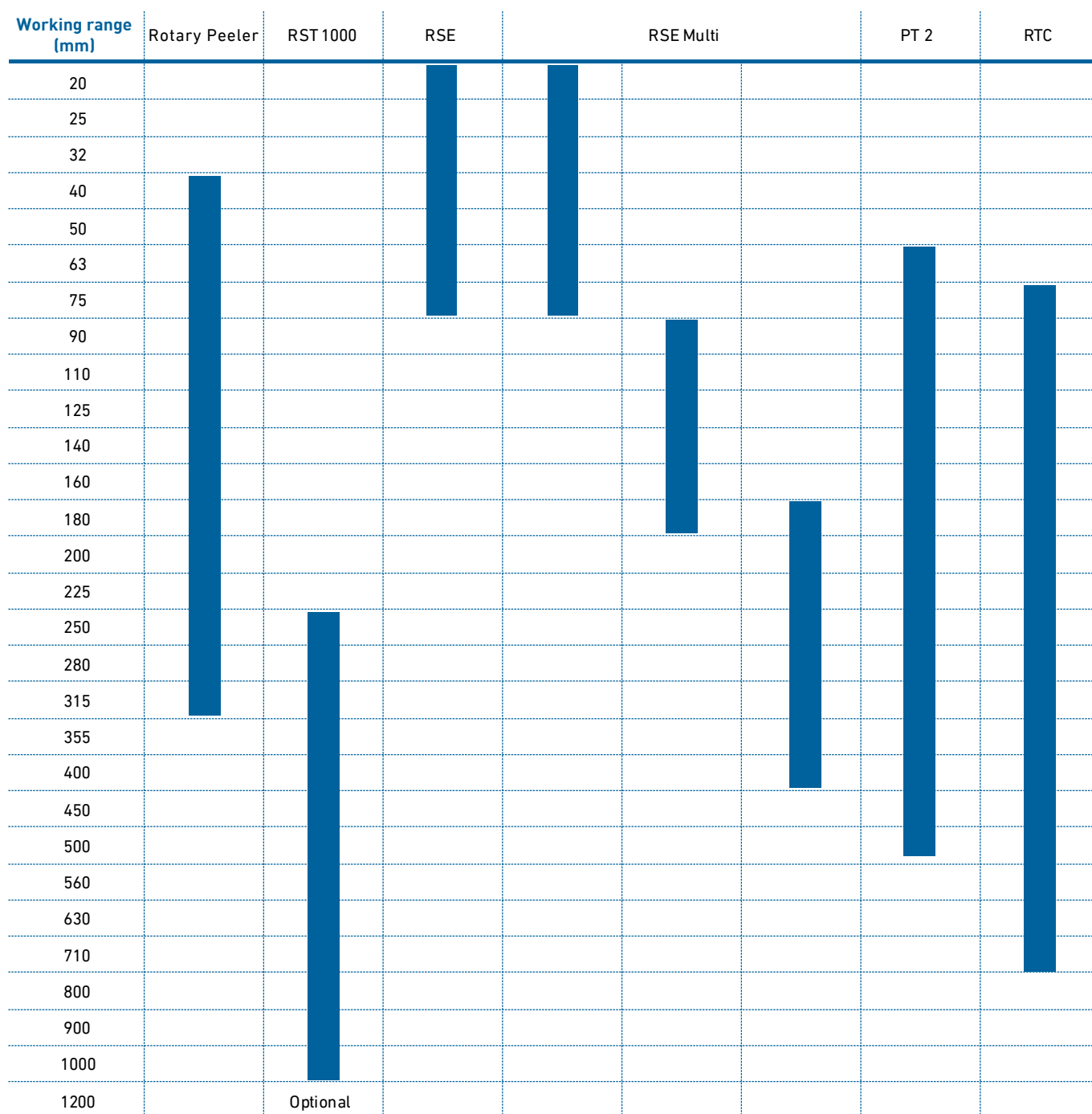
| Machine Type | <br>Clamping unit for fittings | <br>Clamping unit for pipes | <br>Flange adapter clamping unit | <br>T-fitting clamping unit | <br>Y-fitting clamping unit | <br>X-fitting clamping unit              | <br>Back stop |
|--------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| WM 315 FC    | Included                                                                                                        | 790 302 020                                                                                                  |                                                                                                                   |                                                                                                              |                                                                                                               |                                                                                                                             |                                                                                                  |
| WM 315 PC    | 790 118 011*<br>( Left )<br><br>790 118 012*<br>( Right )                                                       | Included                                                                                                     | 790 118 031                                                                                                       | 790 118 032<br>( d 90 - 250 )                                                                                | 790 118 033<br>( d 90 - 250 )                                                                                 | 790 118 032<br>+<br>790 118 038<br>+<br>790 118 039<br>( d 90 - 250 )                                                       | 790 118 026                                                                                      |
| WM 630       | 790 108 017*<br>( Left )<br><br>790 108 018*<br>( Right )                                                       | Included                                                                                                     | 790 108 031                                                                                                       | 790 108 032<br>( d 315 - 500 )<br>+<br>790 108 359<br>( d 280 )                                              | 790 108 033<br>( d 315 - 500 )<br>+<br>790 108 360<br>( d 280 )                                               | 790 108 032<br>+<br>790 108 077<br>+<br>790 108 081<br>( d 315 - 500 )<br>+<br>790 304 374<br>+<br>790 001 447<br>( d 280 ) | 790 108 026                                                                                      |
| WM 1200      | -                                                                                                               | Included                                                                                                     | -                                                                                                                 | 790 126 011<br>+<br>790 126 014<br>( d 630 - 900 )                                                           | 790 126 012<br>+<br>790 126 014<br>( d 630 - 900 )                                                            | 790 126 011<br>+<br>790 126 013<br>( d 630 - 900 )                                                                          | -                                                                                                |

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

Utility Range

# Peeling Tools

## Product Range Overview





# Rotary peelers

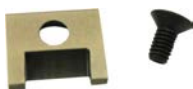


## Rotary Peeler RS

### Note:

- Universal peeling for the preparation of all electrofusion joints
- For pipe ends and saddles
- Materials: PE 80, PE100, PE100-RC, PE-X, PP
- \* Suitable for PB

|   | d    | Article | Code        | SP | Weight |
|---|------|---------|-------------|----|--------|
|   | (mm) |         |             |    | (kg)   |
|   | 40   | RS 40   | 790 136 001 | 1  | 2.340  |
|   | 50   | RS 50   | 790 136 002 | 1  | 2.115  |
|   | 63   | RS 63   | 790 136 003 | 1  | 2.090  |
|   | 75   | RS 75   | 790 136 004 | 1  | 2.350  |
|   | 90   | RS 90   | 790 136 005 | 1  | 2.460  |
|   | 110  | RS 110  | 790 136 006 | 1  | 2.430  |
| * | 125  | RS 125  | 790 136 007 | 1  | 3.895  |
|   | 140  | RS 140  | 790 136 008 | 1  | 3.890  |
|   | 160  | RS 160  | 790 136 009 | 1  | 3.790  |
|   | 180  | RS 180  | 790 136 010 | 1  | 4.150  |
|   | 200  | RS 200  | 790 136 011 | 1  | 3.995  |
| * | 225  | RS 225  | 790 136 012 | 1  | 3.935  |
|   | 250  | RS 250  | 790 136 013 | 1  | 5.575  |
|   | 280  | RS 280  | 790 136 014 | 1  | 5.440  |
| * | 315  | RS 315  | 790 136 015 | 1  | 5.380  |



## Replacement blade to Rotary Peeler RS

| d-d<br>(mm) | Description | Code        | SP | Weight<br>(kg) |
|-------------|-------------|-------------|----|----------------|
| 40 - 315    | Hard metal  | 790 136 100 | 1  | 0.013          |



## Transport cases for Rotary Peeler RS

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

| Article      | Code        | Weight<br>(kg) | Dimension<br>(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 | 3.100          | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 250 - 1000  | <b>799 300 799</b> | 10.552         |



### Replacement blade for rotary peeling tool RST 1000

| d-d<br>(mm) | Code               | SP | Weight<br>(kg) | Description                  |
|-------------|--------------------|----|----------------|------------------------------|
| 250 - 1000  | <b>799 300 802</b> | 1  | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 250 - 1000  | <b>799 300 806</b> | 3.000          |



### Spare part RST 1000

| d-d<br>(mm) | Code               | Weight<br>(kg) | Description                     | L<br>(mm) |
|-------------|--------------------|----------------|---------------------------------|-----------|
| 250 - 1000  | <b>799 300 795</b> | 0.50           | Roller wagon w/link piece 55 mm | 215       |
| 250 - 1000  | <b>799 300 796</b> | 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<br>(mm) | Code               | Weight<br>(kg) | SDR | e<br>(mm) | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|--------------------|----------------|-----|-----------|-----------|-----------|-----------|
| 20        | <b>799 300 376</b> | 0.60           | 11  | 2.0       | 280       | 50        | 50        |
| 25        | <b>799 300 377</b> | 0.65           | 11  | 2.3       | 280       | 50        | 50        |
| 32        | <b>799 300 378</b> | 0.65           | 11  | 3.0       | 280       | 50        | 50        |
| 40        | <b>799 300 379</b> | 0.70           | 11  | 3.7       | 280       | 55        | 55        |
| 50        | <b>799 300 380</b> | 0.80           | 11  | 4.6       | 280       | 65        | 65        |
| 63        | <b>799 300 381</b> | 1.00           | 11  | 5.8       | 280       | 85        | 85        |
| 75        | <b>799 300 382</b> | 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<br>(mm) | Description                      | Code               | Weight<br>(kg) | SDR | e<br>(mm) | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|----------------------------------|--------------------|----------------|-----|-----------|-----------|-----------|-----------|
|           | Basic tool + box                 | <b>799 300 350</b> | 0.58           |     |           | 280       | 95        | 98        |
|           | Basic tool + case                | <b>799 300 351</b> | 1.45           |     |           | 391       | 304       | 134       |
|           | Basic tool+case+d32+d63          | <b>799 300 352</b> | 1.88           | 11  |           | 391       | 304       | 134       |
|           | Basic tool+case +d32+d40+d50+d63 | <b>799 300 353</b> | 2.18           | 11  |           | 391       | 304       | 134       |
| 20        | Insert RSE                       | <b>799 300 354</b> | 0.30           | 7   | 3.0       | 45        | 20        | 20        |
| 20        | Insert RSE                       | <b>799 300 356</b> | 0.05           | 11  | 2.0       | 45        | 20        | 20        |
| 25        | Insert RSE                       | <b>799 300 355</b> | 0.10           | 9   | 3.0       | 45        | 25        | 25        |
| 25        | Insert RSE                       | <b>799 300 357</b> | 0.10           | 11  | 2.3       | 45        | 25        | 25        |
| 32        | Insert RSE                       | <b>799 300 358</b> | 0.10           | 11  | 3.0       | 50        | 30        | 30        |
| 40        | Insert RSE                       | <b>799 300 359</b> | 0.10           | 11  | 3.7       | 50        | 40        | 40        |
| 50        | Insert RSE                       | <b>799 300 360</b> | 0.20           | 11  | 4.6       | 60        | 50        | 50        |
| 50        | Insert RSE                       | <b>799 300 370</b> | 0.20           | 17  | 3.0       | 60        | 50        | 50        |
| 63        | Insert RSE                       | <b>799 300 361</b> | 0.33           | 11  | 5.8       | 60        | 60        | 60        |
| 63        | Insert RSE                       | <b>799 300 371</b> | 0.33           | 17  | 3.8       | 60        | 60        | 60        |
| 75        | Insert RSE                       | <b>799 300 362</b> | 0.47           | 11  | 6.8       | 60        | 70        | 70        |
| 75        | Insert RSE                       | <b>799 300 372</b> | 0.47           | 17  | 4.5       | 60        | 70        | 70        |
|           | Blade RSE                        | <b>799 300 347</b> | 0.01           |     |           | 7         | 7         | 3         |
|           | Handle RSE                       | <b>790 308 450</b> | 0.08           |     |           | 60        | 50        | 50        |



#### Pipe end peeler RSE multi

- **Rotary peeler for reliable pipe preparation prior to electrofusion**
- 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<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | SDR     | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|---------|-----------|-----------|-----------|
| 90        | 180        | <b>799 300 364</b> | 4.80           | 11 - 17 | 494       | 402       | 156       |



#### Pipe end peeler RSE 400

- **Rotary peeler for reliable pipe preparation prior to electrofusion**
- 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 (d180-400mm corr. to 8"-16")
- 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<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | SDR   | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|-------|-----------|-----------|-----------|
| 180       | 400        | <b>799 300 365</b> | 13.00          | 11-17 | 665       | 562       | 250       |



#### 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<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|-----------|-----------|-----------|
| 20        | 75         | <b>790 308 312</b> | 0.870          | 391       | 304       | 134       |
| 90        | 180        | <b>790 308 313</b> | 1.900          | 494       | 402       | 156       |
| 180       | 400        | <b>790 308 344</b> | 6.000          | 665       | 562       | 250       |



#### 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<br>(mm) | Code               | Weight<br>(kg) | Description                   |
|-------------|--------------------|----------------|-------------------------------|
| 63 - 250    | <b>799 300 752</b> | 7.500          | Size 1, peeling length 140 mm |
| 110 - 400   | <b>799 300 755</b> | 9.900          | Size 2, peeling length 150 mm |
| 110 - 500   | <b>799 300 756</b> | 3.900          | Size 3, peeling length 175 mm |



PT 2

#### Replacement blade for peeling tool PT 2

| d-d<br>(mm) | Code               | Weight<br>(kg) | Description                |
|-------------|--------------------|----------------|----------------------------|
| 63 - 500    | <b>799 150 355</b> | 0.008          | Replacement blade, 1 piece |



#### 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<br>(mm) | Code               | Weight<br>(kg) | Description               |
|-------------|--------------------|----------------|---------------------------|
| 75 - 315    | <b>799 150 423</b> | 9.616          | max. working-range 185 mm |
| 355 - 710   | <b>799 300 757</b> | 31.400         | max. working-range 530 mm |



#### Replacement blade for peeling tool RTC

| d-d<br>(mm) | Piece | Code               | Weight<br>(kg) | Description                |
|-------------|-------|--------------------|----------------|----------------------------|
| 75 - 710    | 1     | <b>799 300 586</b> | 0.020          | Replacement blade, 1 piece |



#### 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<br>(mm) | Code               | Weight<br>(kg) | SDR                                       |
|-----------|--------------------|----------------|-------------------------------------------|
| 32-90     | <b>799 738 001</b> | 10.500         | SDR11                                     |
| 110-225   | <b>799 738 003</b> | 16.500         | d110+d140<br>SDR11;<br>d160+d225<br>SDR17 |
| 250-450   | <b>799 738 004</b> | 71.000         | SDR17                                     |

#### Hand scraper

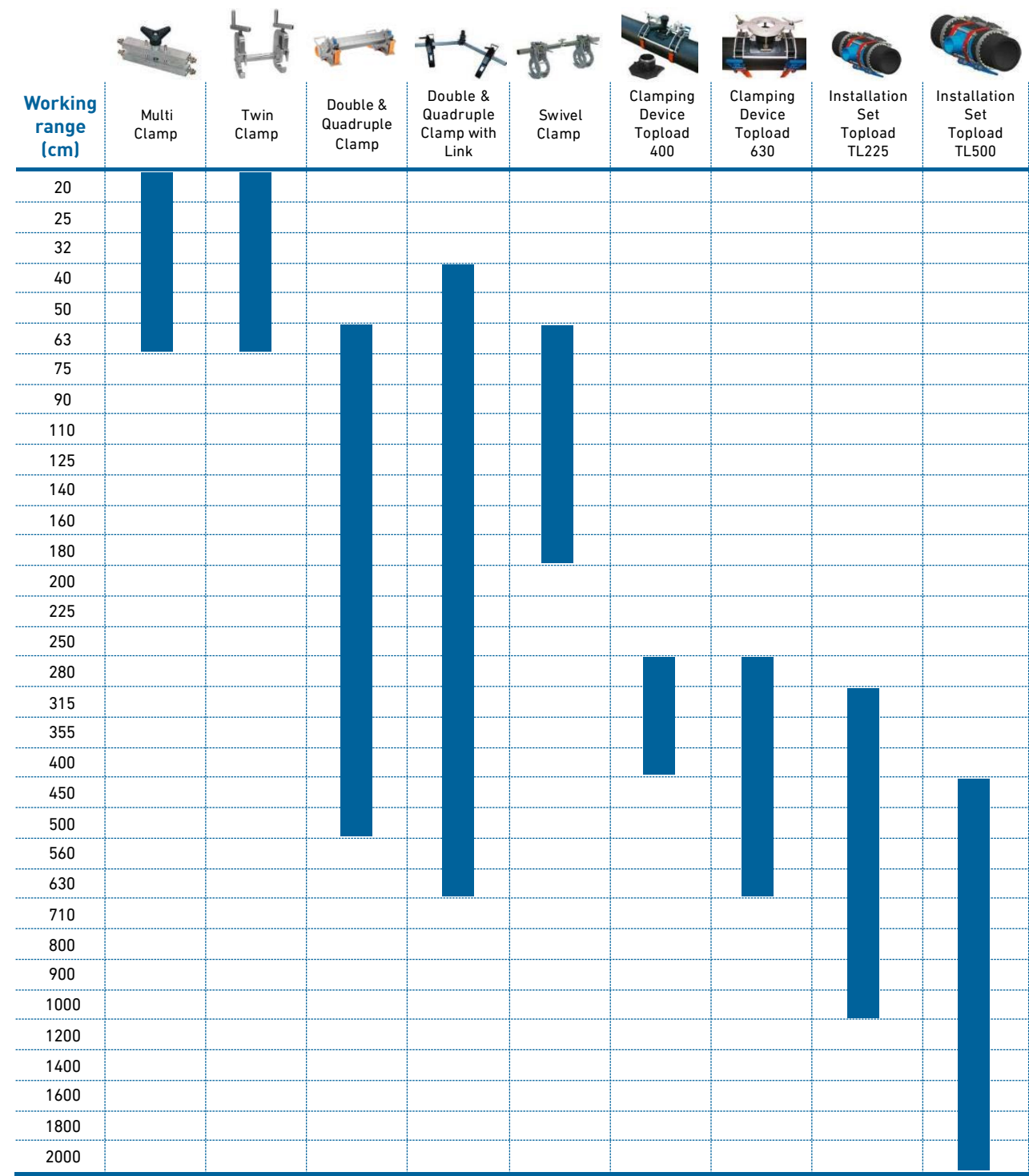


- The Hand Scraper can be used to prepare the fusion zone on PE80 pipes.

| Description                   | Code               | Weight<br>(kg) |
|-------------------------------|--------------------|----------------|
| Hand scraper with long handle | <b>799 198 094</b> | 0.143          |

# Clamping and Installation Tools

## Product Range Overview



## Pipe clamps



### Clamping tool Double, single size

- 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<br>(mm) | Code               | Weight<br>(kg) | Length<br>(mm) | Height<br>(mm) | Width<br>(mm) |
|-----------|--------------------|----------------|----------------|----------------|---------------|
| 20        | <b>799 301 536</b> | 0.658          | 190            | 70             | 80            |
| 25        | <b>799 301 537</b> | 0.471          | 190            | 70             | 80            |
| 32        | <b>799 301 538</b> | 0.756          | 300            | 80             | 190           |
| 40        | <b>799 301 539</b> | 1.079          | 300            | 90             | 200           |
| 50        | <b>799 301 540</b> | 1.326          | 300            | 100            | 210           |
| 63        | <b>799 301 541</b> | 1.618          | 300            | 110            | 230           |



### 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<br>(mm) | Code               | Weight<br>(kg) | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-------------|--------------------|----------------|----------------|---------------|----------------|
| 20 - 63     | <b>799 301 575</b> | 0.800          | 220            | 80            | 140            |



### 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<br>(mm) | Code               | Weight<br>(kg) | Description   | Length<br>(mm) |
|-------------|--------------------|----------------|---------------|----------------|
| 25 - 20     | <b>799 150 385</b> | 0.500          | Inserts, Sets | 200            |
| 32 - 20     | <b>799 150 386</b> | 0.500          | Inserts, Sets | 200            |
| 32 - 25     | <b>799 150 387</b> | 0.500          | Inserts, Sets | 220            |
| 40 - 32     | <b>799 150 388</b> | 0.500          | Inserts, Sets | 200            |
| 50 - 40     | <b>799 150 389</b> | 0.500          | Inserts, Sets | 200            |
| 63 - 32     | <b>799 150 390</b> | 0.500          | Inserts, Sets | 220            |
| 63 - 40     | <b>799 150 391</b> | 0.500          | Inserts, Sets | 200            |
| 63 - 50     | <b>799 150 392</b> | 0.500          | Inserts, Sets | 200            |



### Clamping tool Double, multi size

- 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<br>(mm) | Code               | Weight<br>(kg) | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-------------|--------------------|----------------|----------------|---------------|----------------|
| 63 - 125    | <b>799 301 484</b> | 3.506          | 340            | 180           | 130            |
| 110 - 225   | <b>799 301 486</b> | 7.918          | 500            | 240           | 190            |
| 225 - 500   | <b>799 301 488</b> | 14.735         | 650            | 300           | 250            |



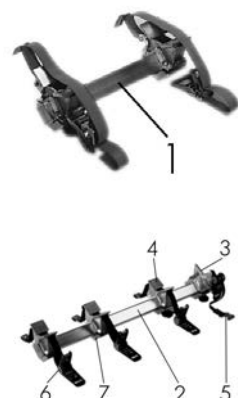


### Clamping tool Quadruple, multi size

- 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<br>(mm) | Code               | Weight<br>(kg) | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-------------|--------------------|----------------|----------------|---------------|----------------|
| 63 - 125    | <b>799 301 459</b> | 7.142          | 760            | 180           | 130            |
| 110 - 225   | <b>799 301 461</b> | 16.490         | 1120           | 240           | 190            |
| 225 - 500   | <b>799 301 463</b> | 28.500         | 1510           | 300           | 250            |

### Spare parts for clamps



| Pos | Dimension<br>(mm) | Code               | SP | Weight<br>(kg) | Description          |
|-----|-------------------|--------------------|----|----------------|----------------------|
| 1   | 63-125, 45mm      | <b>799 900 414</b> |    | 1.700          | square support short |
|     | 110-225, 60mm     | <b>799 900 405</b> |    | 3.500          | square support short |
|     | 225-500, 80mm     | <b>799 900 394</b> |    | 6.000          | square support short |
| 2   | 63-125, 45mm      | <b>799 900 413</b> |    | 3.600          | square support long  |
|     | 110-225, 60mm     | <b>799 900 404</b> |    | 6.500          | square support long  |
|     | 225-500, 80mm     | <b>799 900 387</b> |    | 11.500         | square support long  |
| 4   | 63-125            | <b>799 900 421</b> |    | 0.977          | prism wide           |
|     | 110-225           | <b>799 900 423</b> |    | 2.000          | prism wide           |
|     | 225-500           | <b>799 900 425</b> |    | 4.500          | prism wide           |
|     | 63-125            | <b>799 150 313</b> |    | 0.232          | ratch 25/25/0.7      |
|     | 110-225           | <b>799 150 315</b> |    | 0.496          | ratch 35/35/1.1      |
|     | 225-500           | <b>799 150 319</b> | 1  | 1.415          | ratch 50/50/2.1      |
| 7   |                   | <b>799 150 314</b> | 1  | 0.050          | clamping screw       |



### Clamping tool Double, multi size 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   | d1  | Code               | Weight<br>(kg) |
|-----|-----|--------------------|----------------|
| 40  | 200 | <b>799 301 490</b> | 4.200          |
| 160 | 630 | <b>799 301 496</b> | 14.100         |

| d<br>(mm) | Description                                                                                       | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-----------|---------------------------------------------------------------------------------------------------|----------------|---------------|----------------|
| 40        | Scope of delivery: 2 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (600x380x250) | 900            | 290           | 230            |
| 160       | Scope of delivery: 2 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (780x780x580) | 1300           | 670           | 550            |





### Clamping tool Quadruple, multi size 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<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) |
|-----------|------------|--------------------|----------------|
| 40        | 200        | <b>799 301 489</b> | 8.300          |
| 160       | 630        | <b>799 301 495</b> | 23.300         |

| d<br>(mm) | Description                                                          | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-----------|----------------------------------------------------------------------|----------------|---------------|----------------|
| 40        | Scope of delivery: 4 x V-block, 2 x Straight bar, 1 x Universal link | 900            | 290           | 230            |
| 160       | Scope of delivery: 4 x V-block, 2 x Straight bar, 1 x Universal link | 1300           | 670           | 550            |



### Tee adaptor

- Suitable for clamping tool (799301495)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-----------|------------|--------------------|----------------|-------------|----------------|---------------|----------------|
| 40        | 200        | <b>799 301 491</b> | 0.610          | Tee adaptor | 600            | 50            | 40             |
| 160       | 630        | <b>799 301 497</b> | 3.500          | Tee adaptor | 1070           | 75            | 60             |



### V-block

- Suitable for clamping tool (799301495)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description      | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-----------|------------|--------------------|----------------|------------------|----------------|---------------|----------------|
| 40        | 200        | <b>799 301 492</b> | 1.000          | V-block complete | 290            | 230           | 65             |
| 160       | 630        | <b>799 301 498</b> | 3.200          | V-block complete | 660            | 430           | 90             |



### Bar extension

- Suitable for clamping tool (799301495)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description   | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-----------|------------|--------------------|----------------|---------------|----------------|---------------|----------------|
| 160       | 630        | <b>799 301 499</b> | 1.000          | Bar extension | 1000           | 40            | 40             |



### Clamping tool

#### Double, multi size with link

- 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<br>(mm) | Code               | Weight<br>(kg) | Length<br>(mm) | Width<br>(mm) | Height<br>(mm) |
|-------------|--------------------|----------------|----------------|---------------|----------------|
| 63 - 180    | <b>799 350 358</b> | 13.000         | 1500           | 370           | 390            |

## Topload clamps



### ELGEF Plus 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 280 - 400   | <b>799 350 475</b> | 20.000         |



### ELGEF Plus 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

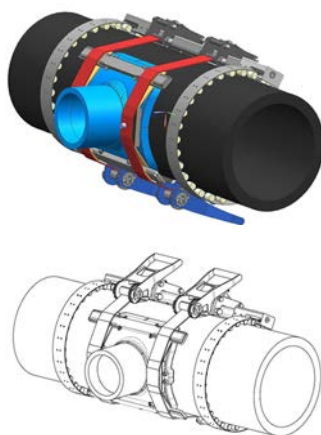
| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 280 - 630   | <b>799 350 477</b> | 28.400         |



### ELGEF Plus 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

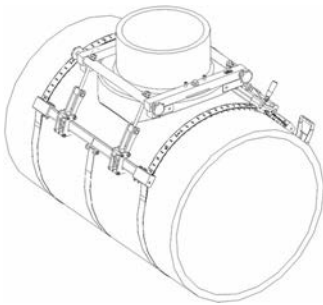
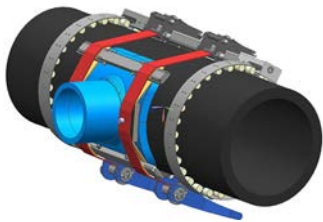
| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 280 - 630   | <b>799 350 476</b> | 11.343         |



### ELGEF Plus 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<br>(kg) |
|--------------------|----------------|
| <b>799 300 807</b> | 48.000         |



### ELGEF Plus 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)    |
|--------------------|---------|
| <b>799 300 809</b> | 124.000 |



### Accessories / single parts for Installation set Topload

| Description                                  | Code               | SP | Weight<br>(kg) |
|----------------------------------------------|--------------------|----|----------------|
| Transport box TL 225 (860x700x180)           | <b>799 300 923</b> | 1  | 18.500         |
| Frame TL 225 incl. tension belt up to 1000mm | <b>799 300 820</b> | 1  | 14.000         |
| Peeling tool TL 225                          | <b>799 300 835</b> | 1  | 5.600          |
| Clamp TL 225                                 | <b>799 300 920</b> | 1  | 9.900          |
| Peel cutter TL                               | <b>799 300 831</b> | 1  | 0.066          |



### ELGEF Plus Multiple use assembly tool branch saddle PE100 d140mm

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

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 140       | <b>193 281 027</b> | 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 PE, PP, PB, PVDF, ECTFE and PVC-U
- 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<br>(kg) |
|------------------------------|--------------------|----------------|
| 1 dispenser with 100 tissues | <b>799 298 024</b> | 0.333          |



### Tangit KS Cleaner

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

| Size    | Code               | Weight<br>(kg) |
|---------|--------------------|----------------|
| 1 liter | <b>799 298 023</b> | 0.872          |



### Degreasing Tissues

- For degreasing the PE pipe surface prior to fusion

| description             | Type  | Code               | Weight<br>(kg) |
|-------------------------|-------|--------------------|----------------|
| For pipes up to d225 mm | large | <b>799 496 011</b> | 0.008          |



### Marker

| Type   | Code               | Weight<br>(kg) |
|--------|--------------------|----------------|
| silver | <b>799 350 364</b> | 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<br>(mm) | description                      | Code               | Weight<br>(kg) |
|-------------|----------------------------------|--------------------|----------------|
| 25 - 110    | Special version for INSTAFLEX PB | <b>790 309 005</b> | 1.100          |
| 25 - 110    | Standard version                 | <b>790 309 006</b> | 1.100          |
| 25 - 200    | Standard version                 | <b>790 309 003</b> | 1.300          |
| 63 - 400    | Standard version                 | <b>790 309 004</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 40 - 200    | <b>790 309 001</b> | 1.300          |
| 50 - 315    | <b>790 309 002</b> | 2.600          |



### Spare blades for chamfering tool

- 1 piece of each code mounted on every chamfering tool

| d-d<br>(mm) | Description   | Code               | Weight<br>(kg) |
|-------------|---------------|--------------------|----------------|
| 25 - 400    | Spare blade   | <b>790 309 015</b> | 0.010          |
| 25 - 400    | Counter blade | <b>790 309 016</b> | 0.012          |



### Outer bead remover

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

### Deburring tool

- Replacable blade



| Code               | SP | Weight<br>(kg) |
|--------------------|----|----------------|
| <b>790 205 082</b> | 1  | 0.058          |



#### Spare blades for deburring tool

- 10 pieces

| Code               | SP | Weight<br>(kg) |
|--------------------|----|----------------|
| <b>790 205 083</b> | 1  | 0.031          |



#### Chamfering / deburring tool

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

| Code               | SP | Weight<br>(kg) |
|--------------------|----|----------------|
| <b>790 205 085</b> | 1  | 0.450          |



#### Measuring tape (circumference and diameter)

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

| Code               | SP | Weight<br>(kg) |
|--------------------|----|----------------|
| <b>790 205 087</b> | 1  | 0.045          |



#### 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 315    | <b>790 109 110</b> | 5.950          |



#### 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 110 - 630   | <b>790 109 109</b> | 4.725          |

# Rerounding and Squeeze-off tools

## Rerounding tools



**Re-rounding tool 1**  
**Type nut cracker**

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

| d<br>(mm) | Code        | SP | Weight<br>(kg) | Description      |
|-----------|-------------|----|----------------|------------------|
| 25        | 799 199 127 | 1  | 0.577          | Type nut cracker |
| 32        | 799 199 128 | 1  | 0.500          | Type nut cracker |
| 40        | 799 199 129 | 1  | 1.500          | Type nut cracker |
| 50        | 799 199 130 | 1  | 1.616          | Type nut cracker |



**Re-rounding tool 2**  
**Type hinged collar**

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

| d<br>(mm) | Code        | SP | Weight<br>(kg) | Description        |
|-----------|-------------|----|----------------|--------------------|
| 63        | 799 199 131 | 1  | 0.742          | Type hinged collar |
| 75        | 799 199 132 | 1  | 0.791          | Type hinged collar |



**Re-rounding tool 3**  
**Type hinged collar**

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

| d<br>(mm) | Code        | SP | Weight<br>(kg) | Description        |
|-----------|-------------|----|----------------|--------------------|
| 90        | 799 199 133 | 1  | 1.690          | Type hinged collar |
| 110       | 799 199 134 | 1  | 1.537          | Type hinged collar |
| 125       | 799 199 135 | 1  | 1.917          | Type hinged collar |
| 160       | 799 199 137 | 1  | 2.318          | Type hinged collar |
| 180       | 799 199 138 | 1  | 2.493          | Type hinged collar |





#### Re-rounding tool 4 Type split collar

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

| d<br>(mm) | Code               | SP | Weight<br>(kg) | Description       |
|-----------|--------------------|----|----------------|-------------------|
| 200       | <b>799 199 139</b> | 1  | 2.500          | Type split collar |
| 225       | <b>799 199 140</b> | 1  | 3.361          | Type split collar |
| 250       | <b>799 199 141</b> | 1  | 1.872          | Type split collar |



#### Re-rounding tool Multi

- 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 ringspinner is not included in scope of delivery

<sup>1</sup> Material: Galvanized steel, Scope of delivery: 2 x Crossbar, 2 x Spindle, 2 x Nut AF 30, 2 x Spindle protection, Transport box

<sup>2</sup> Material: Aluminium, Scope of delivery: 2 x Crossbar, 2 x Spindle, 2 x Nut AF 55, 2 x Spindle protection

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



#### Transport box for Re-rounding tool

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

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) |
|-----------|------------|--------------------|----------------|
| 280       | 450        | <b>799 350 691</b> | 7.800          |
| 450       | 630        | <b>799 350 692</b> | 9.200          |
| 630       | 900        | <b>799 350 693</b> | 11.000         |
| 900       | 1400       | <b>799 350 697</b> | 40.000         |
| 1400      | 2000       | <b>799 350 698</b> | 50.000         |



#### Crossbeam for Re-rounding tool

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

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) |
|-----------|------------|--------------------|----------------|
| 280       | 450        | <b>799 350 706</b> | 9.500          |
| 450       | 630        | <b>799 350 707</b> | 15.700         |
| 630       | 900        | <b>799 350 708</b> | 19.800         |
| 900       | 1400       | <b>799 350 709</b> | 55.000         |
| 1400      | 2000       | <b>799 350 710</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 315       | <b>799 350 660</b> | 0.271          |
| 355       | <b>799 350 661</b> | 0.255          |
| 400       | <b>799 350 662</b> | 0.257          |
| 450       | <b>799 350 663</b> | 0.245          |
| 500       | <b>799 350 664</b> | 0.334          |
| 560       | <b>799 350 665</b> | 0.324          |
| 630       | <b>799 350 666</b> | 0.319          |
| 710       | <b>799 350 667</b> | 0.310          |
| 800       | <b>799 350 668</b> | 0.311          |
| 900       | <b>799 350 669</b> | 0.425          |
| 1000      | <b>799 350 670</b> | 0.420          |
| 1200      | <b>799 350 671</b> | 0.413          |
| 1400      | <b>799 350 672</b> | 0.410          |
| 1600      | <b>799 350 673</b> | 0.407          |
| 2000      | <b>799 350 674</b> | 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<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                                                            |
|-----------|------------|--------------------|----------------|------------------------------------------------------------------------|
| 315       | 2000       | <b>799 350 685</b> | 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<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                        |
|-----------|------------|--------------------|----------------|------------------------------------|
| 280       | 450        | <b>799 350 706</b> | 9.500          | 1 x Crossbeam compl. for 799350688 |
| 450       | 630        | <b>799 350 707</b> | 15.700         | 1 x Crossbeam compl. for 799350689 |
| 630       | 900        | <b>799 350 708</b> | 19.800         | 1 x Crossbeam compl. for 799350690 |
| 900       | 1400       | <b>799 350 709</b> | 55.000         | 1 x Crossbeam compl. for 799350695 |
| 1400      | 2000       | <b>799 350 710</b> | 75.000         | 1 x Crossbeam compl. for 799350696 |
| 280       | 450        | <b>799 350 701</b> | 1.150          | 1 x Spindle for 799350688          |
| 450       | 630        | <b>799 350 702</b> | 1.650          | 1 x Spindle for 799350689          |
| 630       | 900        | <b>799 350 703</b> | 2.300          | 1 x Spindle for 799350690          |
| 900       | 1400       | <b>799 350 704</b> | 14.400         | 1 x Spindle for 799350695          |
| 1400      | 2000       | <b>799 350 705</b> | 20.000         | 1 x Spindle for 799350696          |
| 280       | 900        | <b>799 350 700</b> | 0.220          | 1 x Nut AF 30 for 799350688-90     |
| 900       | 2000       | <b>799 350 724</b> | 0.440          | 1 x Nut AF 30 for 799350695-96     |
| 280       | 900        | <b>799 350 735</b> | 0.100          | 1 x Washer for 799350688-90        |
| 900       | 2000       | <b>799 350 736</b> | 0.330          | 1 x Washer for 799350695-96        |
| 280       | 900        | <b>799 350 728</b> | 0.240          | 1 x Bolt for 799350688-90          |

table continued on the next page

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                            |
|-----------|------------|--------------------|----------------|----------------------------------------|
| 900       | 2000       | <b>799 350 727</b> | 1.400          | 1 x Bolt for 799350695-96              |
| 280       | 2000       | <b>799 350 737</b> | 0.100          | 1 x Spring cotter pin for 799350688-96 |
| 900       | 2000       | <b>799 350 729</b> | 0.370          | 1 x Linch pin for 799350695-96         |
| 280       | 450        | <b>799 350 691</b> | 7.800          | 1 x Transport box for 799350688        |
| 450       | 630        | <b>799 350 692</b> | 9.200          | 1 x Transport box for 799350689        |
| 630       | 900        | <b>799 350 693</b> | 11.000         | 1 x Transport box for 799350689        |



#### Single parts for pipe gauge

- Suitable for pipe gauge (799350660 - 685)

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

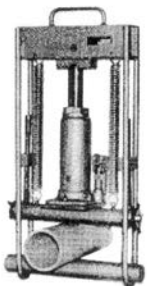
## Squeeze-off tools



#### 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<br>(mm) | Code               | Weight<br>(kg) | Description            |
|-------------|--------------------|----------------|------------------------|
| 20 - 63     | <b>799 350 107</b> | 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<br>(mm) | Code               | Weight<br>(kg) | Description                                         |
|-------------|--------------------|----------------|-----------------------------------------------------|
| 63 - 180    | <b>799 350 108</b> | 36.500         | S2 for PE pipes SDR 11 and SDR 17; Jack Force: 15 t |



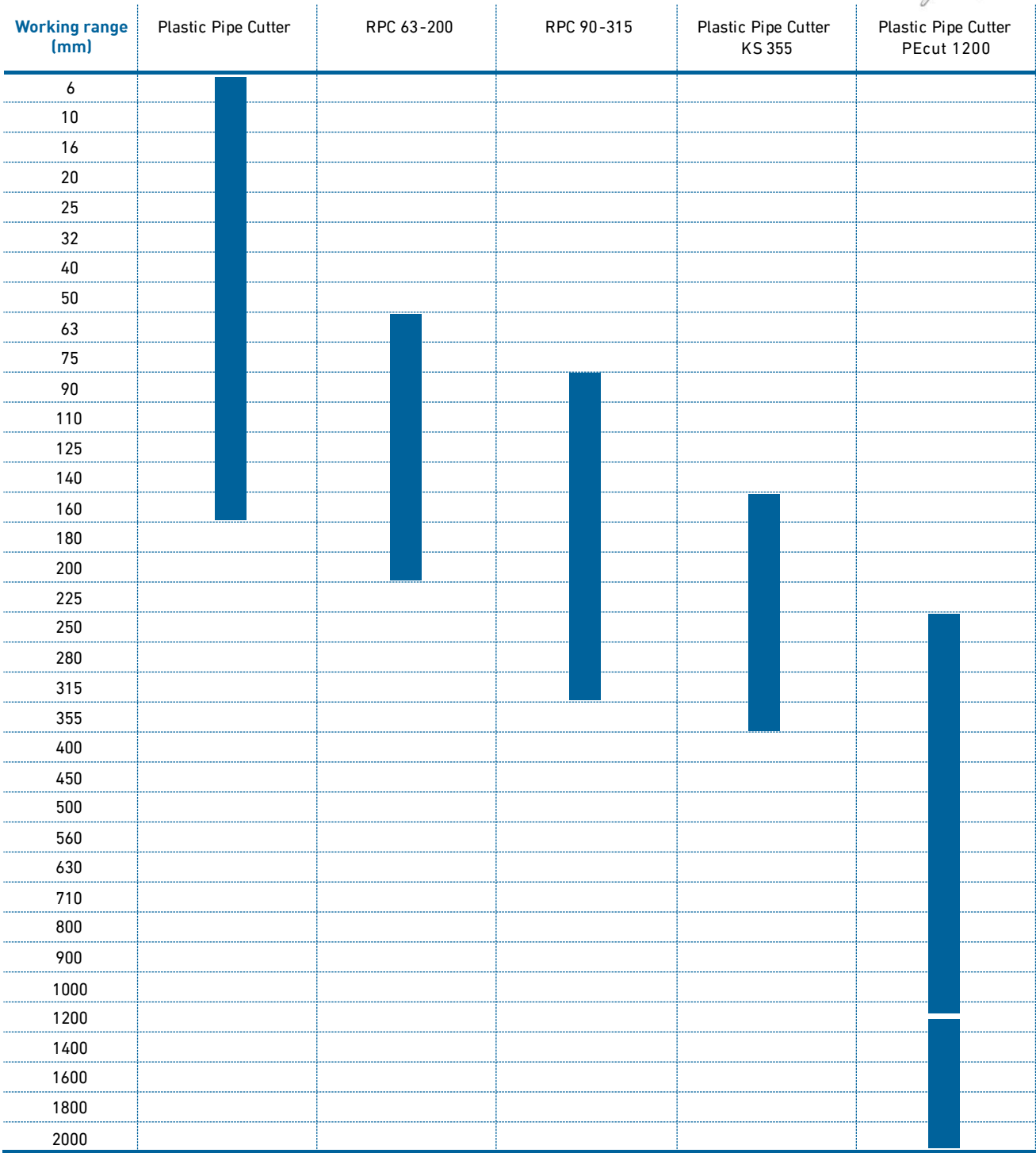
#### Squeeze-off tool type A25

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

# Cutting Tools

## Product Range Overview





Manual cutting tools

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Electric cutting tools

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# Manual cutting tools

## PPC Plastic pipe cutter

### Model:

- For cutting of plastic pipes d6 - d160
- Suitable for all GF plastic types PE, PVC-U, PVC-C, ABS, PP, PVDF, ECTFE
- Removable deburring tool integrated

### Note:

\* Additional spare cutting wheel included in the handle



|   | d<br>(mm)           | Article                                                    | Code               | Weight<br>(kg) | Closest inch<br>(inch) |
|---|---------------------|------------------------------------------------------------|--------------------|----------------|------------------------|
| * | 6 - 63              | Plastic Pipe cutter (s max. 7.00mm)                        | <b>790 109 094</b> | 0.785          | 1/8 - 2                |
|   | 50 - 125            | Plastic Pipe cutter (s max. 16.00mm)                       | <b>790 109 095</b> | 1.875          | 1 1/2 - 4              |
|   | 110 - 160           | Plastic Pipe cutter (s max. 16.00mm)                       | <b>790 109 096</b> | 2.255          | 4 - 6                  |
|   | 6 - 63              | Spare cutting wheel d6-63mm (3 Pcs./Pu.)                   | <b>790 109 097</b> | 0.010          |                        |
|   | 50-125 /<br>110-160 | Spare cutting wheel d50-125mm /<br>d110-160mm (2 Pcs./Pu.) | <b>790 109 098</b> | 0.030          |                        |

## 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 63 - 200    | <b>790 109 850</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 90 - 315    | <b>790 109 851</b> | 5.000          |



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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 63 - 315    | <b>790 109 861</b> | 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<br>(mm) | Code               | Weight<br>(kg) | Power                   |
|-------------|--------------------|----------------|-------------------------|
| 160 - 355   | <b>790 202 001</b> | 15.400         | 1750 W; 230 V; 50/60 Hz |



#### Replacement saw blade Ø 180x30 for KS 355

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 202 011</b> | 0.354          |



#### Plastic pipe cutter PEcut 1200

- **Plastic pipe cutter for precise and safe cutting of plastic pipes**
- Battery powered, oil-free chain saw with unique clamping and guiding mechanism
- Large application range from d250 - 1200mm, 10" - 46"
- Large application range COOL-FIT 160/250mm (d/D) - 450/630mm (d/D)
- Applicable for pipe wall thickness from 10 - 180mm
- Recommended for solid wall PE pipes and pre-insulated COOL-FIT pipes
- Recommended on pipe material: PE 100, PE 100-RC, PP
- Minimum axial space requirement = 37 cm
- Minimum radial space requirement = 35 cm
- **Scope of delivery:**
- Please observe the description to select the country-specific variant
- Battery powered cordless chain saw
- Support wagon
- 3 x Roller wagon, 2 x Tensioning belt with roll-on system, 2 x Quick link
- 2 x Battery pack CAS 5.5Ah, 1 x Charger LG 12/18 V
- Delivery in solid transport case (L x B x H = 665 x 562 x 250 mm)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                                | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|--------------------------------------------|-----------|-----------|-----------|
| 250       | 1200       | <b>799 198 150</b> | 19.70          | PEcut 1200-230V,<br>Charger LG12/18V       | 665       | 562       | 250       |
| 250       | 1200       | <b>799 198 151</b> | 19.70          | PEcut 1200-115V US,<br>Charger LG12/18V US | 665       | 562       | 250       |
| 250       | 1200       | <b>799 198 152</b> | 19.70          | PEcut 1200-230V UK,<br>Charger LG12/18V UK | 665       | 562       | 250       |



### Accessories Plastic pipe cutter PEcut 1200

- Extension kit d1400-2000mm, 48" - 80"
- **Scope of delivery:**
- 3 x Roller wagon, 1 x Tensioning belt, 3 x Quick link, 1 x Transport case small

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                 | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|-----------------------------|-----------|-----------|-----------|
| 1400      | 2000       | <b>799 198 155</b> | 10.50          | Extension set<br>PEcut 1200 | 500       | 420       | 225       |



### Transport case PEcut 1200

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight<br>(kg) | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|--------------------|----------------|-----------|-----------|-----------|
| <b>799 198 153</b> | 5.20           | 665       | 562       | 250       |



### Tensioning belt B=25mm L=3.5m

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight<br>(kg) | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|--------------------|----------------|-----------|-----------|-----------|
| <b>799 198 154</b> | 0.75           | 150       | 70        | 80        |



### Roller wagon

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight<br>(kg) | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|--------------------|----------------|-----------|-----------|-----------|
| <b>799 198 156</b> | 1.90           | 260       | 180       | 200       |



### Support wagon

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight<br>(kg) | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|--------------------|----------------|-----------|-----------|-----------|
| <b>799 198 157</b> | 2.10           | 260       | 180       | 320       |





#### Marker holder complete

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 158</b> | 0.25   | 80   | 100  | 45   |



#### Hexagon spanner 13mm L152mm

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 159</b> | 0.20   | 160  | 40   | 20   |



#### Charger LG 12 / 18 V

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 160</b> | 0.60   | 150  | 140  | 80   |



#### Charger LG 12 / 18V US

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 161</b> | 0.60   | 150  | 140  | 80   |



#### Charger LG 12 / 18V UK

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 162</b> | 0.60   | 150  | 140  | 80   |



#### Battery pack CAS 5.5 Ah / 18V

- Spare and wear parts Plastic pipe cutter PEcut 1200

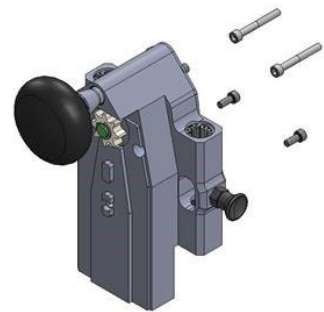
| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 163</b> | 1.00   | 125  | 85   | 75   |



### Saw chain complete set

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 166</b> | 0.70   | 300  | 75   | 25   |



### Gearbox

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 167</b> | 1.30   | 190  | 150  | 140  |



### Electric drive complete

- Spare and wear parts Plastic pipe cutter PEcut 1200

| Code               | Weight | L    | B    | H    |
|--------------------|--------|------|------|------|
|                    | (kg)   | (mm) | (mm) | (mm) |
| <b>799 198 168</b> | 1.30   | 150  | 75   | 230  |

# Tapping and Pressure testing tools

## Tapping tools



### ELGEF Plus Tapping and assembly key For electrofusion saddle

- Combination tool for tapping and tightening of fixation screws.

| Type    | Code               | SP | Weight<br>(kg) | Description     |
|---------|--------------------|----|----------------|-----------------|
| 8/10/17 | <b>799 198 047</b> | 1  | 0.798          | For all saddles |



### ELGEF Plus Tapping key For electrofusion saddle

- With adjustable tapping depth.

| Type    | Code               | Weight<br>(kg) | Description                                                 |
|---------|--------------------|----------------|-------------------------------------------------------------|
| WS - 17 | <b>799 198 079</b> | 0.556          | for Monobloc d 63 mm, d 90 - 160 mm and all Duobloc saddles |



### ELGEF Plus Tapping key For electrofusion saddle

- With adjustable tapping depth.

| Type    | Code               | Weight<br>(kg) | Description                      |
|---------|--------------------|----------------|----------------------------------|
| WS - 10 | <b>799 198 080</b> | 0.114          | for Monobloc d 40 mm and d 50 mm |



### ELGEF Plus Tapping key For electrofusion saddle

- With adjustable tapping depth.

| Type      | Code               | Weight<br>(kg) | Description                   |
|-----------|--------------------|----------------|-------------------------------|
| WS - 12.7 | <b>799 198 091</b> | 0.600          | for spigot saddle with cutter |



### ELGEF Plus Tapping key With integrated sealing cap

- 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<br>(kg) | Description             |
|------|--------------------|----------------|-------------------------|
| S 54 | <b>799 100 061</b> | 0.785          | for Tapping Tee d 32 mm |
| S 67 | <b>799 100 062</b> | 1.011          | for Tapping Tee d 63 mm |



### ELGEF Plus Assembly key For electrofusion saddle

- For tightening fixation screws.

| Type | Code               | Weight<br>(kg) | Description                         |
|------|--------------------|----------------|-------------------------------------|
| SW8  | <b>799 150 378</b> | 0.129          | For all saddles and branch fittings |



### Tapping key For PVC saddle

- 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<br>(mm) | Code               | SP | Weight<br>(kg) | s<br>(mm) | G<br>(inch) |
|-------------|--------------------|----|----------------|-----------|-------------|
| 32 - 40     | <b>799 150 008</b> | 40 | 0.496          | 27        | 38          |
| 50 - 63     | <b>799 150 009</b> | 24 | 0.690          | 27        | 47          |



### Plastic pipe 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<br>(mm) | Code               | Weight<br>(kg) | Description                |
|-----------|--------------------|----------------|----------------------------|
| 39        | <b>799 198 012</b> | 0.215          | accessories Basic Tool Box |



### PE repair plug

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

| d<br>(mm) | Code               | SP | Weight<br>(kg) |
|-----------|--------------------|----|----------------|
| 39        | <b>799 199 089</b> | 10 | 0.019          |



### Plastic pipe cutter 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)
- 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<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                      |
|-----------|------------|--------------------|----------------|----------------------------------|
| 160       | 123        | <b>799 198 101</b> | 7.200          | Core cutter set in transport box |
| 225       | 172        | <b>799 198 102</b> | 10.000         | Core cutter set in transport box |
| 315       | 238        | <b>799 198 103</b> | 13.400         | Core cutter set in transport box |
| 500       | 420        | <b>799 198 104</b> | 34.000         | Core cutter set in transport box |



### Transport box for Core cutter set

- Suitable for core cutter set (799198101 - 104)

| d<br>(mm) | Description                      | Code               | SP | Weight<br>(kg) |
|-----------|----------------------------------|--------------------|----|----------------|
| 160       | Transport box 160; 565x170x180mm | <b>799 198 121</b> | 1  | 3.900          |
| 225       | Transport box 225; 565x220x230mm | <b>799 198 122</b> | 1  | 4.700          |
| 315       | Transport box 315; 280x280x565mm | <b>799 198 123</b> | 1  | 7.500          |
| 500       | Transport box 500; 465x465x565mm | <b>799 198 124</b> | 1  | 9.000          |



### Plastic pipe cutter 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               | SP |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------|----|
| Drill stand BS400 with vulcanised-rubber bonded standtracks. Extension arm suitable for branch saddle 4-drift drill machine D38-BB | <b>799 198 137</b> | 1  |

| Description                                                                                                                        | Weight<br>(kg) |
|------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Drill stand BS400 with vulcanised-rubber bonded standtracks. Extension arm suitable for branch saddle 4-drift drill machine D38-BB | 68.000         |



### Accessories for Core cutter set

- Suitable for core cutter set (799198101 - 104)

| Description                      | Code               | SP | Weight<br>(kg) |
|----------------------------------|--------------------|----|----------------|
| Pilot drill d = 14mm; L = 365 mm | <b>799 198 133</b> | 1  | 0.300          |
| Ejector rod d = 12mm; L = 500 mm | <b>799 198 131</b> | 1  | 0.450          |
| Adaptor 1 1/4" UNC-R- 1/2"       | <b>799 198 138</b> | 1  | 0.520          |
| Adaptor drill chuck 13           | <b>799 198 105</b> | 1  | 0.160          |
| Adaptor thread                   | <b>799 198 106</b> | 1  | 0.180          |
| Adaptor SDS-max                  | <b>799 198 107</b> | 1  | 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<br>(kg) |
|--------------------------------|--------------------|----------------|
| basic device including ratchet | <b>709 700 100</b> | 7.800          |

### Drill shafts



#### Model:

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

| Description         | Code               | Weight<br>(kg) |
|---------------------|--------------------|----------------|
| drill shaft 620 mm  | <b>709 700 010</b> | 1.200          |
| drill shaft 775 mm  | <b>709 700 021</b> | 1.500          |
| drill shaft 1070 mm | <b>709 700 023</b> | 2.070          |



### 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<br>(kg) |
|----------------------|------------------|--------------------|----------------|
| flange adaptor DN50  | PN16             | <b>709 702 045</b> | 1.850          |
| flange adaptor DN65  | PN16             | <b>709 702 046</b> | 2.250          |
| flange adaptor DN80  | PN16             | <b>709 702 047</b> | 3.090          |
| flange adaptor DN100 | PN16             | <b>709 702 048</b> | 3.840          |
| flange adaptor DN150 | PN16             | <b>709 702 050</b> | 6.530          |
| flange adaptor DN200 | PN10             | <b>709 702 051</b> | 8.800          |



### 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<br>(kg) |
|--------------------------------------|--------------------|----------------|
| PE cup drill chipless 45 mm x 60 mm  | <b>709 810 410</b> | 0.510          |
| PE cup drill chipless 60 mm x 60 mm  | <b>709 810 412</b> | 0.580          |
| PE cup drill chipless 63 mm x 60 mm  | <b>709 810 414</b> | 0.590          |
| PE cup drill chipless 80 mm x 60 mm  | <b>709 810 415</b> | 0.880          |
| PE cup drill chipless 84 mm x 60 mm  | <b>709 810 416</b> | 0.910          |
| PE cup drill chipless 45 mm x 120 mm | <b>709 810 420</b> | 0.800          |
| PE cup drill chipless 60 mm x 120 mm | <b>709 810 422</b> | 0.890          |

table continued on the next page

| Description                          | Code               | Weight<br>(kg) |
|--------------------------------------|--------------------|----------------|
| PE cup drill chipless 63 mm x 120 mm | <b>709 810 424</b> | 0.890          |
| PE cup drill chipless 80 mm x 120 mm | <b>709 810 425</b> | 1.340          |
| PE cup drill chipless 84 mm x 120 mm | <b>709 810 426</b> | 1.370          |
| PE cup drill push rod                | <b>709 700 024</b> | 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<br>(kg) |
|-------------------------------------------------------------|--------------------|----------------|
| Heavy duty transport / storage box for W410 drilling device | <b>709 706 414</b> | 15.500         |



#### ELGEF Plus Pressure test cap For electrofusion saddle

- Connecting thread for pressure test is female thread G 3/8"
- **Overview of Tapping Adapter types and Pressure Test Cap**
- M For Monobloc d40 and d50 (outlets d20 - d32)
- S 54 For all saddles with rotatable outlet (outlets d20 - d40) i.e. Tapping Tee d20 - d40.
- S 67 For all saddles with rotatable outlet (outlets d50 and d63) i.e. Tapping Tee d63.
- Y for Y-Tapping Saddle d180 to d315

| Type | Code               | Weight<br>(kg) | Description                                                |
|------|--------------------|----------------|------------------------------------------------------------|
| M    | <b>799 199 282</b> | 0.116          | for Monobloc d40 and d50                                   |
| S 54 | <b>799 199 283</b> | 0.260          | for Tapping Tee d20 to d40                                 |
| S 67 | <b>799 199 286</b> | 0.430          | for Tapping Tee outlet d63                                 |
| MB   | <b>799 199 287</b> | 0.037          | for Monobloc d63 to d160 and Branch saddle outlet d160/225 |
| Y    | <b>799 199 290</b> | 0.037          | for Y-Tapping Saddle d180 to d315                          |



#### 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<br>(mm) | Code               | description                                                                                                                                                                                                | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| 160 - 225 | <b>799 199 287</b> | 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       | <b>799 199 288</b> | 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       | <b>799 199 289</b> | 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 materia              | 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             | 2300             | 2200             |
| Segmented fitting 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                          |              |                  |                  |                  |
| d125                          |              |                  |                  | Socket           |
| d160                          |              |                  |                  | Butt             |
| d225                          |              |                  |                  |                  |
| d250                          |              |                  |                  |                  |
| d315                          |              |                  |                  |                  |



|                                                                                   |                                 |    |
|-----------------------------------------------------------------------------------|---------------------------------|----|
|  | SG 125                          | 88 |
|  | SG 125 Accessories              | 88 |
|  | IM 160                          | 90 |
|  | IM 160 Accessories              | 91 |
|  | IM 315                          | 92 |
|  | IM 315 / IM 315 - D Accessories | 94 |
|  | SG 160                          | 95 |

# 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<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-------------|--------------|--------------------|----------------|
| 16 - 125    | 230 V/1500 W | <b>790 310 034</b> | 65.000         |
| 16 - 125    | 115 V/1500 W | <b>790 310 036</b> | 65.000         |

## 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 16        | <b>799 300 155</b> | 0.085          |
| 20        | <b>799 300 156</b> | 0.090          |
| 25        | <b>799 300 157</b> | 0.154          |
| 32        | <b>799 300 158</b> | 0.211          |
| 40        | <b>799 300 159</b> | 0.309          |
| 50        | <b>799 300 160</b> | 0.434          |
| 63        | <b>799 300 161</b> | 0.594          |
| 75        | <b>799 300 162</b> | 0.981          |
| 90        | <b>799 300 163</b> | 1.452          |
| 110       | <b>799 300 164</b> | 2.008          |
| 125       | <b>799 300 165</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 125    | <b>790 310 023</b> | 8.600          |



### Tempil stick

| Temperature<br>(°C) | Code               | Weight<br>(kg) |
|---------------------|--------------------|----------------|
| 253                 | <b>799 496 008</b> | 0.169          |
| 274                 | <b>799 496 009</b> | 0.013          |



### Manual pipe peeling and chamfering tools

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



### Spare blades for calibration tools Peeling tool blade

- 3 pieces are required per dimension

| d<br>(mm) | Code               | SP | Weight<br>(kg) |
|-----------|--------------------|----|----------------|
| 20        | <b>799 300 266</b> | 1  | 0.013          |
| 25        | <b>799 300 276</b> | 1  | 0.015          |
| 32        | <b>799 300 286</b> | 1  | 0.005          |
| 40        | <b>799 300 296</b> | 1  | 0.018          |
| 50        | <b>799 300 306</b> | 1  | 0.019          |
| 63        | <b>799 300 316</b> | 1  | 0.024          |
| 75        | <b>799 300 326</b> | 1  | 0.028          |
| 90        | <b>799 300 336</b> | 1  | 0.041          |
| 110       | <b>799 300 346</b> | 1  | 0.043          |



### Spare konus handle for calibration tools

| d-d<br>(mm) | Article | Code               | Weight<br>(kg) |
|-------------|---------|--------------------|----------------|
| 45 - 50     | M6      | <b>799 300 295</b> | 0.021          |
| 63 - 110    | M8      | <b>799 300 315</b> | 0.056          |

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

## IM 160 Accessories



### Back-stop

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 141 061</b> | 1.919          |



### Special transport crate

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 141 065</b> | 93.000         |



### Set of replacement blades for planer

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 113 056</b> | 0.059          |



### Outer base clamping devices

| d<br>(mm) | Type | Code               | Weight<br>(kg) |
|-----------|------|--------------------|----------------|
| 160       | L    | <b>790 141 066</b> | 3.500          |
| 160       | R    | <b>790 141 067</b> | 3.500          |



### Reduction clamping inserts set

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 32 - 140    | <b>790 141 068</b> | 5.800          |

# 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 for straight jointing: d90-315 mm, from SDR 41 up to SDR 11 with PE, PP d315 mm. Limitations in the dimensional range are to be considered for angular jointing, depending on the angle (refer to user's manual).
- **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<br>(mm) | Performance    | Description                               | Code               | Weight<br>(kg) |
|-------------|----------------|-------------------------------------------|--------------------|----------------|
| 90 - 315    | 230 V / 3500 W | Without transport crate                   | <b>790 143 005</b> | 229.000        |
| 90 - 315    | 230 V / 3500 W | With standard transport crate             | <b>790 143 001</b> | 269.000        |
| 90 - 315    | 230 V / 3500 W | With special transport crate              | <b>790 143 003</b> | 366.000        |
| 90 - 315    | 230 V / 3500 W | Without transport crate, Swiss plug       | <b>790 143 033</b> | 229.000        |
| 90 - 315    | 230 V / 3500 W | With standard transport crate, Swiss plug | <b>790 143 034</b> | 269.000        |
| 90 - 315    | 230 V / 3500 W | With special transport crate, Swiss plug  | <b>790 143 035</b> | 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 for straight jointing: d90-315 mm, from SDR 41 up to SDR 11 with PE, PP d315 mm. Limitations in the dimensional range are to be considered for angular jointing, depending on the angle (refer to user's manual).
- **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<br>(mm) | Performance    | Description                                  | Code               | Weight<br>(kg) |
|-------------|----------------|----------------------------------------------|--------------------|----------------|
| 90 - 315    | 230 V / 3500 W | With standard transport crate                | <b>790 143 002</b> | 269.000        |
| 90 - 315    | 230 V / 3500 W | With special transport crate                 | <b>790 143 004</b> | 366.000        |
| 90 - 315    | 230 V / 3500 W | With standard transport crate,<br>Swiss plug | <b>790 143 036</b> | 269.000        |
| 90 - 315    | 230 V / 3500 W | With special transport crate, Swiss<br>plug  | <b>790 143 037</b> | 366.000        |

## IM 315 / IM 315 - D Accessories



### Outer base clamping devices

| d<br>(mm) | Type | Code               | Weight<br>(kg) |
|-----------|------|--------------------|----------------|
| 315       | L    | <b>790 143 030</b> | 15.867         |
| 315       | R    | <b>790 143 031</b> | 15.867         |



### Reduction clamping inserts set

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 90 - 280    | <b>790 143 032</b> | 17.500         |



### Back stop

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 142 061</b> | 3.175          |



### Tool box

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 143 066</b> | 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<br>(kg) |
|--------------------|----------------|
| <b>790 143 065</b> | 148.125        |



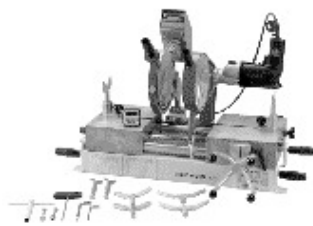
### Set of replacement blades for planer

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 112 110</b> | 0.129          |



# 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

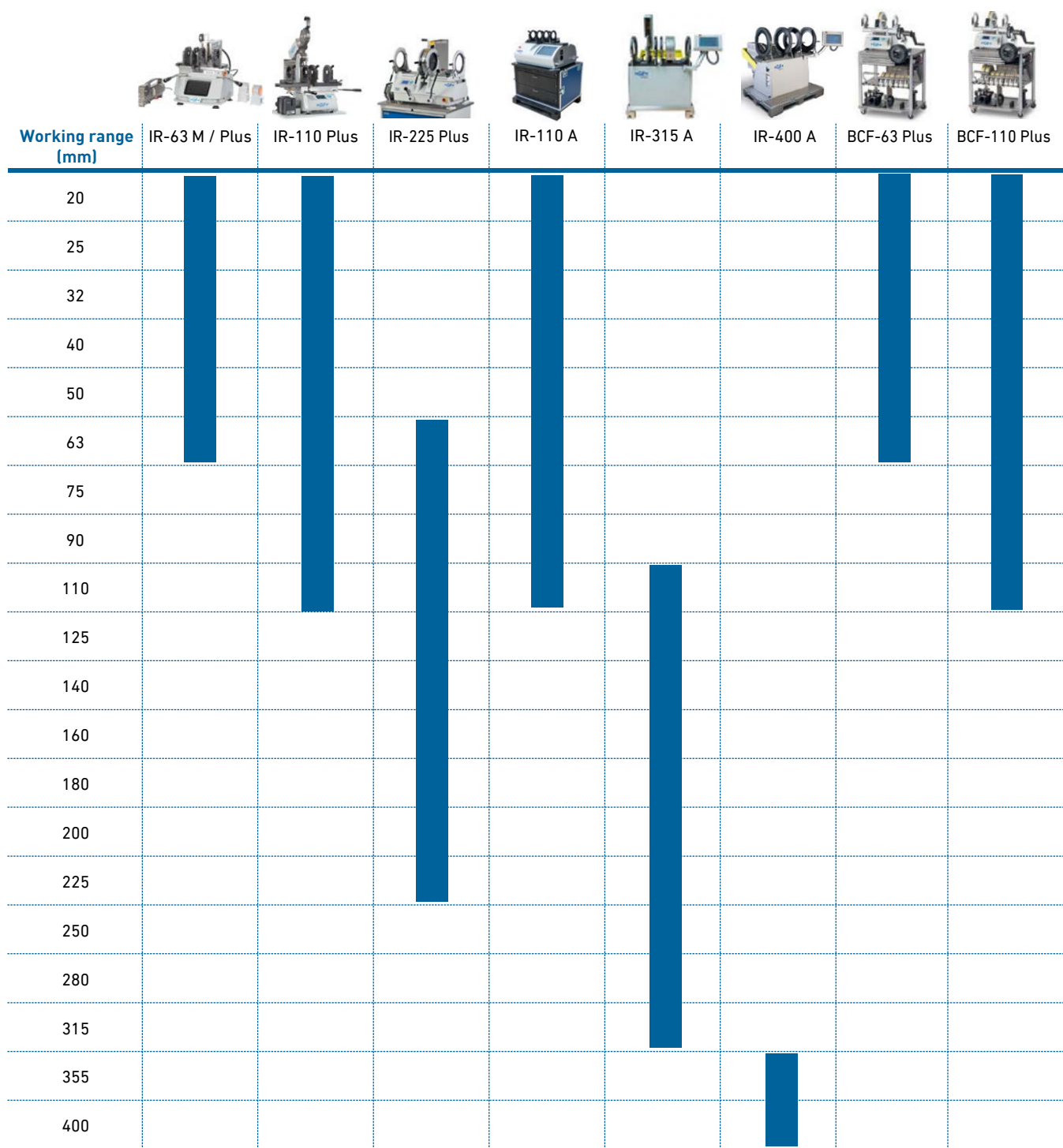
- **BASE MACHINE**
  - High precision design, distortion-free and sturdy machine frame
  - Handwheel for easy moving of machine carriage
  - Exact pressure adjustment via direct spring load transfer
  - Hardened and hard chrome-plated guide shafts for extreme loads
  - All clamping possibilities for base clamping plates, pipe supports, back stop and prismatic clamping devices
- **PLANER**
  - Planing device made of light cast aluminium
  - Optimized cutting geometry for even and chatter-free planing
  - Powerful parallel planer for single or double-sided facing of pipe ends
  - Integrated pick up for easy mounting of calibration tools for machining of pipe ends in socket fusion
- **HEATER**
  - High performance, electronically controlled heating element
  - High accuracy of +/- 4°C over the entire heating surface
  - Exact LCD adjustment of heater temperature
  - High-quality, easy to replace, non-stick PTFE fabric for the heater
- **ADDITIONAL STANDARD EQUIPMENT**
  - Including complete set of accessories as: 4 clamps for butt fusion with reduction inserts d 32-160 mm, 2 prismatic clamps for socket fusion with V-shaped supports and calibration tools for machining of pipe ends d 16 - 110 mm, heating spigots and bushings for socket fusion d 16 - 110 mm, tempil sticks 253°C and 274°C
  - Timer to clock fusion times
  - Including transport packaging and machine specific tool set

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

Industry Range

# IR A, IR Plus, BCF Plus Fusion Machine

## Product Range Overview



|                                                                                     |                                        |     |
|-------------------------------------------------------------------------------------|----------------------------------------|-----|
|    | IR-63 M Fusion Machine                 | 98  |
|    | IR-63 Plus Fusion Machine              | 103 |
|    | IR-110 Plus Fusion Machine             | 107 |
|    | IR-225 Plus Fusion Machine             | 111 |
|    | IR-110 A Automated Fusion Machine      | 113 |
|    | IR-315 A Automated Fusion Machine      | 116 |
|    | IR-400 A Automated Fusion Machine      | 118 |
|   | WBI Tool                               | 119 |
|  | BCF Plus Fusion Machines               | 121 |
|  | Accessories for IR/BCF Fusion Machines | 127 |

# IR-63 M Fusion Machine



## IR-63 M Fusion machine standard

**Model:**

- 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, PVC-U metric & PFA inch
- Dimensions d20-63 mm
- A safety glass protected 7" touchscreen with intuitive and multilingual user interface
- 2x USB-A & 2x USB-C ports
- Heating and facing element
- Clamping slide with movable & exchangeable clamping units, with angle markings
- Half shells d20-50 mm (8 pcs. per dimension), with angle markings
- End caps PE d20-63 mm (4 pcs. per dimension)
- Pipe stop fix, 2mm facing distance
- Pipe stop adjustable, 0.5-3mm facing distance
- Clean-room compatible accessory tray with tools
- Transport box
- 1-phase AC (50/60 Hz) 230V L/N/PE
- Power supply cable 230 V
- Label printer

**Option:**

- Half shells PFA inch
- Extension cable set for remote weldings
- CONNECT Welding Data Box

| d-d<br>(mm) | Code        | Weight<br>(kg) |
|-------------|-------------|----------------|
| 20 - 63     | 790 180 001 | 54.7           |



## CONNECT Welding Data box

- The CONNECT Welding Data Box enables seamless transfer of fusion data to "CONNECT Welding Data"

| Code        | Weight<br>(kg) |
|-------------|----------------|
| 790 180 019 | 0.200          |



## Extension cable set IR-63 M

- The extension cable set makes it possible to carry out remote weldings in places that are difficult to access
- The set includes extension cables for facer, heater & clamping slide

| d-d<br>(mm) | Code        | Weight<br>(kg) | Length<br>(m) |
|-------------|-------------|----------------|---------------|
| 20 - 63     | 790 180 013 | 3.560          | 6             |

### Half shells IR-63 M



- The half shells are different for each dimension. They are used to clamp and position the pipe components
- Angle markings on the half shells enable a precise and fast installation
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100 & PVC-U

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 20        | <b>790 180 022</b> | 0.031          | 1      |
| 25        | <b>790 180 023</b> | 0.029          | 1      |
| 32        | <b>790 180 024</b> | 0.028          | 1      |
| 40        | <b>790 180 025</b> | 0.025          | 1      |
| 50        | <b>790 180 026</b> | 0.018          | 1      |

### Half shells IR-63 M PFA inch



- The half shells are different for each dimension. They are used to clamp and position the pipe components
- For PFA Schedule 40 rigid pipe

| d<br>(inch) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| ¼"          | <b>790 180 031</b> | 0.031          | 1      |
| ½"          | <b>790 180 032</b> | 0.030          | 1      |
| ¾"          | <b>790 180 033</b> | 0.029          | 1      |
| 1"          | <b>790 180 034</b> | 0.027          | 1      |
| 1 ½"        | <b>790 180 035</b> | 0.019          | 1      |
| 2           | <b>790 180 036</b> | 0.006          | 1      |

### Fix pipe stop IR-63 M



- Fix pipe stop with angle markings and 2 mm facing on both sides
- Angle markings enable a precise and fast installation

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 63     | <b>790 180 011</b> | 0.307          | 1      |

### Adjustable pipe stop IR-63 M



- Adjustable pipe stop for individual facing of 0.5 - 3 mm on both sides

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 63     | <b>790 180 012</b> | 0.595          | 1      |



### Set of end caps IR

- 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<br>(mm) | Code        | Weight<br>(kg) | Pieces | Type                                                    |
|-----------|-------------|----------------|--------|---------------------------------------------------------|
| 20        | 790 180 052 | 0.007          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 25        | 790 180 053 | 0.008          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 32        | 790 180 054 | 0.014          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 40        | 790 180 055 | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 50        | 790 180 056 | 0.016          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 63        | 790 180 057 | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-225 Plus, IR-110 A |



### Set of facing knives IR-63 M & IR-63 Plus

- A set includes two facing knives and six 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<br>(mm) | Code        | Weight<br>(kg) | Pieces |
|-------------|-------------|----------------|--------|
| 20 - 63     | 790 180 018 | 0.016          | 2      |



### Torx bolt tool T10

- For changing and turning the facing knives

| Description | Code        | Weight<br>(kg) |
|-------------|-------------|----------------|
| T10         | 790 180 077 | 0.029          |



### Outer clamping unit left IR-63 M

- Moveable clamping unit for fixing the components
- Angle markings enable a precise and fast installation
- Integrated half shell d63mm

| d-d<br>(mm) | Code        | Weight<br>(kg) |
|-------------|-------------|----------------|
| 20 - 63     | 790 180 076 | 0.916          |



### Outer clamping unit right IR-63 M

- Moveable clamping unit for fixing the components
- Angle markings enable a precise and fast installation
- Integrated half shell d63mm

| d-d<br>(mm) | Code        | Weight<br>(kg) |
|-------------|-------------|----------------|
| 20 - 63     | 790 180 075 | 0.916          |



#### Extension cable for clamping slide IR-63 M

- 6 Meter extension cable for clamping slide

| d-d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) |
|-------------|--------------------|----------------|---------------|
| 20 - 63     | <b>790 180 014</b> | 0.700          | 6             |



#### Extension cable for facer IR-63 M

- 6 Meter extension cable for facer

| d-d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) |
|-------------|--------------------|----------------|---------------|
| 20 - 63     | <b>790 180 015</b> | 0.438          | 6             |



#### Extension cable for heater IR-63 M

- 6 Meter extension cable for heater

| d-d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) |
|-------------|--------------------|----------------|---------------|
| 20 - 63     | <b>790 180 016</b> | 0.767          | 6             |



#### Power supply cable 230 V IR-63 M, IR-63/110 Plus, IR-110 A & BCF Plus

| Performance | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 230V        | <b>790 180 017</b> | 0.150          |



#### Brush IR-63 M & IR-63 Plus

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 180 080</b> | 0.013          |



#### Allen key 4mm

- For setting the overlap and to loosen the clamping slide

| Description | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 4mm         | <b>790 180 078</b> | 0.029          |

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# IR-63 Plus Fusion Machine



## IR-63 Plus Fusion Machine (without PVC-U parameter)

**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), **not for PVC-U metric**
- 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

**Note:**

**Clamping inserts PVC-U metric on request**

Clamping inserts PFA (inch) on request

Clamping inserts CONTAIN-IT Plus on request

| d-d<br>(mm) | Code        | Weight<br>(kg) |
|-------------|-------------|----------------|
| 20 - 63     | 790 131 005 | 60             |



## IR-63 Plus Fusion Machine (with PVC-U parameter)

**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, IR PVC-U
- 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), **not for PVC-U metric**
- 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

**Note:**

**Clamping inserts PVC-U metric on request**

Clamping inserts PFA (inch) on request

Clamping inserts CONTAIN-IT Plus on request

| d-d<br>(mm) | Code        | Weight<br>(kg) |
|-------------|-------------|----------------|
| 20 - 63     | 790 131 007 | 60.000         |



### Clamping inserts IR-63 Plus / BCF Plus

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100
- BCF weldable materials: PVDF, PP-n
- **Not compatible with PVC-U metric** (special clamping inserts needed)

| d<br>(mm) | Code        | Weight<br>(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 IR-63 Plus PVC-U metric

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- 4x PVC-U metric clamping inserts are needed for the two inner clamping units.
- **The clamping inserts can only be used for PVC-U metric**

| d<br>(mm) | Code        | Weight<br>(kg) | Pieces |
|-----------|-------------|----------------|--------|
| 20        | 790 131 071 | 0.062          | 1      |
| 25        | 790 131 072 | 0.058          | 1      |
| 32        | 790 131 073 | 0.055          | 1      |
| 40        | 790 131 074 | 0.054          | 1      |
| 50        | 790 131 075 | 0.050          | 1      |
| 63        | 790 131 076 | 0.034          | 1      |



### Clamping inserts IR-63 Plus 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.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100
- **Not compatible with PVC-U metric** (special clamping inserts needed)

| d<br>(mm) | D<br>(mm) | Code        | Weight<br>(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      |



### Clamping inserts IR-63 Plus PFA Sch. 40 rigid pipe

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- For PFA Schedule 40 rigid pipe

| d<br>(inch) | Code        | Weight<br>(kg) | Pieces |
|-------------|-------------|----------------|--------|
| ¼"          | 790 131 446 | 0.057          | 1      |
| ½"          | 790 131 447 | 0.055          | 1      |
| ¾"          | 790 131 448 | 0.053          | 1      |
| 1"          | 790 131 449 | 0.051          | 1      |
| 1 ½"        | 790 131 452 | 0.043          | 1      |
| 2"          | 790 131 450 | 0.041          | 1      |



#### Pipe stop IR-63 Plus

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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 63     | <b>790 131 046</b> | 0.430          | 1      |



#### Heater protection shield IR-63 Plus

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

| Code               | Weight<br>(kg) | Pieces |
|--------------------|----------------|--------|
| <b>790 131 051</b> | 0.205          | 1      |



#### Set of facing knives IR-63 Plus

- A set includes two facing knives and six 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 63     | <b>790 131 045</b> | 0.016          | 2      |



#### Set of end caps IR

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces | Type                                                    |
|-----------|--------------------|----------------|--------|---------------------------------------------------------|
| 20        | <b>790 180 052</b> | 0.007          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 25        | <b>790 180 053</b> | 0.008          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 32        | <b>790 180 054</b> | 0.014          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 40        | <b>790 180 055</b> | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 50        | <b>790 180 056</b> | 0.016          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 63        | <b>790 180 057</b> | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-225 Plus, IR-110 A |



#### Torx key with T-bar handle IR-63/110 Plus, IR-110 A

- For facing knives

| Description | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| T10         | <b>790 131 129</b> | 0.029          |



#### Extension cable for clamping slide IR-63 Plus

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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) |
|-------------|--------------------|----------------|---------------|
| 20 - 63     | <b>790 131 047</b> | 0.700          | 5             |



#### Extension cable for heater IR-63 Plus

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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) |
|-------------|--------------------|----------------|---------------|
| 20 - 63     | <b>790 131 049</b> | 0.767          | 5             |



#### Extension cable for facing tool IR-63 Plus

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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) |
|-------------|--------------------|----------------|---------------|
| 20 - 63     | <b>790 131 048</b> | 0.438          | 5             |



#### Power supply lead IR-63/110 Plus, IR-110 A, BCF Plus

| Performance | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 230V        | <b>790 122 246</b> | 0.150          |



#### Cleaning brush IR-110/225/315 Plus, IR-110/315 A

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 041 017</b> | 0.013          |

# IR-110 Plus Fusion Machine



## IR-110 Plus Fusion Machine (without PVC-U parameter)

### 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

### Note:

Clamping inserts PFA (inch) on request

Clamping inserts CONTAIN-IT Plus on request

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 110    | <b>790 132 001</b> | 110            |

## Clamping inserts d20-50mm, IR-110 Plus



- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100
- **Not compatible with PVC-U metric** (special clamping inserts needed)

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 20        | <b>790 132 051</b> | 0.108          | 1      |
| 25        | <b>790 132 052</b> | 0.106          | 1      |
| 32        | <b>790 132 053</b> | 0.104          | 1      |
| 40        | <b>790 132 054</b> | 0.100          | 1      |
| 50        | <b>790 132 055</b> | 0.095          | 1      |

## Clamping inserts d63-90mm, IR-110 Plus/A



- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100
- **Not compatible with PVC-U metric** (special clamping inserts needed)

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 63        | <b>790 132 156</b> | 0.085          | 1      |
| 75        | <b>790 132 157</b> | 0.087          | 1      |
| 90        | <b>790 132 158</b> | 0.064          | 1      |

### CONTAIN-IT Plus Clamping inserts IR-110 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.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100

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

### Clamping inserts IR-110 Plus PFA Sch. 40 rigid pipe



- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- For PFA Schedule 40 rigid pipe

| d<br>(inch) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| ¼           | <b>790 132 062</b> | 0.109          | 1      |
| ½           | <b>790 132 063</b> | 0.107          | 1      |
| ¾           | <b>790 132 064</b> | 0.106          | 1      |
| 1           | <b>790 132 065</b> | 0.103          | 1      |
| 1 ½         | <b>790 132 067</b> | 0.096          | 1      |
| 2           | <b>790 132 066</b> | 0.088          | 1      |

### Pipe stop IR-110 Plus



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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 110    | <b>790 132 059</b> | 0.700          | 1      |

### Set of facing knives IR-110 Plus, IR-110 A



- A set includes two facing knives and six 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 110    | <b>790 132 061</b> | 0.007          | 2      |



### Set of end caps IR

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces | Type                                                    |
|-----------|--------------------|----------------|--------|---------------------------------------------------------|
| 20        | <b>790 180 052</b> | 0.007          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 25        | <b>790 180 053</b> | 0.008          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 32        | <b>790 180 054</b> | 0.014          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 40        | <b>790 180 055</b> | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 50        | <b>790 180 056</b> | 0.016          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 63        | <b>790 180 057</b> | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-225 Plus, IR-110 A |



### Set of end caps IR-Plus/A

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces | Type                                         |
|-----------|--------------------|----------------|--------|----------------------------------------------|
| 75        | <b>790 133 036</b> | 0.095          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A           |
| 90        | <b>790 133 037</b> | 0.028          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A           |
| 110       | <b>790 133 038</b> | 0.180          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A, IR-315 A |



### Torx key with T-bar handle IR-63/110 Plus, IR-110 A

- For facing knives

| Description | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| T10         | <b>790 131 129</b> | 0.029          |



### Power supply lead IR-63/110 Plus, IR-110 A, BCF Plus

| Performance | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 230V        | <b>790 122 246</b> | 0.150          |



### Cleaning brush IR-110/225/315 Plus, IR-110/315 A

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 133 198</b> | 0.055          |



#### Set of inner clamping units IR-110 Plus

- The set includes the following parts:
  - 2x upper clamping units (right / left)
  - 2x fixing screws

#### Note:

All existing half-shells for IR-110 Plus machines can be used with the new inner clamping units.

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 110    | <b>790 132 270</b> | 0.228          | 2      |



# 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

### Note:

Clamping inserts CONTAIN-IT Plus on request

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 63 - 225    | <b>790 133 009</b> | 453            |



## Clamping inserts IR-225 Plus

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100

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



## CONTAIN-IT Plus Clamping inserts IR-225 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.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100

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



#### Pipe stop IR-225 Plus

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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 63 - 225    | <b>790 133 047</b> | 0.150          | 1      |



#### Set of facing knives IR-225/315 Plus

- A set includes two facing knives and eight 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 63 - 225    | <b>790 133 046</b> | 0.125          | 2      |



#### Set of end caps IR-Plus/A

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces | Type                                         |
|-----------|--------------------|----------------|--------|----------------------------------------------|
| 75        | <b>790 133 036</b> | 0.095          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A           |
| 90        | <b>790 133 037</b> | 0.028          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A           |
| 110       | <b>790 133 038</b> | 0.180          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A, IR-315 A |
| 125       | <b>790 133 039</b> | 0.150          | 4      | IR-225 Plus, IR-315 A                        |
| 140       | <b>790 133 040</b> | 0.180          | 4      | IR-225 Plus, IR-315 A                        |
| 160       | <b>790 133 041</b> | 0.045          | 4      | IR-225 Plus, IR-315 A                        |
| 180       | <b>790 133 494</b> | 0.400          | 4      | IR-225 Plus, IR-315 A                        |
| 200       | <b>790 133 042</b> | 0.080          | 4      | IR-225 Plus, IR-315 A                        |
| 225       | <b>790 133 043</b> | 0.400          | 4      | IR-225 Plus, IR-315 A                        |



#### Torx key with T-bar handle IR-225/315 Plus, IR-315 A

- For facing knives

| Description | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| T25         | <b>790 133 577</b> | 0.063          |



#### Cleaning brush IR-110/225/315 Plus, IR-110/315 A

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 133 198</b> | 0.055          |

# IR-110 A Automated Fusion Machine



## 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, IR PVC-U
- 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), **not for PVC-U metric**
- 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 (T10) for facing knives
- Cleaning brush
- Label printer

### Note:

**Clamping inserts PVC-U metric on request**

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 110    | <b>790 164 001</b> | 250            |

## Clamping inserts d20-50mm, IR-110 A



- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100
- **Not compatible with PVC-U metric** (special clamping inserts needed)

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 20        | <b>790 164 022</b> | 0.099          | 1      |
| 25        | <b>790 164 023</b> | 0.097          | 1      |
| 32        | <b>790 164 024</b> | 0.093          | 1      |
| 40        | <b>790 164 025</b> | 0.088          | 1      |
| 50        | <b>790 164 026</b> | 0.081          | 1      |

## Clamping inserts d63-90mm, IR-110 Plus/A



- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100
- **Not compatible with PVC-U metric** (special clamping inserts needed)

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 63        | <b>790 132 156</b> | 0.085          | 1      |
| 75        | <b>790 132 157</b> | 0.087          | 1      |
| 90        | <b>790 132 158</b> | 0.064          | 1      |

### Clamping inserts IR-110 A PVC-U metric



- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- 4x PVC-U metric clamping inserts are needed for the two inner clamping devices.
- **The clamping inserts can only be used for PVC-U metric**

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 20        | <b>790 132 161</b> | 0.108          | 1      |
| 25        | <b>790 132 162</b> | 0.105          | 1      |
| 32        | <b>790 132 163</b> | 0.104          | 1      |
| 40        | <b>790 132 164</b> | 0.100          | 1      |
| 50        | <b>790 132 165</b> | 0.096          | 1      |
| 63        | <b>790 132 166</b> | 0.085          | 1      |

### Set of facing knives IR-110 Plus, IR-110 A



- A set includes two facing knives and six 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 110    | <b>790 132 061</b> | 0.007          | 2      |

### Set of end caps IR



- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces | Type                                                    |
|-----------|--------------------|----------------|--------|---------------------------------------------------------|
| 20        | <b>790 180 052</b> | 0.007          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 25        | <b>790 180 053</b> | 0.008          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 32        | <b>790 180 054</b> | 0.014          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 40        | <b>790 180 055</b> | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 50        | <b>790 180 056</b> | 0.016          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-110 A              |
| 63        | <b>790 180 057</b> | 0.020          | 4      | IR-63 M, IR-63 Plus, IR-110 Plus, IR-225 Plus, IR-110 A |

### Set of end caps IR-Plus/A



- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces | Type                                         |
|-----------|--------------------|----------------|--------|----------------------------------------------|
| 75        | <b>790 133 036</b> | 0.095          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A           |
| 90        | <b>790 133 037</b> | 0.028          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A           |
| 110       | <b>790 133 038</b> | 0.180          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A, IR-315 A |



#### Torx key with T-bar handle IR-63/110 Plus, IR-110 A

- For facing knives

| Description | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| T10         | <b>790 131 129</b> | 0.029          |



#### Cleaning brush IR-110/225/315 Plus, IR-110/315 A

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 133 198</b> | 0.055          |



#### Power supply lead IR-63/110 Plus, IR-110 A, BCF Plus

| Performance | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 230V        | <b>790 122 246</b> | 0.150          |



#### Set of inner clamping units IR-110 A

- The set includes the following parts:
  - 2x upper clamping units (right / left)
  - 2x fixing screws

##### Note:

All existing half-shells for IR-110 A machines can be used with the new inner clamping units.

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 110    | <b>790 164 270</b> | 0.228          | 2      |

# IR-315 A Automated Fusion Machine



## IR-315 A Automated Fusion Machine

### 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
- 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-pallette (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)

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 110 - 315   | <b>790 165 001</b> | 1049.000       |



## Clamping inserts IR-315 A

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

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



## Set of facing knives IR-315/400 A

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 110 - 315   | <b>790 165 549</b> | 0.100          | 2      |



## Cleaning brush IR-110/225/315 Plus, IR-110/315 A

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 133 198</b> | 0.055          |



#### Set of end caps IR-Plus/A

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces | Type                                         |
|-----------|--------------------|----------------|--------|----------------------------------------------|
| 110       | <b>790 133 038</b> | 0.180          | 4      | IR-110 Plus, IR-225 Plus, IR-110 A, IR-315 A |
| 125       | <b>790 133 039</b> | 0.150          | 4      | IR-225 Plus, IR-315 A                        |
| 140       | <b>790 133 040</b> | 0.180          | 4      | IR-225 Plus, IR-315 A                        |
| 160       | <b>790 133 041</b> | 0.045          | 4      | IR-225 Plus, IR-315 A                        |
| 180       | <b>790 133 494</b> | 0.400          | 4      | IR-225 Plus, IR-315 A                        |
| 200       | <b>790 133 042</b> | 0.080          | 4      | IR-225 Plus, IR-315 A                        |
| 225       | <b>790 133 043</b> | 0.400          | 4      | IR-225 Plus, IR-315 A                        |
| 250       | <b>790 134 151</b> | 0.400          | 4      | IR-315 A                                     |
| 280       | <b>790 134 152</b> | 0.400          | 4      | IR-315 A                                     |
| 315       | <b>790 134 153</b> | 0.400          | 4      | IR-315 A                                     |



#### Torx key with T-bar handle IR-63/110 Plus, IR-110 A

- For facing knives

| Description | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| T10         | <b>790 131 129</b> | 0.029          |

# IR-400 A Automated Fusion Machine



## IR-400 A Automated Fusion Machine (only a rental pool machine)

### Model:

- Fully equipped automated infrared fusion machine and working table designed for industrial applications and clean room conditions
- Welding of PVDF SYGEF Plus
- Dimensions d355-400mm
- Automated facer, clamping slide and heater
- 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 d355-400 mm (8 pcs. per dimension)
- End caps PE d355-400 mm (4 pcs. per dimension)
- Transport cases (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)
- Cleaning brush
- Label printer (incl. ribbon 24 mm)

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 355 - 400   | <b>790 166 001</b> | 1273.000       |



### Clamping inserts IR-400 A

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

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 355       | <b>790 166 010</b> | 2.651          | 1      |
| 400       | <b>790 166 011</b> | 1.722          | 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 355       | <b>790 134 377</b> | 0.190          | 1      |
| 400       | <b>790 134 378</b> | 0.250          | 1      |



### Set of facing knives IR-315/400 A

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 110 - 315   | <b>790 165 549</b> | 0.100          | 2      |



# WBI Tool



## WBI-63 Tool

WBI-63 Tool d20-d63 mm  
Weld Bead Inspection of PVDF SYGEF (Standard/Plus), ECTFE SYGEF, PP-H PROGEF (Standard/Plus), PE100 ecoFIT  
Clamping units d20-d63 mm  
Tablet with accessories  
Label printer

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 63     | <b>790 170 001</b> | 14             |



## WBI-225 Tool

WBI-63 Tool d20-d63 mm  
WBI-225 Tool d75-d225 mm  
Weld Bead Inspection of PVDF SYGEF (Standard/Plus), ECTFE SYGEF, PP-H PROGEF (Standard/Plus), PE100 ecoFIT  
Clamping units d20-d225 mm  
Tablet with accessories  
Label printer

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 225    | <b>790 170 002</b> | 22             |



## Clamping units WBI Tool

The clamping units are different for each dimension. They are used to clamp and position the WBI Tool to the pipe components  
The clamping units d20-d63 mm are only compatible with the WBI-63 Tool  
The clamping units d75-d225 mm are only compatible with the WBI-225 Tool

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 20        | <b>790 170 221</b> | 0.018          |
| 25        | <b>790 170 222</b> | 0.020          |
| 32        | <b>790 170 223</b> | 0.022          |
| 40        | <b>790 170 224</b> | 0.023          |
| 50        | <b>790 170 225</b> | 0.029          |
| 63        | <b>790 170 226</b> | 0.030          |
| 75        | <b>790 170 227</b> | 0.063          |
| 90        | <b>790 170 228</b> | 0.065          |
| 110       | <b>790 170 229</b> | 0.072          |
| 125       | <b>790 170 230</b> | 0.000          |
| 140       | <b>790 170 231</b> | 0.121          |
| 160       | <b>790 170 232</b> | 0.141          |
| 180       | <b>790 170 233</b> | 0.150          |
| 200       | <b>790 170 234</b> | 0.151          |
| 225       | <b>790 170 235</b> | 0.167          |



**Label printer**

- Label 36 mm included, order Label 24 mm separately

| Description |                                   | Code               | Weight<br>(kg) |
|-------------|-----------------------------------|--------------------|----------------|
| *           | Label printer                     | <b>790 131 066</b> | 2.740          |
|             | Ribbon blue 24 mm Brother TZe-251 | <b>790 170 315</b> | 0.100          |

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# BCF Plus Fusion Machines



## 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 (1 pcs.) 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

**Note:**

Bladders to be ordered separately.

| d-d<br>(mm) | Code        | Weight<br>(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 (1 pcs.) 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

| d-d<br>(mm) | Code        | Weight<br>(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

### Note:

Bladders to be ordered separately.

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 110    | <b>790 121 001</b> | 188.000        |

## Large Dimension Package BCF Plus 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<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 75 - 110    | <b>790 121 022</b> | 8.000          |



## Heating stations BCF Plus

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



#### Bladder BCF Plus 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 20        | <b>790 122 041</b> | 0.014          | 1      |
| 25        | <b>790 122 042</b> | 0.020          | 1      |
| 32        | <b>790 122 043</b> | 0.037          | 1      |
| 40        | <b>790 122 044</b> | 0.078          | 1      |
| 50        | <b>790 122 045</b> | 0.132          | 1      |
| 63        | <b>790 122 046</b> | 0.138          | 1      |
| 75        | <b>790 121 047</b> | 0.203          | 1      |
| 90        | <b>790 121 048</b> | 0.265          | 1      |
| 110       | <b>790 121 049</b> | 0.552          | 1      |



#### Bladder BCF Plus 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 20        | <b>790 122 091</b> | 0.038          | 1      |
| 25        | <b>790 122 092</b> | 0.021          | 1      |
| 32        | <b>790 122 093</b> | 0.040          | 1      |
| 40        | <b>790 122 094</b> | 0.050          | 1      |
| 50        | <b>790 122 095</b> | 0.105          | 1      |
| 63        | <b>790 122 096</b> | 0.138          | 1      |
| 75        | <b>790 121 047</b> | 0.203          | 1      |
| 90        | <b>790 121 048</b> | 0.265          | 1      |
| 110       | <b>790 121 049</b> | 0.552          | 1      |



#### Bladder/hose remove tool (BReT) BCF Plus

- Helpful to remove bladders easily.

| Code               | Weight<br>(kg) | Pieces |
|--------------------|----------------|--------|
| <b>790 121 075</b> | 0.079          | 1      |



#### Supporting tool BCF Plus

- Helpful to fix 45°- angle components.

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 63     | <b>790 121 072</b> | 0.542          | 1      |
| 75 - 110    | <b>790 121 073</b> | 0.900          | 1      |



### Clamping units BCF Plus

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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 63     | <b>790 121 034</b> | 0.600          | 1      |
| 75 - 110    | <b>790 121 035</b> | 0.900          | 1      |



### Clamping inserts IR-63 Plus / BCF Plus

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.
- IR weldable materials: PVDF, ECTFE, PP-H, PP-n, PE100
- BCF weldable materials: PVDF, PP-n
- Not compatible with PVC-U metric** (special clamping inserts needed)

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



### Clamping inserts BCF Plus

- 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 75        | <b>790 121 036</b> | 0.143          | 1      |
| 90        | <b>790 121 037</b> | 0.095          | 1      |



### Adapter for clamping unit BCF Plus 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<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 75 - 110    | <b>790 121 038</b> | 0.250          | 1      |



### Facing tool BCF Plus

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

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 20 - 63     | <b>790 121 052</b> | 2.339          | 1      |
| 75 - 110    | <b>790 121 053</b> | 3.000          | 1      |



### Clamping inserts for the facing tool BCF Plus

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



### Facing tool mounting plate BCF Plus

- To fix the facing tool on the workbench.

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 20 - 110    | <b>790 121 055</b> | 1.200          |



### Hose BCF Plus

- Connection hose for the BCF Plus bladder.

| d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) |
|-----------|--------------------|----------------|---------------|
| 4         | <b>790 122 087</b> | 0.121          | 16            |



### Hose box incl. hose BCF Plus

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

| d<br>(mm) | Code               | Weight<br>(kg) | Length<br>(m) | Pieces |
|-----------|--------------------|----------------|---------------|--------|
| 4         | <b>790 121 151</b> | 1.114          | 16            | 1      |



### Socket for compressed air hose BCF Plus

| d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-----------|--------------------|----------------|--------|
| 4         | <b>790 122 104</b> | 0.002          | 1      |



### Hose cutter BCF Plus

| d-d<br>(mm) | Code               | Weight<br>(kg) | Pieces |
|-------------|--------------------|----------------|--------|
| 4 - 6       | <b>790 122 106</b> | 0.031          | 1      |



#### Extension cable BCF Plus

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

| Code               | Weight | Length |
|--------------------|--------|--------|
|                    | (kg)   | (mm)   |
| <b>790 122 989</b> | 1.000  | 8      |



#### Power supply lead IR-63/110 Plus, IR-110 A, BCF Plus

| Performance | Code               | Weight |
|-------------|--------------------|--------|
|             |                    | (kg)   |
| 230V        | <b>790 122 246</b> | 0.150  |



## Accessories for IR/BCF Fusion Machines



### Label printer Brother PT-P900Wc Ribbon white label printer 24mm

- Label 36 mm included
- Order Label 24 mm separately

| Description                     | Code               | Weight<br>(kg) |
|---------------------------------|--------------------|----------------|
| Label printer Brother PT-P900Wc | <b>790 180 081</b> | 2.470          |
| Ribbon white label printer 24mm | <b>790 180 082</b> | 0.100          |



### Tangit KS Cleaner

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

| Size    | Code               | Weight<br>(kg) |
|---------|--------------------|----------------|
| 1 liter | <b>799 298 023</b> | 0.872          |



### 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<br>(kg) |
|--------------------|----------------|
| <b>790 122 085</b> | 0.005          |



### USB Stick IR Plus

- Formatted USB Stick to extract fusion protocols from IR-Plus machines and upload to "CONNECT Welding Data"

| Code               | Weight<br>(kg) | Pieces |
|--------------------|----------------|--------|
| <b>790 180 083</b> | 0.050          | 1      |



### IR-Plus Win Weld

- The PC data transfer software makes it possible to read the recorded fusion data from the USB stick (max. 2 GB) on the PC
- Incl. USB stick 2GB

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 131 471</b> | 0.151          |



### BCF Plus Win Weld

- The PC data transfer software makes it possible to read the recorded fusion data from the USB stick (max. 2 GB) on the PC
- Incl. USB stick 2GB

| Code | Weight |
|------|--------|
|------|--------|

(kg)

|             |       |
|-------------|-------|
| 790 121 471 | 0.080 |
|-------------|-------|



# 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 materia                       | PE, PP     | PE, PP     | PE, PP     | PE, PP     |
| Working range (°C)                     | -10/+45    | -10/+45    | -10/+45    | -10/+45    |
| Input voltage (Vac)                    | 230/115    | 230/115    | 230/115    | 230/115    |
| Performance (W)                        | 1360       | 1800       | 1500       | 1360       |
| Heating element useable as manual tool | ✓          | ✓          | ✓          | ✓          |
| Heating temperature control            | Electronic | Electronic | Electronic | Electronic |
| Transport box useable as working bench |            |            |            | ✓          |
| Weight - Base machine (Kg)             | 6          | 14         | 10         | 10         |
| Working range                          |            |            |            |            |
| d20                                    |            |            |            |            |
| d40                                    |            |            |            |            |
| d50                                    |            |            |            |            |
| d63                                    |            |            |            |            |
| d110                                   |            |            |            |            |
| d125                                   |            |            |            |            |
| d160                                   |            |            |            |            |



MC 110

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MC 110 Accessories

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MD 160/JIG 125

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PSO 701

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# 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.
- For dimensions d20,25 mm the alignment tolerances between pipes are very tight, so they can be influenced by pipes and operating conditions.
- 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<br>(mm) | Performance | Code        | Weight<br>(kg) |
|------------------------------------------------|-------------|-------------|-------------|----------------|
| MC 110 with electric planer, electronic heater | 20 - 110    | 230V/1360W  | 790 109 347 | 31.000         |
| MC 110 with manual planer, electronic heater   | 20 - 110    | 230V/800W   | 790 109 348 | 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 110       | <b>790 109 310</b> | 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<br>(mm) | wide<br>Code       | Weight<br>(kg) | narrow<br>Code     | Weight<br>(kg) |
|-------------|--------------------|----------------|--------------------|----------------|
| 20 - 90     | <b>790 300 019</b> | 4.532          | <b>790 300 029</b> | 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<br>(mm) | wide<br>Code       | Weight<br>(kg) | narrow<br>Code     | Weight<br>(kg) |
|-----------|--------------------|----------------|--------------------|----------------|
| 20        | <b>790 109 326</b> | 0.150          | <b>790 109 334</b> | 0.263          |
| 25        | <b>790 109 327</b> | 0.139          | <b>790 109 335</b> | 0.135          |
| 32        | <b>790 109 328</b> | 0.133          | <b>790 109 336</b> | 0.136          |
| 40        | <b>790 109 329</b> | 0.130          | <b>790 109 337</b> | 0.258          |
| 50        | <b>790 109 330</b> | 0.113          | <b>790 109 338</b> | 0.239          |
| 56        | <b>790 109 342</b> | 0.137          | <b>790 109 343</b> | 0.115          |
| 63        | <b>790 109 331</b> | 0.120          | <b>790 109 339</b> | 0.108          |
| 75        | <b>790 109 332</b> | 0.110          | <b>790 109 340</b> | 0.193          |
| 90        | <b>790 109 333</b> | 0.100          | <b>790 109 341</b> | 0.148          |



### Flange adapter clamping unit

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 25 - 110    | <b>790 109 316</b> | 1.630          |



### Set of replacement blades for planer

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

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 118 043</b> | 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<br>(kg) |
|--------------|--------------------|----------------|
| 230 V/2500 W | <b>790 109 004</b> | 97.000         |
| 115 V/2500 W | <b>790 109 005</b> | 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<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-------------|--------------|--------------------|----------------|
| 50 - 160    | 230 V/1800 W | <b>790 109 006</b> | 57.000         |
| 50 - 160    | 115 V/1800 W | <b>790 109 007</b> | 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<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-------------|--------------|--------------------|----------------|
| 63 - 125    | 230 V/1500 W | <b>790 310 006</b> | 44.000         |
| 63 - 125    | 115 V/1500 W | <b>790 310 007</b> | 44.000         |

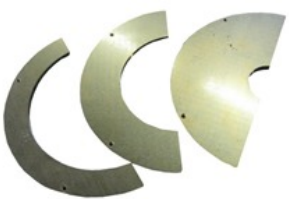


# MD 160 Accessories



## Additional outer clamps

| d<br>(mm) | Type  | Code        | Weight<br>(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<br>(mm) | Code        | Weight<br>(kg) |
|-------------|-------------|----------------|
| 50 - 140    | 790 109 064 | 5.400          |



## Table clamp

- Specifically designed for placing the heater on a working bench

| Code        | Weight<br>(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<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-------------|--------------|--------------------|----------------|
| 40 - 160    | 230 V/1360 W | <b>790 301 000</b> | 107.000        |

## PSO 701 Accessories



### Set of replacement blades for planer

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

| d-d<br>(mm) | Code               | Weight<br>(kg) |
|-------------|--------------------|----------------|
| 40 - 160    | <b>790 113 056</b> | 0.059          |



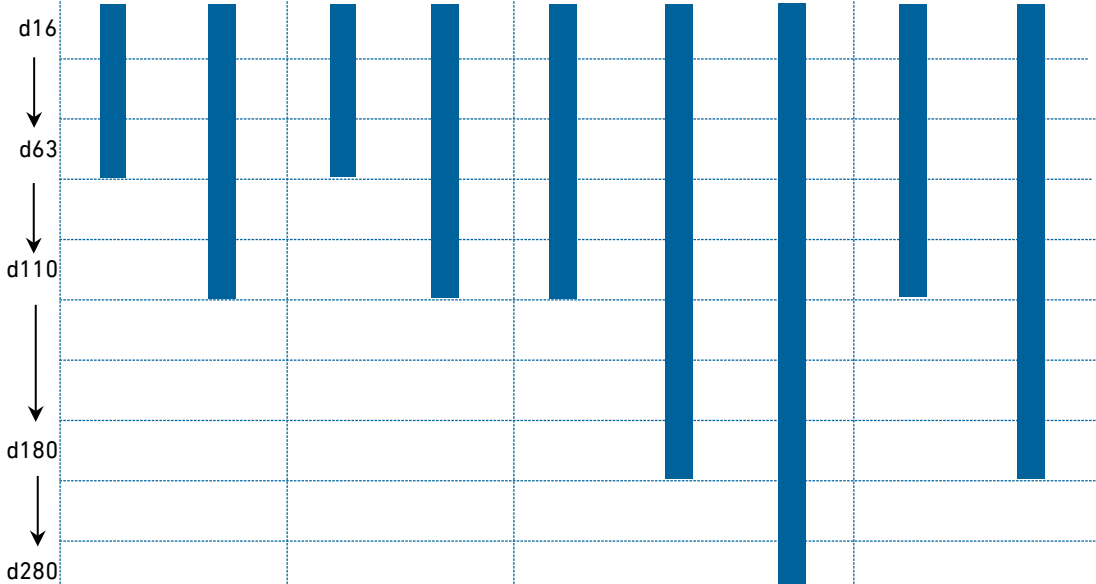
### Plastic pipe cutter For PE pipes

- 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<br>(mm) | Code               | Weight<br>(kg) | Description                |
|-----------|--------------------|----------------|----------------------------|
| 39        | <b>799 198 012</b> | 0.215          | accessories Basic Tool Box |

# Manual fusion tools

## Product Range Overview

| Characteristics             |  MSE63 MSE110 |         |  MSE63 Toolset MSE110 Toolset |         |  SSE120 SSE220 SSE300 |         |         |  SSE200 Toolset SSE300 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 | Electronic                                                                                     |         | Electronic                                                                                                     |         | Electronic                                                                                              |         |         | 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
- Electronic 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
- The 115 V type is available both in the version with plug (US standard NEMA 5-15P) and in the version without plug, to make possible for the customer to assemble any other type of plug, compatible with the tool technical specifications, under his own responsibility.

| d-d<br>(mm) | Type                       | Performance  | Code               | Weight<br>(kg) |
|-------------|----------------------------|--------------|--------------------|----------------|
| 16 - 63     | MSE 63 E with Schuko plug  | 230 V/800 W  | <b>790 105 086</b> | 8.700          |
| 16 - 63     | MSE 63 E without plug      | 115 V/800 W  | <b>790 105 099</b> | 9.979          |
| 16 - 63     | MSE 63 E with US plug      | 115 V/800 W  | <b>790 105 123</b> | 10.050         |
| 16 - 110    | MSE 110 E with Schuko plug | 230 V/1500 W | <b>790 105 088</b> | 16.523         |
| 16 - 110    | MSE 110 E without plug     | 115 V/1500 W | <b>790 105 129</b> | 18.000         |
| 16 - 110    | MSE 63 E with US plug      | 115 V/1500 W | <b>790 105 135</b> | 18.050         |



### MSE 63/MSE 110 Socket fusion tool

- For fusion jointing of PP and PE pipes and fittings
- Electronic 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
- The 115 V type is available both in the version with plug (US standard NEMA 5-15P) and in the version without plug, to make possible for the customer to assemble any other type of plug, compatible with the tool technical specifications, under his own responsibility.

| d-d<br>(mm) | Type                       | Performance  | Code               | Weight<br>(kg) |
|-------------|----------------------------|--------------|--------------------|----------------|
| 16 - 63     | MSE 63 E with Schuko plug  | 230 V/800 W  | <b>790 105 082</b> | 1.800          |
| 16 - 63     | MSE 63 E without plug      | 115 V/800 W  | <b>790 105 097</b> | 2.145          |
| 16 - 63     | MSE 63 E with US plug      | 115 V/800 W  | <b>790 105 164</b> | 2.200          |
| 16 - 110    | MSE 110 E with Schuko plug | 230 V/1500 W | <b>790 105 084</b> | 3.200          |
| 16 - 110    | MSE 110 E without plug     | 115 V/1500 W | <b>790 105 127</b> | 3.200          |
| 16 - 110    | MSE 110 E with US plug     | 115 V/1500 W | <b>790 105 175</b> | 3.250          |

## 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
- Electronic temperature control
- 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

| Type      | d-d<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-----------|-------------|--------------|--------------------|----------------|
| SSE 200 E | 16 - 180    | 230 V/800 W  | <b>790 105 061</b> | 7.700          |
| SSE 300 E | 16 - 280    | 230 V/1500 W | <b>790 105 062</b> | 12.500         |



### SSE Butt fusion tools

- All devices equipped with on/off switch, mains and temperature control lamp
- Electronic 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

| Type      | d<br>(mm) | Performance  | Code               | Weight<br>(kg) |
|-----------|-----------|--------------|--------------------|----------------|
| SSE 120 E | 110       | 230 V/400 W  | <b>790 105 058</b> | 2.400          |
| SSE 200 E | 180       | 230 V/800 W  | <b>790 105 059</b> | 3.000          |
| SSE 300 E | 280       | 230 V/1500 W | <b>790 105 060</b> | 5.640          |

## Accessories/Wearing parts for manual fusion tools



### Table clamp

- Specifically designed for placing the heater on a working bench

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 109 315</b> | 0.660          |



### Floor stand for manual fusion tools SSE/MSE

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>790 105 063</b> | 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<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 16        | <b>799 300 155</b> | 0.085          |
| 20        | <b>799 300 156</b> | 0.090          |
| 25        | <b>799 300 157</b> | 0.154          |
| 32        | <b>799 300 158</b> | 0.211          |
| 40        | <b>799 300 159</b> | 0.309          |
| 50        | <b>799 300 160</b> | 0.434          |
| 63        | <b>799 300 161</b> | 0.594          |
| 75        | <b>799 300 162</b> | 0.981          |
| 90        | <b>799 300 163</b> | 1.452          |
| 110       | <b>799 300 164</b> | 2.008          |



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| 799 300 379 | 57      | 799 350 664 | 72   |             |        |
| 799 300 380 | 57      | 799 350 665 | 72   |             |        |
| 799 300 381 | 57      | 799 350 666 | 72   |             |        |
| 799 300 382 | 57      | 799 350 667 | 72   |             |        |
| 799 300 586 | 59      | 799 350 668 | 72   |             |        |
| 799 300 752 | 58      | 799 350 669 | 72   |             |        |
| 799 300 755 | 58      | 799 350 670 | 72   |             |        |
| 799 300 756 | 58      | 799 350 671 | 72   |             |        |

# General Condition of Supply of Georg Fischer Piping Systems

## 1 General

- 1.1 These General Conditions shall apply to all Products supplied by Georg Fischer Piping Systems («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](http://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

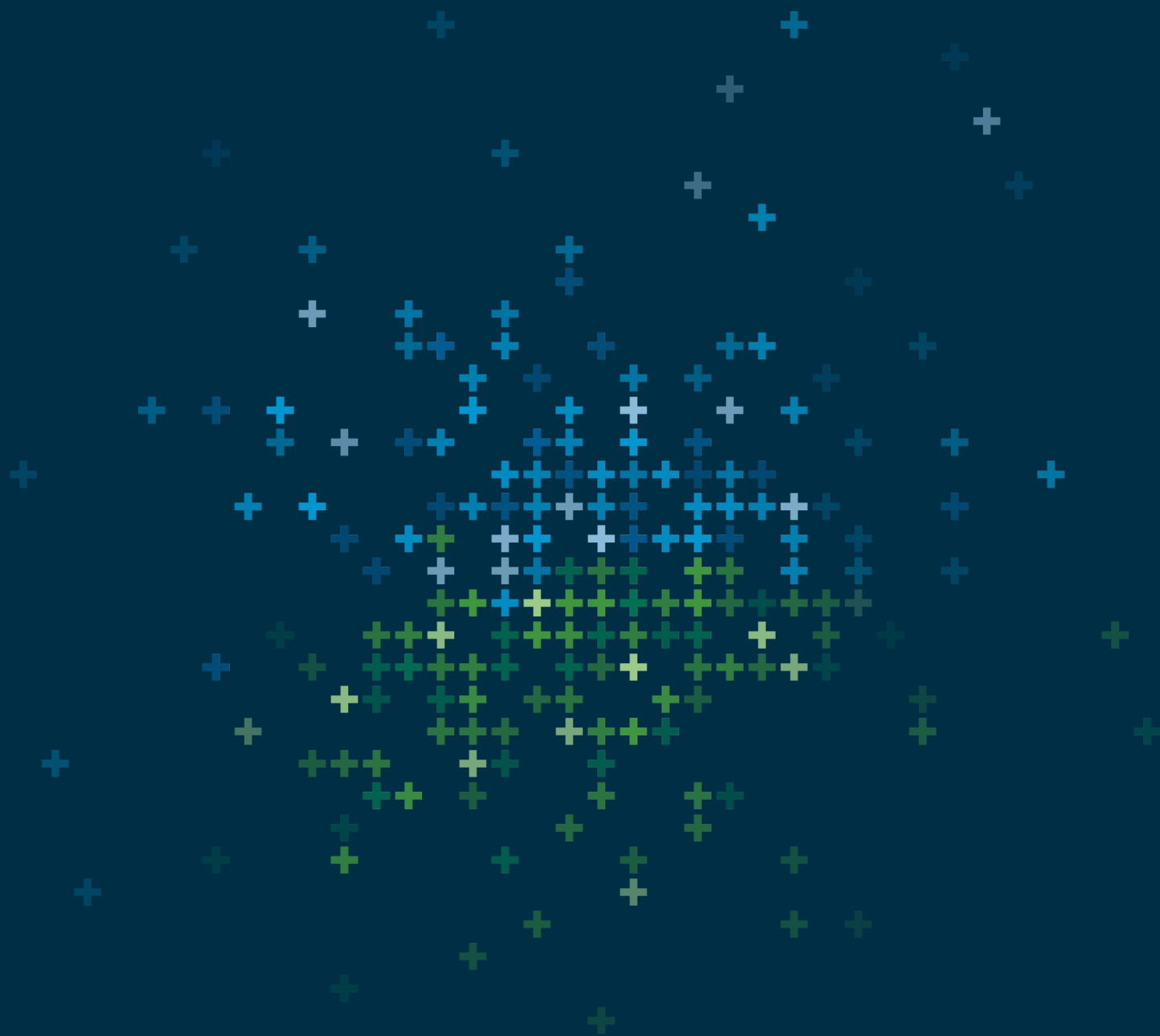
- The rights and remedies of the customer shall be exclusively governed by these General Conditions of Supply and shall be in lieu of any remedies at law. All further claims for damages, reduction of the purchase price, termination or rescission of the contract are excluded. In no case whatsoever shall 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 of 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 Schaffhausen, Switzerland. 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.



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