

Machines & Tools 2019

Product Catalogue



Utilities, Water Treatment and Marine Range

Industry and Building Technology Range

Contents

| Electrofusion units and accessories • MSA machines • Accessories | 2-17 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Construction site machines • Butt fusion machines • Accessories | 18-39 |
| Work shop machines • Work shop machines • Accessories | 40-53 |
| Tools for installation of plastic pipes • Peeling tools • Clamping and installation tools • Cutting tools • Tapping and pressure testing tools | s 54-81 |
| Contents | |
| Industry fusion machines • Butt fusion machines • Combi fusion machines • Accessories | 82-91 |
| IR Plus, IR A and BCF Plus Fusion Machines • IR Plus, IR A and BCF Plus Fusion Machines • Accessories for the IR Plus, IR A and BFC Plus fusion machines | 92-111 |
| Building Technology fusion machines 1 • Butt fuosion machines • Socket fusion machines • Accessories | 112-117 |
| Manual fusion tools • Butt fuosion machines • Socket fusion machines • Accessories | 118-122 |
| Index 1 | 123-126 |

Utility Range

MSA Machines

Product Range Overview

| | ☐ +GF+ | | GF+ | | +05* | | THE PARTY OF THE P | +GF+ | +GF+ |
|----------------------------------------|------------|------------|------------|------------|------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| Characteristics | MSA 230 | MSA 330 | MSA 340 | MSA 2.0 | MSA 2.1 | MSA2 MULTI | MSA 4.0 | MSA 4.1 | MSA 125 |
| Max fittings size supported (Ø mm) | 800 | 1400 | 1400 | 1200 | 1200 | 800 | 1400 | 1400 | 125 |
| Fittings material | PE | PE,PP | PE,PP | PE,PP | PE,PP | PE,PP,PB, PVDF | PE,PP | PE,PP | PE,PP |
| Working temperature range (°C) | -10/+45 | -10/+45 | -10/+45 | -20/+50 | -20/+50 | -20/+50 | -20/+50 | -20/+50 | -10/+45 |
| Protection factor | IP54 | IP54 | IP54 | IP65 | IP65 | IP65 | IP65 | IP65 | IP54 |
| Electrical switch | V | V | V | | V | | V | V | V |
| Input voltage (Vac) | 230 | 230/115 | 230/115 | 230 | 230 | 230 | 230 | 230 | 230 |
| Output voltage (Vac) | 39-40 | 8-48 | 8-48 | 8-48 | 8-48 | 3.7-40 | 8-48 | 8-48 | 8-42 |
| Output current (Amps) | 90 | 110 | 110 | 90 | 90 | 90 | 110 | 110 | 50 |
| Barcode input via scanner | Optional | √ | V | V | V | V | V | Wireless | Optional |
| Manual fusion input | V | √ | V | V | ✓ | V | V | V | V |
| Operator badge/Job code | V | V | V | V | ✓ | V | V | V | |
| Data records | 350 | 1000 | 1000 | 350 | 1000 | 500 | 5000 | 5000 | 350 |
| Data protocol format | TXT | PDF, CSV | PDF, CSV | | PDF, BIN | PDF, BIN | PDF, BIN | PDF, BIN | PDF, CSV |
| Traceability (ISO 12176-4) | | | V | | | | V | V | |
| GPS | | | V | | | | V | V | |
| Communication interface | RS-232 | USB | USB | USB | USB | USB | USB | USB | USB |
| Video/Photo/4G network | | | | | | | | V | |
| Configurable/admin. protected menus | | V | V | | | | V | V | |
| Weight (Kg) | 19 | 21 | 21 | 11.9 | 11.9 | 11.9 | 12.5 | 12.5 | 13 |
| Mains/fusion cable length | 4m/3m | 4m/4m | 4m/4m | 4m/3m | 4m/4m | 4m/3m | 4m/4m | 4m/4m | 4m/3m |
| Connectors / adapters | 4mm | 4-4.7mm | 4-4.7mm | 4mm | 4-4.7mm | 4mm | 4-4.7mm | 4-4.7mm | 4mm |
| Transport box | Optional | Optional | V | V | V | V | √ | V | V |
| Welding book application | | | Optional | | V | V | V | V | Optional |
| Rental time control application | | V | V | | | | V | V | |

| Table of conto | ents | Page |
|----------------|-----------------|------|
| = +GF+ | MSA 230 | 4 |
| +GF+ | MSA 330 | 5 |
| +GF+ | MSA 340 | 6 |
| +GF+ | MSA 2 | 7 |
| ingli | MSA 4 | 10 |
| | MSA 125 | 12 |
| A | MSA Accessories | 13 |



MSA 230 Electrofusion unit with jointing data recording

Monovalent electrofusion unit (fusion voltage 39,0 – 40,0 Volt) equipped with barcode scanner for automated data entry. Recording of jointing data and operator identification code. Easy to handle, robust machine for the whole range of ELGEF fittings. The Polybrand version supports the input of fusion barcodes from non GF fittings requiring a fusion tension between 39,0 to 40,0 Volt. Reliable process by controlled energy output, including ambient temperature correction factor. Suitable for jointing in series. Easy interaction by choosing the favourite language of the Operator. To the "All-In" version a cable drum for safe and time-saving cable storage is already assembled, also the data transfer cable is in the scope of delivery. Inclusive 1 pair of straight adapter clips 4.0 -> 4.7 mm, operating instructions. No need for dedicated software

Technical Data:

- Ambient temperature: -10°C to +45°C
- Mains voltage: 230V (190V 265V)
- Mains frequency: 50 Hz (40 ÷ 70 Hz)
- Fusion voltage: 39 ÷ 40 V AC
- Internal fuse: 75 A (max. 3.5 kW)
- Power consumption: 2.75 kW (max. 3.5 kW)
- Protection factor: Class 1 / IP 54
- Interfaces: RS 232
- Memory capacity: 350 records
- Mains cable: 4 m
- Fusion cable: 3 m
- Dimensions (WxHxD): 280 x 480 x 240 mm
- Weight incl. cables: ca. 19 kg
- Languages: EN, FR, DE, IT, PL, SP, RO, TR
- Display: LCD (16 alphanumerical char. x 2 lines)

| Туре | Code | SP | Weight (kg) |
|--------------------------|-------------|----|-------------|
| MSA 230 Standard Scanner | 790 128 029 | 1 | 22.000 |
| MSA 230 All-In Scanner | 790 128 030 | 1 | 23.000 |



MSA 230 Basic

Manual Electrofusion unit with jointing data recording

Monovalent electrofusion unit (fusion voltage 39.0-40.0 Volt) with manual data entry and recording of jointing data and operator identification code. Easy to handle, robust machine for the whole product range of ELGEF fittings diameter up to dn 630). Reliable process by controlled energy output, including ambient temperature correction factor. Suitable for jointing in series. Easy interaction by choosing the favourite language of the operator.

Scope of delivery includes: 1 pair of straight adapter clips $4.0 \rightarrow 4.7$ mm, operating instructions. To read out the fusion protocols the data transfer cable (790 128 112) is required. No need for dedicated software.

Technical Data:

- Ambient temperature: -10°C to +45°C
- Mains voltage: 230V (190V 265V)
- Mains frequency: 50 Hz (40 ÷ 70 Hz)
- Fusion voltage: 39 ÷ 40 V AC
- Internal fuse: 75 A (max. 3.5 kW)
- Power consumption: 2.75 kW (max. 3.5 kW)
- Protection factor: Class 1 / IP 54
- Interfaces: RS 232
- Memory capacity: 350 records
- Mains cable: 4 m
- Fusion cable: 3 m
- Dimensions (WxHxD): 280 x 480 x 240 mm
- Weight incl. cables: ca. 19 kg
- Display: LCD (16 alphanumerical char. x 2 lines)
- Languages: EN, FR, DE, IT, PL, SP

| Туре | Code | Weight (kg) |
|---------------|-------------|----------------|
| MSA 230 Basic | 790 128 006 | 22.000 |



MSA 330 Electrofusion unit with jointing data recording

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

Technical Data:

- Ambient temperature: -10°C to +45°C
- Mains voltage: 180V 265V AC
- Mains frequency: 40 Hz 70 Hz
- Fusion voltage: 8 48V AC
- Fusion current: 90 A (max)
- Suggested power generator: 3.5 kVA (5.0 kVA for fittings with d>200mm)
- Protection factor: Class 1 / IP 54
- Mains cable: 4 m
- Fusion cable: 4 m
- Interface: USB (type A) for PC communication and software updates
- Dimensions (WxHxD): 280 x 480 x 320mm
- Weight incl. cables: ca. 21.7 kg
- Display: LCD (20 alphanumerical char. x 4 lines), contrast adjustment
- Configurable languages: 11

| description | Code | Weight (kg) |
|---------------------------------|-------------|-------------|
| Barcode scanner, transport case | 790 160 005 | 30.000 |
| Barcode scanner, carton box | 790 160 003 | 25.000 |



MSA 330 @ 110 Volt Electrofusion unit with jointing data recording

The MSA 330 electrofusion unit combines high performance in jointing with easy and safe handling. The internal memory has a capacity of 1000 jointing records, for data transfer the unit is equipped with an USB interface. The record formats are in PDF and CSV, both manageable with common and free PC software applications. An intuitive operation menu is guiding through the complete jointing process. For fusion data input a barcode scanner is connected (manual data input configurable). The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and indication of cooling time. The unit is suitable for jointing in series. Robust aluminum housing with convenient cable rewind and handle for weight balanced transport. Fusion cable detachable with military connector.

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: 90V 135V AC
- Mains frequency: 40 Hz 70 Hz
- Fusion voltage: 8 48V AC
- Fusion current: 90 A (max)
- Suggested power generator: 3.5 kVA (5.0 kVA for fittings with d>200mm)
- Protection factor: Class 1 / IP 54
- Mains cable: 10 m
- Fusion cable: 3 m
- Interface: USB (type A) for PC communication and software updates
- Dimensions (WxHxD): 280 x 480 x 320mm
- Weight incl. cables: 25 kg
- Display: LCD (20 alphanumerical char. x 4 lines), contrast adjustment
- Configurable languages: 11

| desc | ription | Code | Weight (kg) |
|----------------------------|---------------|-----------|----------------|
| Barcode scanner, transport | ase 79 | 0 160 017 | 32.000 |



MSA 340 Traceability Electrofusion unit with 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: 180V 265V AC
- Mains frequency: 40 Hz 70 Hz
- Fusion voltage: 8 48V AC
- Fusion current: 90 A (max)
- Suggested power generator: 3.5 kVA (5.0 kVA for fittings with d>200mm)
- Protection factor: Class 1 / IP 54
- Mains cable: 4 m
- Fusion cable: 4 m
- Interface: USB (type A) for PC communication and software updates
- Dimensions (WxHxD): 280 x 480 x 320mm
- Weight incl. cables: ca. 21.7 kg
- Display: LCD (20 alphanumerical char. x 4 lines), contrast adjustment
- Configurable languages: 11

| description | Code | Weight (kg) |
|--------------------------------|-------------|----------------|
| Barcode scanner, transport box | 790 160 007 | 30.000 |



MSA 340 @ 110 Volt Traceability Electrofusion unit with 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.

Detachable fusion cable and emergency push button, according to GIS standard 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: 90V 135V AC
- Mains frequency: 40 Hz 70 Hz
- Fusion voltage: 8 48V AC
- Fusion current: 90 A (max)
- Suggested power generator: 3.5 kVA (5.0 kVA for fittings with d>200mm)
- Protection factor: Class 1 / IP 54
- Mains cable: 10 mFusion cable: 3 m
- Interface: USB (type A) for PC communication and software updates
- Dimensions (WxHxD): 280 x 480 x 320mm
- Weight: 26 kg
- Display: LCD (20 alphanumerical char. x 4 lines), contrast adjustment
- Configurable languages: 11

| description | n Code | Weight (kg) |
|---------------------------------|-------------|-------------|
| Barcode scanner, transport case | 790 160 014 | 32.000 |



MSA 2.0 Automatic Electrofusion Unit

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

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

It is robust, safe and ergonomic.

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

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

Technical Data:

- Operating temperature: -20°C to +50°C
- Mains voltage: 230V (190V 265V)
- Mains frequency: 50-60 Hz
- Fusion current: 90 A (max)
- Suggested power generators: 3.5 kVA
- Fusion voltage: 8-42 V (48 V)
- Fittings range: d20-1200 mm
- 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 420 x 280 mm
- Weight: ca. 11.9 kg
- Display: Graphical LCD, adjustable contrast
- Independent from languages

| Туре | Code | SP | Weight |
|---------------------------------------------|-------------|----|--------|
| | | | (kg) |
| Barcode scanner, transport case | 790 156 001 | 1 | 20.000 |
| Barcode scanner, transport case, Swiss plug | 790 156 004 | 1 | 20.000 |



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

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

Technical Data:

- Operating temperature: -20°C to +50°C
- Mains voltage: 230V (190V 265V)
- Mains frequency: 50-60 Hz
- 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
- Fittings range: d20-1200 mm
- 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. 11.9 kg
- Display: Graphical LCD, adjustable contrast
- Independent from languages

| T | ype | Code | SP | Weight (kg) |
|-------------------------------------------------------------------|-----|-------------|----|-------------|
| Barcode scanner, transport case, mini Welding Book | | 790 156 003 | 1 | 20.000 |
| Barcode scanner, transport case, mini Welding Book, Swiss plug | | 790 156 006 | 1 | 20.000 |
| Barcode scanner, transport case, mini Welding Book, 8m fusion cab | .e | 790 156 010 | 1 | 21.000 |



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

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

It is robust, safe and ergonomic.

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

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

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

Technical Data:

- Operating temperature: -20°C to +50°C
- Fusion data input mode: bar code, manual
- Mains voltage: 230V (190V 265V)
- Mains frequency: 50-60 Hz
- 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

| Туре | Code | SP | Weight (kg) |
|---------------------------------------------------------------------|-------------|----|-------------|
| Full package plus mini Welding Book | 790 156 021 | 1 | 20.000 |
| Full package plus mini Welding Book, SeaDrain adapters and barcodes | 790 156 022 | 1 | 20.000 |



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

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

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

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

Technical Data:

- Mains frequency: 50-60 Hz
- Fusion data input mode: bar code, manual
- Mains voltage: 230V (190V 265V)
- Suggested power generators: 3.5 kVA
- Welding technique: Voltage controlled
- Fusion voltage: 8-48 V
- Fusion current: 110 A (max)
- Fittings range: d20-1400 mm
- 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 420 x 280 mm
- Weight: ca. 12.8 kg
- Display: Graphical LCD, adjustable contrast
- Languages support: 27

| Туре | Description | Code | SP | Weight (kg) |
|---------|---------------------------------------|-------------|----|-------------|
| MSA 4.0 | 1D barcode scanner | 790 156 011 | 1 | 19.500 |
| MSA 4.0 | 2D barcode scanner (QR code reading) | 790 156 012 | 1 | 19.500 |
| MSA 4.0 | 1D barcode scanner, 8m welding cables | 790 156 014 | 1 | 19.500 |



MSA 4.1 Electrofusion Unit with full traceability. GPS functions and wireless scanner

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

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive, the configurable workflow to fit all needs, from the simplest to the most plenty of details. Operator identity, job identification and fitting data are captured using a wireless scanner, with 1D (for barcode labels on teh fitting) and 2D (in case of Unitary QR code availability). The wireless scanner is based on a rugged mobile phone with a software application installed for reading the barcode and giving evidence of the barcode type (operator, fusion data, traceability...). The wireless device can be used also for communication purposes as well as for accessing to GFPS online web services

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

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

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

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

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

Technical Data:

- Mains frequency: 50-60 Hz
- · Fusion data input mode: bar code, manual
- Mains voltage: 230V (190V 265V)
 Suggested power generators: 3.5 kVA
 Welding technique: Voltage controlled
- Fusion voltage: 8-48 V
 Fusion current: 110 A (max)
- Fittings range: d20-1400 mm
- 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 mFusion cable: 4 m
- Dimensions: 280 x 420 x 280 mm
- Weight: ca. 12.8 kg
- · Display: Graphical LCD, adjustable contrast
- Languages support: 27

| Туре | Description | Code | SP | Weight (kg) |
|---------|---------------------------------------|-------------|----|-------------|
| MSA 4.1 | 2D wireless scanner (QR code reading) | 790 156 013 | 1 | 19.500 |



MSA 125 Automatic Electrofusion Unit up to d125

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

It is robust, safe and ergonomic.

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

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

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

Technical Data:

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

| 1 | Гуре | Code | SP | Weight (kg) |
|-------------------------------------------|------|-------------|----|-------------|
| Manual mode version | | 790 160 040 | 1 | 12.000 |
| Barcode (scanner) and manual mode version | 1 | 790 160 042 | 1 | 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 2.1, MSA 4.0, MSA 330 and MSA 340.

Useable stand alone, with WeldinOne or Track&Trace, the Quality and Asset Management Service of GFPS.

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

Technical Data:

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

| Туре | Code | SP | Weight (kg) |
|-----------|-------------|----|----------------|
| WeldinAir | 790 156 033 | 0 | 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 togenerate 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.

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



Rugged PDA

Rugged PDA used in combination with MSA 4.1 as wireless scanner, remote fusion control and monitoring.

The embedded application enables the user to interact with the MSA 4.1 via Bluetooth connection, download immediately the fusion protocols, connect to Wifi and 3G network, share in real time welding data with the installation company headquarter.

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

Barcode Scanner

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

| Description | Code | Weight (kg) |
|----------------------------------------------------|-------------|----------------|
| Standard MSA230/MSA330/MSA340 scanner and cable | 790 128 119 | 0.250 |
| MSAplus scanner and cable | 790 160 227 | 0.250 |
| MSA330/MSA340 rugged scanner and cable | 790 160 225 | 0.250 |
| MSA 2.0 barcode scanner | 790 156 160 | 0.250 |
| MSA 2.1 and MSA 4.0 1D barcode scanner | 790 156 260 | 0.250 |
| MSA 4.0 2D barcode scanner | 790 156 261 | 0.250 |
| Barcode scanner with pouch for old MSA and MSAplus | 799 350 419 | 0.521 |
| MSA 125 scanner and cable | 790 160 251 | 0.250 |
| MSA330/MSA340 rugged USB scanner and cable | 790 160 252 | 0.350 |



Geothermal cables kit

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

| Description | Code | Weight (kg) |
|----------------------------|-------------|----------------|
| MSA geother- mal cables | 790 160 176 | 0.385 |



Adapters for MSA electro-fusion units

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

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



Long adapters

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

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



COOL-FIT Y cables kit

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

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



SeaDrain/FUSEAL cable adapters

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

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



Transport Box MSA electro-fusion units

• Large, robust transport box for MSA machines

| Туре | Dimension (mm) | Code | Weight (kg) |
|-------------------|----------------|-------------|----------------|
| MSA 230 | 320x310x510 | 790 128 121 | 6.300 |
| MSA 330 / MSA 340 | 370x350x520 | 790 160 010 | 8.000 |
| MSA 2 / MSA 4 | 315x315x525 | 790 156 228 | 6.000 |
| MSAplus 250-400 | 330x220x470 | 799 350 472 | 5.248 |
| MSA250-400 | 300x200x330 | 799 350 401 | 4.781 |



Data Transfer Cable MSA 230

• RS 232 - USB adapter cable, for data transfer to PC

| | Type | Code | Weight (kg) |
|-------------------------------------------|------|-------------|----------------|
| MSA 230 cable with USB integrated adapted | er | 790 128 183 | 0.125 |

Utility Range

MSA Machines

Accessories Code

| | 1.GF+ | | ^^ | | = | | <u> </u> | |
|--------------|------------------|----------------------------------------|-------------|---------------------|------------------|-------------------------------|-------------------|-------------|
| Machine Type | Transport Box | Scanner | Adapters | CoolFit Y cables | Long adapters | SeaDrain cable adapters | Geothermal kit | WeldinAir |
| MSA 4.1 | | 790 156 224 | | | | | | - |
| MSA 4.0 | | 790 156 260 790 156 261 | | | | - | | 790 156 033 |
| MSA 2.1 | 790 156 228 | 790 156 260 | | | | | | 770 130 033 |
| MSA 2 MULTI | | 799 350 340 790 156 160 799 350 341 | | 790 156 032 | 2 790 128 035 | 790 156 195 | 790160176 | |
| MSA 2.0 | | | 799 350 341 | | | | | - |
| MSA 340 | | 790 160 225 | | | | | | |
| MSA 330 | 790 160 010 | 010 790 128 119 | | | | - | | 790 156 033 |
| MSA 125 | - | 790 128 243 | | - | | | | |
| MSA 230 | 790 128 121 | 790 128 119 | 799 350 462 | | | | | - |

Track & Trace





Track & Trace

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

Technical Data:

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

| Code | | Type |
|-------------|-------------------------------------------|------|
| 700 900 004 | Track&Trace Setup Fee | |
| 700 900 005 | Track&Trace Advance QC Service | |
| 700 900 007 | Track&Trace License for 10 Users | |
| 700 900 009 | Track&Trace GPS Antenna System | |
| 700 900 010 | Track&Trace SmartNet GPS Annual License | ! |
| 790 156 033 | Track&Trace Weldin Air BlueTooth USB Plug | 9 |
| 790 156 224 | Track&Trace Rugged Industrial Mobile Devi | ce |

Utility Range

Trench Machines

Product Range Overview







| | EC | | | | | | | | | |
|---------------------------------------------|---------|-------------|---------|-------|--------------|----------|-------------------|-------|------------------|-------|
| | | OS-TOP-0 | | | TOP-CNC | | | G | | |
| Characteristics | 160 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1200 | 1600 |
| Max jointing diameter (mm) | 160 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1200 | 1600 |
| 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 | 400 |
| Operation control | Μ | Manual, CN | С | | Manual, CN(| 0 | | Mar | nual | |
| Performance (W) | 1900 | 3250 | 3850 | 5700 | 6300 | 11000 | 15000 | 19500 | 20500 | 55000 |
| Reduction inserts / Flange adapter clamp | | Optional | | | Optional | | | Opti | onal | |
| Hoist unit | | | | | Optional | | | 0 pti | onal | |
| Chamfered upper clamp | | Optional | | | Optional | | | | | |
| Fusion protocols, transfer via USB stick | WR 20 | 0 (Optional |), CNC | WR 21 | 00 (Optional |), CNC | WR 200 (Optional) | | | |
| Remote data transfer via smartphone | CNC (V | VeldinAirv | ersion) | CNC (| WeldinAirve | ersion) | | | | |
| Traceability via barcode scanner | Option | nal (CNC ve | rsion) | Optio | nal (CNC ve | rsion) | | | | |
| Weight – base machine (Kg) | 22 | 47 | 53 | 95 | 169 | 222 | 690 | 1238 | 1346 | 3350 |
| Working range | | | | | | | | | | |
| d40 d75 | | | | | | <u>-</u> | | | | |
| d90 | | | | | | | | | | |
| d125 | | | | | | | | | | |
| d160 | | | | | | | | | | |
| d200 d250 | | | | | | | | | | |
| d315 | | | | | | | | | | |
| d400 | | ······ | | | | | | | | |
| d500 | | | | | | | | | | |
| d630 | | | | | | | | | | |
| d710 | | | | | | | | | | |
| d800 d1000 | | ····· | | | | | | | | |
| d1200 | | ····· | | | | | | | | |
| d1600 | | | | | | | | | | |

| Table of conte | ents | Page |
|----------------|-------------------------------------|------|
| A COUNTY OF | TOP 2.0 160 - 250 - 315 | 20 |
| | ECOS 160 - 250 - 315 | 21 |
| | CNC 4.0 160 - 250 - 315 | 22 |
| 20 | ECOS - TOP - CNC Accessories | 24 |
| | TOP 2.0 400 - 500 - 630 | 27 |
| | CNC 4.0 400 - 500 - 630 | 28 |
| 23 | TOP CNC 400 - 500 - 630 Accessories | 29 |
| | GF 800 - 1000 - 1200 | 32 |
| 7) | GF 800 - 1000 - 1200 Accessories | 33 |
| | GF 1600 | 35 |
| | WR 200 | 37 |











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

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

Hydraulically operated with manual control unit.

TOP hydraulic unit with integrated control panel and power outlets.

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

BASE MACHINE

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

HYDRAULIC UNIT

- Compact aluminium case with innovative design
- Intuitive control panel provided with digital indication of hydraulic pressure, electronic heating element temperature controller, 2-channel welding timer
- Automatic pressure control during the cooling time
- Precise pressure setting and fine adjusting
- Push-button operation of machine carriage
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Integrated interface for welding recorder
- 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

• CASI

- For safe storage of planer and heating element
- Weight: Type 160 = 4.8 kg, Type 250 = 8 kg, Type 315 = 9 kg

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









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













CNC 4.0 160 - 250 - 315

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
- Integrated GPS receiver
- 10 freely programmable fusion cycles (e.g. for non standard pipe dimensions)
- Selection of language
- Operator ID (ISO 12176-3), job number and pipe codes (ISO 12176-4) could be input by means of the barcode scanner (to be ordered separately)
- 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
- Real time communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and the data management (WeldinAir type), working in combination with WeldinAir mobile 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
- CASI
- · For safe storage of planer and heating element
- Weight: Type 160 = 4.8 kg, Type 250 = 8 kg, Type 315 = 9 kg

| Туре | d-d (mm) | Performance | Code | Weight (kg) |
|-----------------------|-----------------|--------------|-------------|-------------|
| CNC 4.0 160 | 40 - 160 | 230 V/2000 W | 790 150 012 | 125.000 |
| CNC 4.0 250 | 75 - 250 | 230 V/3150 W | 790 151 012 | 195.000 |
| CNC 4.0 315 | 90 - 315 | 230 V/3750 W | 790 152 012 | 215.000 |
| CNC 4.0 160 WeldinAir | 40 - 160 | 230 V/2000 W | 790 150 076 | 125.000 |
| CNC 4.0 250 WeldinAir | 75 - 250 | 230 V/3150 W | 790 151 076 | 195.000 |
| CNC 4.0 315 WeldinAir | 90 - 315 | 230 V/3750 W | 790 152 076 | 215.000 |









CNC 4.0 250 - 315 AHE

Automatic butt fusion machine for construction site with heating element ejection system

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

Hydraulically operated with automatic CNC control unit.

Automatic ejection system for the heating element.

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

BASE MACHINE

- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- The heating element is removed automatically during the change-over phase
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete working process
- Weight: Type 250 = 54 kg, Type 315 = 60 kg
- HYDRAULIC UNIT
- Compact aluminium case with innovative design
- Intuitive colour touch screen interface
- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics
- Automatic calculation, regulation and control of the fusion parameters pressure, time and temperature according to country specific guidelines
- Integrated GPS receiver
- Selection of language
- Operator ID (ISO 12176-3), job number and pipe codes (ISO 12176-4) could be input by means of the barcode scanner (to be ordered separately)
- 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
- Real time communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and the data management (WeldinAir type), working in combination with WeldinAir mobile application
- Integrated power outlets for planer, heating element
- 10 freely programmable fusion cycles (e.g. for non standard pipe dimensions)
- 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

| Туре | d-d (mm) | Performance | Code | Weight (kg) |
|---------------------------|-----------------|--------------|-------------|----------------|
| CNC 4.0 250 AHE | 75 - 250 | 230 V/3150 W | 790 151 071 | 208.000 |
| CNC 4.0 315 AHE | 90 - 315 | 230 V/3750 W | 790 152 071 | 223.000 |
| CNC 4.0 250 AHE WeldinAir | 75 - 250 | 230 V/3150 W | 790 151 077 | 143.000 |
| CNC 4.0 315 AHE WeldinAir | 90 - 315 | 230 V/3750 W | 790 152 077 | 160.000 |

ECOS - TOP - CNC Accessories



Type 160 Reduction clamping inserts

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

| d (mm) | narrow Code | Weight (kg) | wide Code | Weight (kg) |
|------------------|----------------|-------------|--------------|-------------|
| 40 | 790 114 027 | 0.318 | 790 114 023 | 0.280 |
| 50 | 790 114 016 | 0.323 | 790 114 009 | 0.326 |
| 63 | 790 114 017 | 0.281 | 790 114 010 | 0.293 |
| 75 | 790 114 018 | 0.276 | 790 114 011 | 0.290 |
| 90 | 790 114 019 | 0.256 | 790 114 012 | 0.277 |
| 110 | 790 114 020 | 0.227 | 790 114 013 | 0.260 |
| 125 | 790 114 021 | 0.192 | 790 114 014 | 0.265 |
| 140 | 790 114 022 | 0.134 | 790 114 015 | 0.178 |



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



Type 315 Reduction clamping inserts

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

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



Reduction clamping inserts-set

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

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



Chamfered upper clamp

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

| Type | Left | Right | Weight |
|----------|-------------|-------------|--------|
| | Code | Code | (kg) |
| Type 160 | 790 150 205 | 790 150 206 | 0.800 |
| Type 250 | 790 151 205 | 790 151 206 | 1.822 |
| Type 315 | 790 152 205 | 790 152 206 | 2.681 |



Flange adapter clamping units

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

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



Pipe lifter

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

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



Set of replacement blades for planer

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

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



Pressure Shut-Off Valve

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

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



RU Repair unit

- Repair unit with 2 clamping devices and a pair of cylinders, especially convenient for butt-fusion joints in narrow trenches or inside of buildings and industrial plants.
- To be used in combination with heating element, planer, hydraulic unit and reduction inserts of the corresponding ECOS and TOP 2.0 machine type.

| Type | Code | Weight |
|--------|-------------|--------|
| | | (kg) |
| RU 160 | 790 150 045 | 8.800 |
| RU 250 | 790 151 045 | 18.000 |
| RU 315 | 790 152 045 | 20.000 |



RU Outer Clamp

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

| Туре | Code | Weight (kg) |
|--------|-------------|----------------|
| RU 160 | 790 150 046 | 2.000 |
| RU 250 | 790 151 046 | 4.400 |
| RU 315 | 790 152 046 | 5.400 |



Barcode Scanner for CNC machines

- Barcode scanner to input additional information as operator ID, job number and traceability codes of pipes and fittings
- Provided with holder to be placed onto the hydraulic unit and pouch for safe transportation

| Code | Weight (kg) |
|-------------|----------------|
| 790 151 052 | 0.370 |
| | |



Label printer cable for CNC machines

 \bullet Cable to connect the CNC 4.0/4.1 to same label printer (code 790131066) used with automatic IR welding machines

| Туре | Code | Weight |
|------------------------------|-------------|--------|
| | | (kg) |
| Cable with special connector | 790 155 343 | 0.120 |













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

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

Hydraulically operated with manual control unit.

TOP hydraulic unit with integrated control panel and power outlets.

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

BASE MACHINE

- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 45° inclination
- The movable (sliding) 3rd clamp allows easy and time-saving fixation of bends or tees without need of additional tools
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- Weight: Type 400 = 80 kg, Type 500 = 157 kg, Type 630 = 222 kg

HYDRAULIC UNIT

- Compact aluminium case with innovative design
- Intuitive control panel provided with digital indication of hydraulic pressure, electronic heating element temperature controller, 2-channel welding timer
- Automatic pressure control during the cooling time
- Precise pressure setting and fine adjusting
- · Push-button operation of machine carriage
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Integrated interface for welding recorder
- 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 = 99 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 = 39 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 | Performance | Code | Weight |
|-------------|-----------|---------------|-------------|---------|
| | (mm) | | | (kg) |
| TOP 2.0 400 | 125 - 400 | 400 V/5700 W | 790 153 011 | 310.000 |
| TOP 2.0 500 | 200 - 500 | 400 V/6300 W | 790 154 011 | 448.000 |
| TOP 2.0 630 | 315 - 630 | 400 V/11000 W | 790 155 011 | 588.000 |











CNC 4.0 400- 500 - 630 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
- Integrated GPS receiver
- 10 freely programmable fusion cycles (e.g. for non standard pipe dimensions)
- Selection of language
- Operator ID (ISO 12176-3), job number and pipe codes (ISO 12176-4) could be input by means of the barcode scanner (to be ordered separately)
- 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
- Real time communication with mobile smartphones (at least iOS 11 or Android 7) during the welding process and the data management (WeldinAir type), working in combination with WeldinAir mobile application
- Integrated power outlets for planer, heating element
- Accumulator for pressure equalization during the cooling phase
- Max operating pressure: 160 bar
- Weight: 37 kg

PLANER

- Powerful parallel planer for single or double-sided facing of pipe ends
- Ergonomic, weight-balanced handling
- Self-locking mechanism in working position
- Safety microswitch to prevent undesired start-up
- Weight: Type 400 = 47 kg, Type 500 = 58 kg, Type 630 = 99 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 = 39 kg
- Input power: Type 400 = 3.5 kW, Type 500= 4.0 kW, Type 630 = 8.0 kW

• CASI

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

| Туре | d-d (mm) | Performance | Code | Weight (kg) |
|-----------------------|-----------------|---------------|-------------|-------------|
| CNC 4.0 400 | 125 - 400 | 400 V/5700 W | 790 153 001 | 320.000 |
| CNC 4.0 500 | 200 - 500 | 400 V/6300 W | 790 154 001 | 455.000 |
| CNC 4.0 630 | 315 - 630 | 400 V/11000 W | 790 155 001 | 595.000 |
| CNC 4.0 400 WeldinAir | 125 - 400 | 400 V/5700 W | 790 153 076 | 320.000 |
| CNC 4.0 500 WeldinAir | 200 - 500 | 400 V/6300 W | 790 154 076 | 455.000 |
| CNC 4.0 630 WeldinAir | 315 - 630 | 400 V/11000 W | 790 155 076 | 595.000 |

TOP CNC 400 - 500 - 630 Accessories



Type 400 Reduction clamping inserts

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

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

| d | narrow | Weight | wide | Weight |
|------|-------------|--------|-------------|--------|
| (mm) | Code | (kg) | Code | (kg) |
| 125 | 790 112 100 | 1.215 | 790 112 090 | 0.957 |
| 140 | 790 112 101 | 1.139 | 790 112 091 | 0.950 |
| 160 | 790 112 102 | 1.080 | 790 112 092 | 0.980 |
| 180 | 790 112 103 | 1.006 | 790 112 093 | 0.931 |
| 200 | 790 112 104 | 0.945 | 790 112 094 | 0.880 |
| 225 | 790 112 105 | 0.833 | 790 112 095 | 0.940 |
| 250 | 790 112 106 | 0.712 | 790 112 096 | 0.754 |
| 280 | 790 112 107 | 0.562 | 790 112 097 | 0.750 |
| 315 | 790 127 111 | 1.830 | 790 127 101 | 1.830 |
| 355 | 790 127 112 | 1.830 | 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 | narrow | Weight | wide | Weight |
|------|-------------|--------|-------------|--------|
| (mm) | Code | (kg) | Code | (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 | narrow | Weight | wide | Weight |
|------|-------------|--------|-------------|--------|
| (mm) | Code | (kg) | Code | (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 | 3.800 | 790 117 013 | 4.900 |

A SOLVERY

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



Chamfered upper clamp

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

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



Flange adapter clamping unit

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

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



Hoist unit

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

| d | Code | Weight |
|------|-------------|---------|
| (mm) | | (kg) |
| 400 | 790 153 028 | 85.000 |
| 500 | 790 340 066 | 80.000 |
| 630 | 790 117 102 | 137.000 |
| | | |



Lifting cylinder

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

| Code | Weight |
|-------------|--------|
| | (kg |
| 790 117 094 | 13.000 |



Set of replacement blades for planer

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

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



Barcode Scanner for CNC machines

- Barcode scanner to input additional information as operator ID, job number and traceability codes of pipes and fittings
 • Provided with holder to be placed onto the hydraulic unit and pouch for safe transportation

| Туре | Code | Weight |
|-----------------|-------------|--------|
| | | (kg) |
| Barcode scanner | 790 151 052 | 0.370 |



Label printer cable for CNC machines

• Cable to connect the CNC 4.0/4.1 to same label printer (code 790131066) used with automatic IR welding machines

| Туре | Code | Weight |
|------------------------------|-------------|--------|
| | | (kg) |
| Cable with special connector | 790 155 343 | 0.120 |











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 = 1346 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 = 335 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

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

GF 800 - 1000 - 1200 Accessories



Type 800 Reduction clamping inserts

- d 500 710 mm
- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- Reductions in inch sizes or special diameters upon request
 In order to mount the inserts d 500/d 560, the reduction clamping insert d 630, code 790 123 011 must also be used

| d | narrow | Weight | | Weight |
|------|-------------|--------|-------------|--------|
| (mm) | Code | (kg) | Code | (kg) |
| 500 | 790 117 238 | 3.700 | 790 117 012 | 4.500 |
| 560 | 790 117 239 | 3.800 | 790 117 013 | 4.900 |
| 630 | 790 123 219 | 9.000 | 790 123 011 | 11.000 |
| 710 | 790 123 220 | 9.000 | 790 123 012 | 12.500 |



Type 1000 Reduction clamping inserts

- Each code number represents 1 piece of reduction clamping insert. Per machine and dimension maximum 8 narrow or wide reduction clamping inserts are needed.
- Reductions in inch sizes or special diameters upon request In order to mount the inserts d 710, the reduction clamping insert d 800 mm, code 790 124 011, must also be used

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



Type 1200 Reduction clamping inserts

parrow Woight

- 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.

wide Weight

| a | narrow | weight | wide | weigni |
|------|-------------|--------|-------------|--------|
| (mm) | Code | (kg) | Code | (kg) |
| 710 | 790 125 030 | 9.000 | 790 125 028 | 12.500 |
| 800 | | | 790 124 011 | 18.000 |
| 900 | | | 790 124 012 | 19.000 |
| 1000 | | | 790 125 011 | 20.000 |



Reduction clamping inserts-set

• 8 wide clamping inserts per dimension

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



Flange adapter clamping unit

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

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



Hoist unit

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

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



Set of replacement blades for planer

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

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











GF 1600 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
- Removable outer clamp to fix bulky short-end fittings or to reduce machine length and weight (narrow working space / easier transportation)
- Double-sided heating element pull-off mechanism to optimise the change-over phase
- Pressure cylinders separated from the guiding shafts for easier maintenance on site
- Weight: 3350 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
- Integrated interface for welding recorder
- Max operating pressure: 200 bar
- Weight: 80 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: 935 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: 415 kg
- Input power: 400 V / 47000 W
- 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
- Assembled on the storage case for easier transportation
- Weight: 29 kg
- CASE
- For safe storage of planer and heating element
- Integrated power cables winder
- Weight: 795 kg

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|---------------|-------------|-------------|
| 1000 - 1600 | 400 V/55000 W | 790 146 001 | 6900.000 |

GF 1600 Accessories



Reduction clamping inserts, wide

- 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

| d | Code | Weight |
|------|-------------|--------|
| (mm) | | (kg) |
| 1000 | 790 146 147 | 92.667 |
| 1200 | 790 146 148 | 78.163 |
| 1400 | 790 146 149 | 62.295 |



Reduction clamping inserts-set

• 8 wide clamping inserts dn 1000, 1200, 1400 mm

| Description | Code | Weight (kg) |
|-------------------------|-------------|-------------|
| d 1000 mm | 790 146 031 | 740.000 |
| d 1200 mm | 790 146 032 | 625.000 |
| d 1400 mm | 790 146 033 | 500.000 |
| d 1000 - 1200 - 1400 mm | 790 146 030 | 1860.000 |



Flange adapter clamping unit

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

| Code | Weight |
|-------------|---------|
| | (kg) |
| 790 146 019 | 333.000 |



Electric hoist unit

- Hoist capacity 1000 kg
- Arm length 4 m, pivoting, back/forward, max. column height from floor 6.16 m, 2 hoisting speeds (2.5 m/min and 5.5 m/min)

| Code | Weight |
|-------------|----------|
| | (kg) |
| 790 146 018 | 1270.000 |



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

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

Description:

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

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

Trench Machines

IPS dimensional range





| IPS Nominal pipe | Machine size | | | | | | | | | |
|---------------------|--------------|-----|-----|-----|-----|-----|------|-------|-------|------|
| diameter | 160 | 250 | 315 | 400 | 500 | 630 | 800* | 1000* | 1200* | 1600 |
| 1 ½" | | | | | | | | | | |
| 2" | | | | | | | | | | |
| 2 ½" | | | | | | | | | | |
| 3" | | | | | | | | | | |
| 4" | | | | | | | | | | |
| 5" | | | | | | | | | | |
| 6" | | | | | | | | | | |
| 8" | | | | | | | | | | |
| 10" | | | | | | | | | | |
| 12" | | | | | | | | | | |
| 13" | | | | | | | | | | |
| 14" | | | | | | | | | | |
| 16" | | | | | | | | | | |
| 18" | | | | | | | | | | |
| 20" | | | | | | | | | | |
| 22" | | | | | | | | | | |
| 24" | | | | | | | | | | |
| 26" | | | | | | | | | | |
| 28" | | | | | | | | | | |
| 30" | | | | | | | | | | |
| 32" | | | | | | | | | | |
| 36" | | | | | | | | | | |
| 40" | | | | | | | | | | |
| 42" | | | | | | | | | | |
| 48" | | | | | | | | | | |
| 54" | | | | | | | | | | |
| 63" | | | | | | | | | | |

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

Trench Machines

Components codes













| Machine type | Base Machine | Hydraulic Unit | Planer | Heating Element | Case | Control Box |
|--------------|----------------------------------|-----------------------------------|---------------------------------|-----------------|-------------|-------------|
| ECOS 160 | 790 150 001 | 790 150 013 | 790 150 014 | 790 150 031 | 790 150 295 | - |
| ECOS 250 | 790 151 030 | 790 152 009 | 790 151 014 | 790 151 056 | 790 151 027 | - |
| ECOS 315 | 790 152 024 | 790 152 009 | 790 152 014 | 790152 034 | 790 152 027 | - |
| TOP 2.0 160 | 790 150 001 | 790 151 006 | 790 150 000 | 790 114 004 | 790 150 295 | - |
| TOP 2.0 250 | 790 151 001 | 790 151 006 | 790 151 000 | 790 115 004 | 790151 027 | - |
| TOP 2.0 315 | 790 152 001 | 790 151 006 | 790 152 000 | 790 112 083 | 790 152 027 | - |
| CNC 4.0 160 | 790 150 001 + 790 150 002* | 790 151 009 (790 151 026**) | 790 150 000 | 790 114 004 | 790 150 295 | - |
| CNC 4.0 250 | 790 151 001 + 790 152 002* | 790 151 009 (790 151 026**) | 790 151 000 | 790 115 004 | 790 151 027 | - |
| CNC 4.0 315 | 790 152 001 + 790 152 002* | 790 151 009 (790 151 026**) | 790 152 000 | 790 112 083 | 790 152 027 | - |
| TOP 2.0 400 | 790 153 007 | 790 153 012 | 790 153 002 | 790 127 004 | 790 127 005 | - |
| CNC 4.0 400 | 790 153 007 + 790 153 010* | 790 153 009 + 790 153 026** | 790 153 002 | 790 127 004 | 790 127 005 | - |
| TOP 2.0 500 | 790 340 001 | 790 154 012 | 790 154 002 (790 154 022***) | 790 154 003 | 790 116 006 | - |
| CNC 4.0 500 | 790 340 001 + 790 116 043* | 790 154 009 (790 154 026**) | 790 154 002 (790 154 022***) | 790 154 003 | 790 116 006 | - |
| TOP 2.0 630 | 790 117 034 | 790 154 012 | 790 155 008 | 790 155 007 | 790 117 018 | - |
| CNC 4.0 630 | 790 117 034 + 790 117 031* | 790 154 009 (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 |
| GF 1600 | 790 146 002 | 790 146 014 | 790 146 012 | 790 146 013 | 790 146 016 | 790 146 015 |

^{*} Potentiometer kit

^{**} WeldinAir version

^{***} Enhanced version for PP

Workshop Machines

Product Range Overview











| | | 4 | | | 11 | | | | | |
|------------------------------------------------|---------|-------------------|-----------|-------------------|-------------|-------------------|-------|-------------------|--------|-------------------|
| Characteristics | WM 31 | 5 FC | WM 315 PC | | WM 6 | 30 | WM 1 | 200 | WM 120 | 0 PLUS |
| Max jointing diameter (mm) | 315 | 5 | 315 | | 630 | | 1200 | | 1200 | |
| Jointing material | | | | | PE, PP, F | PB, PVDF | | | | |
| Working range (°C) | -10/+ | -45 | -10/+4 | 5 | -10/+4 | 45 | -10/- | + 4 5 | -10/ | +45 |
| Input voltage (Vac) | 400 |) | 400 | | 400 | | 40 | D | 40 | 00 |
| Operation control | Manual, | CNC | Manual, (| CNC | Manual, | CNC | Manua | l+WR | Manua | al+WR |
| Performance (W) | 462 | 0 | 4620 | | 1560 | 0 | 410 | 00 | 590 | 000 |
| Reduction clamping inserts | ٧ | | ٧ | | ٧ | | ٧ | | ١ | 1 |
| Wide clamps for pipes | Optio | nal | ٧ | | ٧ | | ٧ | | v | |
| Narrow clamps for fittings | ٧ | | Optiona | al | Optional | | | | | |
| Flange adapter clamping unit | Optio | nal | Optiona | al | Option | al | | | | |
| T, X, Y clamping units | Optio | nal | Optiona | al | Optional | | Optio | nal | Optio | onal |
| Fusion protocols, transfer via USB stick | CNC ve | rsion | CNC vers | sion | CNC version | | ٧ | | ١ | 1 |
| Weight (Kg) | 475 | 5 | 475 | | 2300 8290 | | 0 | 11590 | | |
| Working range d90 | Bends | X,Y,T Fittings | Bends | X,Y,T Fittings | Bends | X,Y,T Fittings | Bends | X,Y,T Fittings | Bends | X,Y,T Fittings |
| d250 | | | | | | | | | | |
| d315 | | | | | | <u></u> | | | | |
| d500 | | | | | | <u></u> | | | | |
| d630 | | | | | | | | | | |
| d900 | | | | | | | | | | |
| d1200 | | | | | | | | | | |

| Table of conte | of contents | | | |
|----------------|--------------------------|----|--|--|
| | WM 315 | 42 | | |
| | WM 315 Accessories | 44 | | |
| | WM 630 | 46 | | |
| | WM 630 Accessories | 47 | | |
| | WM 1200 | 49 | | |
| 50 | WM 1200 Accessories | 50 | | |
| LOC | WM 1200 Plus | 51 | | |
| 1 | WM 1200 Plus Accessories | 52 | | |



WM 315 FC Workshop butt fusion machine with narrow Fitting Clamps

- Machine for jointing segmented fittings for applications with pressure piping systems
- Equipped with narrow clamping units for fittings
- Maximum jointing angle 30°
- Dimensional range d90 315 mm
- To produce T and Y fittings in the dimensional range d90 250 mm, special accessories are required

Machine description

- Control panel assembled with pressure adjustment valve, pressure selection switch (planing or fusion pressure), 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 15°
- Each clamping unit is provided with a complete set of reductions d90 280 mm
- Precision heating element with electronic temperature control (3000 W)
- High-quality PTFE coating with long service life
- · Heating element pull-off mechanism
- Powerful planer (1200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Mechanical stops to provide single sided planing and accurate facing depth
- Planer is secured with a mechanical locking system and a micro switch
- Including transport packaging, without accessories

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|--------------|-------------|-------------|
| 90 - 315 | 400 V/4620 W | 790 118 014 | 475.000 |



WM 315 CNC FC

Automatic workshop butt fusion machine with narrow Fitting Clamps

- 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
- Equipped with narrow clamping units for fittings
- Maximum jointing angle 30°
- 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 data input by touch screen operation (welding standard, material, diameter, SDR, notes)
- 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
- Selection of language
- 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 15°
- Each clamping unit is provided with a complete set of reductions d90 280 mm
- Precision heating element with electronic temperature control (3000 W)
- High-quality PTFE coating with long service life
- The heating element is removed automatically during the change-over phase
- Powerful planer (1200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Mechanical stops to provide single sided planing and accurate facing depth
- Planer is secured with a mechanical locking system and a micro switch
- Including transport packaging, without accessories

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|--------------|-----------|----------------|
| 90 - 315 | 400 V/4620 W | 790118016 | 525.000 |



WM 315 PC

Workshop butt fusion machine with wide Pipe Clamps

- Machine for jointing segmented fittings for applications with pressure piping systems
- Equipped with wide clamping units for pipes
- Maximum jointing angle 45°
- Dimensional range d90 315 mm
- To produce T and Y fittings in the dimensional range d90 250 mm, dedicated accessories are required

Machine description

- Control panel assembled with pressure adjustment valve, pressure selection switch (planing or fusion pressure), 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 d90 280 mm
- Precision heating element with electronic temperature control (3000 W)
- High-quality PTFE coating with long service life
- · Heating element pull-off mechanism
- Powerful planer (1200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Mechanical stops to provide single sided planing and accurate facing depth
- Planer is secured with a mechanical locking system and a micro switch
- Including transport packaging, without accessories

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|--------------|-------------|-------------|
| 90 - 315 | 400 V/4620 W | 790 118 060 | 475.000 |



WM 315 CNC PC

Automatic workshop butt fusion machine with wide Pipe Clamps

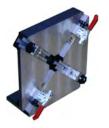
- Machine for jointing segmented fittings for applications with pressure piping systems
- Fully automated fusion process by the use of state of the art PLC and touch screen
- Equipped with wide clamping units for pipes
- Maximum jointing angle 45°
- Dimensional range d90 315 mm
- To produce T and Y fittings in the dimensional range d90 250 mm, special accessories are required

Machine description

- Intuitive data input by touch screen operation (welding standard, material, diameter, SDR, notes)
- 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
- Selection of language
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- Fusion protocols compatible with Welding Book application
- · The clamping units are mounted on supports, each of which can be adjusted transversely
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d90 280 mm
- Precision heating element with electronic temperature control (3000 W)
- High-quality PTFE coating with long service life
- The heating element is removed automatically during the change-over phase
- Powerful planer (1200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Mechanical stops to provide single sided planing and accurate facing depth
- Planer is secured with a mechanical locking system and a micro switch
- Including transport packaging, without accessories

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|--------------|-------------|-------------|
| 90 - 315 | 400 V/4620 W | 790 118 009 | 525.000 |

WM 315 Accessories



Flange adapter clamping unit

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

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



Base clamping unit for fittings with adapter ring, wide

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

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



Reduction clamping inserts, narrow

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

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



Clamping insert, narrow, d 315

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

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



Set of pipe supports

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



T-fitting clamping unit

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

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



Y-fitting clamping unit

- \bullet 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 | Code | Weight |
|----------|-------------|---------|
| (mm) | | (kg) |
| 90 - 250 | 790 118 033 | 179.000 |



Back stop

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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 118 026 | 4.000 |



Set of replacement blades for planer

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

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



WM 630

Machine description:

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

| d-d (mm) | Performance | Code | Weight (kg) |
|--------------------|-----------------|-------------|----------------|
| 315 - 630 | 400 V / 15600 W | 790 108 020 | 2300.000 |



WM 630 CNC

Automatic workshop butt fusion machine

Machine description

- Machine for jointing segmented fittings for applications with pressure piping systems
- Fully automated fusion process by the use of state of the art PLC and touch screen
- Maximum jointing angle 45°
- Dimensional range d315 630 mm
- To produce T and Y fittings in the dimensional range d315 500 mm, special accessories are required
- Intuitive data input by touch screen operation (welding standard, material, diameter, SDR, notes)
- 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
- Selection of language
- 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 d315 560 mm
- Hydraulically opening and closing of the upper clamping tools, manual locking with bolts and nuts
- Hydraulically operated insertion of planer and heating element
- Precision heating element with electronic temperature control (12000 W)
- High-quality PTFE coating with long service life
- Powerful planer (1100 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|---------------|-------------|----------------|
| 315 - 630 | 400 V/15600 W | 790 108 101 | 2385.000 |

WM 630 Accessories



Flange adapter clamping unit

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

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



Base clamping unit for fittings

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

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



Reduction clamping inserts, narrow

• Each code number defines 1 piece of reduction clamping insert. In order to mount the inserts d 315/d 355/d 400/d 450 to the base clamp d 630, the reduction clamping insert d 500 mm, code 790 117 012, must also be used

| d | Code | SP | Weight |
|------|-------------|----|--------|
| (mm) | | | (kg) |
| 315 | 790 116 020 | 0 | 3.622 |
| 355 | 790 116 021 | 0 | 3.267 |
| 400 | 790 116 022 | 0 | 2.383 |
| 450 | 790 116 023 | 0 | 2.273 |
| 500 | 790 117 238 | 0 | 3.700 |
| 560 | 790 117 239 | 0 | 3.800 |



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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 116 012 | 3.698 |
| 790 116 013 | 3.727 |
| 790 116 014 | 3.836 |
| 790 116 015 | 3.276 |
| 790 117 012 | 4.500 |
| 790 117 013 | 4.900 |
| | |



Set of pipe supports

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



T-fitting clamping unit

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

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



Y-fitting clamping unit

- \bullet 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 | Code | Weight |
|-----------|-------------|---------|
| (mm) | | (kg) |
| 315 - 500 | 790 108 033 | 770.000 |



Back stop

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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 108 026 | 32.000 |



Set of replacement blades for planer

• (1 set = 4 blades)

| Code | Weight |
|-------------|--------|
| | (kg |
| 790 108 043 | 0.518 |



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
- Welding Recorder integrated in the control panel for operator guidance and fusion process supervision
- Transfer of memorized fusion protocols to an external PC via USB memory stick (included)
- Fusion protocols compatible with Welding Book application
- The clamping units are mounted on supports, each of which can be adjusted transversely
- Each clamping unit can be turned up to 22.5°
- Each clamping unit is provided with a complete set of reductions d630 1000 mm
- Hydraulically opening and closing of the clamping units
- · Hydraulic locking mechanism of the clamping units
- Hydraulically operated insertion of planer and heating element
- Hardened, hard chrome plated linear guide rails for extreme loads
- Precision heating element with electronic temperature control (30000 W)
- High-quality PTFE coating with long service life
- Powerful planer (2200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories
- Dimensions: 2400 L x 1400 W x 2070 H in mm

| d-d (mm) | Performance | Code | Weight (kg) |
|--------------------|---------------|-------------|----------------|
| 630 - 1200 | 400 V/41000 W | 790 126 001 | 8290.000 |

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



Y-fitting clamping unit

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

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



X-fitting clamping unit

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

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



Base Plate T-Y-X pieces

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

| Code | Weight |
|-------------|----------|
| | (kg) |
| 790 126 014 | 1000.000 |



Set of replacement blades for planer

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

| Cod | de Weight |
|------------|-----------------|
| | (kg) |
| 790 126 04 | 43 0.500 |

WM 1200 Plus



WM 1200 Plus Workshop butt fusion machine

- Machine for jointing segmented fittings for applications with pressure piping systems
- Equipped with Welding Recorder
- Maximum jointing angle 45°
- Dimensional range d800 1200 mm; d630, d710 mm available on demand
- To produce T and Y fittings in the dimensional range d630 1200 mm, special accessories are required

Machine description

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

| d-d Performance (mm) | | Code | Weight (kg) |
|----------------------|---------------|-------------|-------------|
| 800 - 1200 | 400 V/59000 W | 790 126 051 | 1590.000 |

WM 1200 Plus Accessories



T-fitting clamping unit

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

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



Y-fitting clamping unit

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

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



X-fitting clamping unit

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

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



Base Plate T-Y-X pieces

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

| Code | Weight |
|-------------|----------|
| | (kg) |
| 790 126 064 | 1622.000 |

Workshop Machines

Accessories codes

| Machine Type | Clamping unit for fittings | Clamping unit for pipes | Flange adapter clamping unit | T-fitting clamping unit | Y-fitting clamping unit | X-fitting clamping unit | Back stop | | | | | | | |
|-----------------|----------------------------------|-------------------------------|-----------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-------------|--------------|--------------|---------------------------------------|---------------|---------------|-------------------------------------|-----------------------------------------|
| WM 315 FC | Included | 790 302 020 | 700 110 021 | 790 118 032 | 790 118 033 | 790 118 032 + 790118038 | 700 110 027 | | | | | | | |
| WM 315 PC | 790 118 011* (Left) | Included | 790 118 031 | 790 116 031 | 770 110 031 | 770 116 031 | i i | (d 90 - 250) | (d 90 - 250) | + 790118039 <i>(d 90 - 250)</i> | 790 118 026 | | | |
| WWISTSFC | 790 118 012* (Right) | mctuded | | | | | | | | | | | | |
| WM 630 | 790 108 017* (Left) | Included | 790 108 031 | 790 108 032 | 790 108 033 | 790 108 032 790 108 077 + | 790 108 026 | | | | | | | |
| | 790 108 018* (Right) | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | | | | (d 315 - 500) | (d 315 - 500) | 790 108 081 <i>(d 315 - 500)</i> | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| WM 1200 | - | Included | - | 790 126 012 + 790 126 014 (d 630 - 900) | 790 126 013 + 790 126 014 (d 630 - 900) | 790 126 012 + 790 126 013 (d 630 - 900) | - | | | | | | | |
| WM 1200 Plus | - | Included | - | 790 126 061 + 790 126 044 (d 800 - 1200**) | 790 126 062 + 790 126 044 (d 800 - 1200**) | 790 126 063 + 790 126 044 (d 800 - 1200**) | - | | | | | | | |

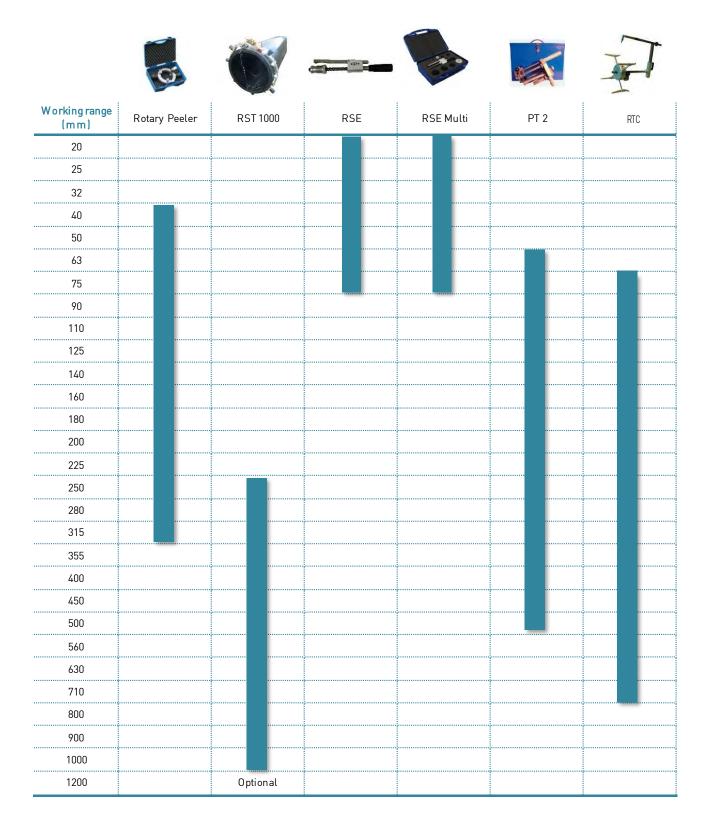
^{*} Without reduction inserts for clamps (narrow type) and pipe supports: to be ordered separately

^{**} d 630, 710 mm available on demand

54

Peeling Tools

Product Range Overview



Rotary peelers



Rotary Peeler RS

Note:

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

| (mm) (kg) 40 RS 40 790 136 001 1 1.310 50 RS 50 790 136 002 1 1.310 63 RS 63 790 136 003 1 1.310 75 RS 75 790 136 004 1 1.540 90 RS 90 790 136 005 1 1.540 110 RS 110 790 136 006 1 1.730 125 RS 125 790 136 007 1 1.730 140 RS 140 790 136 008 1 1.730 180 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 250 RS 250 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 315 RS 315 790 136 015 1 2.440 | d | Article | Code | SP | Weight |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|-------------|----|--------|
| 50 RS 50 790 136 002 1 1.310 63 RS 63 790 136 003 1 1.310 75 RS 75 790 136 004 1 1.540 90 RS 90 790 136 005 1 1.540 110 RS 110 790 136 006 1 1.540 125 RS 125 790 136 007 1 1.730 140 RS 140 790 136 008 1 1.730 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 250 RS 250 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | (mm) | | | | (kg) |
| 63 RS 63 790 136 003 1 1.310 75 RS 75 790 136 004 1 1.540 90 RS 90 790 136 005 1 1.540 110 RS 110 790 136 006 1 1.540 125 RS 125 790 136 007 1 1.730 140 RS 140 790 136 008 1 1.730 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 40 | RS 40 | 790 136 001 | 1 | 1.310 |
| 75 RS 75 790 136 004 1 1.540 90 RS 90 790 136 005 1 1.540 110 RS 110 790 136 006 1 1.540 125 RS 125 790 136 007 1 1.730 140 RS 140 790 136 008 1 1.730 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 50 | RS 50 | 790 136 002 | 1 | 1.310 |
| 90 RS 90 790 136 005 1 1.540 110 RS 110 790 136 006 1 1.540 125 RS 125 790 136 007 1 1.730 140 RS 140 790 136 008 1 1.730 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 63 | RS 63 | 790 136 003 | 1 | 1.310 |
| 110 RS 110 790 136 006 1 1.540 125 RS 125 790 136 007 1 1.730 140 RS 140 790 136 008 1 1.730 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 75 | RS 75 | 790 136 004 | 1 | 1.540 |
| 125 RS 125 790 136 007 1 1.730 140 RS 140 790 136 008 1 1.730 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 90 | RS 90 | 790 136 005 | 1 | 1.540 |
| 140 RS 140 790 136 008 1 1.730 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 110 | RS 110 | 790 136 006 | 1 | 1.540 |
| 160 RS 160 790 136 009 1 1.730 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 125 | RS 125 | 790 136 007 | 1 | 1.730 |
| 180 RS 180 790 136 010 1 2.030 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 140 | RS 140 | 790 136 008 | 1 | 1.730 |
| 200 RS 200 790 136 011 1 2.030 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 160 | RS 160 | 790 136 009 | 1 | 1.730 |
| 225 RS 225 790 136 012 1 2.030 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 180 | RS 180 | 790 136 010 | 1 | 2.030 |
| 250 RS 250 790 136 013 1 2.440 280 RS 280 790 136 014 1 2.440 | 200 | RS 200 | 790 136 011 | 1 | 2.030 |
| 280 RS 280 790 136 014 1 2.440 | 225 | RS 225 | 790 136 012 | 1 | 2.030 |
| | 250 | RS 250 | 790 136 013 | 1 | 2.440 |
| 315 RS 315 790 136 015 1 2.440 | 280 | RS 280 | 790 136 014 | 1 | 2.440 |
| | 315 | RS 315 | 790 136 015 | 1 | 2.440 |





Replacement blade to Rotary Peeler RS

| d-d Description | | Code | SP | Weight |
|-----------------|------------|-------------|----|--------|
| (mm) | | | | (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 (kg) | Dimension (mm) | Description |
|--------------|-------------|-------------|-----------------|-------------------|
| RSTC 40-110 | 790 136 211 | 0.930 | 326 - 222 - 116 | for RS 40-RS 110 |
| RSTC 125-160 | 790 136 212 | 1.212 | 437 - 395 - 116 | for RS 125-RS 160 |
| RSTC 180-225 | 790 136 213 | 1.796 | 450 - 360 - 132 | for RS 180-RS 225 |
| RSTC 250-315 | 790 136 214 | 2.901 | 566 - 435 - 156 | for RS 250-RS 315 |



Rotary peeling tool RST 1000

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

| | d-d (mm) | Code | Weight (kg) |
|----|--------------------|-------------|----------------|
| 25 | 0 - 1000 | 799 300 799 | 10.552 |



Replacement blade for rotary peeling tool RST 1000

| d-d (mm) | Code | SP | Weight (kg) | Description |
|-----------------|-------------|----|-------------|------------------------------|
| 250 - 1000 | 799 300 802 | 1 | 0.020 | Replacement blade in carbide |



Transportbox RST 1000 with inlays

 $\bullet\,$ Included in the scope of delivery of the Rotary Peeler RST 1000

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



Spare part RST 1000

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

Pipe end peelers



Pipe end peeler RSE

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

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





Pipe end peeler RSE multi

- Rotary peeler for reliable pipe preparation prior to electrofusion
- Consisting of 1 adjustable basic tool and corresponding pipe inserts
- 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
- Delivery in a solid transport case (depending on selected product)

| d | d1 | Code | Weight | Description | SDR | е | L | В | Н |
|------|-----------|-------------|--------|-------------------------|-----|------|------|------|------|
| (mm) | (mm) | | (kg) | | | (mm) | (mm) | (mm) | (mm) |
| 20 | 75 | 799 300 350 | 0.58 | Basic tool + box | | | 280 | 95 | 98 |
| 20 | 75 | 799 300 351 | 1.45 | Basic tool + case | | | 391 | 304 | 134 |
| 20 | 75 | 799 300 352 | 1.88 | Basic tool+case+d32+d63 | | | 391 | 304 | 134 |
| 20 | | 799 300 356 | 0.05 | Insert RSE | 11 | 2.0 | 45 | 20 | 20 |
| 25 | | 799 300 357 | 0.10 | Insert RSE | 11 | 2.3 | 45 | 25 | 25 |
| 32 | | 799 300 358 | 0.10 | Insert RSE | 11 | 3.0 | 50 | 30 | 30 |
| 40 | | 799 300 359 | 0.10 | Insert RSE | 11 | 3.7 | 50 | 40 | 40 |
| 50 | | 799 300 360 | 0.20 | Insert RSE | 11 | 4.6 | 60 | 50 | 50 |
| 63 | | 799 300 361 | 0.33 | Insert RSE | 11 | 5.8 | 60 | 60 | 60 |
| 75 | | 799 300 362 | 0.47 | Insert RSE | 11 | 6.8 | 60 | 70 | 70 |
| 20 | 75 | 799 300 347 | 0.01 | Blade RSE | | | 18 | 18 | 10 |
| 20 | 75 | 790 308 259 | 0.04 | Handle RSE | | | 90 | 28 | 28 |
| 20 | 75 | 790 308 312 | 0.87 | Case RSE multi | | | 391 | 304 | 134 |
| | | | | | | | | | |



Peeling tool PT 2

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

| d-d (mm) | Code | Weight (kg) | Description |
|--------------------|-------------|-------------|-------------------------------|
| | | , 3, | |
| 63 - 250 | 799 300 752 | 7.500 | Size 1, peeling length 140 mm |
| 110 - 400 | 799 300 755 | 9.900 | Size 2, peeling length 150 mm |
| 110 - 500 | 799 300 756 | 10.500 | Size 3, peeling length 175 mm |



Replacement blade for peeling tool PT 2

| d-d (mm) | Code | Weight (kg) | Description |
|-----------------|-------------|-------------|----------------------------|
| 63 - 500 | 799 150 355 | 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 (mm) | Code | Weight (kg) | Description |
|--------------------|-------------|----------------|---------------------------|
| 75 - 315 | 799 150 423 | 9.616 | max. working-range 185 mm |
| 355 - 710 | 799 300 757 | 31.400 | max. working-range 530 mm |



Replacement blade for peeling tool RTC

| d-d (mm) | Piece | Code | Weight (kg) | Description |
|-----------------|-------|-------------|-------------|----------------------------|
| 355 - 710 | 1 | 799 300 586 | 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 | Code | Weight |
|---------|-------------|--------|
| (mm) | | (kg) |
| 32-90 | 799 738 001 | 10.500 |
| 110-225 | 799 738 003 | 16.500 |
| 250-450 | 799 738 004 | |
| | | |

COOL-FIT 2.0/4.0 Powered foam removal and peeling tool

Model:

- Tool for foam removal and peeling of COOL-FIT 2.0 and 4.0 pipes
 For usage in combination with drill drivers (not included)

| d | Code | Weight |
|-------|-------------|--------|
| (mm) | | (kg) |
| 32-63 | 799 738 201 | 10.500 |



Hand scraper

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

| Code | Weight (kg) | Description |
|-------------|-------------|-------------------------------|
| 799 198 094 | 0.143 | Hand scraper with long handle |

Clamping and Installation Tools

Product Range Overview

| | Y | | | +4 | 88 | | | | |
|--------------------------|----------------|---------------|--------------------------------|---------------------------------------------|-----------------|--------------------------------------|--------------------------------------|------------------------------------------|-----------------------------------------|
| Working range (cm) | Multi Clamp | Twin Clamp | Double & Quadruple Clamp | Double & Quadruple Clamp with Link | Swivel Clamp | Clamping Device Topload 400 | Clamping Device Topload 630 | Installati on Set Topload TL225 | Installation Set Topload TL500 |
| 20 | | | | | | | | | |
| 25 | | | | | | | | | |
| 32 | | | | | | | | | |
| 40 | | | | | | | | | |
| 50 | | | | | | | | | |
| 63 | | | | | | | | | |
| 75 | | | | | | | | | |
| 90 | | | | | | | | | |
| 110 | | | | | | | | | |
| 125 | | | | | | | | | |
| 140 | | | | | | | | | |
| 160 | | | | | | | | | |
| 180 | | | | | | | | | |
| 200 | | | | | | | | | |
| 225 | | | | | | | | | |
| 250 | | | | | | | | | |
| 280 | | | | | | | | | |
| 315 | | | | | | | | | |
| 355 | | | | | | | | | |
| 400 | | | | | | | | | |
| 450 | | | | | | | | | |
| 500 | | | | | | | | | |
| 560 | | | | | | | | | |
| 630 | | | | | | | | | |
| 710 | | | | | | | | | |
| 800 | | | | | | | | | |
| 900 | | | | | | | | | |
| 1000 | | | | | | | | | |
| | | | | | | | | | |
| 1200 | | | | | | | | | |
| 1400 | | | | | | | | | |
| 1600 | | | | | | | | | |
| 1800 | | | | | | | | | |
| 2000 | | | | | | | | | |

Pipe clamps



Twin clamp

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

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



Multi clamp

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

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



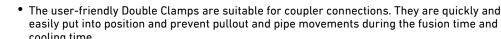
Inserts for multi clamp

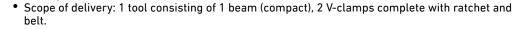
 The inserts are easily and quickly exchanged. A set consists of 4 inserts, each insert with 2 different dimensions.





Double clamp







| d-d | Code | Weigh |
|-----------|-------------|--------|
| (mm) | | (kg |
| 63 - 125 | 799 301 484 | 3.50 |
| 110 - 225 | 799 301 486 | 7.918 |
| 225 - 500 | 799 301 488 | 14.735 |





Quadruple clamp

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



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



Double clamp with universal link

- Recommended for the installation of fittings COOL-FIT and ELGEF Plus
- 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 | Description | L | В | H |
|------|-----------|-------------|--------|---------------------------------------------------------------------------------------------------------|------|------|------|
| (mm) | (mm) | | (kg) | | (mm) | (mm) | (mm) |
| 40 | 200 | 799 301 490 | 4.200 | Scope of delivery: 2 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (600x380x250) | 960 | 290 | 230 |
| 160 | 630 | 799 301 496 | 14.100 | Scope of delivery: 2 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (780x780x580) | 1300 | 670 | 550 |



Quadruple clamp with universal link

- Recommended for the installation of fittings COOL-FIT and ELGEF Plus
- 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 | d1 | Code | Weight | Description | L | В | Н |
|------|-----------|-------------|--------|---------------------------------------------------------------------------------------------------------|------|------|------|
| (mm) | (mm) | | (kg) | | (mm) | (mm) | (mm) |
| 40 | 200 | 799 301 489 | 8.300 | Scope of delivery: 4 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (600x380x250) | 960 | 290 | 230 |
| 160 | 630 | 799 301 495 | 23.300 | Scope of delivery: 4 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (780x780x580) | 1300 | 670 | 550 |



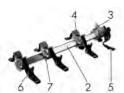
Swivel clamp

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

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

Spare parts for clamps





| Pos | Dimension (mm) | Code | SP | Weight (kg) | Description |
|-----|----------------|-------------|----|-------------|----------------------|
| 1 | 63-125, 45mm | 799 900 414 | 0 | 1.700 | square support short |
| | 110-225, 60mm | 799 900 405 | 0 | 3.500 | square support short |
| | 225-500, 80mm | 799 900 394 | 0 | 6.000 | square support short |
| 2 | 63-125, 45mm | 799 900 413 | 0 | 3.600 | square support long |
| | 110-225, 60mm | 799 900 404 | 0 | 6.500 | square support long |
| | 225-500, 80mm | 799 900 387 | 0 | 11.500 | square support long |
| 4 | 63-125 | 799 900 421 | 0 | 0.977 | prism wide |
| | 110-225 | 799 900 423 | 0 | 2.000 | prism wide |
| | 225-500 | 799 900 425 | 0 | 4.500 | prism wide |
| | 63-125 | 799 150 312 | 0 | 0.270 | ratch 25/15/0.7 |
| | 110-225 | 799 150 313 | 0 | 0.232 | ratch 25/25/0.7 |
| | 110-225 | 799 150 315 | 0 | 0.496 | ratch 35/35/1.1 |
| | 225-500 | 799 150 319 | 1 | 1.415 | ratch 50/50/2.1 |
| 7 | | 799 150 314 | 1 | 0.050 | clamping screw |



Tee adaptor

• Suitable for clamping tool (799301489 - 495)

| d | d1 | Code | Weight | Description | L | В | Н |
|------|------|-------------|--------|-------------|------|------|------|
| (mm) | (mm) | | (kg) | | (mm) | (mm) | (mm) |
| 40 | 200 | 799 301 491 | 0.610 | Tee adaptor | 600 | 50 | 40 |
| 160 | 630 | 799 301 497 | 3.500 | Tee adaptor | 1070 | 75 | 60 |



V-block

• Suitable for clamping tool (799301489 - 495)

| d | d1 | Code | Weight | Description | L | В | H |
|------|------|-------------|--------|------------------|------|------|------|
| (mm) | (mm) | | (kg) | | (mm) | (mm) | (mm) |
| 40 | 200 | 799 301 492 | 1.000 | V-block complete | 290 | 230 | 65 |
| 160 | 630 | 799 301 498 | 3.200 | V-block complete | 660 | 430 | 90 |



Bar extension

• Suitable for clamping tool (799301489 - 495)

| d | d1 | Code | Weight | Description | L | В | Н |
|------|-----------|-------------|--------|---------------|------|------|------|
| (mm) | (mm) | | (kg) | | (mm) | (mm) | (mm) |
| 160 | 630 | 799 301 499 | 1.000 | Bar extension | 1000 | 40 | 40 |

Topload clamps



Clamping device topload 400

- This clamp and mounting tool is used for top-load Saddles on pipes of dimensions d 280 400 mm.
- Scope of delivery: 1 base mounting clamp, 1 bracket, 2 clamping screws, 2 ratchet scraps, 1 transport box

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



Clamping device topload 630

- This clamp and mounting tool is used for top-load Saddles on pipes of dimensions d 280 400 mm and branch fittings for dimensions d 280 mm 630 mm.
- Scope of delivery: 1 base mounting clamp, 1 clamping attachment, 1 bracket, 2 clamping screws, 2 ratchet scraps, 1 transport box

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



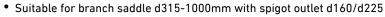
Clamping attachment topload 630

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

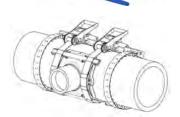
| d-d | Code | Weight |
|-----------|-------------|--------|
| (mm) | | (kg) |
| 280 - 630 | 799 350 476 | 11.343 |



Installation set Topload TL 225



- 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









Installation set Topload TL 500

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

Code Weight (kg) 799 300 809 124.000











Accessories / single parts for Installation set Topload

| D | escription | Code | SP | Weight (kg) |
|------------------------------------------|------------|-------------|----|-------------|
| Transport box TL 225 (860x700x180) | | 799 300 923 | 1 | 18.500 |
| Frame TL 225 incl. tension belt up to 10 | 000mm | 799 300 820 | 1 | 14.000 |
| Peeling tool TL 225 | | 799 300 835 | 1 | 5.600 |
| Clamp TL 225 | | 799 300 920 | 1 | 9.900 |
| Peel cutter TL | | 799 300 831 | 1 | 0.066 |

Multiple use assembly tool branch saddle d140mm

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

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

Cleaning and Accessories for job sites

Cleaners and markers



Tangit KS-Cleaning Tissues

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

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



Tangit KS Cleaner

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

| Size | Code | SP | Weight (kg) |
|---------|-------------|----|----------------|
| 1 liter | 799 298 023 | 8 | 0.872 |



Degreasing Tissues

• For degreasing the PE pipe surface prior to fusion

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



Marker

| Туре | Code | Weight (kg |
|--------|-------------|---------------|
| silver | 799 350 364 | 0.010 |

Support tools



Chamfering tools

• Chamfering tool (15° bevel) for plastic pipes (PVC, ABS, PB, PP, PE). Fast and reliable adjustment to the different pipe diameters and wall thickness.

| d-d (mm) | Code | SP | Weight (kg) |
|-----------------|-------------|----|----------------|
| 16 - 200 | 790 309 003 | 1 | 1.024 |
| 63 - 400 | 790 309 004 | 1 | 2.548 |



Chamfering tools

Tool for beveling (15° angle) the outer diameter of the thermoplastic pipes (PVC, ABS, PB, PP, PE). Sliding surface out of industrial felt.

| d-d (mm) | Code | Weight (kg) |
|--------------------|-------------|-------------|
| 40 - 200 | 790 309 001 | 1.607 |
| 50 - 315 | 790 309 002 | 3.265 |



Outer bead remover

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



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



Roller support 630

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

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

Rerounding and Squeeze-off tools

Rerounding tools



Re-rounding tool

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

| d | Code | SP | Weight | Description | |
|------|-------------|----|--------|--------------------|--|
| (mm) | | | (kg) | | |
| 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 | |
| 63 | 799 199 131 | 1 | 0.742 | Type hinged collar | |
| 75 | 799 199 132 | 1 | 0.791 | Type hinged collar | |
| 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 | |
| 200 | 799 199 139 | 1 | 2.500 | Type split collar | |
| 225 | 799 199 140 | 1 | 3.361 | Type split collar | |
| 250 | 799 199 141 | 1 | 1.872 | Type split collar | |



Re-rounding tool

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

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



Transport box for Re-rounding tool

• Suitable for Re-rounding tool (799350695 - 696)

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



Crossbeam for Re-rounding tool

• Suitable for Re-rounding tool (799350695 - 696)

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



Pipe gauge

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

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





Pipe gauge set

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

| Descripti | Weight (kg) | Code | d1 (mm) | d (mm) |
|----------------------------------------------------------------------|-------------|-------------|----------------|------------------|
| Pipe gauge set 1; 4 pipe gauges, 1 plug gau | 0.800 | 799 350 681 | 450 | 315 |
| Pipe gauge set 2; 3 pipe gauges, 1 plug gau | 1.070 | 799 350 682 | 630 | 500 |
| Pipe gauge set 3; 4 pipe gauges, 1 plug gau | 1.610 | 799 350 683 | 1000 | 710 |
| Pipe gauge set 4; 4 pipe gauges, 1 plug gau | 1.810 | 799 350 684 | 2000 | 1200 |
| Pipe gauge set complete; 15 pipe gauges, 1 plug gau 1 transport b | 12.200 | 799 350 685 | 2000 | 315 |

Accessories / single parts for Re-rounding tool

• Suitable for Re-rounding tool (799350695 - 696)

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



Single parts for pipe gauge

• Suitable for pipe gauge (799350660 - 685)

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

Squeeze-off tools



Squeeze-off tool type S1

This mechanical device is used to squeeze-off PE pipes during repair and extension work. In order not to over-stress the pipe, the tool is equipped with adjustable end stops for SDR 11 (ISO S5) pipes. Due to different wall thickness` of the pipes, the squeezing degree may differ up to 0.8.

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



Squeeze-off tool type S2

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

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



Squeeze-off tool A25

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

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

Utility Range

Cutting Tools

Product Range Overview











| Working range (mm) | Plastic Pipe Cutter | RPC 63-200 | RPC 90-315 | Plastic Pipe Cutter KS 355 | Plastic Pipe Cutter KS 1600 |
|-----------------------|---------------------|------------|------------|-------------------------------|--------------------------------|
| 20 | | | | | |
| 25 | | | | | |
| 32 | | | | | |
| 40 | | | | | |
| 50 | | | | | |
| 63 | | | | | |
| 75 | | | | | |
| 90 | | | | | |
| 110 | | | | | |
| 125 | | | | | |
| 140 | | | | | |
| 160 | | | | | |
| 180 | | | | | |
| 200 | | | | | |
| 225 | | | | | |
| 250 | | | | | |
| 280 | | | | | |
| 315 | | | | | |
| 355 | | | | | |
| 400 | | | | | |
| 450 | | | | | |
| 500 | | | | | |
| 560 | | | | | |
| 630 | | | | | |
| 710 | | | | | |
| 800 | | | | | |
| 900 | | | | | |
| 1000 | | | | | |
| 1200 | | | | | |
| 1400 | | | | | |
| 1600 | | | | | |

| Table of conte | Table of contents | |
|----------------|------------------------|----|
| | Manual cutting tools | 74 |
| | Electric cutting tools | 75 |

Manual cutting tools



PPC Plastic pipe cutter

For cutting plastic pipes d10 - d160

| d-d | Article | Code | SP | Weight | Closest inch |
|-----------|--------------------------|-------------|----|--------|--------------|
| (mm) | | | | (kg) | (inch) |
| 10 - 63 | PPC 63, s max. = 7.2mm | 790 109 001 | 1 | 0.865 | 1/8 - 2 |
| 50 - 110 | PPC 110, s max. = 12.7mm | 790 109 002 | 1 | 1.624 | 1 ½ - 4 |
| 110 - 160 | PPC 160, s max. = 19.0mm | 790 109 003 | 1 | 2.212 | 4 - 6 |



Replacement cutting wheels

For plastic pipe cutter

| d-d (mm) | | Code | SP | Weight (kg) |
|--------------------|---------------------------|-------------|----|----------------|
| 10 - 63 | SR 63 max. s=7,2 mm | 790 109 011 | 1 | 0.004 |
| 50 - 110 | SR 110/160 max. s=12,7 mm | 790 109 012 | 1 | 0.015 |
| 110 - 160 | SR 160 max. s=19,0 mm | 790 109 013 | 1 | 0.023 |



Rotary Pipe Cutter d63-200 mm

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

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



Rotary Pipe Cutter d90-315 mm

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

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



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

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

Electric cutting tools



KS 355 Plastic pipe cutter

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

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



Plastic pipe cutter

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

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

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

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

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

Scope of delivery:

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

Technical data:

Dimension range: d500 –1600 mm

(In combination with the respective tensioning chain)

Plug: **EU-Plug** 230 V AC Voltage: Power: 2200 Watt 50-60 Hz Frequency: Circular saw blade outer-Ø: 240 mm RPM. 4100 Sound level: 104 dB (A) Weight saw: 15, 5 kg Weight KS 1600 Basic-Kit: 43,5 kg

Dimensions saw (WxHxD): 790 x 330 x 335 mm Dimensions Transport-Box: 950 x 400 x 395 mm

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

Replacement saw blade for KS 1600



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



Tensioning Chains

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

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



Chain tensioner

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

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

Tapping and Pressure testing tools

Tapping tools



Assembly and tapping key for saddles

• Combination tool for tapping and tightening of fixation screws.

| Туре | Code | SP | Weight (kg) | Description |
|---------|-------------|----|-------------|-----------------|
| 8/10/17 | 799 198 047 | 1 | 0.798 | For all saddles |



Tapping key for saddles

• With adjustable tapping depth.

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



Tapping Adapter for saddles

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

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



Hexagon key for saddles and branch fittings

• For tightening fixation screws.

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



Hexagon key for PVC saddles

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

| d-d | Code | SP | Weight | S | G |
|---------|-------------|----|--------|------|--------|
| (mm) | | | (kg) | (mm) | (inch) |
| 16 - 25 | 799 150 007 | 1 | 0.342 | 19 | 30 |
| 32 - 40 | 799 150 008 | 40 | 0.496 | 27 | 38 |
| 50 - 63 | 799 150 009 | 24 | 0.690 | 27 | 47 |



Cutter for PE pipes

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

| d (mm) | Code | Weight (kg) | Description |
|------------------|-------------|-------------|----------------------------|
| 39 | 799 198 012 | | accessories Basic Tool Box |
| 37 | /// 1/0012 | 0.213 | accessories pasic root box |



PE repair plug

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

| d | Code | SP | Weight |
|------|-------------|----|--------|
| (mm) | | | (kg) |
| 39 | 799 199 089 | 10 | 0.019 |



Core cutter set for PE pipes

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

Technical information: Core cutter: L = 300 mm; d = spigot outlet fitting in mm; d = 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) G = 100, G = 1

| d | d 1 | Code | Weight | Description |
|------|------------|-------------|--------|----------------------------------|
| (mm) | (mm) | | (kg) | |
| 160 | 123 | 799 198 101 | 7.200 | Core cutter set in transport box |
| 225 | 172 | 799 198 102 | 10.000 | Core cutter set in transport box |
| 315 | 238 | 799 198 103 | 13.400 | Core cutter set in transport box |
| 500 | 420 | 799 198 104 | 34.000 | Core cutter set in transport box |



Transport box for Core cutter set

• Suitable for core cutter set (799198101 - 104)

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



Drill stand for Core cutter set

- Suitable for safe and guided drilling of pressureless PE pipes
- Set includes drill stand, drilling machine, extension arm and standtracks
- Suitable for branch saddle with spigot outlet (193135402 748)
- Suitable for core cutter set (799198101 104)
- Tension belts for the fixation of the drill stand onto the PE pipe are not included in scope of delivery
- Use of Core cutters 160/225/315 requires additionaly 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 arm suitable for branch saddle 4-drift drill machine D38-BB | s. Extension | 799 198 137 | 1 |
| | Description | Weight | |

| Description | weignt |
|------------------------------------------------------------------------------------------------------------------------------------|--------|
| | (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)

| De | scription | Code | SP | Weight (kg) |
|-------------------------------|------------------|---------|----|----------------|
| Pilot drill d = 14mm; L = 365 | mm 799 | 198 133 | 1 | 0.300 |
| Ejector rod d = 12mm; L = 5 | 00 mm 799 | 198 131 | 1 | 0.450 |
| Adaptor 1 1/4" UNC-R- 1/2" | 799 | 198 138 | 1 | 0.520 |
| Adaptor drill chuck 13 | 799 | 198 105 | 1 | 0.160 |
| Adaptor thread | 799 | 198 106 | 1 | 0.180 |
| Adaptor SDS-max | 799 | 198 107 | 1 | 0.300 |

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



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

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



Drill shafts

Model

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

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

Mandrel combined with pilot drill



Model:

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

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



Flange adaptors

Model:

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

| Description | Drilling pat- tern | Code | Weight (kg) |
|----------------------|-----------------------|-------------|-------------|
| flange adaptor DN50 | PN16 | 709 702 045 | 1.850 |
| flange adaptor DN65 | PN16 | 709 702 046 | 2.400 |
| flange adaptor DN80 | PN16 | 709 702 047 | 3.090 |
| flange adaptor DN100 | PN16 | 709 702 048 | 3.840 |
| flange adaptor DN150 | PN16 | 709 702 050 | 6.530 |
| flange adaptor DN200 | PN10 | 709 702 051 | 8.800 |



Pilot drill

Model:

• pilot drill 6 mm with dual retention wires

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





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

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

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



Heavy duty transport / storage box for W410 drilling device

Model:

- Including: hex key 3 mm, hex key 6 mm and screwdriver
- Outside dimension transport / warehouse box: 120 x 40 x 40 cm

| Des | cription Code | Weight |
|----------------------------------------------------------|------------------|--------|
| | | (kg) |
| Heavy duty transport / storage box for W410 drilling dev | rice 709 706 414 | 15.500 |



Pressure test cap for Tapping saddles

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

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



Pressure Test Cap

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

| d | Code | description | L | В | H |
|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|
| (mm) | | | (mm) | (mm) | (mm) |
| 160 - 225 | 799 199 287 | Suitable for branch saddle with spigot outlet d160 and d225mm and Tapping saddles Monobloc main dimension d63-160mm; Material: Aluminum; Scope of delivery: 1 x Pressure test cap, 1 x 0-ring 25.07 x 2.62 | 26 | 36 | 39 |
| 315 | 799 199 288 | Suitable for branch saddle with spigot outlet d315mm; Scope of delivery: 1 x pressure test cap, 1 x 0-Ring, 1 x GEKA-plus hose nipple, 1 x GEKA-plus transition female thread G3/8", 1 x Transport box | 310 | 310 | 320 |
| 500 | 799 199 289 | Suitable for branch saddle with spigot outlet d500mm; Scope of delivery: 1 x pressure test cap, 1 x 0-Ring, 1 x GEKA-plus hose nipple, 1 x GEKA-plus transition female thread G3/8", 1 x Transport box | 465 | 465 | 400 |



Accessories / single parts for Pressure test cap

• Suitable for Pressure test cap



| Code | description | L | В | H |
|-------------|----------------------------------------------|------|------|------|
| | | (mm) | (mm) | (mm) |
| 799 199 321 | 1 x O-Ring for 799199288 d315 | 222 | 222 | 7 |
| 799 199 322 | 1 x O-Ring for 799199289 d500 | 380 | 380 | 7 |
| 799 199 323 | 1 x GEKA-plus transtion female thread G 3/8" | 55 | 55 | 35 |
| 799 199 327 | 1 x Transport box for 799199288 d315 | 310 | 310 | 320 |
| 799 199 328 | 1 x Transport box for 799199289 d500 | 465 | 465 | 400 |

Industry Range

Butt/socket fusion machines

Product Range Overview

| | 00 0 | | | nite 4 |
|--------------------------------|------------|---------------|---------------|---------------|
| Characteristics | SG 125 | IM 160 | IM 315 | SG 160 |
| Max jointing diameter (mm) | 125 | 160 | 315 | 160 |
| SDR range | | 41-11 | 41-11 | 41-11 |
| Jointing technology | Socket | Butt | Butt | Butt - Socket |
| Jointing material | PE,PP,PVDF | PE,PP,PB,PVDF | PE,PP,PB,PVDF | PE,PP,PB,PVDF |
| Working range (°C) | -10/+45 | -10/+45 | -10/+45 | -10/+45 |
| Input voltage (Vac) | 230/115 | 230/115 | 230/115 | 230/115 |
| Performance (W) | 1500 | 1700 | 3500 | 2200 |
| Segmented fittings fabrication | | | ✓ | |
| Digital force measurement | | | Optional | |
| Back stop | ✓ | ✓ | ✓ | ✓ |
| Transport box | ✓ | ✓ | ✓ | ✓ |
| Weight - without box (Kg) | 65 | 55 | 169 | 53 - 59 |
| Working range d16 | | | | |
| d20 | | | | |
| d32 | | | | |
| d75 | | | | |
| d90 | | | | |
| d110 | | | <u></u> | |
| d125 | | | | Socket |
| d160 | | | | |
| d225 | | | | Butt |
| d250 | | | | |
| d315 | | | | |

| Table of conter | Table of contents | |
|-----------------|---------------------------------|----|
| Nod. | IM 160 | 84 |
| | IM 160 Accessories | 85 |
| | IM 315 | 86 |
| P | IM 315 / IM 315 - D Accessories | 88 |
| @ 0 | SG 125 | 89 |
| 89 | SG 125 Accessories | 89 |
| min' + | SG 160 | 91 |



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, optmized design for pallet truck handling and storage drawer for reduction inserts and tools

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

IM 160 Accessories



Back-stop

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

| Code | Weigh |
|-------------|-------|
| | (kg |
| 790 141 061 | 1.919 |



Special transport crate

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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 141 065 | 93.000 |



Set of replacement blades for planer

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

| Code | Weight |
|-------------|--------|
| | (kg |
| 790 113 056 | 0.059 |
| | |



IM 315 Butt fusion machine for industrial applications

- Butt fusion machine for PP, PE, PB and PVDF pipes and fittings for industrial applications with pressure piping systems.
- Extremely sturdy design for use in the workshop and on job sites.
- Designed to provide the highest flexibility to adapt to different sizes or shapes of fittings.
- Angular jointing provided up to 30° (2x15°) for prefabrication of segmented fittings.
- Dimensional range: d90-315 mm, from SDR 41 up to SDR 11 with PE,PP d315 mm
- 115 V on request!

BASE MACHINE

- High precision, distortion-free and robust machine base
- Integrated swivel tables for angular jointing up to 30° (2x15°)
- Handwheel for easy moving of machine carriage
- Exact pressure adjustment via direct spring load transfer
- Fusion pressure is maintained with a user friendly fast-locking handle
- Inner left and right clamping elements, for picking up reduction clamping inserts d 90-315 mm, with fast-locking handle
- Optional outer, horizontally removable clamping devices available
- Weight (including planer and heater): 169 kg

PLANER

- · Optimized cutting geometry for even and chatter-free planing
- · Swivel mounted for ergonomic handling
- · Mechanical stop to provide single sided planing and defined facing depth
- Integrated safety switch to prevent unintentional start-up
- Self-locking mechanism in working position

• HEATER

- High-performance and precision heater with electronic temperature control (2500W)
- High accuracy of +/- 4°C over the entire heating surface
- High quality, non-stick PTFE coating
- Pull-off mechanism to automatically detach the heating plate from pipe ends
- Metal sheet cover to protect the heating plate in idle position
- Integrated thermometer for fast visual check of plate temperature

ADDITIONAL STANDARD EQUIPMENT

- Reduction clamping inserts set d 90-315 mm
- Pipe supports for picking up reduction supporting inserts d 90-315 mm
- Reduction pipe supporting inserts set d 90-315 mm
- Timer to clock fusion times
- Machine specific tool set

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



IM 315 - D Butt fusion machine for industrial applications

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

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

IM 315 / IM 315 - D Accessories



Outer base clamping devices

| d (mm) | Туре | Code | Weight (kg) |
|---------------|------|-------------|----------------|
| 315 | L | 790 143 030 | 15.867 |
| 315 | R | 790 143 031 | 15.867 |



Reduction clamping inserts set

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

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



Back stop

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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 142 061 | 3.175 |



Tool box

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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 143 066 | 27.187 |



Special transport crate

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

| Code | Weight |
|-------------|---------|
| | (kg) |
| 790 143 065 | 148.125 |



Set of replacement blades for planer

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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 112 110 | 0.129 |



SG 125 Socket fusion machine

- Portable heating element socket fusion machine for use in the workshop and on job sites.
- For fusion jointing of PP, PE, PB and PVDF pipes and fittings; dimension 20 125 mm
- 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 d 20 125 mm
- Back stop
- Machine specific tool set
- Timer to clock fusion times
- Including transport packaging, without accessories

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|--------------|-------------|----------------|
| 20 - 125 | 230 V/1500 W | 790 310 034 | 65.000 |
| 20 - 125 | 115 V/1500 W | 790 310 036 | 65.000 |

SG 125 Accessories



Heating spigots and bushes

- For socket fusion systems in PP, PE
- 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 | Code | Weight |
|------|-------------|--------|
| (mm) | | (kg) |
| 20 | 799 300 156 | 0.090 |
| 25 | 799 300 157 | 0.154 |
| 32 | 799 300 158 | 0.211 |
| 40 | 799 300 159 | 0.309 |
| 50 | 799 300 160 | 0.434 |
| 63 | 799 300 161 | 0.594 |
| 75 | 799 300 162 | 0.981 |
| 90 | 799 300 163 | 1.452 |
| 110 | 799 300 164 | 2.008 |
| 125 | 799 300 165 | 2.200 |



Set heating spigots and bushes Type B

- For socket fusion systems in PP, PE
- 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 | Code | Weight |
|----------|-------------|--------|
| (mm) | | (kg) |
| 20 - 125 | 790 310 023 | 8.600 |



Tempil stick

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



Manual pipe peeling and chamfering tools

| d (mm) | Code | SP | Weight (kg) |
|------------------|-------------|----|-------------|
| 20 | 799 300 260 | 0 | 0.087 |
| 25 | 799 300 270 | 0 | 0.080 |
| 32 | 799 300 280 | 0 | 0.099 |
| 40 | 799 300 290 | 0 | 0.240 |
| 50 | 799 300 300 | 0 | 0.244 |
| 63 | 799 300 310 | 0 | 0.507 |
| 75 | 799 300 320 | 0 | 0.680 |
| 90 | 799 300 330 | 0 | 1.006 |
| 110 | 799 300 340 | 0 | 1.355 |



Spare blades for calibration tools Peeling tool blade

• 3 pieces are required per dimension

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



Spare konus handle for calibration tools

| d-d (mm) | Article | Code | SP | Weight (kg) |
|-----------------|---------|-------------|----|-------------|
| 45 - 50 | M6 | 799 300 295 | 0 | 0.021 |
| 63 - 110 | M8 | 799 300 315 | 0 | 0.056 |



SG 160 Combined butt and socket fusion machine for industrial applications

Mobile, very compact and universal plastic fusion machine for PP, PE and PVDF pipes and fittings for use in the workshop and on job sites.

Butt fusion d 32 - 160 mm, all pressure ratings up to PE/PP SDR 11; PVDF SDR 21. Socket fusion d 16 - 110 mm

Base machine

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

Planer

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

Heater

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

Additional standard equipment on the basic model

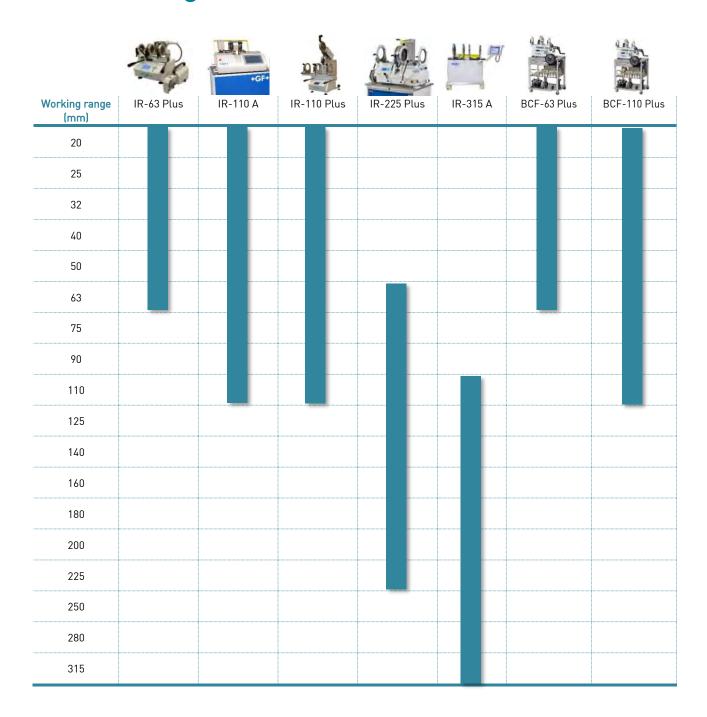
- V-shaped pipe supports d 16 160 mm for fittings
- · timer to clock fusion times
- · tool set specified to machine
- Including transport packaging, without accessories

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

Industry Range

IR Plus, IR A and BCF Plus Fusion Machines

Product Range Overview



| Table of conte | ble of contents | |
|----------------|------------------------------------------------------------|-----|
| | IR-110 A Automated Fusion Machine and Accessories | 94 |
| -05- | IR-315 A Automated Fusion Machine and Accessories | 96 |
| *GF+ | IR-63 Plus Fusion Machine and Accessories | 98 |
| n n | IR-110 Plus Fusion Machine and Accessories | 100 |
| 0.0 | IR-225 Plus Fusion Machine | 102 |
| | BCF Plus Fusion Machines | 105 |
| | Accessories for IR Plus, IR A and BFC Plus Fusion Machines | 110 |

IR-110 A Automated Fusion Machine and Accessories



IR-110 A Automated Fusion Machine

Model:

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

| d-d (mm) | Code | SP | Weight (kg) |
|-----------------|-------------|----|----------------|
| 20 - 110 | 790 164 001 | 1 | 250.000 |



Clamping inserts

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

| d | Code | SP | Weight | Pieces |
|------|-------------|----|--------|---------------|
| (mm) | | | (kg) | |
| 20 | 790 164 022 | 0 | 0.108 | 1 |
| 25 | 790 164 023 | 0 | 0.106 | 1 |
| 32 | 790 164 024 | 0 | 0.104 | 1 |
| 50 | 790 164 026 | 0 | 0.095 | 1 |
| 63 | 790 132 156 | 0 | 0.085 | 1 |
| 75 | 790 132 157 | 0 | 0.087 | 1 |
| 90 | 790 132 158 | 0 | 0.064 | 1 |
| 40 | 790 164 025 | 0 | 0.100 | 1 |



Set of facing knives

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

| d-d (mm) | Code | SP | Weight (kg) | Pieces |
|-----------------|-------------|----|-------------|--------|
| 20 - 110 | 790 132 061 | 0 | 0.007 | 2 |



Set of end caps

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

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



Torx key with T-bar handle

For facing knives

| Description | Code | Weight (kg) | |
|-------------|-------------|----------------|--|
| T10 | 790 131 129 | 0.029 | |

IR-315 A Automated Fusion Machine and Accessories



IR-315 A Automated Fusion Machine

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 PROGEF (Standard/Plus), PE100 ecoFIT (d≤d225 mm)
- Dimensions d110-315 mm
- · Automated facer, clamping slide and heater
- Integrated cooling system
- User friendly touch-screen interface 12.1" with various languages
- 4 USB interfaces, LAN Ethernet interface, 230 V Output
- Integrated video camera and temperature sensors
- Clamping inserts d110-280 mm (8 pcs. per dimension)
- End caps PE d110-315 mm (4 pcs. per dimension)
- Transport cases with integrated Euro-pallet (fusion machine and working table)
- 3-phase AC (50/60 Hz) 400 V L1/L2/L3/N/PE
- Set of facing knives (2 pcs.)
- Torx key (T25) for facing knife
- Hexagon keys (10 mm + 8 mm)
- Fork key (36 mm)
- Cleaning brush
- Label printer (incl. ribbon 24 mm)
- Instruction manual

| d-d | Code | Weight |
|-----------|-------------|----------|
| (mm) | | (kg) |
| 110 - 315 | 790 165 001 | 1070.000 |



Clamping inserts

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

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



Set of 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.

| eces | Weight | Code | d |
|------|----------------------------------|-------------------------------------------|--------------------------|
| | (kg) | | (mm) |
| 4 | 0.180 | 790 133 038 | 110 |
| 4 | 0.150 | 790 133 039 | 125 |
| 4 | 0.180 | 790 133 040 | 140 |
| 4 | 0.045 | 790 133 041 | 160 |
| 4 | 0.080 | 790 133 042 | 200 |
| | 0.180 0.150 0.180 0.045 | 790 133 039 790 133 040 790 133 041 | 110 125 140 160 |

| d | Code | Weight | Pieces |
|------|-------------|--------|---------------|
| (mm) | | (kg) | |
| 225 | 790 133 043 | 0.400 | 4 |
| 250 | 790 134 151 | 0.400 | 4 |
| 280 | 790 134 152 | 0.400 | 4 |
| 315 | 790 134 153 | 0.400 | 4 |



Set of facing knives

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

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



Torx key with T-bar handle

• For facing knives

| Description | Code | Weight (kg) |
|-------------|-------------|----------------|
| T25 | 790 133 577 | 0.063 |

IR-63 Plus Fusion Machine and Accessories



IR-63 Plus Fusion Machine

Model:

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

Note:

Clamping inserts PFA (inch) on request

| d-d | Code | SP | Weight |
|---------|-------------|----|--------|
| (mm) | | | (kg) |
| 20 - 63 | 790 131 005 | 1 | 50.000 |



Clamping inserts

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

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



Clamping inserts PFA Sch. 40 rigid pipe

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

| d | Code | Weight | Pieces |
|--------|-------------|--------|--------|
| (inch) | | (kg) | |
| 1/4" | 790 131 446 | 0.057 | 1 |
| 1/2" | 790 131 447 | 0.055 | 1 |
| 3/4" | 790 131 448 | 0.053 | 1 |
| 1" | 790 131 449 | 0.051 | 1 |
| 1 ½" | 790 131 452 | 0.043 | 1 |
| 2" | 790 131 450 | 0.041 | 1 |



Clamping inserts CONTAIN-IT Plus

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

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



Set of facing knives

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

| d-d (mm) | Code | SP Weight | | Pieces |
|--------------------|-------------|-----------|-------|--------|
| | 790 131 045 | 1 | 0.016 | 2 |



Set of end caps

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

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



Pipe stop

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

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



Extension cable for clamping slide

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

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



Extension cable for heater

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

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



Extension cable for facing tool

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

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



Heater protection shield

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

| Code | SP | Weight (kg) | Pieces |
|-------------|----|-------------|--------|
| 790 131 051 | 1 | 0.205 | 1 |

IR-110 Plus Fusion Machine and Accessories



IR-110 Plus Fusion Machine

Model:

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

Note

Clamping inserts PFA (inch) on request

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



Clamping inserts

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

| d | Code | SP | Weight | Pieces |
|------|-------------|----|--------|---------------|
| (mm) | | | (kg) | |
| 20 | 790 132 051 | 0 | 0.108 | 1 |
| 25 | 790 132 052 | 0 | 0.106 | 1 |
| 32 | 790 132 053 | 0 | 0.104 | 1 |
| 40 | 790 132 054 | 0 | 0.100 | 1 |
| 50 | 790 132 055 | 0 | 0.095 | 1 |
| 63 | 790 132 156 | 0 | 0.085 | 1 |
| 75 | 790 132 157 | 0 | 0.087 | 1 |
| 90 | 790 132 158 | 0 | 0.064 | 1 |



Clamping inserts PFA Sch. 40 rigid pipe

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

| d | Code | SP | Weight | Pieces |
|--------|-------------|----|--------|--------|
| (inch) | | | (kg) | |
| 1/4 | 790 132 062 | 0 | 0.109 | 1 |
| 1/2 | 790 132 063 | 0 | 0.107 | 1 |
| 3/4 | 790 132 064 | 0 | 0.106 | 1 |
| 1 | 790 132 065 | 0 | 0.103 | 1 |
| 2 | 790 132 066 | 0 | 0.088 | 1 |



Clamping inserts CONTAIN-IT Plus

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

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



Set of facing knives

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

| d-d (mm) | Code | SP | Weight (kg) | Pieces |
|--------------------|-------------|----|-------------|--------|
| 20 - 110 | 790 132 061 | 0 | 0.007 | 2 |



Set of end caps

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

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



Pipe stop

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

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

IR-225 Plus Fusion Machine



IR-225 Plus Fusion Machine

Model:

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

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



Clamping inserts

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

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



Clamping inserts CONTAIN-IT Plus

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

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



Set of end caps

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

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



Set of facing knives

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

| d-d | Code | SP | Weight | Pieces |
|----------|-------------|----|--------|---------------|
| (mm) | | | (kg) | |
| 63 - 225 | 790 133 046 | 1 | 0.125 | 2 |



Pipe stop

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

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



Torx key with T-bar handle

• For facing knives

| Description | Code | Weight (kg) |
|-------------|-------------|-------------|
| T25 | 790 133 577 | 0.063 |

BCF Plus Fusion Machines

BCF Plus Plastic Fusion Jointing Machine



BCF-63 Plus Fusion Machine

Model¹

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

Note:

Bladders to be ordered separately.

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



BCF-63 Plus Basic Machine

Model:

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

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



BCF-110 Plus Fusion Machine

Model:

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

Note:

Bladders to be ordered separately.

| d-d (mm) | Code | SP | Weight (kg) |
|--------------------|-------------|----|-------------|
| 20 - 110 | 790 121 001 | 1 | 188.000 |



BCF Plus Heating stations

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



106

BCF Plus Bladder for SYGEF PVDF

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

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

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



BCF Plus Bladder for PROGEF Natural PP-n

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

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



BCF Plus facing tool

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

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



BCF Plus clamping inserts for the facing tool

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

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



BCF Plus facing tool mounting plate

• To fix the facing tool on the workbench.

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

BCF Plus Large Dimension Package d75-110mm

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

Note:

Heating stations not included

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



BCF Plus clamping units

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

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



BCF Plus adapter for clamping unit d 75-110 mm

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

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



BCF Plus clamping inserts

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

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



BCF Plus hose box incl. hose

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

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



BCF Plus hose

• Connection hose for the BCF Plus bladder.

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



BCF Plus supporting tool

• Helpful to fix 45°- angle components.

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



BCF Plus bladder/ hose remove tool (BReT)

• Helpful to remove bladders easily.

| Code | SP | Weight | Pieces |
|-------------|----|--------|---------------|
| | | (kg) | |
| 790 121 075 | 1 | 0.079 | 1 |



BCF Plus extension cable

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

| Code | SP | Weight (kg) | Length (mm) |
|-------------|----|-------------|----------------|
| 790 122 989 | 1 | 1.000 | 8 |

Accessories for the BCF Plus plastic fusion jointing machine



Hose cutter

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



Socket for compressed air hose

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

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



Label Printer

• Label 36 mm included, order Label 24 mm separately

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



Power supply lead for IR-63 Plus, IR-110 A, IR-110 Plus and BCF Plus

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



Cleaning tissue KO-TON-R

Minimum order quantity 100 pieces

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

| Code | Weight |
|-------------|--------|
| | (kg) |
| 790 122 085 | 0.005 |



Tangit KS Cleaner

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

| Size | Code | SP | Weight (kg) |
|---------|-------------|----|----------------|
| 1 liter | 799 298 023 | 8 | 0.872 |



Cleaning brush

| description | Code | Weight (kg) |
|--------------------------------------------------------|-------------|----------------|
| for IR-110 Plus, IR-110 A, IR-225 Plus and IR-315 A | 790 133 198 | 0.055 |
| for IR-63 Plus | 790 041 017 | 0.055 |

Building Technology Range

Butt/socket fusion machines

Product Range Overview







| | × | 2 | |
|------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MC 110 | Weld 160 | Weld 250 | PS0 701 |
| 110 | 160 | 250 | 160 |
| 41-11 | 41-17.6 | 41-26 | 41-11 |
| Butt | Butt | Butt | Butt |
| PE, PP | PE | PE | PE,PP |
| -10/+45 | -10/+45 | -10/+45 | -10/+45 |
| 230/115 | 230 | 230 | 230 |
| 1360 | 1350 | 2070 | 1360 |
| ✓ | √ | ✓ | ~ |
| Therm/Electronic | Therm. | Therm. | Therm. |
| | | | |
| | | | √ |
| 31 | 55 | 100 | 95 |
| | | | |
| | | | |
| | | | |
| | | | |
| _ | | | |
| | | | |
| | | | |
| | | | |
| | MC 110 110 41-11 Butt PE, PP -10/+45 230/115 1360 ✓ Therm/Electronic | MC 110 110 160 41-11 41-17.6 Butt Butt PE, PP PE -10/+45 230/115 230 1360 1350 ✓ Therm/Electronic Therm. | MC 110 Weld 160 Weld 250 110 160 250 41-11 41-17.6 41-26 Butt Butt Butt PE, PP PE PE -10/+45 -10/+45 -10/+45 230/115 230 230 1360 1350 2070 ✓ ✓ ✓ Therm/Electronic Therm. Therm. 31 55 100 |

| Table of cont | tents | Page |
|---------------|--------------------|------|
| *** | MC 110 | 114 |
| | MC 110 Accessories | 115 |
| | WELD 160 - 250 | 116 |
| | PS0 701 | 117 |

MC 110





MC 110 Portable butt fusion machine

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

| , | Type d-d | Performance | Code | Weight (kg) |
|--------------------------------------------------|------------|-------------|-------------|-------------|
| MC 110 with electric planer, electronic heater | 20 - 110 | 230V/1360W | 790 109 347 | 31.000 |
| MC 110 with electric planer, thermostatic heater | r 20 - 110 | 230V/1360W | 790 109 303 | 31.000 |
| MC 110 with electric planer, thermostatic heater | r 20 - 110 | 115V/1360W | 790 109 321 | 31.000 |
| MC 110 with manual planer, electronic heater | 20 - 110 | 230V/800W | 790 109 348 | 28.000 |
| MC 110 with manual planer, thermostatic heate | r 20 - 110 | 230V/800W | 790 109 301 | 28.000 |
| MC 110 with manual planer, thermostatic heate | r 20 - 110 | 115V/800W | 790 109 320 | 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 | Code | Weight |
|------|-------------|--------|
| (mm) | | (kg) |
| 110 | 790 109 310 | 0.945 |



Set reduction clamping inserts

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

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



Reduction clamping inserts

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

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



Flange adapter clamping unit

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

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



Set of replacement blades for planer

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

| Code | Weight |
|-------------|--------|
| | (kg |
| 790 118 043 | 0.045 |

WELD 160 - 250



WELD 160 Butt fusion machine for plumbing and drainage applications

- Economical, lightweight plastic fusion machine for PE pipes and fittings for mobile use. Suitable for plumbing installations, roof drainage systems and drainage pipes.
- Base machine for butt fusion d 40 up to 160 mm. PE max. d 160 mm SDR 26. Sliding carriages, pressure device 600 N scale. Support for heating element.
- 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
- · Compact planer with reversible plates.
- Heating element thermostatic controlled, PTFE coated, electric cable with plug. Can also be used as a manual tool.
- Steel frame used for operation and transportation protection.

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|--------------|-------------|----------------|
| 40 - 160 | 230 V/1350 W | 790 301 020 | 55.000 |



WELD 250 Butt fusion machine for plumbing and drainage applications

- Economical, lightweight plastic fusion machine for PE pipes and fittings for mobile use. Suitable for plumbing installations, roof drainage systems and drainage pipes.
- Base machine for butt fusion d 90 up to 250 mm. PE max. d 250 mm SDR 33. Sliding carriages, pressure device 1000 N scale. Support for heating element.
- Fast-locking base clamping plates, right and left, d 250 mm
- Complete reduction clamping inserts set d 90 225 mm
- V-shaped pipe support with inserts d 90 225 mm
- Compact planer with reversible plates.
- Heating element thermostatic controlled, PTFE coated, electric cable with plug. Can also be used as a manual tool.
- Steel frame used for operation and transportation protection.

| d-d | Performance | Code | Weight |
|----------|--------------|-------------|---------|
| (mm) | | | (kg) |
| 90 - 250 | 230 V/2070 W | 790 311 020 | 100.000 |

WELD 160 - 250 Accessories



Set of replacement blades for planer

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

| Туре | Code | Weight (kg) |
|----------|-------------|----------------|
| WELD 160 | 790 113 056 | 0.059 |
| WELD 250 | 790 115 024 | 0.083 |



PSO 701 Butt fusion machine for sanitary applications

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

| d-d (mm) | Performance | Code | Weight (kg) |
|-----------------|--------------|-------------|----------------|
| 40 - 160 | 230 V/1360 W | 790 301 000 | 95.000 |

PSO 701 Accessories



Set of replacement blades for planer

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

| d-d (mm) | Code | Weight (kg) |
|-----------------|-------------|----------------|
| 40 - 160 | 790 113 056 | 0.059 |



Cutter for PE pipes

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

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

Building Technology Range

Manual fusion tools

Product Range Overview

| | 9 | | 4 | | | -di | | 4 | |
|------------------------------|---------|---------|----------|---------|---------|---------|-------------------------|---------|---------|
| Characteristics | MSE63 | MSE110 | MSE63 | MSE110 | SSE120 | SSE200 | SSE300 | SSE200 | SSE300 |
| | | | Toolset | Toolset | | | | Toolset | Toolset |
| Max jointing diameter (mm) | 63 | 110 | 1400 | 1400 | 1200 | 1200 | 800 | 1400 | 1400 |
| Jointing technology | Socket | Socket | Socket | Socket | Butt | Butt | Butt | Butt | Butt |
| Jointing material | PE, PP | PE, PP | PE,PP | PE,PP | PE,PP | PE,PP | PE,PP | PE,PP | PE,PP |
| Working range (°C) | -10/+45 | -10/+45 | -10/+45 | -10/+45 | -10/+45 | -10/+45 | -10/+45 | -10/+45 | -10/+45 |
| Input voltage (Vac) | 230/115 | 230/115 | 230/115 | 230/115 | 230 | 230 | 230 | 230 | 230 |
| Heating temperature control | | | | | | | Therm. or Electronic | | |
| 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 d16 | | | | | | | | | |
| | | | | | | | | | |
| d63 | | | | | | | | | |
| | | | | | | | | | |
| d110 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| d180 | | | | | | | | | |
| | | | | | | | | | |
| d280 | | | | | | | | | |

| Table of conte | nts | Page |
|----------------|---------------------------------------------------|------|
| | Socket fusion tools | 120 |
| | Butt fusion tools | 121 |
| Ţ | Accessories/Wearing parts for manual fusion tools | 122 |

Socket fusion tools



MSE 63/MSE 110 Socket fusion toolset

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

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





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



| | d-d (mm) | Туре | Performance | Code | Weight (kg) |
|----|-----------------|-----------|--------------|-------------|-------------|
| 16 | 6 - 63 | MSE 63 T | 230 V/800 W | 790 105 081 | 1.700 |
| 16 | 5 - 63 | MSE 63 E | 230 V/800 W | 790 105 082 | 1.800 |
| 16 | 5 - 63 | MSE 63 T | 115 V/800 W | 790 105 096 | 2.075 |
| 16 | 5 - 63 | MSE 63 E | 115 V/800 W | 790 105 097 | 2.145 |
| 16 | - 110 | MSE 110 T | 230 V/1500 W | 790 105 083 | 3.200 |
| 16 | - 110 | MSE 110 E | 230 V/1500 W | 790 105 084 | 3.200 |
| 16 | - 110 | MSE 110 T | 115 V/1500 W | 790 105 126 | 3.200 |
| 16 | - 110 | MSE 110 E | 115 V/1500 W | 790 105 127 | 3.200 |

Butt fusion tools



SSE 200/SSE 300 Butt fusion toolset

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

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



SSE Butt fusion tools

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

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

Accessories/Wearing parts for manual fusion tools



Table clamp

• For correct placement of heater

| Code | Weight |
|-------------|--------|
| | (kg |
| 790 109 315 | 0.660 |



Floor stand for manual fusion tools SSE/MSE

| Code | Weight (kg |
|-------------|---------------|
| 790 105 063 | 0.380 |





Heating spigots and bushes

- High-quality, non-stick PTFE-coating with long service life
 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 | Code | Weight |
|------|-------------|--------|
| (mm) | | (kg) |
| 16 | 799 300 155 | 0.085 |
| 20 | 799 300 156 | 0.090 |
| 25 | 799 300 157 | 0.154 |
| 32 | 799 300 158 | 0.211 |
| 40 | 799 300 159 | 0.309 |
| 50 | 799 300 160 | 0.434 |
| 63 | 799 300 161 | 0.594 |
| 75 | 799 300 162 | 0.981 |
| 90 | 799 300 163 | 1.452 |
| 110 | 799 300 164 | 2.008 |

| Code | Page | Code | Page | Code | Page | Code | Page |
|----------------------------|------------|----------------------------|------------|----------------------------|------------------|----------------------------|--------------------------|
| 193 281 027 | 65 | 790 108 043 | 48 | 790 112 091 | 24, 29 | 790 116 011 | 29 |
| 709 700 010 | 79_ | 790 108 101 | 46 | 790 112 092 | 24, 29 | 790 116 012 | 29, 29, 47 |
| 709 700 021 | 79 | 790 109 001 | 74 | 790 112 093 | 24, 29 | 790 116 013 | 29, 29, 47 |
| 709 700 023 | 79 | 790 109 002 | 74 | 790 112 094 | 24, 29 | 790 116 014 | 29, 29, 47 |
| 709 700 024 | 80 | 790 109 003 | 74_ | 790 112 095 | 24, 29 | 790 116 015 | 29, 29, 47 |
| 709 700 100 | 79 | 790 109 011 | 74 | 790 112 096 | 24, 29 | 790 116 016 | 29 |
| 709 701 260 | 80 | 790 109 012 | 74 | 790 112 097 | 24, 29 | 790 116 017 | 29 |
| 709 701 261 | 80 | 790 109 013 | 74 | 790 112 098 | 24, 44 | 790 116 018 | 29 |
| 709 702 045 | 80 | 790 109 109 | 67 | 790 112 099 | 24, 44 | 790 116 019 | 29 |
| 709 702 046 | 80 | 790 109 110 | 67 | 790 112 100 | 24, 29, 44 | 790 116 020 | 29, 29, 47 |
| 709 702 047 709 702 048 | 80 80 | 790 109 241 790 109 242 | 67 67 | 790 112 101 790 112 102 | 24, 29, 44 | 790 116 021 790 116 022 | 29, 29, 47 29, 29, 47 |
| 707 702 048 | 80 | 790 109 243 | 67 | 790 112 102 | 24, 29, 44 | 790 116 023 | 29, 29, 47 |
| 707 702 050 | 80 | 790 109 244 | 67 | 790 112 103 | 24, 29, 44 | 790 116 045 | 30 |
| 709 706 414 | 81 | 790 109 301 | 114 | 790 112 105 | 24, 29, 44 | 790 116 156 | 30 |
| 709 800 006 | 80 | 790 109 303 | 114 | 790 112 106 | 24, 29, 44 | 790 116 157 | 30 |
| 709 810 410 | 80 | 790 109 310 | 115 | 790 112 107 | 24, 29, 44 | 790 117 012 | 29, 33, 47 |
| 709 810 412 | 80 | 790 109 315 | 122 | 790 112 110 | 25, 31, 88 | 790 117 013 | 29, 33, 47 |
| 709 810 414 | 80 | 790 109 316 | 115 | 790 112 156 | 25 | 790 117 021 | 30 |
| 709 810 415 | 80 | 790 109 320 | 114 | | 25, 85, | 790 117 029 | 30 |
| 709 810 416 | 80 | 790 109 321 | 114 | 790 113 056 | 116, 117 | 790 117 041 | 31, 34 |
| 709 810 420 | 80 | 790 109 326 | 115 | 790 114 009 | 24 | 790 117 094 | 30 |
| 709 810 422 | 80 | 790 109 327 | 115 | 790 114 010 | 24 | 790 117 102 | 30 |
| 709 810 424 | 80 | 790 109 328 | 115 | 790 114 011 | 24 | 790 117 238 | 29, 33, 47 |
| 709 810 425 | 80 | 790 109 329 | 115 | 790 114 012 | 24 | 790 117 239 | 29, 33, 47 |
| 709 810 426 | 80 | 790 109 330 | 115 | 790 114 013 | 24 | 790 118 009 | 43 |
| 790 103 004 | 91 | 790 109 331 | 115 | 790 114 014 | 24 | 790 118 011 | 44 |
| 790 105 051 | 121 | 790 109 332 | 115 | 790 114 015 | 24 | 790 118 012 | 44 |
| 790 105 052 | 121 | 790 109 333 | 115 | 790 114 016 | 24 | 790 118 014 | 42 |
| 790 105 053 | 121 | 790 109 334 | 115 | 790 114 017 | 24 | 790 118 025 | 44 |
| 790 105 054 | 121 | 790 109 335 | 115 | 790 114 018 | 24 | 790 118 026 | 45 |
| 790 105 055 | 121 | 790 109 336 | 115 | 790 114 019 | 24 | 790 118 028 | 44 |
| 790 105 058 | 121 | 790 109 337 | 115 | 790 114 020 | 24 | 790 118 031 | 44 |
| 790 105 059 | 121 | 790 109 338 | 115 115 | 790 114 021 790 114 022 | 24 | 790 118 032 | 45 45 |
| 790 105 060 790 105 061 | 121 121 | 790 109 339 790 109 340 | 115 | 790 114 022 | 24 | 790 118 033 790 118 042 | 45 45 |
| 790 105 061 | 121 | 790 109 340 | 115 | 790 114 023 | 24 | 790 118 042 | 45, 115 |
| 790 105 063 | 122 | 790 109 342 | 115 | 790 114 156 | 25 | 790 118 060 | 43, 113 |
| 790 105 081 | 120 | 790 109 343 | 115 | 790 115 008 | 24 | 790 119 401 | 37 |
| 790 105 082 | 120 | 790 109 347 | 114 | 790 115 009 | 24 | 790 119 425 | 37 |
| 790 105 083 | 120 | 790 109 348 | 114 | 790 115 010 | 24 | 790 119 451 | 37 |
| 790 105 084 | 120 | 790 109 600 | 75 | 790 115 011 | 24 | 790 119 452 | 37 |
| 790 105 085 | 120 | 790 109 605 | 76 | 790 115 012 | 24 | 790 119 454 | 37 |
| 790 105 086 | 120 | 790 109 606 | 76 | 790 115 013 | 24 | 790 119 455 | 37 |
| 790 105 087 | 120 | 790 109 607 | 76 | 790 115 014 | 24 | 790 121 001 | 106 |
| 790 105 088 | 120 | 790 109 608 | 76 | 790 115 015 | 24 | 790 121 002 | 105 |
| 790 105 096 | 120 | 790 109 609 | 76 | 790 115 016 | 24 | 790 121 004 | 105 |
| 790 105 097 | 120 | 790 109 610 | 76 | 790 115 017 | 24 | 790 121 022 | 108 |
| 790 105 098 | 120 | 790 109 611 | 76 | 790 115 018 | 24 | 790 121 034 | 108 |
| 790 105 099 | 120 | 790 109 612 | 76 | 790 115 019 | 24 | 790 121 035 | 108 |
| 790 105 126 | 120 | 790 109 613 | 76 | 790 115 020 | 24 | 790 121 036 | 108 |
| 790 105 127 | 120 | 790 109 614 | 76 | 790 115 021 | 24 | 790 121 037 | 108 |
| 790 105 128 | 120 | 790 109 615 | 76 | 790 115 022 | 24 | 790 121 038 | 108 |
| 790 105 129 | 120 | 790 109 616 | 76 | 790 115 023 | 24 | 790 121 047 | 107, 107 |
| 790 108 009 | 47 | 790 109 618 | 76 | 790 115 024 | 25, 116 | 790 121 048 | 107, 107 |
| 790 108 017 | 47 | 790 109 850 | 74 74 | 790 115 028 790 115 029 | 2 <u>4</u> 24 | 790 121 049 | 107, 107 |
| 790 108 018 790 108 020 | 47 46 | 790 109 851 790 109 861 | 74 | 790 115 029 | 25 | 790 121 052 790 121 053 | 107 107 |
| 790 108 020 | 48 | 790 112 073 | 25 | 790 115 044 | 25 | 790 121 055 | 107 |
| 790 108 028 | 47 | 790 112 073 | 24 | 790 116 008 | 29 | 790 121 061 | 107 |
| 790 108 032 | 48 | 790 112 089 | 24 | 790 116 009 | 29 | 790 121 062 | 107 |
| 790 108 033 | 48 | 790 112 090 | 24, 29 | 790 116 010 | 29 | 790 121 063 | 107 |
| | | | ., = - | | | | |

| Pro 12 1046 107 | Code | Page | Code | Page | Code | Page | Code | Page |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|-------------|---------|-------------|---------|-------------|--------|
| Pro 121 066 | 790 121 064 | 107 | 790 126 014 | 50 | 790 132 061 | 94, 101 | 790 136 014 | 55 |
| P90 121 067 | 790 121 065 | 107 | 790 126 043 | 50 | 790 132 062 | 101 | 790 136 015 | 55 |
| Pro 12 108 | 790 121 066 | 107 | 790 126 051 | 51 | 790 132 063 | 101 | 790 136 100 | 55 |
| Pro 121 0.69 | 790 121 067 | 107 | 790 126 061 | 52 | 790 132 064 | 101 | 790 136 211 | 55 |
| Pro 121 072 | 790 121 068 | 107 | 790 126 062 | 52 | 790 132 065 | 101 | 790 136 212 | 55 |
| Pro 12 073 109 | 790 121 069 | 107 | 790 126 063 | 52 | 790 132 066 | 101 | 790 136 213 | 55 |
| P0121075 109 | 790 121 072 | 109 | 790 126 064 | 52 | 790 132 156 | 94, 101 | 790 136 214 | 55 |
| P0121111 | 790 121 073 | 109 | 790 127 045 | 30 | 790 132 157 | 94, 101 | | 84 |
| P01121112 | 790 121 075 | 109 | 790 127 101 | 29 | 790 132 158 | 94, 101 | 790 141 003 | 84 |
| 790 121 113 106 | 790 121 111 | 106 | 790 127 102 | 29 | 790 132 190 | 101 | 790 141 008 | 84 |
| P90 121 114 106 | | 106 | 790 127 111 | 29 | | 101 | | 84 |
| Total Tota | | | | | | 101 | | |
| Pol 121 116 | | | | | | | | |
| Pro | | | | | | | | |
| Pro | | | | | | | | |
| Propriet Propriet | | | | | | | | |
| Prop 121 151 108 Prop 128 121 15 Prop 133 029 103 Prop 143 005 86 Prop 120 041 106 Prop 138 03 15 Prop 133 030 103 Prop 143 030 88 Prop 122 042 106 Prop 131 028 110 Prop 133 031 103 Prop 143 031 88 Prop 122 043 106 Prop 131 028 110 Prop 133 032 103 Prop 143 032 88 Prop 122 044 106 Prop 131 028 110 Prop 133 033 103 Prop 143 035 88 Prop 122 045 106 Prop 131 030 Prop 110 Prop 133 033 103 Prop 143 036 88 Prop 122 045 106 Prop 131 031 Prop 133 033 103 Prop 143 046 88 Prop 122 045 110 Prop 131 033 Prop 142 Prop 131 034 Prop 131 034 Prop 132 Prop 132 Prop 132 Prop 134 Prop | | | | | | | | |
| Pro 122 041 106 | | | | | | | | |
| Prop 122 042 106 | | | | | | | | |
| Prop 122 043 106 | | | | | | | | |
| P90 122 044 106 P90 131 029 110 P90 133 033 103 P90 143 065 88 P90 122 046 107 P90 131 031 95, 99, 102 P90 130 035 P90 122 046 107 P90 131 031 95, 99, 102 P90 130 035 P90 122 085 110 P90 131 031 95, 99, 102 P90 130 305 P90 122 087 109 P90 131 033 P5, 99, 102 P90 130 305 P90 P90 130 305 P90 P90 P90 131 034 P90 P90 | | | | | | | | |
| Prop 122 046 | | | | | | | | |
| P790122 046 | | | | | | | | |
| | | | | | 790 133 034 | | | |
| Prop 122 087 109 | | | | | 790 133 036 | | | |
| Prop 122 091 107 | | | | | | | | |
| 790 122 092 107 790 131 035 95, 99, 102, 103 790 133 038 95, 96, 103 790 146 031 36 790 122 094 107 790 131 038 98, 108 790 133 039 96, 103 790 146 032 36 790 122 095 107 790 131 039 98, 108 790 133 040 96, 103 790 146 147 36 790 122 096 107 790 131 040 98, 108 790 133 041 96, 103 790 146 148 36 790 122 104 109 790 131 042 98, 108 790 133 043 97, 103 790 146 149 36 790 122 106 109 790 131 042 98, 108 790 133 044 96, 103 790 150 009 21 790 122 246 110 790 131 043 98, 108 790 133 046 103 790 150 009 21 790 122 289 109 790 131 046 99 790 133 047 104 790 150 012 22 790 123 011 33, 33 790 131 046 99 790 133 091 103 790 150 046 26 | | | | | 790 133 037 | | | |
| 790 122 093 107 790 131 035 102, 103 790 133 038 102, 103 790 146 032 36 790 122 094 107 790 131 038 98, 108 790 133 039 96, 103 790 146 033 36 790 122 096 107 790 131 040 98, 108 790 133 040 96, 103 790 146 148 36 790 122 104 109 790 131 041 98, 108 790 133 042 96, 103 790 146 149 36 790 122 106 109 790 131 042 98, 108 790 133 042 96, 103 790 146 149 36 790 122 246 110 790 131 043 98, 108 790 133 044 103 790 150 009 21 790 122 248 110 790 131 045 99 790 133 047 104 790 150 012 22 790 122 989 109 790 131 046 99 790 133 091 103 790 150 012 22 790 123 011 33, 33 790 131 047 99 790 133 091 103 790 150 050 25 790 123 016 <td></td> <td></td> <td>790 131 034</td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | 790 131 034 | | | | | |
| 790 122 094 107 790 131 038 98, 108 790 133 039 96, 103 790 146 033 36 790 122 095 107 790 131 039 98, 108 790 133 040 96, 103 790 146 147 36 790 122 104 109 790 131 041 98, 108 790 133 042 96, 103 790 146 148 36 790 122 106 109 790 131 042 98, 108 790 133 043 97, 103 790 150 009 21 790 122 246 110 790 131 045 98, 108 790 133 047 104 790 150 009 21 790 122 248 110 790 131 045 99 790 133 047 104 790 150 012 22 790 122 989 109 790 131 046 99 790 133 090 103 790 150 045 26 790 123 012 33, 33 790 131 048 100 790 133 091 103 790 150 046 26 790 123 012 33, 33 790 131 048 100 790 133 092 103 790 150 046 26 790 123 012 | | | 790 131 035 | | 790 133 038 | | | |
| 790 122 095 107 790 131 039 98, 108 790 133 040 96, 103 790 146 147 36 790 122 096 107 790 131 040 98, 108 790 133 041 96, 103 790 146 148 36 790 122 104 109 790 131 042 98, 108 790 133 043 97, 103 790 150 009 21 790 122 246 110 790 131 043 98, 108 790 133 046 103 790 150 001 20 790 122 248 110 790 131 045 99 790 133 046 103 790 150 012 22 790 122 989 109 790 131 046 99 790 133 090 103 790 150 045 26 790 123 011 33, 33 790 131 047 99 790 133 091 103 790 150 046 26 790 123 016 34 790 131 049 100 790 133 092 103 790 150 050 25 790 123 029 34 790 131 051 100 790 133 094 103 790 150 050 25 790 123 029 34 <td></td> <td></td> <td>700 121 020</td> <td></td> <td>700 133 030</td> <td></td> <td></td> <td></td> | | | 700 121 020 | | 700 133 030 | | | |
| 790 122 096 107 790 131 040 98, 108 790 133 041 96, 103 790 146 148 36 790 122 104 109 790 131 041 98, 108 790 133 042 96, 103 790 146 149 36 790 122 106 109 790 131 042 98, 108 790 133 046 103 790 150 009 21 790 122 248 110 790 131 045 99 790 133 046 103 790 150 012 22 790 122 989 109 790 131 046 99 790 133 090 103 790 150 012 22 790 123 011 33, 33 790 131 048 100 790 133 092 103 790 150 045 26 790 123 012 33, 33 790 131 049 100 790 133 092 103 790 150 050 25 790 123 025 32 790 131 049 100 790 133 094 103 790 150 073 21 790 123 025 32 790 131 046 110 790 133 094 103 790 150 075 22 790 123 025 33 | | | | | | | | |
| 790 122 104 109 790 131 041 98, 108 790 133 042 96, 103 790 146 149 36 790 122 106 109 790 131 042 98, 108 790 133 043 97, 103 790 150 009 21 790 122 246 110 790 131 045 99 790 133 047 104 790 150 011 20 790 122 288 110 790 131 046 99 790 133 047 104 790 150 045 26 790 123 011 33, 33 790 131 047 99 790 133 090 103 790 150 045 26 790 123 012 33, 33 790 131 048 100 790 133 092 103 790 150 045 26 790 123 016 34 790 131 049 100 790 133 093 103 790 150 050 25 790 123 025 32 790 131 051 100 790 133 094 103 790 150 076 22 790 123 029 34 790 131 065 110 790 133 198 111 790 150 005 25 790 124 021 33, 33 | | | | | | | | |
| 790 122 106 109 790 131 042 98, 108 790 133 043 97, 103 790 150 009 21 790 122 246 110 790 131 043 98, 108 790 133 046 103 790 150 011 20 790 122 248 110 790 131 045 99 790 133 090 103 790 150 015 22 790 122 989 109 790 131 046 99 790 133 090 103 790 150 046 26 790 123 011 33, 33 790 131 048 100 790 133 092 103 790 150 046 26 790 123 016 34 790 131 049 100 790 133 092 103 790 150 073 21 790 123 025 32 790 131 051 100 790 133 094 103 790 150 073 21 790 123 029 34 790 131 065 110 790 133 198 111 790 150 076 22 790 123 219 33, 33 790 131 065 110 790 133 463 103 790 150 025 25 790 124 011 33, 33 | | | | | | | | |
| 790 122 246 110 790 131 043 98, 108 790 133 046 103 790 150 011 20 790 122 248 110 790 131 045 99 790 133 047 104 790 150 012 22 790 122 989 109 790 131 046 99 790 133 090 103 790 150 045 26 790 123 011 33, 33 790 131 048 100 790 133 092 103 790 150 046 26 790 123 016 34 790 131 049 100 790 133 093 103 790 150 050 25 790 123 025 32 790 131 051 100 790 133 094 103 790 150 073 21 790 123 029 34 790 131 065 110 790 133 198 111 790 150 020 25 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 205 25 790 124 011 33, 33 790 131 090 99 790 133 463 103 790 150 206 25 790 124 011 33, 33 7 | | | | | | | | |
| 790 122 248 110 790 131 045 99 790 133 047 104 790 150 012 22 790 122 889 109 790 131 046 99 790 133 090 103 790 150 045 26 790 123 011 33, 33 790 131 047 99 790 133 091 103 790 150 046 26 790 123 012 33, 33 790 131 048 100 790 133 092 103 790 150 050 25 790 123 025 32 790 131 051 100 790 133 094 103 790 150 073 21 790 123 029 34 790 131 065 110 790 133 198 111 790 150 076 22 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 076 25 790 123 220 33, 33 790 131 066 110 790 133 463 103 790 150 026 25 790 124 011 33, 33 790 131 090 99 790 133 494 103 790 151 002 26 790 124 012 33, 33 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<> | | | | | | | | |
| 790 122 989 109 790 131 046 99 790 133 090 103 790 150 045 26 790 123 011 33, 33 790 131 047 99 790 133 091 103 790 150 046 26 790 123 016 34 790 131 048 100 790 133 092 103 790 150 050 25 790 123 025 32 790 131 049 100 790 133 094 103 790 150 073 21 790 123 025 32 790 131 051 100 790 133 094 103 790 150 073 21 790 123 029 34 790 131 065 110 790 133 198 111 790 150 205 25 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 206 25 790 124 220 33, 33 790 131 090 99 790 133 494 103 790 150 002 26 790 124 011 33, 33 790 131 091 99 790 133 494 103 790 151 002 26 790 124 012 33, 33 790 | | | | | | | | |
| 790 123 011 33, 33 790 131 047 99 790 133 091 103 790 150 046 26 790 123 012 33, 33 790 131 048 100 790 133 092 103 790 150 050 25 790 123 016 34 790 131 049 100 790 133 093 103 790 150 076 22 790 123 025 32 790 131 051 100 790 133 094 103 790 150 076 22 790 123 029 34 790 131 065 110 790 133 198 111 790 150 076 22 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 206 25 790 124 011 33, 33 790 131 090 99 790 133 494 103 790 151 002 26 790 124 012 33, 33 790 131 091 99 790 133 577 97, 104 790 151 002 26 790 124 012 33, 33 790 131 092 99 790 133 451 97 790 151 011 20 790 124 012 34 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | | | | | | | | |
| 790 123 012 33, 33 790 131 048 100 790 133 092 103 790 150 050 25 790 123 016 34 790 131 049 100 790 133 093 103 790 150 073 21 790 123 025 32 790 131 051 100 790 133 094 103 790 150 076 22 790 123 029 34 790 131 065 110 790 133 198 111 790 150 205 25 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 206 25 790 123 220 33, 33 790 131 099 99 790 133 494 103 790 151 002 26 790 124 011 33, 33 790 131 091 99 790 133 577 97, 104 790 151 012 22 790 124 012 33, 33 790 131 092 99 790 134 151 97 790 151 012 22 790 124 012 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 | | | | | | | | |
| 790 123 016 34 790 131 049 100 790 133 093 103 790 150 073 21 790 123 025 32 790 131 051 100 790 133 094 103 790 150 076 22 790 123 029 34 790 131 065 110 790 133 198 111 790 150 206 25 790 123 219 33, 33 790 131 066 110 790 133 494 103 790 150 206 25 790 123 220 33, 33 790 131 090 99 790 133 494 103 790 151 002 26 790 124 011 33, 33 790 131 091 99 790 133 494 103 790 151 011 20 790 124 012 33, 33 790 131 092 99 790 134 151 97 790 151 011 20 790 124 016 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 131 129 95 790 134 153 97 790 151 045 26 790 124 029 34 790 131 446 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | | | | |
| 790 123 025 32 790 131 051 100 790 133 094 103 790 150 076 22 790 123 029 34 790 131 065 110 790 133 198 111 790 150 205 25 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 206 25 790 123 220 33, 33 790 131 090 99 790 133 577 97.104 790 151 002 26 790 124 011 33, 33 790 131 091 99 790 133 577 97.104 790 151 011 20 790 124 012 33, 33 790 131 092 99 790 134 151 97 790 151 012 22 790 124 016 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 131 446 98 790 134 153 97 790 151 045 26 790 124 029 34 790 131 446 98 790 136 001 55 790 151 046 26 790 125 011 33 790 131 4 | | | | | | 103 | | |
| 790 123 029 34 790 131 065 110 790 133 198 111 790 150 205 25 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 206 25 790 123 220 33, 33 790 131 090 99 790 133 494 103 790 151 002 26 790 124 011 33, 33 790 131 091 99 790 133 577 97, 104 790 151 011 20 790 124 012 33, 33 790 131 092 99 790 134 151 97 790 151 012 22 790 124 016 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 131 129 95 790 134 153 97 790 151 045 26 790 124 025 32 790 131 446 98 790 136 001 55 790 151 046 26 790 125 011 33 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 448 </td <td></td> <td></td> <td></td> <td></td> <td>790 133 094</td> <td>103</td> <td></td> <td></td> | | | | | 790 133 094 | 103 | | |
| 790 123 219 33, 33 790 131 066 110 790 133 463 103 790 150 206 25 790 123 220 33, 33 790 131 090 99 790 133 494 103 790 151 002 26 790 124 011 33, 33 790 131 091 99 790 133 577 97, 104 790 151 011 20 790 124 012 33, 33 790 131 092 99 790 134 151 97 790 151 012 22 790 124 016 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 131 129 95 790 134 153 97 790 151 045 26 790 124 025 32 790 131 446 98 790 136 001 55 790 151 046 26 790 125 011 33 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 449 98 790 136 003 55 790 151 071 23 790 125 015 34 790 131 450 <td></td> <td></td> <td>790 131 065</td> <td>110</td> <td>790 133 198</td> <td>111</td> <td></td> <td></td> | | | 790 131 065 | 110 | 790 133 198 | 111 | | |
| 790 123 220 33, 33 790 131 090 99 790 133 494 103 790 151 002 26 790 124 011 33, 33 790 131 091 99 790 133 577 97, 104 790 151 011 20 790 124 012 33, 33 790 131 092 99 790 134 151 97 790 151 012 22 790 124 016 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 131 129 95 790 134 153 97 790 151 045 26 790 124 025 32 790 131 446 98 790 136 001 55 790 151 046 26 790 124 029 34 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 448 98 790 136 003 55 790 151 050 25 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 | 790 123 219 | 33, 33 | | 110 | 790 133 463 | 103 | 790 150 206 | 25 |
| 790 124 012 33, 33 790 131 092 99 790 134 151 97 790 151 012 22 790 124 016 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 131 129 95 790 134 153 97 790 151 045 26 790 124 025 32 790 131 446 98 790 136 001 55 790 151 046 26 790 124 029 34 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 448 98 790 136 003 55 790 151 052 26, 31 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 051 94 | 790 123 220 | 33, 33 | 790 131 090 | 99 | 790 133 494 | 103 | 790 151 002 | 26 |
| 790 124 016 34 790 131 093 99 790 134 152 97 790 151 013 21 790 124 021 34 790 131 129 95 790 134 153 97 790 151 045 26 790 124 025 32 790 131 446 98 790 136 001 55 790 151 046 26 790 124 029 34 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 448 98 790 136 003 55 790 151 052 26, 31 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 030 33 790 132 052 94, 1 | 790 124 011 | 33, 33 | 790 131 091 | 99 | 790 133 577 | 97, 104 | 790 151 011 | 20 |
| 790 124 021 34 790 131 129 95 790 134 153 97 790 151 045 26 790 124 025 32 790 131 446 98 790 136 001 55 790 151 046 26 790 124 029 34 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 448 98 790 136 003 55 790 151 052 26, 31 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 001 100 790 136 007 55 790 151 205 25 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 126 001 49 790 132 052 | 790 124 012 | 33, 33 | 790 131 092 | 99 | 790 134 151 | 97 | 790 151 012 | 22 |
| 790 124 025 32 790 131 446 98 790 136 001 55 790 151 046 26 790 124 029 34 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 448 98 790 136 003 55 790 151 052 26, 31 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 126 001 49 790 132 053 94, 101 790 136 009 55 790 152 012 22 790 126 001 50 790 132 054 | 790 124 016 | 34 | 790 131 093 | 99 | 790 134 152 | 97 | 790 151 013 | 21 |
| 790 124 029 34 790 131 447 98 790 136 002 55 790 151 050 25 790 125 011 33 790 131 448 98 790 136 003 55 790 151 052 26, 31 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 073 21 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 001 50 790 132 054 94, 101 790 136 010 55 790 152 026 20 | 790 124 021 | 34 | 790 131 129 | 95 | 790 134 153 | 97 | 790 151 045 | 26 |
| 790 125 011 33 790 131 448 98 790 136 003 55 790 151 052 26, 31 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 125 030 33 790 132 052 94, 101 790 136 009 55 790 152 012 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 026 20 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 124 025 | 32 | 790 131 446 | 98 | 790 136 001 | 55_ | 790 151 046 | 26 |
| 790 125 016 34 790 131 449 98 790 136 004 55 790 151 071 23 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 125 030 33 790 132 052 94, 101 790 136 009 55 790 152 006 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 124 029 | 34 | 790 131 447 | 98 | 790 136 002 | 55 | 790 151 050 | 25 |
| 790 125 021 34 790 131 450 98 790 136 005 55 790 151 073 21 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 125 030 33 790 132 052 94, 101 790 136 009 55 790 152 006 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 125 011 | 33 | 790 131 448 | 98 | 790 136 003 | 55 | 790 151 052 | 26, 31 |
| 790 125 025 32 790 131 452 98 790 136 006 55 790 151 076 22 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 125 030 33 790 132 052 94, 101 790 136 009 55 790 151 206 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 125 016 | 34_ | 790 131 449 | 98 | 790 136 004 | 55 | 790 151 071 | 23 |
| 790 125 028 33 790 132 001 100 790 136 007 55 790 151 077 23 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 125 030 33 790 132 052 94, 101 790 136 009 55 790 151 206 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 125 021 | 34_ | 790 131 450 | 98 | 790 136 005 | 55 | 790 151 073 | 21 |
| 790 125 029 34 790 132 051 94, 101 790 136 008 55 790 151 205 25 790 125 030 33 790 132 052 94, 101 790 136 009 55 790 151 206 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 125 025 | 32 | 790 131 452 | 98 | | | 790 151 076 | 22 |
| 790 125 030 33 790 132 052 94, 101 790 136 009 55 790 151 206 25 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 125 028 | | 790 132 001 | 100 | | | 790 151 077 | |
| 790 126 001 49 790 132 053 94, 101 790 136 010 55 790 152 012 22 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | 790 125 029 | 34 | 790 132 051 | 94, 101 | | | 790 151 205 | |
| 790 126 011 50 790 132 054 94, 101 790 136 011 55 790 152 026 20 | | | | | | | | |
| | | | | | | | | |
| 790 126 012 50 790 132 055 94, 101 790 136 012 55 790 152 028 21 | | | | | | | | |
| | | | | | | | | |
| 790 126 013 50 790 132 059 102 790 136 013 55 790 152 045 26 | 790 126 013 | 50 | 790 132 059 | 102 | 790 136 013 | 55 | 790 152 045 | 26 |

| Code | Page | Code | Page | Code | Page | Code | Page |
|----------------------------|------------|----------------------------|----------|----------------------------|---------|----------------------------|----------|
| 790 152 046 | 26 | 790 300 019 | 115 | 799 198 133 | 79 | 799 300 357 | 57 |
| 790 152 050 | 25 | 790 300 029 | 115 | 799 198 137 | 79 | 799 300 358 | 57 |
| 790 152 071 | 23 | 790 301 000 | 117 | 799 198 138 | 79 | 799 300 359 | 57 |
| 790 152 073 | 21_ | 790 301 020 | 116 | 799 199 089 | 78 | 799 300 360 | 57 |
| 790 152 076 | 22 | 790 308 259 | 57 | 799 199 127 | 68 | 799 300 361 | 57 |
| 790 152 077 | 23 | 790 308 312 | 57 | 799 199 128 | 68 | 799 300 362 | 57 |
| 790 152 205 | 25 | 790 309 001 | 67 | 799 199 129 | 68 | 799 300 376 | 57 |
| 790 152 206 | 25 | 790 309 002 | 67 | 799 199 130 | 68 | 799 300 377 | 57 |
| 790 153 011 | 27 | 790 309 003 | 67 | 799 199 131 | 68_ | 799 300 378 | 57 |
| 790 153 028 | 30_ | 790 309 004 | 67 | 799 199 132 | 68_ | 799 300 379 | 57 |
| 790 153 117 | 30_ | 790 310 023 | 89 | 799 199 133 | 68 | 799 300 380 | 57 |
| 790 154 011 | 27 | 790 310 034 | 89 | 799 199 134 | 68 | 799 300 381 | 57 |
| 790 155 011 | 27 | 790 310 036 | 89 | 799 199 135 | 68 | 799 300 382 | 57 |
| 790 155 343 | 26, 31 | 790 311 020 | 116 | 799 199 137 | 68 | 799 300 586 | 58 |
| 790 156 001 | 7 | 790 319 007 | 25 | 799 199 138 | 68 | 799 300 752 | 58 |
| 790 156 003 | 8 | 790 340 045 | 31 | 799 199 139 | 68 | 799 300 755 | 58 |
| 790 156 004 | 7 | 790 340 066 | 30 | 799 199 140 | 68 | 799 300 756 | 58 |
| 790 156 006 | 8 | 790 340 261 | 30 | 799 199 141 | 68 | 799 300 757 | 58 |
| 790 156 010 | 8 | 790 345 233 | 30 | 799 199 282 | 81 | 799 300 795 | 56 |
| 790 156 011 | 10 | 790 350 019 | 33 | 799 199 283 | 81 | 799 300 796 | 56 |
| 790 156 012 | 10 | 790 355 019 | 33 | 799 199 286 | 81 | 799 300 799 | 55 |
| 790 156 013 | 11 | 790 360 019 | 33 | 799 199 287 | 81, 81 | 799 300 802 | 56 |
| 790 156 014 | 10 | 790118016 | 42 | 799 199 288 | 81 | 799 300 806 | 56 |
| 790 156 021 | 9 | 799 100 061 | 77 | 799 199 289 | 81 | 799 300 807 | 64 |
| 790 156 022 | 9 | 799 100 062 | 77 | 799 298 023 | 66, 111 | 799 300 809 | 65 |
| 790 156 030 | 13 | 799 150 007 | 77 | 799 298 024 | 66 | 799 300 820 | 65 |
| 790 156 032 790 156 033 | 15 13 | 799 150 008 799 150 009 | 77 77 | 799 300 155 799 300 156 | 89, 122 | 799 300 831 799 300 835 | 65 65 |
| 790 156 160 | 14 | 799 150 312 | 63 | 799 300 157 | 89, 122 | 799 300 920 | 65 |
| 790 156 184 | 15 | 799 150 313 | 63 | 799 300 158 | 89, 122 | 799 300 923 | 65 |
| 790 156 195 | 15 | 799 150 314 | 63 | 799 300 159 | 89, 122 | 799 301 459 | 62 |
| 790 156 224 | 13 | 799 150 315 | 63 | 799 300 160 | 89, 122 | 799 301 461 | 62 |
| 790 156 228 | 15 | 799 150 319 | 63 | 799 300 161 | 89, 122 | 799 301 463 | 62 |
| 790 156 260 | 14 | 799 150 355 | 58 | 799 300 162 | 89, 122 | 799 301 484 | 61 |
| 790 156 261 | 14 | 799 150 378 | 77 | 799 300 163 | 89, 122 | 799 301 486 | 61 |
| 790 160 003 | 5 | 799 150 385 | 61 | 799 300 164 | 89, 122 | 799 301 488 | 61 |
| 790 160 005 | <u>-</u> 5 | 799 150 386 | 61 | 799 300 165 | 89 | 799 301 489 | 62 |
| 790 160 007 | 6 | 799 150 387 | 61 | 799 300 260 | 90 | 799 301 490 | 62 |
| 790 160 010 | 15 | 799 150 388 | 61 | 799 300 266 | 90 | 799 301 491 | 63 |
| 790 160 014 | 6 | 799 150 389 | 61 | 799 300 270 | 90 | 799 301 492 | 63 |
| 790 160 017 | 5 | 799 150 390 | 61 | 799 300 276 | 90 | 799 301 495 | 62 |
| 790 160 040 | 12 | 799 150 391 | 61 | 799 300 280 | 90 | 799 301 496 | 62 |
| 790 160 042 | 12 | 799 150 392 | 61 | 799 300 286 | 90 | 799 301 497 | 63 |
| 790 160 176 | 14 | 799 150 423 | 58 | 799 300 290 | 90 | 799 301 498 | 63 |
| 790 160 201 | 13 | 799 198 012 | 78, 117 | 799 300 295 | 90 | 799 301 499 | 63 |
| 790 160 225 | 14 | 799 198 047 | 77 | 799 300 296 | 90 | 799 301 536 | 61 |
| 790 160 227 | 14 | 799 198 079 | 77 | 799 300 300 | 90 | 799 301 537 | 61 |
| 790 160 251 | 14 | 799 198 080 | 77 | 799 300 306 | 90 | 799 301 538 | 61 |
| 790 160 252 | 14 | 799 198 091 | 77 | 799 300 310 | 90 | 799 301 539 | 61 |
| 790 164 001 | 94 | 799 198 094 | 59 | 799 300 315 | 90 | 799 301 540 | 61 |
| 790 165 001 | 96 | 799 198 101 | 78 | 799 300 316 | 90 | 799 301 541 | 61 |
| 790 165 010 | 96 | 799 198 102 | 78 | 799 300 320 | 90 | 799 301 575 | 61 |
| 790 165 011 | 96 | 799 198 103 | 78 | 799 300 326 | 90 | 799 350 107 | 70 |
| 790 165 012 | 96 | 799 198 104 | 78 | 799 300 330 | 90 | 799 350 108 | 71 |
| 790 165 013 | 96 | 799 198 105 | 79 | 799 300 336 | 90 | 799 350 270 | 71 |
| 790 165 014 | 96 | 799 198 106 | 79 | 799 300 340 | 90 | 799 350 340 | 14 |
| 790 165 015 | 96 | 799 198 107 | 79 | 799 300 346 | 90 | 799 350 341 | 14 |
| 790 165 016 | 96 | 799 198 121 | 78 | 799 300 347 | 57 | 799 350 358 | 62 |
| 790 165 017 | 96 | 799 198 122 | 78 | 799 300 350 | 57 | 799 350 364 | 66 |
| 790 165 018 | 96 | 799 198 123 | 78 | 799 300 351 | 57 | 799 350 401 | 15 |
| 790 165 549 | 97 | 799 198 124 | 78 | 799 300 352 | 57 | 799 350 419 | 14 |
| 790 202 001 | 75 | 799 198 131 | 79 | 799 300 356 | 57 | 799 350 462 | 14 |

| Code | Page |
|-------------|--------|
| 799 350 472 | 15 |
| 799 350 475 | 64 |
| | |
| 799 350 476 | 64 |
| 799 350 477 | 64 |
| 799 350 659 | 70 |
| 799 350 660 | 69 |
| 799 350 661 | 69 |
| 799 350 662 | 69 |
| 799 350 663 | 69 |
| 799 350 664 | 69 |
| 799 350 665 | 69 |
| 799 350 666 | 69 |
| | |
| 799 350 667 | 69 |
| 799 350 668 | 69 |
| 799 350 669 | 69 |
| 799 350 670 | 69 |
| 799 350 671 | 69 |
| 799 350 672 | 69 |
| 799 350 673 | 69 |
| 799 350 674 | 69 |
| 799 350 681 | 69 |
| | |
| 799 350 682 | 69 |
| 799 350 683 | 69 |
| 799 350 684 | 69 |
| 799 350 685 | 69 |
| 799 350 686 | 70 |
| 799 350 688 | 68 |
| 799 350 689 | 68 |
| 799 350 690 | 68 |
| 799 350 691 | 68, 70 |
| | |
| 799 350 692 | 68, 70 |
| 799 350 693 | 68, 70 |
| 799 350 695 | 68 |
| 799 350 696 | 68 |
| 799 350 697 | 68 |
| 799 350 698 | 68 |
| 799 350 700 | 70 |
| 799 350 701 | 70 |
| 799 350 702 | 70 |
| 799 350 703 | 70 |
| 799 350 704 | |
| | 70 |
| 799 350 705 | 70 |
| 799 350 706 | 69, 70 |
| 799 350 707 | 69, 70 |
| 799 350 708 | 69, 70 |
| 799 350 709 | 69, 70 |
| 799 350 710 | 69, 70 |
| 799 350 724 | 70 |
| 799 350 727 | 70 |
| 799 350 728 | 70 |
| 799 350 729 | 70 |
| | |
| 799 350 735 | 70 |
| 799 350 736 | 70 |
| 799 350 737 | 70 |
| 799 496 008 | 90 |
| 799 496 009 | 90 |
| 799 496 011 | 66 |
| 799 738 001 | 58 |
| 799 738 003 | 58 |
| 799 738 004 | 58 |
| 799 738 201 | 59 |
| | |
| 799 900 387 | 63 |

| Code | Page |
|-------------|------|
| 799 900 394 | 63 |
| 799 900 404 | 63 |
| 799 900 405 | 63 |
| 799 900 413 | 63 |
| 799 900 414 | 63 |
| 799 900 421 | 63 |
| 799 900 423 | 63 |
| 799 900 425 | 63 |

General Condition of Supply of Georg Fischer Piping Systems

- These General Conditions shall apply to all Products supplied by Georg Fischer Piping Systems
- Inless General Conditions half 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. 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.

 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.
- 1.3

2 Tenders

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

Scope of Delivery

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

- 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.
- All technical documents shall remain the exclusive property of Georg Fischer and may only be 42 used for the agreed purposes or as Georg Fischer may consent

Confidentiality, Protection of Personal Data

- 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.
- 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

- **Local Laws and Regulations, Export Controls**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.
 In case of re-exports, Purchaser shall be responsible for compliance with pertinent export control
- regulations.

- 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
- 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.

Terms of Payment

- The Purchaser shall make payment in the manner agreed by the parties without any deductions such as discounts, costs, taxes or dues.
- 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

- 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. Should the Purchaser resell Products to which title is reserved, in the ordinary cour 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. 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.

- 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 exten-
- - 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.
 - 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 unpractical 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
 - Georg Fischer shall not be liable for any damage or loss of any kind whatsoever resulting the refrom, 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
- 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
- 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

Packing

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

Passing of Risk

- 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 Geora 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.

Carriage and Insurance

- 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 carrie Not readily ascertainable damages sustained during carriage shall be notified to the carrier within six (6) days after receipt of the Products.

- Inspection, Notification of Defects and Damages
 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.

Warranty

- 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
- In order to protect employees from took or Tadioactive substances which may have been transported through defective parts returned to Georg Fischer's sales organisation, said parts must be accompanied by a Material Safety Disclosure Form. The form may be obtained from Georg Fischer's local sales company or via www.piping.georgfischer.com.
 Replaced parts shall become property of Georg Fischer, unless Georg Fischer waives such claim.

 15.2 For Products which are manufactured to specifications, drawings or patterns supplied by the Purchaser, Georg Fischer's warranty shall be restricted to proper materials and workmanship.
- 15.3 The Purchaser shall be entitled to rescind the contract or to demand a reduction of the contract
- - 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.

 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.

 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.

 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.

The rights and remedies of the customer shall be exclusively governed by these General Conditions of Supply and shall be in lieu of any remedies at law. All further claims for damages, reduction of the purchase price, termination of or rescission of the contract are excluded. In no case whatsoever shall the customer be entitled to claim damages other than compensation for costs of remedying defects in the supplies. This in particular refers, but shall not be limited, to loss of production, loss of use, loss of orders, loss of profit, third party recovery claims and other direct or indirect or consequential damages.

unect of infinited to consequential damlages. This limitation of liability equally applies to the extent Georg Fischer is liable for acts or omissions of its employees or third parties engaged for the performance of its obligations. It does not apply in case unlawful intent or gross negligence on the part of Georg Fischer's management and in case of Georg Fischer's statutory liability, in particular under applicable product liability laws

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.

Place of Performance and Jurisdiction

- 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.

10/2017

Worldwide at home

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

www.qfps.com

Argentina / Southern South America Georg Fischer Central Plastics Sudamérica S.R.L. Buenos Aires / Argentina Phone +54 11 4512 02 90 Fax +54 11 4512 02 93 gfcentral.ps.ar@georgfischer.com www.gfps.com/ar

George Fischer Pty Ltd Riverwood NSW 2210 Phone +61 (0) 2 9502 8000 Fax +61 (0) 2 9502 8090 australia.ps@georgfischer.com www.gfps.com/au

Austria Georg Fischer Rohrleitungssysteme GmbH 3130 Herzogenburg Phone +43 (0) 2782 856 43 0 Fax +43 (0) 2782 856 64 austria.ps@georgfischer.com www.gfps.com/at

Belgium / Luxembourg

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

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

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

China
Georg Fischer Piping Systems Ltd
201319 Shanghai
Phone +86 21 3899 3899
Fax +86 21 3899 3888
china.ps@georgfischer.com www.qfps.com/cn

Denmark / Iceland

Georg Fischer A/S 2630 Taastrup / Denmark Phone +45 (0) 7022 1975 Fax +45 (0) 7022 1976 info.dk.ps@georgfischer.com

www.gfps.com/dk Finland

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

France
Georg Fischer SAS
95932 Roissy Charles de Gaulle Cedex
Phone +33 (0) 1 41 84 68 84
Fax. +33 (0) 1 41 84 68 85
fr.ps(@georgfischer.com
www.gfps.com/fr

Germany
Georg Fischer GmbH
73095 Albershausen
Phone +49 (0) 7161 302 0
Fax +49 (0) 7161 302 25 9
info.de.ps@georgfischer.com
www.gfps.com/de

India
Georg Fischer Piping Systems Pvt. Ltd.
400 076 Powai, Mumbai
Phone +91 22 4007 2000
Fax +91 22 4007 2020 branchoffice@georgfischer.com www.gfps.com/in

Indonesia

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

Redy Georg Fischer S.p.A. 20063 Cernusco S/N [MI] Phone +39 02 921 86 1 Fax +39 02 921 86 24 7 it.ps@georgfischer.com www.qfps.com/it

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

Georg Fischer Piping Systems 463-824 Seoul Phone +82 31 8017 1450 3 Fax +82 31 8017 1454 kor.ps@georgfischer.com www.gfps.com/kr

 Malaysia

 George Fischer (M) Sdn. Bhd.

 41200 Klang, Selangor Darul Ehsan

 Phone
 +60 (0) 3 3122 5585

 Fax
 +60 (0) 3 3122 5575
 my.ps@georgfischer.com www.gfps.com/my

Mexico / Northern Latin America

Georg Fischer S.A. de C.V. CP 66636 Apodaca, Nuevo Leon / Mexico Phone +52 [81] 1340 8586 Fax +52 [81] 1522 8906 mx.ps@georgfischer.com

Middle East
Georg Fischer Piping Systems (Switzerland) Ltd
Dubai / United Arab Emirates
Phone +971 4 289 49 60
Fax +971 4 289 49 57 gss.ps@georgfischer.com www.gfps.com/int

Netherlands Georg Fischer N.V. 8161 PA Epe Phone +31 (0) 578 678 222 Fax +31 (0) 578 621 768 nl.ps@georgfischer.com

New Zealand

New Zealand Georg Fischer Ltd 5140 Upper Hutt Phone +64 (0) 4 527 9813 Fax +64 (0) 4 527 9834 nz.ps@georgfischer.com www.gfps.com/nz

Norway Georg Fischer AS 1351 Rud Phone +47 67 18 29 00 Fax +47 67 13 92 92 no.ps@georgfischer.com www.gfps.com/no

Philippines
George Fischer Representative Office
1604 Pasig City
Phone +632 571 2365
Fax +632 571 2368
sgp.ps@georgfischer.com
www.gfps.com/sg

Poland

Poland
Georg Fischer Sp. z o.o.
05 090 Sekocin Nowy
Phone +48 (0) 22 3131 050
Fax +48 (0) 22 3131 060
poland.ps@georgfischer.com www.gfps.com/pl

Georg Fischer Rohrleitungssysteme (Elvetia) S.A. SUCURSALA BUCURESTI 020257 Bucuresti Phone +40 311 040 492 Fax +40 212 317 479 ro.ps@georgfischer.com www.gfps.com/int

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

Singapore
George Fischer Pte Ltd
528 872 Singapore
Phone +65 6747 0611
Fax +65 6747 05 77
sgp.ps@georgfischer.com www.qfps.com/sq

 Spain / Portugal

 Georg Fischer S.A.

 28046 Madrid / Spain

 Phone
 +34 (0) 91 781 98 90

 Fax
 +34 (0) 91 426 08 23

 es.ps@georgfischer.com
 www.gfps.com/es

 Sweden

 Georg Fischer AB

 11743 Stockholm

 Phone
 +46 [0] 8 506 77 50 0

 Fax
 +46 [0] 8 749 23 70

 info.se.ps@georgfischer.com
 www.gfps.com/se

Switzerland

Switzerrand Georg Fischer Rohrleitungssysteme (Schweiz) AG 8201 Schaffhausen Phone +41 (0)52 631 3026 Fax _ +41 (0)52 631 2800 ch.ps@georgfischer.com www.gfps.com/ch

Taiwan

Georg Fischer Co. Ltd. 24158 New Taipei City Phone +886 2 8512 2822 Fax +886 2 8512 2823 tw@georgfischer.com www.gfps.com/tw

Turkey Georg Fischer Hakan Plastik Boru ve Profil San. Tic. A.S. 59500 Cerkezkoy / Tekirdag Phone +90 282 726 64 43 Fax +90 282 726 94 67 hpsales@hakan.com.tr www.hakan.com.tr

United Kingdom / Ireland

George Fischer Sales Ltd CV2 2ST Coventry / United Kingdom Phone +44 (0) 2476 535 535 Fax +44 (0) 2476 530 450 uk.ps@georgfischer.com www.gfps.com/uk

USA /Caribbean

Georg Fischer LLC 92618 Irvine, CA / USA Phone +1 714 731 88 00 Fax +1 714 731 62 01 Toll Free 800/854 40 90 us.ps@georgfischer.com www.gfps.com/us

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

International

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

The information and technical data (altogether "Data") herein are not binding, unless explicitly confirmed in writing. The Data neither constitutes any expressed, implied or warranted characteristics, nor guaranteed properties or a guaranteed durability. All Data is subject to modification. The General Terms and Conditions of Sale of Georg Fischer Piping Systems apply.



790700101-3