

Product Range
International
2012

Utilities
Machines and tools



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MSA Plus overview



MSA Plus 250

MSA Plus 300

MSA Plus 350

MSA Plus 400

Temperature-dependent energy control	●	●	●	●
Wide input voltage range (180 - 264 V)	●	●	●	●
Suitable for generator operation	●	●	●	●
Automatic fusion data recording via barcode pen/scanner	●	●	●	●
For series and long-run fusion	●	●	●	●
Dust and spray water protected (IP 65)	●	●	●	●
Maximum protection from electrical hazards, protection class 1	●	●	●	●
Light, robust aluminum housing	●	●	●	●
Sturdy transport box	●	●	●	●
Active housing cooling	●	●	●	●
Manual entry of fusion time	●	●	●	●
Indication of fusion time and fusion energy	●	●	●	●
Menu guidance in more than 27 languages	●	●	●	●
Programmable maintenance intervals	●	●	●	●
User guidance	●	●	●	●
Individual configuration	●	●	●	●
Log book software MSA WIN-WELD	●	●	●	●
Internal safety protocol storage	●	●	●	●
Fusion data logging	●	●	●	●
Memory card for 1700 welds	●	●	●	●
Complete traceability of individual piping components according to ISO 12176-4)	●	●	●	●

Technical data

Technical data	MSA Plus 250	MSA Plus 300	MSA Plus 350	MSA Plus 400
Input voltage range	180 - 264 V AC			
Frequency range	45 - 65 Hz			
Current consumption	16 A			
Power rating	3500 W			
Output voltage	8 - 42 V (48 V)			
Output current	0.5 - 90 .			
Safety cutout upstream	16 A surge-proof			
Protection class	IP 65			
Protection rating	1			
Housing	aluminum			
Active housing cooling	yes			
Connecting cable	3 m			
Fusion cable	3 m			
Weight (operational, incl. cable)	11.5 kg			
Dimensions (W/H/T)	284/440/195			
Processable barcodes	Code 1 2/5 Code 128 C			
Working temperature range	-10°C to +45°C			
Automatic temperature compensation	yes			
Fusion current monitoring	yes			
Coil short-circuit recognition	yes			
Display	LED 7- Seg x 4 N	LCD graphic	LCD graphic	LCD graphic
Documentation of fusion data	-	-	yes	yes
Documentation of traceability data	-	-	-	yes
Internal data storage	-	-	yes, 2500	yes, 2500
External data storage, memory card	-	-	-	yes, 1700
USB interface type A	-	yes	yes	yes
USB interface type B	-	yes	yes	yes
Protocolling software MSA WIN-WELD	-	-	yes	yes
Data transmission cable	-	-	optional	optional
Memory card	-	-	-	yes, 32 MB
Welder pass (configurable as mandatory entry)	-	-	yes	yes
Manual fusion data entry	yes			
Language versions	-	27	27	27
Angle plug 4.0 mm	yes			
Barcode scanner	optional			
Transport box (aluminum/wood)	yes			
Recommended generator power	3.5 kVA			
Norms: CE, EN 55014, EN 50081-1, EN 50082-1, EN 61000-3-3, EN 60335-1, EN 60335-2-45	yes			

Machines & Equipment for Electrofusion

Electrofusion Units

MSA Plus 400

Traceability electrofusion unit

With USB interfaces



NEW, environmentally friendly manufactured Electrofusion unit in accordance with EU directive 2002/95/EU (RoHS).

Professional Electrofusion unit for traceability of piping system components from raw material to completed Electrofusion joint (in accordance with ISO 12176). The MSA units with the unique inverter technology and the active cooling system for trouble-free operation from generator or mains supply. Suitable for jointing in series. The unit is equipped with compact flash memory card (exchangeable data carrier) and either a barcode reader pen or barcode scanner. The unit is robust, light and easy to use. The menu has up to 27 different languages. Scope of delivery includes: 1 transport case, 1 USB memory stick, 1 pair of angle adapter clips 4.0 mm, operating instructions, configuration card and Software MSA WIN-WELD.

For printer or PC communication, the USB cable (799350619) is required.

Technical Data

Ambient temperature	-10 °C to +45 °C
Mains voltage	180 V - 264 V AC
Mains frequency	45Hz - 65 Hz
Fusion voltage	8 - 42 (48) V AC
Fusion current	max. 80 A
Power	max. 3500 W
Protection	1 / IP 65
Interfaces	USB (type A) for printer communication and to load software updates USB (type B) for PC communication
Mains cable	3 m
Fusion cable	3 m
Dimensions (WxHxD)	284 x 440 x 195 mm
Weight incl. cables	ca. 11,5 kg, light-weight aluminium housing
Display	LCD graphic, background light, contrast adjustment
Size display (WxH)	132 x 39 mm
Type size	8 mm
Languages	Brasilian, Bulgarian, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Hungarian, Italian, Korean, Latvian, Lithuanian, Macedonian, Malaysian, Norwegian, Polish, Portuguese, Rumanian, Russian, Slovakian, Slovenian, Spanish, Swedish, Turkish
Warranty	24 months

Type	Code	kg	Description
MSA Plus 400	799 350 580	15.784	barcode reader pen, transport case
MSA Plus 400	799 350 581	15.926	barcode scanner, transport case

PF 2 51 306 003

Machines & Equipment for Electrofusion

MSA Plus 350 Record electrofusion unit With USB interfaces



NEW, environmentally friendly manufactured Electrofusion unit in accordance with EU directive 2002/95/EU (RoHS).

Professional Electrofusion unit for recording jointing data of Electrofusion components as a basis for electronic joint recording. The MSA units with the unique inverter technology and the active cooling system for trouble-free operation from generator or mains supply. Suitable for jointing in series. The unit is equipped with either a barcode reader pen or with barcode scanner. The unit is robust, light and easy to use. The menu has up to 27 different languages. Scope of delivery includes: transport box, 1 USB memory stick, 1 pair of angle adapter clips 4.0 mm, operating instructions, configuration card and Software MSA WIN-WELD.

To read out the fusion protocols, either the USB cable (799 350 619) or the USB memory stick (799 350 622) is required.

Technical Data

Ambient temperature	-10 °C to +45 °C
Mains voltage	180 V - 264 V AC
Mains frequency	45Hz - 65 Hz
Fusion voltage	8 - 42 (48) V AC
Fusion current	max. 80 A
Power	max. 3500 W
Protection	1 / IP 65
Interfaces	USB (type A) for printer communication and to load software updates USB (type B) for PC communication
Mains cable	3 m
Fusion cable	3 m
Dimensions (WxHxD)	284 x 440 x 195 mm
Weight incl. cables	ca. 11,5 kg, light-weight aluminium housing
Display	LCD graphic, background light, contrast adjustment
Size display (WxH)	132 x 39 mm
Type size	8 mm
Languages	Brasilian, Bulgarian, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Hungarian, Italian, Korean, Latvian, Lithuanian, Macedonian, Malaysian, Norwegian, Polish, Portuguese, Rumanian, Russian, Slovakian, Slovenian, Spanish, Swedish, Turkish
Warranty	24 months

Type	Code	kg	Description
MSA Plus 350	799 350 570	14.500	barcode reader pen, transport case
MSA Plus 350	799 350 571	15.852	barcode scanner, transport case

PF 2 51 306 003

Machines & Equipment for Electrofusion

MSA Plus 300

Automatic electrofusion unit With USB interfaces



NEW, environmentally friendly manufactured Electrofusion unit in accordance with EU directive 2002/95/EU (RoHS).

Automatic Electrofusion unit with barcode reader pen, optional with barcode scanner. The MSA units with the unique inverter technology and the active cooling system for trouble-free operation from generator or mains supply. Suitable for jointing in series. The unit is robust, light and easy to use. The menu has up to 27 different languages. Scope of delivery includes: transport box, 1 pair of angle adapter clips 4.0 mm, operating instructions and configuration card.

To load software updates the USB memory stick (799 350 622) is required.

Technical Data

Ambient temperature	-10 °C to +45 °C
Mains voltage	180 V - 264 V AC
Mains frequency	45Hz - 65 Hz
Fusion voltage	8 - 42 (48) V AC
Fusion current	max. 80 A
Power	max. 3500 W
Protection	1 / IP 65
Interfaces	USB (type A) to load software updates USB (type B) for PC communication
Mains cable	3 m
Fusion cable	3 m
Dimensions (WxHxD)	284 x 440 x 195 mm
Weight incl. cables	ca. 11,5 kg, light-weight aluminium housing
Display	LCD graphic, background light, contrast adjustment
Size display (WxH)	132 x 39 mm
Type size	8 mm
Languages	Brasilian, Bulgarian, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Hungarian, Italian, Korean, Latvian, Lithuanian, Macedonian, Malaysian, Norwegian, Polish, Portuguese, Rumanian, Russian, Slovakian, Slovenian, Spanish, Swedish, Turkish
Warranty	24 months

Type	Code	kg	Description	
MSA Plus 300	799 350 560	15.797	barcode reader pen, transport case	
MSA Plus 300	799 350 561	15.737	barcode scanner, transport case	

PF 2 51 306 003

Machines & Equipment for Electrofusion

MSA Plus 250

Automatic electrofusion unit



NEW, environmentally friendly manufactured Electrofusion unit in accordance with EU directive 2002/95/EU (RoHS).

Automatic Electrofusion unit with barcode reader pen, optional with barcode scanner. The MSA units with the unique inverter technology and the active cooling system for trouble-free operation from generator or mains supply. Suitable for jointing in series. The unit is robust, light and easy to use. Single push-button operation, display shows fusion time and energy consumed. Scope of delivery includes: transport box, 1 pair of angle adapter clips 4.0 mm and operating instructions.

Technical Data

Ambient temperature	-10 °C to +45 °C
Mains voltage	180 V - 264 V AC
Mains frequency	45Hz - 65 Hz
Fusion voltage	8 - 42 (48) V AC
Fusion current	max. 80 A
Power	max. 3500 W
Protection	1 / IP 65
Mains cable	3 m
Fusion cable	3 m
Dimensions (WxHxD)	284 x 440 x 195 mm
Weight incl. cables	ca. 11,5 kg, light-weight aluminium housing
Display	LED 1 x 4 N, 7 Segments
Size display (WxH)	50 x 18 mm
Type size	14 mm
Warranty	24 months

Type	Code	kg	Description
MSA Plus 250	799 350 550	15.222	barcode reader pen, transport case
MSA Plus 250	799 350 551	15.285	barcode scanner, transport case

PF 2 51 306 002

Electro fusion units

MSA 210 monovalent (39,5 V fusion voltage)

MSA 230 monovalent (39 – 40 V fusion voltage)

MSA 330 polyvalent (8 – 48 V fusion voltage)

MSA 340 polyvalent (8 – 48 V fusion voltage)

Reliable and easy to operate electro fusion units for various applications like water and gas distribution, irrigation or industrial applications.

The range of machines includes monovalent (constant fusion tension) and polyvalent welding units. Manual fusion data input or comfortable and safe bar code reading is provided by the units. The functionality to trace the welding and component data - including automatic recording of geo data - is supported within the product line.



Machines & Equipment for Electrofusion

MSA 210 Manual Electrofusion Unit



Monovalent electrofusion unit (fusion voltage 39,5 Volt) with easy manual entry of fusion time by the operator according to the fitting requirements. The unit can be used to weld +GF+ electrofusion fittings up to a nominal diameter of 500 mm SDR 17. Suitable for jointing in series, temperature excess protected. The unit stores the last fusion time and generates a consecutive fusion counter. A buzzer indicates the start and the end of the fusion cycle.

Technical Data

Ambient temperature	-10°C to +40°C
Mains voltage	180 V - 250 V AC
Mains frequency	45 Hz - 65 Hz
Fusion voltage	39,5 V
Internal Fuse	20 A
Power consumption	max. 2750 W
Protection	IP 65
Mains cable	4 m
Fusion cable	3 m
Connector	4,0 mm / 90
Dimensions (WxHxD)	270 x 480 x 150 mm
Weight incl. cables	ca. 21 kg
Display	LED 1 x 4 N, 7 segments
Size display	50 x 18 mm
Type size	14 mm
Warranty	12 months

Description	Code	kg	
Standard edition	790 128 001	22.879	

PF 3 10 588 100

Machines & Equipment for Electrofusion

MSA 230 Standard

Electrofusion unit with jointing data recording



Monovalent electrofusion unit (fusion voltage 39,0 – 40,0 Volt) equipped with barcode reader pen or 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. Scope of delivery includes: 1 pair of straight adapter clips 4.0 ->4.7 mm and operating instructions. To read out the fusion protocols, the data transfer cable (790 128 112) is required. No need for dedicated software, therefore no XP/VISTA compatibility issues.

Technical Data

Fusion data entry	barcode or manual
Ambient temperature	-10°C to +45°C
Mains voltage	230 V (190 - 265 V)
Mains frequency	50 Hz (40 ÷70 Hz)
Fusion voltage	39 ÷ 40 V AC
Internal Fuse	75 A (max. 90 A)
Power consumption	2.75 kW (max. 3.5 kW)
Protection	IP 54, Class 1
Interfaces	RS 232
Memory capacity	350 records
Mains cable	4 m
Fusion cable	3 m
Dimensions (WxHxD)	270 x 480 x 150 mm
Weight incl. cables	ca. 21 kg
Display	LCD graphic, background light
Size display (WxH)	60 x 17 mm
Character size	2.95 x 5.5 mm
Languages	EN, FR, DE, IT, PL, SP
Warranty	12 months

Scope of Delivery

MSA 230 Standard Pen	Barcode reader pen with pouch, straight adapter clips 4.0 ->4.7 mm
MSA 230 Standard Scanner	Barcode scanner with pouch, straight adapter clips 4.0 ->4.7 mm

Type	Code	kg	
MSA 230 Standard Pen	790 128 007	22.000	
MSA 230 Standard Scanner	790 128 009	22.616	
MSA 230 Standard Pen Polybrand	790 128 027	22.000	
MSA 230 Standard Scanner Polybrand	790 128 029	22.000	

PF 3 10 588 100

Machines & Equipment for Electrofusion

MSA 230 All-In

Electrofusion unit with jointing data recording



Monovalent electrofusion unit (fusion voltage 39,0 – 40,0 Volt) equipped with barcode reader pen or 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. No need for dedicated software, therefore no XP/VISTA compatibility issues. Inclusive 1 pair of straight adapter clips 4.0 ->4.7 mm, operating instructions.

Technical Data

Fusion data entry	barcode or manual
Ambient temperature	-10°C to +45°C
Mains voltage	230 V (190 - 265 V)
Mains frequency	50 Hz (40 ÷70 Hz)
Fusion voltage	39 ÷ 40 V AC
Internal Fuse	75 A (max. 90 A)
Power consumption	2.75 kW (max. 3.5 kW)
Power plug	Schuko
Protection	IP 54, Class 1
Interfaces	RS 232
Memory capacity	350 records
Mains cable	4 m
Fusion cable	3 m
Dimensions (WxHxD)	270 x 480 x 150 mm
Weight incl. cables	ca. 21 kg
Display	LCD graphic, background light
Size display (WxH)	60 x 17 mm
Character size	2.95 x 5.5 mm
Languages	EN, FR, DE, IT, PL, SP
Warranty	12 months

Scope of Delivery

MSA 230 All-In Pen	Barcode reader pen with pouch, data transfer cable, cables drum, straight adapter clips 4.0 -> 4.7 mm
MSA 230 All-In Scanner	Barcode scanner with pouch, data transfer cable, cables drum, straight adapter clips 4.0 ->4.7 mm

Type	Code	kg
MSA 230 All-In Pen	790 128 008	23.000
MSA 230 All-In Scanner	790 128 010	23.000
MSA 230 All-In Pen Polybrand	790 128 028	23.000
MSA 230 All-In Scanner Polybrand	790 128 030	23.000

PF 3 10 588 100

Machines & Equipment for Electrofusion

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 500 jointing records, for data transfer the unit is equipped with a USB interface. The record is delivered as PDF or CSV format, both are 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 reader pen or 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: dedicated transport case, pouch for optical pen or scanner, 2 pairs of angle adapter clips 4,0 mm and 4,7 mm, operation instructions and configuration chart.

Technical Data

Ambient temperature	-10°C to +45°C
Mains voltage	180 V - 265 V AC
Mains frequency	40 Hz - 70 Hz
Fusion voltage	8 - 48 V AC
Fusion current	max. 90 A
Power consumption	max. 2,75 kW
Protection	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 320 mm
Weight incl. cables	ca. 21,7 kg
Display	LCD (20 alphanumerical char. x 4 lines), contrast adjustment, blue background, white characters
Languages	10

description	Code	kg	
Barcode reader pen, transport case	790 160 004	30.000	
Barcode scanner, transport case	790 160 005	30.000	

PF 3 10 588 100

Machines & Equipment for Electrofusion

MSA 340 Traceability Electrofusion unit with GPS function



High performance electrofusion unit providing an entire documentation of fusion and traceability data (ISO 12176) including GPS coordinates added automatically to 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 is delivered as PDF or CSV format, both are 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. Rental time period programmable by the machine owner, unit blocks on expiring date, reset by password.

Scope of delivery: dedicated transport case, pouch for scanner, 2 pairs of angle adapter clips 4,0 mm and 4,7 mm, operation instructions and configuration chart.

Technical Data

Ambient temperature	-10°C to +45°C
Mains voltage	180 V - 265 V AC
Mains frequency	40 Hz - 70 Hz
Fusion voltage	8 - 48 V AC
Fusion current	max. 90 A
Power consumption	max. 2,75 kW
Protection	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 320 mm
Weight incl. cables	ca. 21,7 kg
Display	LCD (20 alphanumerical char. x 4 lines), contrast adjustment, blue background, white characters
Languages	10

description	Code	kg
Barcode scanner, transport case	790 160 007	30.000

PF 3 10 588 100

Machines & Equipment for Electrofusion

Tools and Accessories for MSA Plus Machines



Software MSA WIN WELD

General functions:

- Reading and management of fusion data
- Sort- and filter functions
- Issuing of single records, collected records
- Reading and formatting of memory cards
- Reading and management of traceability data according to ISO 12176-4
- Export functions for conversion to conventional data base files, Excel or Access
- Installed languages: German, English, French, Italian, Dutch, Croatian, Spanish
- Creating individual barcodes
- Individual configuration of fusion devices
- Professional software for analysis and data management of Electrofusion data, traceability data and for configuration barcodes (Z functions).
- Compatibility with MSA 350/MSA Plus 350 (fusion data) and MSA 400/MSA Plus 400 (fusion and traceability data).
- The software is suitable for use with Windows ME/NT4/2000/XP/Vista.
- Scope of delivery: CD-ROM, installation guide (manuals and additional information on CD-ROM)

Code	kg	Description
799 350 365	0.180	Software for MSA 350-400 and MSA Plus 350-400

PF 2 51 306 001



Software PIPE WIN WELD / SUVI WIN WELD

- Professional software for analysis and documentation of installed piping systems or of a defined part of it: i. e. Pipe book. With PIPE WIN WELD it is possible to create a complete electronic documentation of the installed pipes and pipe connection elements. The software works with the data bases of MSA WIN WELD and SUVI WIN WELD. The software makes it possible to work with data from other manufacturers (CSV module for data transfer).
- The software is suitable for use with Windows ME/NT4/2000/XP/Vista.
- Scope of delivery: CD-ROM, USB hardlock (PIPE WIN-WELD, PIPE WIN-WELD CSV), installation guide (manuals and additional information on CD-ROM)

Type	Code	kg	Description
PIPE CSV	790 119 301	0.180	Complete package incl. CSV module for data transfer, USB hardlock
PIPE	790 119 302	0.180	Complete package, USB hardlock
SUVI	790 119 303	0.180	Complete package

PF 3 25 117 312



Transport case MSA fusion unit

Note:

Large Transport Case for MSA 250, 300, 350, 400, MSA Plus 250-400 Units and accessories (barcode scanner, manuals)

Code	kg	Description
799 350 401	5.540	Transport Case MSA (30x33x20 cm)
799 350 472	5.540	Transport Case large MSA Plus (33x47x22 cm)

PF 2 51 306 004

Machines & Equipment for Electrofusion

Barcode Reader Pen for MSA and MSA Plus



PF 2 51 306 001

- Compatible with MSA 250, 300, 350 and 400 and MSA Plus 250-400 Electrofusion control units. (As additional/replacement component. A bar code reader pen or scanner is provided with all MSA 250-400 and MSA Plus 250-400 units).

Code	kg	Description
799 350 335	0.165	Barcode reader pen
799 160 411	0.072	Pouch for pen suitable for MSA 250-400 and MSA Plus 250-400

Barcode Scanner for MSA and MSA Plus



PF 2 51 306 001

- Robust, handy barcode scanner with a high reading performance made for the construction site. Quick, safe and professional!
Compatible with MSA 500, MSA 3000, MSA 250, 300, 350 and 400 and MSA Plus 250-400 Electrofusion control units.

Code	kg	Description
799 350 419	0.350	Barcode scanner with pouch and instructions

USB memory stick



PF 2 51 306 005

- Memory stick to update MSA Plus 300-400 fusion units with new software and languages
- Download protocols
- Compatible with MSA Plus 300-400

Code	kg	Description
799 350 622	0.035	Memory stick (for software or languages updates)

USB cable



PF 2 51 306 005

- PC and printer transmission cable to transfer fusion data directly to PC or to printer
- Compatibility with MSA Plus 350-400

Code	kg	Description
799 350 619	0.062	USB cable (type A/B) for printer and PC connection

Compact flash card



PF 2 51 306 005

- Memory card type I to record fusion and traceability data
- Reliable and resistant data carrier for industrial use
- Compatible with MSA Plus 400
- In connection with the PCMCIA-CF Adapter (799 350 623) this compact flash card is **unsuitable for MSA 400 units!**

Code	kg	Description
799 350 621	0.010	Memory card (32 MB capacity for 1700 fusion protocols)

Machines & Equipment for Electrofusion

Card reader



PF 2 51 306 005

- To read in fusion and traceability data from the compact flash card (799 350 621) in the PC via USB (type A) interface
- Flexible card reader with slots for different cards
- Compatible with MSA Plus 400

Code	kg	Description	
799 350 620	0.086	multiple card reader	

Adapter card PCMCIA-CF



PF 2 51 306 005

- To read in fusion and traceability data from the compact flash card (799 350 621) into a PC via PCMCIA slot
- Can only be used for compact flash cards type I
- Compatible with MSA Plus 400

Code	kg	Description	
799 350 623	0.073	Adapter Card PCMCIA-CF	

Adapters



PF 2 51 306 001

- Adapters for Electrofusion units with 4 mm connectors.
- Compatible with electrofusion units MSA 210-230, MSA 330-340, MSA 250 – 400, MSA 250 – 400 PLUS.

Type	Code	kg	Description	
4,0 mm	799 350 340	0.001	Angle adapter, black	
4,7 mm	799 350 341	0.057	Angle adapter, grey	
4,0 mm	799 350 461	0.014	Adapter, black	
4,7 mm	799 350 462	0.014	Adapter, white	

Machines & Equipment for Electrofusion

MSA 210 - 230 - 330 - 340 Accessories

Geothermal cables kit



- Ability to joint in parallel 2 couplers of a Y fitting
- Recommended in combination with ELGEF fittings
- Compatible with MSA 210-230, MSA 330-340, MSA 250 – 400, MSA 250 – 400 PLUS
- Connector: 4 mm (90°)
- Cable length: 290 mm
- Welding voltage: 0 – 48 Volt
- Welding current: 40 A (max.)
- Content of delivery: 2 cables, pouch, protection caps, operation manual

Code	kg
790 160 176	0.385

PF 3 10 588 900

Cables Drum



- Fast and safe cable winding
- Easy to fix to MSA 210 and MSA 230 units
- MSA 230 All-In already assembled with the cables drum

Type	Code	kg
MSA 210 / MSA 230	790 128 117	0.700

PF 3 10 588 500

Data Transfer Cable



- RS 232 data transfer from MSA 230 to PC

Type	Code	kg
MSA 230	790 128 112	0.125

PF 3 10 588 500

Barcode Reader Pen



- Automated data entry to MSA 230 / MSA 330 Electrofusion units

Type	Code	kg
MSA 230 / MSA 330	790 128 111	0.125

PF 3 10 588 500

Pouch For Barcode Reader Pen



- Suitable for barcode reader pens MSA 230 – 330 and others like 799350335 used with MSA PLUS and SUVI units
- 2 separate pockets for storage of reader and adapter clips

Type	Code	kg
MSA 230 / MSA 330	790 128 110	0.075

PF 3 10 588 500

Barcode Scanner



- Automated data entry to MSA 230 / MSA 330 Electrofusion units

Type	Code	kg
MSA 230 / MSA 330 / MSA 340	790 128 119	0.250

PF 3 10 588 500

Machines & Equipment for Electrofusion

Pouch For Barcode Scanner



PF 3 10 588 500

- Suitable for barcode scanner MSA 230 (790128119) and MSA 330/340 (790160003)
- 2 separate pockets for storage of reader and adapter clips

Type	Code	kg	
MSA 230 / MSA 330 / MSA 340	790 128 120	0.125	



PF 3 10 588 100

Transport Box

- Large, robust transport box

Type	Dimension	Code	kg	
MSA 230	273x263x464	790 128 121	6.300	
MSA 330 / MSA 340	273x263x464	790 160 010	8.000	



PF 2 51 306 001

Adapters

- Adapters for Electrofusion units with 4 mm connectors.
- Compatible with electrofusion units MSA 210-230, MSA 330-340, MSA 250 – 400, MSA 250 – 400 PLUS.

Type	Code	kg	Description	
4,0 mm	799 350 340	0.001	Angle adapter, black	
4,7 mm	799 350 341	0.057	Angle adapter, grey	
4,0 mm	799 350 461	0.014	Adapter, black	
4,7 mm	799 350 462	0.014	Adapter, white	

Machines & Equipment for Electrofusion

Tools for preparing pipe surfaces

Rotary Peeler RS



This innovative Rotary Peeler RS is designed for universal peeling at the pipe end for electrofusion couplings, tees and elbows and as well as for electrofusion saddles. Suitable for peeling PE80, PE100, PEX and PP pipes.

Features and your advantage:

Spring loaded peeling blade:Peeling quality independent of pipe ovality or tolerances

Pivoted mounted peeling blade:To compensate the shape of coiled pipe

Optimized cutting geometry:Defined chip thickness with cutting width overlap

One tool per dimension:Minimized swivel radius for peeling in narrow locations

Peeling length:No limitation of peeling length

Guidance rolls:3-point-support for dimensional optimized cutting feed

Time saving:Tool is always ready for use, it can be used for the next peeling without having to set the peeling blade back in its origin position

Your advantage:Time saving and highest repeatable peeling quality at smallest rotation radius. No operator errors possible when changing dimension

Included:1 x Rotary Peeler RS, Transport case, Operating manual, Spare parts list

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

PF 3 25 879 100



Replacement blade to Rotary Peeler RS

d-d [mm]	Description	Code	kg
40 - 315	HSS	790 136 112	0.009

PF 3 25 118 906



Transport cases for Rotary Peeler RS

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

Article	Code	kg	Description	Dimension [mm]
RSTC 40-110	790 136 211	0.718	for RS 40-RS 110	326 x 222 x 116
RSTC 125-160	790 136 212	1.212	for RS 125-RS 160	437 x 395 x 116
RSTC 180-225	790 136 213	1.796	for RS 180-RS 225	450 x 360 x 132
RSTC 250-315	790 136 214	2.901	for RS 250-RS 315	566 x 435 x 156

PF 3 25 879 100

Machines & Equipment for Electrofusion

9 300 725



Peeling tool PT 1 E

- The rotating Peeling Tool PT 1 E is suitable for preparing pipe ends with diameters d 20 - 90 mm (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.
- Scope of delivery: 1 basic tool in a plastic carrying case, without pipe inserts. The case has sufficient space for approximately 6 pipe inserts.

d-d [mm]	Code	kg	Description
20 - 90	799 150 382	2.261	Basic Tool PT 1 E

PF 2 51 305 004

9 300 725



Pipe inserts for peeling tool PT 1 E

d [mm]	e [mm]	Code	kg	Description
20	1.9	799 300 739	0.220	Pipe Insert SDR 11
20	3.0	799 300 741	0.220	Pipe Insert SDR 7
25	2.3	799 300 740	0.230	Pipe Insert SDR 11
25	3.0	799 300 742	0.230	Pipe Insert SDR 9
32	3.0	799 300 743	0.230	Pipe Insert SDR 11
40	3.7	799 300 744	0.230	Pipe Insert SDR 11
40	1.8	799 300 760	0.220	Pipe Insert SDR 26
50	4.6	799 300 745	0.350	Pipe Insert SDR 11
50	2.0	799 300 761	0.220	Pipe Insert SDR 26
56	2.2	799 300 762	0.588	Pipe Insert SDR 26
63	3.8	799 300 725	0.475	Pipe Insert SDR 17
63	5.8	799 300 746	0.475	Pipe Insert SDR 11
63	2.5	799 300 763	0.220	Pipe Insert SDR 26
75	4.5	799 300 727	0.601	Pipe Insert SDR 17
75	6.9	799 300 747	0.601	Pipe Insert SDR 11
75	2.9	799 300 764	0.220	Pipe Insert SDR 26
90	5.4	799 300 748	0.834	Pipe Insert SDR 17
90	8.2	799 300 749	0.220	Pipe Insert SDR 11

PF 2 51 305 004

Replacement blade for peeling tool PT 1 E



PT 1 E

d-d [mm]	Piece	Code	kg	Description
20 - 90	1	799 150 383	0.028	Replacement blade, 1 piece

PF 2 51 305 004

9 300 750



Peeling Tool PT 2

- 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.
- Scope of delivery: 1 tool (size 1, 2 or 3) in a metal carrying case.

d-d [mm]	Code	kg	Description
90 - 250	799 300 753	6.973	Size 1, peeling length 140 mm
110 - 400	799 300 755	9.880	Size 2, peeling length 150 mm
110 - 500	799 300 756	3.716	Size 3, peeling length 175 mm

PF 2 51 305 004

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Spare Parts for PT 2 Peeling Tool

- Firm metal blade usable on four sides

d-d [mm]	Piece	Code	kg	Description
90 - 500	1	799 150 355	0.008	Replacement blade, 1 piece
90 - 500	1	799 150 321	0.100	Tool holder

PF 2 51 305 004

Repair kit spindles for peeling tool PT 2

- Consisting of 1 main spindle, 1 fixing bolt, 1 end plate, 2 rollers and 1 spacing disk

d-d [mm]	Code	kg
90 - 250	799 150 360	1.000
110 - 400	799 150 361	0.420
110 - 500	799 150 362	1.000

PF 2 51 305 004

Screws and springs repair kit for peeling tool PT 2

- Consisting of 1 assembly screw long, 1 clamping screw, 1 handle, 1 screw for flat spring, 1 screw for cutting plate, 1 nut for feed, 1 flat spring, 1 spring for rapid adjustment and 1 clamping spring

d-d [mm]	Code	kg
90 - 500	799 150 369	0.079

PF 2 51 305 004

Repair kit feed for peeling tool PT 2

- Consisting of 1 carriage bolt, 1 guide unit and 1 guide end plate

d-d [mm]	Code	kg
90 - 250	799 150 363	0.500
110 - 400	799 150 364	0.346
110 - 500	799 150 365	0.500

PF 2 51 305 004

Tool holder repair kit for peeling tool PT 2

- 1 feed nut,
- 1 nut for feed,
- 1 spring for rapid adjustment,
- 1 washer
- 1 fixing screw

d-d [mm]	Code	kg
90 - 500	799 150 370	0.069

PF 2 51 305 004

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9 300 700



Peeling tool PT 4

- The easy-to-use peeling tools PT 4 are suitable for preparing pipe ends (when installing Electrofusion couplers and fittings). The tools ensure a constant peeling quality on the whole peeled area and are suitable for PE80 and PE100 pipes. There is no tool service arrangement for the PT 4.
- Scope of delivery: 1 tool with exchangeable blade (4 cutting surfaces).

e [mm]	d [mm]	Code	kg	Description
1.9	20	799 300 704	0.271	Pipe Insert SDR 11
3.0	20	799 300 705	0.255	Pipe Insert SDR 7
2.3	25	799 300 706	0.308	Pipe Insert SDR 11
3.0	25	799 300 707	0.290	Pipe Insert SDR 9
3.0	32	799 300 708	0.340	Pipe Insert SDR 11
3.7	40	799 300 709	0.380	Pipe Insert SDR 11
4.6	50	799 300 710	0.436	Pipe Insert SDR 11
5.8	63	799 300 711	0.540	Pipe Insert SDR 11

PF 2 51 305 004

9 300 700



PT 4

PF 2 51 305 999

Replacement blade for peeling tool PT 4

d-d [mm]	Piece	Code	kg	Description
20 - 63	1	799 150 275	0.006	Replacement blade with 4 cutting surfaces



Peeling Tool RTC-710

The peeling tool RTC-710 is suitable for preparing pipe ends in big dimensions (d 355-710 mm). The tool ensures a constant peeling quality on the complete peeling surface of max. 530 mm length and is suitable for PE 80 and PE 100 pipes.

Scope of delivery: 1 Scraper arm, 1 Self-centering chuck base, 2 Aluminium transport cases, 1 screwdriver, 1 spare blade, 1 deburring knife, 1 accessories bag.

d-d [mm]	Code	kg	Description
355 - 710	799 300 757	15.118	max. working-range 530 mm

PF 2 51 305 001

Machines & Equipment for Electrofusion

Rotary peeling tool RST 800



PF 2 51 305 001

- The flexible peeling tool RST 800 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 d800 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	kg	Description
250 - 800	799 300 800	10.552	Rotary Peeling Tool RST 800



PF 2 51 305 001

Replacement blade for rotary peeling tool RST 800

d-d [mm]	Code	kg	Description
250 - 800	799 300 802	0.020	Replacement blade in carbide

9 198 033



PF 2 51 305 002

Hand Scraper

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

Code	kg	Description
799 198 094	0.143	Hand scraper with long handle

Machines & Equipment for Electrofusion

Clamps and installation aids

Multiple use assembly tool branch fitting d140mm



PF 2 51 336 001

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

d [mm]	Code	kg	
140	193 281 027	0.724	

9 350 358

Swivel clamp



PF 2 51 305 008

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

d-d [mm]	Code	kg	
63 - 180	799 350 358	18.000	

9 301 475

Double clamp



PF 2 51 305 008

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

d-d [mm]	Code	kg	
63 - 125	799 301 484	2.795	
110 - 225	799 301 486	10.000	
225 - 500	799 301 488	15.000	

Machines & Equipment for Electrofusion

9 301 450



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	kg	
63 - 125	799 301 459	6.900	
110 - 225	799 301 461	19.000	
225 - 500	799 301 463	28.500	

PF 2 51 305 008

9 301 525



Twin clamp

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

d [mm]	Code	kg	
20	799 301 536	0.498	
25	799 301 537	0.471	
32	799 301 538	0.756	
40	799 301 539	0.876	
50	799 301 540	1.167	
63	799 301 541	1.438	

PF 2 51 305 003

9 301 575



Multi clamp

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

d-d [mm]	Code	kg	
20 - 63	799 301 575	1.409	

PF 2 51 305 008

9 301 575

Inserts for multi clamp

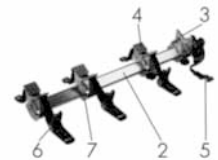


d-d [mm]	Code	kg	Description	
25 - 20	799 150 385	0.488	Inserts, Sets	
32 - 20	799 150 386	0.500	Inserts, Sets	
32 - 25	799 150 387	0.520	Inserts, Sets	
40 - 32	799 150 388	0.504	Inserts, Sets	
50 - 40	799 150 389	0.166	Inserts, Sets	
63 - 32	799 150 390	0.172	Inserts, Sets	
63 - 40	799 150 391	0.520	Inserts, Sets	
63 - 50	799 150 392	0.520	Inserts, Sets	

PF 2 51 305 008

Machines & Equipment for Electrofusion

Spare parts for clamps



PF 2 51 305 008

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

Clamping device topload 400



PF 2 51 305 008

- 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 [mm]	Code	kg
280 - 400	799 350 475	10.010

Clamping device topload 630



PF 2 51 305 008

- 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	kg
280 - 630	799 350 477	35.000

Clamping attachment topload 630



PF 2 51 305 008

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

d-d [mm]	Code	kg
280 - 630	799 350 476	5.000

Machines & Equipment for Electrofusion

9 150 090



Spring clamp for ELGEF® 24V reinforcing saddles

- The Spring Clamp is used to install ELGEF® 24 V reinforcing saddles d 40 - 225 mm. The tool ensures a constant jointing pressure during the entire fusion cycle.

d-d [mm]	Code	kg	
40 - 225	799 150 090	1.180	

PF 2 51 305 002

Machines & Equipment for Electrofusion

Tapping tools

Assembly and tapping key For ELGEF Plus saddles



PF 2 51 305 009

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

Tapping key for ELGEF Plus saddles

- With adjustable tapping depth.



PF 2 51 305 999

Type	Code	kg	Description
10	799 198 080	0.114	for Monobloc d 40 mm and d 50 mm
17	799 198 079	0.556	for Monobloc d 63 mm, d 90 - 160 mm and all Duobloc saddles
12.7	799 198 091	0.543	for socket with cutter

Hexagon key for ELGEF Plus saddles And branch fittings



PF 2 51 305 009

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

Tapping Adapter For ELGEF Plus 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).



PF 2 51 305 002

Type	Code	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

Pressure test cap for ELGEF Plus 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 Monoblock d 40 and 50 mm (outlets d 20 - 32 mm)
- S 54 For Monoblock d 63 (outlets d 20 - 32 mm) and all saddles with rotatable outlet (outlets d 20 - 40 mm) i.e. Tapping Tee d 32 mm.
- S 67 For all Saddles with rotatable outlet (outlets d 50 and 63 mm) i.e. Tapping Tee d 63 mm.

Type	Code	kg	Description
M	799 199 282	0.116	for Monoblock d 40 mm and d 50 mm
S 54	799 199 283	7.142	for Monoblock d 63 mm and Tapping Tee d 32 mm
S 67	799 199 286	0.430	for Tapping Tee d 63 mm

PF 2 51 305 002

Machines & Equipment for Electrofusion

Cutter for PE pipes



PF 2 51 305 002

- 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	kg	Description
39	799 198 012	0.215	accessories Basic Tool Box

PE repair plug



PF 2 51 305 002

- PE Repair Plugs are suitable for use with ELGEF® 24 V PE Reinforcement Saddles 53 127 000.

d [mm]	Code	kg
30	799 199 088	0.012
39	799 199 089	0.019

Hexagon key for PVC saddles



PF 2 51 305 002

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

d-d [mm]	Code	kg	s [mm]	G [inch]
16 - 25	799 150 007	0.342	19	30
32 - 40	799 150 008	0.496	27	38
50 - 63	799 150 009	0.690	27	47

Machines & Equipment for Electrofusion

Squeeze-off and rerounding tools

9 350 107



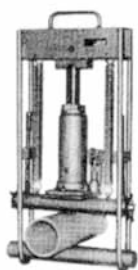
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Squeeze-off tool type S1

- 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	kg	Description
20 - 63	799 350 107	4.449	S1 for PE pipes SDR 11

9 350 108



PF 2 51 305 005

Squeeze-off tool type S2

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

d-d [mm]	Code	kg	Description
63 - 180	799 350 108	35.800	S2 for PE pipes SDR 11 and SDR 17

9 350 270



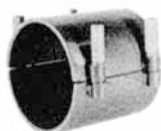
PF 2 51 305 005

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	kg	Description
160 - 250	799 350 270	60.000	A25 for PE pipes SDR 11 and SDR 17

9 350 110



PF 2 51 305 005

Re-rounding clamp

- Re-rounding Clamps are used to re-round pipes after squeezing. They can be left on the squeezed-off part of the pipe as a support if so desired.

d [mm]	Code	kg
63	799 350 113	3.000
75	799 350 114	3.600
90	799 350 115	3.500
110	799 350 116	5.750
125	799 350 117	5.690
160	799 350 118	7.500
180	799 350 119	27.000
200	799 350 120	27.500
225	799 350 121	11.595
250	799 350 172	34.000

Machines & Equipment for Electrofusion

Re-rounding tool



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

d [mm]	Code	kg
25	799 199 127	0.577
32	799 199 128	0.500
40	799 199 129	1.500
50	799 199 130	1.616
63	799 199 131	0.742
75	799 199 132	0.791
90	799 199 133	1.690
110	799 199 134	1.537
125	799 199 135	1.917
160	799 199 137	2.318
180	799 199 138	2.493
200	799 199 139	2.500
225	799 199 140	3.000
250	799 199 141	3.630

PF 2 51 305 005

Pressure pad kit



- Complete kit of assembly equipment
- Consists of 3 air pressure pads, control unit with manifold, pressure hoses, strap corset, detailed instruction leaflets and transport case
- For operation with pressurized air up to 10 bar according to EN 292
- Tool for dual use: Pipe re-rounding and fusion pressure reinforcement

d-d [mm]	Code	kg
560 - 630	799 301 561	32.000

PF 2 51 305 005

Machines & Equipment for Electrofusion

KS Tangit Cleaner

- Special cleaning agent for plastic fusion connections with PP, PE, PVDF and PB.



PF 2 28 473 002

Code	kg	
799 298 023	0.872	

5311

Tangit KS-Cleaning Tissues



PF 2 28 473 002

Code	kg	
799 298 024	0.360	

Marker



PF 2 55 338 999

Type	Code	kg	
silver	799 350 364	0.010	

Machines & Equipment for Electrofusion

Accessories for job sites



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	kg	
20 - 315	790 109 110	3.599	

PF 3 25 117 328



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	kg	
110 - 630	790 109 109	3.943	

PF 3 25 117 328

Machines & Equipment for Electrofusion

PPC Plastic pipe cutter and KS 355

90 10 90



PF 3 25 117 309

PPC Plastic pipe cutter

- For cutting plastic pipes d10 - d160

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

90 10 90



PF 3 25 117 909

Replacement cutting wheels

- for plastic pipe cutter

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

90 20 20



PF 3 25 129 760

Plastic pipe cutter

- The KS 355 is the ideal tool for simple right angle precision cutting of PVC, PE and PP pipes, Size range d 160 to 355 mm with a wall thickness up to 40 mm. Including transport box.
- Unique clamping mechanism, no additional tools like belts, chains or reduction inserts necessary

d-d [mm]	Code	kg
160 - 355	790 202 001	28.457



PF 3 25 119 107

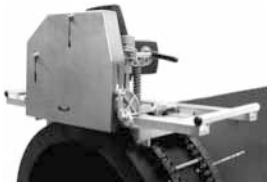
Saw blade Ø 180x30

Code	kg
790 202 011	0.450

Machines & Equipment for Electrofusion

KS 1600

Plastic pipe cutter



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

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

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

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

Scope of delivery:

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

Technical data:

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

d-d [mm]	Type	Code	kg
500 - 1600	KS 1600 Basic Kit	790 109 600	43.000

PF 2 51 305 006

Saw blade

description	Code	kg
Saw Blade 240X3,0X30, 18 teeth punched	790 109 618	0.653

PF 3 25 119 106



Chain tensioner

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

d-d [mm]	Code	kg
355 - 1600	790 109 616	0.001

PF 3 25 119 106

Tensioning Chains

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

d [mm]	Code	kg
355	790 109 602	3.700
400	790 109 603	4.100
450	790 109 604	4.700

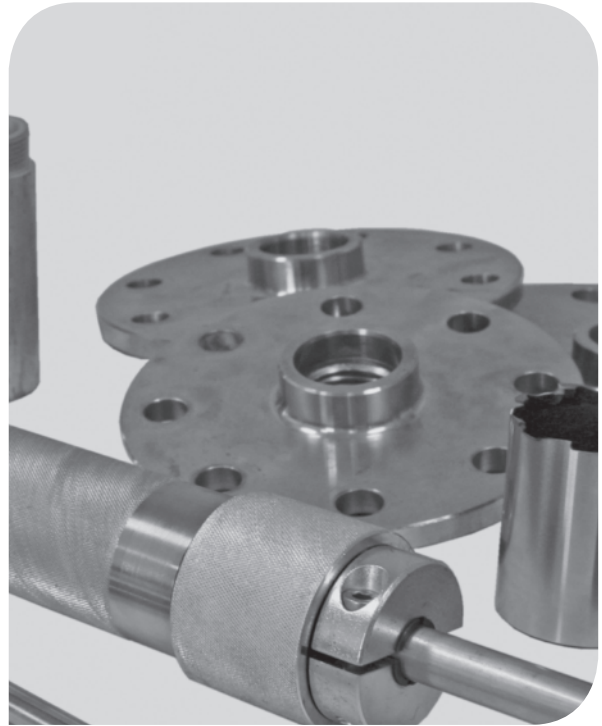
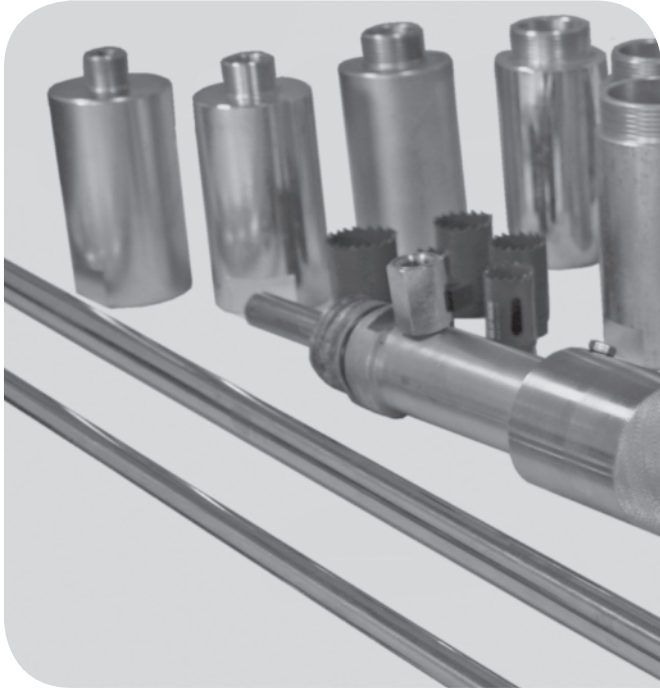
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Machines & Equipment for Electrofusion

d [mm]	Code	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	0.001	
900	790 109 610	10.174	
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	

PF 3 25 119 106



W400/410 drilling device

Machines & Equipment for Electrofusion

W400 drilling device (3/4" - 2")



Basic Drilling Device W400

including ratchet and drill shaft (accessories to be added)

PF 1 54 326 005

Description	Code	kg
basic device including ratchet and drill shaft	709 700 000	6.094



Male threaded adaptors for W400 drilling device

Model:

- Suitable to connect to Multi/Saddle Plus 200 and 201 saddles

PF 1 54 326 005

Description	Code	kg
male threaded adaptor 3/4	709 702 257	1.440
male threaded adaptor 1	709 702 258	1.720
male threaded adaptor 1 1/4	709 702 259	1.760
male threaded adaptor 1 1/2	709 702 260	1.800
male threaded adaptor 2	709 702 261	1.440



Female threaded adaptors for W400 drilling device

Model:

- Suitable to connect to Multi/Saddle Plus 301 saddles

PF 1 54 326 005

Description	Code	kg
female threaded adaptor d25 + d32	709 702 262	1.900
female threaded adaptor d40 + d50	709 702 263	1.750



Mandrel combined with pilot drill

Model:

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

PF 1 54 326 005

Description	Code	kg
hole saw mandrel 9/16 inch - 1 3/16 inch with retain pilot drill	709 701 260	0.085
hole saw mandrel 1 1/4 inch - 6 inch with retain pilot drill	709 701 261	0.206



Pilot drill

Model:

- pilot drill 6 mm with dual retention wires

PF 1 54 326 005

Description	Code	kg
pilot drill 6 mm with dual retention wires	709 800 006	0.042



Cup drill

PRO-FIT (other sizes on request)

Model:

- Suitable for PE and PVC pipes

Inch	Description	Code	kg
11/16	PRO-FIT PE/PVC cutter 17,5 mm	709 810 711	0.030
3/4	PRO-FIT PE/PVC cutter 19,1 mm	709 810 712	0.034
7/8	PRO-FIT PE/PVC cutter 22,2 mm	709 810 714	0.046
1	PRO-FIT PE/PVC cutter 25,4 mm	709 810 716	0.056

table continued next page

Machines & Equipment for Electrofusion

Inch	Description	Code	kg
1 1/4	PRO-FIT PE/PVC cutter 31,8 mm	709 810 720	0.096
1 1/2	PRO-FIT PE/PVC cutter 38,1 mm	709 810 724	0.104
1 3/4	PRO-FIT PE/PVC cutter 44,5 mm	709 810 728	0.120
1 7/8	PRO-FIT PE/PVC cutter 48,2 mm	709 810 730	0.128

PF 1 54 326 005



Cup drill Blu-mol HSS

Model:

- suitable for steel and (ductile) cast iron

Inch	Description	Code	kg
11/16	HSS bi-metal cutter 17,5 mm	709 810 511	0.300
3/4	HSS bi-metal cutter 19,1 mm	709 810 512	0.300
7/8	HSS bi-metal cutter 22,2 mm	709 810 514	0.300
15/16	HSS bi-metal cutter 23,8 mm	709 810 515	0.300
1	HSS bi-metal cutter 25,4 mm	709 810 516	0.066
1 1/8	HSS bi-metal cutter 28,6 mm	709 810 518	0.300
1 3/16	HSS bi-metal cutter 30,2 mm	709 810 519	0.300
1 1/4	HSS bi-metal cutter 31,8 mm	709 810 520	0.088
1 3/8	HSS bi-metal cutter 34,9 mm	709 810 522	0.300
1 7/16	HSS bi-metal cutter 36,5 mm	709 810 523	0.300
1 1/2	HSS bi-metal cutter 38,1 mm	709 810 524	0.087
1 3/4	HSS bi-metal cutter 44,5 mm	709 810 528	0.300
2	HSS bi-metal cutter 50,8 mm	709 810 532	0.142

PF 1 54 326 005



Cup drill Blu-mol Carbide tipped

Model:

- suitable for abrasive materials such as asbestos cement and cement lined (ductile) iron pipes

Inch	Description	Code	kg
3/4	carbide tipped HSS bi-metal cutter 19,1 mm	709 810 612	0.300
7/8	carbide tipped HSS bi-metal cutter 22,2 mm	709 810 614	0.300
1	carbide tipped HSS bi-metal cutter 25,4 mm	709 810 616	0.070
1 1/8	carbide tipped HSS bi-metal cutter 28,6 mm	709 810 618	0.300
1 1/4	carbide tipped HSS bi-metal cutter 31,8 mm	709 810 620	0.096
1 3/8	carbide tipped HSS bi-metal cutter 34,9 mm	709 810 622	0.300
1 1/2	carbide tipped HSS bi-metal cutter 38,1 mm	709 810 624	0.300
1 3/4	carbide tipped HSS bi-metal cutter 44,5 mm	709 810 628	0.300
2	carbide tipped HSS bi-metal cutter 50,8 mm	709 810 632	0.134

PF 1 54 326 005



Heavy duty transport / storage box for W400 drilling device

Model:

- Including: hex key 3 mm, hex key 6 mm and screwdriver
- Outside dimension transport case: 80 x 40 x 20 cm

Code	kg	Description
709 706 416	8.100	Heavy duty transport / storage box for W400 drilling device

PF 1 54 326 005

Machines & Equipment for Electrofusion

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



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

PF 1 54 326 005

Description	Code	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

PF 1 54 326 005

Description	Code	kg
drill shaft 620 mm	709 700 010	1.200
drill shaft 775 mm	709 700 021	1.500
drill shaft 920 mm	709 700 022	1.780
drill shaft 1070 mm	709 700 023	2.070



Flange adaptors

Model:

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

PF 1 54 326 005

Description	Code	kg
flange adaptor DN50	709 702 045	1.850
flange adaptor DN65	709 702 046	2.400
flange adaptor DN80	709 702 047	3.090
flange adaptor DN100	709 702 048	3.840
flange adaptor DN125	709 702 049	4.870
flange adaptor DN150	709 702 050	6.530
flange adaptor DN200	709 702 051	8.800



Mandrel combined with pilot drill

Model:

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

PF 1 54 326 005

Description	Code	kg
hole saw mandrel 9/16 inch - 1 3/16 inch with retain pilot drill	709 701 260	0.085
hole saw mandrel 1 1/4 inch - 6 inch with retain pilot drill	709 701 261	0.206



Pilot drill

Model:

- pilot drill 6 mm with dual retention wires

PF 1 54 326 005

Description	Code	kg
pilot drill 6 mm with dual retention wires	709 800 006	0.042

Machines & Equipment for Electrofusion

Cup drill

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



Model:

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

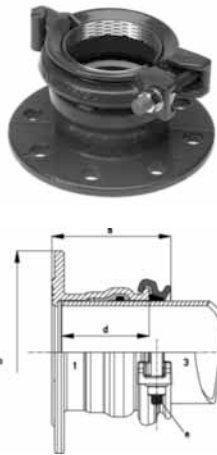
Description	Code	kg	
PE cup drill chipless 63 mm x 60 mm	709 810 414	0.590	
PE cup drill chipless 84 mm x 60 mm	709 810 416	0.910	
PE cup drill chipless 63 mm x 120 mm	709 810 424	0.890	
PE cup drill chipless 84 mm x 120 mm	709 810 426	1.370	
PE cup drill push rod	709 700 024	0.400	

PF 1 54 326 005

Plast/Joint® 8057 Flange Adaptor, restraint

Model:

- For connection to PE Spigot ends
- Ductile Cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- Stainless steel A2 quality (AISI 304) bolts, nuts and washers (optional: A4 quality)
- Gasket: NBR
- Suitable for water and gas
- Flange drilling according to EN 1092-2
- Gripping in brass



d [mm]	DN [mm]	Drilling pattern	NBR / A2 Code	kg	a [mm]	b [mm]	PN Water [bar]	PN Gas [bar]	
63	50	PN16	709 257 210	3.647	102	165	16.0	8.0	
75	65	PN16	709 257 212	4.075	102	185	16.0	8.0	
90	80	PN16	709 257 214	4.906	107	200	16.0	8.0	
110	100	PN16	709 257 216	5.998	122	220	16.0	8.0	
125	100	PN16	709 257 218	6.111	126	220	16.0	8.0	
160	150	PN16	709 257 222	11.165	144	285	16.0	8.0	
200	200	PN16	709 257 226	15.902	157	340	16.0	8.0	

PF 1 54 932 001

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



Code	kg	Description	
709 706 414	4.500	Heavy duty transport / storage box for W410 drilling device	

PF 1 54 326 005

+GF+



Product Range

Distribution
Machines for
Processing Plastic Pipes

Typ	Dimension d (mm)																										
	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	
TM 160																											
TM 250																											
TM 315																											
GF 400																											
KL 500																											
GF 500																											
KL 630																											
GF 630																											
GF 800																											
GF 1000																											
GF 1200																											
WM 315																											
T - Unit																											
Y - Unit																											
WM 500																											
T - Unit																											
Y - Unit																											
WM 630																											
T - Unit																											
Y - Unit																											
WM 1200																											
T - Unit																											
Y - Unit																											
KS 355																											
KS 1600																											
BS 450																											
BS 315																											
BS 630																											
BS 1200																											

No responsibility is taken for the correctness of this information.

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 ECO Butt fusion machines

TM 160 - 250 - 315 ECO Machine complete (wooden crate)



- Flexible and user-friendly heating element Butt Fusion machine for fusion jointing PE, PP, PB and PVDF pipes and fittings on building sites and in trenches
- Scope of delivery includes: lightweight ECO hydraulic unit, flexible base machine, powerful planer, high performance heating element with electronic temperature control box, storage case for the planer and heater
- Including transport packaging (wooden crate), without accessories and without reduction inserts

Type	d-d [mm]	Performance	Code	kg	
TM 160 ECO	40 - 160	230V/1900W	790 150 017	120.000	
TM 250 ECO	75 - 250	230V/3270W	790 151 017	193.000	
TM 315 ECO	90 - 315	230V/3870W	790 152 017	207.000	

PF 3 10 597 011

TM 160 - 250 - 315 Base machine



- Tubular frame provides increased rigidity and easy movement of the machine on the ground
- 4 lifting lugs
- Metal shield provides protection of the main welding area
- 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
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- Quick-action and drip-proof oil connections located in a protected position
- The base machine can be tilted to achieve a second operating position

Type	d-d [mm]	Code	kg	
TM 160	40 - 160	790 150 001	22.000	
TM 250	75 - 250	790 151 001	47.000	
TM 315	90 - 315	790 152 001	52.500	

PF 3 10 597 012

TM 160 - 250 - 315 ECO Planer



- Powerful parallel planer for single or double-sided facing of pipe ends
- Reliable torque transmission via robust worm-gear device
- Ergonomic, weight-balanced handling
- Optimised cutting geometry for even and chatter-free planing
- Safety switch to prevent undesired start-up
- Self-locking mechanism in working position
- 115 V on request!

Type	d-d [mm]	Performance	Code	kg	
TM 160 ECO	40 - 160	230V/630W	790 150 014	7.000	
TM 250 ECO	75 - 250	230V/1200W	790 151 014	14.000	
TM 315 ECO	90 - 315	230V/1200W	790 152 014	17.000	

PF 3 10 597 012

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 Heating element



- High performance, electronically controlled heating element
- Uniform temperature distribution over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Easy placement in the correct working position with automatic heater release mechanism
- 115 V on request!

Type	d-d [mm]	Performance	Code	kg
TM 160	40 - 160	230V/1200W	790 114 004	5.402
TM 250	75 - 250	230V/2000W	790 115 004	7.800
TM 315	90 - 315	230V/2500W	790 112 083	9.800

PF 3 25 117 316

TM 160 - 250 - 315 Case



- For safe storage of planer and heating element

Type	d-d [mm]	Code	kg
TM 160	40 - 160	790 150 295	4.800
TM 250	75 - 250	790 151 027	8.000
TM 315	90 - 315	790 152 027	8.800

PF 3 10 597 012

TM 160 - 250 - 315 ECO Hydraulic unit



- Clearly visible, vibration-free pressure gauge with precision scaling
- Compact construction with protection frame
- Fine adjustment of pressure
- High pressure consistency during cooling phase
- Fix attached hydraulic hose
- 115 V on request!

Type	Performance	Code	kg
TM 160 ECO	230V/370W	790 150 013	21.500
TM 250 - 315 ECO	230V/370W	790 152 009	22.000

PF 3 10 597 002

TM 160 - 250 - 315 Temperature controller



- Electronic temperature control
- Accurate adjustment (set point) of heating element temperature
- Digital display of current and set-point temperature
- 115 V on request!

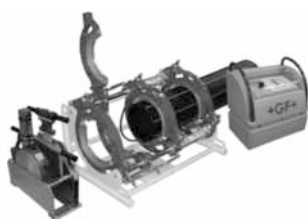
Type	Performance	Code	kg
TM 160- 315 ECO	230V/3000W	790 152 006	2.000

PF 3 10 597 022

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 TOP Butt fusion machines

TM 160 - 250 - 315 TOP Machine complete



- High quality, flexible and user-friendly heating element Butt Fusion machine for fusion jointing PE, PP, PB and PVDF pipes and fittings on building sites and in trenches
- Scope of delivery includes: innovative TOP hydraulic unit, flexible base machine, powerful planer, high performance heating element, storage case for the planer and heater
- Including transport packaging (wooden crate), without accessories and without reduction inserts

Type	d-d [mm]	Performance	Code	kg	
TM 160 TOP	40 - 160	230V/1900W	790 150 011	125.000	
TM 250 TOP	75 - 250	230V/3270W	790 151 011	204.000	
TM 315 TOP	90 - 315	230V/3870W	790 152 026	217.000	

PF 3 10 597 011

TM 160 - 250 - 315 Base machine



- Tubular frame provides increased rigidity and easy movement of the machine on the ground
- 4 lifting lugs
- Metal shield provides protection of the main welding area
- 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
- Clamps are hinged on the top side and tilting. Whenever necessary, the four clamps can be quickly removed
- Quick-action and drip-proof oil connections located in a protected position
- The base machine can be tilted to achieve a second operating position

Type	d-d [mm]	Code	kg	
TM 160	40 - 160	790 150 001	22.000	
TM 250	75 - 250	790 151 001	47.000	
TM 315	90 - 315	790 152 001	52.500	

PF 3 10 597 012

TM 160 - 250 - 315 TOP Planer



- Powerful parallel planer for single or double-sided facing of pipe ends
- Reliable torque transmission via robust worm-gear device
- Optimised cutting geometry for even and chatter-free planing
- Ergonomic, weight-balanced handling
- Safety microswitch to prevent undesired start-up
- Self-locking mechanism in working position

Type	Performance	Code	kg	
TM 160 TOP	230V/630W	790 150 000	7.000	
TM 250 TOP	230V/1200W	790 151 000	14.000	
TM 315 TOP	230V/1200W	790 152 000	17.000	

PF 3 10 597 012

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 Heating element



- High performance, electronically controlled heating element
- Uniform temperature distribution over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Temperature indicator integrated into the handle
- Easy placement in the correct working position with automatic heater release mechanism

Type	d-d [mm]	Performance	Code	kg
TM 160	40 - 160	230V/1200W	790 114 004	5.402
TM 250	75 - 250	230V/2000W	790 115 004	7.800
TM 315	90 - 315	230V/2500W	790 112 083	9.800

PF 3 10 571 500

TM 160 - 250 - 315 Case



- For safe storage of planer and heating element

Type	d-d [mm]	Code	kg
TM 160	40 - 160	790 150 295	4.800
TM 250	75 - 250	790 151 027	8.000
TM 315	90 - 315	790 152 027	8.800

PF 3 10 573 500

TM 160 - 250 - 315 TOP Hydraulic unit



- Shock-absorbing plastic housing in attractive design
- Internal aluminium frame providing high rigidity and resistance
- Intuitive control panel provided with digital indication of hydraulic pressure, electronic heating element temperature controller, 2-channel welding timer
- Precise pressure setting and fine adjusting
- Push-button operation of machine carriage
- Pressure release button for safe changeover from equalization to heat soak phase
- Integrated power outlets for planer, heating element
- Integrated additional power socket (230V-AC)
- Integrated interface for welding recorder
- Oil level control and refilling without disassembling the unit

Type	Performance	Code	kg
TM 160 - 315 TOP	230V/370W	790 151 004	31.000

PF 3 10 597 012

TM 160 - 250 - 315 TOP Hydraulic hose package



- Flexible hydraulic hoses, with drip-proof, quick-coupling action

Type	Code	kg
TM 160 - 315 TOP	790 152 003	4.000

PF 3 10 597 022

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 WR



TM 160 - 250 - 315 WR Machine complete

- High quality, flexible and user-friendly heating element Butt Fusion machine for fusion jointing PE, PP, PB and PVDF pipes and fittings on building sites and in trenches
- Scope of delivery includes: innovative TOP hydraulic unit, flexible base machine, powerful planer, high performance heating element, storage case for the planer and heater
- Welding Recorder WR 200 configured to the machine and calibrated to the TOP hydraulic unit
- Including transport packaging (wooden crate), without accessories and without reduction inserts

Type	d-d [mm]	Performance	Code	kg	
TM 160 WR	40 - 160	230V/1910W	790 150 015	136.000	
TM 160 WR CYRILLIC	40 - 160	230V/1910W	790 150 016	136.000	
TM 250 WR	75 - 250	230V/3280W	790 151 015	210.000	
TM 250 WR CYRILLIC	75 - 250	230V/3280W	790 151 016	210.000	
TM 315 WR	90 - 315	230V/3880W	790 152 025	224.000	
TM 315 WR CYRILLIC	90 - 315	230V/3880W	790 152 016	224.000	

PF 3 10 597 011

WR 200 Fusion welding recording device



The WR 200 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 for later print out or transfer to a data base. The recorder with its on-board printer is protected by a hard plastic case of IP 65 protection class. The power and connecting cables are stored in a separate box. The WR 200 can be connected to hydraulically operated butt-fusion machines, even by later retrofitting of machines in service centres .

Performance:

- Intuitive user guidance menu
- Welding standard selection e.g. DVS, UNI, WIS, ISO
- Welding process customisable: 4 user defined cycle available
- Additional input of joint number, user identity, job site, order number and GPS coordinates
- Internal memory capacity of up to 250 protocols
- Selection of operator language
- Battery support for an autonomy of 10 hours (no data loss during power interruption)
- Rental and revision period adjustable (CD content of delivery)
- Easy configuration by the end user to the connected GF/KL/TM machine
- Same electrical connections as SUVI® 50 and WR 100 – interchangeable
- Working range: -10°C to +50°C

Data Management:

- Internal memory of 250 protocols
- Print out of protocols directly from on-board printer
- Transfer of protocols to USB memory stick
- Protocols in CSV, TXT and SUVI® WIN-WELD compatible formats

Type	Performance	Dimensions [mm]	Code	kg	
WR 200	230 V	350x300x250 mm	790 119 401	5.000	
WR 200 CYRILLIC	230 V	350x300x250 mm	790 119 425	5.500	

PF 3 25 132 100

Machines & Equipment for Butt Fusion

Retrofit kits

The retrofit kit consists of all necessary components in the machine in order to connect the WR 100/200. The connection cables between the WR 100/200 and the hydraulic unit/heating element are part of the welding recorder. The installation of the retrofit kit has to be done by a service centre.

Description	Code	kg	
KL 160	790 119 090	0.001	
KL 250-630	790 119 078	0.759	
GF 160-250	790 119 032	0.300	
GF 315	790 119 039	0.790	
GF 500-1200	790 119 036	3.500	

PF 3 25 117 313

Machines & Equipment for Butt Fusion

TM 160 - 250- 315 CNC

Machine complete



- High quality, reliable and user-friendly heating element butt fusion machine for automated fusion jointing of PE and PP pipes and fittings on building sites.
- Designed for applications in gas and water distribution.
- Machine equipped with innovative CNC hydraulic control unit and the machine components of the TM TOP machines: sturdy base machine, powerful planer, high performance heating element, storage case for the planer and heater.
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete welding process.
- Scope of delivery includes transport packaging (wooden crate), not the reduction inserts and other accessories !

CNC Control Unit

- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics.
- Intuitive data input by touch screen operation (welding standard, material, diameter, SDR, traceability data).
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines.
- 10 freely programmable welding cycles available (e.g. for non standard dimensions (Relining), special materials etc.).
- Various configuration possibilities, such as cooling time reduction according to the measured ambient temperature (CTC) and automatic bead build-up phase.
- Selection of language.
- Welding report storage on removable standard USB memory key (memory key supplied with the machine).
- Data transfer to PC (SUVI WIN-WELD software supplied with the machine) via USB interface.
- Shock absorbing plastic housing in attractive design.
- Integrated power outlets for planer and heating element.
- Preinstalled socket for connection of the barcode scanner (Accessory).
- Oil level control and refilling without disassembling the unit.
- Two handles to carry the hydraulic unit.

Type	d-d [mm]	Performance	Code	kg	
TM 160 CNC	40 - 160	230V/2000W	790 150 012	125.000	
TM 250 CNC	75 - 250	230V/3150W	790 151 012	195.000	
TM 315 CNC	90 - 315	230V/3750W	790 152 012	215.000	

PF 3 10 597 011

Machines & Equipment for Butt Fusion

TM 250 –315 CNC Machine with automatic heating element



Machine complete

- High quality, reliable and user-friendly heating element butt fusion machine for automated fusion jointing of PE and PP pipes and fittings on building sites.
- Designed for applications in gas and water distribution.
- Machine equipped with innovative CNC hydraulic control unit, sturdy base machine, powerful planer, high performance heating element, storage case for the planer and heater.
- The heating element is ejected automatically from the working position during change-over phase.
- Quick change of the heating element position from the central to the outer welding position when welding e.g. a T-Piece to a pipe.
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete welding process.
- Scope of delivery includes transport packaging (wooden crate), not the reduction inserts and other accessories!

CNC Control Unit

- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics.
- Intuitive data input by touch screen operation (welding standard, material, diameter, SDR, traceability data).
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines.
- 10 freely programmable welding cycles available (e.g. for non standard dimensions (Relining), special materials etc.).
- Various configuration possibilities such as cooling time reduction according to the measured ambient temperature (CTC) and automatic bead build-up phase.
- Selection of language.
- Welding report storage on removable standard USB memory key (memory key supplied with the machine).
- Data transfer to PC (SUVI WIN-WELD software supplied with the machine) via USB interface.
- Shock-absorbing plastic housing in attractive design.
- Integrated power outlets for planer and heating element.
- Preinstalled socket for connection of the barcode scanner (Accessory).
- Oil level control and refilling without disassembling the unit.
- Two handles to carry the hydraulic unit.

Type	d-d [mm]	Performance	Code	kg	
TM 250 CNC	75 - 250	230V/3150W	790 151 071	195.000	
TM 315 CNC	90 - 315	230V/3750W	790 152 071	230.000	

PF 3 10 597 011

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 Accessories



TM 160 Reduction clamping inserts, wide

- 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.

d [mm]	Code	kg
40	790 114 023	0.280
50	790 114 009	0.326
63	790 114 010	0.305
75	790 114 011	0.290
90	790 114 012	0.277
110	790 114 013	0.260
125	790 114 014	0.265
140	790 114 015	0.178

PF 3 25 117 316



TM 160 Reduction clamping inserts, narrow

- 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.

d [mm]	Code	kg
40	790 114 027	0.318
50	790 114 016	0.323
63	790 114 017	0.303
75	790 114 018	0.276
90	790 114 019	0.256
110	790 114 020	0.227
125	790 114 021	0.192
140	790 114 022	0.134

PF 3 25 117 316



TM 250 Reduction clamping inserts, wide

- 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.

d [mm]	Code	kg
75	790 115 028	0.902
90	790 115 008	0.940
110	790 115 009	0.841
125	790 115 010	0.829
140	790 115 011	0.647
160	790 115 012	0.727
180	790 115 013	0.676
200	790 115 014	0.733
225	790 115 015	0.477

PF 3 25 117 305

Machines & Equipment for Butt Fusion

TM 250 Reduction clamping inserts, narrow



- 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.

d [mm]	Code	kg
75	790 115 029	0.768
90	790 115 016	0.719
110	790 115 017	0.734
125	790 115 018	0.661
140	790 115 019	0.762
160	790 115 020	0.574
180	790 115 021	0.561
200	790 115 022	0.479
225	790 115 023	0.385

PF 3 25 117 305

TM 315 Reduction clamping inserts, wide



- 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.

d [mm]	Code	kg
90	790 112 088	1.000
110	790 112 089	0.945
125	790 112 090	0.957
140	790 112 091	0.950
160	790 112 092	0.980
180	790 112 093	0.931
200	790 112 094	0.880
225	790 112 095	0.940
250	790 112 096	0.760
280	790 112 097	0.750

PF 3 25 117 307

TM 315 Reduction clamping inserts, narrow



- 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.

d [mm]	Code	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

PF 3 25 117 307

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 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	kg	
40 - 140	790 114 156	17.000	
75 - 225	790 115 156	63.000	
90 - 280	790 112 156	78.000	

PF 3 25 117 316

TM 160 - 250 - 315 Chamfered upper clamp

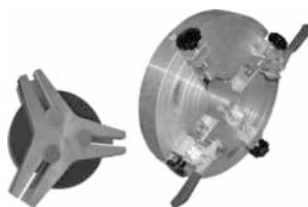


- Necessary for welding short-leg bends having diameters equal of the machine dimension: e.g. bend Ø250 mm with a TM 250
- Left: bend is clamped left from the heating element position
- Right: bend is clamped right from the heating element position

Type	Left Code	Right Code	kg	
TM 160	790 150 205	790 150 206	0.800	
TM 250	790 151 205	790 151 206	1.822	
TM 315	790 152 205	790 152 206	2.681	

PF 3 10 597 012

TM 160 - 250 - 315 Flange adapter clamping units



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

d-d [mm]	Code	kg	
40 - 160	790 319 007	5.800	
75 - 250	790 115 044	5.594	
90 - 315	790 112 073	11.000	

PF 3 10 571 500

TM 160 - 250 - 315 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.
- Heating element, planer, hydraulic unit and reduction inserts could be used from the corresponding TM machine.

Type	Code	kg	
RU 160	790 150 045	8.800	
RU 250	790 151 045	18.000	
RU 315	790 152 045	20.000	

PF 3 10 597 012

TM 160 - 250 - 315 RU Outer Clamp



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

Type	Code	kg	
RU 160	790 150 046	2.000	
RU 250	790 151 046	4.400	
RU 315	790 152 046	5.400	

PF 3 10 597 012

TM 160 - 250 - 315 TOP Clamp tightening knobs



Type	Code	kg	
TM 160 TOP	790 150 225	1.000	
TM 250 - 315 TOP	790 152 225	0.198	

PF 3 10 597 022

Machines & Equipment for Butt Fusion

TM 160 - 250 - 315 Set planer blades



- (1 set = 2 blades)

d-d [mm]	Code	kg	
40 - 160	790 113 056	0.059	
75 - 250	790 115 024	0.083	
90 - 315	790 112 110	0.056	

PF 3 25 117 311

TM 160 - 250 - 315 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	kg	
TM 160	790 150 050	9.000	
TM 250	790 151 050	11.000	
TM 315	790 152 050	12.500	

PF 3 10 597 012

TM 250 - 315 Pressure Shut-Off Valve



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

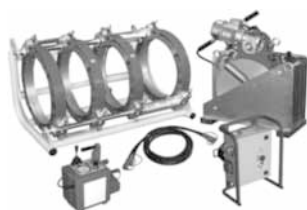
Type	Code	kg	
TM 250 - 315	790 151 002	1.500	

PF 3 10 597 012

Machines & Equipment for Butt Fusion

KL 500 TOP1 Butt fusion machine

Machine complete



- Compact and robust heating element-butt fusion machine for fusion jointing PP and PE pipes and fittings. For complete pressure range up to PN 16.
- Control box containing electronic temperature control and power distribution for heating element and planer
- Machine provided with Hydromat hydraulic unit
- Including transport packaging (wooden crate), without accessories and without reduction inserts

PF 3 10 574 100

d-d [mm]	Performance	Code	kg
200 - 500	400 V/6250 W	790 340 000	470.561

Base machine



- Double clamping device for secure hold and exact radial and axial alignment of components
- Good accessibility thanks to 45° inclination
- drip-proof quick action coupling for the connection of the hydraulic hoses

PF 3 10 574 500

d-d [mm]	Code	kg
200 - 500	790 340 001	157.000

Planer

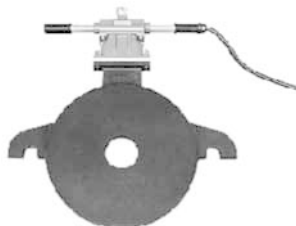


- Powerful parallel planer for single or double-sided facing of pipe ends
- Load transfer via maintenance-free, robust chain
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

PF 3 10 574 500

d-d [mm]	Performance	Code	kg
200 - 500	400 V/750 W	790 340 002	55.000

Heating element



- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Easy placement in the correct working position with heater release mechanism

PF 3 25 117 306

d-d [mm]	Performance	Code	kg
200 - 500	400 V/4000 W	790 116 004	25.900

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

PF 3 25 117 306

Voltage	Code	kg
400 V	790 116 038	15.500

Machines & Equipment for Butt Fusion

KL 500 TOP2 Butt fusion machine



Machine complete

- Compact and robust heating element-buttt fusion machine for fusion jointing PP and PE pipes and fittings. For complete pressure range up to PN 16.
- Machine provided with Hydromat hydraulic unit and remote control
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
200 - 500	400 V/6250 W	790 140 010	312.000

PF 3 10 574 100



Base machine

- Double clamping device for secure hold and exact radial and axial alignment of components
- Good accessibility thanks to 45° inclination
- drip-proof quick action coupling for the connection of the hydraulic hoses

d-d [mm]	Code	kg
200 - 500	790 340 001	157.000

PF 3 10 574 500

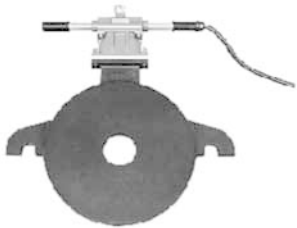


Planer

- Powerful parallel planer for single or double-sided facing of pipe ends
- Load transfer via maintenance-free, robust chain
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
200 - 500	400 V/750 W	790 340 002	55.000

PF 3 10 574 500



Heating element

- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Easy placement in the correct working position with heater release mechanism

d-d [mm]	Performance	Code	kg
200 - 500	400 V/4000 W	790 116 004	25.900

PF 3 25 117 306



Remote control

- Electronic temperature control
- Accurate adjustment of heating element temperature

Code	kg
790 340 003	3.800

PF 3 10 574 500



Case

- For safe storage of planer and heating element

Code	kg
790 116 006	38.000

Machines & Equipment for Butt Fusion

Hydromat



- Clearly visible, vibration-free pressure gauge with precision scaling
- Fine adjustment of pressure
- High pressure consistency during cooling phase

PF 3 10 574 500

Performance	Code	kg	
230 V/1500 W	790 340 005	31.000	

Machines & Equipment for Butt Fusion

KL 500 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.
- 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 200/d 225, the reduction clamping insert 790 116 015 must also be used

d [mm]	Code	kg
200	790 116 008	4.217
225	790 116 009	4.172
250	790 116 010	3.569
280	790 116 011	3.612
315	790 116 012	3.698
355	790 116 013	3.727
400	790 116 014	3.836
450	790 116 015	3.276

PF 3 25 117 306



Reduction clamping inserts, narrow

- 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 200/d 225, the reduction clamping insert 790 116 015 must also be used

d [mm]	Code	kg
200	790 116 016	3.714
225	790 116 017	3.443
250	790 116 018	3.936
280	790 116 019	3.891
315	790 116 020	3.622
355	790 116 021	3.267
400	790 116 022	2.508
450	790 116 023	2.273

PF 3 25 117 306



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	kg
250 - 450	790 116 156	162.000

PF 3 25 117 306



Hoist unit frame

- Hoist unit (consists of frame and swivel arm)
- Mounted to the base machine

Code	kg
790 116 026	22.000

PF 3 25 117 306

Machines & Equipment for Butt Fusion

Weight compensator to hoist unit



PF 3 25 117 306

- For heating element, planer weight is partially compensated
- For hoist unit 790 116 026

Code	kg	
790 116 027	12.500	

Flange adapter clamping unit



PF 3 25 117 306

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

d [mm]	Code	kg	
500	790 116 045	22.000	

1 Set planer blades



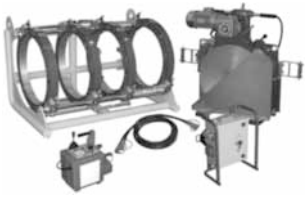
PF 3 25 117 306

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

Code	kg	
790 116 041	0.700	

Machines & Equipment for Butt Fusion

KL 630 TOP1 Butt fusion machine



Machine complete

- Compact and robust heating element-butt fusion machine for fusion jointing PP and PE pipes and fittings. For complete pressure range up to PN 16.
- Control box containing electronic temperature control and power distribution for heating element and planer
- Machine provided with Hydromat hydraulic unit
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
315 - 630	400 V/11000 W	790 345 000	627.000

PF 3 10 575 100



Base machine

- Double clamping device for secure hold and exact radial and axial alignment of components
- Good accessibility thanks to 45° inclination
- drip-proof quick action coupling for the connection of the hydraulic hoses

d-d [mm]	Code	kg
315 - 630	790 117 002	222.000

PF 3 10 573 100



Planer

- Powerful parallel planer for single or double-sided facing of pipe ends
- Load transfer via maintenance-free, robust chain
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
315 - 630	400 V/1500 W	790 117 003	99.000

PF 3 10 573 500



Heating element

- High performance, electronically controlled heating element
- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life

d-d [mm]	Performance	Code	kg
315 - 630	400 V/8000 W	790 117 004	39.000

PF 3 10 573 500



Control box

- 400 V
- 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

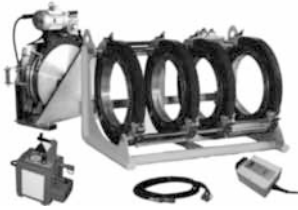
Code	kg
790 117 038	27.600

PF 3 25 117 319

Machines & Equipment for Butt Fusion

KL 630 TOP2 Butt fusion machine

Machine complete



- Compact and robust heating element-butt fusion machine for fusion jointing PP and PE pipes and fittings. For complete pressure range up to PN 16.
- Machine provided with Hydromat hydraulic unit and remote control
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg	
315 - 630	400 V/11000 W	790 345 012	627.000	

PF 3 10 575 100

Remote control



- Electronic temperature control
- Accurate adjustment of heating element temperature

Code	kg	
790 340 003	3.800	

Case



- For safe storage of planer and heating element

Code	kg	
790 117 006	55.000	

Machines & Equipment for Butt Fusion

KL 630 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.
- We recommend 4 wide and 4 narrow half shells.

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

d [mm]	Code	kg	
315	790 116 012	3.698	
355	790 116 013	3.727	
400	790 116 014	3.836	
450	790 116 015	3.276	
500	790 117 012	4.500	
560	790 117 013	4.900	

PF 3 25 117 319



Reduction clamping inserts, narrow

- 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.

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

d [mm]	Code	kg	
315	790 116 020	3.622	
355	790 116 021	3.267	
400	790 116 022	2.508	
450	790 116 023	2.273	



Reduction clamping inserts-set

- 4 wide and 4 narrow clamping inserts d 315, d 355, d 400, d 450
- 8 wide reduction inserts d 500, d 560

d-d [mm]	Code	kg	
315 - 560	790 117 021	201.000	

PF 3 25 117 319



Chamfered upper clamp

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

Code	kg	
790 345 233	0.001	

PF 3 10 575 900



Hoist unit, complete

- Hoist unit (consists of frame and swivel arm)
- Arm length 2m, pivoting, back/forward, max. column height from floor 3.30m
- Electrical unit 400 V / 600 W
- Hoist capacity 250 kg
- 2 hoisting speeds (1,7 m/min. and 7.0 m/min.)

Code	kg	
790 117 023	196.000	

PF 3 25 117 319

Machines & Equipment for Butt Fusion

Flange adapter clamping unit



PF 3 25 117 319

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

d [mm]	Code	kg	
630	790 117 029	29.000	



PF 3 25 117 319

1 Set planer blades

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

Code	kg	
790 117 041	0.229	

Machines & Equipment for Butt Fusion

GF 400 Butt fusion machine

Machine GF 400 complete, 230 V



- High quality, long-lasting heating element butt fusion machine for fusion jointing PP and PE pipes and fittings. For complete pressure range up to SDR 11.
- Machine complete with remote control
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
125 - 400	230 V/5700 W	790 127 001	0.001

PF 3 25 870 100

Machine GF 400 complete, 400 V

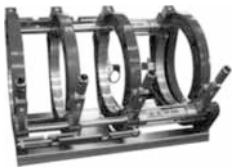


- High quality, long-lasting heating element butt fusion machine for fusion jointing PP and PE pipes and fittings. For complete pressure range up to SDR 11.
- Assembled with control box to supply all components with power, only 1 power connection required !
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
125 - 400	400 V/5700 W	790 127 010	355.000

PF 3 25 870 100

Base machine



- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- Hardened and hard chrome-plated guide shafts for extreme loads
- Smooth-running cylinder guides with mechanical seals
- Hydraulic connections protected and integrated in base clamping unit for more flexibility when clamping piping components
- Heater release mechanism to optimize the changeover phase
- For the purpose of welding bends and T-pieces the 2. clamping element is fast and relocatable without losing stability on the guiding shafts
- Double clamping device for secure hold and exact radial and axial alignment of components
- Machine specific tool set

d-d [mm]	Code	kg
125 - 400	790 127 002	95.000

PF 3 25 117 332

Planer



- Powerful parallel planer for single or double-sided facing of pipe ends
- Right-angled facing due to wide bedding, with side stop for single-sided facing
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
125 - 400	230 V/1100 W	790 127 003	47.500

PF 3 25 117 332

Machines & Equipment for Butt Fusion

Heating element



PF 3 25 117 332

- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Easy placement in the correct working position with heater release mechanism

d-d [mm]	Performance	Code	kg
125 - 400	230 V/3500 W	790 127 004	15.800

Hydraulic unit



PF 3 25 117 332

- Compact and robust with two handles for carrying
- Precise hydraulic control for consistent fusion pressure
- Variable, fine adjustment of pressure
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Easy level control and refilling of hydraulic oil

Performance	Code	kg
400 V/1500 W	790 127 006	40.000

Hydraulic hose package



PF 3 25 117 307

- Flexible hydraulic hoses, with drip-proof, quick-coupling action

Code	kg
790 112 085	4.000

Control box



PF 3 25 117 332

- 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

Performance	Code	kg
400 V	790 127 008	15.500

Case



PF 3 25 117 332

- For safe storage of planer and heating element

Code	kg
790 127 005	30.000

Machines & Equipment for Butt Fusion

GF 400 CNC Butt fusion machine

Machine complete



- High quality, reliable and user-friendly heating element butt fusion machine for automated fusion jointing of PE and PP pipes and fittings on building sites.
- Designed for applications in gas and water distribution.
- Machine equipped with innovative CNC hydraulic control unit and the machine components of the GF 400 machine: sturdy base machine, powerful planer, high performance heating element, storage case for the planer and heater.
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete welding process.
- Scope of delivery includes transport packaging (wooden crate), not the reduction inserts and other accessories!

CNC Control Unit

- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics.
- Intuitive data input by touch screen operation (welding standard, material, diameter, SDR, traceability data).
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines.
- 10 freely programmable welding cycles available (e.g. for non standard dimensions, special materials etc.).
- The operation procedure can be individually configured by the machine owner, such as: operator ID, job number, traceability code and automated bead build-up phase.
- Selection of language.
- Welding report storage on removable standard USB memory key (memory key supplied with the machine) and for safety reasons additionally in the CNC unit.
- Data transfer to PC (SUVI WIN-WELD software supplied with the machine) via USB interface.
- Robust aluminium case with shock-absorbing plastic cover in attractive design.
- Integrated power outlets for planer and heating element.
- Preinstalled socket for connection of the barcode scanner (Optional).
- Easy oil-level-control and refilling without opening the unit.

Type	d-d [mm]	Performance	Code	kg	
GF 400 CNC	125 - 400	400 V/5700 W	790 153 001	205.000	

PF 3 10 597 031

Machines & Equipment for Butt Fusion

GF 400 Accessories



PF 3 25 117 332

Hoist unit

- For carrying planer and heating element.
- The weight compensator is mounted at the backside of the base machine.
- Weight compensator included

Code	kg	
790 127 026	28.000	



Reduction clamping inserts, wide

- 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.

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

d [mm]	Code	kg	
125	790 112 090	0.957	
140	790 112 091	0.950	
160	790 112 092	0.980	
180	790 112 093	0.931	
200	790 112 094	0.880	
225	790 112 095	0.940	
250	790 112 096	0.760	
280	790 112 097	0.750	
315	790 127 101	3.540	
355	790 127 102	3.540	

PF 3 25 117 332



Reduction clamping inserts, narrow

- 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.

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

d [mm]	Code	kg	
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	
315	790 127 111	3.540	
355	790 127 112	3.540	

PF 3 25 117 332

Chamfered upper clamp

- Necessary for welding short-leg bends having diameters equal of the maximum machine dimension
- Right: bend is clamped right from the heating element position

Description	Code	kg	
Right	790 127 106	0.001	

PF 3 25 117 927

Machines & Equipment for Butt Fusion

Reduction clamping inserts-set



- 4 wide and 4 narrow clamping inserts of each dimension
- 8 wide clamping inserts d 315 mm
- Reductions in inch sizes or special diameters upon request

d-d [mm]	Code	kg	
125 - 355	790 127 156	30.000	

PF 3 25 117 332

Flange adapter clamping unit



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

d [mm]	Code	kg	
400	790 127 045	24.600	

PF 3 25 117 332

1 Set planer blades



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

Code	kg	
790 112 110	0.056	

PF 3 25 117 307

Machines & Equipment for Butt Fusion

GF 500 Butt fusion machine

Machine GF 500 complete



- High quality, long-lasting heating element butt fusion machine for fusion jointing PP and PE pipes and fittings. Size range d 200-500 mm, for complete pressure range up to PN 16.
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
200 - 500	400 V/6250 W	790 116 040	498.000

PF 3 25 126 200

Base machine



- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 35° inclination
- Hardened and hard chrome-plated guide shafts for extreme loads
- Smooth-running cylinder guides with mechanical seals
- Hydraulic connections protected and integrated in base clamping unit for more flexibility when clamping piping components
- Heater release mechanism to optimize the changeover phase
- For the purpose of welding bends and T-pieces the 2. clamping element is fast and relocatable without losing stability on the guiding shafts
- Double clamping device for secure hold and exact radial and axial alignment of components
- Machine specific tool set

d-d [mm]	Code	kg
200 - 500	790 116 002	169.000

PF 3 25 126 200

Planer

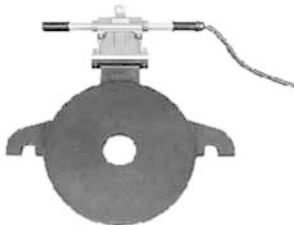


- Powerful parallel planer for single or double-sided facing of pipe ends
- Right-angled facing due to wide bedding, with side stop for single-sided facing
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
200 - 500	400 V/750 W	790 116 003	58.000

PF 3 25 117 306

Heating element



- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Easy placement in the correct working position with heater release mechanism

d-d [mm]	Performance	Code	kg
200 - 500	400 V/4000 W	790 116 004	25.900

PF 3 25 117 306

Machines & Equipment for Butt Fusion

Hydraulic unit



- Compact and robust with two handles for carrying
- Precise hydraulic control for consistent fusion pressure
- Variable, fine adjustment of pressure
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Easy level control and refilling of hydraulic oil

Performance	Code	kg
400 V/1500 W	790 116 039	41.000

PF 3 25 117 306

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

Voltage	Code	kg
400 V	790 116 038	15.500

PF 3 25 117 306

Hydraulic hose package



- Flexible hydraulic hoses, with drip-proof, quick-coupling action

Code	kg
790 112 085	4.000

PF 3 25 117 307

Case



- For safe storage of planer and heating element

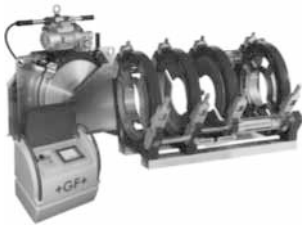
Code	kg
790 116 006	38.000

PF 3 25 117 306

Machines & Equipment for Butt Fusion

GF 500 CNC Butt fusion machine

Machine complete



- High quality, reliable and user-friendly heating element butt fusion machine for automated fusion jointing of PE and PP pipes and fittings on building sites.
- Designed for applications in gas and water distribution.
- Machine equipped with innovative CNC hydraulic control unit and the machine components of the GF 500 machine: sturdy base machine, powerful planer, high performance heating element, storage case for the planer and heater.
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete welding process.
- Scope of delivery includes transport packaging (wooden crate), not the reduction inserts and other accessories!

CNC Control Unit

- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics.
- Intuitive data input by touch screen operation (welding standard, material, diameter, SDR, traceability data).
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines.
- 10 freely programmable welding cycles available (e.g. for non standard dimensions, special materials etc.).
- The operation procedure can be individually configured by the machine owner, such as: operator ID, job number, traceability code and automated bead build-up phase.
- Selection of language.
- Welding report storage on removable standard USB memory key (memory key supplied with the machine) and for safety reasons additionally in the CNC unit.
- Data transfer to PC (SUVI WIN-WELD software supplied with the machine) via USB interface.
- Robust aluminium case with shock-absorbing plastic cover in attractive design.
- Integrated power outlets for planer and heating element.
- Preinstalled socket for connection of the barcode scanner (Optional).
- Easy oil-level-control and refilling without opening the unit.

Type	d-d [mm]	Performance	Code	kg	
GF 500 CNC	200 - 500	400 V/6300 W	790 154 001	480.000	

PF 3 10 597 041

Machines & Equipment for Butt Fusion

GF 500 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.
- 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 200/d 225, the reduction clamping insert 790 116 015 must also be used

d [mm]	Code	kg
200	790 116 008	4.217
225	790 116 009	4.172
250	790 116 010	3.569
280	790 116 011	3.612
315	790 116 012	3.698
355	790 116 013	3.727
400	790 116 014	3.836
450	790 116 015	3.276

PF 3 25 117 306



Reduction clamping inserts, narrow

- 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 200/d 225, the reduction clamping insert 790 116 015 must also be used

d [mm]	Code	kg
200	790 116 016	3.714
225	790 116 017	3.443
250	790 116 018	3.936
280	790 116 019	3.891
315	790 116 020	3.622
355	790 116 021	3.267
400	790 116 022	2.508
450	790 116 023	2.273

PF 3 25 117 306



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	kg
250 - 450	790 116 156	162.000

PF 3 25 117 306

Chamfered upper clamp

- Necessary for welding short-leg bends having diameters equal of the maximum machine dimension
- Left: bend is clamped left from the heating element position
- Right: bend is clamped right from the heating element position

description	Code	kg
Right	790 116 268	0.001
Left	790 116 269	0.001

PF 3 25 117 306

Machines & Equipment for Butt Fusion

Hoist unit frame



PF 3 25 117 306

- Hoist unit (consists of frame and swivel arm)
- Mounted to the base machine

Code	kg	
790 116 026	22.000	

Weight compensator to hoist unit



PF 3 25 117 306

- For heating element, planer weight is partially compensated
- For hoist unit 790 116 026

Code	kg	
790 116 027	12.500	

Flange adapter clamping unit



PF 3 25 117 306

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

d [mm]	Code	kg	
500	790 116 045	22.000	

1 Set planer blades



PF 3 25 117 306

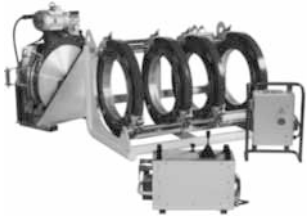
- Blade has 2 cutting edges (1 set = 2 blades)

Code	kg	
790 116 041	0.700	

Machines & Equipment for Butt Fusion

GF 630 Butt fusion machine

Machine GF 630 complete



- High quality, long-lasting heating element butt fusion machine for fusion jointing PP, PE pipes and fittings. Size range d 315-630 mm, for complete pressure range up to PN 16.
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
315 - 630	400 V/11000 W	790 117 001	617.000

PF 3 25 136 100

Base machine



- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 45° inclination
- Hardened and hard chrome-plated guide shafts for extreme loads
- Smooth-running cylinder guides with mechanical seals
- Hydraulic connections protected and integrated in base clamping unit for more flexibility when clamping piping components
- Heater release mechanism
- Double clamping device for secure hold and exact radial and axial alignment of components
- Machine specific tool set

d-d [mm]	Code	kg
315 - 630	790 117 002	222.000

PF 3 25 136 100

Planer



- Powerful parallel planer for single or double-sided facing of pipe ends
- Right-angled facing due to wide bedding, with side stop for single-sided facing
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
315 - 630	400 V/1500 W	790 117 003	99.000

PF 3 25 117 319

Heating element



- High performance heating element with electronic, continuously adjustable temperature control
- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Easy placement in the correct working position with heater release mechanism

d-d [mm]	Performance	Code	kg
315 - 630	400 V/8000 W	790 117 004	39.000

PF 3 25 117 319

Machines & Equipment for Butt Fusion

Hydraulic unit



- Compact and robust with two handles for carrying
- Precise hydraulic control for consistent fusion pressure
- Variable, fine adjustment of pressure
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Easy level control and refilling of hydraulic oil

Code	kg	
790 116 039	41.000	

Control box



PF 3 25 117 319

- 400 V
- 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

Code	kg	
790 117 038	27.600	

Case



PF 3 25 117 319

- For safe storage of planer and heating element

Code	kg	
790 117 006	55.000	

Hydraulic hose package



PF 3 25 117 307

- Flexible hydraulic hoses, with drip-proof, quick-coupling action

Code	kg	
790 112 085	4.000	

Machines & Equipment for Butt Fusion

GF 630 CNC Butt fusion machine

Machine complete



- High quality, reliable and user-friendly heating element butt fusion machine for automated fusion jointing of PE and PP pipes and fittings on building sites.
- Designed for applications in gas and water distribution.
- Machine equipped with innovative CNC hydraulic control unit and the machine components of the GF 630 machine: sturdy base machine, powerful planer, high performance heating element, storage case for the planer and heater.
- The distance control (potentiometer) mounted into the base machine grants control and safety throughout the complete welding process.
- Scope of delivery includes transport packaging (wooden crate), not the reduction inserts and other accessories!

CNC Control Unit

- Operator guidance from preparation to the end of the jointing process by use of symbols and graphics.
- Intuitive data input by touch screen operation (welding standard, material, diameter, SDR, traceability data).
- Automatic calculation, regulation and control of the fusion parameters - pressure, time and temperature - according to country specific guidelines.
- 10 freely programmable welding cycles available (e.g. for non standard dimensions, special materials etc.).
- The operation procedure can be individually configured by the machine owner, such as: operator ID, job number, traceability code and automated bead build-up phase.
- Selection of language.
- Welding report storage on removable standard USB memory key (memory key supplied with the machine) and for safety reasons additionally in the CNC unit.
- Data transfer to PC (SUVI WIN-WELD software supplied with the machine) via USB interface.
- Robust aluminium case with shock-absorbing plastic cover in attractive design.
- Integrated power outlets for planer and heating element.
- Preinstalled socket for connection of the barcode scanner (Optional).
- Easy oil-level-control and refilling without opening the unit.

Type	d-d [mm]	Performance	Code	kg	
GF 630 CNC	315 - 630	400 V/6300 W	790 155 001	615.000	

PF 3 10 597 051

Machines & Equipment for Butt Fusion

GF 630 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.
- We recommend 4 wide and 4 narrow half shells.

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

d [mm]	Code	kg
315	790 116 012	3.698
355	790 116 013	3.727
400	790 116 014	3.836
450	790 116 015	3.276
500	790 117 012	4.500
560	790 117 013	4.900

PF 3 25 117 319

Reduction clamping inserts, narrow



- 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.

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

d [mm]	Code	kg
315	790 116 020	3.622
355	790 116 021	3.267
400	790 116 022	2.508
450	790 116 023	2.273

Reduction clamping inserts-set



- 4 wide and 4 narrow clamping inserts d 315, d 355, d 400, d 450
- 8 wide reduction inserts d 500, d 560

d-d [mm]	Code	kg
315 - 560	790 117 021	201.000

PF 3 25 117 319

Flange adapter clamping unit



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

d [mm]	Code	kg
630	790 117 029	29.000

PF 3 25 117 319

Chamfered upper clamp



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

Code	kg
790 345 233	0.001

PF 3 10 575 900

Machines & Equipment for Butt Fusion

Hoist unit, complete



- Hoist unit (consists of frame and swivel arm)
- Arm length 2m, pivoting, back/forward, max. column height from floor 3.30m
- Electrical unit 400 V / 600 W
- Hoist capacity 250 kg
- 2 hoisting speeds (1,7 m/min. and 7.0 m/min.)

Code	kg	
790 117 023	196.000	

PF 3 25 117 319

1 Set planer blades



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

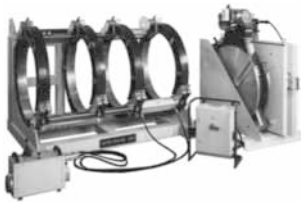
Code	kg	
790 117 041	0.229	

PF 3 25 117 319

Machines & Equipment for Butt Fusion

GF 800 Butt fusion machine

Machine GF 800 complete



- Robust heating element-butt fusion machine for fusion jointing PP and PE pipes and fittings. Size range d 500-800 mm.
- The powerful hydraulic unit (max. hydraulic pressure 200 bar) allows jointing of big wall thickness pipes by keeping provision for dragging the pipes. Example: PE 100 , SDR 11, dn 800 mm requires a fusion pressure of 106 bar according to DVS 2207 – 1 (0,15 MPa)
- For proper handling of the heating element and planer we recommend the assembling of the hoist unit (790123016)
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
500 - 800	400 V/15000 W	790 123 025	1546.000

PF 3 10 576 100

Base machine



- Heater release mechanism
- High precision design, distortion-free and sturdy machine frame
- Good accessibility thanks to 45° inclination
- Hardened and hard chrome-plated guide shafts for extreme loads
- Smooth-running cylinder guides with mechanical seals
- Hydraulic connections protected and integrated in base clamping unit for more flexibility when clamping piping components
- Double clamping device for secure hold and exact radial and axial alignment of components
- Machine specific tool set

d-d [mm]	Code	kg
500 - 800	790 123 023	0.001

PF 3 10 576 100

Planer



- Powerful parallel planer for single or double-sided facing of pipe ends 400 V/1500 W
- Load transfer via maintenance-free chain drive
- Right-angled facing due to wide bedding, with side stop for single-sided facing
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
500 - 800	400 V/1500 W	790 123 003	185.000

PF 3 25 117 322

Heating element



- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life
- Easy placement in the correct working position with heater release mechanism

d-d [mm]	Performance	Code	kg
500 - 800	400 V/12000 W	790 123 004	56.000

PF 3 25 117 322

Machines & Equipment for Butt Fusion

Hydraulic unit



- Maximum pressure 200 bar
- Compact and robust with two handles for carrying
- Precise hydraulic control for consistent fusion pressure
- Variable, fine adjustment of pressure
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Easy level control and refilling of hydraulic oil

Performance	Code	kg	
400 V/1500 W	790 123 010	41.000	

PF 3 25 117 319

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

Performance	Code	kg	
400 V	790 123 009	29.000	

PF 3 25 117 319

Hydraulic hose package



- Flexible hydraulic hoses, with drip-proof, quick-coupling action

Code	kg	
790 123 020	0.001	

PF 3 10 576 900

Case



- For safe storage of planer and heating element

Code	kg	
790 123 007	226.000	

PF 3 25 117 322

Machines & Equipment for Butt Fusion

GF 800 Accessories

Reduction clamping inserts



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

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

d [mm]	narrow Code	wide Code	kg
500	790 117 238	790 117 012	4.500
560	790 117 239	790 117 013	4.900
630	790 123 219	790 123 011	11.000
710	790 123 220	790 123 012	12.500

PF 3 10 576 900

Reduction clamping inserts-set

- 8 wide clamping inserts dn 500, 560, 630, 710 mm

Code	kg
790 350 019	0.001

PF 3 10 576 500

Electric Hoist unit

- Hoist capacity 500 kg
- Arm length 2m, pivoting, back/forward, max. column height from floor 4.65 m, 2 hoisting speeds (2.5 m/min. and 5.5 m/min.)

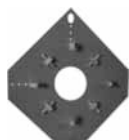


Code	kg
790 123 016	270.000

PF 3 25 117 322

Flange adapter clamping unit

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



d-d [mm]	Code	kg
500 - 800	790 123 029	120.000

PF 3 25 117 322

1 Set planer blades

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

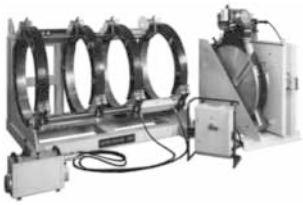


Code	kg
790 117 041	0.229

PF 3 25 117 319

Machines & Equipment for Butt Fusion

GF 1000 Butt fusion machine



Machine GF 1000 complete

- Robust heating element-butt fusion machine for jointing PP and PE pipes and fittings
- Size range dn 710 – 1000 mm
- The powerful hydraulic unit (max. hydraulic pressure 200 bar) allows jointing of big wall thickness pipes by keeping provision for dragging the pipes.
Example: PE 100 ,SDR 11, dn 1000 mm requires a fusion pressure of 130 bar according to DVS 2207 – 1 (0,15 MPa)
- For proper handling of the heating element and planer we recommend the assembling of the hoist unit (790124016)
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
710 - 1000	400 V/19500 W	790 124 025	2528.000

PF 3 10 577 100



Base machine

- High precision design, distortion-free and sturdy machine frame
- Heater release mechanism
- Good accessibility thanks to 45° inclination
- Hardened and hard chrome-plated guide shafts for extreme loads
- Smooth-running cylinder guides with mechanical seals
- Hydraulic connections protected and integrated in base clamping unit for more flexibility when clamping piping components
- Double clamping device for secure hold and exact radial and axial alignment of components
- Machine specific tool set

d-d [mm]	Code	kg
710 - 1000	790 124 023	0.001

PF 3 10 577 100



Planer

- Powerful parallel planer for single or double-sided facing of pipe ends
- Right-angled facing due to wide bedding, with side stop for single-sided facing
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
710 - 1000	400 V/3000 W	790 124 003	308.000

PF 3 25 117 323



Heating element

- High performance heating element with electronic, continuously adjustable temperature control
- High temperature accuracy over the entire heating surface
- High-quality, non-stick PTFE-coating with long service life

d-d [mm]	Performance	Code	kg
710 - 1000	400 V/15000 W	790 124 004	88.000

PF 3 25 117 323

Machines & Equipment for Butt Fusion

Hydraulic unit



- Maximum pressure 200 bar
- Compact and robust with two handles for carrying
- Precise hydraulic control for consistent fusion pressure
- Variable, fine adjustment of pressure
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Easy level control and refilling of hydraulic oil

Performance	Code	kg
400 V/1500 W	790 123 010	41.000

Hydraulic hose package



- Flexible hydraulic hoses, with drip-proof, quick-coupling action

Code	kg
790 123 020	0.001

PF 3 25 117 322

Control box



- 400 V
- 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

Code	kg
790 123 009	29.000

PF 3 25 117 319

Case



- For safe storage of planer and heating element

Code	kg
790 124 006	341.000

PF 3 25 117 323

Machines & Equipment for Butt Fusion

GF 1000 Accessories



Reduction clamping inserts

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

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

d [mm]	narrow Code	wide Code	kg
710	790 123 220	790 123 012	12.500
800		790 124 011	18.000
900		790 124 012	19.000

Reduction clamping inserts–set

- 8 wide clamping inserts dn 710, 800, 900 mm

Code	kg
790 355 019	0.001

PF 3 10 577 500



Electric hoist unit

- Hoist capacity 500 kg
- Arm length 2m, pivoting, back/forward, max. column height from floor 4.65 m, 2 hoisting speeds (2.5 m/min. and 5.5 m/min.)

Code	kg
790 124 016	300.000

PF 3 25 137 100



Flange adapter clamping unit

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

Code	kg
790 124 029	153.000

PF 3 25 117 323



1 Set planer blades

- (1 set = 4 blades)

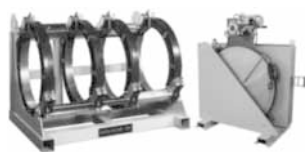
Code	kg
790 124 021	0.299

PF 3 25 137 100

Machines & Equipment for Butt Fusion

GF 1200 Butt fusion machine

Machine GF 1200 complete



- Robust heating element-butt fusion machine for jointing PP and PE pipes and fittings
- The powerful hydraulic unit (max. hydraulic pressure 200 bar) allows jointing of big wall thickness pipes by keeping provision for dragging the pipes. Example: PE 100 , SDR 17, dn 1200 mm requires a fusion pressure of 125 bar according to DVS 2207 – 1 (0,15 MPa)
- For proper handling of the heating element and planer we recommend the assembling of the hoist unit (790125016)
- Including transport packaging (wooden crate), without accessories and without reduction inserts

d-d [mm]	Performance	Code	kg
800 - 1200	400 V/20500 W	790 125 025	2932.000

PF 3 10 578 100

Base machine



- High precision design, distortion-free and sturdy machine frame
- Heater release mechanism
- Good accessibility thanks to 45° inclination
- Hardened and hard chrome-plated guide shafts for extreme loads
- Smooth-running cylinder guides with mechanical seals
- Hydraulic connections protected and integrated in base clamping unit for more flexibility when clamping piping components
- Double clamping device for secure hold and exact radial and axial alignment of components
- Tool set specified to machine

d-d [mm]	Code	kg
800 - 1200	790 125 023	0.001

PF 3 10 578 100

Planer



- Powerful parallel planer for single or double-sided facing of pipe ends
- Load transfer via maintenance-free chain drive
- Right-angled facing due to wide bedding, with side stop for single-sided facing
- Optimised cutting geometry for even and chatter-free planing
- Planer with Stop mechanism for safety
- Safety microswitch to prevent undesired start-up

d-d [mm]	Performance	Code	kg
800 - 1200	400 V/3000 W	790 125 003	335.000

PF 3 25 117 324

Heating element



- High performance heating element with electronic, continuously adjustable temperature control
- High temperature accuracy over the entire heating surface

d-d [mm]	Performance	Code	kg
800 - 1200	400V/16000 W	790 125 004	101.000

PF 3 25 117 324

Machines & Equipment for Butt Fusion

Hydraulic unit



- Maximum pressure 200 bar
- Compact and robust with two handles for carrying
- Precise hydraulic control for consistent fusion pressure
- Variable, fine adjustment of pressure
- Clearly visible, vibration-free pressure gauge with precision scaling
- Accumulator for pressure equalization during the cooling phase
- Easy level control and refilling of hydraulic oil

Performance	Code	kg	
400 V/1500 W	790 123 010	41.000	

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

Performance	Code	kg	
400 V	790 123 009	29.000	

PF 3 25 117 319

Hydraulic hose package



- Flexible hydraulic hoses, with drip-proof, quick-coupling action

Code	kg	
790 123 020	0.001	

PF 3 25 117 322

Case



- For safe storage of planer and heating element

Code	kg	
790 125 006	412.000	

PF 3 25 117 324

Machines & Equipment for Butt Fusion

GF 1200 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

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

d [mm]	Code	kg
800	790 124 011	18.000
900	790 124 012	19.000
1000	790 125 011	20.000

PF 3 25 117 323

Reduction clamping inserts-set

- 8 wide clamping inserts dn 800, 900, 1000 mm

Code	kg
790 360 019	0.001

PF 3 10 578 500

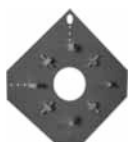


Electric Hoist unit

- Hoist capacity 500 kg
- Arm length 2m, pivoting, back/forward, max. column height from floor 4.65 m, 2 hoisting speeds (2.5 m/min. and 5.5 m/min.)

Code	kg
790 125 016	308.000

PF 3 25 117 324



Flange adapter clamping unit

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

Code	kg
790 125 029	231.000

PF 3 25 117 324



1 Set planer blades

- (1 set = 4 blades)

Code	kg
790 125 021	0.405

PF 3 25 137 100

Machines & Equipment for Butt Fusion

WR 200

WR 200 Fusion welding recording device



The WR 200 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 for later print out or transfer to a data base. The recorder with its on-board printer is protected by a hard plastic case of IP 65 protection class. The power and connecting cables are stored in a separate box.

The WR 200 can be connected to hydraulically operated butt-fusion machines, even by later retrofitting of machines in service centres .

Performance:

- Intuitive user guidance menu
- Welding standard selection e.g. DVS, UNI, WIS, ISO
- Welding process customisable: 4 user defined cycle available
- Additional input of joint number, user identity, job site, order number and GPS coordinates
- Internal memory capacity of up to 250 protocols
- Selection of operator language
- Battery support for an autonomy of 10 hours (no data loss during power interruption)
- Rental and revision period adjustable (CD content of delivery)
- Easy configuration by the end user to the connected GF/KL/TM machine
- Same electrical connections as SUVI® 50 and WR 100 – interchangeable
- Working range: -10°C to +50°C

Data Management:

- Internal memory of 250 protocols
- Print out of protocols directly from on-board printer
- Transfer of protocols to USB memory stick
- Protocols in CSV, TXT and SUVI® WIN-WELD compatible formats

Type	Performance	Dimensions [mm]	Code	kg
WR 200	230 V	350x300x250 mm	790 119 401	5.000
WR 200 CYRILLIC	230 V	350x300x250 mm	790 119 425	5.500

PF 3 25 132 100

Machines fitted with WR 200



Type	Performance	Code	kg
TM 160 WR	230V/1910W	790 150 015	136.000
TM 160 WR CYRILLIC	230V/1910W	790 150 016	136.000
TM 250 WR	230V/3280W	790 151 015	210.000
TM 250 WR CYRILLIC	230V/3280W	790 151 016	210.000
TM 315 WR	230V/3880W	790 152 025	224.000
TM 315 WR CYRILLIC	230V/3880W	790 152 016	224.000
GF 400 WR	400V/5710W	790 127 015	350.000
GF 400 WR	230V/5710W	790 127 020	350.000
GF 400 WR CYRILLIC	230V/5710W	790 127 021	350.000
GF 500 WR	400V/6260W	790 116 075	475.000
GF 500 WR CYRILLIC	400V/6260W	790 116 074	475.000
KL 500 TOP 1 WR	400V/6260W	790 340 008	475.000
KL 500 TOP 2 WR	400V/6260W	790 340 035	475.000
KL 500 TOP 1 WR CYRILLIC	400V/6260W	790 340 011	3.800
KL 500 TOP 2 WR CYRILLIC	400V/6260W	790 340 036	475.000
GF 630 WR	400V/11010W	790 117 075	600.000
GF 630 WR CYRILLIC	400V/11010W	790 345 036	600.000
KL 630 TOP 1 WR	400V/11010W	790 345 008	600.000
KL 630 TOP 2 WR	400V/11010W	790 345 035	600.000
KL 630 TOP 1 WR CYRILLIC	400V/11010W	790 117 074	600.000
KL 630 TOP 2 WR CYRILLIC	400V/11010W	790 345 011	600.000
GF 800 WR	400V/15010W	790 123 075	1550.000
GF 800 WR CYRILLIC	400V/15010W	790 123 074	1550.000

table continued next page

Machines & Equipment for Butt Fusion

PF 3 10 575 600

Type	Performance	Code	kg
GF 1000 WR	400V/19510W	790 124 075	3000.000
GF 1000 WR CYRILLIC	400V/19510W	790 124 074	3000.000
GF 1200 WR	400V/20510W	790 125 075	3210.000
GF 1200 WR CYRILLIC	400V/20510W	790 125 074	3210.000

Retrofit kits

The retrofit kit consists of all necessary components in the machine in order to connect the WR 100/200. The connection cables between the WR 100/200 and the hydraulic unit/heating element are part of the welding recorder. The installation of the retrofit kit has to be done by a service centre.

PF 3 25 117 313

Description	Code	kg
KL 160	790 119 090	0.001
KL 250-630	790 119 078	0.759
GF 160-250	790 119 032	0.300
GF 315	790 119 039	0.790
GF 500-1200	790 119 036	3.500

Machines & Equipment for Butt Fusion

SUVI System Accessories

Software PIPE WIN WELD / SUVI WIN WELD



- Professional software for analysis and documentation of installed piping systems or of a defined part of it: i. e. Pipe book. With PIPE WIN WELD it is possible to create a complete electronic documentation of the installed pipes and pipe connection elements. The software works with the data bases of MSA WIN WELD and SUVI WIN WELD. The software makes it possible to work with data from other manufacturers (CSV module for data transfer).
- The software is suitable for use with Windows ME/NT4/2000/XP/Vista.
- Scope of delivery: CD-ROM, USB hardlock (PIPE WIN-WELD, PIPE WIN-WELD CSV), installation guide (manuals and additional information on CD-ROM)

Type	Code	kg	Description
PIPE CSV	790 119 301	0.180	Complete package incl. CSV module for data transfer, USB hardlock
PIPE	790 119 302	0.180	Complete package, USB hardlock
SUVI	790 119 303	0.180	Complete package

PF 3 25 117 312

Barcode reader pen



Code	kg	Description
799 350 335	0.165	Barcode reader pen

PF 2 51 306 001

Memory Card



description	Code	kg
1024 kB/734 records	790 119 157	0.040

PF 3 25 117 312

Machines & Equipment for Butt Fusion

WM 315 Workshop butt fusion machine

Machine WM 315



- Machine for jointing segmented fittings like bends from d90 - 315 mm for high pressure applications
- To produce T and Y fittings from d90 - 250 mm, special accessories are required

Machine description:

- Distortion-free, sturdy machine frame
- Electric and hydraulic components separated in the frame
- Control panel assembled with pressure adjustment valve, pressure selection switch (planing or fusion pressure), gauge, joy stick and emergency stop
- The main clamping tools are mounted on supports each of which can be adjusted transversely
- Each clamping tool can be turned a max. 22.5° and assembled with a set of reductions d90 - 280mm
- 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	kg	
90 - 315	400 V/4620 W	790 118 060	464.000	

PF 3 25 135 100

Machine WM 315 CNC



- Machine for jointing segmented fittings like bends from d90 - 315 mm for high pressure applications
- To produce T and Y fittings from d90 - 250 mm, special accessories are required
- Fully automated fusion process by the use of state of the art PLC and touch screen

Machine description:

- Highest flexibility in the pipe preparation process
- The heating element is removed automatically during the change-over phase
- Data storage and transfer via USB to the PC
- Data management by SUVI WIN-WELD
- Distortion-free, sturdy machine frame
- Electric and hydraulic components separated in the frame
- The main clamping tools are mounted on supports each of which can be adjusted transversely to the pipe axis
- Each clamping tool can be turned a max. 22.5° and assembled with a set of reductions d90 - 280mm
- Precision heating element with electronic temperature control (3000 W)
- High-quality PTFE coating with long service life
- 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	kg	
90 - 315	400 V/4620 W	790 118 009	465.000	

PF 3 25 135 100

Machines & Equipment for Butt Fusion

WM 315 Accessories

Base clamping unit left 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
- L = left
- R = right

d [mm]	Type	Code	kg
315	L	790 118 011	15.000
315	R	790 118 012	15.000

PF 3 25 117 318

Clamping insert, narrow, d 315



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

d [mm]	Code	kg
315	790 118 028	0.741

PF 3 25 117 318

Set of pipe supports



d-d [mm]	Code	kg
90 - 280	790 118 025	6.700

PF 3 25 117 318

Reduction clamping inserts, narrow



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

d [mm]	Code	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

Back stop



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

Code	kg
790 118 026	4.000

PF 3 25 117 318

Machines & Equipment for Butt Fusion

Flange adapter clamping unit



PF 3 25 117 318

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

d-d [mm]	Code	kg	
90 - 315	790 118 031	24.000	

T-fitting clamping unit



PF 3 25 117 318

- For the rational manufacturing of 90° T-fittings in the sizes d 90 to 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
- Packaging included

d-d [mm]	Code	kg	
90 - 250	790 118 032	140.000	

Y-fitting clamping unit



PF 3 25 117 318

- 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
- Reduction clamping inserts d 90 - 225 mm
- Packaging included

d-d [mm]	Code	kg	
90 - 250	790 118 033	175.000	

Set planer of blades



PF 3 25 117 318

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

description	Code	kg	
long	790 118 042	0.220	
short	790 118 043	0.045	

Machines & Equipment for Butt Fusion

WM 500 Plus Workshop butt fusion machine

Machine WM 500 Plus



- Machine for jointing segmented fittings like bends from d250 - 500 mm for high pressure applications
- To produce T and Y fittings from d250 - 400 mm, special accessories are required

Machine description:

- Distortion-free, sturdy machine frame
- Electric and hydraulic components separated in the frame
- 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 main clamping tools are mounted on supports each of which can be adjusted transversely to the pipe axis
- Each clamping tool can be turned max. 22.5° and assembled with a set of reductions d250 - 450 mm
- Hydraulically opening and closing of the upper clamping tools, manual locking with bolts and nuts
- Precision heating element with electronic temperature control (10000 W)
- High-quality, PTFE coating with long service life
- Insertion hydraulically operated
- Powerful planer (1100 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Insertion hydraulically operated
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories

d-d [mm]	Performance	Code	kg	
250 - 500	400 V/13600 W	790 120 020	0.001	

PF 3 10 581 100

Machines & Equipment for Butt Fusion

WM 500 Plus Accessories

Reduction clamping inserts, narrow



- Each code number defines 1 piece of reduction clamping insert.

d [mm]	Code	kg
250	790 116 018	3.936
280	790 116 019	3.891
315	790 116 020	3.622
355	790 116 021	3.267
400	790 116 022	2.508
450	790 116 023	2.273

Reduction clamping inserts, wide



- Each code number defines 1 piece of reduction clamping insert.

d [mm]	Code	kg
250	790 116 010	3.569
280	790 116 011	3.612
315	790 116 012	3.698
355	790 116 013	3.727
400	790 116 014	3.836
450	790 116 015	3.276

Back stop



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

Code	kg
790 108 026	32.000

PF 3 25 117 321

Base clamping unit 500 mm for fittings



- For clamping fittings of d500 mm as well as for the reduction clamping inserts for fittings of d250 to 450 mm. Guide shaft for pipe support and back stop, with pipe support d500 mm
- L = left
- R = right

d [mm]	Type	Code	kg
500	L	790 120 011	104.000
500	R	790 120 012	104.000

PF 3 25 117 320

Set of pipe supports



d-d [mm]	Code	kg
250 - 450	790 120 025	10.700

PF 3 25 117 320

Machines & Equipment for Butt Fusion

Flange adapter clamping unit



PF 3 25 117 320

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

d-d [mm]	Code	kg	
250 - 500	790 120 031	73.000	

T-fitting clamping unit



PF 3 25 117 320

- For the rational manufacturing of 90° T-fittings in the sizes d 250 to 400 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Complete with reduction clamping inserts d 250 - 355 mm
- Packaging included

d-d [mm]	Code	kg	
250 - 400	790 120 032	415.000	

Y-fitting clamping unit



PF 3 25 117 320

- For the rational manufacturing of 30° to 45° Y-fittings in the sizes d 250 to 400 mm
- Three-piece, precise clamping tool for easy mounting on the machine bed
- Complete with reduction clamping inserts d 250 - 355 mm
- Packaging included

d-d [mm]	Code	kg	
250 - 400	790 120 033	610.000	

1 Set planer blades



PF 3 25 117 320

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

Code	kg	
790 117 041	0.229	

Machines & Equipment for Butt Fusion

WM 630 Plus Workshop butt fusion machine

Machine WM 630 Plus



- Machine for jointing segmented fittings like bends from d315 - 630 mm for high pressure applications
- To produce T and Y fittings from d315 - 500 mm, special accessories are required

Machine description:

- Distortion-free, sturdy machine frame
- Electric and hydraulic components separated in the frame
- 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 main clamping tools are mounted on supports each of which can be adjusted transversely to the pipe axis
- Each clamping tool can be turned max. 22.5° and assembled with a set of reductions d315 - 560 mm
- Hydraulically opening and closing of the upper clamping tools, manual locking with bolts and nuts
- Precision heating element with electronic temperature control (12000 W)
- High-quality PTFE coating with long service life
- Insertion hydraulically operated
- Powerful planer (1100 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Insertion hydraulically operated
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories

d-d [mm]	Performance	Code	kg	
315 - 630	400 V/15600 W	790 108 020	2300.000	

PF 3 25 138 100

Machines & Equipment for Butt Fusion

Machine WM 630 CNC



- Machine for jointing segmented fittings like bends from d315 - 630 mm for high pressure applications
- To produce T and Y fittings from d315 - 500 mm, special accessories are required

Machine description:

- Fully automated fusion process by the use of state of the art PLC and touch screen
- Highest flexibility in the pipe preparation process
- Data storage and transfer via USB to the PC
- Data management by SUVI® WIN-WELD
- Distortion - free, sturdy machine frame
- Electric and hydraulic components separated in the frame
- The main clamping tools are mounted on supports each of which can be adjusted transversely to the pipe axis
- Each clamping tool can be turned max. 22.5° and assembled with a set of reductions d315 - 560 mm
- Hydraulically opening and closing of the upper clamping tools, manual locking with bolts and nuts
- Precision heating element with electronic temperature control (12000 W)
- High-quality PTFE coating with long service life
- Insertion hydraulically operated
- Powerful planer (1100 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Insertion hydraulically operated
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories

d-d [mm]	Performance	Code	kg	
315 - 630	400 V/15600 W	790 108 101	2300.000	

PF 3 25 138 100

Machines & Equipment for Butt Fusion

WM 630 Plus Accessories



Reduction clamping inserts, narrow

- Each code number defines 1 piece of reduction clamping insert.

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

d [mm]	Code	kg
315	790 116 020	3.622
355	790 116 021	3.267
400	790 116 022	2.508
450	790 116 023	2.273

PF 3 25 117 319



Reduction clamping inserts, wide

- Each code number defines 1 piece of reduction clamping insert.

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

d [mm]	Code	kg
315	790 116 012	3.698
355	790 116 013	3.727
400	790 116 014	3.836
450	790 116 015	3.276



Set of pipe supports

d-d [mm]	Code	kg
315 - 450	790 108 025	6.000

PF 3 25 117 321



Back stop

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

Code	kg
790 108 026	32.000



Base clamping unit for fittings

- For clamping fittings of d500 mm as well as for the reduction clamping inserts for fittings of d315 to 450 mm. Guide shaft for pipe support and back stop, with pipe support d500 mm

- L = left
- R = right

d [mm]	Type	Code	kg
630	L	790 108 017	150.000
630	R	790 108 018	150.000

PF 3 25 117 321

Machines & Equipment for Butt Fusion

Flange adaptor clamping unit



PF 3 25 117 321

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

d-d [mm]	Code	kg	
315 - 630	790 108 031	200.000	

T-fitting clamping unit



PF 3 25 117 321

- 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
- Packaging included

d-d [mm]	Code	kg	
315 - 500	790 108 032	600.000	

Y-fitting clamping unit



PF 3 25 117 321

- 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
- Packaging included

d-d [mm]	Code	kg	
315 - 500	790 108 033	770.000	

1 Set planer blades



PF 3 25 117 321

- (1 set = 4 blades)

Code	kg	
790 108 043	0.518	

Machines & Equipment for Butt Fusion

WM 1200 Workshop butt fusion machine

Machine WM 1200 with SUVI®50



- Machine for jointing segmented fittings like bends from d630 - 1200 mm for high pressure applications
- Professional data recording and operator guidance granted by the use of SUVI® 50
- To produce T and Y fittings from d630 - 900 mm, special accessories are required

Machine description:

- Dimensions: 2400 L x 1400 W x 2070 H in mm
- Distortion-free, sturdy machine frame
- Hardened, hard chrome plated linear guide rails for extreme loads
- Electric and hydraulic components separated in the frame
- 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
- The data recorder SUVI® 50 is a component of the control panel
- The main clamping tools are mounted on supports each of which can be adjusted transversely to the pipe axis
- Each clamping tool can be turned max. 22.5° and assembled with a set of reductions d630 - 1000 mm
- Hydraulically opening and closing of the upper clamping tools
- Hydraulic locking mechanism of the main clamping tools
- Precision heating element with electronic temperature control (30000 W)
- High-quality PTFE coating with long service life
- Insertion hydraulically operated
- High speed extraction to grant fast change over times
- Powerful planer (2200 W) with optimized cutting geometry for even and chatter-free planing
- Load transfer via robust chain drive
- Insertion hydraulically operated
- During the planing process each slide could be moved separately (single sided planing)
- Including transport packaging, without accessories

d-d [mm]	Performance	Code	kg	
630 - 1200	400 V/41000 W	790 126 001	0.001	

PF 3 25 871 100

Machines & Equipment for Butt Fusion

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
- Packaging included

d-d [mm]	Code	kg	
630 - 900	790 126 011	2926.000	

PF 3 25 117 334



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
- Packaging included

d-d [mm]	Code	kg	
630 - 900	790 126 012	0.100	

PF 3 25 117 334

X-fitting clamping unit

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

d-d [mm]	Code	kg	
630 - 900	790 126 013	2900.000	

PF 3 25 117 334

Base Plate T-Y-X pieces

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

Code	kg	
790 126 014	1000.000	

PF 3 25 117 334



1 Set planer blades

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

Code	kg	
790 126 043	0.500	

PF 3 25 117 334

Machines & Equipment for Butt Fusion

PPC Plastic pipe cutter and KS 355

90 10 90



PF 3 25 117 309

PPC Plastic pipe cutter

- For cutting plastic pipes d10 - d160

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

90 10 90



PF 3 25 117 909

Replacement cutting wheels

- for plastic pipe cutter

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

90 20 20



PF 3 25 129 760

Plastic pipe cutter

- The KS 355 is the ideal tool for simple right angle precision cutting of PVC, PE and PP pipes, Size range d 160 to 355 mm with a wall thickness up to 40 mm. Including transport box.
- Unique clamping mechanism, no additional tools like belts, chains or reduction inserts necessary

d-d [mm]	Code	kg
160 - 355	790 202 001	28.457



PF 3 25 119 107

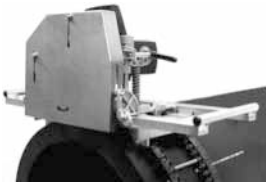
Saw blade Ø 180x30

Code	kg
790 202 011	0.450

Machines & Equipment for Butt Fusion

KS 1600

Plastic pipe cutter



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

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

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

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

Scope of delivery:

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

Technical data:

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

d-d [mm]	Type	Code	kg
500 - 1600	KS 1600 Basic Kit	790 109 600	43.000

PF 2 51 305 006

Saw blade

description	Code	kg
Saw Blade 240X3,0X30, 18 teeth punched	790 109 618	0.653

PF 3 25 119 106



Chain tensioner

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

d-d [mm]	Code	kg
355 - 1600	790 109 616	0.001

PF 3 25 119 106



Tensioning Chains

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

d [mm]	Code	kg
355	790 109 602	3.700
400	790 109 603	4.100
450	790 109 604	4.700

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Machines & Equipment for Butt Fusion

d [mm]	Code	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	0.001	
900	790 109 610	10.174	
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	

PF 3 25 119 106

Machines & Equipment for Butt Fusion

Saws



BS 450 Belt saw size range d 90 - 450 mm

- For exact cutting of PE, PP, PVC and PVDF plastic pipes, size range d 90 - 450 mm
- Pipe cutter with sturdy tubular steel stand and integrated V-bed
- Variable clamping system for fastening the pipe in the V-bed
- Angles from 0° to 45° to one side can be freely adjusted
- Easy to disassemble into subcomponents and transport to job sites
- Spring-resilient lowering of saw bow
- Easy saw blade replacement system with centering mechanism
- Application: up to d 160 PN 10, up to d 250 PN 6, up to d 450 PN 3,2

d-d [mm]	Code	kg
90 - 450	790 109 045	160.000

PF 3 25 129 700



BS 630 Belt saw

- Angles from 0° to 45° to one side can be freely adjusted
- For exact cutting of PE, PP, PVC and PVDF pipes, size range d 100 - 315 mm and 200 - 630 mm
- Pipe cutter with sturdy tubular steel stand
- Variable clamping system for fastening the pipe in the V-bed
- Spring-resilient lowering of saw bow
- Easy saw blade replacement system with centering mechanism

d-d [mm]	Code	kg
110 - 630	790 109 047	340.000

PF 3 25 129 700

BS Wearing Parts

- Saw belt

Article	Code	kg
BS 450	790 109 046	0.001
BS 630	790 109 048	0.001

PF 3 25 119 105

Other Belt saws

Code
on request

Machines & Equipment for Butt Fusion

Tools for pipeline construction

Outer bead remover



PF 3 25 117 330

d-d [mm]	Code	kg	
110 - 160	790 109 241	1.850	
140 - 250	790 109 242	1.950	
180 - 315	790 109 243	2.697	
280 - 450	790 109 244	2.700	



PF 3 25 117 330

Replacement blades

d-d [mm]	Code	kg	
110 - 160	790 109 233	0.004	
140 - 315	790 109 234	0.020	

Machines & Equipment for Butt Fusion

Accessories for job sites



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	kg	
20 - 315	790 109 110	3.599	

PF 3 25 117 328



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	kg	
110 - 630	790 109 109	3.943	

PF 3 25 117 328

Machines & Equipment for Butt Fusion

Miscellaneous accessories

Timer with 2 stop times



PF 3 25 117 316

Code	kg	
790 114 028	0.088	

KS Tangit Cleaner

- Special cleaning agent for plastic fusion connections with PP, PE, PVDF and PB.



PF 2 28 473 002

Code	kg	
799 298 023	0.872	

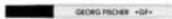
5311

Tangit KS-Cleaning Tissues



Code	kg	
799 298 024	0.360	

Marker



PF 2 55 338 999

Type	Code	kg	
silver	799 350 364	0.010	

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Notes:

General Condition of Supply of Georg Fischer Piping Systems Limited, Schaffhausen

1 General

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

2 Tenders

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

3 Scope of Delivery

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

4 Data and Documents

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

5 Confidentiality, Protection of Personal Data

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

6 Local Laws and Regulations, Export Controls

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

7 Price

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

8 Terms of Payment

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

9 Retention of Title

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

10 Delivery

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

11 Packing

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

12 Passing of Risk

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

13 Carriage and Insurance

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

14 Inspection, Notification of Defects and Damages

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

15 Warranty

- 15.1 At the written request of the Purchaser, Georg Fischer undertake to repair or replace at their discretion, as quickly as possible and free of charge all Products supplied which demonstrably suffer from faulty design, materials or workman-ship or from faulty operating or installation instructions.
In order to protect employees from toxic or radioactive substances which may have been transported through defective parts returned to Georg Fischer's sales organisation, said parts must be accompanied by a Material Safety Disclosure Form. The form may be obtained from Georg Fischer's local sales company or via www.piping.georgfischer.com. Replaced parts shall become property of Georg Fischer.
- 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 cancel the contract or to demand a reduction in the contract price if also a second attempt to repair or replace the Products has failed.
- 15.4 For Products or essential components manufactured by a third party and supplied by Georg Fischer under this contract, Georg Fischer's warranty is limited to the warranty provided by said third party.
- 15.5 This warranty shall not apply to damage resulting from normal wear and tear, improper storage and maintenance, failure to observe the operating instructions, overstressing or overloading, unsuitable operating media, unsuitable construction work or unsuitable building ground, improper repairs or alterations by the Purchaser or third parties, the use of other than original spare parts and other reasons beyond Georg Fischer's control.
- 15.6 No action or claim may be brought by the Purchaser on account of any alleged breach of warranty or any other obligation of Georg Fischer after the expiration of twelve (12) months from receipt of the Products by the end user or at the latest within eighteen (18) months of the Products being despatched by Georg Fischer.
- 15.7 In case of Products for use in domestic installations or in utilities
 - Georg Fischer will assume the costs of dismantling the defective Product and restoring the damaged object as well as, in case of negligence, all other direct damages caused by the defective Product (damage to property and injury to or death of persons) up to CHF 1 000 000 per occurrence.
 - the statute of limitations for warranty or damage claims - contrary to Section 15.6 - will be 5 years from the date of installation.

16 Limitation of Liability

- All cases of breach of contract and the relevant consequences as well as all rights and claims on the part of the customer, irrespective on what ground they are based, are exhaustively covered by these general conditions of supply. In particular, any claims not expressly mentioned for damages, reduction of price, termination of or withdrawal from 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 and other direct or indirect or consequential damage. This exclusion of liability, however, does not apply to unlawful intent or gross negligence on the part of Georg Fischer and in case of strict liability under applicable product liability statutes, but does apply to unlawful intent or gross negligence of persons employed or appointed by Georg Fischer to perform any of its obligations.

17 Severability

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

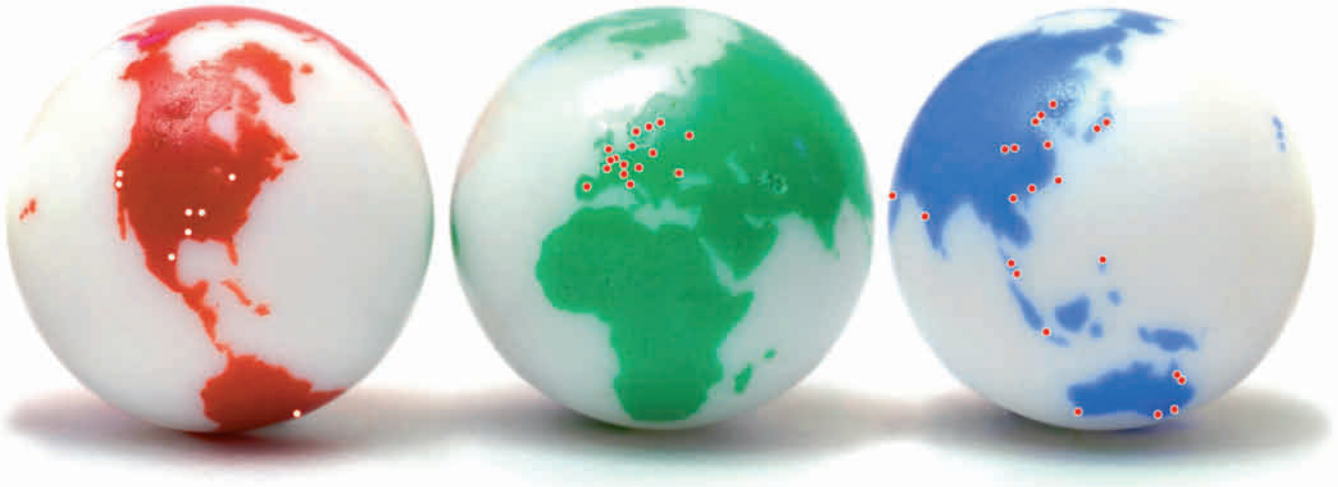
18 Place of Performance and Jurisdiction

- 18.1 Place of performance for the Products shall be the Georg Fischer works from which the Products are despatched.
- 18.2 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.
- 18.3 The contract shall be governed by Swiss law without regard to conflict of law provisions that would require the application of another law.

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The technical data is not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed durability. They are subject to modification. Our General Terms of Sale apply.

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