

Designed for your application

Butt fusion machines for
pipeline construction
up to diameter 630 mm



Make your choice

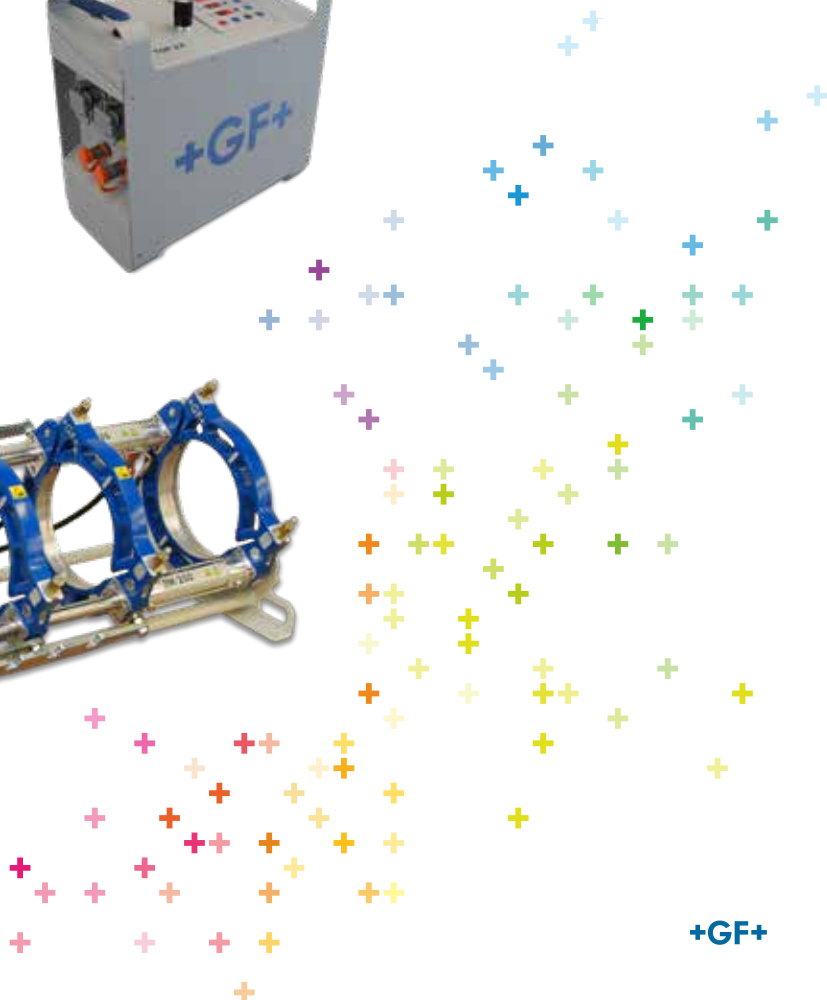
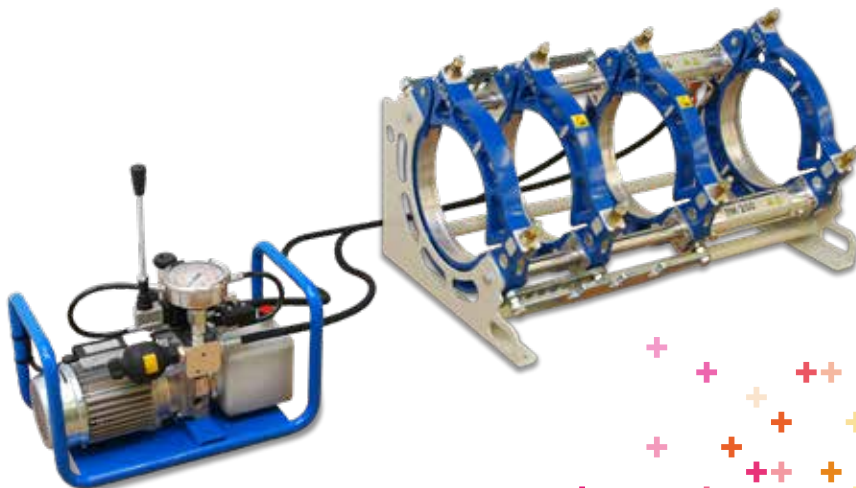
We meet your needs

Find here the right solution for your varied installations in water/gas applications, industry and shipbuilding with pipes and fittings made of PE, PP, PB, PVDF up to diameter 630 mm. All the machines provide high flexibility and reliability in the butt fusion process, even in harsh working conditions, like water treatment or mining projects.



The benefits at a glance

- **ECO S** provides the simplest configuration in the diameter range up to d 315 mm
- **TOP** includes more features to make manual operation and machine set-up easier
- **CNC** machines set the performance at the highest level, thanks to the automatic process control, the complete traceability management (including GPS) and the remote welding data transfer



ECO S 160 – 250 – 315

ECO S is an hydraulic butt fusion machine with manual control unit to joint thermoplastic pipes and fittings for pressure piping systems up to diameter 315 mm. ECO S is designed for installers who need a machine with simple configuration, ensuring a reliable performance in trenches and building sites.

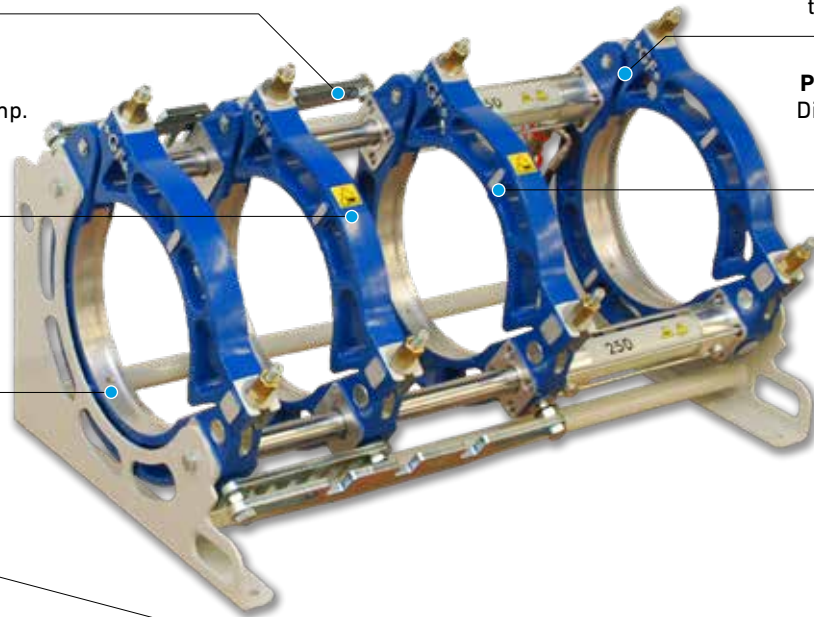
Fast and safe removal of the heating element
Double-sided pull-off mechanism

Flexible configuration
Adjustable position of inner clamp.
3 different positions for the heating element on the pull-off bars

Fast and safe removal / insertion of the pipes
35° inclination of clamp axis

Fast set-up
Upper clamps hinged on top side and swivelling

Precise pipe alignment
Distortion-free machine frame with 4 clamps configuration



Easy operation
Joystick for base machine control and pressure release

Easy handling
Light, compact frame with protection plate

Quick oil level check and refilling
Accessible oil tank

Easy handling
Weight balanced planer with ergonomic handle. Electronic temperature controller integrated in the heating element handle



High performance
Planer with powerful motor and gear transmission

Operation safety
Planer with self-locking mechanism and micro-switch to prevent accidental motor start, out of the working position

TOP 2.0 160 – 250 – 315

TOP 2.0 400 – 500 – 630

TOP 2.0 provides an optimized user's interface to make the manual operation easier and more comfortable. The innovative hydraulic controller, with aluminium case, also offers the functionality for automatic pressure recovering during the cooling time, to ensure a reliable fusion process.

Fast and safe removal of the heating element
Double-sided pull-off mechanism

Fast set-up
Upper clamps hinged on top side and swivelling
(up to d315 mm)

Flexible configuration
Adjustable position of inner clamp.
3 different positions
for the heating element on
the pull-off bars

Precise pipe alignment
Distortion-free machine
frame with 4 clamps
configuration

**Fast and safe removal /
insertion of the pipes**
35° inclination of clamp axis

Easy handling
Smooth tubular frame

Optimized interface for manual operation
Control panel with digital indication of
pressure, temperature, welding times

Push-buttons for machine operation

Automatic cooling pressure control

Easy handling
Compact unit with ergonomic handles

Quick oil level check and refilling
Accessible oil cap with dipstick

Comfort in use
Integrated electric
connectors:
just one cable to
the power source

High protection
Fully closed housing made of aluminium

Easy handling
Weight balanced planer to lift by hand
(up to d315mm).
Electronic temperature controller
integrated in the hydraulic unit

High performance
Planer with powerful motor and
gear/chain transmission

Operation safety
Planer with locking mechanism
and micro-switch to prevent accidental
motor start, out of the working position

CNC 4.0 160 – 250 – 315

CNC 4.0 400 – 500 – 630

Our butt fusion machines up to d315 mm are also available with the innovative CNC automatic controller, which provides the best support to the customer in making a fast, safe, high quality and reliable joint.

Fast and safe removal of the heating element
Double-sided pull-off mechanism

Fast set-up
Upper clamps hinged on top side and swivelling (up to d315 mm)

Flexible configuration
Adjustable position of inner clamp.
3 different positions for the heating element on the pull-off bars

Precise pipe alignment
Distortion-free machine frame with 4 clamps configuration

Fast and safe removal / insertion of the pipes
35° inclination of clamp axis

Fully supervised
Continuous monitoring of machine position to avoid faulty operations

Easy handling
Smooth tubular frame

TOP base machine can be easily upgraded for connection to CNC controller



Automatic hydraulic controller
Touchscreen interface
Automatic process control
Integrated GPS receiver

Easy handling
Compact unit with ergonomic handles

Quick oil level check and refilling
Accessible oil cap with dipstick

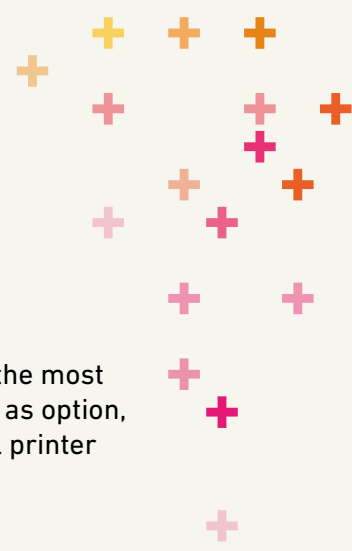
Comfort in use
Integrated electric connectors:
just one cable to the power source

High protection
Fully closed housing made of aluminium

Easy handling
Weight balanced planer to lift by hand (up to d315mm).
Electronic temperature controller integrated in the hydraulic unit

High performance
Planer with powerful motor and gear/chain transmission

Operation safety
Planer with locking mechanism and micro-switch to prevent accidental motor start, out of the working position



CNC 4.0 160 – 250 – 315

CNC 4.0 400 – 500 – 630

The advanced features of the CNC 4.0 hydraulic controller are designed to comply with the most sophisticated requirements in gas and water applications. The CNC 4.0 unit is available, as option, with the bluetooth interface (CNC 4.0 WeldinAir). It is also compatible with optional label printer and barcode scanner.

Transfer of memorized fusion protocols to an external PC via USB memory stick

Automatic calculation, regulation and control of the fusion parameters according to specific country guidelines

Operator ID (ISO 12176-3), job number and pipes/fittings traceability (ISO 12176-4) by means of the barcode scanner (optional)

Intuitive colour touch screen interface

Operator guidance by use of big icons and clear descriptions

Compatible with label printer (optional) to produce stickers with relevant information of the latest welding to be attached in proximity of the jointing area

On site check of the memorized fusion protocols directly on the touchscreen

Language selection

Flexible configuration through a dedicated menu protected by password

Freely programmable fusion cycles for non standard parameters

Bluetooth interface (4.0 WeldinAir version) to connect the unit to consumer smartphones (both Apple and Android) for butt fusion process monitoring, fusion documentation collection and data transfer directly from jobsite

Fusion documentation management by means of a dedicated software (Welding Book)



The System

Our butt fusion machines offer the right solution to cover every specific customer's need thanks to different available models: they adapt to any situation to ensure a the best performance.



Easy and flexible

These machines incorporate several features to minimize the set-up time and to make the operation easier. The adjustable position of the inner clamp provides a time saving and flexible system to configure the base machine for clamping plastic fittings without any additional tool. Ergonomics of the components has been optimized for comfortable handling on site. Intuitive operator interfaces are provided by the hydraulic units of TOP 2.0 (keypad, digital displays) and CNC 4.0 (touch screen).



Robust design

Base machine configuration consists of a sturdy steel frame with 4 clamps to guarantee a proper alignment and re-rounding of pipes. The TOP 2.0 and the CNC 4.0 are protected by a fully closed housing made of aluminium. The high quality of the electrical and hydraulic components guarantees a reliable work even in harsh environments.



Fusion process monitoring and recording

All the machines with manual control unit can be used in combination with the welding data recorder WR 200 (optional). The complete fusion sequence is supervised and recorded to check the quality of the butt-fusion jointing according to country specific guidelines. The welding protocols can be easily exported via USB stick to any personal computer for further management or printout.



Advanced functions

CNC 4.0 hydraulic controller includes further features to comply with sophisticated requirements. That is not just fusion protocols recording: here the welding parameters (pressure, time and heating temperature) are automatically calculated and regulated by the system to guarantee high repetitive accuracy in jointing thermoplastic pipes and fittings according to the selected welding standards.

The Details

Our butt fusion machines encompass many specific features in order to ensure a safe, high quality fusion process and the most complete support to customer's work.



Optimized change-over phase

All the base machines are equipped with a double-sided pull-off mechanism which automatically detaches the heating element plate from the pipe ends in a fast and reliable way after the heat soaking. There are 3 different positions available to insert the heater for adapting to all possible pipes and fittings dimensions. With CNC 4.0 it is also possible to completely automate the change-over phase by combining the base machine with a specific ejection system for the heating element, for sizes 250/315 mm.



Reliable facing and heating of the pipe ends

The planer is designed to ensure a proper performance to suit a wide range of materials (PE, PP, PB, PVDF), thanks to the powerful electric motor and a robust worm-gear or chain drive transmission. It is equipped with a safety micro-switch to prevent accidental motor start out of the working position and a locking mechanism to firmly keep it on the base machine during operation. The heating element is electronically controlled to ensure high accuracy and uniform heat distribution. The built-in thermometer permits a fast check of the actual temperature of the plate.



Fusion data management

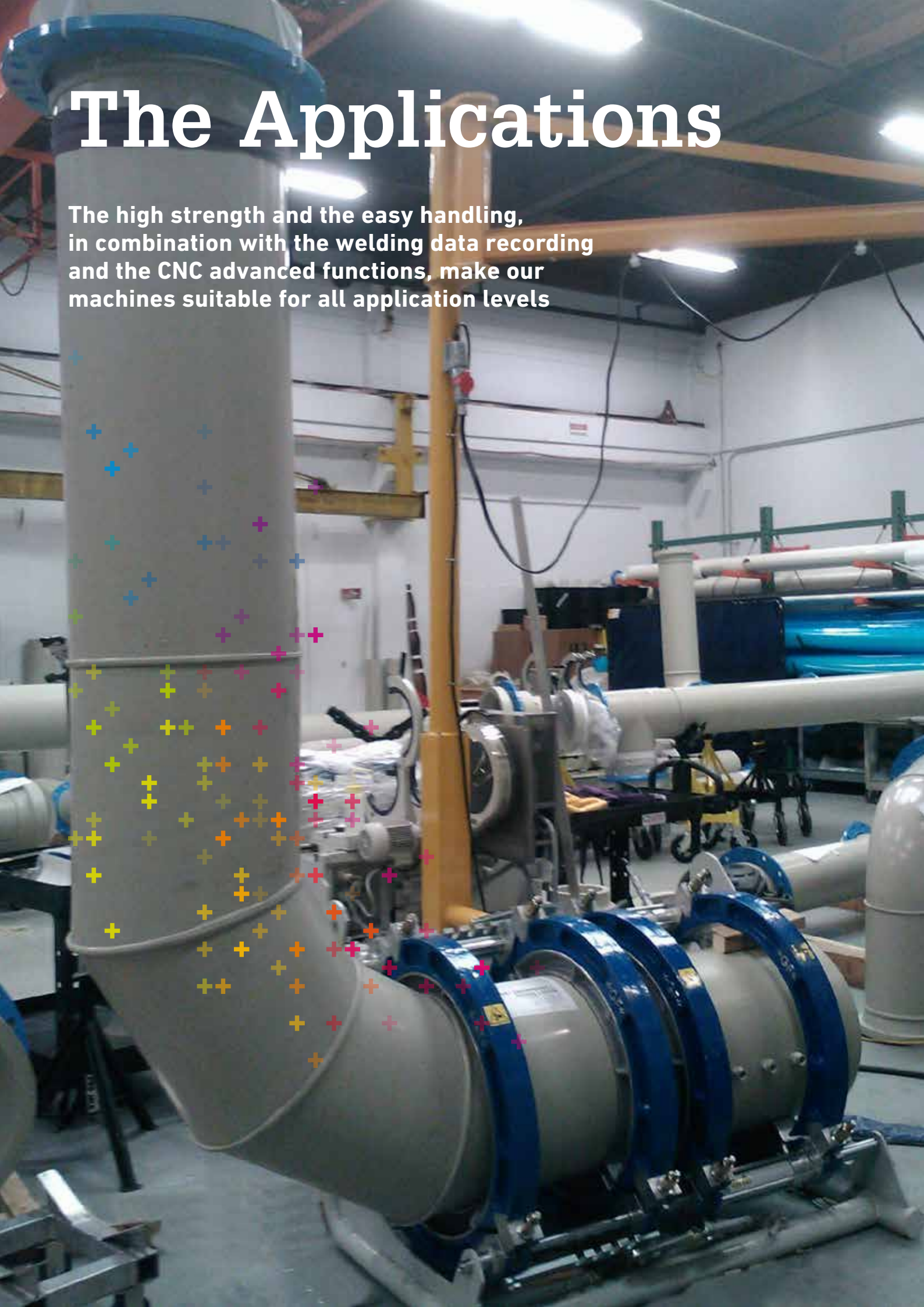
At the end of the welding process with WR 200 or automated CNC 4.0 control unit, the recorded data are saved into an internal memory and can be easily transferred via USB to a personal computer for printing, investigation and digital archive.

The included Welding Book application for data management also offers the opportunity to automatically merge digital photos and videos taken during the job with the recorded fusion protocols for a more complete documentation.

Moreover, CNC 4.0 machines make possible for the installer to enable the tracking of the information required by the specific job procedure on site, like the operator code (ISO 12176-3), job number, traceability data of pipes and fittings (ISO 12176-4). The built-in GPS receiver permits trench localization and automatic map creation in combination with the Welding Book. CNC 4.0 WeldinAir also includes a bluetooth interface to connect to consumer smartphones for process monitoring and remote data transfer to the company office/servers.

The Applications

The high strength and the easy handling, in combination with the welding data recording and the CNC advanced functions, make our machines suitable for all application levels





Transport and distribution, water treatment, mining

When transporting water and gas, a safe and reliable connection is the key success factor, but can be a challenging task: our butt fusion machines are ideal to weld thermoplastic pipes and fittings for new installations, renovation, repair or extension of existing water and gas lines.

These machines can reliably operate within difficult construction sites and ambient temperature conditions, like projects for the conveyance of process water or chemicals as well as on mining sites.

A complete range of accessories, such as electrical hoist or flange adapter clamping unit, provides solutions to fulfill the various customer's needs.



Industry, shipbuilding

Thanks to the high flexibility, these machines properly adapt to many other applications as plant installations or prefabrication of fittings and piping systems components made of an extended range of plastic materials as PE, PP, PB, PVDF.

The modular configuration makes easy to transport and set the machine components even in places with limited accessibility, as it could be on board ship.

In case of vertical installations or reparation of existing pipelines, the special RU compact base machine is available, to be used in combination with manually operated ECO S or TOP 2.0 hydraulic units: it consists of 2 clamps (3rd optional) without frame to be easily placed at high places or inside narrow trenches.



Specifications

Our product range offers the right butt-fusion machine to meet the specific customer's demand for pipe and fittings connection up to diameter 630 mm.

Technical specifications (*machine size)	ECO S	TOP 2.0	CNC 4.0
Operating conditions			
Pipe diameter range [mm]	40 - 160 (*160) 75 - 250 (*250) 90 - 315 (*315)	40 - 160 (*160) 75 - 250 (*250) 90 - 315 (*315) 125 - 400 (*400) 200 - 500 (*500) 315 - 630 (*630)	50 - 160 (*160) 75 - 250 (*250) 90 - 315 (*315) 125 - 400 (*400) 200 - 500 (*500) 315 - 630 (*630)
Material		PE, PP, PB, PVDF	
Working temperature range	min. -10 °C max. +45 °C	min. -10 °C max. +45 °C	min. -10 °C max. +45 °C
Electrical data			
Input voltage (VAC)	230	230 (*160-315) 400 (*400-630)	230 (*160-315) 400 (*400-630)
Frequency range (Hz)	50 - 60	50 - 60	50 - 60
Input power (KW)	1.9 (*160) 3.3 (*250) 3.8 (*315)	1.9 (*160) 3.3 (*250) 3.8 (*315) 5.7 (*400) 7.0 (*500) 11.0 (*630)	1.9 (*160) 3.3 (*250) 3.8 (*315) 5.7 (*400) 7.0 (*500) 11.0 (*630)
Product features			
Fully closed housing for the hydraulic unit		✓	✓
One single plug to power supply		✓	✓
Control panel integrated in the hydraulic unit		✓	✓
Safety micro-switch for the planer	✓	✓	✓
Locking mechanism for the planer	✓	✓	✓
Electronic temperature controller	✓	✓	✓
Fusion data recording	Optional	Optional	✓
Automatic process control			✓
Barcode scanner			Optional
Operator's code input (ISO 12176-3)			✓
Pipes and fittings traceability (ISO 12176-4)			✓
GPS coordinates			✓
Label printer			✓
Bluetooth connection for remote data transfer			WeldinAir version
Wide reduction inserts for clamps	Optional	Optional	Optional
Narrow reduction inserts for clamps (to suit short-ended fittings)	Optional	Optional	Optional
Flange adapters clamping device	Optional	Optional	Optional
Chamfered upper clamp (to suit bend fittings with max diameter)	Optional	Optional	Optional
Automatic heater ejection system			Optional (*250-315)
Hoist unit (to lift planer and heater)		Optional (*400-630)	Optional (*400-630)
Product codes			Standard / WeldinAir
160	790150009	790150011	790150012 / 790150076
250	790151013	790151011	790151012 / 790151076
250 with automatic heater ejection			790151071 / 790151077
315	790152028	790152026	790152012 / 790152076
315 with automatic heater ejection			790152071 / 790152077
400		790153011	790153001 / 790153076
500		790154011	790154007 / 790154078
630		790155011	790155001 / 790155076

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www.gfps.com

Argentina / Southern South America

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

Australia

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

Austria

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

Belgium / Luxembourg

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

Brazil

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

Canada

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

China

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

Denmark / Iceland

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

Finland

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

France

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

Germany

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

India

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

Indonesia

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

Italy

Georg Fischer S.p.A.
20063 Cernusco S/N (MI)
Phone +39 02 921 86 1
Fax +39 02 921 86 24 7
it.ps@georgfischer.com
www.gfps.com/it

Japan

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

Korea

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

Malaysia

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

Mexico / Northern Latin America

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

Middle East

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

Netherlands

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

New Zealand

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

Norway

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

Philippines

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

Poland

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

Romania

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

Russia

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

Singapore

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

Spain / Portugal

Georg Fischer S.A.
28046 Madrid / Spain
Phone +34 (0) 91 781 98 90
Fax +34 (0) 91 426 08 23
es.ps@georgfischer.com
www.gfps.com/es

Sweden

Georg Fischer AB
11743 Stockholm
Phone +46 (0) 8 506 77 50 0
Fax +46 (0) 8 749 23 70
info.se.ps@georgfischer.com
www.gfps.com/se

Switzerland

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

Taiwan

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

Turkey

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

United Kingdom / Ireland

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

USA / Caribbean

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

Vietnam

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

International

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

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