



# FCW COMPACT CIRCUMFERENTIAL SEAM WELDING SYSTEM

Applications: circumferential and overlay welding  
Welding processes: MIG-MAG, CMT, TIG HW/CW, ArcTig, Plasma



Video FCW Compact  
*/ Visit our website*

## FCW COMPACT:

### WELDS MORE THAN JUST PIPES.

The FCW Compact circumferential seam welding system really comes into its own when used in container and pipeline construction. For connecting pipes, flanges and containers. But that's not all – it can even be used for overlay welding (option).

#### One compact system – a whole host of benefits:

- / Offers many functions but requires little space
- / Configure to suit your individual needs
- / Useful software packages
- / Wide choice of Fronius welding processes
- / Ideal for welding different components
- / Component lengths from 1 – 6 m, dia. up to 500 mm
- / Change components quickly and easily
- / Convenient and intuitive to use
- / Change parameters during welding

What's your  
welding challenge?

Let's get connected.

CONTAINER BASES FIRST,  
THEN PIPE JOINTS,  
FOLLOWED BY PIPE-TO-FLANGE JOINTS,  
THEN CONTAINER BASES AGAIN.

**ALL WITH JUST ONE WELDING SYSTEM.**

# A STRONG PARTNERSHIP FOR DEMANDING TASKS

A wide range of parts of all shapes, sizes, and weight classes require intelligent welding solutions. The close partnership with Fronius means that an efficient and reliable supply of such solutions is guaranteed.

We are there whenever you need us – **QUICKLY, COMPETENTLY, WORLDWIDE.**



## QUALITY

- / High-quality systems that meet every industry standard
- / Outstanding service thanks to highly skilled experts
- / Global support at a local level



## COST EFFECTIVENESS

- / Intelligent integration of our systems in the respective manufacturing process
- / Production costs and cycle times for further developments are always in mind
- / Immediate availability of replacement devices and spare parts in the event of downtime



## KNOW-HOW

- / Latest developments from the welding sector
- / Professional training for your employees
- / Comprehensive knowledge of welding processes and their application



## GOOD RELATIONSHIPS

- / Long-standing partnerships and reliable collaboration with customers
- / Reliable contact partner and provision of intensive support for all welding matters

# SOPHISTICATED DOWN TO THE VERY LAST DETAIL. CLEVER DESIGN AND FUNCTION.

## THE FCW COMPACT EXCELS IN THESE AREAS



Pipe-pipe



Pipe-flange



Pipe-elbow



Pipe-pipe plate

## THE HIGHLIGHTS

### MATERIAL

- / Steel
- / Stainless steel
- / Aluminum
- / Duplex
- / Nickel-based alloys

### VARIETY

### INTELLIGENCE

- / HMI system control
- / Welding data actual value recording (AVR)
- / HMI DataLogger/DataViewer
- / Glare protection on articulated arm
- / Protective enclosure & extraction

### SAFETY





## COMPACT DESIGN

/ Clever system concept ensures high functionality and takes up little space.



## IDEAL FOR

/ Pipeline and container construction  
/ Component length up to 6000 mm  
/ Component diameter up to 500 mm



## SOFTWARE PACKAGES

/ Welding data recording  
/ Oscillation (OSC)  
/ Arc control (ASC, AVC)  
/ Overlay welding



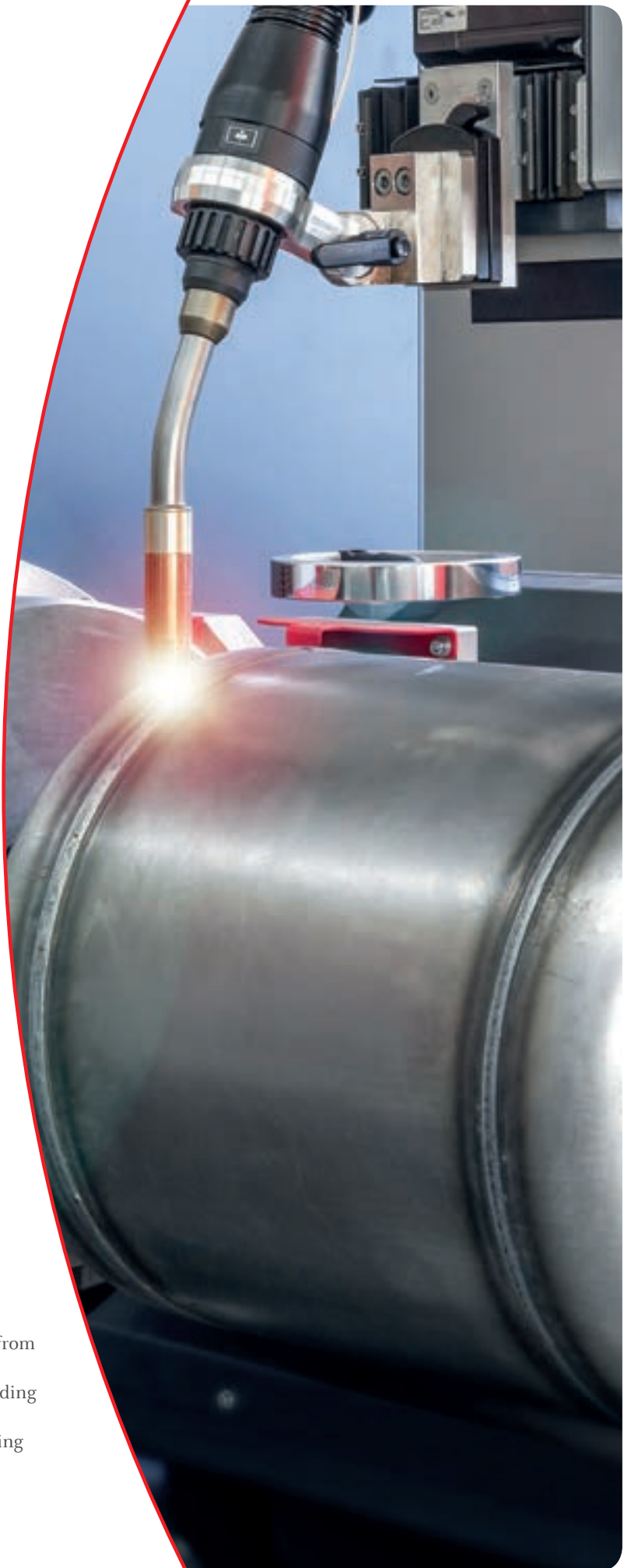
## WELDING PROCESS

/ TIG cold wire & hot wire  
/ ArcTig  
/ Plasma  
/ MIG-MAG, CMT



## INDIVIDUAL OPTIONS

/ 4 sizes can be selected for components from 1 - 6 m  
/ Second independently controllable welding head unit  
/ Tailstock with electropneumatic clamping system





### STAND

/ Different versions and combinations possible.



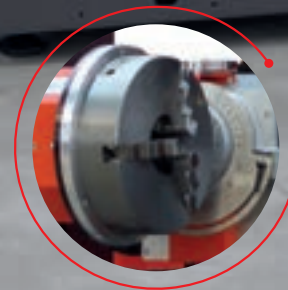
### WIREFEEDERS

/ Different variants can be configured depending on the welding process.



### POWER SOURCE SETS

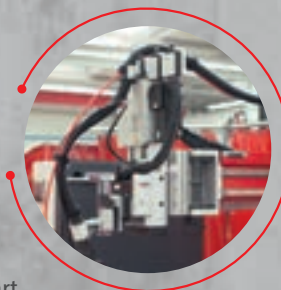
/ For MIG-MAG, CMT, ArcTig, TIG and plasma applications



# FCW COMPACT SINGLE VARIANT

## MOTOR SLIDE

- / Welding torches are moved into position by motor. Horizontally and vertically. Even after the end of welding.
- / Touch & Retract, automatic start position
- / Arc correction (ASC, AVC), optional
- / Oscillation (OSC), optional



## SUPPORT UNITS

- / Adjustable support unit for perfect component guiding
- / Additional support units can be selected

## TURNING DEVICE

- / Can be moved manually on the linear guide
- / Rotation speeds of 0.06 – 6 rpm
- / Hollow shaft for forming gas
- / Optional motorized swiveling
- / Hollow shaft dia. 120 mm
- / Optional forming gas unit

### SYSTEM CONTROL

- / HMI-T10 system control
- / 10.4" touch display
- / 4 power sources and up to
- / 12 welding/positioning axes
- / USB port
- / Remote maintenance via the Internet

### POWER SOURCE SETS

- / For MIG-MAG, CMT, ArcTig, TIG and Plasma applications





# FCW COMPACT DUAL-VARIANT



## REMOTE CONTROL

- / HMI-RC remote control
- / Axis movement, parameter correction, program sequence
- / Emergency stop button
- / 3-stage enabling button

## TAILSTOCK

- / Tailstock with electropneumatic two-handed operation
- / Stroke 100 mm
- / Clamping force 1800 N

# OPTIONAL COMPONENTS



## MOTORIZED TILT FUNCTION

/ Can be tilted +/-90°



## DUAL SYSTEM

/ Second welding head with stand  
/ Five motorized axes  
/ Torch head can be rotated 90° and swiveled +/- 45°  
/ Wirefeeder holder



## ADDITIONAL SUPPORT UNIT

/ Diameter range 50 – 500 mm  
/ Pneumatic clamping on the rail system  
/ Emergency stop button



## TAILSTOCK

/ Electropneumatic two-handed operation  
/ Stroke 100 mm  
/ Clamping force 1800 N



## FCW COMPACT WELDING PROCESSES

/ The application  
determines the welding  
process.

### GMAW (MIG-MAG)

**Application area:** Joint welding: Thin, medium and large sheet thicknesses

**Characteristics:** Flexible use, large deposition rates and fast welding speeds possible

**Material:** Unalloyed, low- and high-alloy steels, aluminum, copper, nickel/nickel alloys, special metals

### CMT – COLD METAL TRANSFER, THE “COLD” GMAW WELDING PROCESS

**Application area:** Joint welding: Thin sheet thicknesses (e.g. aluminum sheets of 0.3 – 0.8 mm); overlay welding

**Characteristics:** Exact process control, extremely stable, clean and spatter-free

**Material:** Steel-aluminum joints, aluminum sheets, stainless steel, magnesium

### TIG

**Area of application:** Joint welding: Sheet thicknesses from 0.3 mm; overlay welding

**Characteristics:** Very high seam quality, consistently even weld seam, no spatter

**Material:** Aluminum, copper, nickel and their alloys, high-alloy steels, special metals

### ARCTIG – INNOVATIVE HIGH-PERFORMANCE TIG PROCESS

**Area of application:** Joint welding: Sheet thicknesses of 3 – 10 mm (single pass)

**Characteristics:** Compared to conventional TIG welding: Up to 100% faster, lower energy and gas consumption, less filler metal, no seam preparation, lower costs

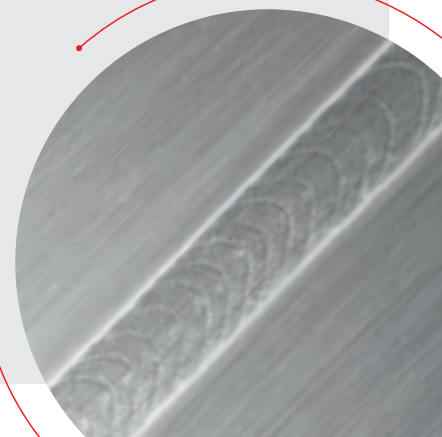
**Material:** Steel, (super) duplex, chrome/nickel steels, nickel-based materials, titanium

### PLASMA – MICRO PLASMA, SOFT PLASMA, PLASMA KEYHOLE

**Area of application:** Joint welding: Sheet thicknesses of 0.1 – 10 mm (single pass)

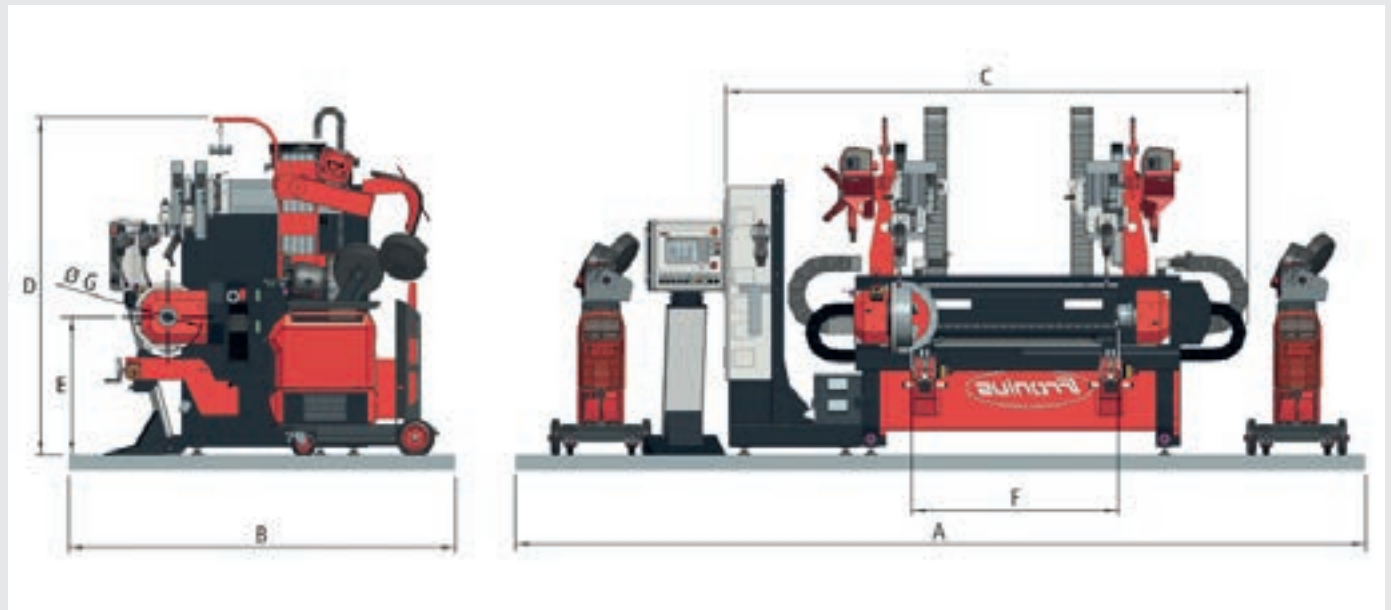
**Characteristics:** Alternative to TIG. Less seam preparation, longer service life, faster welding speeds, less filler metal and lower energy consumption, lower costs

**Material:** Coated/uncoated steel, chrome-nickel steels, nickel-based materials, titanium



# TECHNICAL DATA FCW COMPACT

FCW COMPACT	SINGLE-HEAD VARIANT 1000 / 3000 / 4000 / 6000	DUAL-HEAD VARIANT 1000 / 3000 / 4000 / 6000
Welding processes	MIG-MAG, CMT, TIG cold wire/hot wire, ArcTig, PLASMA	
Mains voltage	50 – 60 Hz, 2 x 400 V	
Space requirement (A)	4500 / 6500 / 7500 / 9500 mm	5500 / 7500 / 8500 / 10500 mm
Space requirement (B)	2500 mm	
Maximum length (C)	3040 / 5040 / 6040 / 8040 mm	3378 / 5378 / 6378 / 7378 mm
Height (D)	2182 mm	
Working height (E)	893 mm	
Maximum component length (F)	1000 / 3000 / 4000 / 6000 mm	
Face plate diameter (G)	450 mm	



/ Perfect Welding / Solar Energy / Perfect Charging

## THREE BUSINESS UNITS, ONE GOAL: TO SET THE STANDARD THROUGH TECHNOLOGICAL ADVANCEMENT.

What began in 1945 as a one-man operation now sets technological standards in the fields of welding technology, photovoltaics and battery charging. Today, the company has around 5,440 employees worldwide and 1,264 patents for product development show the innovative spirit within the company. Sustainable development means for us to implement environmentally relevant and social aspects equally with economic factors. Our goal has remained constant throughout: to be the innovation leader.

Further information about all Fronius products and our global sales partners and representatives can be found at [www.fronius.com](http://www.fronius.com)

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