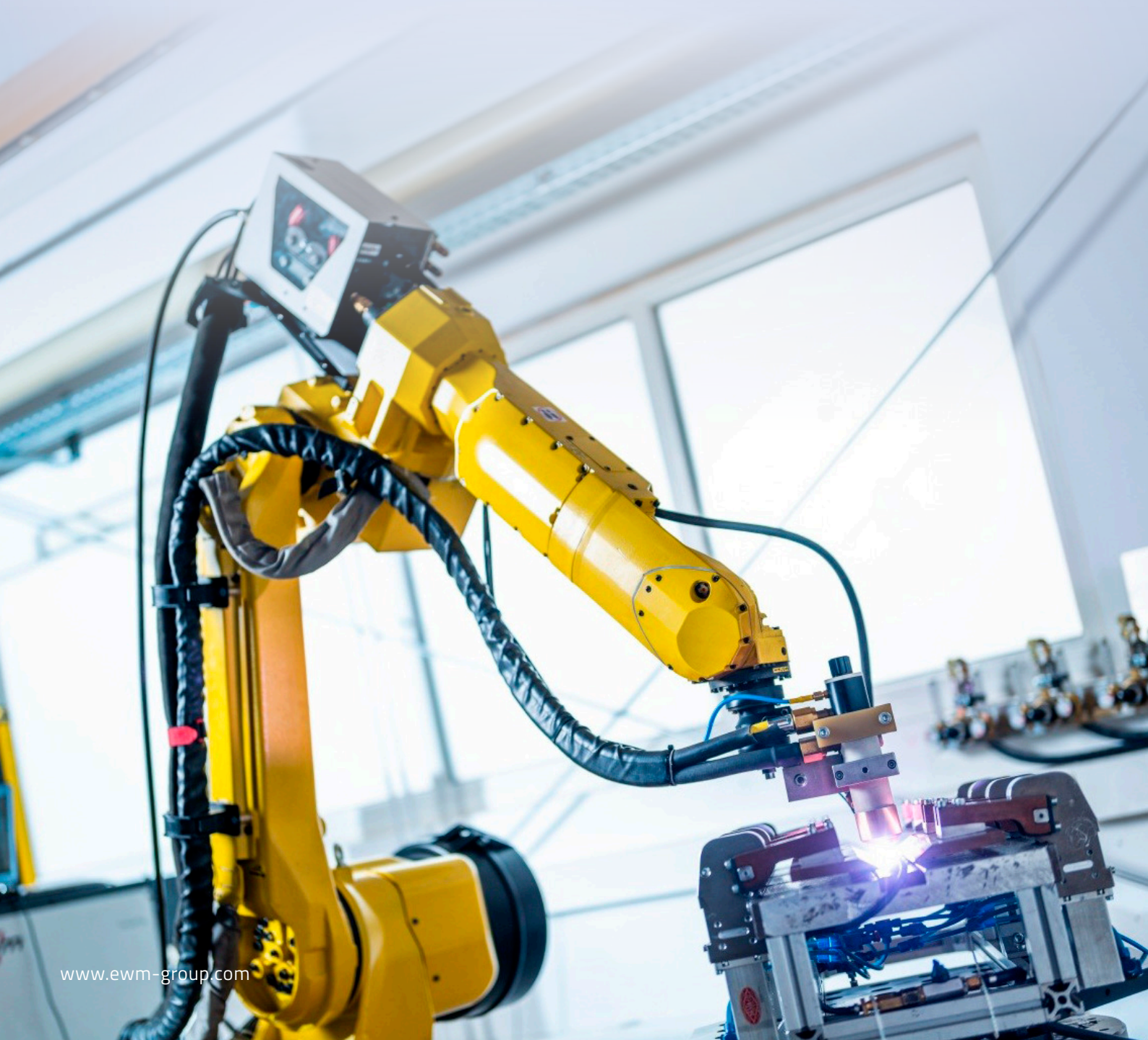


TIG

forceTig[®]

THE EFFICIENT HIGH-PERFORMANCE TIG
JOINING PROCESS



forceTig®

THE REVOLUTION IN TIG WELDING.

We are blazing new trails in the area of TIG welding with forceTig. The high-performance welding process starts where other conventional TIG solutions leave off.

The simple, cost-effective forceTig process offers all the benefits of laser and plasma cutting, especially when it comes to welding speed, stability and penetration depth. forceTig is now a true master of versatility, allowing users to weld virtually all metals – even with various material thicknesses or gap widths.

HOW DOES FORCETIG WORK?

Combining our high-performance power sources and effective welding torch and electrode cooling, users can work with welding currents far beyond those available for standard TIG solutions. In addition, the arc's outstanding electrode cooling is even more concentrated and constricted, which in turn significantly increases the arc's directional stability. The high-power range in particular allows high-alloy steels to be joined reliably with a single layer using keyhole technology.

YOUR BENEFITS +

- High currents possible for continuous operation – up to 1,000 A at 100% duty cycle
- Different torch constructions – perfectly equipped for all applications
- Welding torches can also be used with our automated standard TIG power sources using a media separation box
- Can be used to weld on material thicknesses up to 10 mm of high-alloy steels without seam preparation and in a single layer, no backing required
- Also suitable for non-ferrous metals such as copper, aluminium and titanium
- Usual TIG quality, spatter-free, high weld seam quality and more reliable
- Keyhole effect for high-alloy steel in the high-power range to ensure reliable root fusion
- Perfect for PA, PC and PG positions
- Increased welding speed and fewer parameter settings than with plasma welding procedures
- Increased deposition rate possible thanks to hot wire, allows for cost-effective surfacing

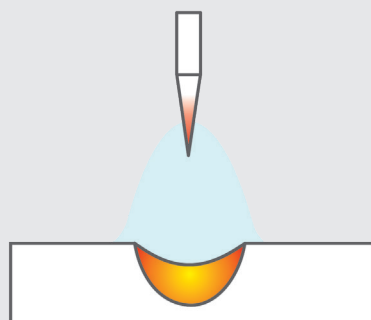
HIGH-PERFORMANCE FOR PERFECT RESULTS.

Whether it's for mechanised or automated applications, for thick or thin sheets, with or without filler wire – forceTig is universal in use and suitable for a wide range of areas, including pipe production, the automotive industry, the food industry or turbine construction. Here the high-performance process scores points with its low energy per unit length, high current-carrying capacity, significantly reduced distortion and more.

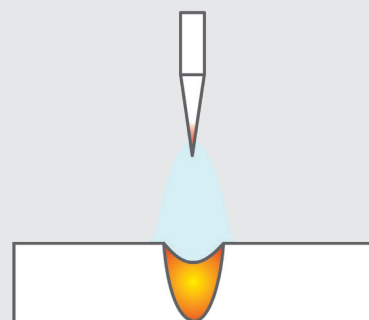


Standard TIG arc vs. forceTig:

- Better focused arc
- Deeper penetration
- 100% reproducible tool centre point (TCP), perfect for automated applications
- Electrode easier to change without gauges thanks to defined, calibrated geometry
- Very high current-carrying capacity, high current density
- Stable welding torch design for increased crash safety



Standard TIG arc



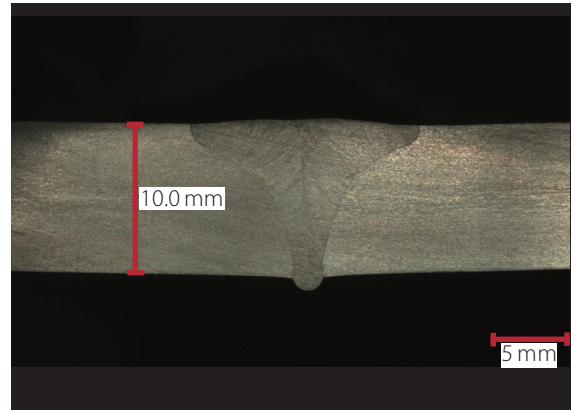
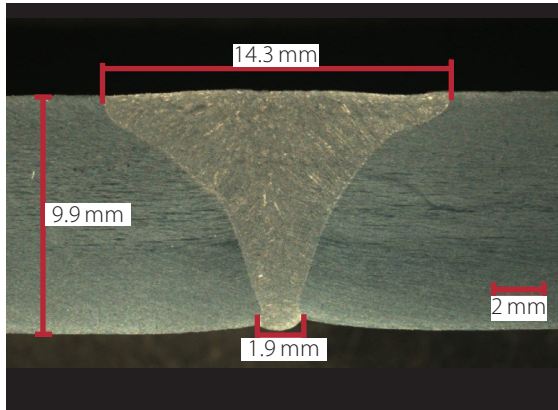
forceTig

FIELDS OF APPLICATION.

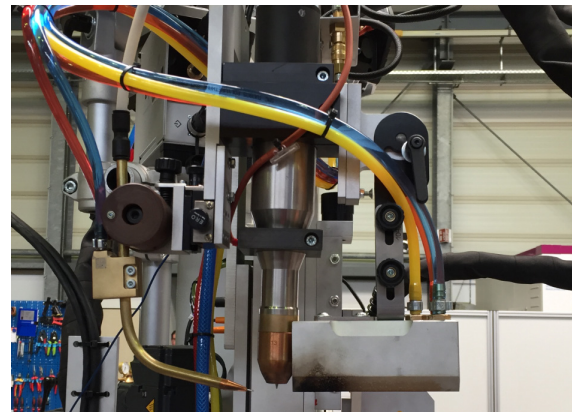
UNIVERSAL USE ACROSS VARIOUS INDUSTRIES.

With its outstanding features, forceTig is a true all-round talent for both industry and trade. The welding process is particularly effective in certain industries and helps to reduce productions costs while increasing efficiency and quality. Container construction (e.g. in the food industry), turbine construction, pipe construction using high-alloy steels (e.g. chemical industry) and endless production of pipes – forceTig makes common work tasks easier for users in a wide range of industries.

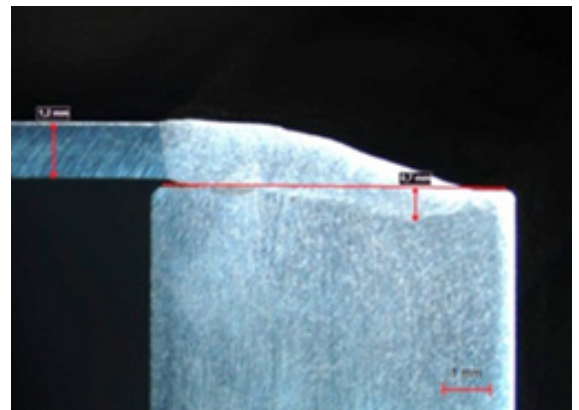
Welding with varying and large material thicknesses.

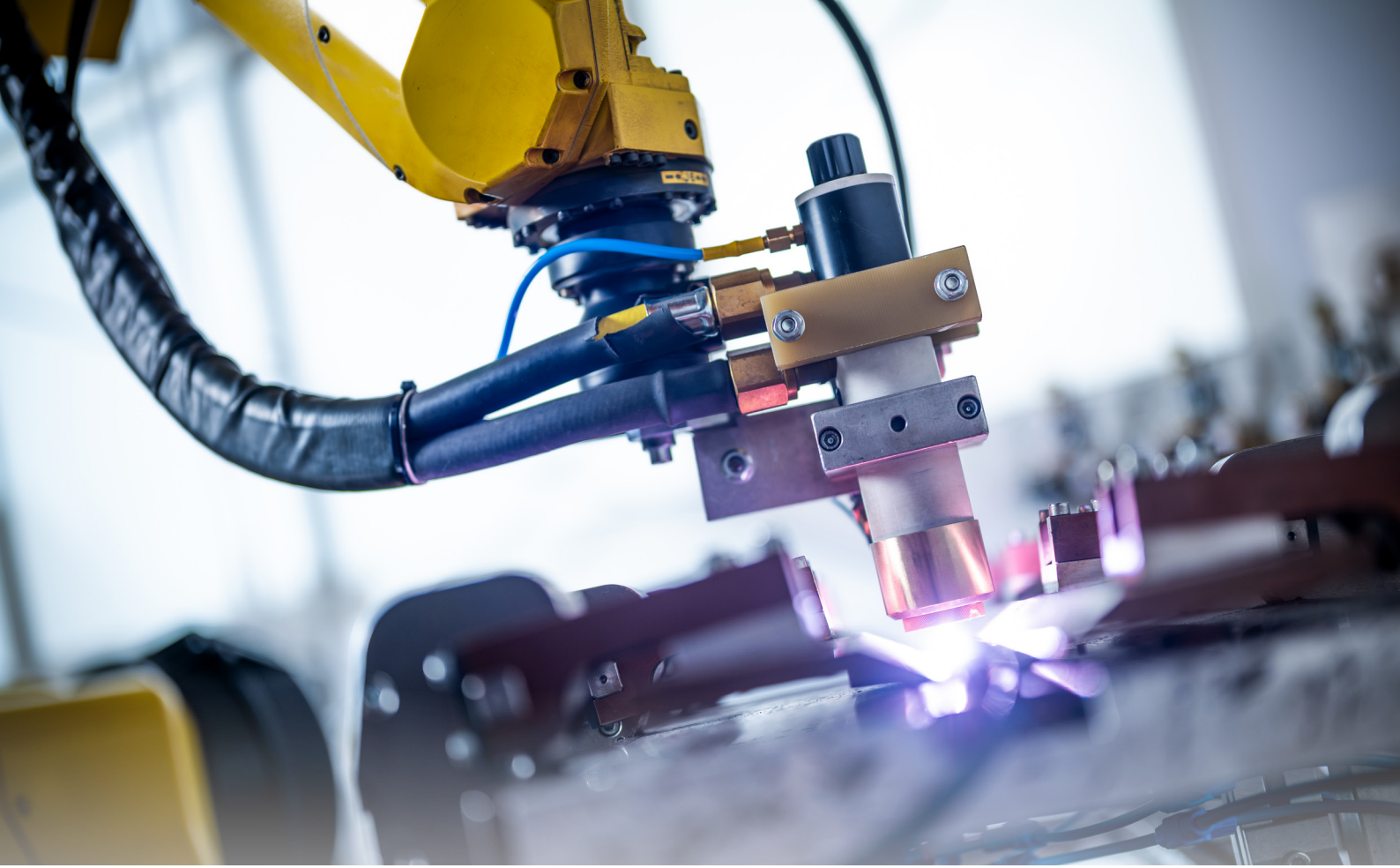


TIG joining processes can be used universally in the areas of thin and thick sheet metal processing, as part of automated or mechanised sequences, with and without filler wire.

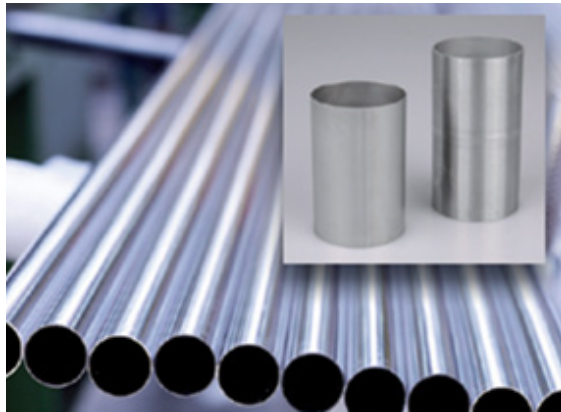
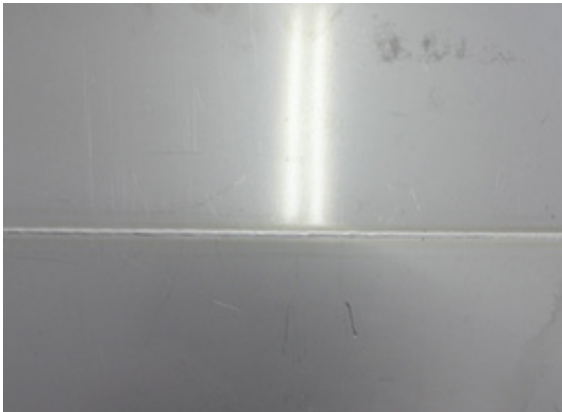


Automated robot applications for joining pipe-flange connections.

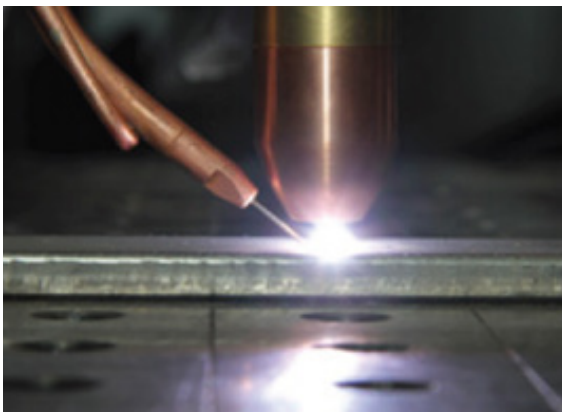




Welding thin panels and pipes without welding consumables.



Users can work with almost all metals for surfacing and cladding with hot wire.



WELDING SYSTEM OVERVIEW.

EXAMPLE CONFIGURATION: MECHANISED SYSTEMS.

Integrating the welding system into mechanised systems is super simple and can be done in just a few steps. First, control is established via the 19-pole interface for automated welding. The parameter settings can then be configured using the Synergic front control, the RT50 or the PC300 remote control. Finished! You can now use forceTig for perfect results in all your welding tasks.

START/STOP and I>0 evaluation via 19-pole interface for automated welding.



RK3.1 recoling unit required



Flow monitoring via external flow sensor



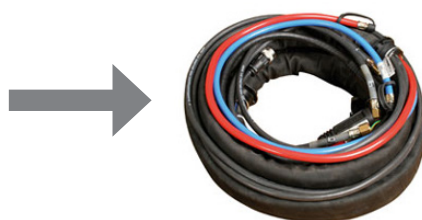
forceTig welding torch
FT500 / FT1000 / FT1000 AX / FT1002



Optional RT50 remote control



The forceTig media separation box can be mounted "externally" or on the power source using an adapter plate.



A corresponding 95 mm²/water/19-pol. connecting hose package (for 1000 series: 2 x 95 mm² screwed) connects the power source and media separation box. The maximum total length of the connecting hose package and welding torch is 18 m.

WELDING SYSTEM OVERVIEW.

EXAMPLE CONFIGURATION: MECHANISED SYSTEM WITH FILLER WIRE.

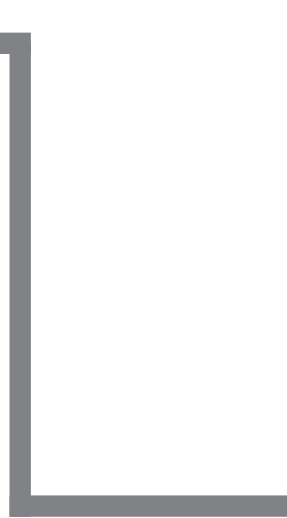
Even where filler wire is used, integrating the welding system into mechanised systems is no problem. Control is established using a special RINT X12 ATCASE interface with 28-pole connection. A Synergic front control or remote control is used to set the parameters. The following models are suitable for this process: RT50, FR AW1 and PC300.



Cold wire regulation and cold wire ON
via FR AW1 remote control



START/STOP and I>0 evaluation
via 28-pole connection socket



RK3.1 recoling unit required



Flow monitoring via
external flow sensor

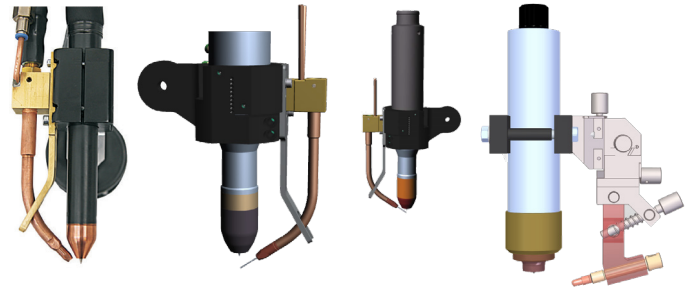
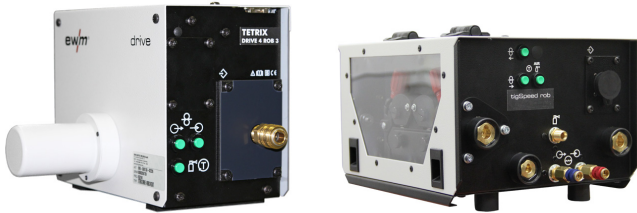


TIG wire feeder

T drive 4 Rob 2 / T drive 4Rob 3 / tigSpeed drive 4 Rob

forceTig welding torch

FT500 / FT1000 / FT1000 AX / FT1002



VSLP connecting hose package
for connecting the wire feeders



Optional RT50 remote control

The forceTig media separation box
can be mounted "externally" or on the
power source using an adapter plate.



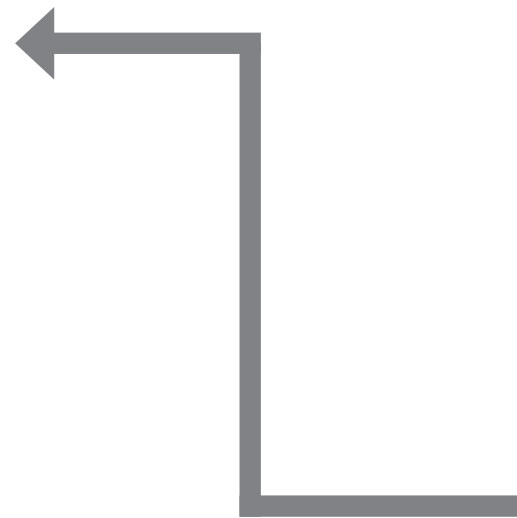
A corresponding 95 mm²/water/19-pol. connecting hose package
(for 1000 series: 2 x 95 mm² screwed) connects the power source and media separation box.
The maximum total length of the connecting hose package and welding torch is 18 m.

WELDING SYSTEM OVERVIEW.

EXAMPLE CONFIGURATION: FULLY AUTOMATED SYSTEMS WITH MAXIMUM FUNCTIONS.

The direct route to maximum functions – it's easy, even with integration into fully automated systems. Control is established via the RINT X12 or BUSINT X11 interface. Parameters are set via PC300 software in programme mode or via higher-level control in control signal mode.

Control via
RINT X12/BUSINT X11 interface
in programme or control signal mode



RK3.1 recoling unit required



Flow monitoring via
external flow sensor

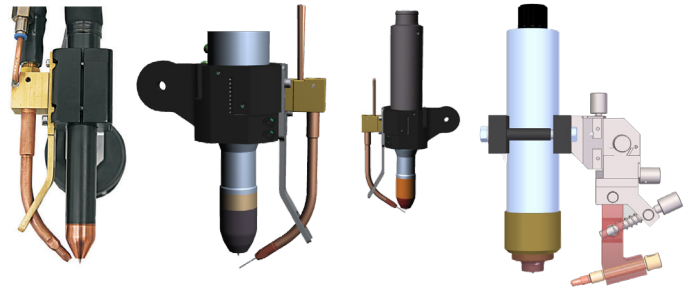
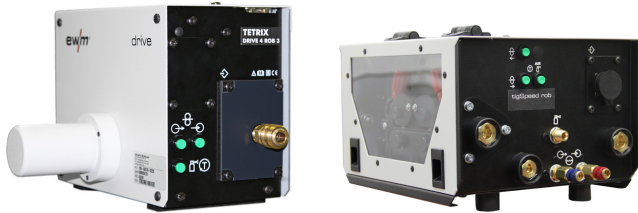


TIG wire feeder

T drive 4 Rob 2 / T drive 4Rob 3 / tigSpeed drive 4 Rob

forceTig welding torch

FT500 / FT1000 / FT1000 AX / FT1002



VSLP connecting hose package
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Optional RT50 remote control

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THE MEDIA SEPARATION BOX.

FOR CONNECTION TO AUTOMATED TIG-XX2 POWER SOURCES.

The forceTig media separation box is available in several models for connection to power sources with up to 550 A and for power sources of 1000 A. Connection to the power source is established using a corresponding connecting hose package. The media separation box is also equipped with a gas valve, gas test push-button and gas pressure sensor. The forceTig media separation box can be mounted on the side of the power source using an adapter plate or "externally" on a mounting console.



Front view



Rear view



RECOMMENDED POWER SOURCES.



TETRIX 552

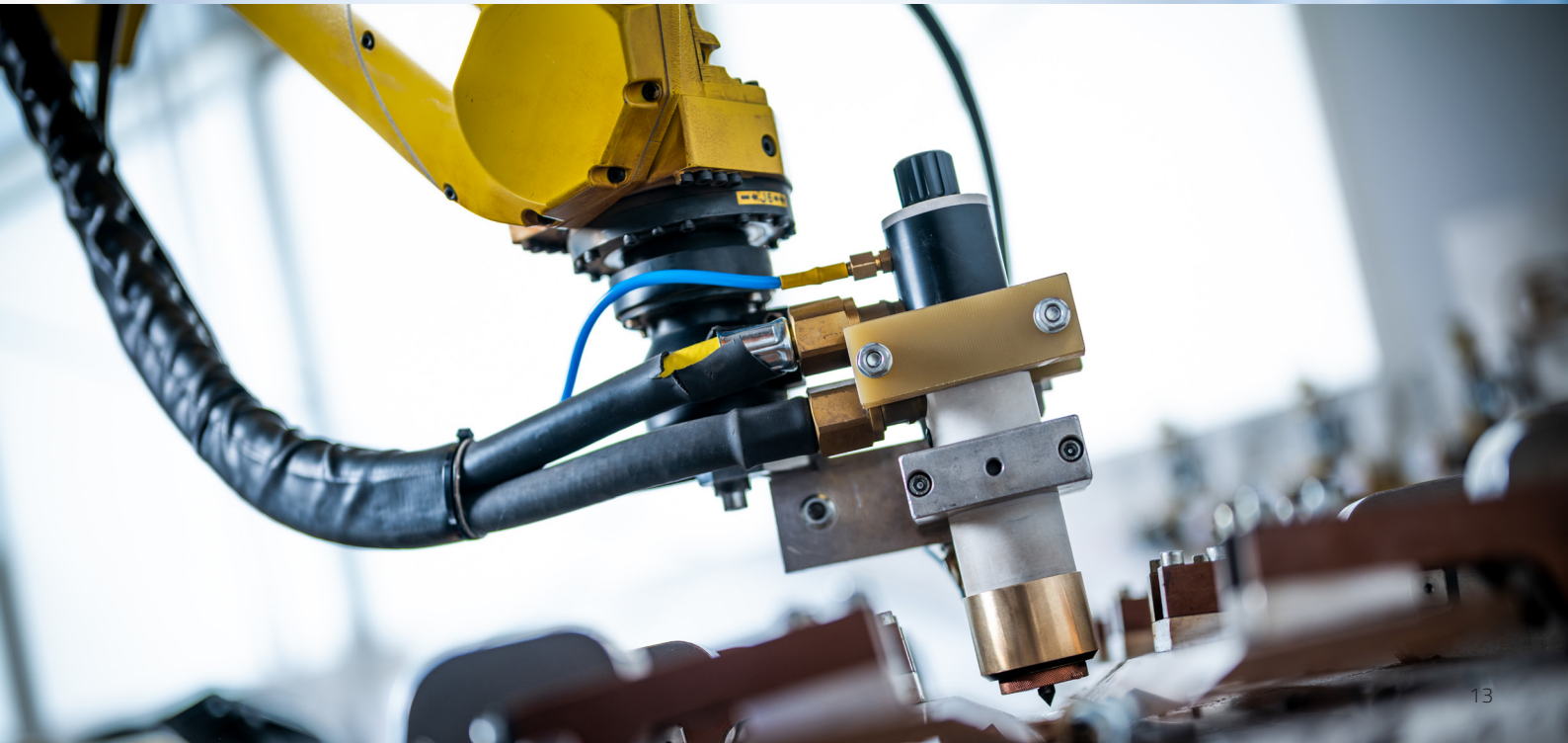
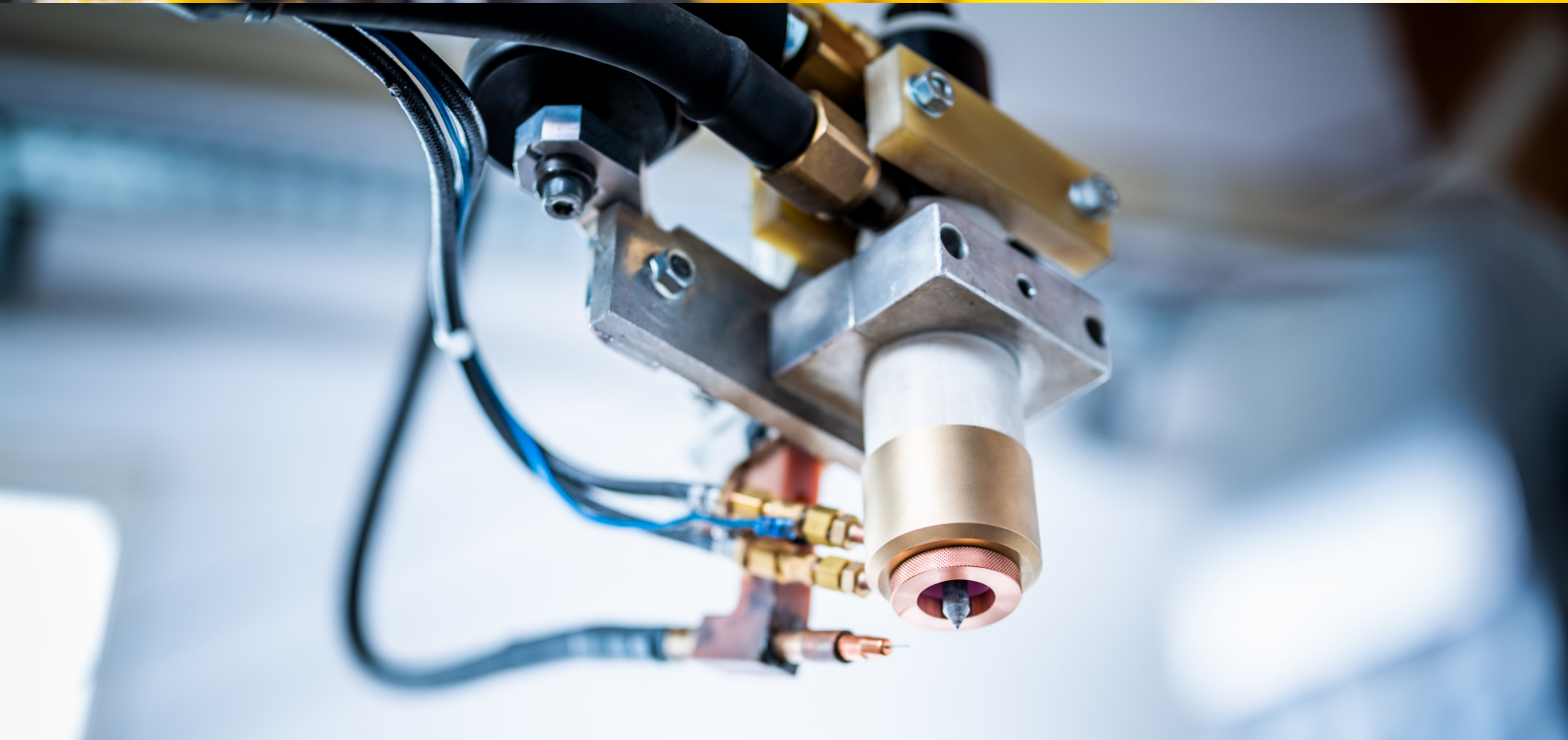


TETRIX 552 HW



TETRIX 1002

Welding current	5 A – 550 A	5 A – 550 A	10 A – 1000 A
Hot wire current	–	5 A – 180 A	–
Duty cycle 40 °C	550 A / 60% 420 A / 100%	550 A / 60% 420 A / 100%	1000 A / 80% 750 A / 100%
Open circuit voltage	80 V	80 V	80 V
Variants/options			
DC	✓	✓	✓
AC/DC	✓	–	–
Filler wire	✓	✓	✓
tigSpeed	On request	✓	On request





WE ARE WELDING

We're happy to help: sales@ewm-group.com

EWM is your partner for the best welding technology. With EWM, you'll weld more efficiently, more reliably and produce higher-quality results. EWM's innovative systems, high-performance welding procedures, digital technologies and services, as well as expert consultation, all support you in achieving perfect results in your welding tasks.



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