

/ Perfect Welding / Solar Energy / Perfect Charging



SHIFTING THE LIMITS



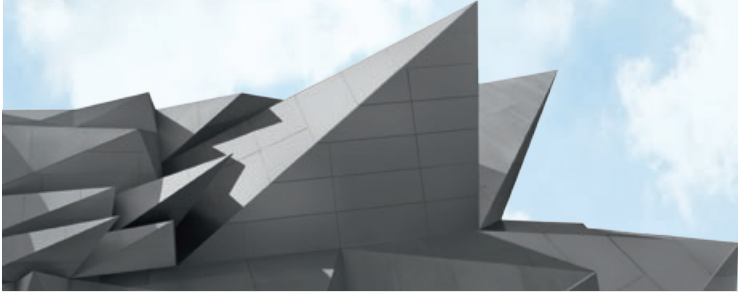
# TRANSSTEEL 3500/5000

/ MIG/MAG welding system



**STEEL TRANSFER  
TECHNOLOGY**

/ Ever since 1950, we've been developing innovative comprehensive solutions for arc welding and resistance spot-welding. Like our Cold Metal Transfer technology CMT. This revolutionary welding process has swept away one old prejudice: that you can't weld aluminium and steel to one another. Day-in, day-out, we're working on our vision: to 'decode the DNA of the arc'. No wonder that we're the welding-sector's technological leader worldwide, as well as being the European market leader.



## **THE RUGGED PARTNER FOR STRUCTURAL-STEEL FABRICATORS**

### **GENERAL REMARKS**

#### **ALWAYS ON THE SAFE SIDE**

/ In structural-steel fabrication, reliability is the name of the game. This, in turn, necessitates sturdy, rugged tools. The same is true of steel welding. TransSteel has been created with precisely this in mind: a rugged and reliable partner that stands out for its intelligent appliance design and for being extremely easy to operate. Digitally controlled and primed with expert knowledge, the TransSteel welding system is ready, willing and able to deliver superlative steel welding, and guarantees 100 % system performance!

### **PROCESS**

#### **DIGITAL WELDING TECHNOLOGY**

/ With its digital control of the welding process, TransSteel stands for 100 % reproducible welding results. As the market leader in digital welding power sources, Fronius is a byword for an exceptionally stable steel-welding arc.

/ What's more, the fact that welding parameters can be set and saved so easily and exactly ensures the very greatest precision in the welding process.

/ TransSteel is "future-proof" and flexible: the digital welding system has a modular design concept and is both networkable and addressable.



**WE MAKE IMPOSSIBLE  
WELD-JOINTS POSSIBLE.  
BECAUSE WE KEEP GOING  
WHERE OTHERS QUIT.**

#### **BUILT-IN FRONIUS KNOW-HOW FOR STEEL WELDING**

/ Fronius takes its “Perfect Welding” claim very seriously. “Steel Transfer Technology” is the name of a knowledge package that has been specially put together for the steel market: For it, experts developed tailored welding characteristics that deliver e.g. precision ignition or perfect burn-off behaviour.

/ The machines come with a lot of device-related know-how too: like the hosepack connector that is integrated directly on the motor plate in the wirefeeder. The welding wire is guided in a consistent, system-optimised way, from the wirefeeder all the way through to the contacting zone. The result is highly stable wirefeed and less attrition of wearing parts.

**/ ROBUST AND RELIABLE  
/ VERY EASY TO OPERATE  
/ PERFECT STEEL WELDING**

# BUILT-IN EXPERT KNOWLEDGE

## WELDING PROPERTIES

/ Perfect welding properties are the product of complex interrelationships between ignition, arc and burn-off behaviour. Steel Transfer Technology means that the TransSteel comes with Fronius expert know-how, for every steel application.

### A SYSTEM THAT ALWAYS GIVES YOU THE OPTIMUM

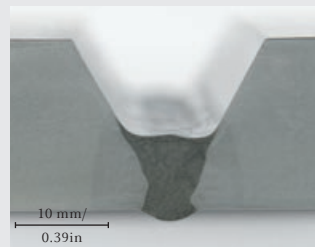
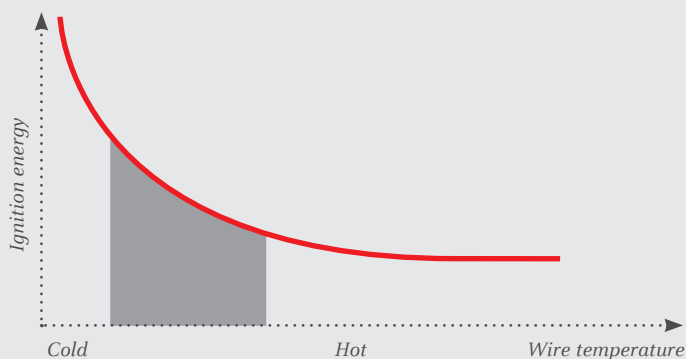
/ **Steel:** This universal characteristic is ideal for making quick and easy welding settings. It can be used to cover a large part of the welding-range for steel.

/ **Steel Root:** This characteristic-setting stands for a soft and stable dip-transfer arc that delivers a viscous, readily modulatable weld-pool. Perfect, straightforward root welding with no weld-pool backing support, coupled with excellent gap bridgeability – these are arguments that will convince every welder.

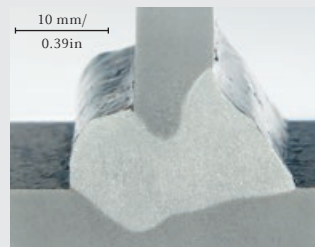
/ **Steel Dynamic:** This is the name we've given to the characteristic for a concentrated and versatile arc. Deep, narrow penetration and increased welding speed are the result.

/ Among the other attributes of Steel Transfer Technology are excellent weld start-up – fast and clean – and the exactly defined end that it gives to each weld. This improves the ignition properties for the next weld.

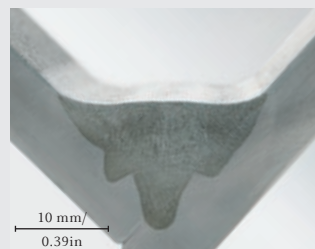
/ Excellent ignition behaviour



/ **Steel Root:** Excellent gap bridgeability thanks to a viscous, modulatable weld-pool.



/ **Steel Dynamic:** solves accessibility problems – single pass, through-welded on one side.



/ The high wirefeed speed of 25 m/min results in a deposition rate of 13.5 kg/h.

/ The ignition energy and wirefeed speed are adjusted as a function of the wire temperature. This ensures superlative ignition properties.





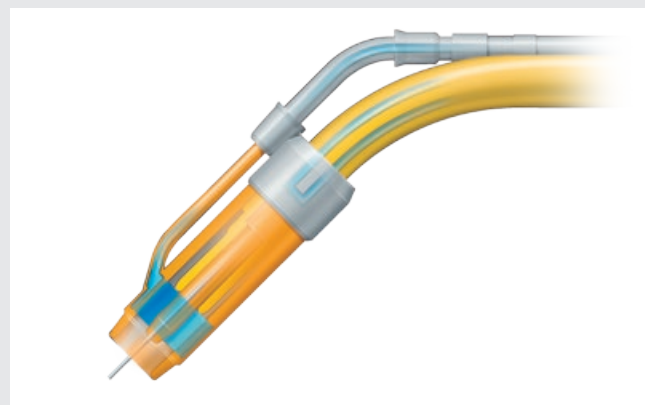
### **HIGH-PERFORMANCE WELDING WITH TRANSSTEEL**

/ High-performance welding processes for manual and mechanised installations are proven and well established in industry. Strong weld-seams are particularly necessary in steel-processing sectors like mechanical engineering and plant construction, railed-vehicle construction and shipbuilding.

/ With its up to 30 % higher deposition rate, TransSteel's high-performance power range makes it ideal for economical welding of thick steel sheets. With TransSteel, wirefeed speeds of 25 m/min can be reached with 1.2 mm steel wire.

/ Superb high-performance welding process stability is ensured by the system's specially tailored components such as the heavy-duty torch. A 2-circuit cooling system makes for optimum cooling, while the continuously adjustable contact tip allows many different stick-outs.

/ The high wirefeed speed and the specially tailored TransSteel welding system together permit a deposition rate of an impressive 13.5 kg/h.



/ The 2-circuit cooling system ensures optimum cooling during high-performance welding.

### COMFORT WIRE

/ Autonomous feeder-inching, with no need to open the wirefeeder – saves time

### INDIVIDUAL ADJUSTMENT-GUIDES

/ Interchangeable adjustmentguide templates for different material thicknesses make manual operation much easier

### FRONIUS SYSTEM CONNECTOR

/ central connection-point for all media  
/ hosepack can be locked simply and safely, with no tools, to ensure defined current transfer

### FILL-LEVEL WINDOW

/ Makes it easy to keep an eye on the coolant level



### EASYJOB

/ For storing the power, arc-force dynamic and correction values with one push of the button

### WIREFEEDER VIEWING PANEL

/ For seeing at a glance how much wire is left

### FASTSNAP

/ Twist and pull: that's all it takes to safely change and lock the gas nozzle

### TOOL-HOLDER

/ Individually extendable, so that the tools you need are always on board

### FUNCTIONAL INDUSTRIAL DESIGN

/ protected control panel  
/ easy to read off, even from a lying position  
/ rugged and attractively styled



/ Easy, operator-friendly user interface for quick operation with no need for time-consuming introductory training. The sturdy protective cover is available as an optional extra.



/ The System Connector is the "spinal cord" of the TransSteel. All media are routed through this central connection-point. A fastening lever locks the hosepack in place quickly, accurately and without needing any tools.



/ The ergonomically shaped torch rests comfortably in the welder's hand. The ball-and-socket joint provides effective strain relief, and the soft-touch grip pads on the handle-shell prevent the torch slipping out of the user's hand. The Up/Down option lets the welder regulate the amperage right from the welding workplace.



# TRANSSTEEL ROBOTICS

## TRANSSTEEL ROBOTICS – A TOTAL SYSTEM

/ The TransSteel Robotics welding system comprises the power source with single to universal robot interfaces, an interconnecting hosepack, the wirefeeder, the new magnetic crash-box and the torch body. The components are optimised for all types of robot, and also specifically for hollow-shaft robots.



*/ TransSteel Robotics system configuration.*

/ The wirefeeder is equipped with an innovative motor plate and the Fronius System Connector. This makes it considerably smaller and compacter, resulting in a much decreased obstacle contour. A retractable wirefeeder holder facilitates handling when changing the inner liner. Particularly with hollow-shaft robots, this leaves ample space for quick and easy inner-liner changes.

/ Another newcomer to TransSteel Robotics is the magnetic crash-box. With its shorter design, and decreased obstacle contours in the 6th robot axis, it provides higher safety against outages, and greater operating and workplace safety. The magnetic rings can be flexibly interchanged, allowing various different trigger forces to be obtained.



*/ Interface attached directly to the power source or to the wall of the robot cell.*



*/ The new magnetic crash-box ensures high system availability and operational and workplace safety.*



## VR 5000 CASE



/ The VR 5000 Case is a wirefeeder that feels most at home in maritime environments: weighing less than 10 kg (22.05 lb) and with minimal obstacle contours thanks to its ergonomically shaped plastic housing, it fits through any manhole down to diam. 350 mm (13.8 inches) and withstands the very toughest requirements. Being so compact, the VR 5000 Case makes work easier wherever space is tight.

/ Compact, shockproof, portable

/ Ideally protected controls, thanks to optimised design

/ 100 % insulated against high atmospheric humidity, dust and splashwater

/ Available in Synergic and Manual, water or gas-cooled models

/ For use in shipbuilding, offshore, railway-vehicle manufacturing and in many different types of site-erection work

/ VR 5000 Case designed for D300 spool with the measurements of 613 x 244 x 437 mm (24.1 x 9.6 x 17.2 inch) is available from Q2/2014



*/ Weighing less than 10 kg (22.05 lb) and with minimal obstacle contours, the VR 5000 Case fits through any manhole commonly found in shipbuilding, down to 350 mm (13.8 inches).*

## TRANSSTEEL YARD



/ The Yard edition is a custom-tailored welding system designed for use in building ships and oil rigs. The welding programs on the TransSteel Yard are designed for applications where flux-cored and solid wires are preferred, and have been optimised with this in mind.

/ A selection of suitable characteristics, as used in this sector, is stored in the welding system. The Yard Edition machines have a gas-flow regulator in the wirefeeder, for providing the central gas supply that is usual in the industry, and a welding-current outlet for using a rod electrode directly. The Yard Edition satisfies the greater need for mobility in shipyards by having a special trolley with integrated crane-hoisting lugs. A specially developed crane attachment point directly on the wirefeeder provides yet more scope for jobsite mobility.

# TRANSSTEEL 3500 COMPACT



## SAVES SPACE AND RESOURCES

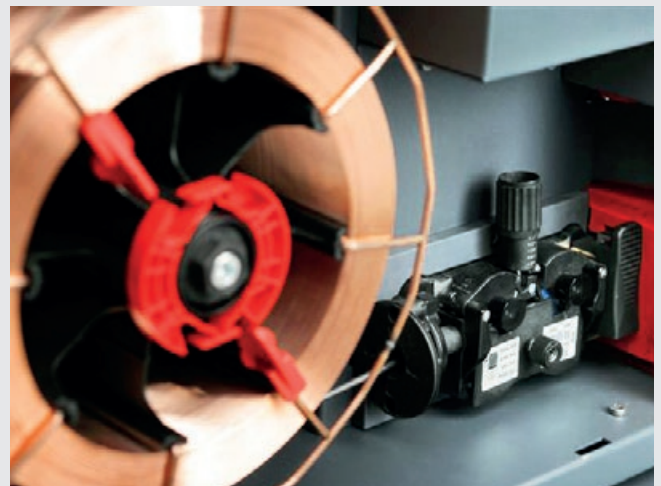
/ As a space-saving yet powerful version of the TransSteel series, the Compact model is of particular interest to workshop operations. Its integrated wirefeeder is another feature making the TransSteel 3500 Compact a good-value option for operations with more limited resources.



*/ Perfect steel welding, digitally controlled, with 'on-board' expert knowledge.*



*/ Its compact, well thought-out appliance design makes the TransSteel 3500c a rugged and reliable partner.*



*/ TransSteel 3500 Compact – the space-saving, resource-conserving variant.*

## ECONOMY

### LONG LIFE COMES BUILT-IN

- / Rugged appliance concept for greater durability of all components
- / Dust filter protects the inner workings of the power source from soiling
- / Water filter cleans the coolant, prolonging the service life of the whole system
- / The use of high-strength plastic for the housing makes the wirefeeder break-proof and gives it complete, all-round insulation
- / Thermostat-controlled fan runs only when needed, which lessens dirt accumulation inside the unit vermindert die Verschmutzung im Geräteinneren

## SAFETY

### DESIGNED FOR ROBUST DEPLOYMENT

- / Slanted connector plate protects the connectionpoints on the power source from damage
- / The hosepack connections are concealed by the “sleigh” on one side of the wirefeeder
- / Shielded filler neck on the cooling unit, to protect against mechanical damage
- / Temperature sensor protects the welding system against overheating
- / Earth leakage monitoring prevents welding current from flowing via the earthing (grounding) lead and destroying the PE conductor system
- / International test certificates for worldwide deployment (S Mark, CE Mark, CSA, CCC)

## TECHNICAL DATA

VR 5000 CASE	
Weight	< 10 kg (22.05 lb)
Dimensions L x W x H	507 x 200 x 320 mm (19.96 x 7.87 x 12.6 in.)
Wirefeed speed	up to 25 m/min (82 ft/min.)
Wire diameter	= 1.6 mm (0.6 in.)
IEC Ingress Protection rating	IP 23

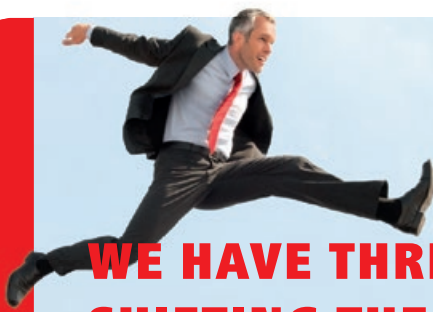
Two possible versions of interconnecting hosepack:

- Standard for Europe: with sturdy bayonet-connector type strain-reliever
- North America: fixed connectors incl. cables (approx. 50 cm (1.6 ft) length) for electric cable and control lead

## TECHNICAL DATA

	TRANSSTEEL 3500	TRANSSTEEL 3500 COMPACT	TRANSSTEEL 5000
Mains voltage +/- 10 %	380 V / 400 V / 460 V	380 V / 400 V / 460 V	380 V / 400 V / 460 V
Welding current range	10 - 350 A	10 - 350 A	10 - 500 A
Welding current at:			
10 min / 25°C (77°F)	350 A 60 % d.c.		500 A 55 % d.c.
10 min / 25°C (77°F)	300 A 100 % d.c.		400 A 100 % d.c.
10 min / 40°C (104°F)	350 A 40 % d.c.	350 A 40 % d.c.	500 A 40 % d.c.
10 min / 40°C (104°F)	250 A 100 % d.c.	300 A 60 % d.c.	360 A 100 % d.c.
10 min / 40°C (104°F)		250 A 100 % d.c.	
Open-circuit voltage	60 V	47 - 59 V	65 V
Working voltage	15.5 - 31.5 V	14.5 - 38.6 V	14.5 - 39 V
Degree of protection	IP 23	IP 23	IP 23
Dimensions L x W x H	747 x 300 x 497 mm (29.4 x 11.8 x 19.6 in)	747 x 300 x 497 mm (29.4 x 11.8 x 19.6 in)	747 x 300 x 497 mm (29.4 x 11.8 x 19.6 in)
Weight	26.5 kg / 58.4 lb	36 kg	30.15 kg / 66.5 lb
Wirefeed speed		1 - 25 m/min (3.3 - 82 ft/min)	





## **WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS OF POSSIBILITY.**

/ What Günter Fronius started in 1945 in Pettenbach, Austria, has now become a modern day success story. Today, the company has around 3,000 employees worldwide and owns more than 850 active patents. Our goal has remained constant throughout: to be the innovation leader. We shift the limits of what's possible. While others progress step by step, we innovate in leaps and bounds. The responsible use of our resources forms the basis of our corporate policy.

### **PERFECT WELDING**

/ We develop products and complete systems - both manual and automated - as well as the corresponding services for our customers in the global welding technology market. We have made it our goal to decode the "DNA of the arc".

### **SOLAR ENERGY**

/ The challenge is to make the leap to a regenerative energy supply. Our vision is to use renewable energy to achieve energy independence. With our services, inverters and energy-storage systems for optimising energy yields, we are one of the leading suppliers in the photovoltaics sector.

### **PERFECT CHARGING**

/ As know-how leaders in the world of battery charging, we deliver exceptional solutions to create the maximum benefit for our customers. For the intralogistics sector, we are committed to energy flow optimisation for electric forklift trucks and are constantly striving for the next innovation. Our powerful charging systems for vehicle workshops guarantee safe and reliable processes.

v02 Feb 2014 EN

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