TransSteel 3500 / 5000

MIG/MAG welding system

Digital Revolution®

Steel Transfer Technology®

Fronius

PERFECT WELDING

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.

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

A system that always gives you the optimum

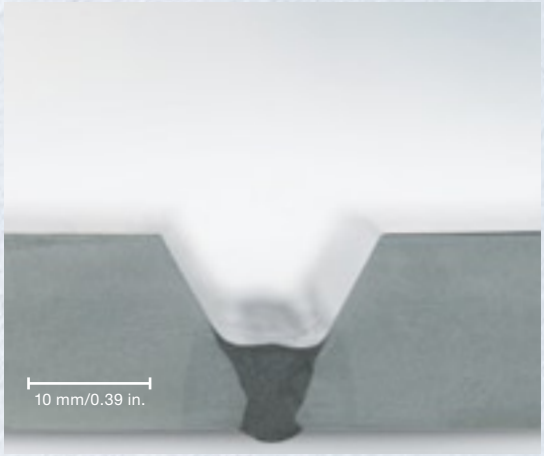
Perfect welding properties are the product of complex interrelationships between ignition, arc and burn-off behaviour. Steel Transfer Technology means that the TransSteel comes with Fronius expert know-how, for every steel application.

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.

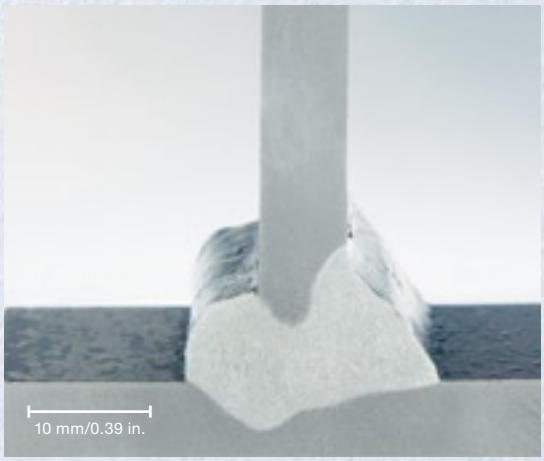
Steel Root: This characteristic-setting stands for a soft and stable dip-transfer arc that delivers a viscous, readily modulatable weld-pool. Perfect, straightforward root welding with no weld-pool backing support, coupled with excellent gap bridgeability – these are arguments that will convince every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

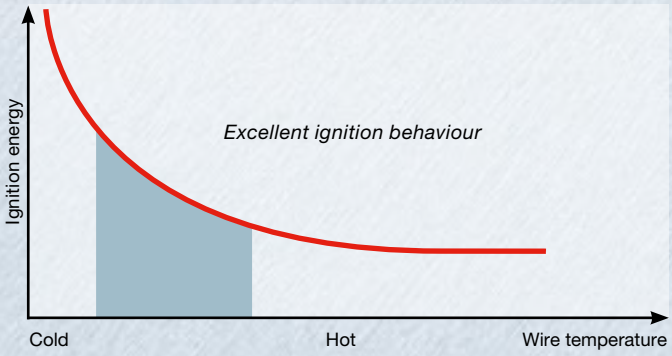
Among the other attributes of Steel Transfer Technology are excellent weld start-up – fast and clean – and the exactly defined end that it gives to each weld. This improves the ignition properties for the next weld.



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

UTILISATION

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.

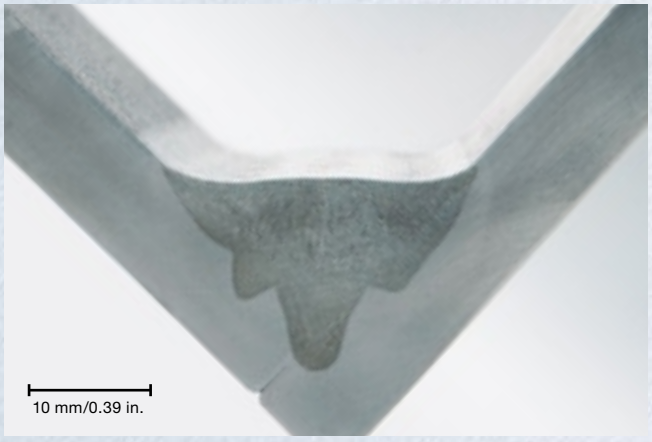
The high wirefeed speed and the specially tailored TransSteel welding system together permit a deposition rate of an impressive 13.5 kg/h.

Powerful and robust

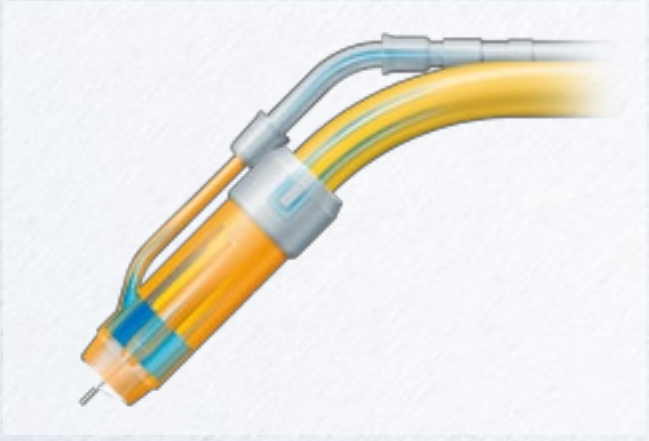
In the structural steelwork field more than anywhere, the TransSteel has to cope with some extreme operating environments. Rugged yet functional design is what makes this "steely character" stand apart. The welding system is available in gas- and water-cooled versions in the 350 A and 500 A power classes, for both manual and robot-controlled applications.

Greater mobility with the wirefeeder

The wirefeeder is compact, light and thus portable. This makes for even greater flexibility in the field, and its design helps prevent it getting caught on weldments. The control panel and all displays are integrated directly on the wirefeeder. This makes it possible to operate the welding system directly from the welding workplace. Being set at an angle, the slanted display is easier to read off, from all positions.



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



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

System and handling

TransSteel stands for extremely easy handling – for in steel welding, easy-to-use tools with intelligent functions are what is needed. Optimally matching system components ensure 100 % system performance.

Comfort Wire means autonomous feeder-inching. All the welder need do is hold out the wire to the machine and it will be inched into the wirefeeder unaided. The time-consuming business of opening up the wirefeeder and the feed rollers is no longer necessary. This results in faultless feeder-inching.

Small, lightweight, all-in-one motor plate: The hosepack is anchored directly to the motor plate, ensuring both stable wirefeed and thus a stable welding process. Longer service-lives for the inner liner, contact tip and feed rollers are a welcome side-effect of this.

Improved handling of the feed rollers: These are colour-coded by diameter, making them quick and easy to recognise. The rollers are changed simply by opening the feedroller device.


A
244
Hold
10
13
7
16
4
19
1
25
m/min
2T
4T

Comfort Wire

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

Individual adjustment-guides

Interchangeable adjustment-guide 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

Tool-holder

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

FastSnap

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

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.

Perfection in detail

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.

The wirefeeder has a **low-friction, wear-resistant moulded base**, which makes it easy to drag the unit across the weldment. The wirefeeder comes as standard with a side-mounted, temperature-resistant and impact-proof **metal slide**, enabling the unit to be used both in the upright and on its side.

TransSteel Yard – the perfect welding system for shipbuilding and offshore platforms.

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.

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.

The **interface** can be attached in 2 different ways: either directly to the power source, or externally e.g. to the wall of the robot cell. This means that changing over to a different power source it is no longer a problem.

A new and very handy function is **Easy-Job**, which lets users save up to five different parameter records with just one push of a button. TransSteel Robotics comes with a **dust filter** as standard. This gives the inside of the power source the best possible protection against coarse soiling.

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

TransSteel Robotics system configuration.

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

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

SAFETY

Designed for robust deployment

- Slanted connector plate protects the connection-points 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

		TSt 3500	TSt 5000
Mains voltage +/- 10 %		380 V / 400 V / 460 V	380 V / 400 V / 460 V
Welding current range		10 - 350 A	10 - 500 A
Welding current at:			
10 min/40°C (104°F)	40 %	Duty cycle 350 A	500–350 A
10 min/40°C (104°F)	100 %	Duty cycle 250 A	360–350 A
Open-circuit voltage		60 V	65 V
Working voltage		15.5 V	14.5 V
Degree of protection		IP 23	IP 23
Dimensions L x W x H mm		747 x 300 x 497 mm	747 x 300 x 497 mm
Weight		26.5 kg	30.15 kg

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