

WELDING SOLUTIONS FOR AUTOMOTIVE EXHAUST SYSTEMS

- / Reliable, modular, and easy to use
- / Compatible with all robot manufacturers
- / Consistent, high-quality welds
- / Low heat input reduces distortion
- / Dedicated waveforms for welding exhaust systems



APPLICATION TECHNOLOGIES FOR EXHAUST SYSTEMS

/ Automotive exhausts have evolved into complex systems with multiple connections and differing materials. Additionally, to help protect the planet, CAFE standards have further increased the complexity. New designs are pushing the limits for efficiency, and Fronius is ensuring their success through our advanced welding technology. Our TPS/i series of welding power sources provide an adaptive arc, specialized processes, and a modular design to meet the specific demands of welding today's exhaust systems. Whether robotic or manual, the TPS/i excels in every aspect of exhaust welding – all materials, all thicknesses, all joints.

TECHNOLOGY

/ Thin, high strength materials and inconsistent gaps are common when welding exhausts, which is why we developed TPS/i to adapt to changes while welding. Touch screen controls are easy to use, and the TPS/i can integrate with all robot manufacturers. Precise arc control helps bridge gaps due to poor fit up which is a reality of production.

SPECIALIZED PROCESSES

Pulse Multi-Control (PMC) is an advancement to standard pulse welding. This process is ideal for automated or robotic exhaust welding, but can also be used in manual welding.

/ Controls heat input to minimize distortion, ensuring full functionality of the welded component, such as a butterfly valve. The arc is controlled in a manner that doesn't heavily affect the base material or critical components inside the welded parts.

/ Achieve consistent penetration even when constant torch movement can't be ensured.

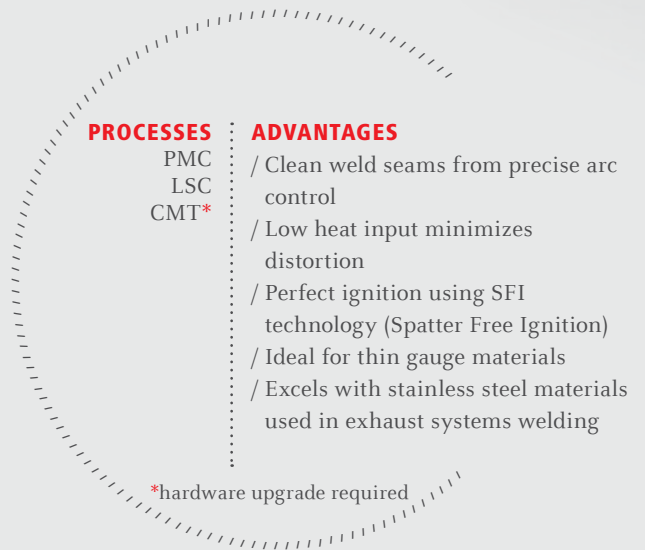
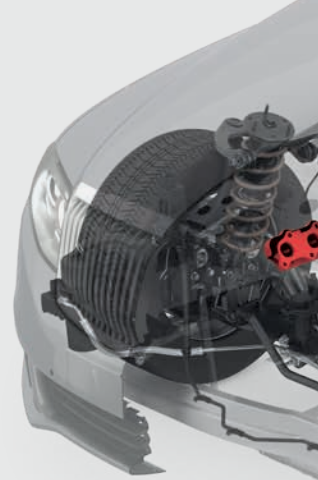
- Specialized processes designed for exhaust applications
- PMC adjusts the arc and keeps it stable to compensate for blowback when welding coated materials.

/ Delivers less heat input than standard pulse welding. This control minimizes distortion to ensure functionality of the welded components.

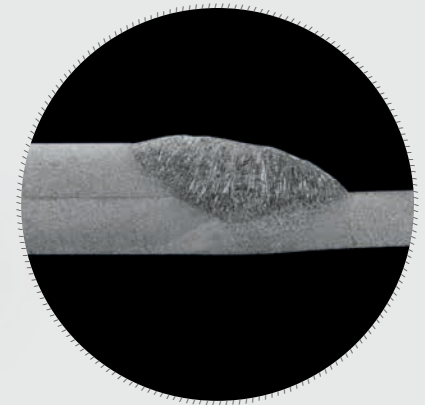
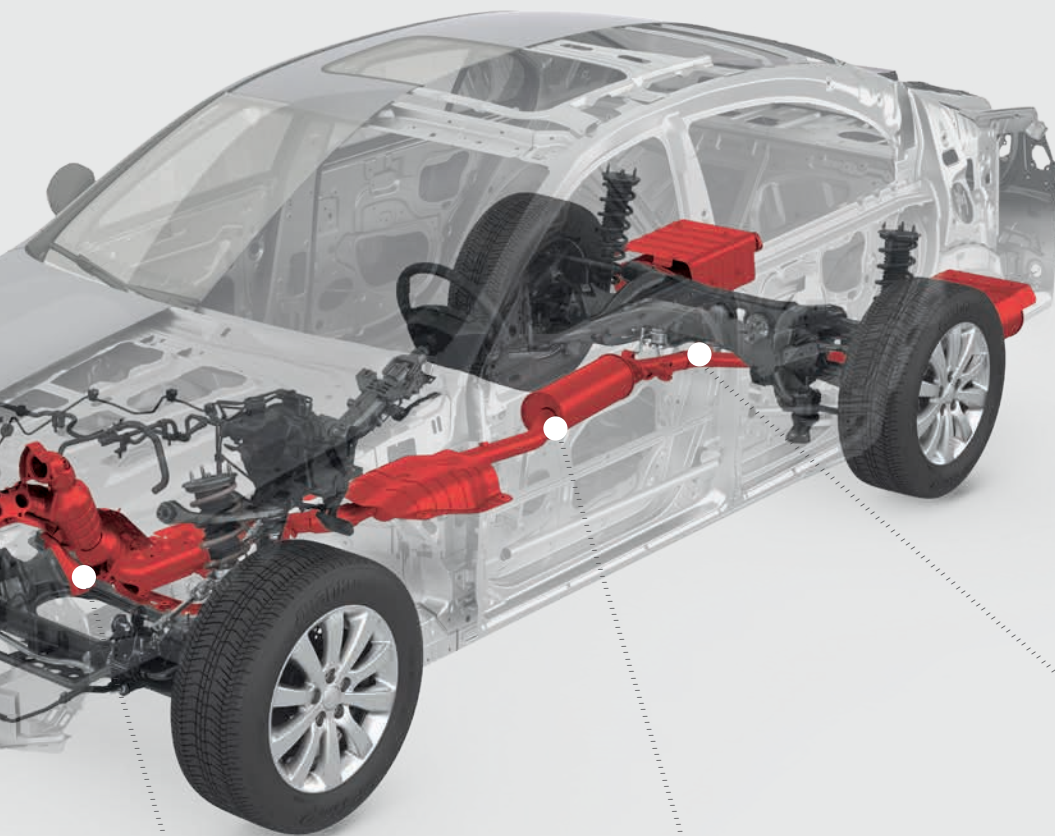
/ We've designed dedicated waveforms specifically for welding with the filler metals used primarily in the automotive industry. Austenitic, ferritic, and multi-material joints are handled with ease by the adaptable arc.

A SINGLE SOLUTION FOR THE ENTIRE SYSTEM

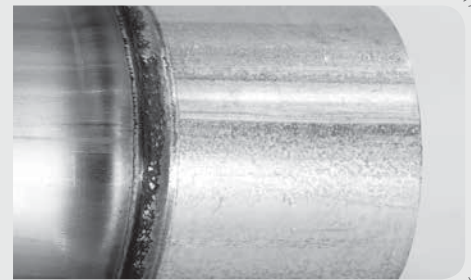
/ We've studied the challenges of welding modern exhaust systems to ensure the best possible weld every time. TPS/i excels in applications where one machine needs to handle a variety of materials and weld configurations. New, stricter standards require better solutions and TPS/i was designed to meet today's challenges, as well as those of the future.



Multimaterial weld joint



Perfect penetration and weld profile



FEATURE-RICH PROCESSES:

PMC is packed with new features developed by Fronius to greatly increase travel speed, arc performance, and weld quality. Rich features without the need of special consumables or additional hardware.

Arc-Length Stabilizer

- / Auto-adjusts to changes in weld environment (sheet thickness and part variation)
- / Machine controlled adjustments keep arc length constant
- / No adjustments are necessary when weld joint changes (i.e. from butt joint to T-joint)

Penetration Stabilizer

- / Minimizes burn through and lack of fusion ensuring weld quality across the seam
- / Ultrafast regulation of wire feed speed to compensate for part fit up and inconsistent torch access
- / Maintains penetration even through changes in contact-tip-to-work-distance

Learn more



www.tps-i.com/en

Fronius welding solutions

for automotive exhaust systems

Ready-to-weld TPS/i packages

Manual package	TPS 320i Power Source*, PMC software, dust filter, interconnecting cables, ground connections and wire feed system (including mounting, drive rolls, and quick connector), torch body, torch cable, starter kit & tools.
Robotic package	TPS 400i Power Source*, PMC software, dust filter, internal robotic interface, interconnecting cables, ground connections and wire feed system (including mounting, drive rolls, and quick connector), torch body, torch cable (built to robot length), torch and collision mount, starter kit & tools. *Other amperages are available

Optional arc welding monitoring solution:

Weldcube	Each Weldcube will monitor up to 50 power sources, their weld performance, consumables use and can be linked with additional Weldcubes to expand the network. Ask your Fronius sales team how Weldcube can benefit your production.
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Technical Data

	Manual Package	Robotic Package
Power Source	TPS 320i	TPS 400i
Mains voltage	3 x 460	3 x 460
Mains range	342 - 529 Vac	323 - 529 Vac
Fuse protection	35A Slow blow	35A Slow blow
Mains tolerance	-10% / 15%	+/- 15%
MIG current range	3 - 320A	3 - 400A
MIG voltage range	14.2 - 30.0	14.2 - 34.0
Duty cycle 104°F (40°C)	320A @ 40%	400A @ 40%
	260A @ 60%	360A @ 60%
	220A @ 100%	320A @ 100%
Degree of protection	IP 23	IP 23
Dimensions (LxWxH)*	27.8" x 11.8" x 20.1" 706mm x 300mm x 510mm	27.8" x 11.8" x 20.1" 706mm x 300mm x 510mm
Weight*	78.9 lbs (34.7 kg)	77.6 lbs (35.2 kg)
*These values reflect the welding power supply only		

/ 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 3,800 employees worldwide and 1,242 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

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Fronius USA LLC

Headquarters
6797 Fronius Drive
Portage, IN 46368
United States
(877) Fronius (376-6487)
sales.usa@fronius.com
www.fronius.us

North East
10421 Citation Drive
Brighton, MI 48116
United States
(810) 844-2800
sales.northeast@fronius.com
www.fronius.us

South East
1271 N Holtzclaw Ave
Chattanooga, TN 37406
United States
(423) 697-1777
sales.southeast@fronius.com
www.fronius.us

South Central
8715 Fallbrook
Houston, Texas 77064
United States
(219) 734-5500
sales.southcentral@fronius.com
www.fronius.us

California
2900 Adams
Riverside, CA 92504
United States
(219) 734-5500
sales.california@fronius.com
www.fronius.us

