



### A Gas Blend That Covers Every Angle

Praxair® RoboStar™ shielding gases for robotic welding offer metal fabricators a family of precision-formulated blends that deliver outstanding results, even when parts are positioned at difficult-to-weld angles. This all-position performance capability is especially critical for projects that require a variety of repetitive, multi-position welds.

The Praxair RoboStar™ shielding gas family consists of three unique blends, each designed for a specific material and set of applications:

- RoboStar™ CS Blend — for carbon steel
- RoboStar™ AL Blend — for aluminum
- RoboStar™ SS Blend — for stainless steel

Whether it's robotics or fixed automation, the results are the same in each application: high-quality welds regardless of the welding position, and increased levels of productivity.

#### RoboStar™ CS Blend

This universal shielding gas combines argon, carbon dioxide and oxygen for use in all types of carbon steel welding utilizing fixed automation and robotics. These applications include:

- Steel frame building components
- Automotive assemblies
- Rail car structures
- Earth-moving equipment
- Transmission poles
- Pressure vessels

Not only does RoboStar™ CS perform well in all types of metal transfer, but it also produces good arc characteristics and excellent weld penetration, with a minimum of spatter in all welding positions. Welds produced using RoboStar™ CS possess excellent weld metal strength and toughness as well as improved fatigue strength.



## PRAXAIR ROBOSTAR™ BLENDS: CONSISTENT, PRECISE ROBOTIC WELDING OF ALUMINUM, CARBON AND STAINLESS STEEL



Productivity is enhanced by the high deposition rates and travel speeds achievable in spray transfer, especially when compared with conventional two-part gas blends.

#### RoboStar™ AL Blend

Designed for all-position welding of aluminum using 4000 and 5000 series filler wire, this argon-helium mix produces optimum penetration and bead shape, while retaining good arc starting and stability characteristics. It's suitable for both conventional or pulsed spray transfer, and CV or CC power.

As a result, RoboStar™ AL from Praxair is perfect for both robotics and fixed automation applications where items such as the following are fabricated:

- Boats
- Automotive panels and frames
- Light poles and tanks

#### RoboStar™ SS Blend

The precise blending of argon and helium with controlled additions of CO<sub>2</sub> help make this shielding gas right for stainless steel robotic welding. RoboStar™ SS produces excellent weld bead appearance with minimum spatter at higher

# Robostar

productivity levels than other gas blends. Used with austenitic stainless steel consumables, RoboStar™ SS produces high-quality welds with superior mechanical and chemical properties in every welding position.

That is why RoboStar™ SS is used in applications where optimum weld chemistry, bead shape and appearance are critical, such as tanks and piping for chemical and food processing, and in areas where corrosion resistance is of primary importance, such as:

- Exhaust systems
- Storage tanks and containers
- Aircraft components
- Food processing equipment
- Tubing

### A Blend That Fits

Once you chose the right blend for your application, you can also count on consistent, dependable Praxair service and technical expertise to support you. With almost 100 years of experience, Praxair is the leader in shielding gases technology. We can help solve your most challenging welding issues and improve your welding performance, productivity and profits.

### The Praxair Difference

#### ■ Comprehensive, High-Quality Product Line

A full range of pure gases, mixtures, gas handling equipment, supply systems and related products and services.

#### ■ Application-Based Solutions

Production plants and research capabilities to supply you with the technical solution that best suits your needs around the world.

#### ■ Reliable Production And Distribution Network

Production plants and more than 600 distribution locations in North America — all serving you with the gases you need, when and where you need them.

#### ■ Outstanding Technical Support

A highly trained team of field sales representatives, shielding gases engineers and technical service personnel working in concert with dedicated market specialists to quickly provide the guidance and cost-effective solutions you deserve.

#### ■ Global Supplier

Production, distribution and application technology in over 40 countries.

## Welcome To The Family of Praxair Star™ Gases And Blends

Praxair Star™ gases and blends are the most advanced shielding gases available...perfect for the most challenging Gas Metal Arc Welding (GMAW or MIG), Gas Tungsten Arc Welding (GTAW or TIG), Flux-Cored Arc Welding (FCAW), Plasma (PAC, PAG, PAW), Laser and Robotic applications, including:

- Praxair StarGold™ Gases — Argon-based blends for general fabrication of mild steel.
- Praxair Stargon™ Blend — The standard for versatile high-speed welding of mild steel.
- Praxair Mig Mix Gold™ Blend — High-productivity mild steel welding.
- Praxair HeliStar™ Gases — Helium-enhanced blends for increased productivity on stainless steel, aluminum, copper and some carbon steel welding applications.
- Praxair HydroStar™ Gases — Hydrogen-enhanced blends for increased productivity during GTAW, plasma welding, gouging and cutting of stainless steel.
- Praxair LaserStar™ Gases — Enhanced quality and purity to meet demanding laser needs.
- Praxair's RoboStar™ CS, AL and SS — Shielding gas blends for robotic welding of carbon steel (CS), aluminum (AL) and stainless steel (SS).

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