



Shielding Gas and Cylinder Handling Guide

Category: Compressed Gas

Audience: Operators, maintenance, receiving, supervisors

Badge: Gas Safety

General safety guide for shielding gas cylinders, regulators, hoses, manifolds, gas flow, leak checks, and storage around robotic welding systems.

Important limitation: This document is a general planning aid only. It does not replace OSHA requirements, employer safety programs, equipment manuals, SDS review, qualified risk assessment, training, lockout/tagout procedures, PPE selection, or competent safety review.

Cylinder Handling

- Secure cylinders upright during storage and use.
- Protect cylinders from impact, heat, electrical circuits, arc strikes, and falling objects.
- Move cylinders with approved carts or handling equipment; do not drag or roll unsupported cylinders.

Regulators and Hoses

- Use compatible regulators, fittings, and hoses for the gas service.
- Inspect hoses for damage, burn marks, cracks, leaks, or poor routing before use.
- Do not use oil, grease, or unauthorized sealants on gas fittings.

Production Checks

- Confirm gas type, flow, purge, and leak status before production.
- Ensure gas lines are routed clear of robot motion, rails, fixture pinch points, hot spatter, and sharp edges.

Field Checklist

Item	Verified	Notes
Cylinder secured		
Regulator correct		
Hoses inspected		
Leak check completed		
Gas type verified		
Flow/purge checked		
Routing clear of motion/hot work		

Reference Basis

- OSHA 29 CFR 1910 Subpart Q - Welding, Cutting and Brazing.
- OSHA 29 CFR 1910.147 - Control of Hazardous Energy (Lockout/Tagout).
- NIOSH welding fume and manganese exposure resources.
- RAS equipment planning information for robotic arc welding systems using 480V / 60Hz / 3-phase power, RAS-500PR power supply, water-cooled torch packages, torch cleaning, and wire cutting stations.

Revision: RAS Safety Knowledge Base expanded safety resource set. Verify against current site-specific rules before use.