MADDOX INDUSTRIAL GROUP

Oxygen Cleaning Services

IN-HOUSE O_2 CLEANING FOR OXYGEN-RICH SYSTEMS

CGA G-4.1–compliant precision cleaning for cryogenic and industrial gas components — removing hydrocarbon residues, particulates, and contaminants to ensure safe, reliable performance in high-oxygen environments.

>23.5%	220 mg/m²	NFPA-99
O_2 CONCENTRATION THRESHOLD	MAX NVR CLEANLINESS LEVEL	MEDICAL GAS COMPLIANCE

MIG'S PROCESS

1 DISASSEMBLY

Complete disassembly of components to expose all wetted surfaces and internal passages prior to cleaning.

2 MECHANICAL & CHEMICAL CLEANING

Precision removal of hydrocarbon residues, oils, greases, welding slag, particulates, and metal contaminants.

3 UV INSPECTION & VERIFICATION

Post-clean inspection using UV light and wipe tests to verify non-volatile residue meets CGA G-4.1 limits.

4 BAGGING, TAGGING & PACKAGING

Sealed, labeled packaging maintains post-clean integrity during storage and transport to job site.

5 TRACEABILITY DOCUMENTATION

Full traceability from fabrication through final O_2-service preparation, supporting audit and compliance requirements.

COMPONENTS SERVICED

- Cryogenic Bulk Storage Tanks
- Piping, Valves & Instruments
- Pressure Vessels & Heat Exchangers
- Compressors & Pump Components
- Fill Plant Manifolds & Fittings
- Cryogenic Trailers & Rail Cars
- Distillation & Rectification Columns

CERTIFICATIONS & MEMBERSHIPS

- CGA G-4.1 Compliant Protocols
- NFPA-99 Medical Gas Compliance
- ASME Certified
- ASME Certified Welders
- UL / cUL Listed
- GAWDA Member
- CGA Member
- IWDC Member

GET A QUOTE:

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Industrial Solution Specialist

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OXYGEN CLEANING & CLEANROOM SERVICES

WHAT IS CGA G-41?

Published by the Compressed Gas Association (CGA) and incorporated by reference into Federal Regulations (49 CFR 178.338-15), CGA G-4.1 is the internationally harmonized standard governing cleaning methods and requirements for equipment used in the production, storage, distribution, and use of liquid and gaseous oxygen. It mandates removal of all contaminants from surfaces exposed to oxygen concentrations exceeding 23.5% — preventing ignition, fire, and explosion hazards in critical gas systems.

KEY BENEFITS

- Prevents ignition risk in high-purity oxygen systems
- Components delivered ready for immediate integration
- Shortens commissioning timelines
- Full traceability at every stage of process
- Fully aligns with CGA G-4.1 and NFPA-99 requirements
- Enhances long-term system reliability
- Reduces long-term maintenance risk
- In-house capabilities for faster turnaround

WHY MIG

- Aging or under performing equipment impacting uptime
- Manual processes driving unnecessary labor and operating costs
- Limited plant space requiring compact, engineered solutions
- Compliance, safety, or certification concerns with existing infrastructure
- Need for a single, knowledgeable partner from design through service
- Reduce labor, maintenance, and operational costs
- Increase uptime with reliable equipment and fast response
- Backed by TransTech Group resources and scale
- Proven track record with industrial gas, energy, medical, and specialty gas customers
- Responsive, personal service—real people who understand your operation