PSB INDUSTRIES

AVAILABLE NOW

600-1,200 SCFM
Flow Range

< 0.1% O2
Outlet Oxygen

< 7 lb/MMSCF
Outlet Moisture

200 PSIG
ASME Design

480V / 3PH
Class 1 Div 2, NEMA 4

Gas Chilling, Deoxygenation & Dehydration Skid

Three-stage packaged system engineered for high-methane gas service (landfill gas, RNG, natural gas). The unit chills and dehydrates the inlet stream, catalytically removes oxygen to below 0.1%, and delivers pipeline-quality dry gas through a twin-tower TSA dryer. Turndown to 600 SCFM without loss of outlet spec. Fully piped, wired, insulated, and factory acceptance tested. Original order was canceled prior to shipment; the skid has never seen process gas.

- Single-lift structural skid: 49,125 lbs
  480" L x 144" W x 139" H
- Precious-metal deoxidation catalyst included, new and unloaded
- Fully automatic PLC control with HMI, remote data access, and plant interlock I/O
- On-board O2 and moisture analyzers for continuous product verification
- Complete documentation: P&ID, functional description, manuals, FAT records
- Immediate availability, a fraction of new-build lead time

MODEL DEOX/DRYER AD90-3-200 PERFORMANCE

Flow Capacity	600 to 1,200 SCFM
Gas Service	High-methane (LFG/RNG/NG)
Inlet Oxygen (design)	0.4 mol%
Outlet Oxygen	< 0.1% vol Contact PSB for lower outlet O2
Outlet Moisture	< 7 lb/MMSCF
Chilling section	Gas chilled to 40°F
Operating pressure (deoxo/dryer)	130 to 170 PSIG at full flow
Low-pressure chilling inlet	~4 PSIG capabable

MECHANICAL & ELECTRICAL

Vessel design pressure	200 PSIG, ASME Sec. VIII
Skid dimensions	480" L x 144" W x 139" H
Skid weight	49,125 lbs
Area classification	Class 1, Division 2
Power Supply	480V / 3PH / 60Hz
Full load current (460V panel)	182 A FLA
Heat trace feed	15 A @ 115V / 1PH
Enclosures	NEMA 4, outdoor rated
Instrument Air	80 PSIG required
Ambient design range	-20 to 100°F
Trim heater	90 kW electric
Regeneration heater	35 kW electric

SYSTEM DESCRIPTION

Section 1 - Chilling / Dehydration.

Gas-gas shell-and-tube economizer, chilled-water trim cooler, and water knockout pot with demister chill the inlet stream to 40°F, condense bulk moisture, and reheat product gas to prevent downstream condensation. Automated dual-valve condensate drain system with level monitoring.

Section 2 - Oxyegen Removal (Deoxo).

Guard bed vessel protects the catalyst from trace contaminants. Gas is preheated in a shell-and-tube economizer and 90 kW electric trim heater, then oxygen is catalytically converted across a fixed bed of precious-metal catalyst. Product gas is recovered through the economizer, an air-cooled exchanger, and a chilled-water trim cooler, with separator and automated drains. Includes dust filter, recycle line for startup, and on-board O2 analyzer.

Section 3 - Moisture Removal (TSA Dryer)

Twin-tower temperature-swing desiccant dryer with coalescing prefilter and particulate afterfilter. Closed regeneration loop with VFD-driven blower and 35 kW electric heater. Fully automatic sequencing with moisture analyzer on product gas.

INCLUDED WITH SALE

- New precious-metal deoxidation catalyst and ceramic support media (palletized, ready to load)
- Remote 460V power panel
- Relief valves and vent stacks with mounting hardware
- Full documentation package: P&ID, GA, functional description, operating manuals, FAT records

CONTROLS & FEATURES

- Fully automatic PLC control with HMI screens for each section
- Complete interlock and alarm package with plant run-permissive and shutdown I/O
- PLC data access for plant DCS/SCADA integration
- On-board O2 and moisture analyzers with automatic isolation
- Insulated hot piping, heat-traced-ready drain system
- Actuated valve package throughout
- Designed for unattended, continuous outdoor operation

For more information pertaining to pricing, inspection, and delivery, contact Mike Bocheff - 412-526-3657

Unit offered as-built per original design basis. Serial number and full documentation available upon request.

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