

Off-Gas Compressor Package - Model YD2-140GH-OL



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認定 熱交換器、往復動式圧縮機・管類・弁類
機器 その他の附属機器類、複合機器

1. Product Overview

The Model YD2-140GH-OL is a Y-type, multi-stage reciprocating compressor specifically designed for mixed "Off-Gas" recovery (CO₂, H₂, N₂ mixture).

The Y-type configuration offers excellent mechanical balance and reduced vibration, making it highly suitable for medium-to-large capacity applications where stability is paramount. Its oil-free design ensures that the recovered gas remains free from lubricant contamination, which is critical for downstream fertilizer or chemical processes.

2. Technical Specifications

2.1 A. Operational Conditions

| Parameter | Value | Unit |
|----------------------|---|----------------------|
| Handled Gas | Off Gas (CO ₂ :59%, H ₂ :31%) | - |
| Capacity (Mass Flow) | 1,250 | kg/h |
| Suction Pressure | 6 | kg/cm ² A |
| Discharge Pressure | 15.03 | kg/cm ² A |

2.1 B. Mechanical Data

| Parameter | Value | Unit |
|------------------------|----------------------|----------|
| Compressor Type | Y-Type Reciprocating | - |
| Cylinder Configuration | Y-Shape / V-Shape | - |
| Number of Stages | 3 | Stages |
| Lubrication Type | Oil-Free | Cylinder |
| Cooling Method | Water-Cooled | - |
| Motor Output | 110 | kW |

3. Key Design Features & Advantages

- **Y-Type Configuration:** Provides superior dynamic balance compared to standard vertical types, reducing foundation load and vibration.
- **3-Stage Compression:** Optimized for efficiency in elevating pressure from medium to high levels while managing temperature rise.
- **Oil-Free Gas Path:** Ensures high purity of the mixed gas, essential for fertilizer production processes.
- **Robust Water Cooling:** Designed to effectively handle the heat of compression generated by mixed gases.

6. Project Reference

Karnaphuli Fertilizer Company Limited (KAFCO). Off Gas Compressor (CO₂, H₂, N₂ Mix). Successfully commissioned and operating.



Figure 1: YD2-140GH-OL

4. Applications

- **Fertilizer Industry:** Off-gas recovery in Urea and Ammonia plants.
- **Chemical Processing:** Mixed gas handling and recycling.
- **Carbon Capture:** CO₂ rich gas compression.
- **Gas Recovery:** Recycling of process vent gases.

5. Scope of Supply

The standard package typically includes:

- YD2 Compressor Bare Block (Y-Type).
- 110 kW Main Driving Motor.
- Common Baseplate / Skid.
- Intercoolers & Aftercooler.
- Pulsation Dampeners & Instrumentation.