

Chlorine Gas Compressor - Model YD3-180G-OL


**QUALITY
MANAGEMENT SYSTEM
ISO 9001**

**ENVIRONMENTAL
MANAGEMENT SYSTEM
ISO 14001**

**KHK
CERTIFIED**

**高圧ガス設備
試験・製造認定事業所**
経済産業大臣認定番号
MAB 133

認定 蒸気発生器・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 YD3-180G-OL is a robust Y-type, 3-stage reciprocating compressor engineered specifically for handling corrosive Chlorine (Cl₂) gas.

Chlorine compression demands exceptional material compatibility and design integrity. This Y-type unit offers superior dynamic balance for stable operation, while its oil-free design and specialized sealing systems ensure safe containment and purity of the highly reactive process gas, preventing corrosion and ensuring long-term reliability in chlor-alkali plants.



Figure 1: YD3-180G-OL

2. Technical Specifications

2.1 A. Operational Conditions

Parameter	Value	Unit
Handled Gas	Chlorine (Cl ₂)	-
Capacity (Mass Flow)	3,300	kg/h
Suction Pressure	0.005 ~ 0.009	MPaG
Discharge Pressure	1.2	MPaG

2.1 B. Mechanical Data

Parameter	Value	Unit
Compressor Type	Y-Type Reciprocating	-
Number of Stages	3	Stages
Lubrication Type	Oil-Free	Cylinder
Cooling Method	Water-Cooled	-
Motor Output	180	kW

3. Key Design Features & Advantages

- Y-Type Configuration:** Optimizes balance and minimizes vibration, crucial for the safe handling of hazardous gases.
- Corrosion Resistant:** Wetted parts are manufactured from high-grade materials specifically selected to withstand dry chlorine gas.
- 3-Stage Compression:** Allows for gradual pressure increase with intercooling, preventing high temperatures that accelerate chlorine corrosion.
- Safe Containment:** Advanced rod packing and sealing systems prevent fugitive emissions of toxic gas.

4. Applications

- Chlor-Alkali Industry:** Compression of chlorine gas from electrolysis cells.
- Chemical Manufacturing:** Production of Vinyl Chloride Monomer (VCM) and PVC.
- Water Treatment:** Chlorine gas handling for large-scale disinfection systems.
- Petrochemicals:** Chlorination processes.

5. Scope of Supply

The standard package typically includes:

- YD3 Compressor Bare Block (Y-Type).
- 180 kW Main Driving Motor.
- Common Baseplate / Skid.
- Corrosion-resistant Intercoolers & Aftercooler.
- Specialized Chlorine Gas Instrumentation.

6. Project Reference

Tsurumi Soda Co., Ltd. Cl₂ Gas Compressor. Status successfully commissioned and operating.