KAJI

Technical Data Sheet
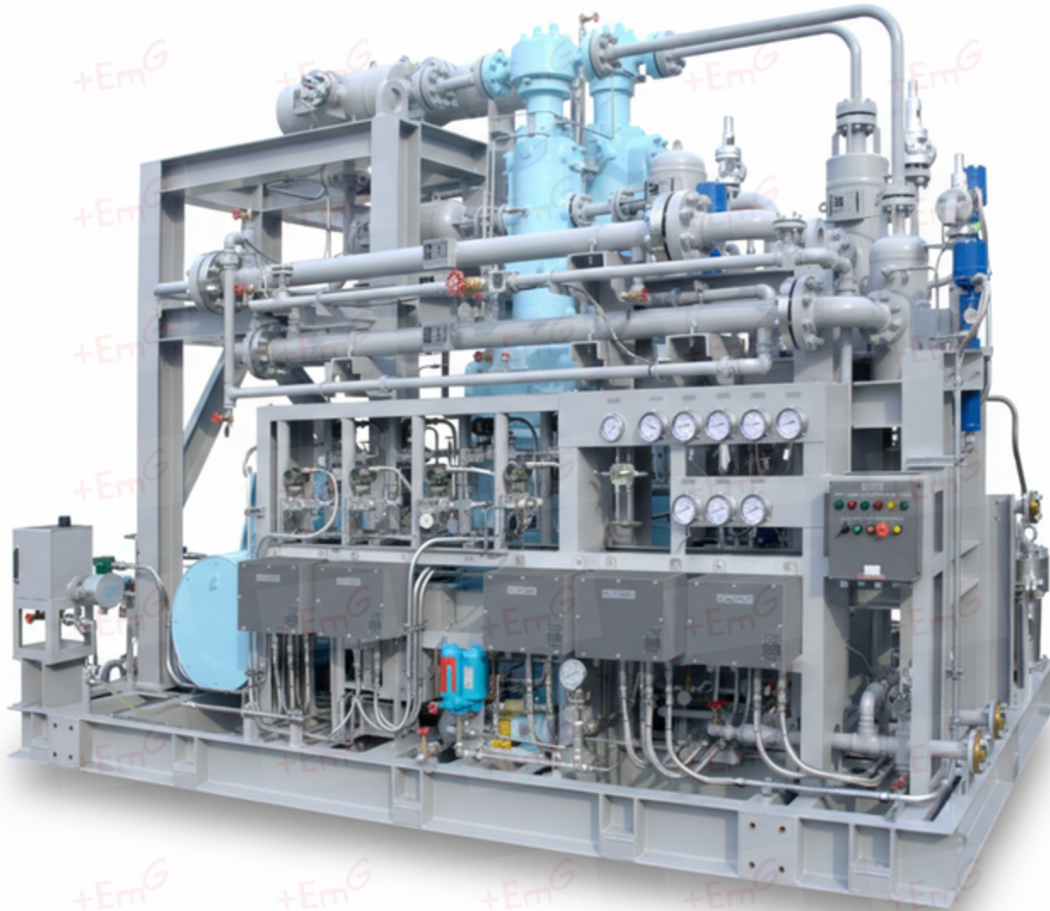
High Pressure N2 Compressor - Model VD4-150GH

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　熱交換器・往復動式圧縮機・弁類
機器　その他の附属機器類・複合機器

1. Product Overview

The Model VD4-150GH is a heavy-duty Vertical, 4-stage reciprocating compressor engineered for high-pressure Nitrogen gas applications (up to 300+ kg/cm^{2}G).

Unlike oil-free models used for general process gas, this unit utilizes a lubricated cylinder design to ensure robust sealing and durability under extreme discharge pressures. The multi-stage vertical configuration provides an efficient and space-saving solution for delivering high-pressure nitrogen for demanding industrial requirements.

Figure 1: VD4-150GH

2. Technical Specifications

2.1 A. Operational Conditions

Parameter	Value	Unit
Handled Gas	Nitrogen (N$_2$)	-
Capacity (Mass Flow)	530	kg/h
Suction Pressure	6.8	kg/cm^{2}G
Discharge Pressure	305	kg/cm^{2}G

2.1 B. Mechanical Data

Parameter	Value	Unit
Compressor Type	Vertical Reciprocating	-
Number of Stages	4	Stages
Lubrication Type	**Lubricated**	Cylinder
Cooling Method	Water-Cooled	-
Motor Output	150	kW

3. Key Design Features & Advantages

- **High-Pressure Capability:** 4-stage compression enables discharge pressures exceeding 300 bar, suitable for accumulator charging or high-pressure testing.
- **Lubricated Design:** Ensures superior piston ring sealing and extended component life under high mechanical loads compared to non-lube designs at this pressure range.
- **Vertical Configuration:** Compact footprint allows for installation in facilities where floor space is limited.
- **Multi-Stage Efficiency:** Intercooling between all four stages ensures optimal thermal efficiency and safety.

4. Applications

- **High Pressure N2 Supply:** For plant utility or specific process requirements.
- **Leak Testing:** High-pressure pneumatic testing of vessels and pipelines.
- **Accumulator Charging:** Filling hydraulic accumulators.
- **Laser Cutting:** High-pressure nitrogen supply for metal cutting machines.

5. Scope of Suppy

The standard package typically includes:

- VD4 Compressor Bare Block (High Pressure).
- 150 kW Main Driving Motor.
- High-Pressure Baseplate / Skid.
- Intercoolers (Stage 1-3) & Aftercooler.
- Lube Oil System, Cylinder Lubricator & Local Panel.

6. Project Reference

Samsung Total. N$_2$ Gas Compressor. Status successfully commissioned and operating.

+Em^G