CORKEN. IDEX INDIA

Application Bulletin

CORKEN SOLUTIONS FOR PROPYLENE TRANSFER

Propylene Market & Applications Overview

Propylene is typically handled in bulk in industries where it serves as a feedstock, intermediate, or raw material. These sectors require high-volume transfer, storage, and recovery systems, making compressors and pumps essential for safe and efficient operations.

Due to its flammable nature and critical role in downstream processes, safe and efficient handling of propylene, both in liquid and vapor form is essential.

Challenges in Propylene Transfer Applications

Handling propylene presents several operational and safety challenges:

- **High flammability** demands stringent leakage control.
- **Impurity sensitivity** in industrial processes requires oil-free compression.
- **Variable flow and pressure requirements** across applications—from railcar unloading to process gas recovery.

CORKEN Solutions for Propylene Transfer

CORKEN offers a versatile portfolio of compressors and pumps specifically engineered to handle the complexities of propylene transfer across various industrial scenarios. These solutions are designed to address both liquid and vapor phase handling, ensuring safety, efficiency, and reliability.

Liquid Transfer & Vapor Recovery

CORKEN compressors are widely used for transferring propylene from railcars, road tankers, and emergency rescue vehicles (ERVs) to storage tanks. The process relies on creating a pressure differential using the compressor, enabling safe and efficient unloading. This method is also employed in manufacturing and reselling plants for loading tankers and railcars.

Storage Vessel & Pipeline

In compliance with global safety standards, storage vessels and pipelines require periodic testing and decommissioning. CORKEN compressors facilitate the transfer of residual propylene to alternate storage, minimizing gas loss and ensuring safe handling during maintenance operations.

Process Gas Recovery

In chemical and petrochemical plants, propylene often forms part of a mixed gas stream post-reaction. CORKEN compressors are used to boost the pressure of these recycled gases for reuse in downstream processes. These applications typically involve moderate to high pressures and variable flow rates, with gas mixtures containing moisture, condensates, and other reactive components.

Tank-to-Tank Bulk Liquid Transfer

For applications where vapor recovery is not preferred, CORKEN pumps are employed for bulk liquid transfer. These are ideal for industries such as:

- **Intermediate chemical manufacturing**
- **Bulk drug production**
- **Aromatic and essential oil processing**

CORKEN pumps handle medium to high differential pressures and are suitable for moderate flow rates, offering robust performance in demanding environments.

Why CORKEN is the Preferred Choice for Propylene Transfer

CORKEN's compressors and pumps are engineered to meet the demanding requirements of propylene handling—delivering unmatched safety, reliability, and performance across industrial applications.

Below are the Corken compressors for Propylene transfer application.

A) Vertical and Horizontal orientation compressors for broad range of capacities required (5 HP to 100 HP).

B) Options for packing combination

Engineered for Precision & Compliance

With cutting-edge design and rigorous quality control, Corken Reciprocating Compressors offer unmatched accuracy and durability, making them a trusted choice for critical applications.

Oil-Free Compression for Process Purity

In propylene processing, eliminating oil contamination is essential. CORKEN compressors feature non-lubricated gas compression chambers, fully isolated from the portions of the compressor lubricated with oil. Internal components in the compression chambers are self-lubricating, eliminating the need for external lubrication and ensuring clean, contamination-free compression. CORKEN pumps also follow this principle, with grease-lubricated bearings and no oil-lubricated wetted parts.

Advanced Leakage Control for Safety

Propylene's **high flammability** demands stringent emission control. CORKEN offers multiple packing configurations:

Plain Style
Typically recommended for outdoor and well-ventilated areas with installations with above-grade elevations.

D-Style
Greater leakage control compared to Plain Style on account of Double packing and more effective when purged with inert gases for disposal of any fugitive emissions to safe area.

T-Style
Offers Best leakage control with triple packing for all critical applications and virtually leak- free when purged with inert gases for disposal of any fugitive emissions to safe area.

These are equipped with **Positive Seal Piston V-Rings or Segmented Packing,** delivering **precision leakage control** and minimizing fugitive emissions.

Quiet, Smooth Operation

With proper installation and piping, CORKEN compressors and pumps operate smoothly and quietly, —ideal for sensitive environments.

Scalable Capacity Options

Whether for small-scale unloading or high-capacity plant operations, CORKEN offers a wide range of solutions:

- Compact vertical units to large horizontal machines
- Single- and double-acting designs
- Single- or two-stage compression
- VFD integration for variable RPM control
- Suction unloaders for dynamic capacity management

Material Versatility for Harsh Conditions

CORKEN products are available in a wide range of materials to handle volatile, or reactive gases. This includes specialized compressor parts, gaskets, O-rings, and protective coatings—ideal for critical process applications involving propylene mixtures.

Robust Pump Sealing Technology

CORKEN pumps feature mechanical seals with silicon carbide seats and carbon faces, offering durability and compatibility with high-pressure propylene service.

Low Total Cost of Ownership (TCO)

CORKEN designs prioritize ease of maintenance, with modular construction, interchangeable parts, and simplified servicing. This results in:

- Reduced downtime
- Lower maintenance costs
- Greater user confidence and operational efficiency

Specialized Pump Technologies

CORKEN's Sliding Vane and Regenerative Turbine Pumps are optimized for entrained vapor handling, making them ideal for liquefied gas applications like propylene.

Choose CORKEN — Engineered for Safety, Built for Performance

Whether you're transferring propylene in bulk, recovering vapor, or managing complex process flows, CORKEN delivers proven solutions that combine safety, efficiency, and reliability.

Partner with CORKEN to elevate your propylene operations—because when precision matters, compromise isn't an option.

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