

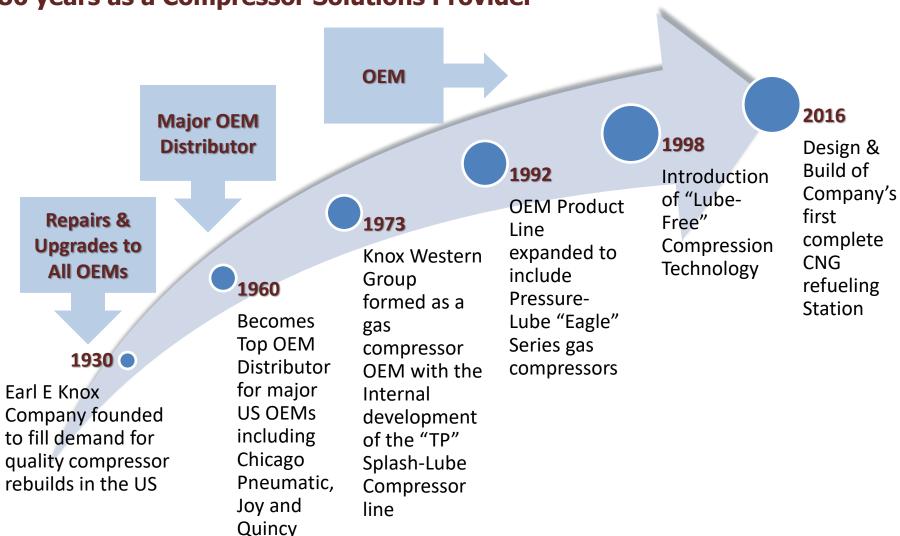


# World-Class Reciprocating Gas Compressor Solutions

## Introduction to Knox Western Knox



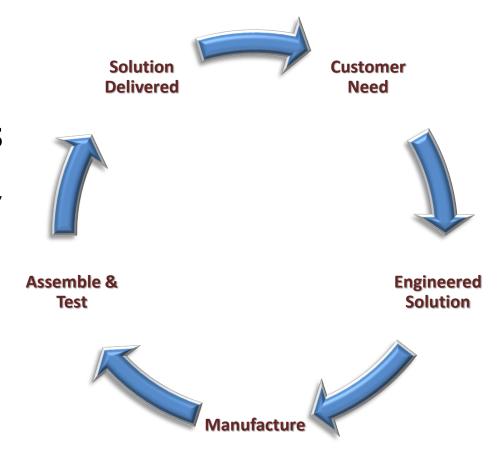
**86 years as a Compressor Solutions Provider** 



## **Compression Solutions**



- Begins with thorough review of Customer's application and needs
- Solution is developed, configured and engineered
- Manufacturing Cycle
- Assemble & Test
- Solution Delivered



Entire process completed in-house Solution Cycle typically 2-10 weeks

## **Global Reach**





 Including Natural Gas, Nitrogen, Helium, CO2 and others



Angola
Argentina
Armenia
Azerbaijan
Bangladesh
Belgium
Bolivia
Brazil
Canada

China
Chile
Columbia
Denmark
Ecuador
Egypt
England
Finland
France

Georgia India Indonesia Italy Japan Kazakhstan Malaysia Mexico

**Netherlands** 

New Zealand Nigeria Pakistan Peru Poland Russia South Korea Spain

Sweden

Taiwan
Thailand
Trinidad Tobago
Turkey
Ukraine
United States
Uzbekistan
Venezuela
Vietnam

Countries with KW CNG Refueling

Countries with KW Nitrogen Compression

Countries with KW Hydrogen Compression

## **Product Capabilities**







#### **TP Series**

Discharge Pressures up to 7,800 PSIG

3", 3.5" & 4.5" Strokes

550 to 1,800 Continuous RPM

30 to 560 Horsepower

6,000 to 9,000 lb. Combined Rod Loads

Splash Lube Frame to 60 H.P.

#### **Eagle Series**

3", 3.5" & 4.5" Strokes

Discharge Pressures up to 7,200 PSIG

1,200 to 1,800 Continuous RPM

200 to 1,400 Horsepower

24,000 to 60,000 lb. Combined Rod Loads

Pump-to-Point, Progressive Lube or Non-Lube

Single to Eight Stage 1-3/4" to 18-1/2" Cylinders

## **Applications**

Knox 7 Western

- Compressor Applications are principally derived for the Oil & Gas industry
- Along with many other industrial segments
- Field Separation & Processing
- Sweetening
- Liquids Separation
- Gas Lift
- Nitrogen Injection
- Gas Gathering
- FPSO
- FLNG

Pipeline Transport & Storage

- Citygate & Local Distribution
- Gasification
- Boosting
- Pipeline Testing

Upstream

Midstream

Other Industrial

Downstream

- Vapor Recovery
- Refrigeration
- Landfill Gases
- Fuel Production
  - CNG
  - LNG

- Refineries
- Petrochemical
- Power Generation
- Basic Materials
- Syngas
- Plastics, Pharmaceuticals, ...















#### Gases



 Knox Western has a long & successful history of compressing a wide variety of gases including:

- Natural Gas
- Methane
- Butanes
- Ethane
- Propane
- CO
- · CO2
- Argon

- Associated Gases
- Nitrogen
- Helium
- Hydrogen
- Syngas
- Landfill Gas

## **CNG Compressors**



- Pure CNG Compression Technology
  - Knox Western's first complete turnkey refueling station
  - With our time-tested OIL-Free
  - TP145 compressors at the heart
    - Providing high-quality Pure CNG Fuel

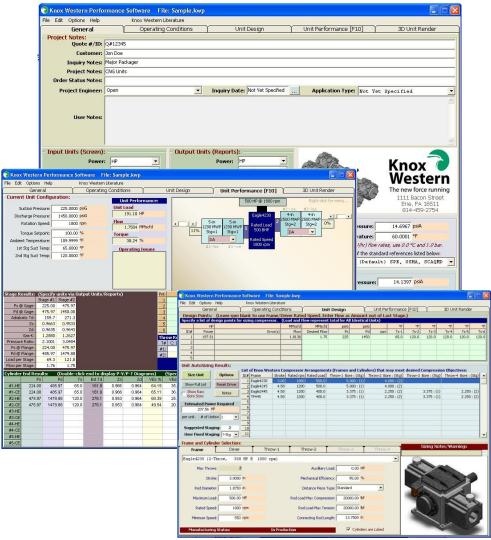




# **Engineering**

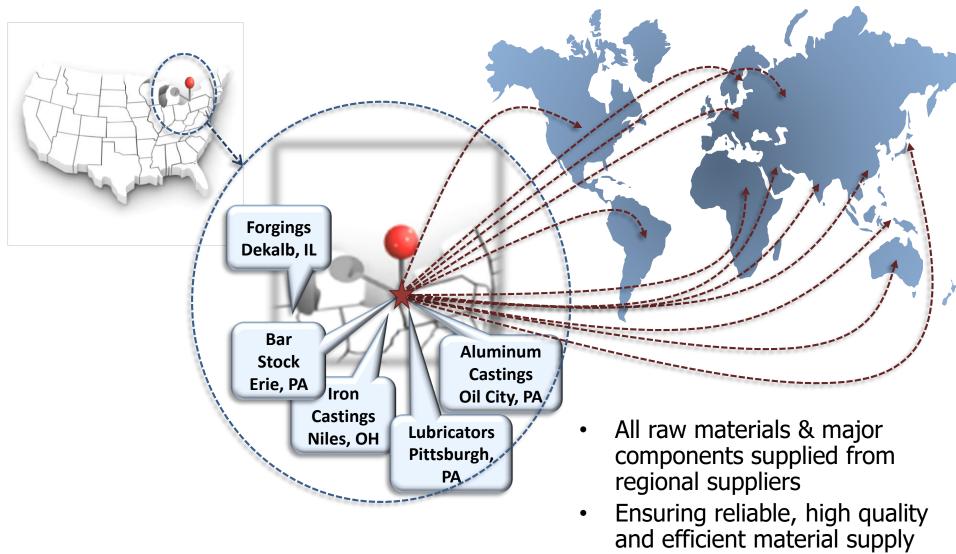


- Over 100 years of design experience
- Including a myriad of applications and processes
- Sophisticated, Proprietary Design Software
  - Uses experiential data base with thousands of applications to ensure an optimum solution including compressor and skid designs
- Rapid Engineer-To-Order capabilities for non-standard or emerging applications
- Sophisticated Engineering tools
  - Solid Works®
  - AutoCAD®
  - FEA



## Logistics





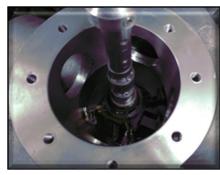
## **Manufacturing Facility**

Knox 7

- All manufacturing is completed in our dedicated factory using locally sourced materials assuring:
  - High Quality
  - Dependable Deliveries
- 36,000 sq' manufacturing space
  - 14 CNC machining centers
  - 23 Manual work centers
- Lean Manufacturing Enterprise









## **Spare Parts & Service**



- Millions of dollars invested in inventory to ensure rapid availability of highquality OEM replacement parts
- Short-Run Machining capability for rapid response to special orders



## **Key Customers**



- Chevron
- CNPC (China National Petroleum)
- Sinopec
- PTT
- KPO
- Exxon Mobil
- Praxair
- Caltex
- PDVSA
- Petrobras
- Shell America
- UGV

Worldwide

China

China

**Thailand** 

Kazakhistan

USA

Worldwide

Indonesia

Venezuela

**Brazil** 

**USA** 

Ukraine

## **Thank You**



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- Time-Tested Gas Compressor Designs
- Experience in Virtually Every Application With Every Gas
- Extensive Breadth of Reciprocating Compressors
- Rapid Engineer-To-Order Capabilities
- Vertically Integrated Production With Full US Materials and Manufacture

