



Oil, Gas and Chemicals, ABB, 2016

# Reciprocating Gas Compressor Units Compressor packaging

# Reciprocating compressors

## ABB as a packager

- ABB is offering complete gas compressor packages
- ABB has extensive experience and dedicated team to perform design and execution of complex projects related to gas compression using reciprocating compressors
- Thanks to its global presence ABB is capable of delivering projects around the world
- Our strategic partnership with one of the leading compressor manufacturers and our own broad portfolio of products allows us to deliver high performance gas compression packages with optimal pricing

# Reciprocating Compressors Oil & Gas Applications

## Applications



### Upstream

- Gas gathering
- Gas boosting
- Gas lift
- Gas reinjection and recompression
- Enhanced oil recovery
- FPSOs

### Midstream

- Gas boosting
- Underground gas storage
- Pipeline compressors
- Small and mid-size LNG

### Downstream

- Refining
  - Hydrocracking
  - Hydrotreatment
  - Hydrodesulphurisation
  - Isomerization
  - Reforming
- Petrochemical

# Reciprocating compressors

## Construction of a typical skid

**Gas treatment:**

- dehydration
- desulphurization
- mercury removal

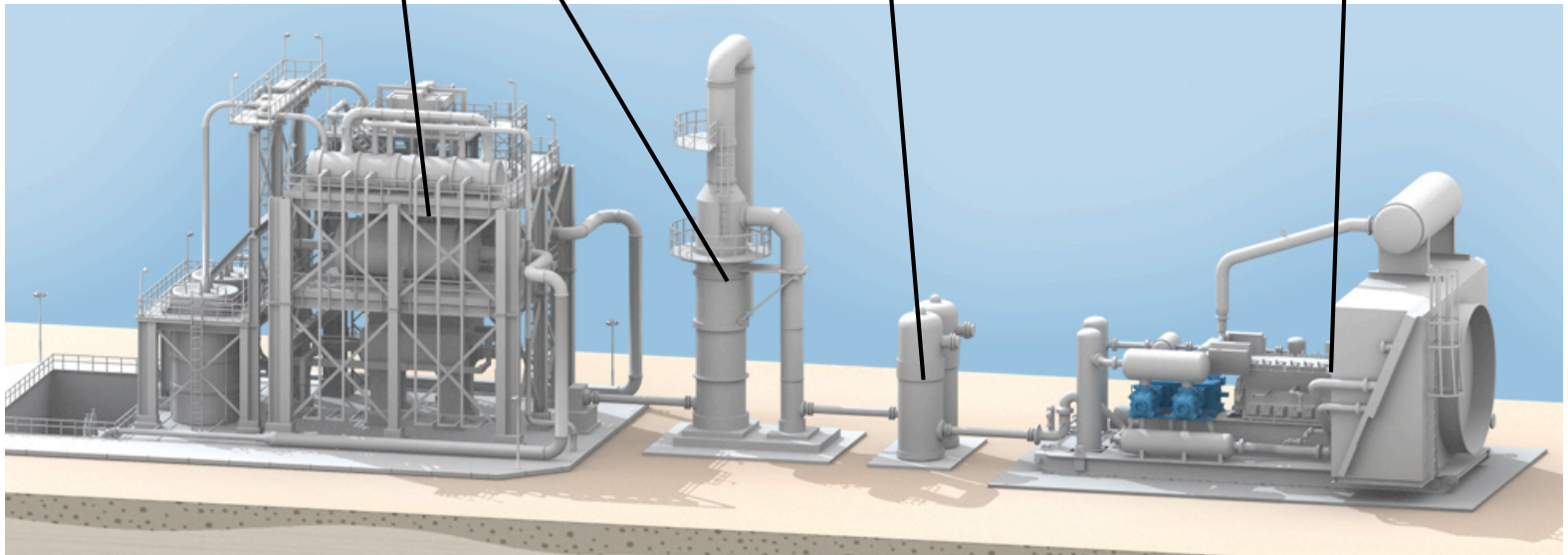
**Filtration:**

- solids removal
- fluid removal
- slug catchers

**Compression:**

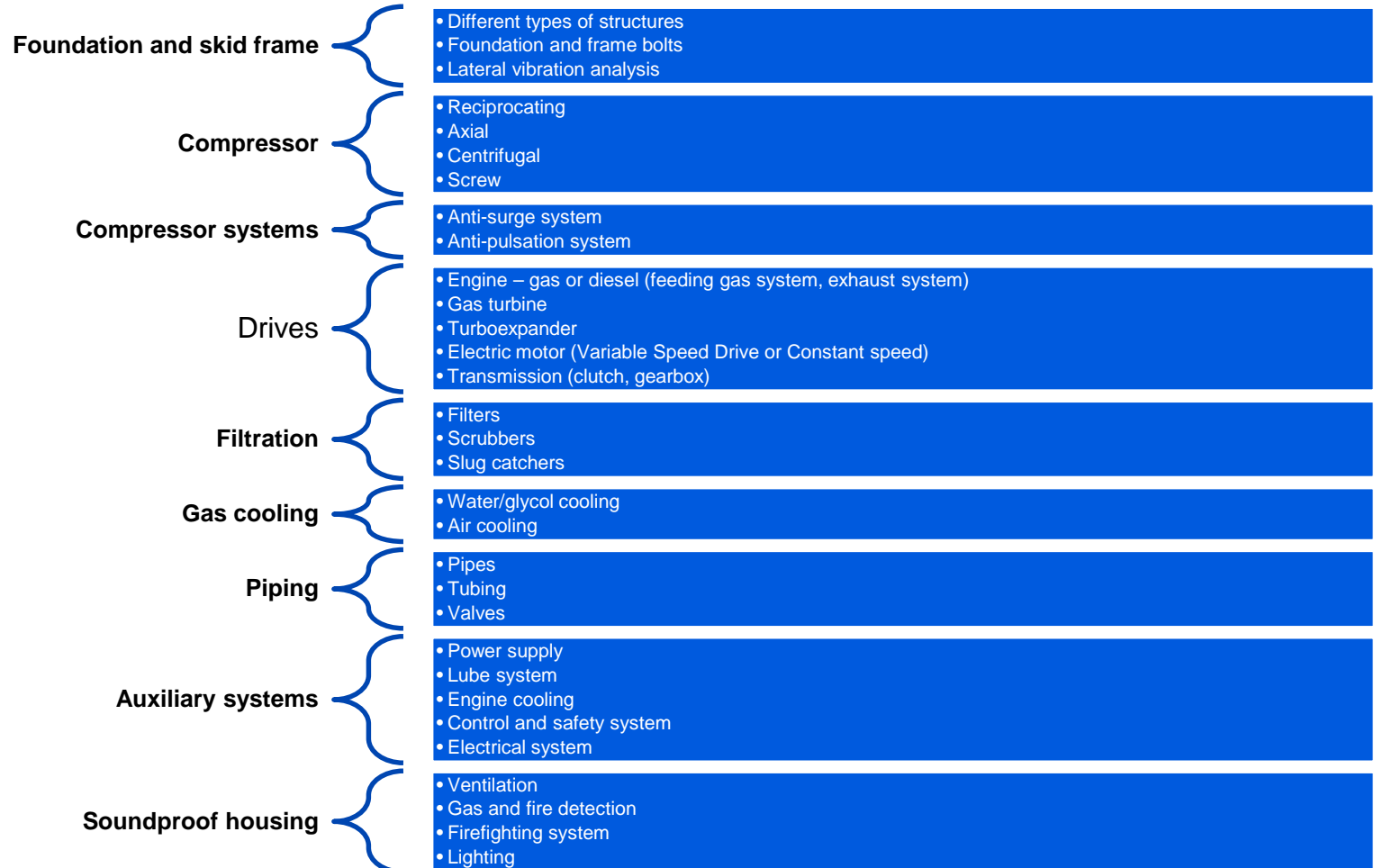
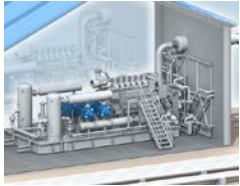
- engine or motor driven
- water or air cooled

See next page



# Reciprocating compressors

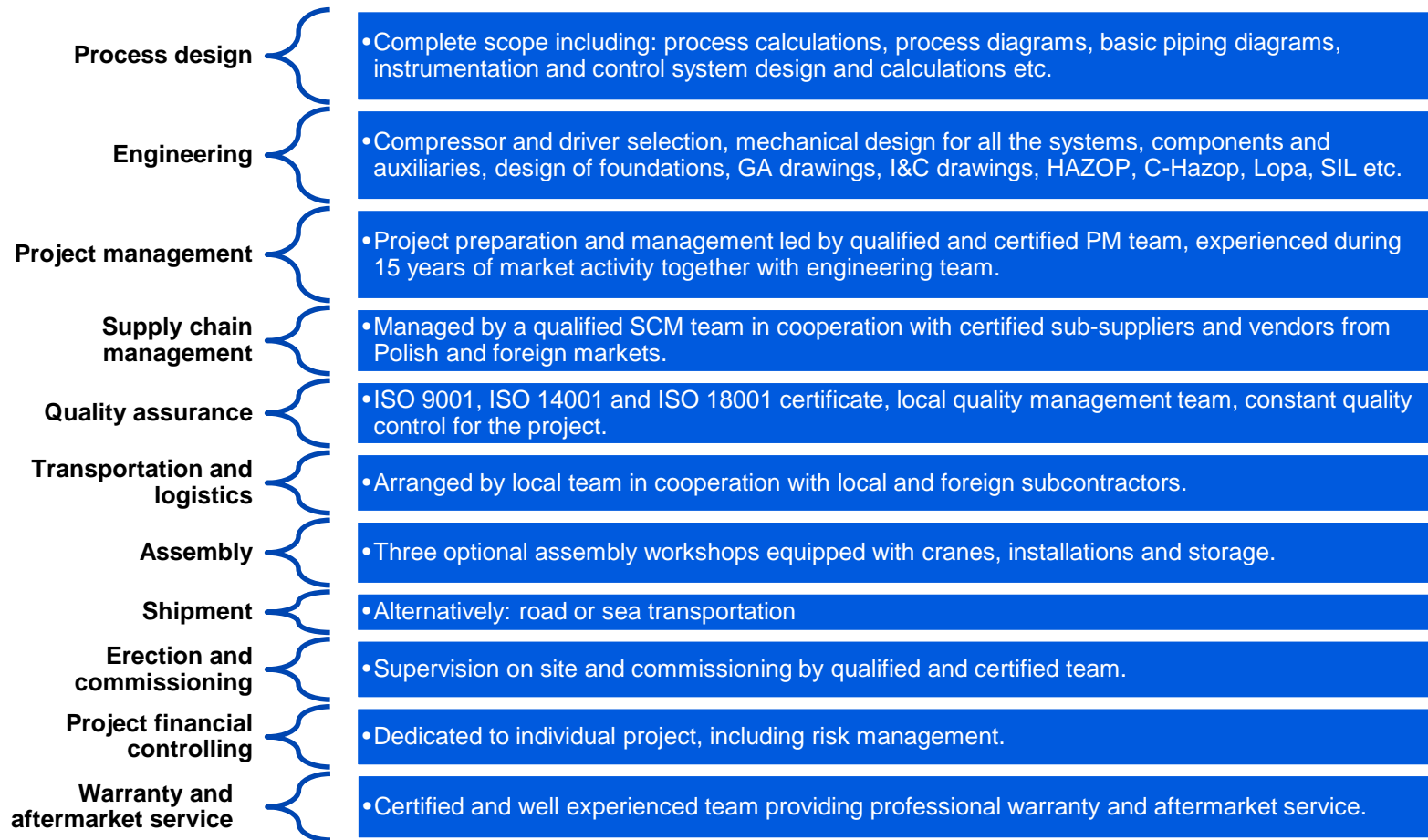
## Construction of a typical skid





# Reciprocating compressors

## Packaging process



# Type of Projects

## Gas Compressor Package



### Gas compressor package – Skid Mounted

Design, engineering and packaging of skid mounted compressor unit in compliance to Customer requirements and agreed documentation standards (DIN, GOST, ASME)

Delivery; FCA factory, transportation to the site upon request

Supervision of erection and commissioning on site

Site assembly as an option

Certification limited to the gas compressor package; CE marking acc. to PED and Machinery Directive.

Warranty inspections as an option

Aftermarket service as an option

# Type of Projects

## Small Gas Compressor Station



### Extended Scope Project – Small Gas Compressor Station

Design, engineering and construction of gas compressor station including compressing package and all auxiliary equipment. Full compliance with customer requirements.

Compressor Package delivery to the site.

Civil and construction works included.

Site assembly included.

Full certification including protocols for testing site procedure for entire scope provided..

Commisioning, start-up and testing included.

Warranty inspections included. Aftermarket service as an option.



# Key Partners

## Reciprocating Gas Compressor Unit




**Compressor** Frame Agreement with Ariel Corporation – world leader in manufacturing of reciprocating compressors

**Engines** Gas engines of European and American manufacturers;  
GE Waukesha, GE Jenbacher, Caterpillar, Wartsila, MAN  
Electric motors manufactured by ABB or others



**VFDs** Manufactured by ABB

**Electrical equipment** Transformers, switchgears, cabinets, low and medium voltage equipment - manufactured by ABB



**I&C Equipment** Instrumentation, control and safety system delivered by ABB or others  
HAZOP / LOPA certification, if required

**Gas cooler** Proven suppliers: Bronswerk, GEA/Kelvion, Alfa Laval

# Reciprocating compressors

## Strategic partnership with Ariel Corporation



### Ariel corporation

- Founded 1966, privately held
- World's largest manufacturer of separable, reciprocating gas compressors
- Global market share in excess of 70%
- Compressor sizes from 50-10 000 bhp (7.5 MW)
- Over 50 000 units shipped
- Installations in over 120 countries
- ISO 9001-2008 Certified

# Reference Projects

## LMG Crude Oil and Natural Gas Plant



### Purpose

- 7 electrical driven gas compressor packages for the newly erected biggest crude oil mine in Poland
- 3 compressors destined to compress hazardous sour gas
- 5000 kW of total power from ABB electric motors
- key to winning the contract was ABB's ability to provide high production capacity (7 packages in only 3 years)
- proven solution for difficult parameters related to high H<sub>2</sub>S concentration

### Description

- wide cooperation between different ABB divisions, not only in the terms of this particular order but also for other scope (electrical, drives, I&C, etc.)

### Current status

- project completed successfully in 2013
- warranty service granted – looking forward to expand the contract

### Benefits

- participation in a demanding project for the market's key customer and good reference for the further offerings
- a great chance for a joint cooperation between numerous ABB businesses.
- a large share of ABB products in the overall scope: electrical engine, VSD, transformer, electrical equipment, automation products and control system



# Reciprocating compressor packages

## Contact us

We are looking forward to your contact and questions

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