



**SES International bv | A Rosscor Company**

# **COMPRESSOR SYSTEMS**



## **GENERAL INFORMATION**

A leader in refrigeration compressor packages for the past 50 years and specialist in “heavy spec” compressor packages and complete chillers for refrigeration and process gas industries according all known design codes as API619, API614, ASME VIII, etc.

**SES offers a variety of compressor package solutions.**

Due to its flexibility in engineering and “out of the box” thinking, SES ensures always various possible solutions to encounter customer needs for a high performance compressor package which excels on every technical level.

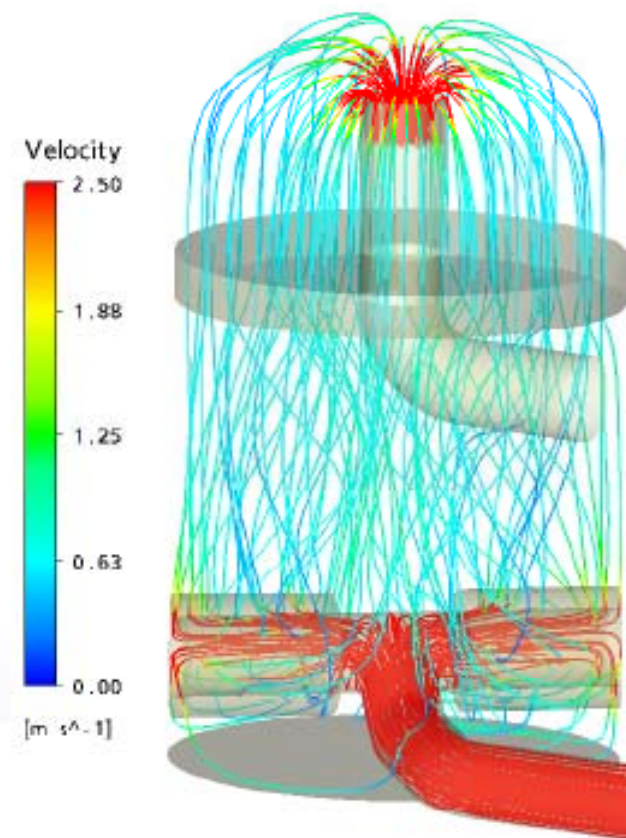
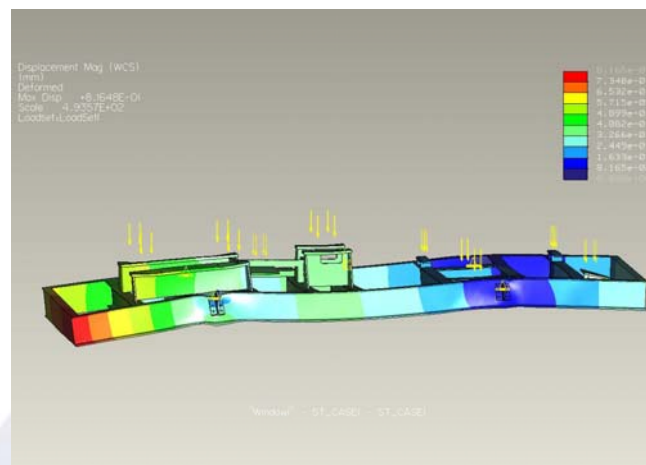
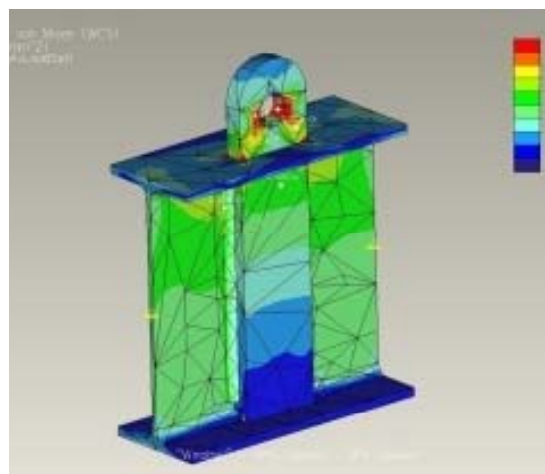
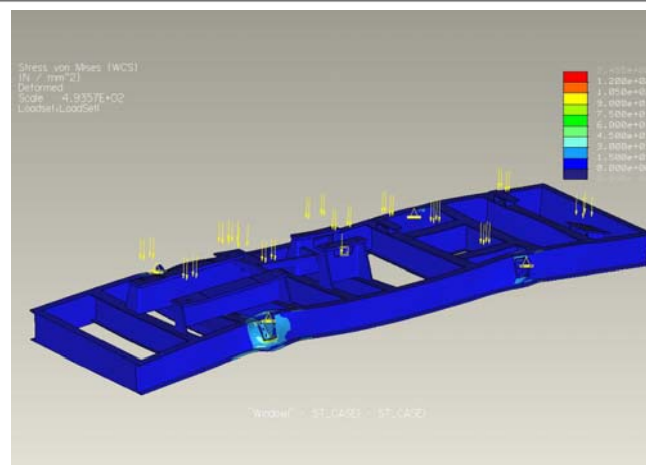
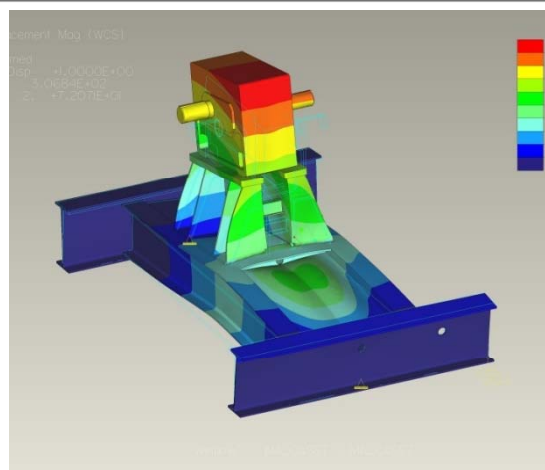
**SES is the leading OEM packager for  
Howden Compressors Ltd.**

## *State of the art engineering tools*

- Flash calculations (ProSim)
- Stress/modal analysis (FEM)
- Flow analysis (CFD, Ansys)
- 3D modeling (ProEngineer)

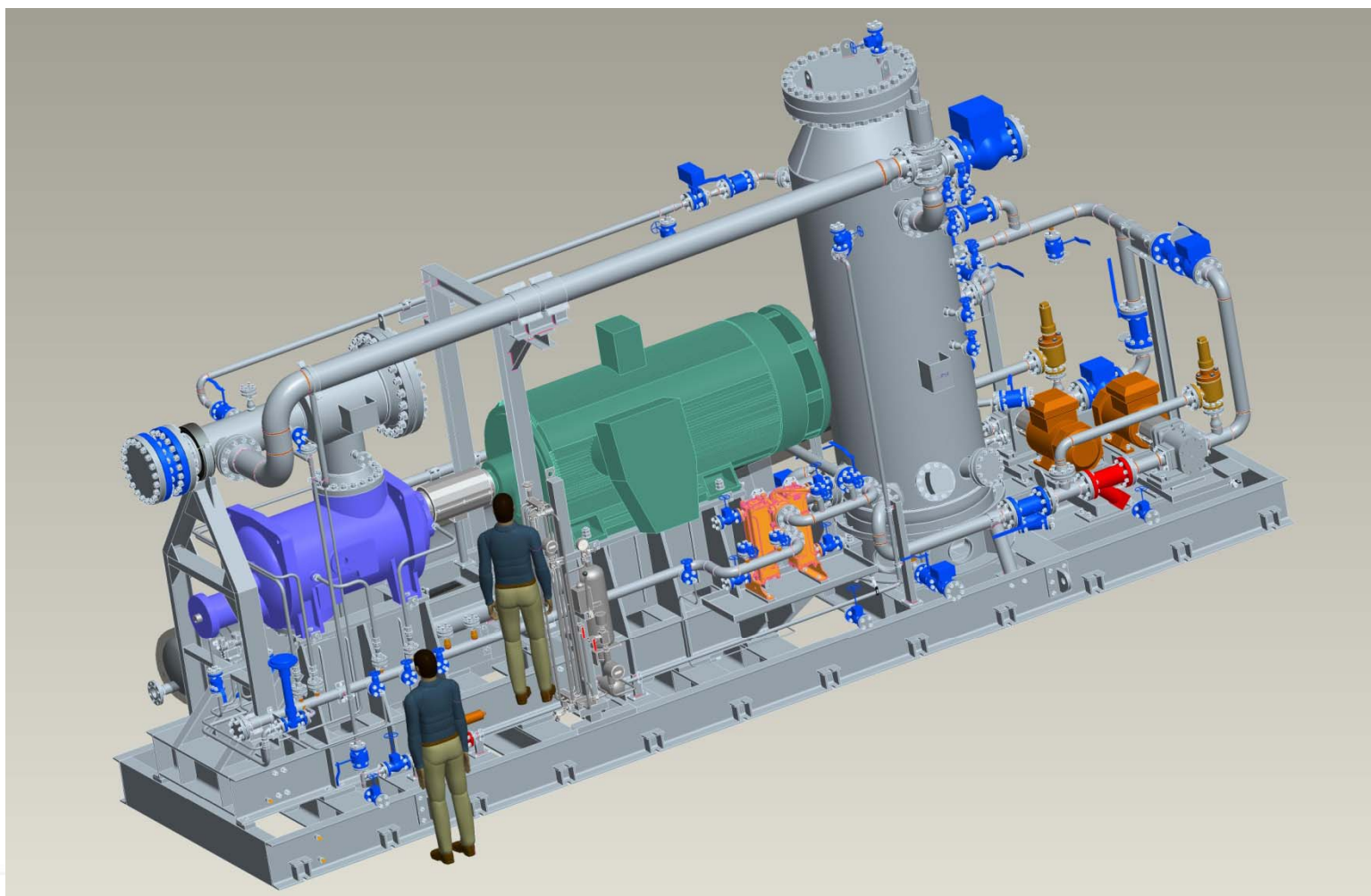


# 3-D Simulations

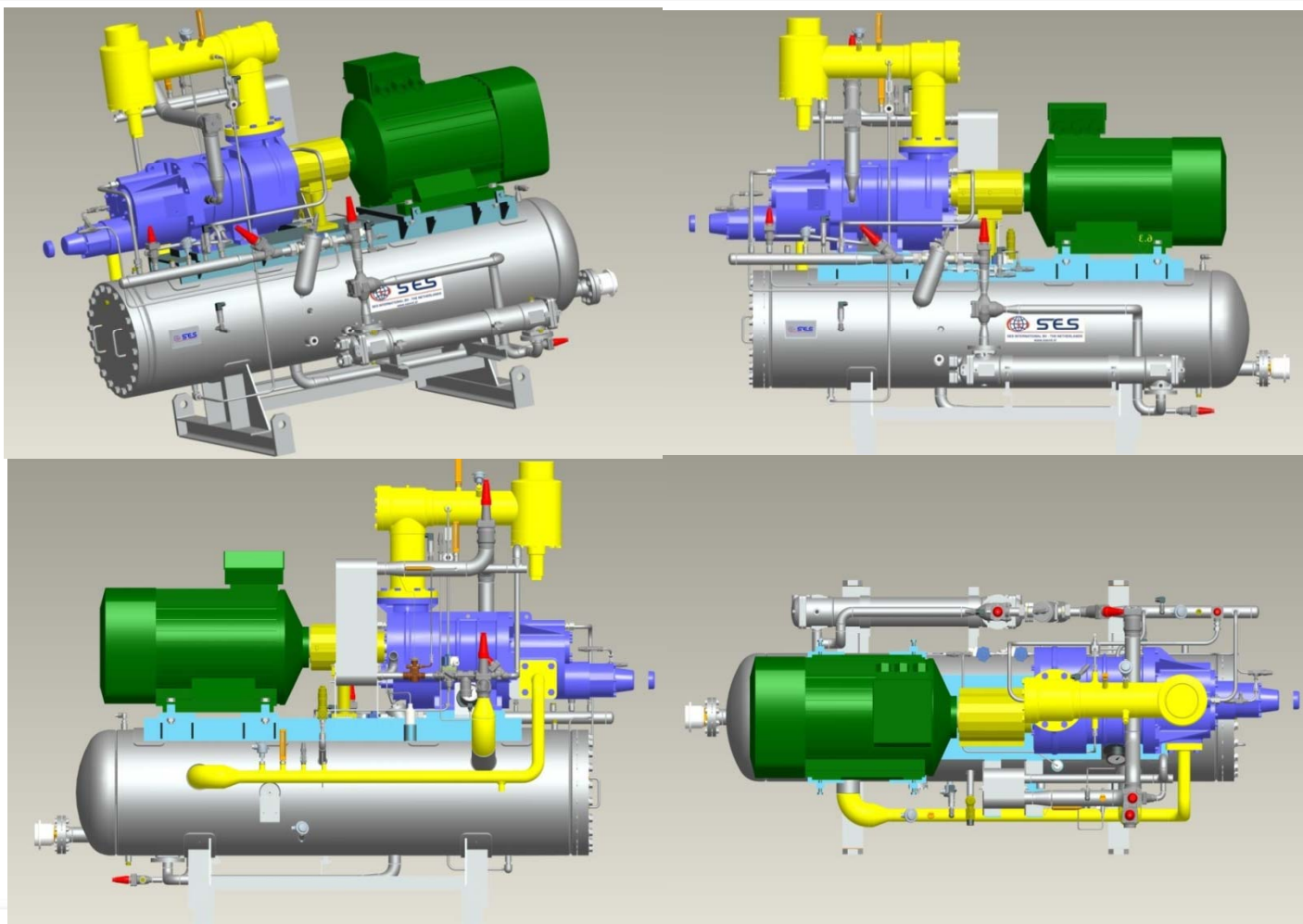




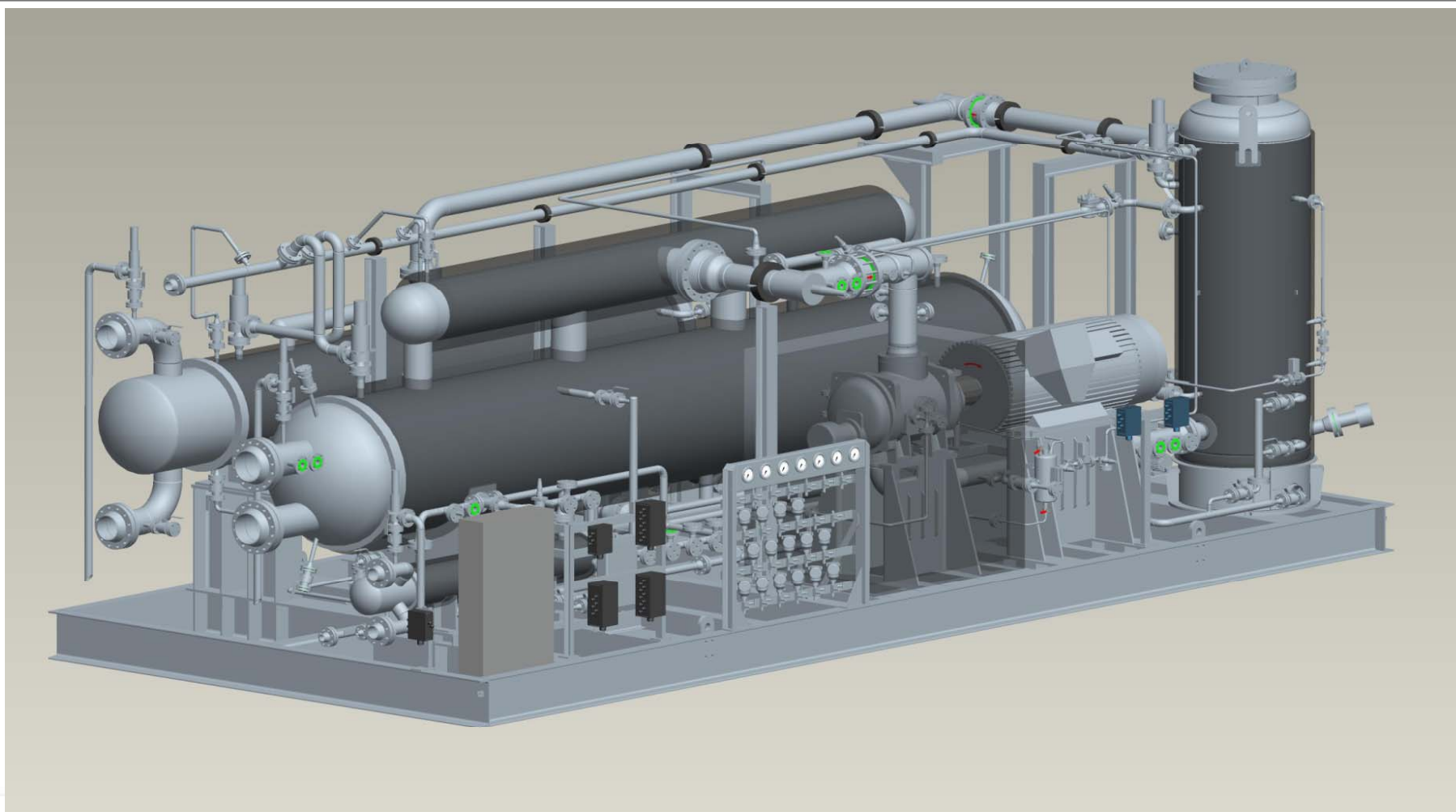
## 3-D Design and Engineering



## *XRV compressor package*

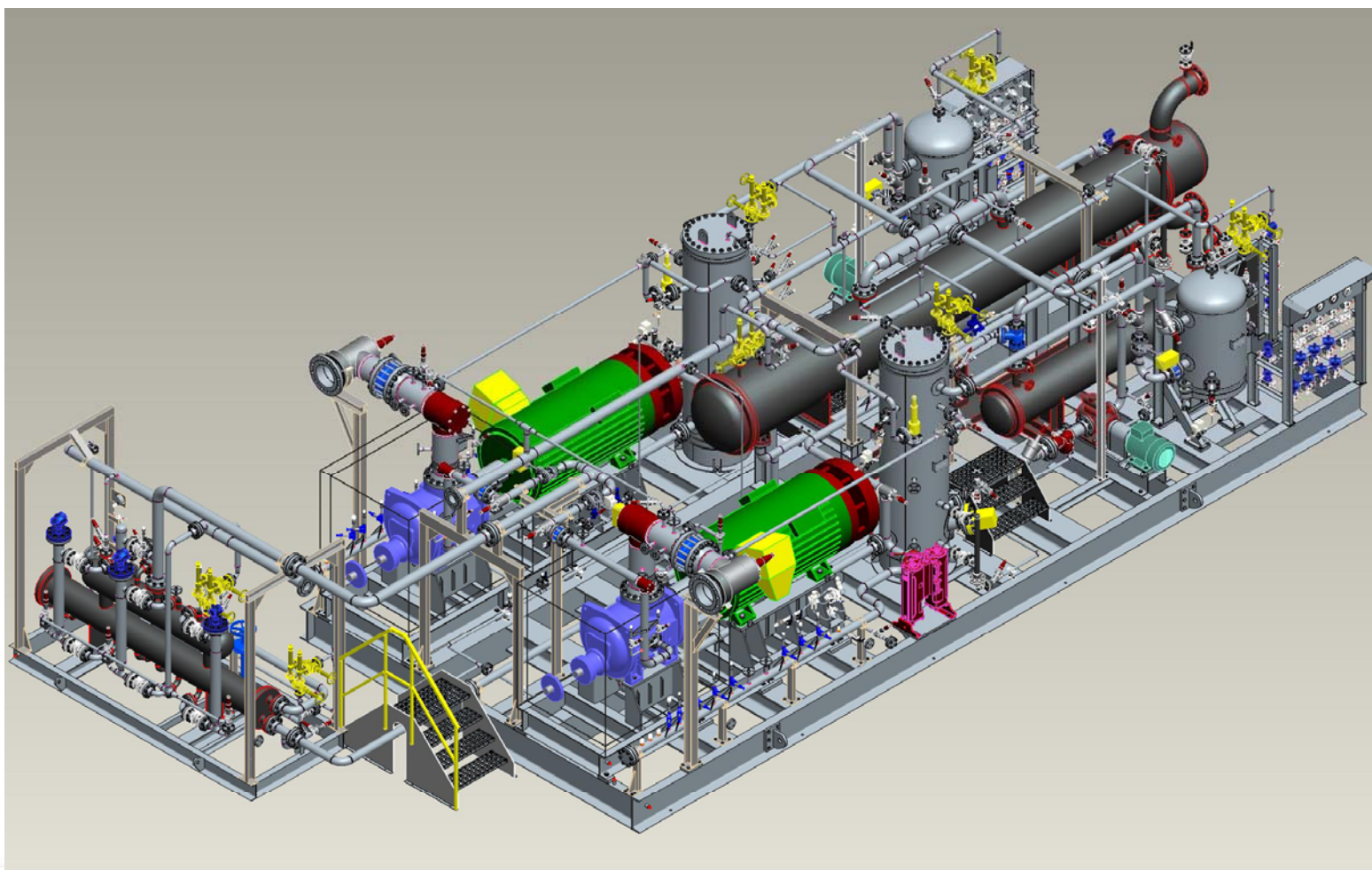


## *HMC-Bassell : Chiller - full API 619*



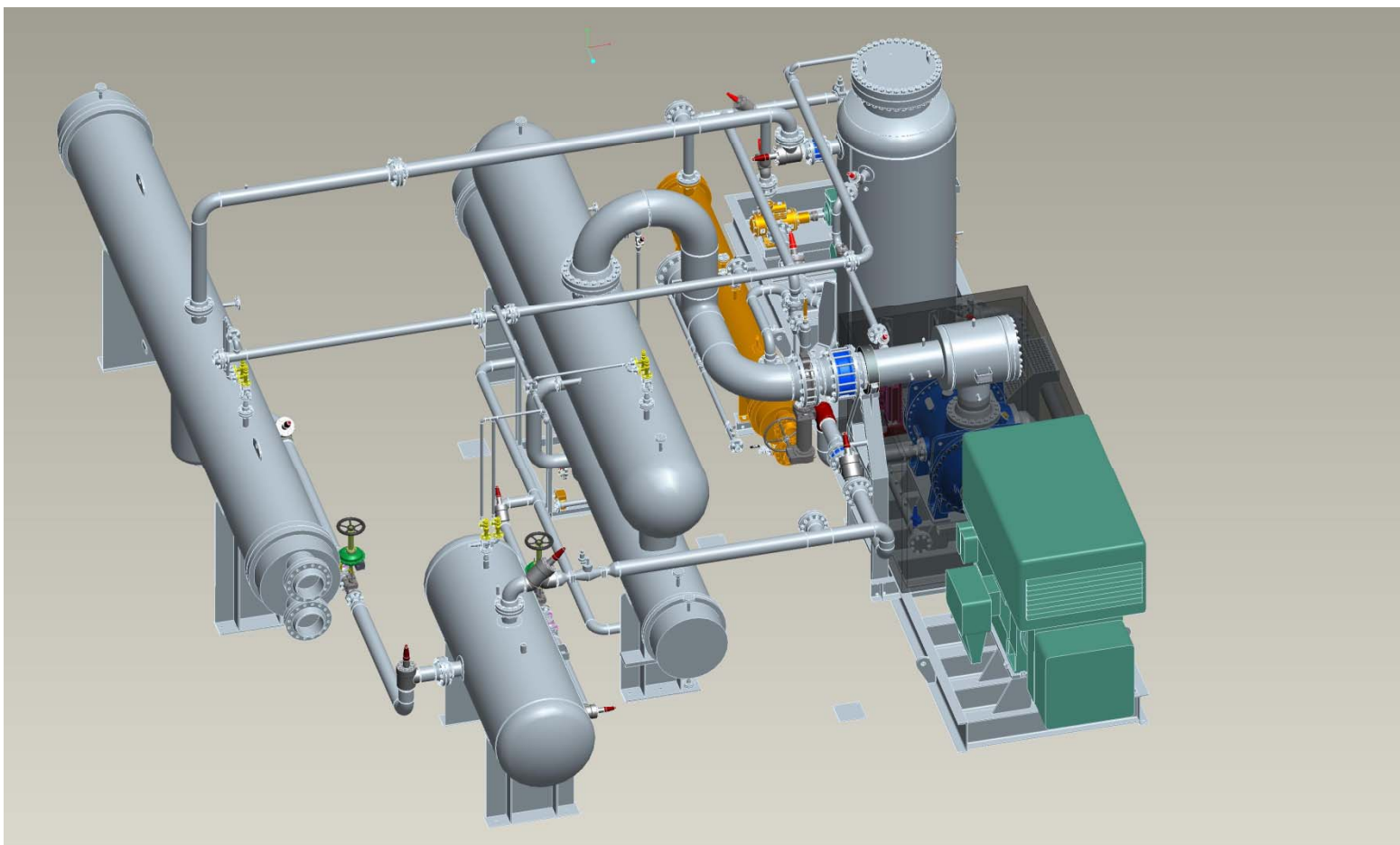


## *Yara – Italy : Boil-off gas compressor*





## *Fatima – Pakistan : WRVi 365 chiller*



## *DESIGN FEATURES*

### Oil separator

- High efficiency 4-stage oil/gas separator
  - Agglomerator
  - Gravity
  - Demister
  - Internal coalescer elements
    - Standard max 10 PPM by weight guaranteed (vapour phase excluded.)

Upgrade to lower, <1ppm, guaranteed values are possible which makes oil return systems superfluous.

**\*\*All material shotblasted to SA2,5 before painting\*\***

### Base frame

- Machined after welding for easy and accurate alignment when changing compressor or e-driver.

### Main coupling

- Spacer and clamp-fit compressor hub to enable easy change of shaft seal without moving the driver.

### Instrumentation

- Stainless steel instrument lines as standard.
- Double ferrule (Parker / Swagelok) pipecouplings as standard
- Separate stainless steel tubing for manifold mounted pressure transmitters.
- Extensive plc control systems to client specifications or standard electro mechanical basic safeguarding.



# Instrumentation design



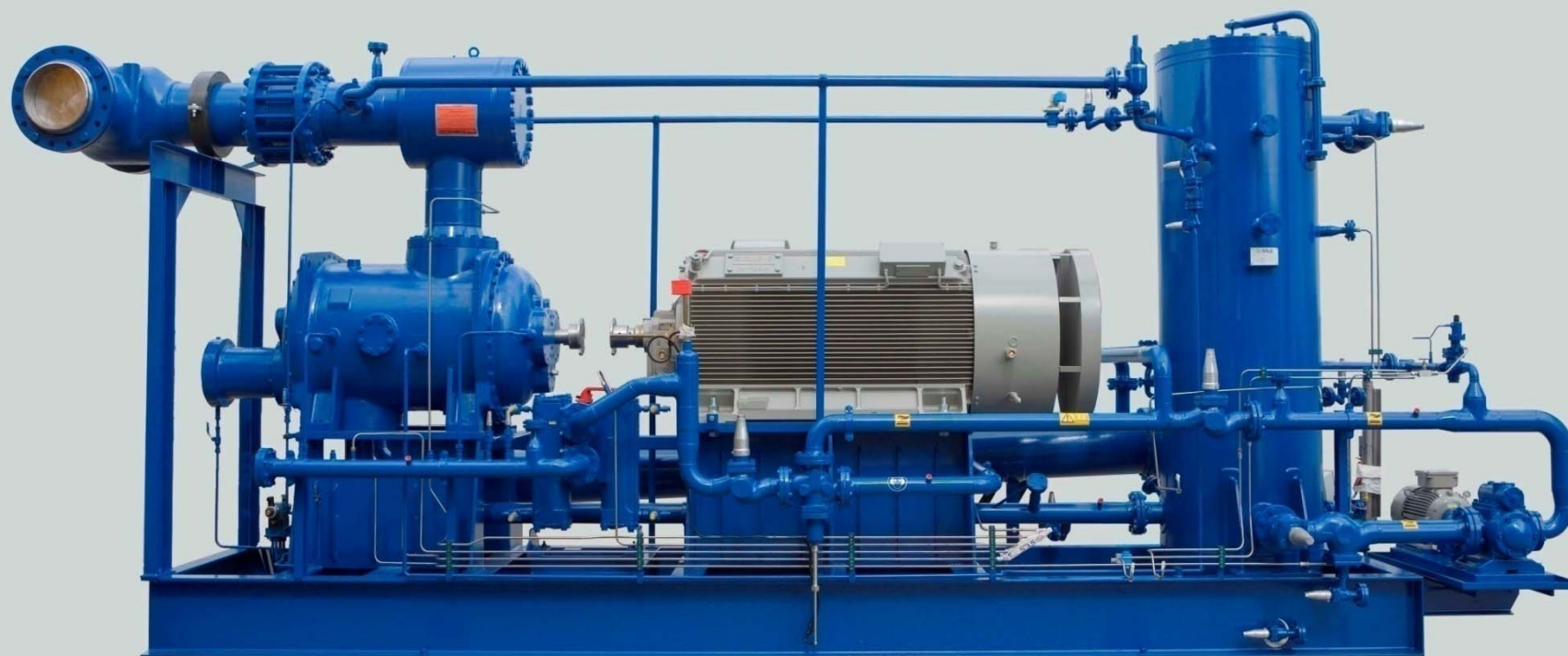




## *WRVi 255 units (9 off) Heineken Seville Spain*



## *WRVi 321/193 units (3 off) BASF, NH<sub>3</sub>, 800 kW*





## *WRVi 255 CHILLER, NH3, WimmBillDann diary*





## *XRV 127 RSW CHILLER, NH3, Fishing Industry*





## *WCVS 321.165 - Propane - Steam turbine driven.*





## *WRV321.165 + WRV255.130, Double shaft motor*





## *WRVi 365.165 UNIT - NH<sub>3</sub>, Methanol chiller 6500*





## *WRVi 365.165 UNIT - NH3, Methanol chiller 6500*







## *Flash gas boosting units – 3x50% LS + 3x50% HS*



## *Flash gas boosting units - 1st stage WRVT 510*





## *Flash gas boosting units – Inlet scrubber*



## *Fuel gas boosting – block box – WRV 255.145*

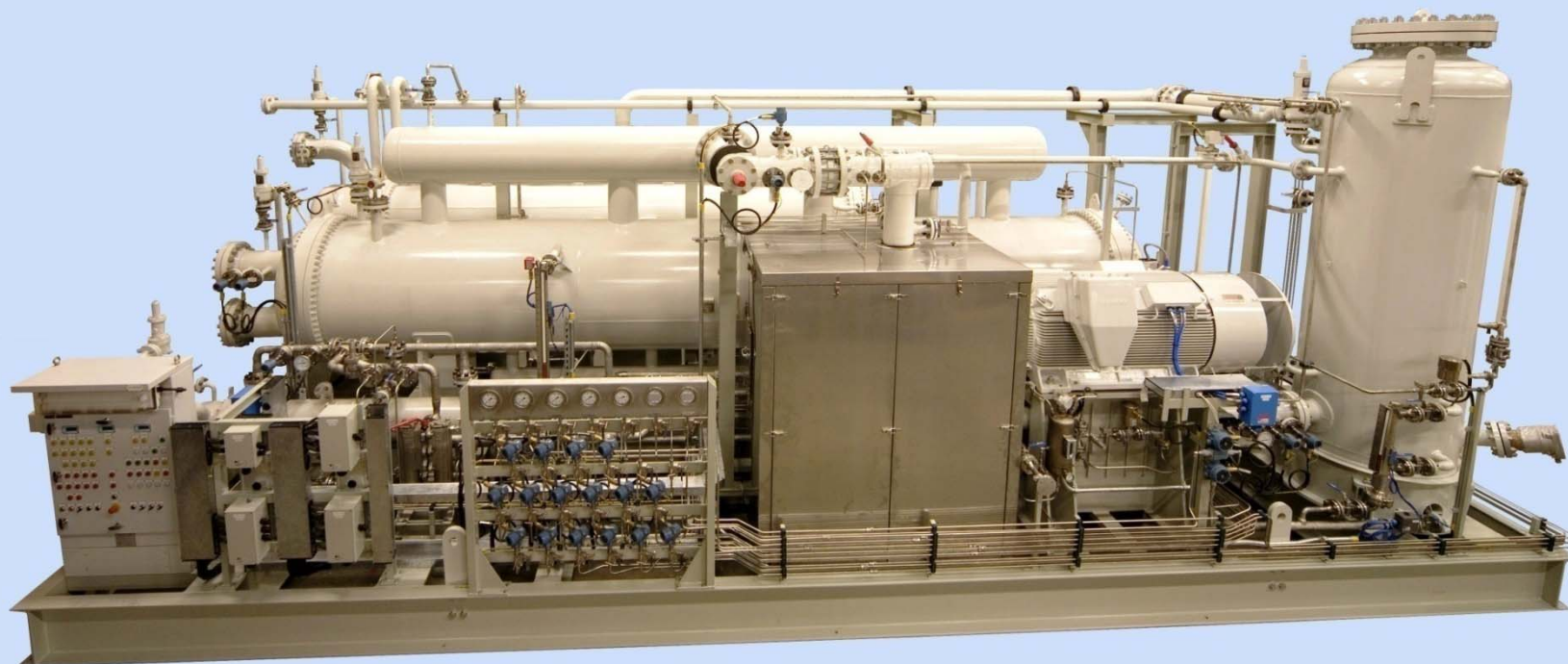




## *Fuel gas boosting – scrubber, block box, oil cooler*



## *WCVS 255.130 CHILLER – PROPYLENE, Ex zone*





## *WRVHS 255.130, Boil off gas compressor, Ex zone*





## *WRVHS 255.130, Boil off gas compressor, Ex zone*





## *WRVHS 255.130, Boil off gas compressor, Ex zone*





## *Multiphase pump systems*





## Proof

Further proof of our pledge to provide the right solutions for our clients are the regular customers as:

Shell, LukOil, Rosneft, Salym, Turgay  
Evonik (former Degussa),  
BASF, DOW Chemicals  
LyondellBasell,  
Solvay, Unilever, WBD  
McCain, Heineken,  
Ineos, Weir LGE



## *Conclusion:*

- More than 50 years of experience in design and manufacturing of gas compressor systems.
- Flexible: from standard to “high spec”.
- All-round production facility and staff.





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