Compressor Technique

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Capital Markets Day 2018
Agenda

1. Facts in brief
2. Trends and driving forces
3. Focus and priorities
4. Innovation in reality
5. Summary
Compressor Technique

**Growth drivers**

- Innovation
- Leverage investments in presence
- Service offer
- Further expand the core organically and with acquisitions
- Digital value creation
- People development

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**ORDERS, REVENUES AND OPERATING MARGIN**

*2016 figures not restated per IFRS 15.*
Compressor Technique growth opportunities

- High Pressure Products
- Medium Pressure Products
- Low Pressure
- Industrial Gas Products
- Air Treatment
- Digital Services
- Auditing
- Installations
- Product Service
- Air Treatment

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Orders received – local currency Q3 2018

SHARE OF ORDERS RECEIVED YEAR TO DATE:

- 28%
- 40%
- 32%

YoY Q3 vs. Q2

+6%  +5%  +4%
+11%  +0%
Compressor Technique – The People We Serve

Glass
Paint
Electronics
Electricity
Medical & Health
Furniture Manufacturing
Gas

Water
Textiles
Cosmetics
Plastics & Ceramics
Food & Beverage
Pulp & Paper
Pharmaceuticals

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Compressor Technique – The Segments We Serve

- RAW MATERIALS
  - Mining
  - Component Assembly

- MANUFACTURING
  - Material Processing
  - Chemicals

- TRANSPORT
  - Marine
  - Aviation
  - railway
  - Automotive

- POWER
  - Gas
  - Diesel
  - LNG
  - LPG
  - Hydrogen

- WATER
  - Process Water Treatment
  - Waste Water Treatment

- PEOPLE
  - Food & Beverage
  - Medical & Health
  - Pharmaceuticals
Compressor Technique – The Applications We Serve

- Shot / Beed Blasting
- Agitation
- Plastic Forming
- Pneumatic Conveying
- Workshop Tools

- Laser Cutting
- Cleaning
- Grinding Tools
- CO₂ Recovery
- Air Brakes

- Humidification
- Aeration
- Air Separation
- Industrial Assembly Tools
- Robotics

- Bubble Barriers
- Pneumatic Machinery
- Gas Expansion
- Instrumentation
- Cooling

- Fire Suppression
- Marine Engine Starting
- Nitrogen Packaging
- Reverse Jet Filters
- LNG Liquification

- Insect Control
- Tire Filling
- Spraying
- Breathing Air
- Surgical Tools

- Drying
- Pneumatic Valves
- Climate Control
- Reverse Jet Filters
- Surveillance

- Process Gas Compression
- Bottle Blowing
- Tire Filling
- Breathing Air
- Surveillance

- Compressor Technique – The Applications We Serve

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Compressor Technique – The Solutions We Provide

- **Air Compressors & Blowers**

- **Gas Generation, Compression, Expansion**

- **Air & Gas Treatment**

- **Equipment and System Control & Monitoring**

- **Air & Gas Distribution**

- **After Market Support**

- **Compressor Control**

- **Aluminum**

- **Installation**

- **System Control**

- **System Analysis**

- **Service**

- **Dryer Control**

- **Stainless Steel**

- **Remote Monitoring**

**Air**

- 0.5 Kw to 37 Mw

**Geothermal LNG Renewables**

**Dew Points**

- +5°C to -100°C

**Pressure**

- 0.1 to 350 Bar

**Compressor Technique – The Solutions We Provide**

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Trends and driving forces

GROSS DOMESTIC PRODUCT

STANDARDS AND LEGISLATION
Trends and driving forces

Energy consumption
Investment
Maintenance
Installation

ENERGY SAVINGS
Focus and priorities

BUY

RECOMMEND

RE-PURCHASE

PURCHASE

SELECTION

MAINTAIN

INSPIRE

INSTALLATION

DELIVERY

ATTRACT

UNDERSTAND
System Digitalization Industry 4.0

Product

Smart Connected Product

Product System’s

System of Systems (SmartLink)

Marketing
BI Dashboards
Efficiency Articles
Automatic Mailers
Links to CRM

Atlas Copco Support Center
Operating Software updates
Equipment status
Preventative diagnostics
Performance enhancements
Service planning information
Parts order status

Factory Management System
Air volume analysis
Remote equipment start
Production shift analysis
Industry Comparisons

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Market opportunity

Presence

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Hit rate
Product Developments

New Ranges

- Low Pressure Blowers
- Medium Pressure Oil Free Screw
- Medium Pressure Oil Injected Screw
- -40 °C Drum Type Dryers
- System Controllers
- High Pressure Pistons
- Medium Pressure Centrifugal
- Piston Compressors
Innovation in reality
Life cycle cost vs. Time

- **Availability**
- **Energy cost**

**ZR90-160 VSD+**
Product Developments

KEY FOCUS AREAS

- Increased Energy Efficiency
- Increased Control
- Increased Reliability
- Easier To Install
- Easier to Service
- Improved Monitoring
New element

Most efficient oil-free screw element on the market

Unique patented coating and element design

Calculation based on 160 Kw, 8000 Operating Hours, Electrical Cost 0.1 Euro, working 70% average load
Permanent magnet motor

Unique patented permanent magnet motor

Calculation based on 160 Kw, 8000 Operating Hours, Electrical Cost 0.1 Euro, working 70% average load
Two Neos drives

Dual Inverter Drive with smart control algorithms

Calculation based on 160 Kw, 8000 Operating Hours, Electrical Cost 0.1 Euro, working 70% average load
ZR 90 – 160 VSD

10% energy reduction

Saving **6,720** euro per annum

VSD 35% reduction compared to fixed speed compressors

TOTAL **45%**

Saving **30,240** euro per annum compared to old fixed speed range

Calculation based on 160 Kw, 8000 Operating Hours, Electrical Cost 0.1 Euro, working 70% average load
Environmental savings

45% energy saving = 302,400 kWh of electricity or carbon dioxide reduction of 225 metric tons

Calculation based on 160 Kw, 8000 Operating Hours, Electrical Cost 0.1 Euro, working 70% average load
Summary – Compressor Technique

- Diversified market place
- Growing number of applications
- Broad product portfolio
- Focus on innovation
- Complete solution provider
Cautionary Statement

“Some statements herein are forward-looking and the actual outcome could be materially different. In addition to the factors explicitly commented upon, the actual outcome could be materially and adversely affected by other factors such as the effect of economic conditions, exchange-rate and interest-rate movements, political risks, the impact of competing products and their pricing, product development, commercialization and technological difficulties, supply disturbances, and major customer credit losses.”