

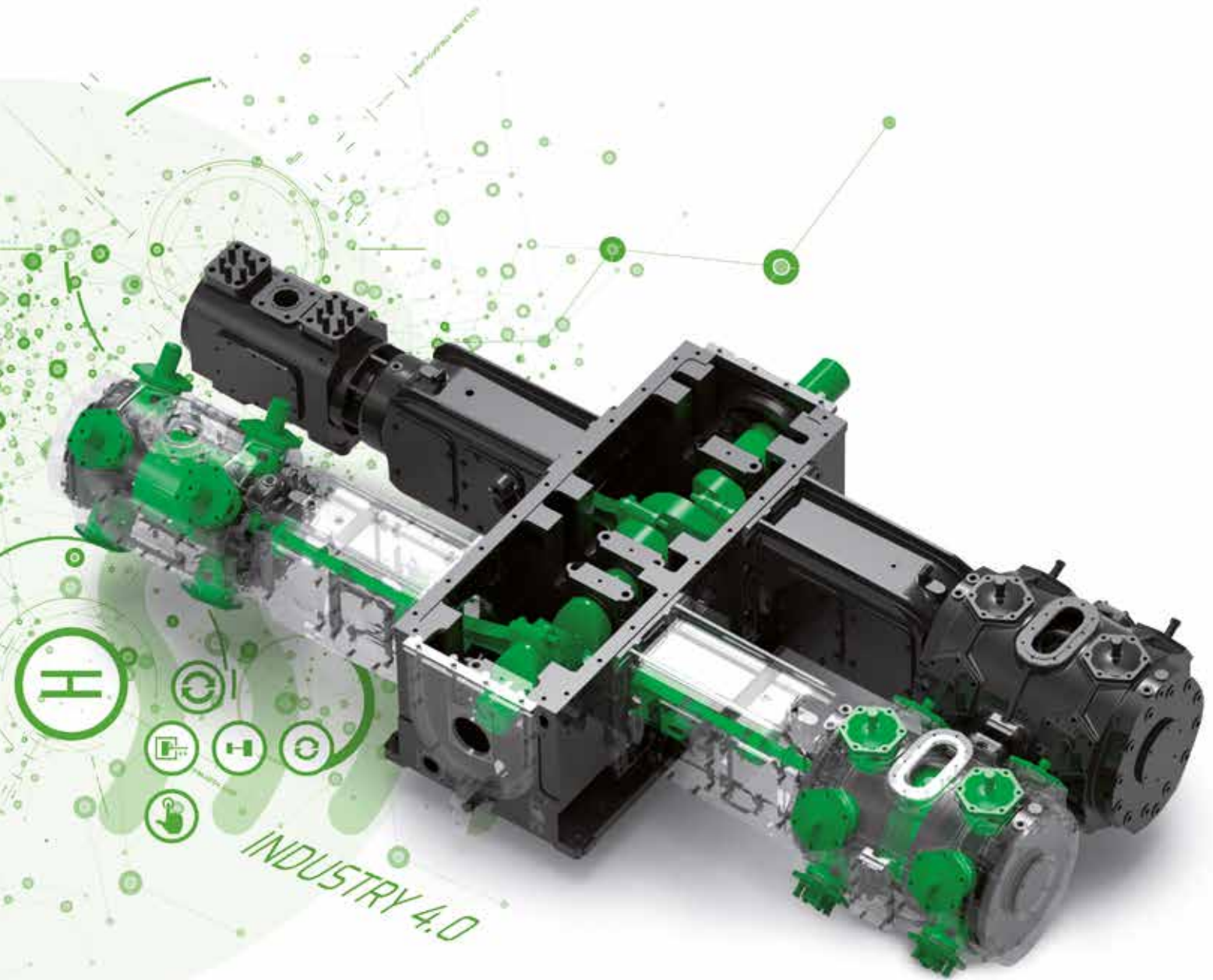


# HORIZON

OIL FREE COMPRESSORS

**PET-HIGH** PRESSURE

**LOW** PRESSURE



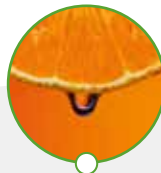
RELIABLE BEYOND LIMITS

# PIONEERS

## IN PET MARKET



**Water & CSD drinks**  
Oil free, heavy duty compressors



**Juices, tea and isotonic**  
Up to 6.000m<sup>3</sup>/h big size units



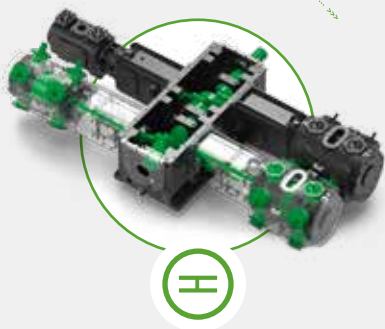
**Beer & wine**  
Available PET & CO<sub>2</sub> technologies



**Milk & Dairy**  
Customized modular design



**HORIZON 2000**  
315kW



**HORIZONTAL OPPOSED**  
**HORIZON** operates virtually without vibrations



**DOUBLE ACTING**  
**HORIZON** design gives optimum performance



**DIRECT COUPLED MOTOR**  
**HORIZON** is fitted with the most reliable and efficient direct coupled transmission



“

Since its **foundation in 1943**, ABC has focused on providing **the most reliable compressors for different sectors and applications**. Its **global orientation** and the commitment for growth was shown from its early exports in the 50's to its latest geographical expansion, having delivered compressors to more than 120 countries.

## 30 YEARS BLOWING YOUR BOTTLES

**80'**

· **1986 - ABC becomes market standard.**

- All OEM manufacturers enter the market with ABC in scope.
- Top CSD and water producers trust ABC for 1st rotary machines.
- ABC enters edible oil market, big projects in Europe and America.
- Converters in Europe and America do their first projects with ABC.

**90'**

- Market leadership in America; + 100 units installed in Brazil.
- PET arrives to Asia with ABC.
- The biggest bottling factory of Asia in Shanghai installs ABC.
- ABC standard for extreme conditions; North Africa and Middle East.
- First installations in India & Russia.

**00'**

- ABC enters US market.
- Biggest blowing machine production site in Asia runs ABC.
- Number one converter in China installs + 50 units.
- +100 compressors installed in Africa.
- ABC expands in South East Asia.

**10'**

- +100 field audits in the world demonstrate ABC's leadership in efficiency.
- Growing markets SEA and Africa. Market leaders within Chinese end users.
- Biggest recip compressors in history 6.000m<sup>3</sup>/h.
- ABC standardized as preferred supplier among key worldwide bottlers and OEM.
- **2015 - HORIZON is launched as Market Benchmark.**



### Edible oil

Available PET & hydrogen technologies



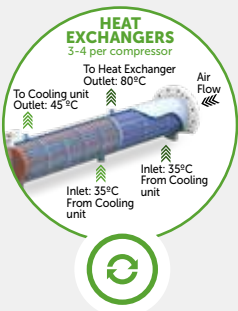
### Pharma, chemicals and cosmetics

Wide regulation range



### Aerospace & others

Variety of oil-free high pressure solutions



## HEAT RECOVERY SYSTEM

Energy saving through heat recovery

## THE QUALITY OF THE AIR ISO 8573-1:

OILS: **CLASS 1**

PARTICLES: **CLASS 1**

HUMIDITY: **CLASS 4**

CLASS 0 CERTIFICATE available project by project.

Management System **ISO 9001**

Occupational Health and Safety **OHSAS 18001**

Environmental Performance **ISO 14001**



# DESIGN FOCUSED ON TCO

## TOTAL COST OF OWNERSHIP

### INVESTMENT

More AIR FLOW from equivalent platform

**HORIZON** allows a flow increase for a given compressor frame of +30%. Less number of cylinders for a given flow, hence a big investment advantage.

### EFFICIENCY

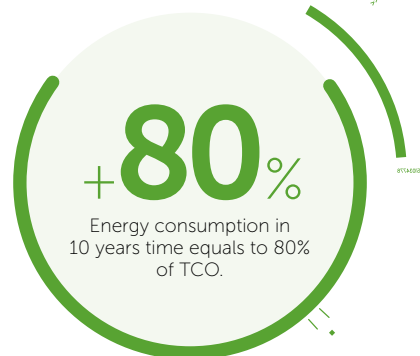
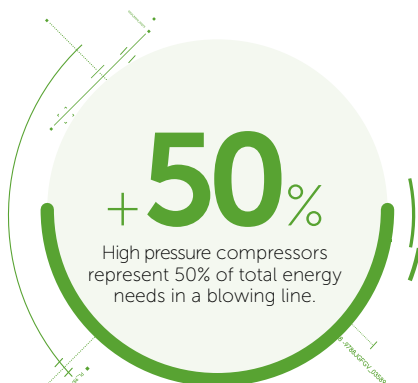
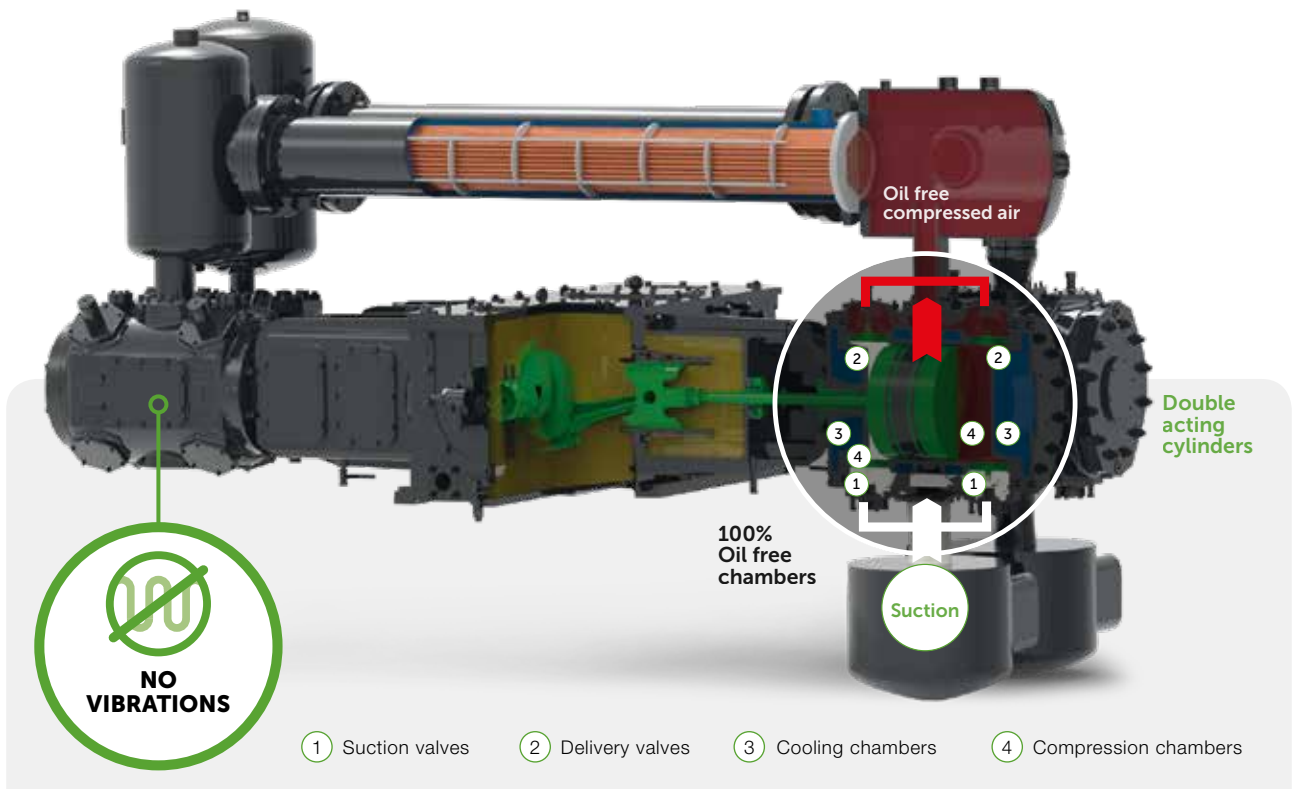
More CAPACITY for the same MOTOR

Thanks to its new technology and design **HORIZON** is the market benchmark in terms of efficiency. Both its specific consumption (kWh/Nm<sup>3</sup>) and the flow per installed power are better than any other compressor in the market.

### MAINTENANCE

Less spare parts  
Longer service cycle

**HORIZON** design minimizes the number of wearing parts. Additionally the new components applied in this range assure the longest service cycle. The modularity of **HORIZON** offers interchangeable parts both for wearing and mechanical transmission parts.



# HIGH END

## CONFIGURATION

“

THE ONLY OIL-FREE  
COMPRESSOR THAT COMBINES  
THE BEST TECHNOLOGICAL  
FEATURES IN THE MARKET

### HORIZONTAL OPPOSED

Balanced forces, no vibrations

### DOUBLE ACTING

Robust and efficient cylinder design

### DIRECT COUPLED MOTOR

Efficient and reliable transmission

### MODULAR and COMPACT DESIGN

Full range of compressors up to 6.000 m<sup>3</sup>/h capacity



## HORIZONTAL OPPOSED

**HORIZON** operates virtually without vibrations.

- Cylinders are horizontally opposed, with crankpins displaced by 180°, cancelling out the inertia loads.
- Virtually without vibration.
- Longer life of mechanical parts as they do not transmit excessive force or produce fatigue on structural parts of the compressor, 20 years machine lifetime.
- Providing stability of the high pressure air pipes.
- No anti-vibration pads or special foundations are required, + 2 kg/cm<sup>2</sup>.
- Excellent adaptation to frequency converter up to 55%.
- Compressor and all peripheral components are on skid.



## DOUBLE ACTING

**HORIZON** design gives optimum performance.

- Double-acting cylinders minimise air leaks.
- Less mechanical losses and lower differential pressures.
- Achieving lower operation temperatures at each compression stage. Less energy wasted.
- Longer valves, rings and gaskets durability, no premature wearing.
- When unloaded, venting the intercoolers is not required, meaning efficiency increase and lower energy consumption.
- High performance cooling chamber with no valves in cylinder heads.
- A minimum of 2 suction / 2 discharge valves per stage, preventing one valve failure stopping the machine.

## PERFECT VOLUMETRIC DESIGN

### Blue

The generated heat is removed immediately and effectively by the water chambers to reach the isothermal cycle.

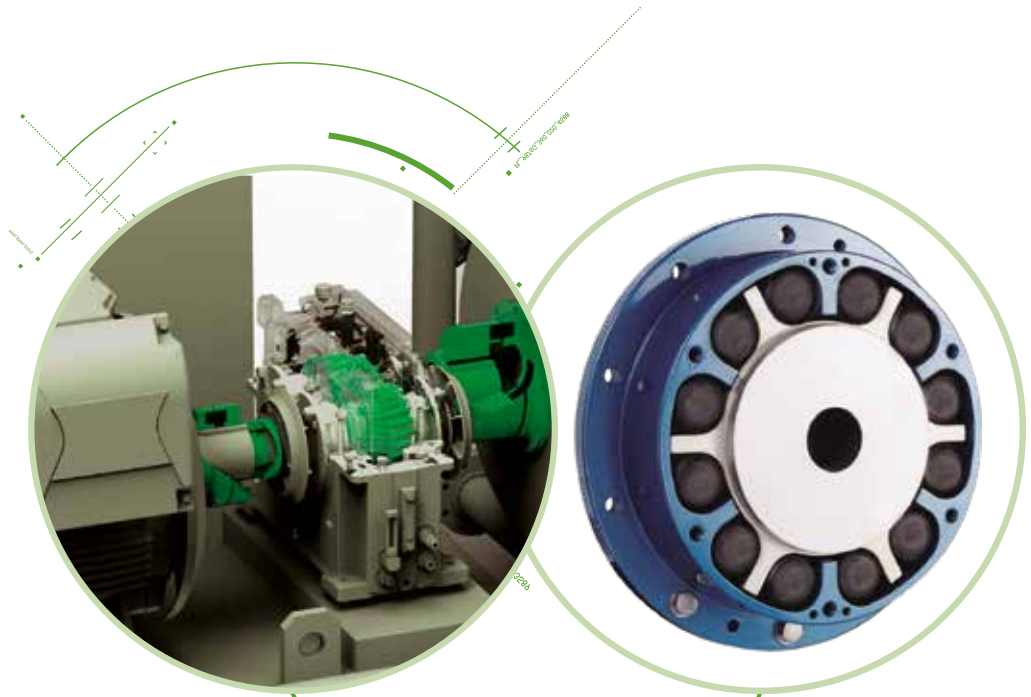
### Red

Compression chambers' design allows the uniform and stable air distribution with less load losses.



“

+15% PROVEN ENERGY SAVINGS THANKS TO HORIZON TECHNOLOGY



**HORIZON 3000**  
450kW

**Direct coupling**

The gear reducer allows compressor's speed adjustment to the installation's necessities.

# HIGH END

## CONFIGURATION



### DIRECT COUPLED MOTOR

**HORIZON** is fitted with the most reliable and efficient direct coupled transmission.

- Direct coupling means 5% energy saving comparing with other energy transmission methods.
- Virtually absence of mechanical energy losses.
- Longer duration of shaft alignment.
- Without belts there are no maintenance needs.
- Absence of radial forces, implying:
  - Longer life for the motor.
  - Longer life for compressor and for motor bearings, with longer lubrication intervals (20.000 hours).
- No more manual tensioning requirements for reliable operation.



### MODULAR AND COMPACT DESIGN

**HORIZON** assures smooth and easy installation.

- Self-contained sets, even with peripherals pre-connected.
- Single inlet and outlet points for water and electricity.
- Centralized control for the entire ensemble.
- Fitting all the skids in standard container sizes.
- Interchangeable parts among different models.
- Easy mobility and relocation.
- Small size wearing parts. Cylinders at man hand level.
- No cranes for maintenance.



**HORIZON 900**  
132kW

**All in one package,**  
fitting in standard  
containers.

**Directly attached to the floor.**  
No vibration pads needed.

# PREMIUM

## FEATURES



*HORIZON IS EQUIPPED WITH STATE OF THE ART TECHNOLOGY*



Compressors work unloaded avg. 30% of the time, being their regulation capacity a key energy driver.



40% of the energy generated during the compression can be recovered through a proper heat recovery system.



## FREQUENCY CONVERTER

**Perfect and wide adaptation**  
**High regulation range**

**HORIZON** takes full advantage of the energy saving by the frequency converter.

- Average 20% energy saving when regulating.
- Up to 60% energy saving at low regulation regime.
- Regulation span reaching 55% of the compressor capacity.
- Absence of intensity starting peaks: starting = nominal intensity.

- Allows more starts per hour.
- Minimizes pressure fluctuation when regulating:
  - Additional energy saving.
  - Stable pressure on the pipe line.
- Mechanical protection for the compressor:
  - Lower starting torques.
  - Less unloaders actions.
- Optimum  $\cos\phi$ .
- Integrated supply with the electric cabinet.
- Harmonic protection in different filtering degrees.
- Furnished with new equipment, or retrofitted at a later date.







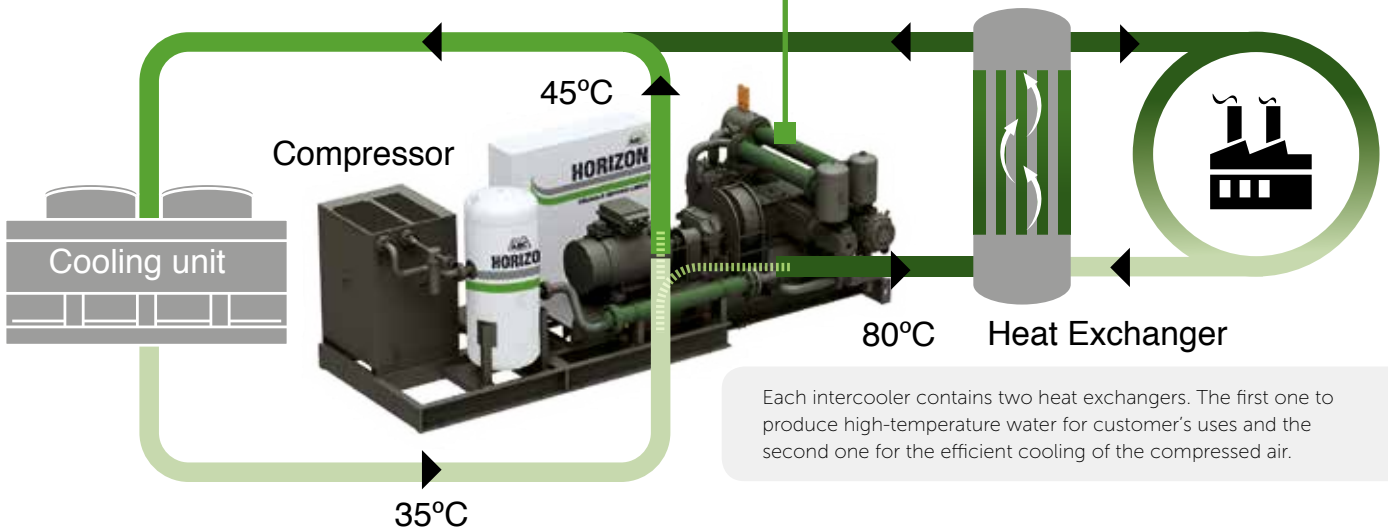
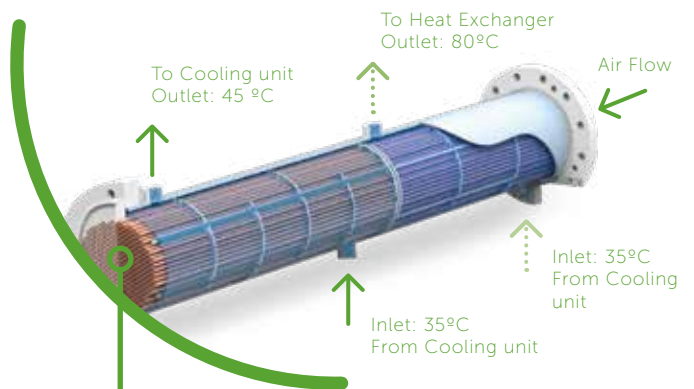
## HEAT RECOVERY SYSTEM

Energy saving through heat recovery

**HORIZON** is able to collect hot water from all its coolers for a variety of plant uses.

- Average power saving of 20-40% through hot water supply.
- Providing hot water up to 80°C, in each of the stages. Customized solutions with water up to 90°C.
- Special compressor heat exchangers with double cooling modules.
- Customized final heat exchangers adapted to customer needs.
- Furnished with new equipment, or retrofitted at a later date.

### HEAT EXCHANGERS 3-4 per compressor



## GREEN WATER TECHNOLOGY

Reduce CO<sub>2</sub> footprint



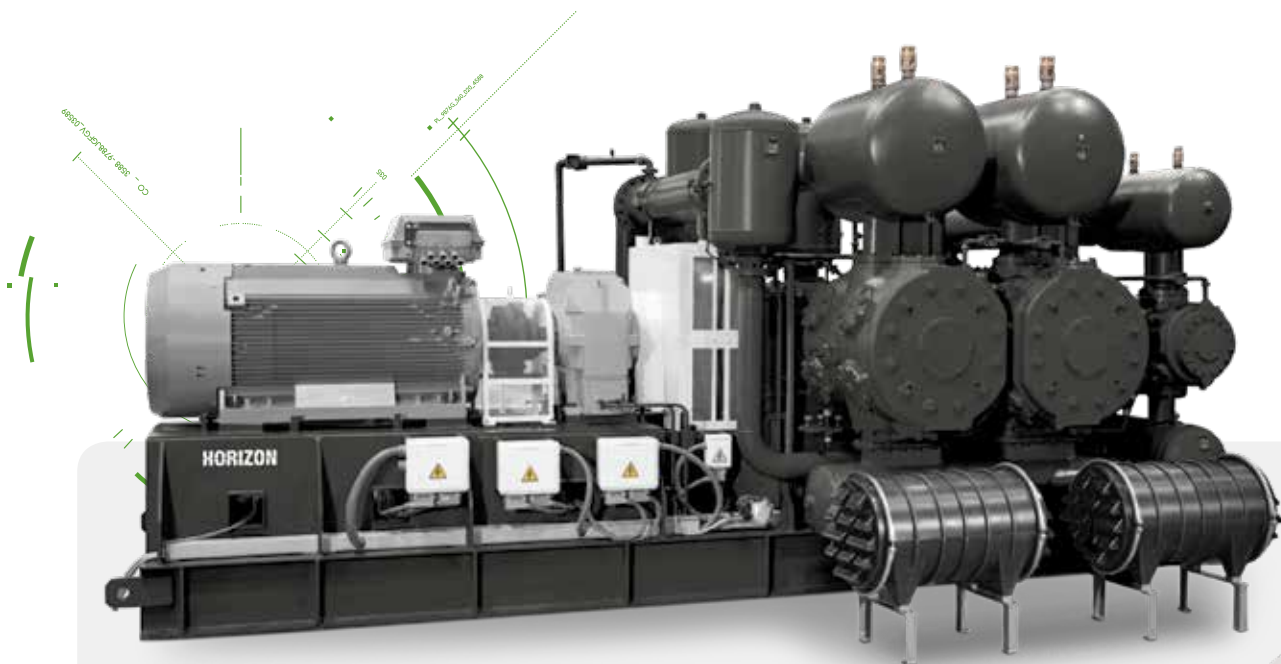
# RANGE

## PET-HIGH PRESSURE

HORIZON	CAPACITY		INSTALLED POWER	
	m <sup>3</sup> /h	cfm	kW	HP
<b>HORIZON 400</b>	425	250	75	100
<b>HORIZON 500</b>	500	294	90	125
<b>HORIZON 600</b>	630	371	90	125
<b>HORIZON 800</b>	750	441	110	150
<b>HORIZON 900</b>	870	512	132	180
<b>HORIZON 1200</b>	1.135	668	160	220
<b>HORIZON 1400</b>	1.400	824	200	270
<b>HORIZON 1600</b>	1.620	953	250	340
<b>HORIZON 1800</b>	1.780	1.047	280	380
<b>HORIZON 2000</b>	1.940	1.141	315	425
<b>HORIZON 2100</b>	2.090	1.229	315	425
<b>HORIZON 2400</b>	2.400	1.412	355	480
<b>HORIZON 2700</b>	2.650	1.559	400	545
<b>HORIZON 3000</b>	2.900	1.706	450	610

HORIZON PLUS	CAPACITY		INSTALLED POWER	
	m <sup>3</sup> /h	cfm	kW	HP
<b>HORIZON PLUS 3200</b>	3.120	1.835	450	610
<b>HORIZON PLUS 3500</b>	3.440	2.024	500	680
<b>HORIZON PLUS 3800</b>	3.810	2.241	560	760
<b>HORIZON PLUS 4100</b>	4.120	2.424	630	855
<b>HORIZON PLUS 4400</b>	4.360	2.565	630	855
<b>HORIZON PLUS 4700</b>	4.620	2.718	710	966
<b>HORIZON PLUS 5000</b>	5.000	2.941	800	1.080
<b>HORIZON PLUS 5500</b>	5.480	3.224	800	1.080
<b>HORIZON PLUS 6000</b>	6.000	3.529	900	1.215

- Designed up to 40 bar blowing
- Catalogue data for 35 bar according to ISO 1217 / 50Hz



**HORIZON PLUS 6000**  
900kW

HORIZON PLUS 6000, the largest recip PET compressor.

Shared HORIZON interchangeable  
Same operational

# GREEN & EASY

## OPERATION



### ✓ INTERCHANGEABLE PARTS

- Whole high and low pressure range share mechanics.
- Minimized spare part stock and references.
- Increased safety and simplicity.

### ✓ LONGEST SERVICE CYCLE

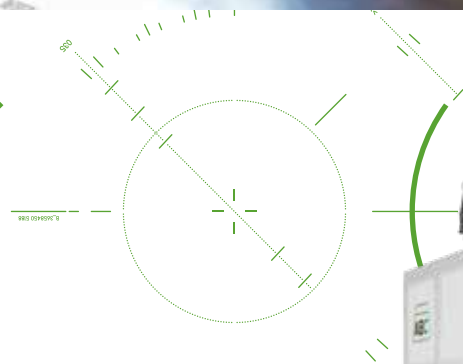
- Non stop running pattern from 8.000 to 12.000 hours.

### ✓ SIMPLE INSTALLATION

- No vibrations – no pads.
- No special foundations.
- Skid mounted and interconnected.

### ✓ QUICK MAINTENANCE

- No cranes needed.
- Cylinders at man hand level.
- Small parts.



### ✓ NO NOISE

- Customized soundproof cabinets down to 70 dBA
- Outdoor solutions under request.

# HORIZON apps

## · COMPRESSORS MANAGER

- Based on scada customized compressor system controls.
- Central command and compressor coordination.

## · REMOTE MONITORING

- Online remote access to the compressor.
- Visualize all the operational parameters.
- Historical track for predictive diagnosis.

## · EASY MAINTENANCE

- 4.0 PLC and touch panel.
- Automatic maintenance protocol management.
- Maintenance records and controls.

## · MULTI INVERTER CONTROL

- Intelligent multi inverter system control.
- Dinamic master-slave software.
- Minimum unloaded time.
- Maximum usage of inverter capacity.



**HORIZON PLUS 4700**  
710kW



# RANGE

## LOW PRESSURE

HORIZON	PRESSURE bar	CAPACITY		INSTALLED POWER	
		m <sup>3</sup> /h	cfm	kW	HP
HORIZON 600 LP	8	623	367	55	74
	10	617	363	55	74
	13	609	358	55	74
HORIZON 800 LP	8	772	454	75	100
	10	765	450	75	100
	13	755	444	75	100
HORIZON 900 LP	8	914	538	90	125
	10	908	534	90	125
	13	894	526	90	125
HORIZON 1000 LP	8	1.069	629	110	150
	10	1.059	623	110	150
	13	1.045	615	110	150
HORIZON 1200 LP	8	1.247	734	110	150
	10	1.235	727	132	180
	13	1.219	717	132	180
HORIZON 1500 LP	8	1.544	909	132	180
	10	1.530	901	160	220
	13	1.510	886	160	220
HORIZON 1700 LP	8	1.781	1.048	160	220
	10	1.765	1.039	160	220
	13	1.742	1.025	200	270
HORIZON 2000 LP	8	1.959	1.153	200	270
	10	1.942	1.143	200	270
	13	1.916	1.128	200	270
HORIZON 2100 LP	8	2.137	1.258	200	270
	10	2.118	1.247	200	270
	13	2.090	1.230	250	340



technology  
parts  
efficiency reliability

**HORIZON 1000 LP**  
110kW

# SALES AND

# SERVICE NETWORK



## MAIN OFFICES

### AMERICA

Atlanta **USA**  
Mexico City **MEXICO**  
Caracas **VENEZUELA**  
Guayaquil **ECUADOR**  
Havana **CUBA**  
Lima **PERU**  
Santiago **CHILE**  
São Paulo Itupeva **BRASIL**

### EUROPE

Eibar **SPAIN**  
Lyon **FRANCE**  
Schwerin **GERMANY**  
Belgrade **SERBIA**  
Istanbul **TURKEY**  
Moscow **RUSSIA**  
Rome **ITALY**

### AFRICA & MIDDLE EAST

Casablanca **MOROCCO**  
Tunis **TUNISIA**  
Johannesburg **SOUTH AFRICA**  
Accra **GHANA**  
Tehran **IRAN**  
Dubai **UNITED ARAB EMIRATES**  
Jeddah **SAUDI ARABIA**

### ASIA

Shanghai-Wujiang **CHINA**  
Tokyo **JAPAN**  
Pune **INDIA**  
Bangkok **THAILAND**  
Ho Chi Minh **VIETNAM**  
Jakarta **INDONESIA**  
Manila **PHILIPPINES**  
Karachi **PAKISTAN**  
Dhaka **BANGLADESH**

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