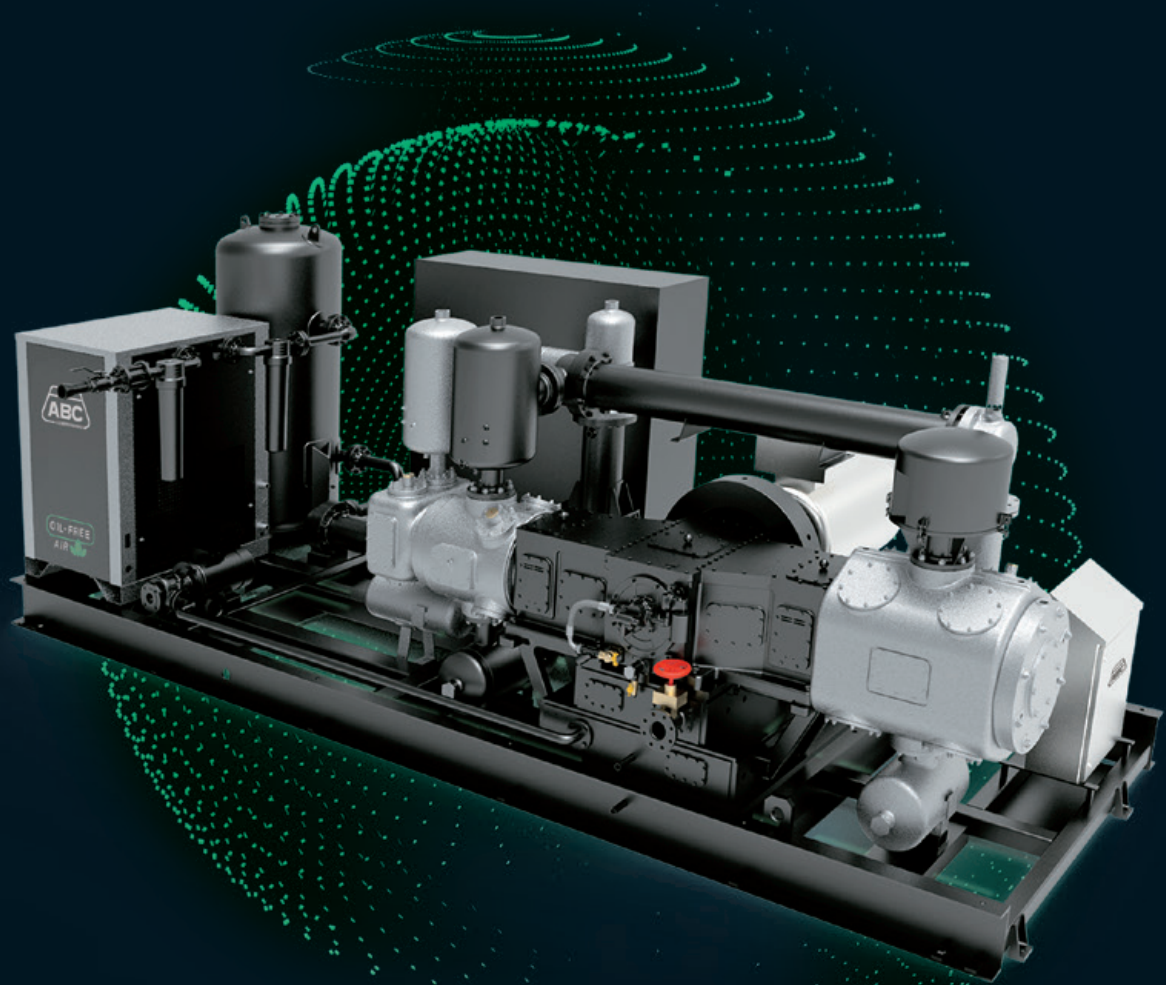




**HORIZON  
SYNCHRO**

# THE FIRST PET SYNCHRONOUS COMPRESSOR

HP



EN

RELIABLE BEYOND LIMITS

# PIONEERS IN THE COMPRESSORS MANUFACTURING SINCE 1943

Since its foundation in 1943, ABC Compressors 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 130 countries.

## FIGURES DRIVE THE CHANGE



**-1-80**

YEARS OF EXPERIENCE



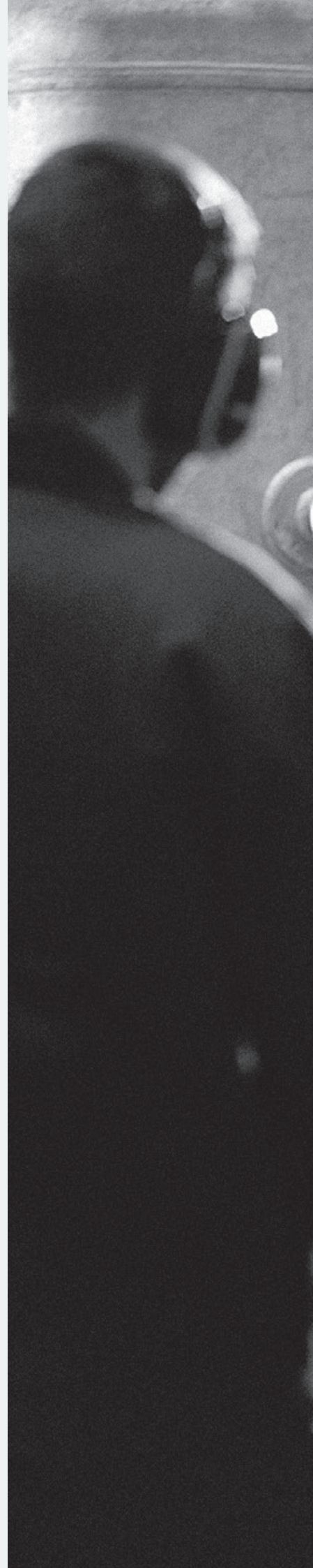
**-1-130**

COUNTRIES

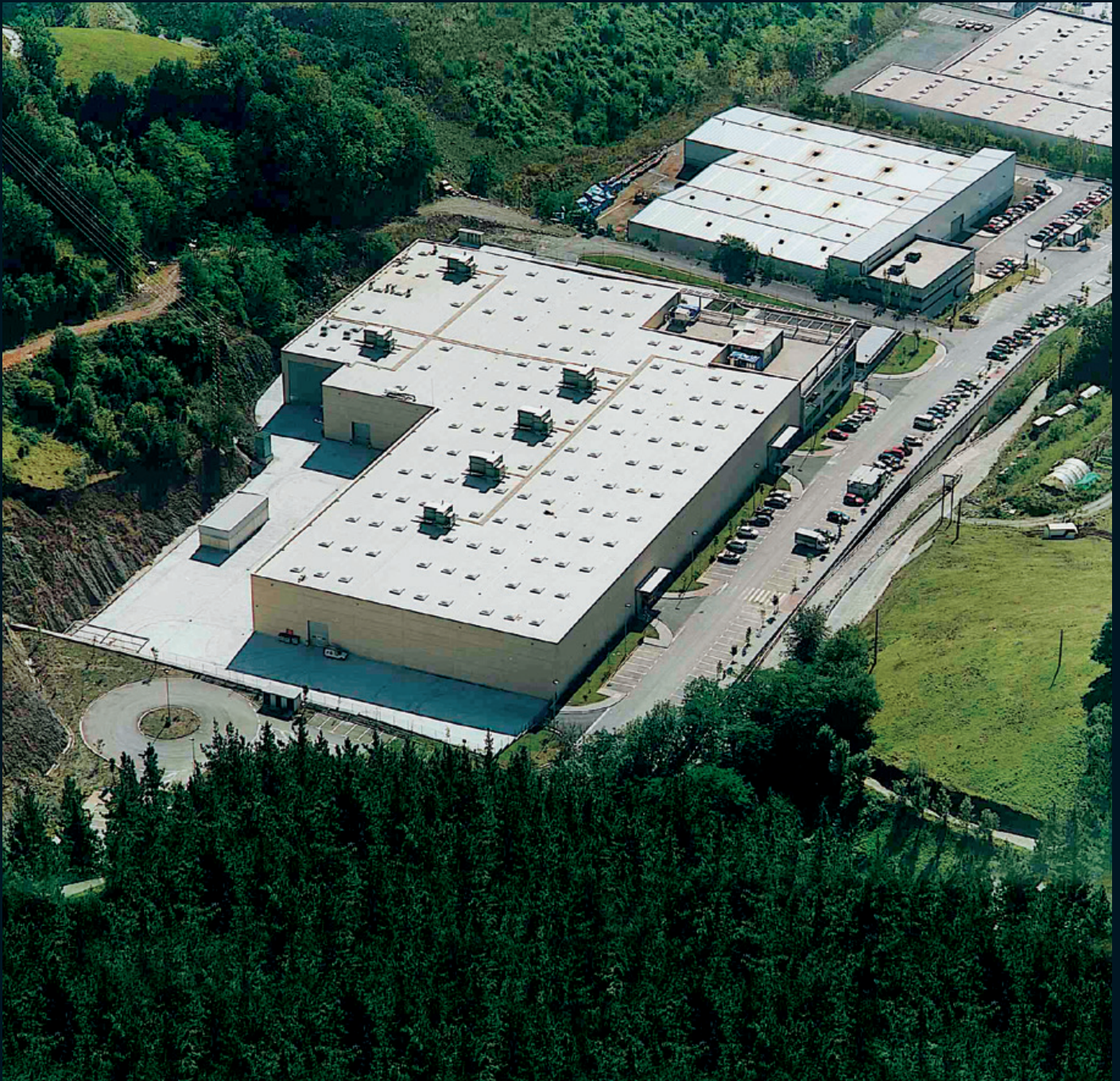


**-1-4000**

PET COMPRESSORS







**±65**

OFFICIAL SERVICE  
PARTNERS



**±400**

TECHNICIANS  
WORLDWIDE



**±20000 m<sup>2</sup>**

MANUFACTURING  
PLANT

# WORLDWIDE SERVICE NETWORK

International customer care



**NORTH AMERICA** +10 branches USA · Ontario CANADA · Mexico City MEXICO · **CARIBBEAN** La Habana CUBA · **SOUTH AMERICA** Caracas VENEZUELA · Lima PERU · Guayaquil ECUADOR · Itupeva BRAZIL · Santiago de Chile CHILE · Buenos Aires ARGENTINA · Bogota COLOMBIA · **EUROPE** 9 branches SPAIN · 9 branches FRANCE · Hamburg GERMANY · Amsterdam NETHERLANDS · Belgrad SERBIA · Kiev UKRAINE · Vajta HUNGARY · Sofia BULGARIA · Bucharest ROMANIA · Zagreb CROATIA · Moscow RUSSIA · Istanbul TURKEY · +3 branches ITALY · Katowice POLAND · **AFRICA** Addis Ababa ETHIOPIA · Cairo EGIPT · Nairobi KENYA · Kampala UGANDA · Tunisia TUNISIA · Accra GHANA · Lagos NIGERIA · Johannesburg & Cape Town SOUTH AFRICA · Casablanca MOROCCO · Walvis Bay NAMIBIA · Algiers ALGERIA · **ASIA** Lahore & Karachi PAKISTAN · Riyadh SAUDI ARABIA · Teheran IRAN · Dubai UAE · Pune INDIA · Tokyo JAPAN · Shanghai-Wujiang CHINA · Ho Chi Minh City VIETNAM · Manila PHILIPPINES · Jakarta INDONESIA · Seoul SOUTH KOREA · Dhaka BANGLADESH · Taipei TAIWAN · Yangon MYANMAR · Bangkok THAILAND · Kuala Lumpur MALAYSIA



### ASSEMBLY PLANTS

Itupeva BRAZIL  
 T +55 11 4496 4434  
[abc@abc-compressors.com.br](mailto:abc@abc-compressors.com.br)



### HEADQUARTERS

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 T. +34 943 820 400  
[abc@abc-compressors.com](mailto:abc@abc-compressors.com)



### ASSEMBLY PLANTS

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 T. +86 512 82876228  
[abc-china@abc-compressors.com](mailto:abc-china@abc-compressors.com)

+34 673 056 281  
[sat@abc-compressors.com](mailto:sat@abc-compressors.com)

# PET MARKET, 40 YEARS OF WORLD LEADERSHIP



## 1943

- Company founded in Eibar, Spain

## 1950

- 1<sup>st</sup> compressor in Europe

## 1960

- 1<sup>st</sup> compressor in Latin America
- 1<sup>st</sup> gas compressor

## 1970

- 1<sup>st</sup> petrochemical compressor
- 1<sup>st</sup> nuclear plant installation
- 1<sup>st</sup> compressor in Africa

## 1980

- **1<sup>st</sup> PET compressor**
- 1<sup>st</sup> cogeneration compressor
- 1<sup>st</sup> compressor in Asia

## 1990

- 1<sup>st</sup> compressor for water treatment
- Opening of the new factory and Headquarters in Eibar, Spain
- 1<sup>st</sup> 1MW compressor

## 2000

- **1<sup>st</sup> compressor with VSD**
- Manufacturing according to API 618
- Official partners network extension to the 5 continents

## 2010

- Opening of the assembly plants in China and Brazil
- New delegation in Pune, India
- ABC Compressors Technology Center
- HORIZON and ECOO (CO<sub>2</sub>) range launch
- 1<sup>st</sup> 2MW compressor

## 2020

- New delegation in Miami, USA
- SynchronizAIR compressor management system
- EVA system for virtual assistance

## PRESENT

- **HORIZON SYNCHRO range launch**
- X-PET range launch
- PET rental compressors
- 1<sup>st</sup> 3MW compressor

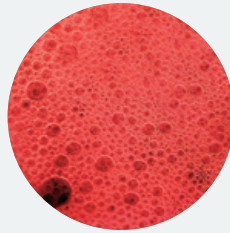
In ABC Compressors we machine, manufacture, assembly and test all our compressors before delivery to our customers facilities.

## MARKETS



### WATER & CSD DRINKS

Oil free, heavy duty compressors



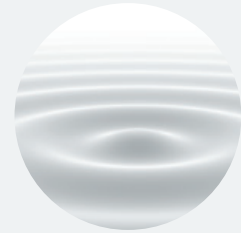
### JUICES, TEA AND ISOTONICS

Up to 6.600m<sup>3</sup>/h big size units



### BEER & WINE

Available PET & CO2 technologies



### MILK & DAIRY

Customized modular design



### EDIBLE OIL

Available PET & hydrogen technologies



### PHARMA, CHEMICALS & COSMETICS

Wide regulation range



### AEROSPACE & OTHERS

Variety of oil-free high pressure solutions



### LASER CUTTING

Tailor made solutions

## THE QUALITY OF THE AIR ISO 8573-1

OILS: **CLASS 1**

PARTICLES: **CLASS 1**

HUMIDITY: **CLASS 4**

CLASS 0 CERTIFICATE available project by project

## CERTIFICATIONS



ISO 9001



ISO 14001



ISO 45001



API 618



ECOVADIS



ISN

# DESIGN FOCUSED ON EFFICIENCY

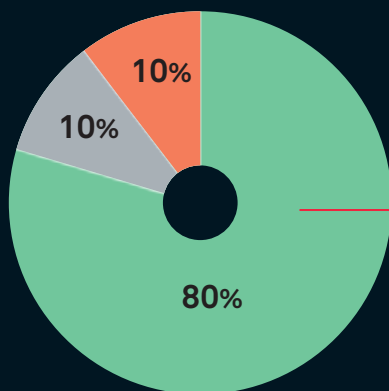
## Total cost of ownership

ABC Compressors stands out in the market for developing reliable energy saving solutions, being aware that 80% of the total cost of a compressor in 10 years comes from energy consumption.

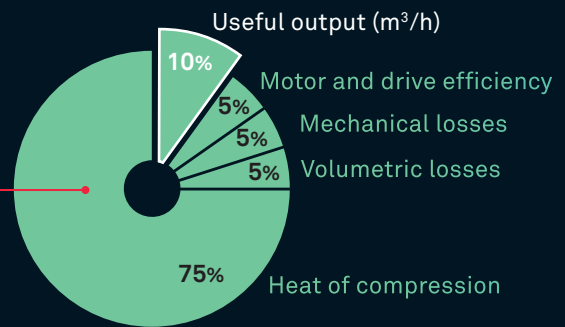
In order to reduce energy consumption to the maximum, ABC Compressors faces the market by providing state-of-the-art technology.



## TOTAL COST OF OWNERSHIP



- Energy consumption
- Initial investment
- Maintenance



% Energy consumption





## ■ EFFICIENCY

### More efficiency thanks to the magnet motor.

ABC Compressors is the first high pressure compressors manufacturer to install a direct coupled permanent magnet motor-compressor. Thanks to the new technology, **HORIZON SYNCHRO** offers the best efficiency ratio in the market (kWh/Nm<sup>3</sup>).

#### How do we achieve this?



#### THERMAL LOSSES

We reduce by **10%** the thermal losses by improving the cooling circuit and cylinders surface.



#### VOLUMETRIC LOSSES

We reduce by **15%** the leaks, dead spaces and pressure losses within the airflow.



#### MECHANICAL LOSSES

We reduce by **3%** the friction losses from the gearbox and coupling by adding a 100% direct drive motor.



#### ELECTRICAL LOSSES

We reduce by **20%** the electrical losses with our state-of-the-art IE5 permanent magnet motor.

## ■ INVESTMENT

### More AIRFLOW from equivalent platform.

More airflow from equivalent platform allows a flow increase for a given compressor frame. Hence a big investment advantage.

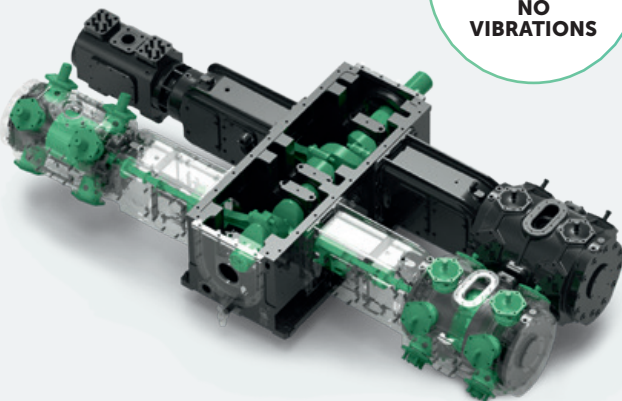
## ■ MAINTENANCE

### The longest service cycle in the market.

**HORIZON SYNCHRO** minimizes the number of wearing parts and assures the longest service cycle (every 8.000h).

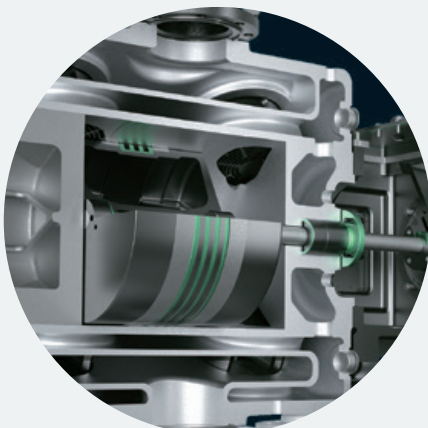
# THE ONLY OIL-FREE COMPRESSOR THAT COMBINES THE BEST TECHNOLOGICAL FEATURES IN THE MARKET

## HORIZONTAL OPPOSED Balanced forces, no vibrations.



- Cylinders are horizontally opposed, with crankpins displaced by 180°, cancelling out the inertia loads.
- Virtually without vibration.
- **No anti-vibration pads or special foundations are required**, + 2 kg/cm<sup>2</sup>, providing stability of the high pressure air pipes.
- 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.
- Excellent adaptation to frequency converter up to 82%, **minimizing unloading scenarios**.
- Compressor and all peripheral components on skid.

## DOUBLE ACTING Robust and efficient cylinder design.

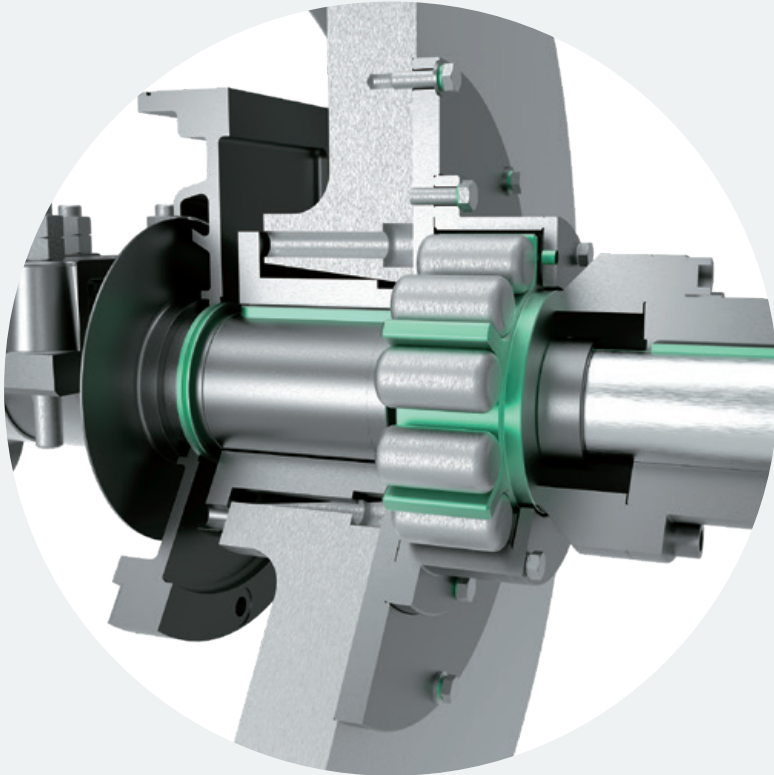


- Double-acting cylinders minimize air leaks.
- Less mechanical losses and lower differential pressures.
- Achieving lower operation temperatures at each compression stage, with less energy wasted.
- Longer valves, rings and gaskets durability, no premature wearing.
- When unloaded, venting the intercoolers 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.

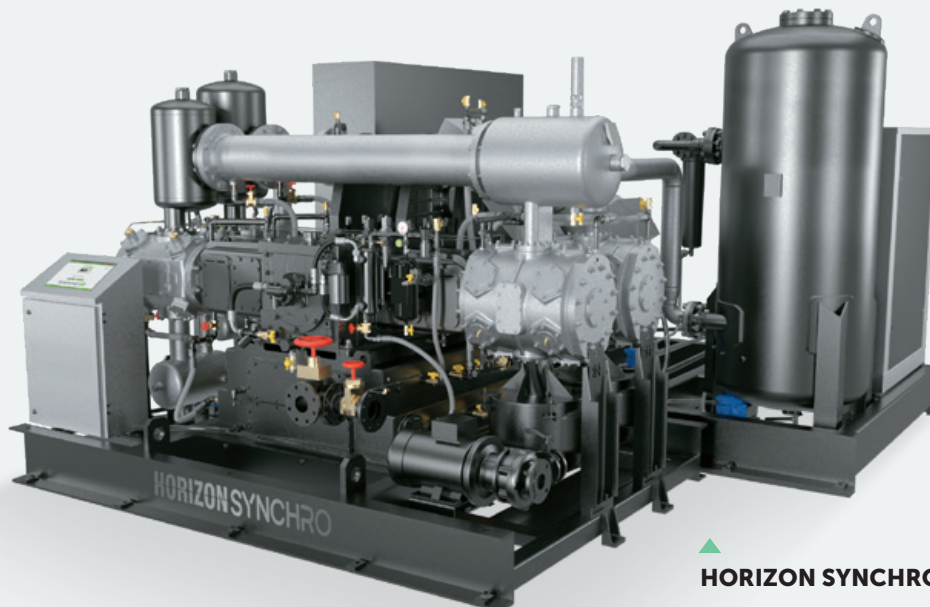


## SYNCHRONOUS DIRECT COUPLED MOTOR

0 transmissions losses and best IE5 efficiency.



- 20% electrical losses reduction.
- Synchronous system:  
Motor speed = compressor speed.
- 100% direct coupled motor with 0 transmission losses.
- Fastest shaft alignment with longer duration.
- Longer motor lifetime with NO radial forces.
- No belts or gearbox, no maintenance needed.



**HORIZON SYNCHRO 2200**  
355kW

### 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 a uniform and stable air distribution with less load losses.

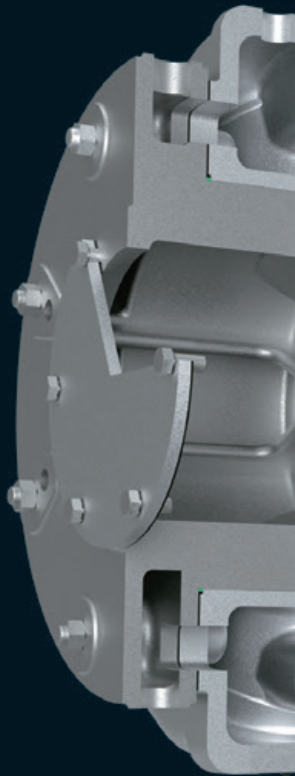


# HORIZON SYNCHRO

## OUR NEW COMPRESSOR RANGE

The future begins  
with innovation

**HORIZON SYNCHRO** born with a mechanical configuration that makes it unique in performance: with an improved efficiency in airflow, better heat transfer and more stability. Discover the new range of ABC Compressors with the heart of Horizon.



RELIABILITY



PERMANENT MAGNET MOTOR



VARIABLE SPEED DRIVE



VERSATILE & ADAPTABLE

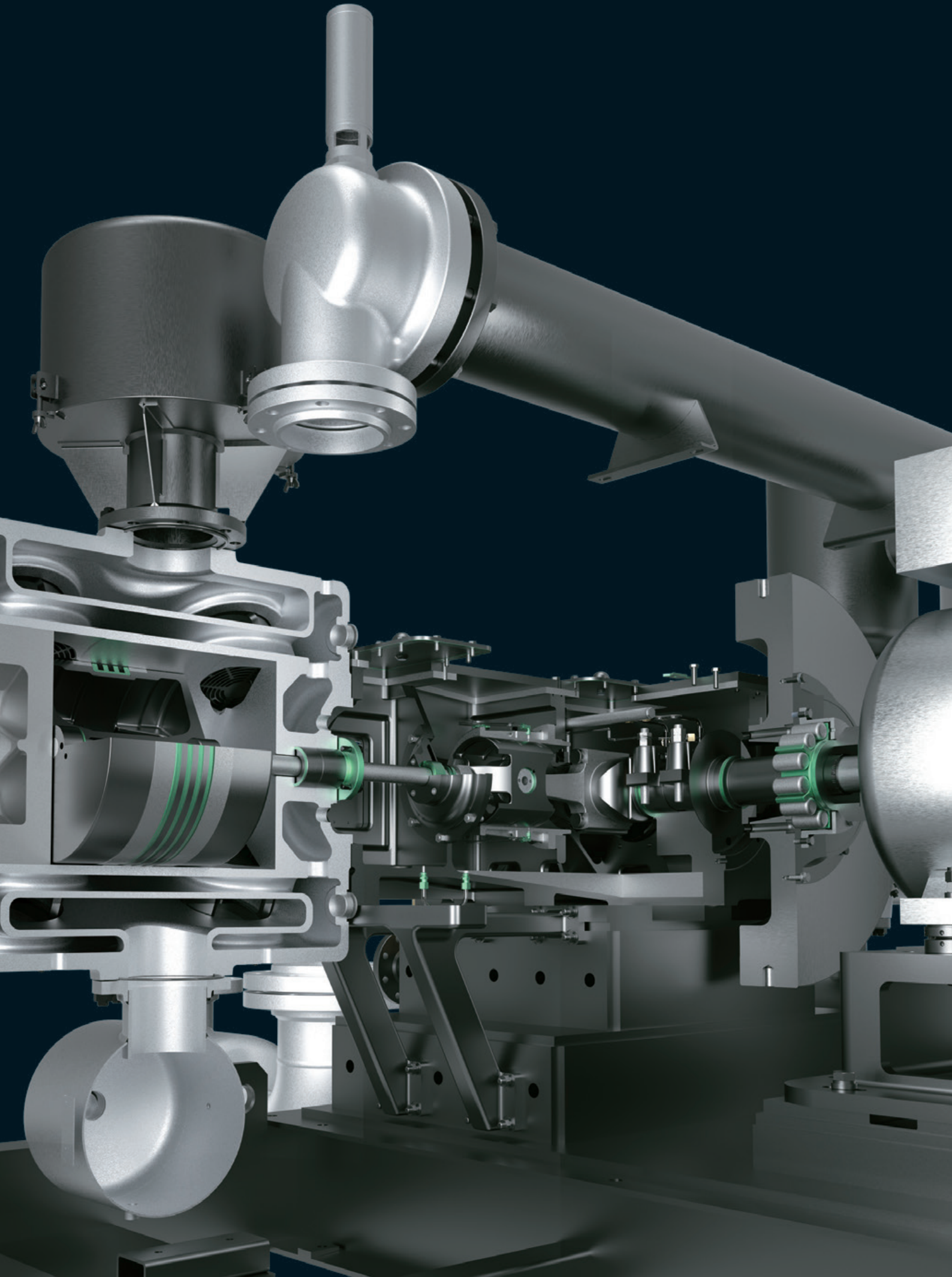


INDUSTRY 4.0



SUSTAINABILITY







## RELIABILITY

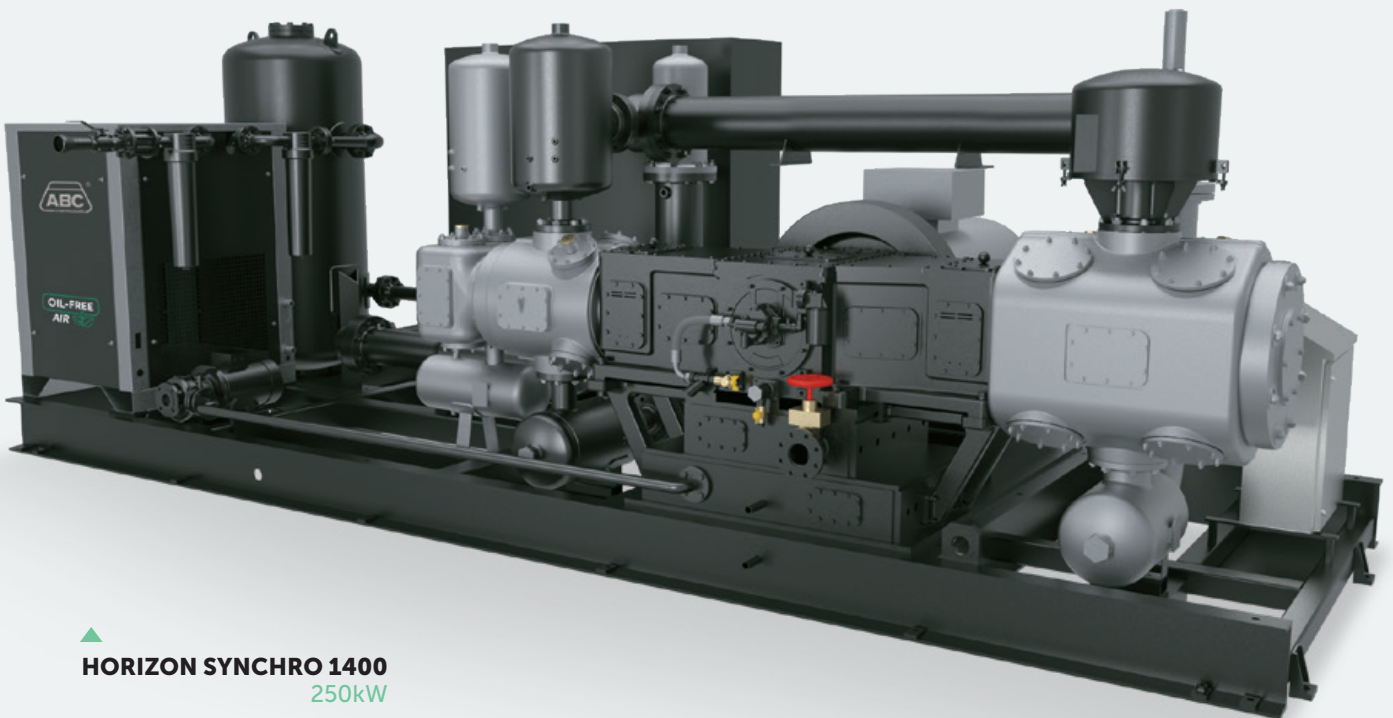
With the heart of Horizon, the **HORIZON SYNCHRO** range comes with a stronger design and grants virtually no leakages.

Thanks to decades of experience in the manufacturing of horizontal compressors in different industries and different gases, the new **HORIZON SYNCHRO** has been conceived to improve both efficiency and robustness of the compressor.

- Zero leakage crankcase\*.
- Built-in cooling system to reduce water leakage.
- High performance cooling surface within cylinders.
- Reduced death spaces within cylinders.
- Airflow improvement throughout the whole unit.



**LIFETIME  
MECHANICAL  
WARRANTY\***



**HORIZON SYNCHRO 1400**  
250kW

\* ask your ABC Compressors contact for further details.

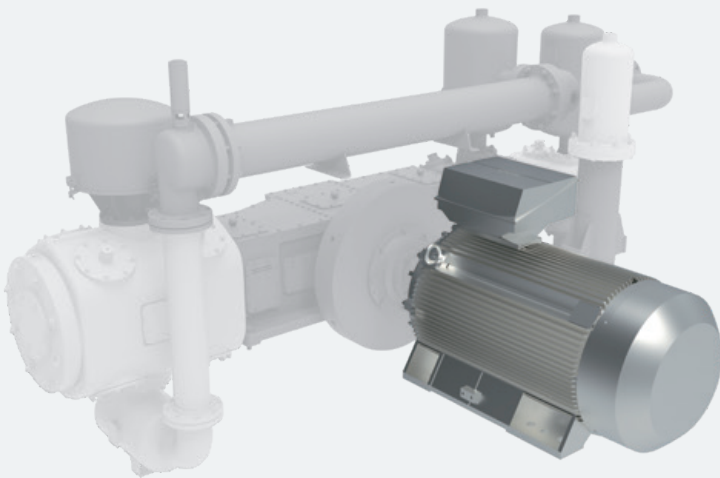


## PERMANENT MAGNET MOTOR

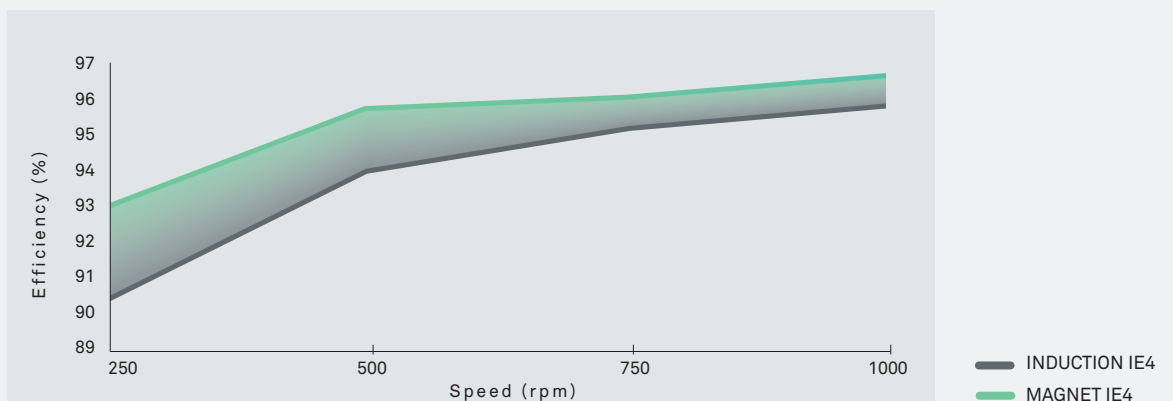
First compressor in the market that solves energy losses, thanks to a technologically advanced IE5 motor that doesn't generate slip.

The new technology and design (smaller and lighter) provides an efficiency rate of >97% and reduces motor losses more than 20% compared to IE3 motors.

- Efficiency–Attractive Payback timing.
- Compact design and light weight.
- Precise synchronous speeds.
- Low speeds maintaining High efficiency.
- Constant torque across the speed range (without force ventilation > compact).
- Long bearing lifetime, less maintenance.
- Lower noise and vibration.



## MOTOR EVOLUTION – POWER EFFICIENCY





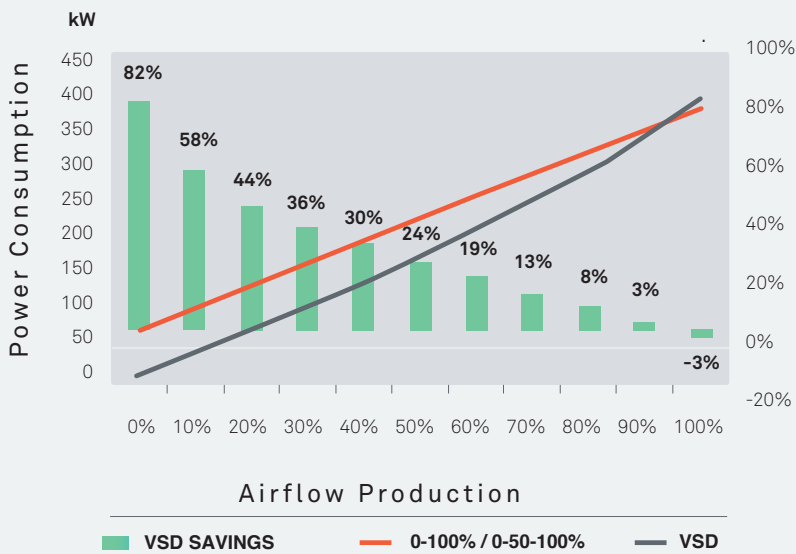
## VARIABLE SPEED DRIVE

The first compressor that eliminates idling times.

With a frequency drive at the forefront of technology that allows the widest regulation range in the market, minimizing energy consumption.

**HORIZON SYNCHRO** takes full advantage of the energy savings thanks to its integrated frequency converter.

### ENERGY SAVINGS



- Average **30% energy saving** when regulating.
- Up to **82% energy saving** when idling times.
- Average **payback in less than 2 year**.
- **Absence** of intensity **starting peaks**: starting = nominal intensity.
- **Minimizes pressure fluctuation** when regulating.







Compressors work unloaded avg. 30% of the time, being the VSD a key energy saving tool



when idling times



## REGENERATIVE VSD

- Regenerates the braking energy.
- Recommended for installations with unstable voltage.
- THD-i harmonics < 5%.

## SynchronizAIR

Manage your compressor room at a unique pressure band with variable speed drives and/or other compressor brands.



## HEAT RECOVERY SYSTEM

Combine heat recovery system with variable speed drive obtaining a 90° constant water flow, avoiding idling times.



The most versatile compressor in the market, able to compress high pressure, low pressure or even both at the same time, always with an optimum performance.

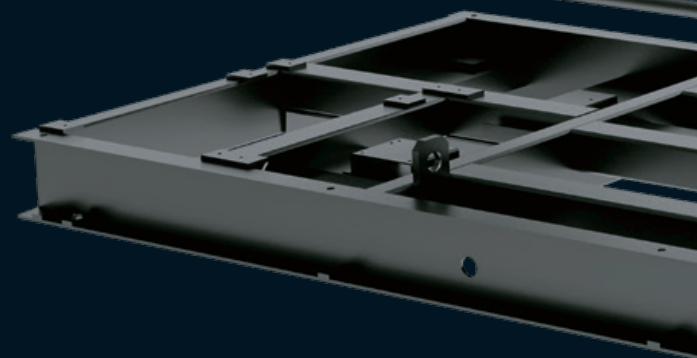


## VERSATILE AND ADAPTABLE

### State-of-the-art configuration. The compressor that best suits your requirements.

Our new state-of-the-art range adjust to suit the manufacturing requirements of our customers, being the easier compressors to install and maintain.

- From 500 to 6600m<sup>3</sup>/h.
- Multifrequency and multicertification units.
- Modular and compact design, easier to install and maintain.
- No vibration pads needed, skid is attached to the ground with chemical bolts.
- Single inlet and outlet points for water and electricity.
- Centralized control for the entire ensemble.
- All compressed air goes through hard piping.
- Small size wearing parts. Cylinders at man hand level with no cranes for maintenance.
- Fitting all the skids in standard container sizes.
- Possibility to customize according to customer needs.



INTERCHANGEABLE  
PARTS



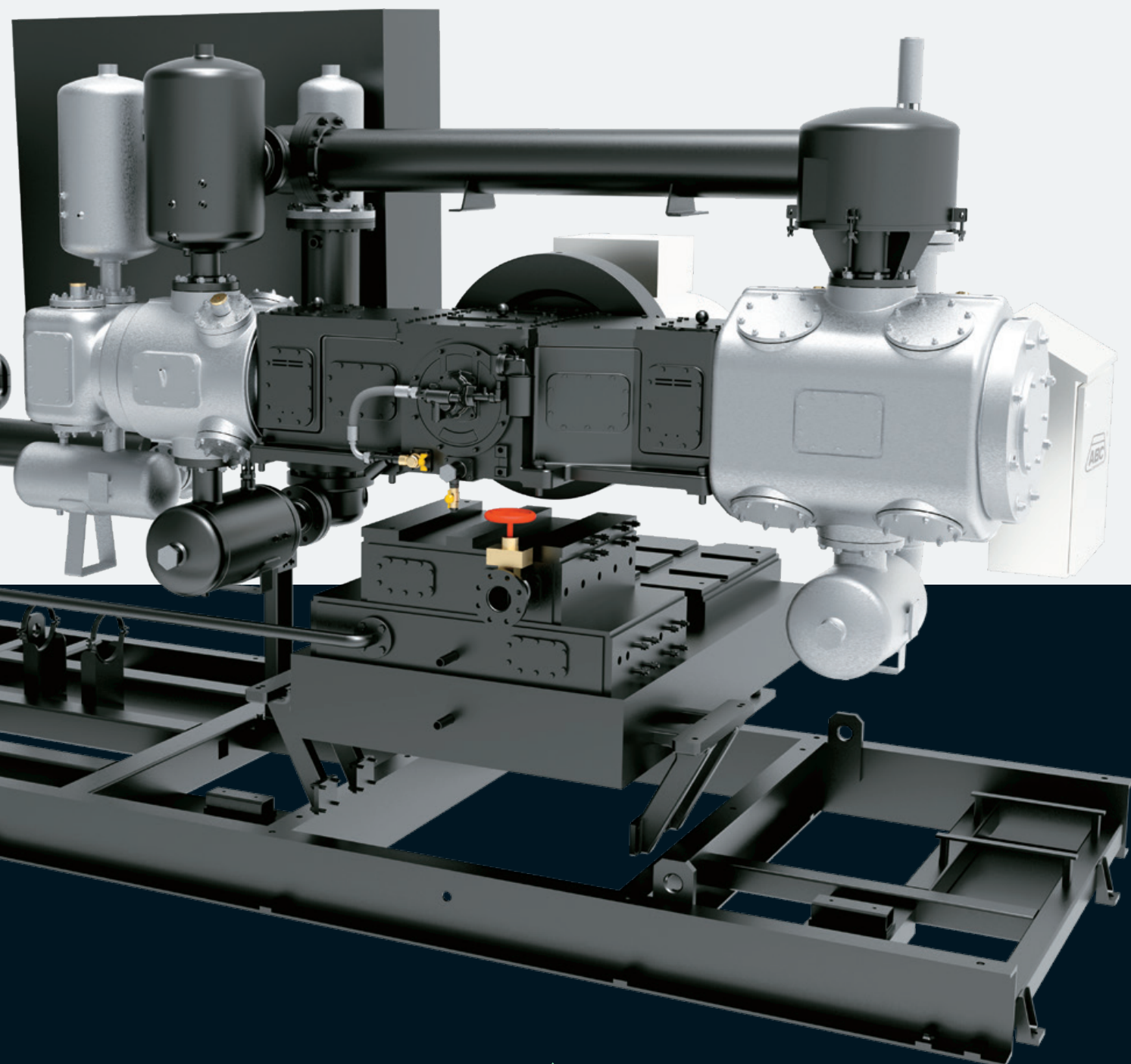
LONGEST SERVICE  
CYCLE



SIMPLE  
INSTALLATION



QUICK  
MAINTENANCE



▲  
HORIZON SYNCHRO 1200  
200kW



## INDUSTRY 4.0

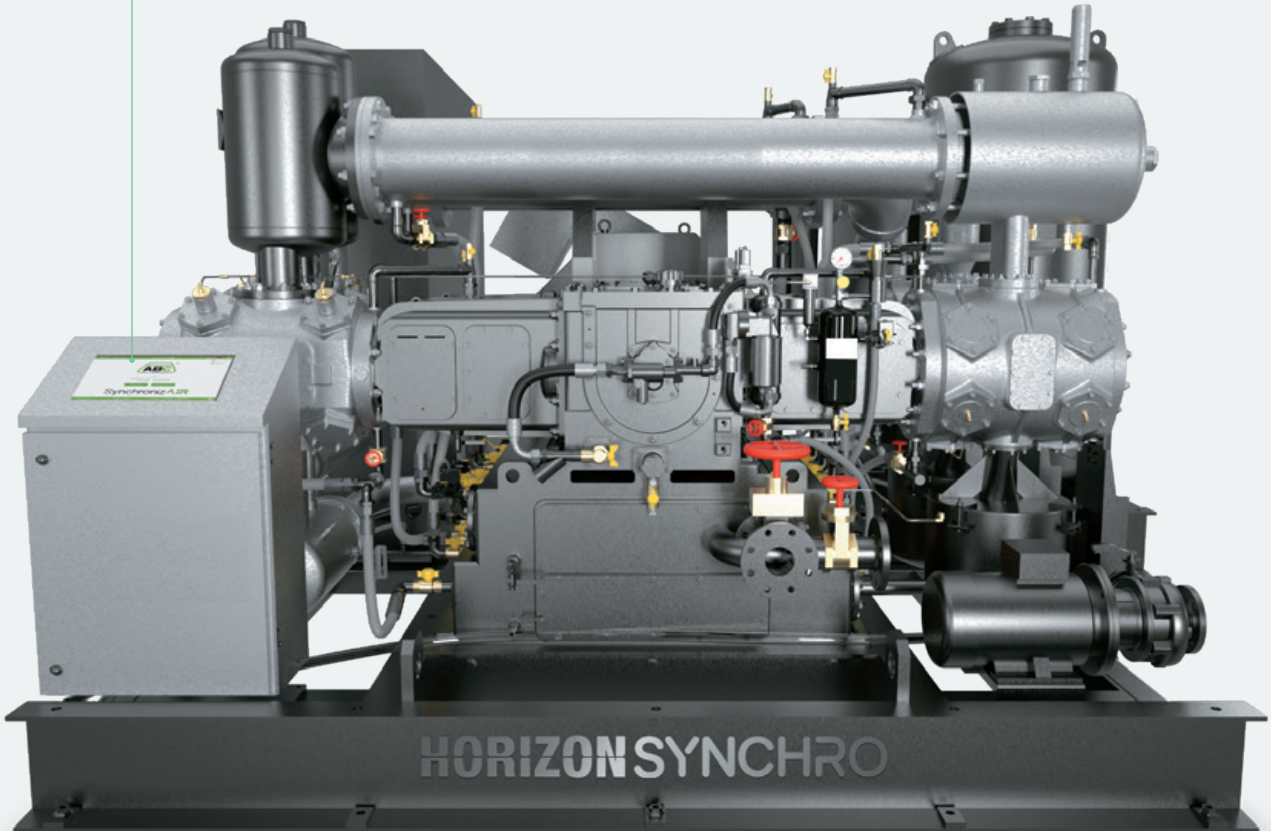
### The first true digital compressor.

Its central brain ensures 100% digital control and automation from a single HMI point, with cloud monitoring and predictive maintenance. Thanks to the electronic control, our compressors do not require manometers and all drains are automatically drained from the control desk with no intervention needed.

The new configuration includes a control desk for the whole package (including peripherals) to control, among other values:

- Air temperature and pressure per stage.
- Water temperature and pressure per stage.
- Oil temperature and pressure.
- Motor temperature.
- Dryer dew point.

With an integrated VSD as standard in all the range, it ensures a start current equal to nominal current, with regulation range from 100% to 18%.



▲  
**HORIZON SYNCHRO 1700**  
280kW



## SUSTAINABILITY

### Our commitment towards SUSTAINABLE DEVELOPMENT GOALS.

More than 70 annual actions directly related to the SDGs, covering more than 70% of the objectives.



Among others, we can highlight:

- More than 80% of our suppliers are local.
- 100% control of production, from machining to final testing.
- Digitalisation of our Technical Service to provide virtual remote assistance.
- >50% of the factory's energy through solar panels.
- Reduction of energy consumption with cutting-edge technology (permanent magnet motor + variable speed drive).
- Elimination of idling times as the main goal of the new **HORIZON SYNCHRO**.
- Development of a compressor manager with machine learning to reduce energy consumption.
- Multi-purpose and adaptable compressors to reduce the carbon footprint.
- Energy recovery through hot water generated by the compressor.



## SUSTAINABILITY

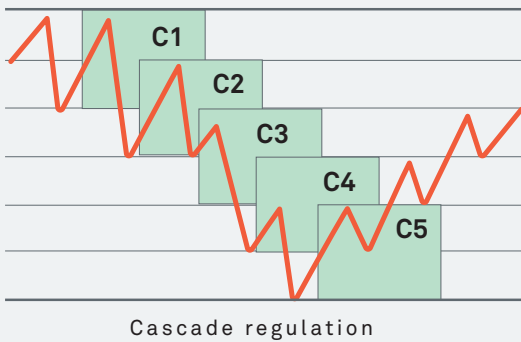
# SynchronizAIR

Bringing to life the factory of the future.

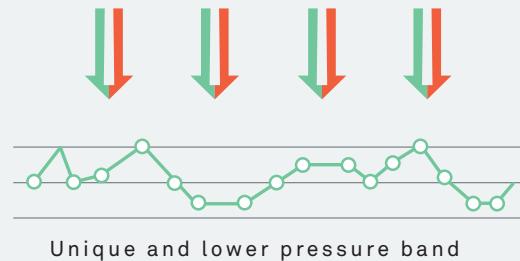
**SynchronizAir** is the unique automatic system that allows a complete and centralized control of your multitechnology & multibrand compressor room.

### TECHNICAL FEATURES

**Unique pressure band** for all the compressors in the plant, regardless the number of compressors, avoiding cascade regulation.



### Energy consumption reduction



Immediate & integral **synoptic display** of the plant.

**Advanced monitoring** of established **priorities** in the user's parametrization.

**Plant compressors record** customizing each machine.

**Sequences preselection** for an automation of the plant.

### MAIN BENEFITS

#### 1. Energy Saving:

- Reduction of the compression pressure.
- Simultaneous pressure regulation of several compressors with VSD.
- Avoids idling times.

#### 2. Complete integration:

- Unique & lower pressure band for all the compressors in the plant.
- Setpoint in a single point.
- Compatible with flow meters, power meters, etc.
- Allows integration of multi-brand compressors.

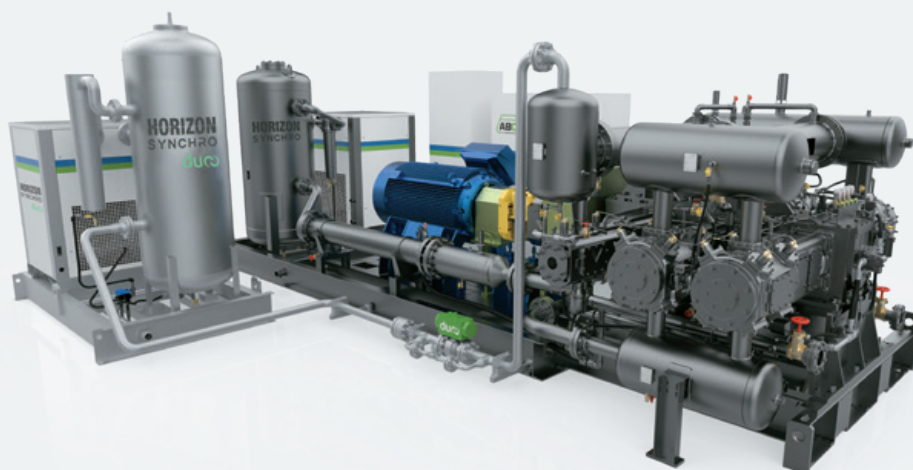
#### 3. Machine Learning:

- Records the trends and foresees the pressure/flow deviations.
- Personalized intelligent parametrization.



## SUSTAINABILITY

The most versatile compressor in the market, able to compress high pressure, low pressure or even both at the same time, always with an optimum performance.



**3 IN 1**

100%  
**HIGH**  
PRESSURE

100%  
**LOW**  
PRESSURE

SIMULTANEOUS  
**HIGH & LOW**  
PRESSURE

### VERSATILITY

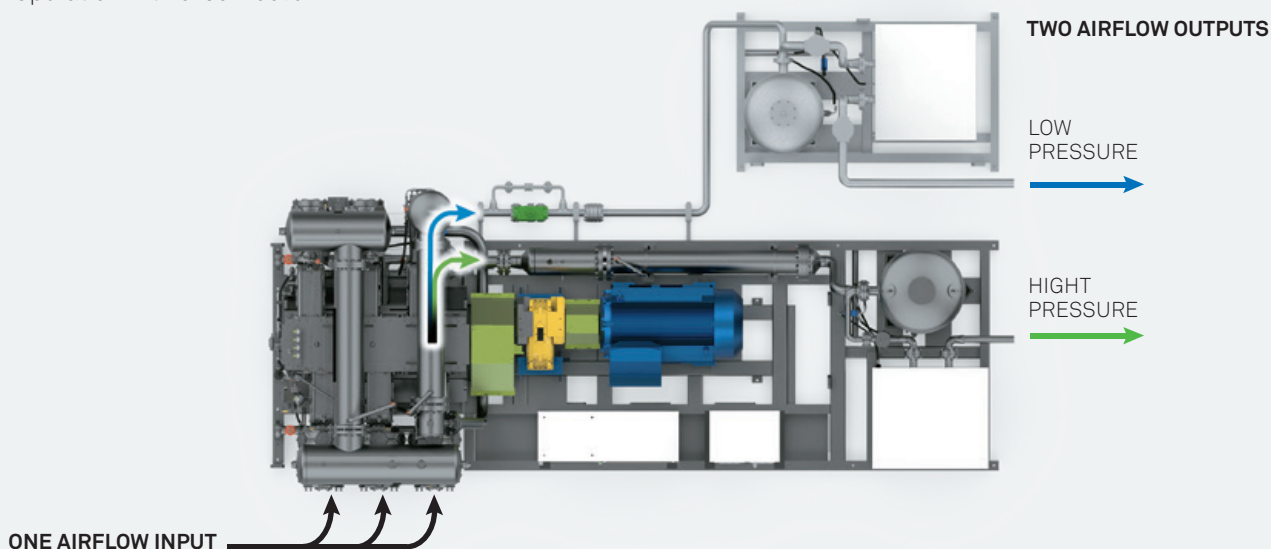
- Automatic adaptation to the production demand.
- Frequency converter modulation, accepting two different references: high and low pressure.
- Operation with 0-50-100%.

### COST SAVINGS

- Maintenance cost savings.
- Lower TCO.
- Carbon footprint reduction.

### FOOTPRINT REDUCTION

- High and low pressure compressor in a single machine.
- Logistics costs reduction.





# SUSTAINABILITY HEAT RECOVERY SYSTEM

The energy saving tool that recovers hot water from your compressor for any plant use.



UP TO **90°C**  
TEMPERATURE WATER

Up to 8.190L



UP TO **60%**  
ENERGY RECOVERY

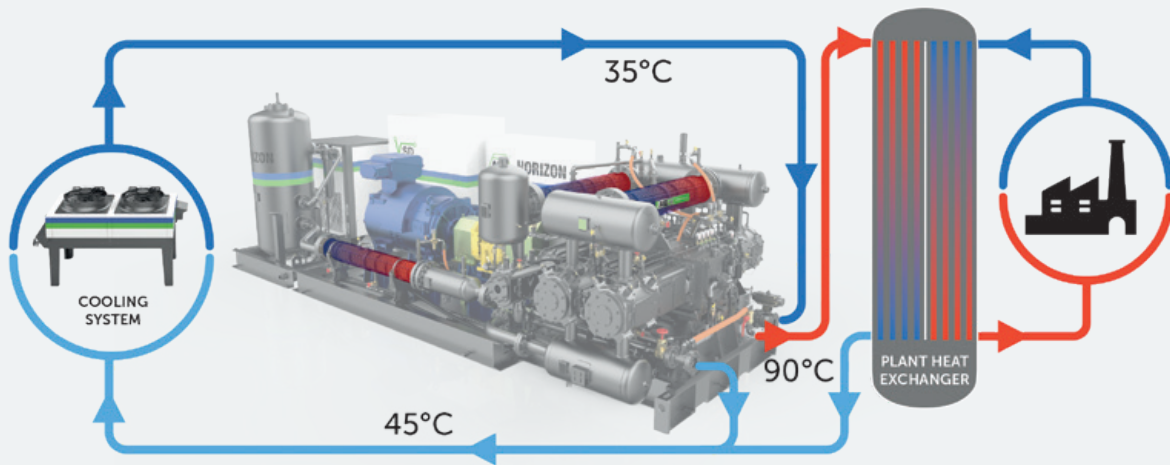
Up to 422kW



CONSTANT  
WATERFLOW

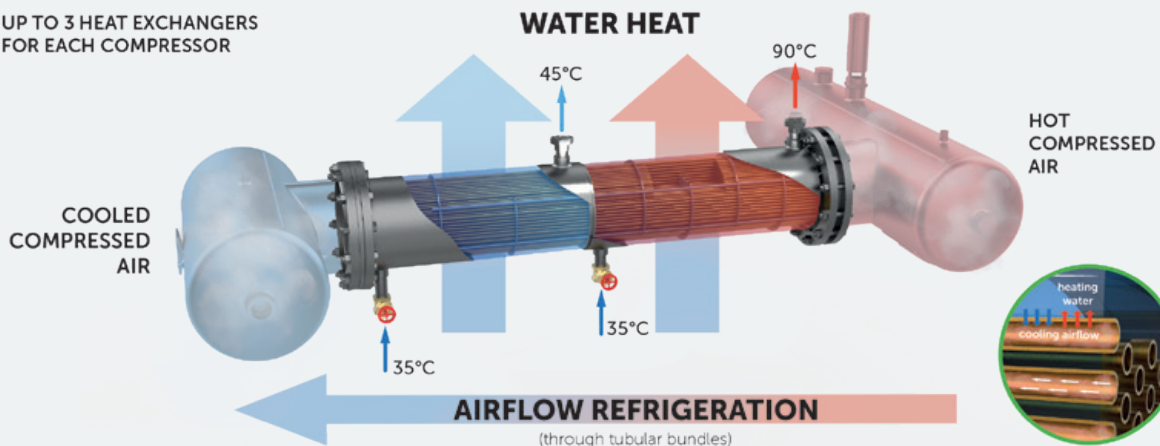
Non Stop · With VSD

## FLOW DIAGRAM



## HEAT EXCHANGE

UP TO 3 HEAT EXCHANGERS  
FOR EACH COMPRESSOR







# SUSTAINABILITY

## PROVED EFFICIENCY

**“If you can’t measure it, you can’t improve it.”**

*Lord Kelvin*

### COMPRESSOR ENERGY AUDIT

**As per more than 100 energy audits done, we conclude that our compressors are the most efficient in the market with an average of 18% energy savings.**

ABC Compressors technical team is able to perform energy audits to multibrand compressors room. Thanks to the high performance measurement tools, ABC Compressors is able to provide an accurate energy audit and let the customer understands the real ratio production-consumption (kWh/Nm<sup>3</sup>).

### PLANT ENERGY AUDIT

Years of experience have shown us that energy consumption is not only a concern related to the compressor room but extends to the entire plant. From compressors to injection or blow moulding machines, ovens or palletisers, or even more complex applications, they are all energy consumers.

**At ABC Compressors we are specialists in carrying out complete energy audits of the entire plant in accordance with the UNE-EN 16247-2012 standard.**

We achieve from improvements in production planning, improvements in energy contracting, improvements in equipment monitoring to investment suggestions with ROI below 2 years.

### ISO 50001 IMPLEMENTATION

**The final step towards the energy management perfection.**

We help you to implement the ISO 50001 within your company, by providing you with the necessary tools to identify, minimize and/or eliminate the most consuming activities. We cover major structural improvements and continuous improvements based on the PDCA (Plan, Do, Check, Act) cycle. Energy management above the energy measurement.



# MAKE THE RIGHT CHOICE



MOTOR TECHNOLOGY



MOTOR EFFICIENCY



TRANSMISSION



STARTER



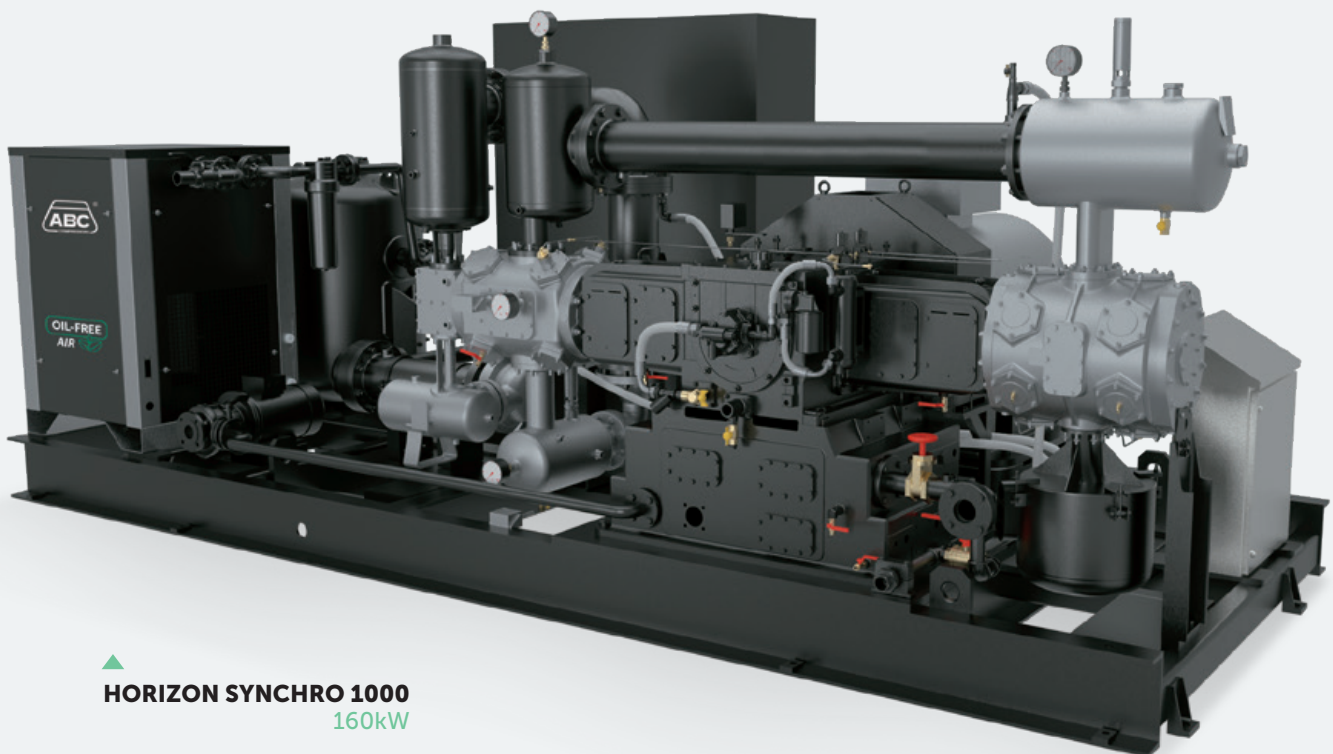
SHAPE



DELTA T

PERMANENT MAGNET	IE5	DIRECT COUPLED	VSD	HORIZONTAL	< 7°C
INDUCTION	IE4	GEARBOX	SOFT STARTER	V-SHAPE	>10°C
	IE3		WYE DELTA	L-SHAPE	>15°C
	IE2	BELTS		SCREW+BOOSTER	

## CHOOSE HORIZON SYNCHRO



**HORIZON SYNCHRO 1000**  
160kW

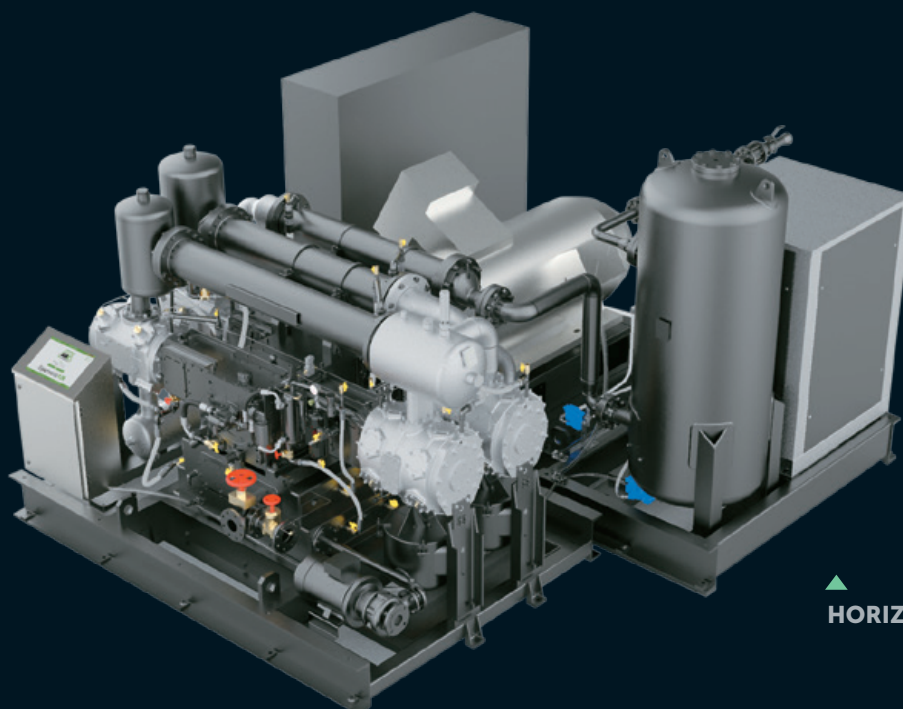
# COMPRESSOR RANGE

HORIZON SYNCHRO*	CAPACITY		INSTALLED POWER	
	m <sup>3</sup> /h	cfm	kW	HP
HS500	524	308	90	125
HS650	647	381	110	150
HS800	812	478	132	180
HS1000	1003	590	160	220
HS1200	1275	750	200	270
HS1400	1378	811	250	340
HS1700	1715	1009	280	380
HS1900	1934	1138	315	425
HS2200	2149	1265	355	480
HS2500	2510	1477	400	545
HS2800	2834	1668	450	610
HS3200	3105	1827	500	680

\* Designed up to 40 bar. Catalogue data for 35 bar according to ISO 1217 / 50 Hz.

HORIZON PLUS*	CAPACITY		INSTALLED POWER	
	m <sup>3</sup> /h	cfm	kW	HP
HP3500	3440	2024	500	680
HP3800	3810	2241	560	760
HP4100	4120	2424	630	855
HP4400	4360	2565	630	855
HP4700	4620	2718	710	966
HP5000	5000	2941	800	1080
HP5500	5480	3224	800	1080
HP6000	6000	3529	900	1215

\* HORIZON PLUS range with induction motor and gearbox coupling.



**HORIZON SYNCHRO 1900**  
315kW

# DISCOVER OUR PORTFOLIO OF PRODUCTS



HP

LP

X- PET

CO<sub>2</sub>

H<sub>2</sub>

CUSTOM-MADE



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20600 EIBAR (Gipuzkoa) SPAIN  
T.: +34 943 820 400 · M.: +34 673 056 281  
abc@abc-compressors.com

[www.abc-compressors.com](http://www.abc-compressors.com)