

Oil-Free Screw
Air Compressors
37-630 kW



Oil-Free Dry Screw

Oil - Free should be the **RULE**, not the **EXCEPTION**

Setting up a special designed in Oil Free compressed air in IRAN

At the forefront of the domestic market for instrument air industry, HATCO based on extensive experience in designing and manufacturing the air compression and all related processing equipment is committed to quality, innovation and understanding the customers' individual business and operational requirements.



We have the solution!

Today we are proud to supply the packages in a wide range of alternative execution based on oil-free screw compressors.

As independent packager, HATCO choose the best available model and size of compressors using the product rang of international well-known manufactures such as GHH-Rand for Dry Screw Compressors.

We're specialized in designing and realizing highly customized industrial packages to treat and compressed air or gases. Our competence comes from experience and our exclusive products come from flexibility, commitment and research to provide, finally the right solution for our customer's needs.

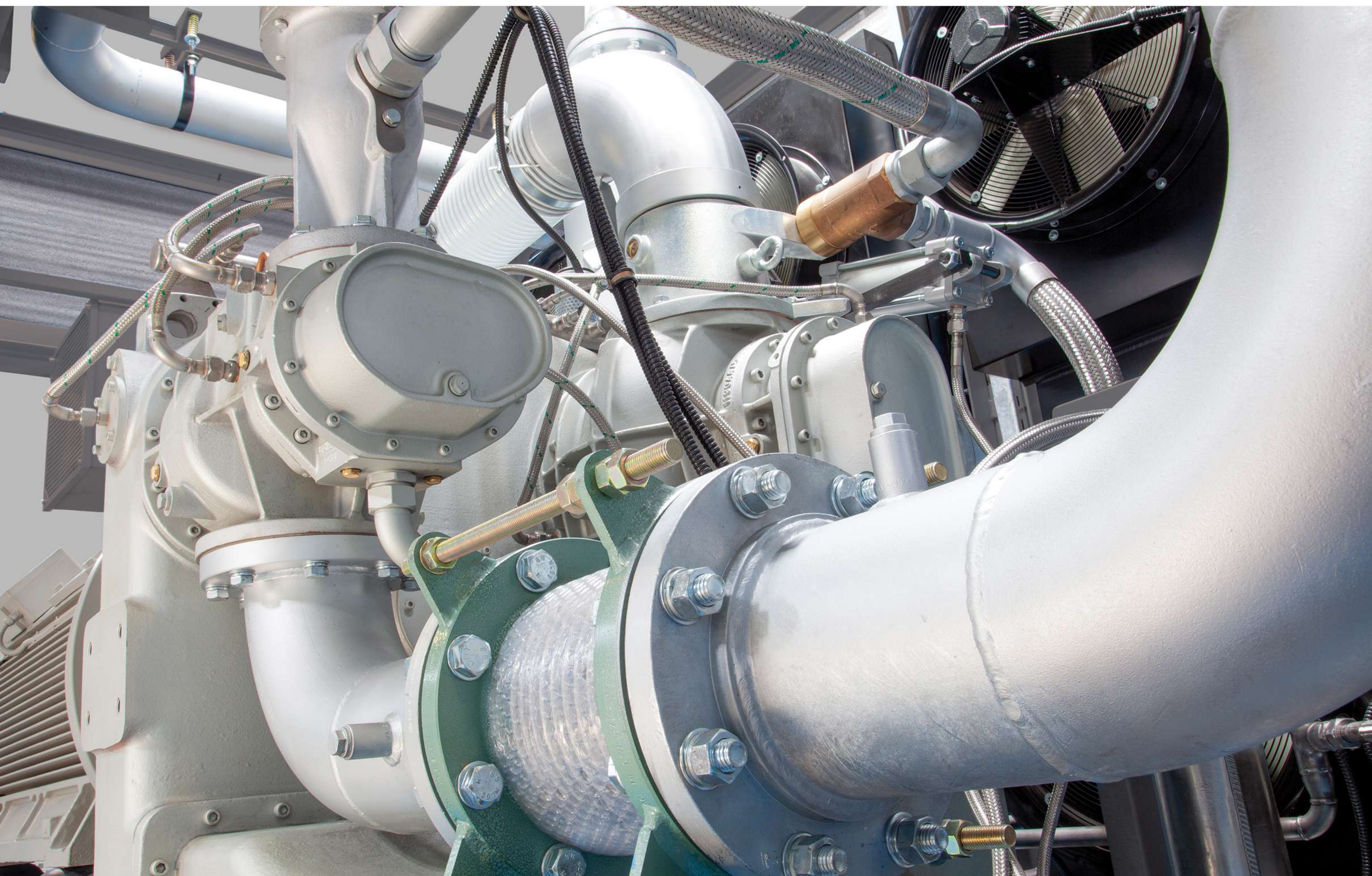
Innovative engineering:

Each project is unique and by entering into partnership with our customers, we can appreciate the challenge at hand, ask the relevant questions and design the best engineered for all your needs.

What makes HOF series special in IRAN market?

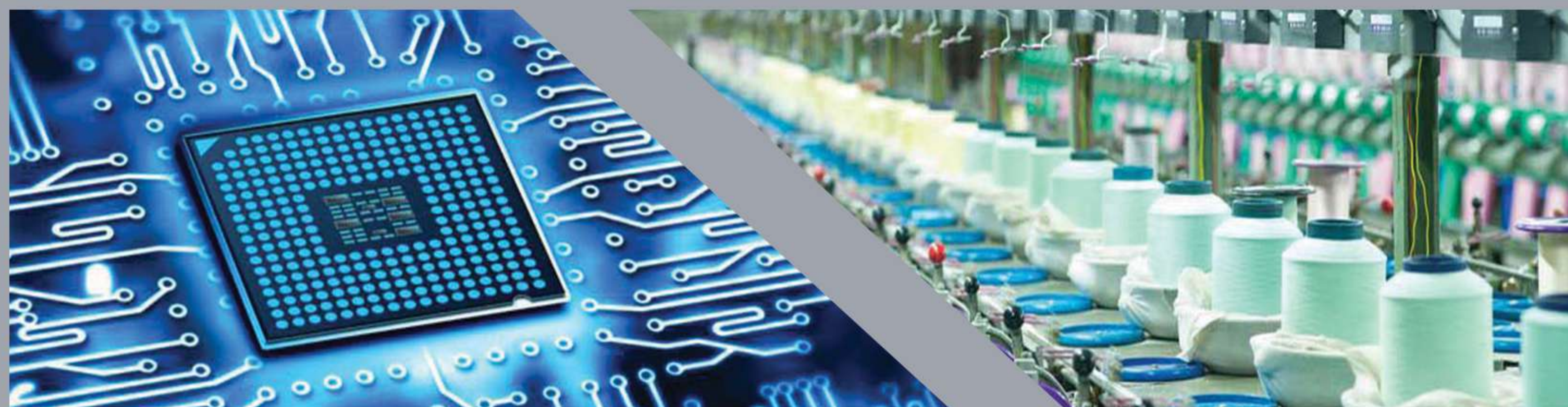
Highly efficient and reliable in all sections,
Outstanding in energy saving,
Flexible on customer's requirements,

Furthermore, the HOFV (VSD) series are focused on effectively more saving energy, also ensuring optimum productivity. Only Oil-Free machines exclude contamination risks for 100% and guaranteeing the utmost reliability around the clock with lowest energy costs.



Air purity is critical for many applications where even the smallest amount of oil vapor can cause product spoilage or damage the production equipment. HOF series, a completely Oil-Free compressor eliminates all possible risks associated with oil and hydrocarbon vapors contamination. It is designed and manufactured to give compressed air users a complete peace of mind to provide absolutely class 0, certified ISO 8573-1 (2010)

Typical Oil Free Customers



Product range 50/60Hz* Aircooled/Watercooled

Compressor Model	Electromotor power (kW)	Volume Flow (m ³ /min) F.A.D			Electromotor Driven Speed (rpm)	Dimension (mm)		
		@7.0 (barg)	@8.5 (barg)	@10.0 (barg)		Lenght	Width	Height
HOF 37	37	5.2	—	—	2955	3000	1700	2500
HOF 45	45	6.7	6.1	5.2	2960	3000	1700	2500
HOF 55	55	8.9	7.9	6.7	2970	3000	1700	2500
HOF 75	75	12.1	11.1	10.5	2975	3000	1700	2500
HOF 90	90	13.0	13.0	12.1	2975	3000	1700	2500
HOF 110	110	18.2	16.0	—	2982	3500	2080	2700
HOF 132	132	21.5	20.0	18.2	2982	3500	2080	2700
HOF 150	160	26.1	24.7	22.8	2982	3500	2080	2700
HOF 200	200	34.9	32.5	27.0	1486	4100	2450	3000
HOF 250	250	41.6	37.4	36.8	1488	4100	2450	3000
HOF 300	315	49.9	49.9	45.3	1488	4100	2450	3000
HOF 350	355	56.9	56.7	45.8	1488	According to Request		
HOF 400	400	67.2	—	56.6	1488	According to Request		
HOF 450	450	77.8	67.1	66.9	1488	According to Request		
HOF 500	500	85.7	77.7	—	1488	According to Request		
HOF 550	560	—	85.8	77.8	1492	According to Request		
HOF 600	630	—	—	85.7	1492	According to Request		

* MV motors or 460V/60Hz are optional and available.

* HOFV (Variable Speed Drive) technical specification is available upon request.

Data measured and stated in accordance with ISO 1217, Annex C (Suction condition: 1barA and 20°C and 0%R.H)

Special compressors can be offered on request.

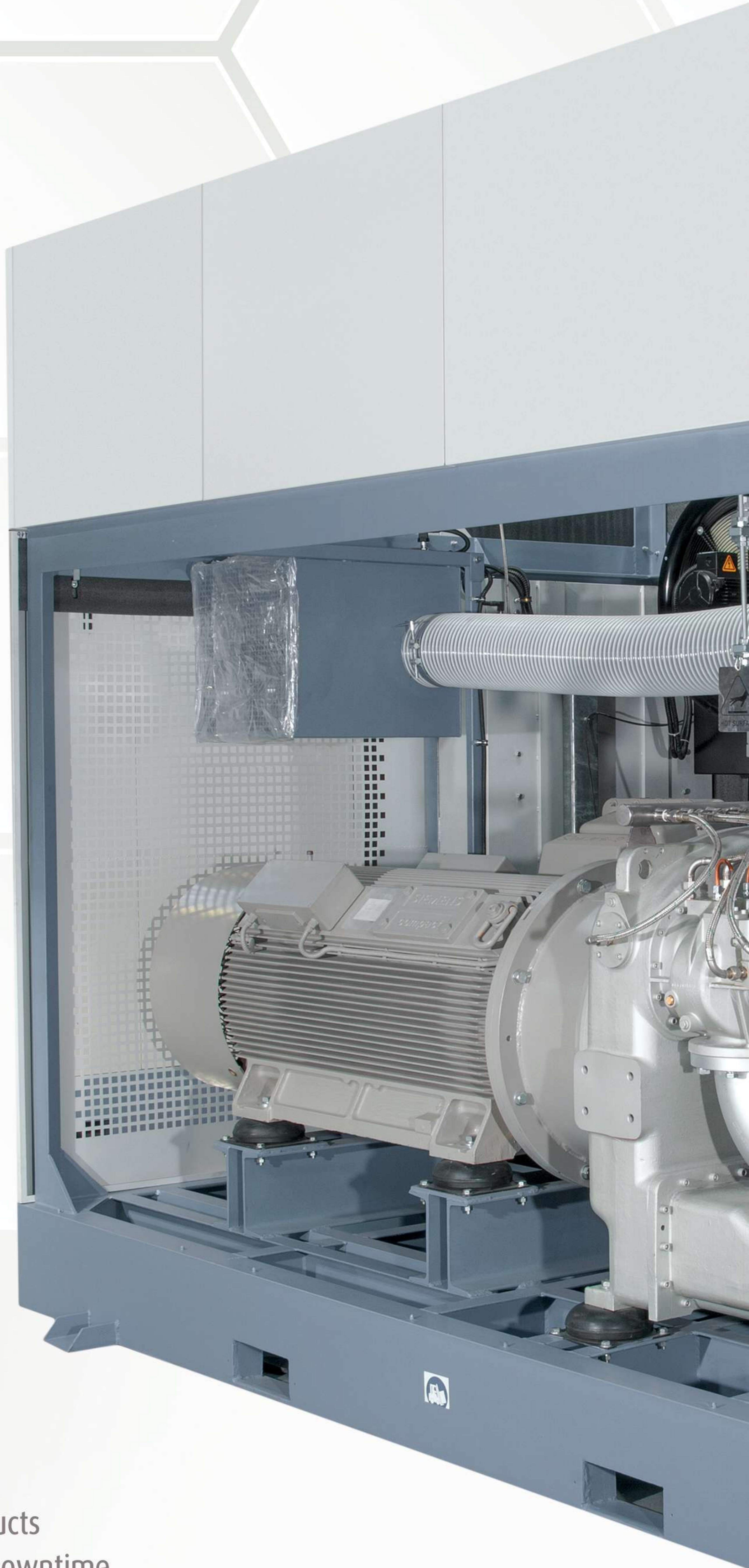


Advantages:

- 100% Class ZERO oil free air: ISO 8573-1
- Minimum pressure drop across the system
- Optimized energy consumption
- Ease of operation
- Robust base frame and sound absorber canopy
- Low maintenance costs
- Small footprint
- Warranty and services
- Equipped with well known brands
- Compatible with tropical climate and harsh circumstances



ISO 8573-1



CLASS 0 means:

- ✓ Zero risk of contamination
- ✓ Zero risk of damaged or unsafe products
- ✓ Zero risk of losses from operational downtime
- ✓ Zero risk of damaging your company's hard-won professional reputation

HATCO
Compression & Separation



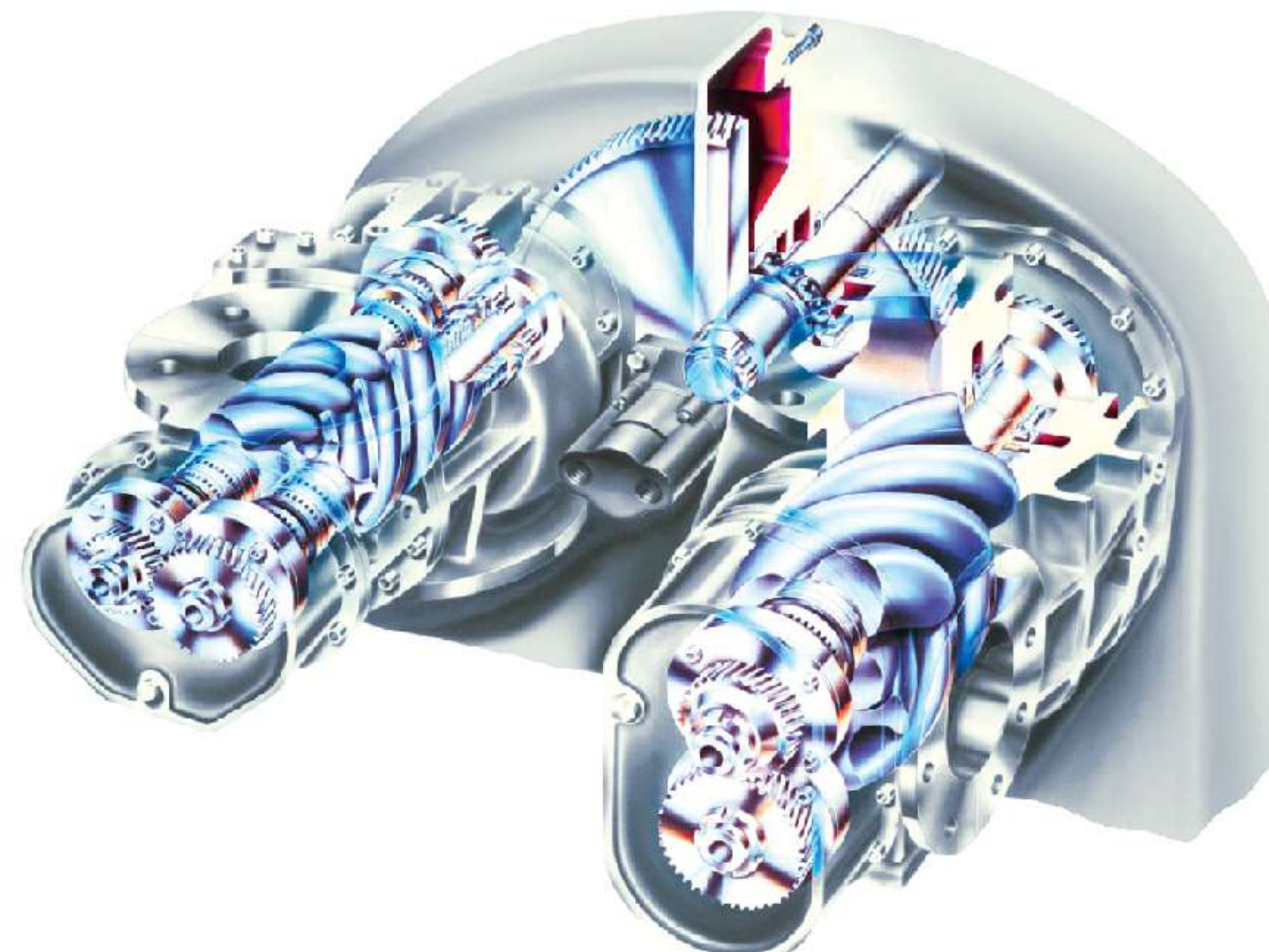
Characteristics of the main parts and their design:

▷ Gear box

Two individual stages are flanged mounted to a common speed-increasing gearbox which drives each stage pinion for optimum performance.

▷ Rotors and housings:

- % 100 oil free dry screw
- low power consumption
- no balance pistons
- no rubber diaframe which can cause costly repairs
- efficient jacket cooling (water or oil)
- slower turning of rotors
- smoother, quieter operation
- less vibration
- leak-proof oil drains from airend to gearbox
- leak-proof input shaft seal design
- stainless steel HP rotor pair
- enhanced coating of air passages, housings and rotors



GERMAN
Technology



Low pressure stage LP:

- large capacity
- optimum profile (asymmetrical) male 3 teeth, female 4 teeth
- special-coating (no teflon)
- resistant against high T, p
- excellent sliding properties
- improved sealing effect

High pressure stage HP:

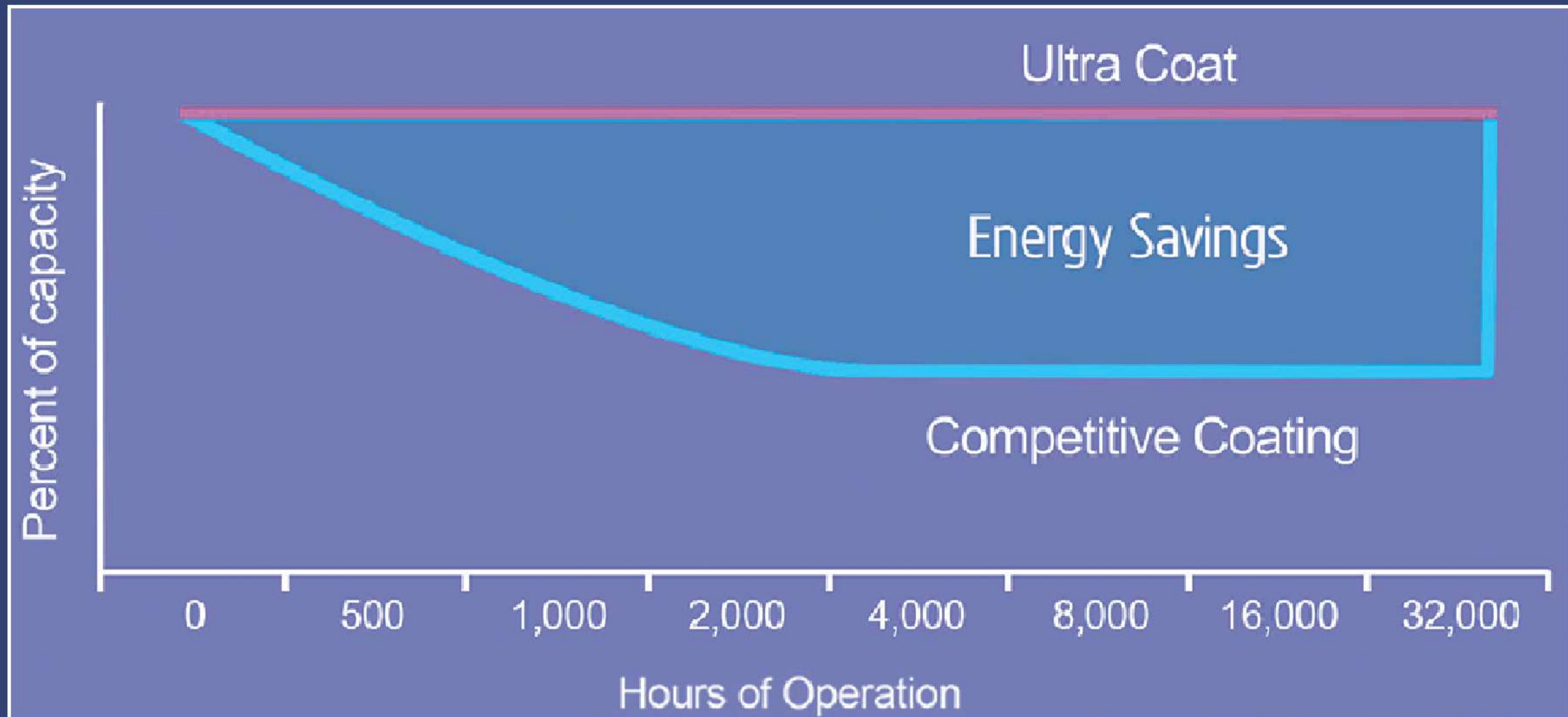
- High pressure increase
- optimum profile (asymmetrical) - male 4 teeth, female 6 teeth
- special-coating (no teflon)
- resistant against high T, p
- excellent sliding properties
- improved sealing effect

Ultra Coat- Energy saving and longer life Cycle

Every Oil-Free rotor and housing used by HATCO is specially prepared and designed by German advanced technology, creating a surface texture to which the Ultra Coat micro-coating bonds with the tightest-lasting grip possible that eliminate deterioration of their surfaces over the time and above that resistance to compressed air impurities and temperature fluctuation which lead to reduce efficiency, decreased air purity, increase of plant failure and energy cost.

Exceptional reliability and performance:

The HOF's superior oil-free screw elements provide the optimum combination of high Free Air Delivery (FAD) with the lowest energy consumption. Ample sized cooling, low pressure drops and an extremely efficient drive train result in the highest compressor package efficiency.



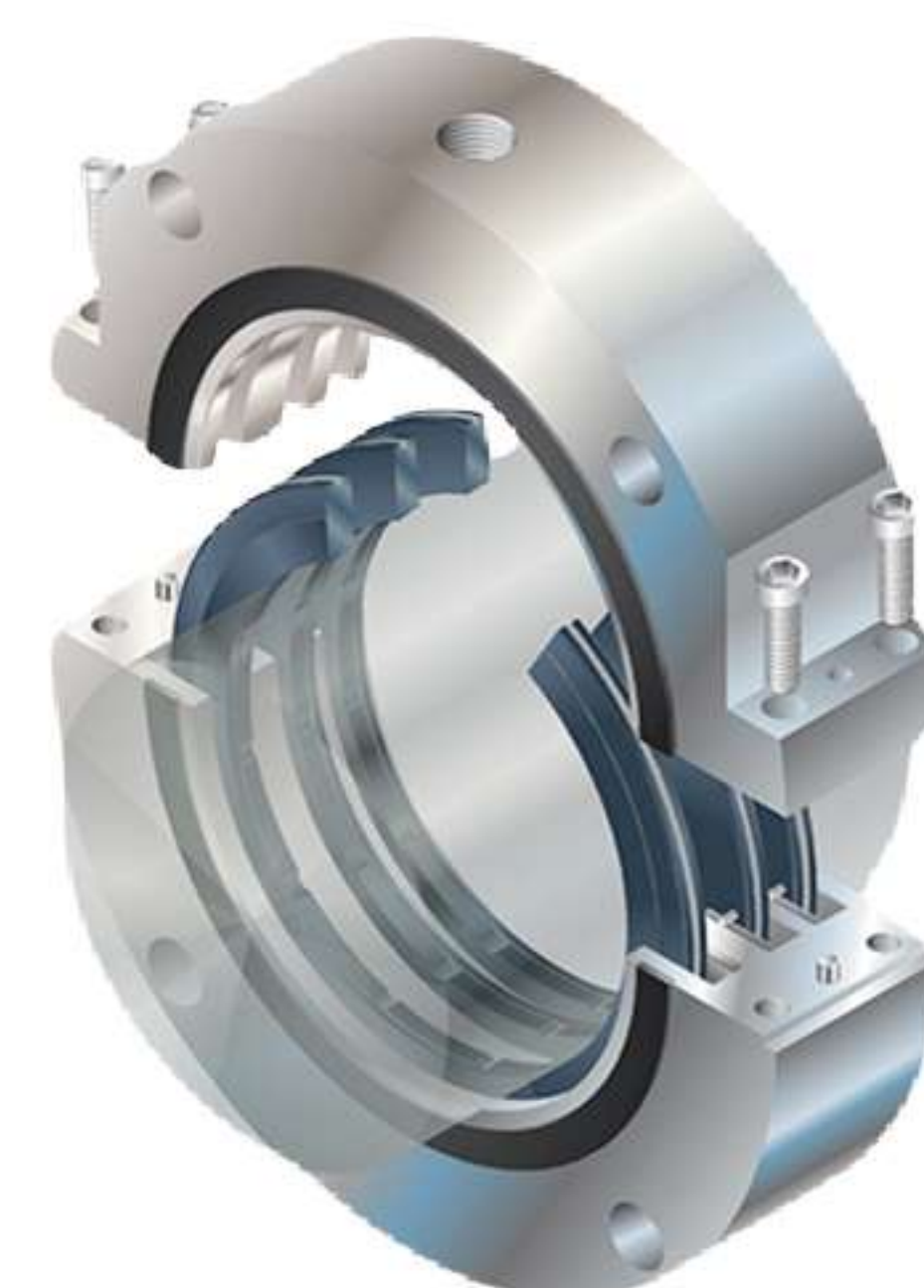
► Bearing

- (4) Roller bearings
- (2) Angular contact ball bearings (Axial Radial Thrust)
- No thrust piston
- High precision, anti-friction bearings with an L10 design life of over 100,000 hours



► Seal:

- Floating carbon ring air seals - with stainless steel lantern ensure 100% oil-free operation
- Reverse flow thread labyrinth oil seal
- Optional buffer gas seal for nitrogen compressor application



► Inlet/Blow Down System:

Inlet / Blow down system for full / no load control

Movement of piston by oil-pressure is transferred via linkages to rotating on/off valve and valve plate of unloading valve.

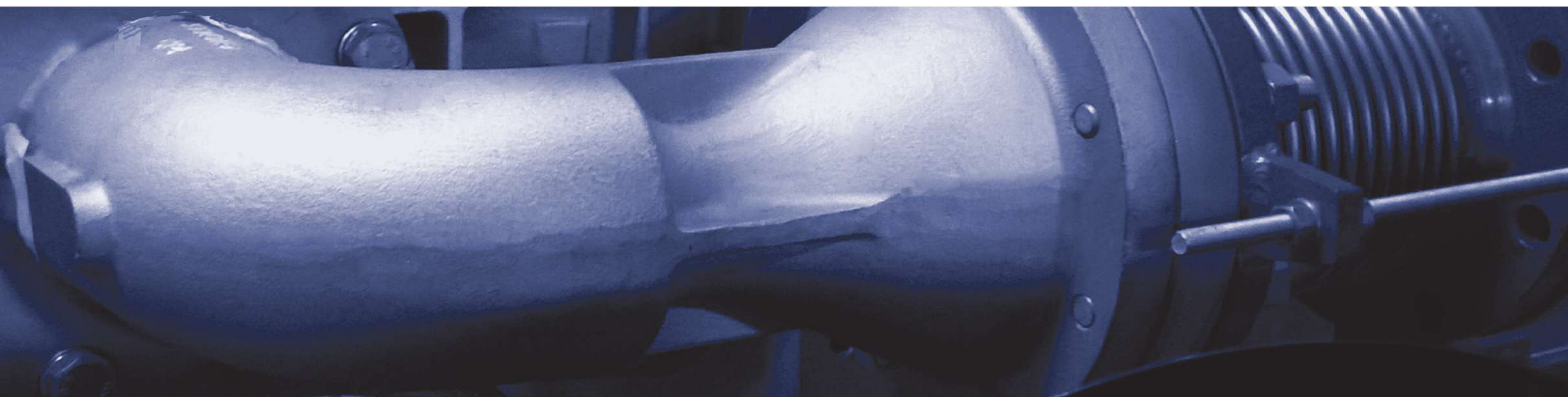
The actuating cylinder of unloading valve is connected to oil system of compressor block.

The oil pump sufficiently sized ($P_{\text{need}} = 2.5\text{bar g}$, $P_{\text{poss}} = 25\text{bar g}$)



► Intake Filter:

- Heavy duty built in dust collector type using turning vanes.
- Easily replaceable
- Paper elements are rated more than 99% efficiency.
- The elements are machine mounted inside the enclosure at the suction point.
- System can be equipped with differential pressure alarm on the control panel (Optional).



► Venturi Elbow:

Venturi elbow is utilized downstream LP-stage in order to:

- Protection of downstream components (e.g. cooler) against peak pressure levels
- Effective reduction of noise emissions in conjunction with downstream noise reducers

Low noise operation;

- Down stream LP and HP: Venturi + silencer

Sound pressure level;

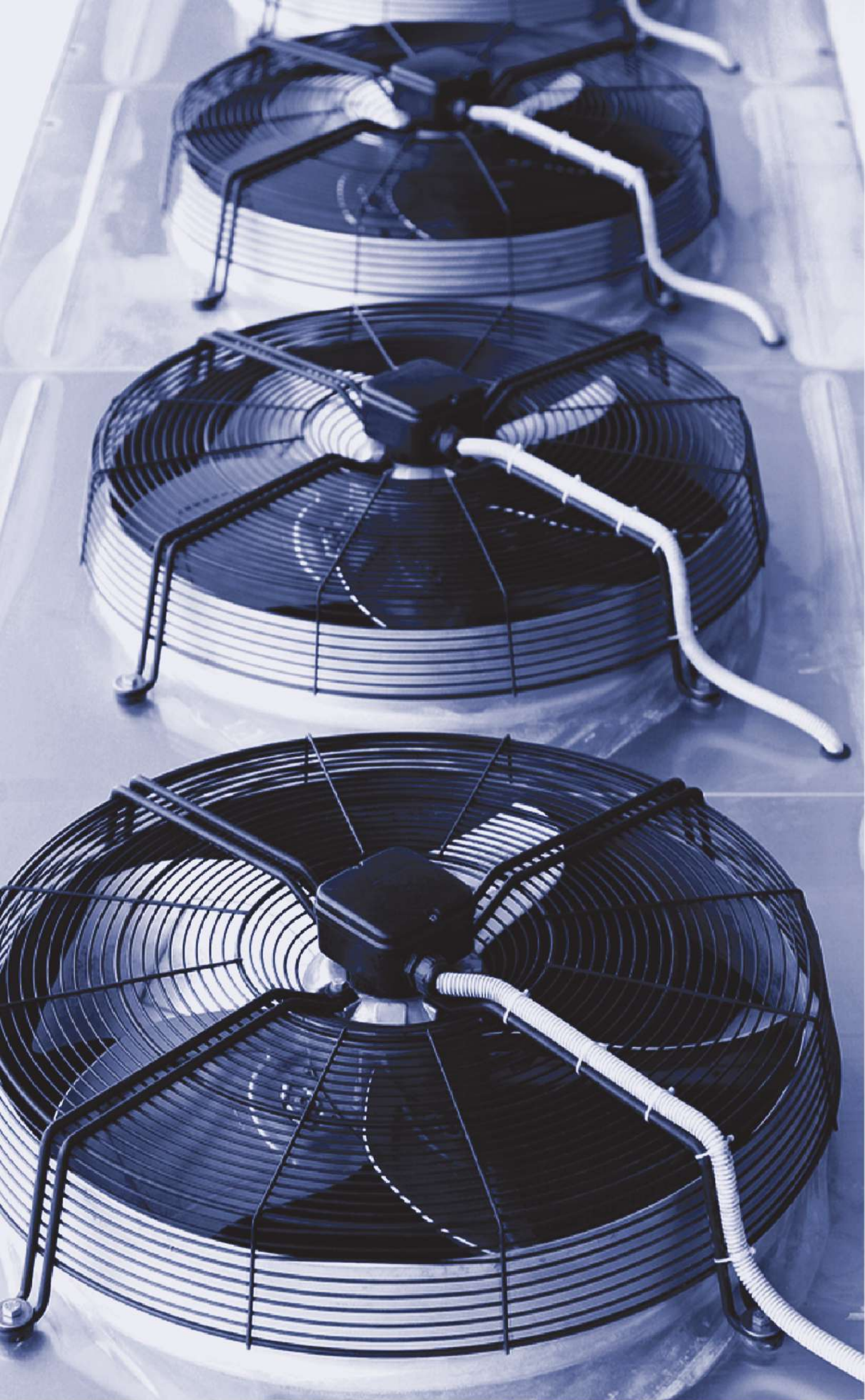
80dB(A) should be achieved (incl. noise-dampening)

- at 1,0m distance
- at 1,5m height
- free field conditions
(acc. to ISO 3989)

Check Valve;

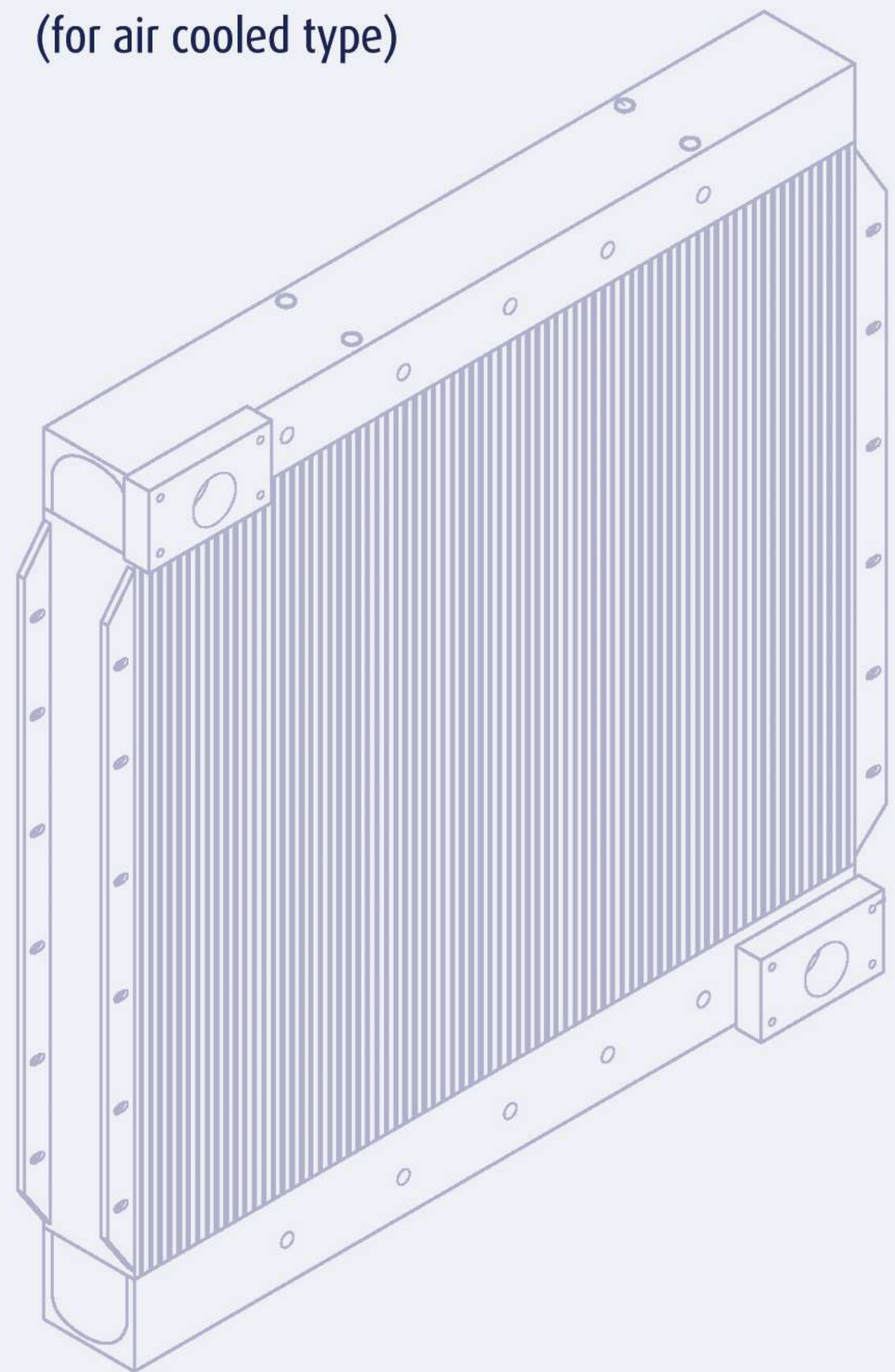
- Prevents reverse air flow when compressor is unloaded or stopped
- Constructed with a stainless steel spring





► Inter, After and oil cooler:

- Available in varieties of specified Air cooled / Water cooled types
- Compact and efficient design with low air approach temperature and low pressure drop
- High performance ventilation electro Fans (for air cooled type)



► Condensation System:

Low moisture carry-over protects downstream equipment

Water Separation;

- Inter stage centrifugal separator to efficiently separate the water condensate from the compressed air

Drain;

- Zero loss drain
- Manual valve drain

► Lubrication System:

- Over sized oil pump mounted
- continuous

Additional Oil Pump;
for API standard and special compressors

- Electric motor drive
- Full flow operation independent of main motor

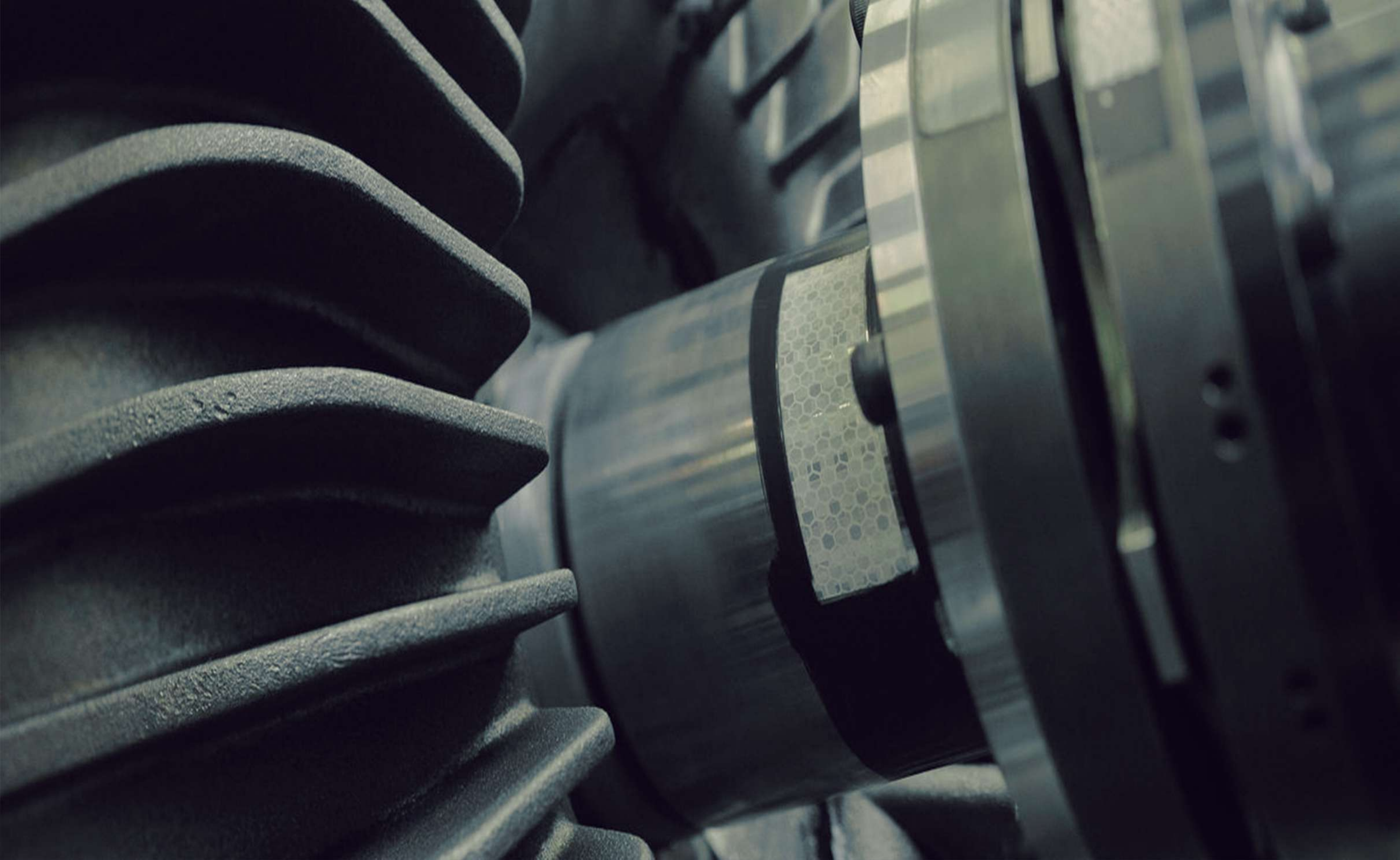
Oil Filter;

Highly efficient oil filter

Duplex filters (2X100%) - Optional

Localized differential pressure indication or on PLC is available (Optional)





▶ Main Motor and Coupling:

Electro Motor;

- premium efficient motor
- Class "F" insulation
- Flanged mounted
- TEFC IP55 motor

Coupling;

- Flexible elastomer coupling
- Safety guard
- Proper alignment guaranteed

VSD



▶ Variable Speed Drive:

- Various turn down from full load to improve operating efficiency
- Extra fan cooled
- Integrated converter with EMC filter ensures stable operation

▷ Control System:

Designing and integration control systems for a wide range of applications for all types of compressors as well as other packaged machinery.

All Control systems are integrated according to project specifications and required international codes.

Executing the whole process of control system design, material selection, program the control logic and the integration of PLC.

Control system and instrumentation can be enhanced by integrating Safety Integration Level (SIL) and system redundancy.

Suitable for use in harsh and hazardous environment by that is in conformance to international standard codes (Project's option).

Unit Control Panel (Based on PLC)

Factory std. UCP Comprised of;

Siemens S7-1200 platform remote distributed system

* The other customer's requirement is available



Benefits;

- Compact
- Low cost
- Ease to operate
- Long term support by suppliers
- Long life time

PLC Functions;

- Process control
- Collects inputs (digital, analog)
- Runs the process control
 - Basic logic functions
 - Complex algorithms
 - Safety functions
- Produces actions (outputs)
- Provides data to the supervision layer

Strength;

- Reliable for safe systems
- Robust, Resistant to electrical noise, vibration, impact, dust, heat
- Extensive range of inputs/outputs
- Extensive range of functionalities
- Abundant digital and analog I/O
- Various and perfect control method
- Smart and sophisticated panel
- 7-9 inch Siemens comfort panel (HMI)
- Touch panel, easy operation
- Operating status and alarms indication
- PROFIBUS (Standard)
- MODBUS RTU (Option)

Sales engineering solutions:

From small point of use plants to large, custom engineered compressed air for the most demanding industrial applications, let's let our specialist assist in meeting your requirements.

We have the capabilities to customize products for even the most unique applications. Our engineering staff will assist in the custom design, engineering and build of your compressed air equipment to fit your applications to exact specifications for superior performance and energy savings.

Customization options;

- Hazardous area classification
- Special metallurgy for components
- Customized Coolers and Fans
- Weather protection
- Global Standards compliances (e.g. API Codes)



If you want to extend how long your oil-free compressor will last, good maintenance is your best friend.

Services:

Our Commitment:

Our mission is simple; to flourish by helping our customers to achieve their business goals.

HATCO has been building custom air compression and separation plants for many years. We take pride in our work and make every effort to meet and exceed the customers' expectations. In global vision and as a domestic market's leader, our aim is to impress with the quality and professionalism of our own duty. We are here to make complexity become simplicity.

With over 25 years of engineering excellence, the HATCO brand offers an extensive range of highly reliable, energy efficient compressors and related accessories to suit all applications.

In HATCO, a dedicated customer service department provides expertise truly local service, ensuring our advanced technology is backed up with the right support.

As part of a wide operation, HATCO has consistently been at the forefront of compressed air & gas systems development, culminating in some of the most energy efficient and low environmental impact compressors on the market today, helping customers achieve or surpass their sustainability targets.

Major Services;

- Factory Acceptance Test
- Site Acceptance Test
- Punch Clear Services
- Commissioning Services
- Spare Parts
- Warranty Claim
- Customer Training



HATCO is "Where Complexity Becomes Simplicity."

HATCO

Compression & Separation

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