

**Tamturbo**  
JUST AIR



**Touch-Free.  
Oil-Free. Care-Free.**

TAMTURBO® AIR COMPRESSOR

2-stage models at 80–400 hp / 60–300 kW  
3-stage models at 125–470 hp / 90–350 kW

Touch-Free

# Oil-Free compressors that don't need touching



**ALL TAMTURBO® TOUCH-FREE™ COMPRESSORS** are Variable Speed-controlled, direct driven high-speed turbo compressors that produce completely oil-free compressed air for industrial customers. Impellers are integrated directly on the motor shaft without any couplings.

Our Touch-Free™ compressors are designed around a simple, yet unique principle: parts that don't touch, don't wear. And parts that don't wear, don't fail. We've eliminated all metal-to-metal contact between rotating components. So, there are no moving parts to wear, re-

place, lubricate, waste energy or maintain. Just as importantly, you won't find one drop of oil anywhere inside our Touch-Free™ compressors. The core of the Tamturbo® Touch-Free™ Technology is Active Magnetic Bearings (AMB) and hence, rotating parts levitate and don't come in contact with anything.

Our direct-driven turbo compressors are fully free of machine maintenance to critical components, free of component failure and free of any oil contamination risk. That's what makes the Touch-Free™ difference.

Oil-Free

## Only 100% oil-free = 0% risk of contamination

**At Tamturbo, 100% oil-free is all we do. To satisfy the quality requirements of our customers, we eliminate all risks of contaminated air. So, we're the natural fit for industries with 0% tolerance for any risk of oil contamination, such as Food & Beverage, Electronics, Chemical, Automotive, Textile, Printing, etc.**

Did you know that a typical "oil-free" rotary screw compressor actually contains up to 15 gallons (60 liters) of oil? That's hardly oil-free.

Did you realize that in every "oil-free" rotary screw, the only thing separating the air from the oil is just a simple oil seal? And the older "oil-free" screws become, the risk of leaking oil further increases.

Fortunately, there's a much better and 100% oil-free option.

Food &  
Beverage



Electronics



Pharmaceutical  
& Medical



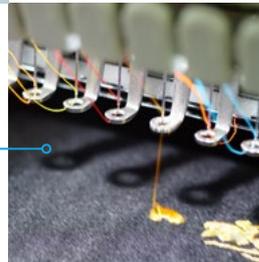
Manufacturing



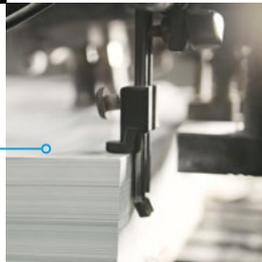
Automotive



Textile



Printing





Care-Free

# Tamturbo<sup>®</sup> Touch-Free<sup>™</sup> Technology gives you Care-Free air

## PEACE OF MIND THROUGH TOP-QUALITY COMPONENTS

To secure the highest reliability, we use the best components in our products. For example, our impellers are made from the toughest titanium available to make sure they exceed your expectations. Our ingenious design is simple and has only high-speed motors with Active Magnetic Bearings (AMB's) and impellers without any gears, couplings, mechanical bearings or oil seals. Plus, this direct drive unit is completely maintenance-free with no complications or risk.

## SERVICE ONLY IF NEEDED

Whether it's planned or unplanned, downtime costs your business. Unlike typical hour-based maintenance, the Tamturb<sup>®</sup> compressor is touched only when needed. Our ingeniously simple design eliminates virtually everything that can go wrong on an air compressor: the gears, bearings, seals, oil separators, oil pumps, filters and of course, oil.

## NO SURPRISES

We will keep an eye on your compressors so you don't have to. With our remote monitoring and diagnostic services, users can control the compressor optimization and receive alerts before preventive maintenance is required, such as anticipating intake air filter changes. Plus, since there are no moving parts to wear, no oil to change or components to replace, there is no need to stop the compressor and the overall life of your compressor is extended well beyond the life of "oil-free" screw.

**This is Care-Free.**



PLC based controller has a touch screen user interface for local or remote monitoring and operating the unit.



#### **FREE FROM RISING ELECTRIC BILLS**

How does a 10–15% reduction in energy bills sound? How about consistent savings across changing air needs? Now you can have both. Plus, unlike “oil-free” screws, Tamturbo® compressor efficiency stays constant during the entire unit lifetime. And the same efficiency extends throughout the wide capacity turndown range, as much as 63% from the maximum flow.



#### **FREE FROM MAINTENANCE**

No costly maintenance to critical components is ever needed on a Tamturbo® Touch-Free™ compressor. Maintenance is virtually limited to air filter and O-ring changes. And if you choose our Touch-Free™ Air program, we will take care of that, too.



#### **FREE FROM ENERGY WASTING BLOW-OUT**

Our industry-leading capacity turndown range is up to 63% which is higher than traditional centrifugal compressors. Tamturbo® compressors are optimized for a wide capacity range, without having to use the energy-wasting blow-out of compressed air.



#### **FREE FROM ENVIRONMENTAL LOADING**

Since the compressor has no oil, there's no oil or oil filters to dispose of, recycle or that could impact the environment. Plus, reducing your energy usage improves sustainability.

# Life cycle cost that can't be touched

**With market-leading efficiency and virtually Touch-Free™ maintenance, Tamturbo® compressors offer by far the lowest total cost of ownership.**

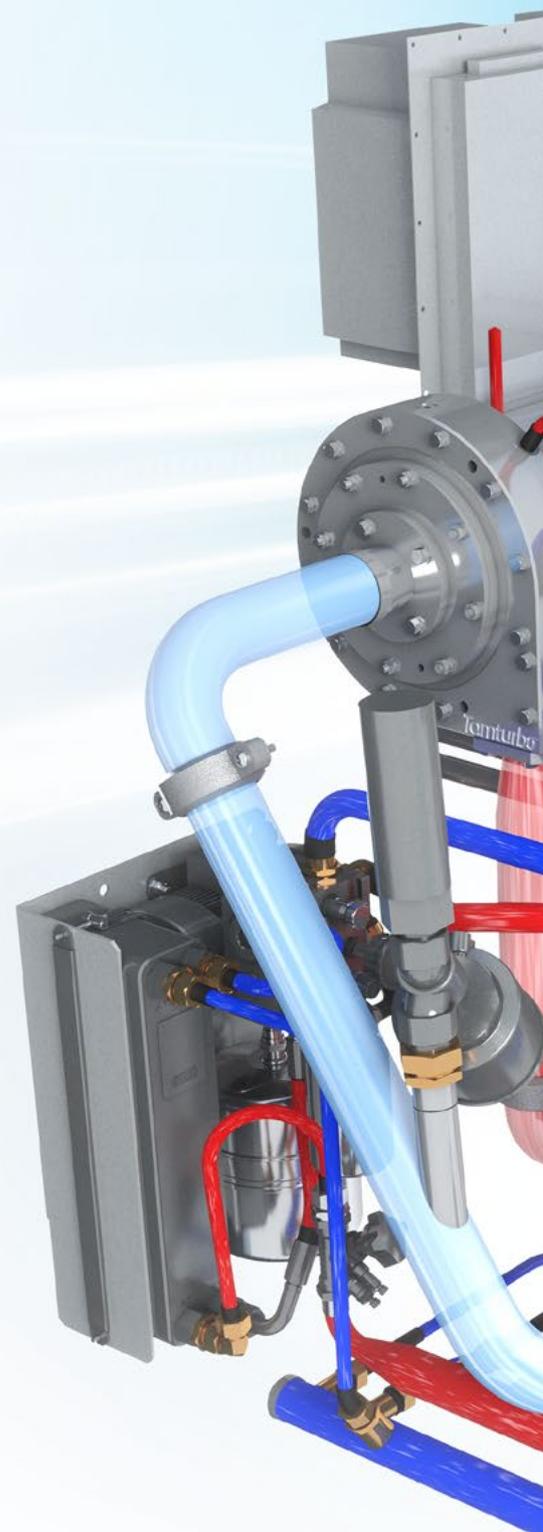
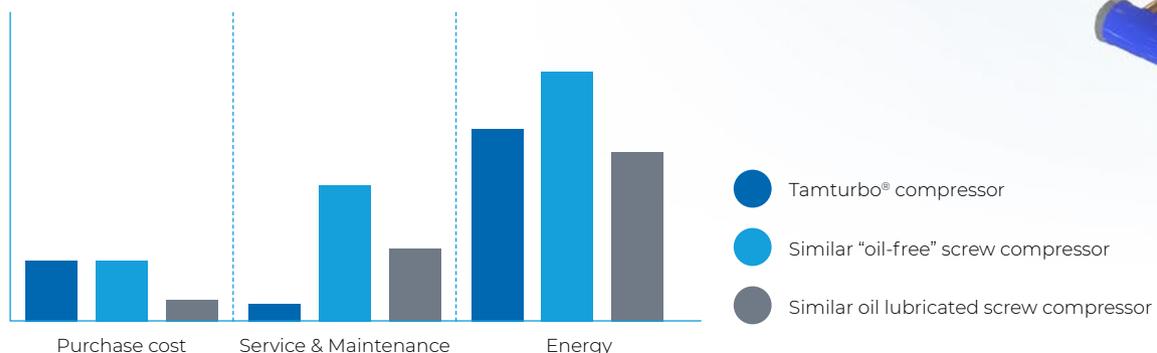
When you select a compressor, you are selecting a partner for decades. This makes the life cycle costs even more important than the purchasing cost of the unit.

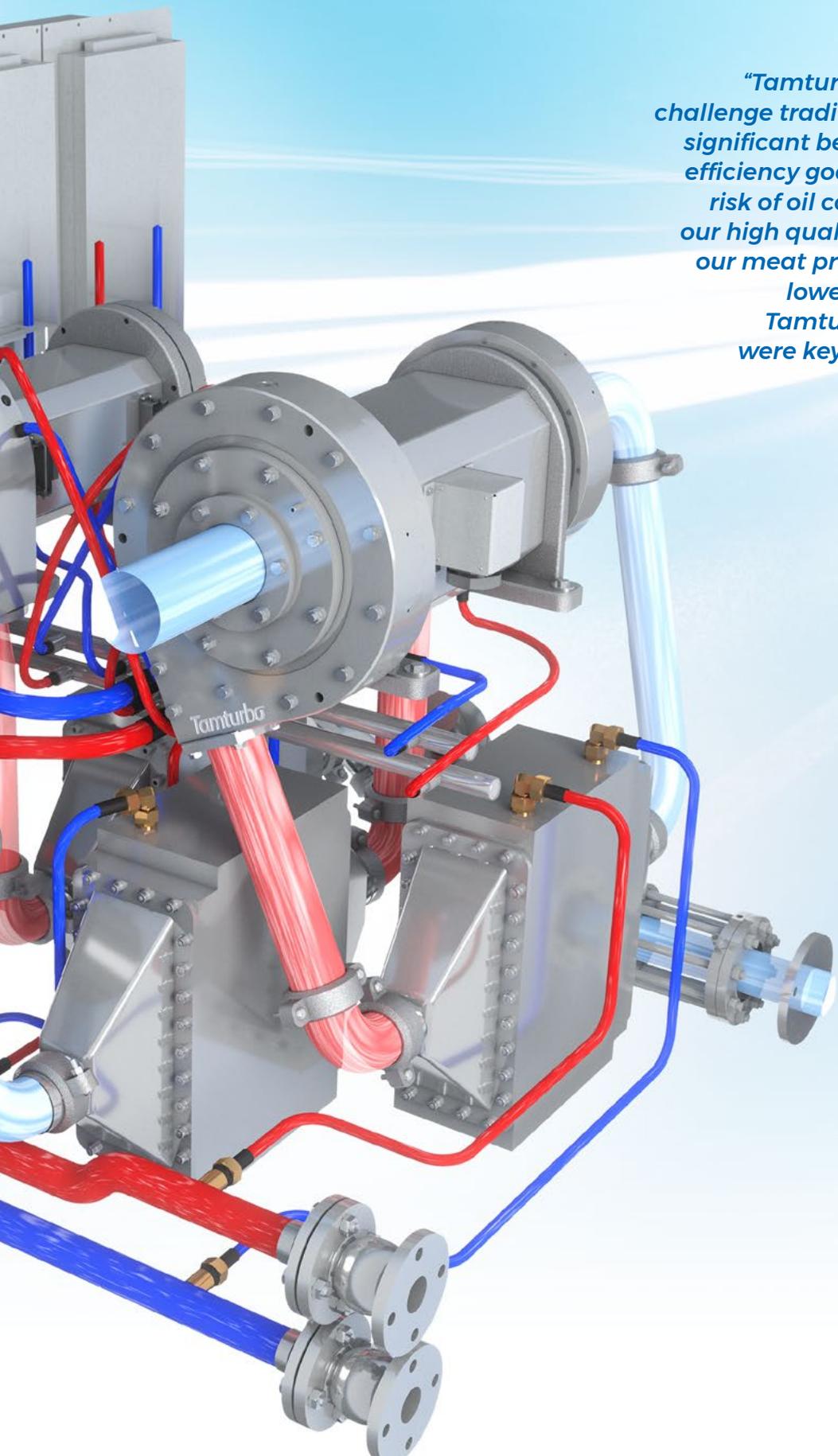
The life-cycle cost is a result of several factors, for example: purchase cost, periodic service & maintenance cost, repairs and overhauls and the cost of consumed energy. With Tamturbo® Touch-Free™ compressors you will get significant savings from all the biggest cost items: energy, service, maintenance, repairs and overhauls. Tamturbo® units have better and lasting energy efficiency compared to the “oil-free” screw compressor alternatives, so you will save significant amounts of money on electrical bills. With Tamturbo® Touch-Free™ technology, periodic maintenance and overhauls are virtually non-existent.

## USE THE HEAT

In addition to having the best variable speed compressor energy efficiency, with Tamturbo® compressors, you can efficiently take advantage of the heat that is produced during compression. Our standard liquid cooling system enables easy energy recovery; up to 93% of the compressor power consumption can be recaptured for your process, heating or other needs. Most compressors waste this energy by blowing it into the atmosphere.

## ANNUAL OPERATING COSTS





*“Tamturbo® Touch-Free™ compressors challenge traditional technologies. They yield significant benefits in achieving our energy efficiency goals. Furthermore, they have no risk of oil contamination, which supports our high quality and purity requirements in our meat processing plant. The absolutely lowest total cost of ownership and Tamturbo’s service-focused attitude were key factors when considering the cooperation with them.”*

**MIKA TAMMI**  
Technical Manager at HKScan

# Reliability that can't be touched

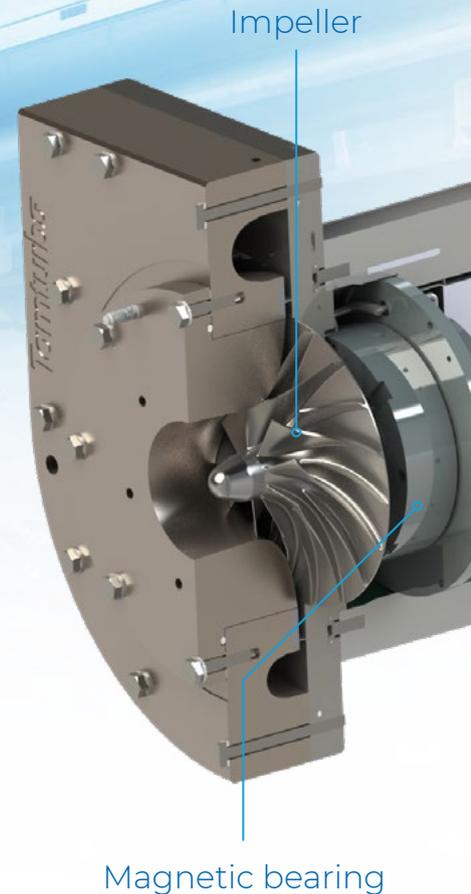
## WHERE SCIENCE MEETS ENGINEERING

Tamturbo® compressor direct-drive turbo technology is centred around a few unique principles. At the heart of every Tamturbo® oil-free compressor is our patented capacity control and operating system, operating the 3-stage compressor core with the help of industry-leading Variable Speed Drives.

Tamturbo® proprietary Active Magnetic Bearings (AMB) are the key to the Touch-Free™ technology. By providing friction-free rotation with zero drag or metal-to-metal contact, our components won't ever wear or break down. That's because they don't touch, so they cannot fail. Active Magnetic Bearings react instantly, eliminating vibration completely.

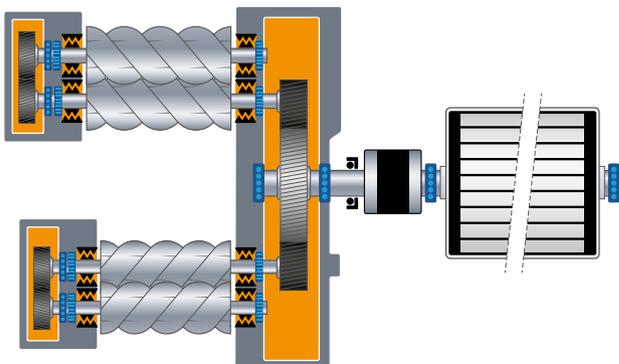
Self-protecting levitation also prevents damage in the event of a power failure inside your facility, as power stored in the rotation and in capacitors keeps the bearings energized until the motor slows down and stops.

Tamturbo® compressors are packed full of industry-leading and cost-saving features. Over hundred thousand of AMB applications in HVAC, oil and gas fields, deep-sea gas pumps and other tough uses have proven our product's technology, maturity and superiority in demanding applications.

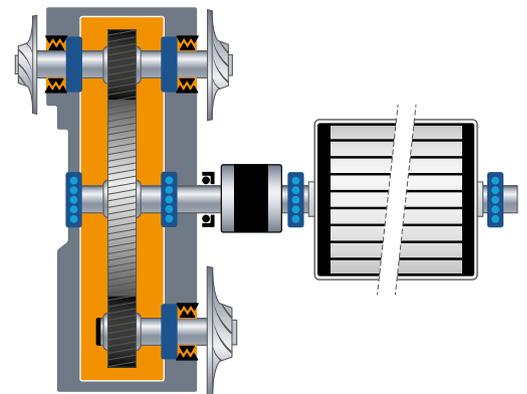


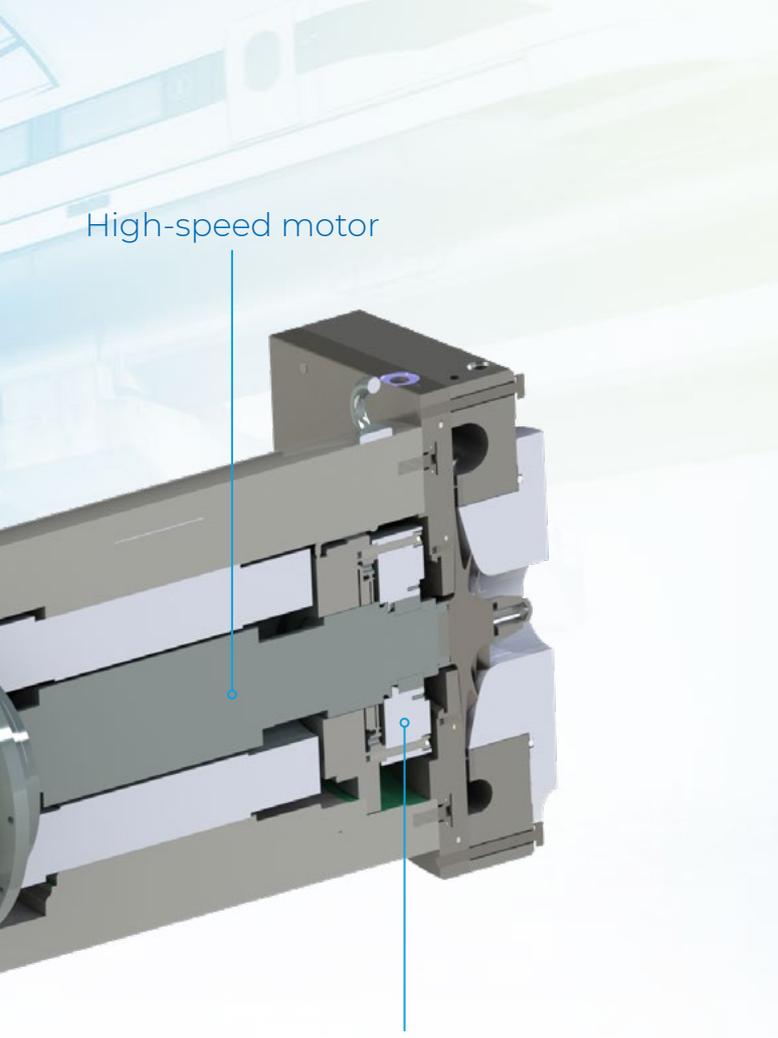
## The Look of Reliability: When Less Is More

### OIL-FREE SCREW COMPRESSOR



### TRADITIONAL TURBO





High-speed motor

Magnetic bearing

# Tamturbo® active magnetic bearings

## RELIABILITY

Rotating parts levitate and don't come in contact with anything.

## PRECISION

Active measuring ensures rotating parts are always held exactly in place.

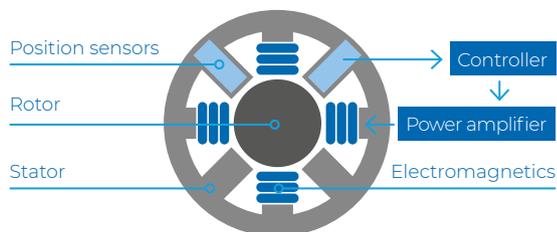
## CLEARANCE

Easy-to-maintain designed clearances.

## DURABILITY

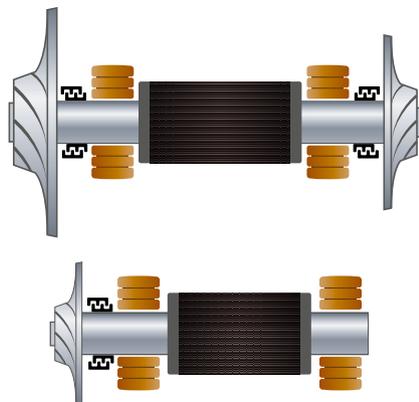
Never any rotor damage, not even in power failure.

## MAGNETIC BEARING FEATURES



Active magnetic bearings – Five axis active bearings utilize two coils each for precision placement that keeps true rotor placement integrity.

## TAMTURBO



## LIST OF SEALS AND BEARINGS

	"Oil-Free" Screw Compressor	Traditional Turbo Compressor	Tamturbo® Touch-Free™ Compressor
Oil systems	1	1	0
Gears	7	3	0
Oil seals	9	4	0
Bearings (Mechanical/Journal)	19	7	0

# Efficiency that no other oil-free variable speed compressor can touch

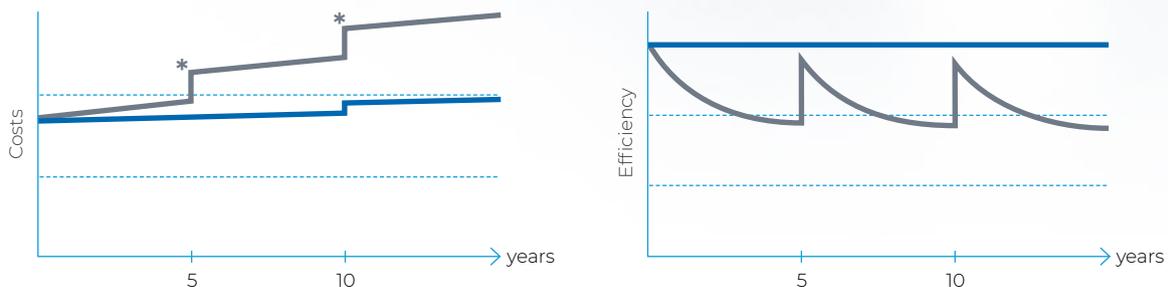
**When moving parts come into contact, friction results in a loss of energy. Also, pressure is lost through filtration. "Oil-free" screws and traditional centrifugal compressors must rely on multiple energy-robbing gears and bearings with mechanical contact, oil seals and oil filters.**

Due to their complex structure, the efficiency of an "oil-free" screw deteriorates rapidly, resulting from wear of the screw's Teflon-coating and other components from day one, as soon as they are started. This directly increases the energy consumption by 10–15% or more and results in costly overhauls every few years.

Variable Speed Drives control the motor speed – based on actual air demand – to maintain constant pressure with high efficiency. Featuring permanent magnets, these motors rotate at speeds up to 35,000 RPMs for the best efficiency on the market. Our VSD and optional diffuser control enable our industry-leading capacity turn down range of up to 63% – which is higher than other oil-free compressor technologies at a far better idling efficiency. This ensures your compressor matches the air need with the highest efficiency.

Tamturbo® gearless drive units are unique. Our direct-mounted turbo impellers never wear or create friction. With the ability to adapt to the demand fluctuation of air required within your facility, your efficiency remains constant over time. So, there are no costly spikes in energy consumption, which are typical with "oil-free" screw compressors.

## COMPARING WITH ALTERNATIVE TECHNOLOGY



● Tamturbo® High Speed Compressor

● "Oil-free" Screw

\* Periodic overhaul with screw element changes

Tamturbo



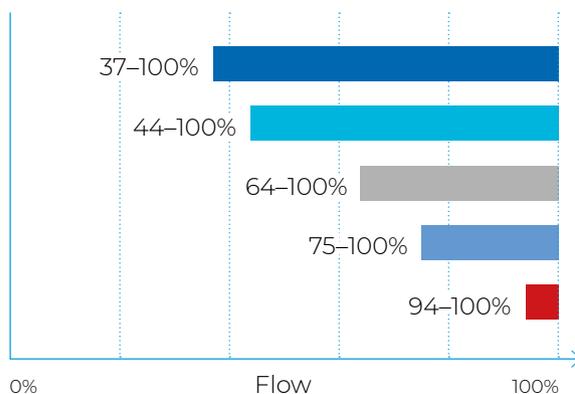
Touch-Free™ design  
layout simplicity

# Adapts to ever-changing air demands

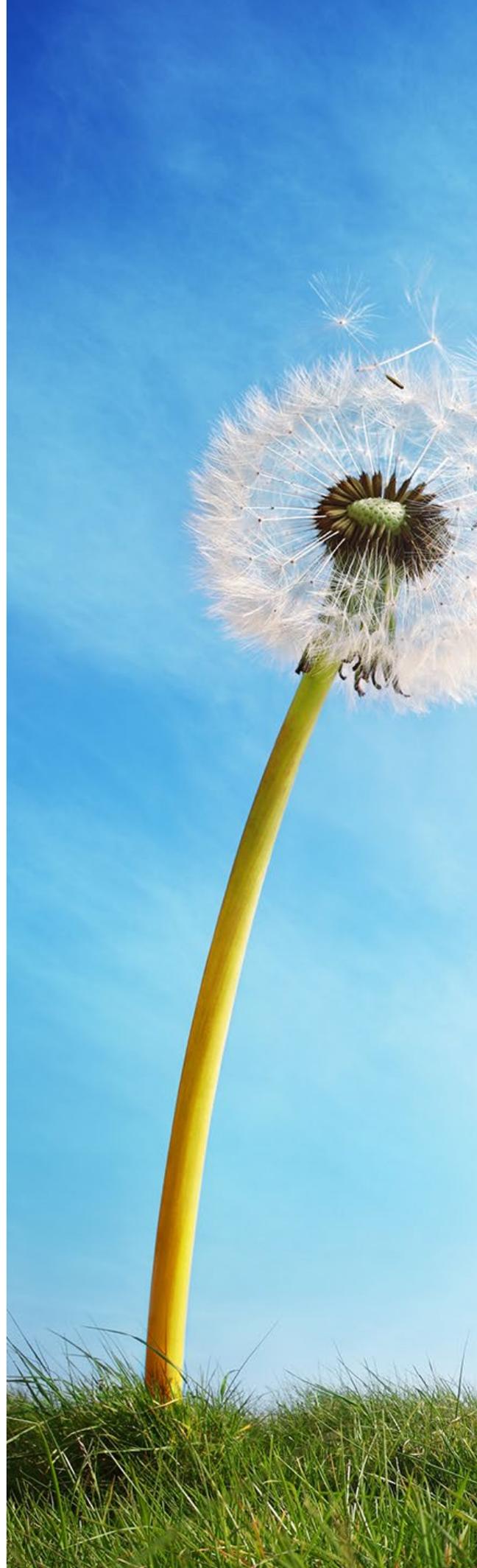
**Traditional centrifugal compressors are optimized for max (or full) flow. In reality, air demand is almost never constant. This is why Tamturbo® compressors are optimized for a wide capacity range, without the energy-wasting blow-out of compressed air.**

Tamturbo® VSD and an optional diffuser control offer the widest operating range at a good efficiency. Even up to a 63% turndown range, the Tamturbo® compressors match the air need without energy-wasting blow-outs. Unlike “oil-free” screws, which have notoriously low efficiency at low speeds, the Tamturbo unit efficiency stays high, even at partial loads and over a wide capacity range.

## PRESSURE CONTROL RANGE



- Tamturbo® RPM + Diffuser Control
- Tamturbo® RPM Control
- Brand A
- Brand B
- Brand C





# JUST AIR

## **TOUCH-FREE™ AIR**

Now there's a better way to achieve compressed air. With Touch-Free™ Air, you won't have to touch a thing. Not your compressor. Not your production schedule. Not even your working capital. Because at Tamturbo, it's no longer about the air compressor, it's all about the air.

Touch-Free™ Air literally means you only pay for the air you use. Not the air compressor, the maintenance or the worries that go with it. We'll set up the right system for your facility, and you won't have to touch it. You only get what you want: an uninterrupted supply of 100% oil-free air, at the lowest cost per unit.

# Products

## LOW PRESSURE



**TT60**  
3–5 bar  
40–70 psig



**TT115**  
3–5 bar  
40–70 psig



**TT135**  
3–5 bar  
40–70 psig

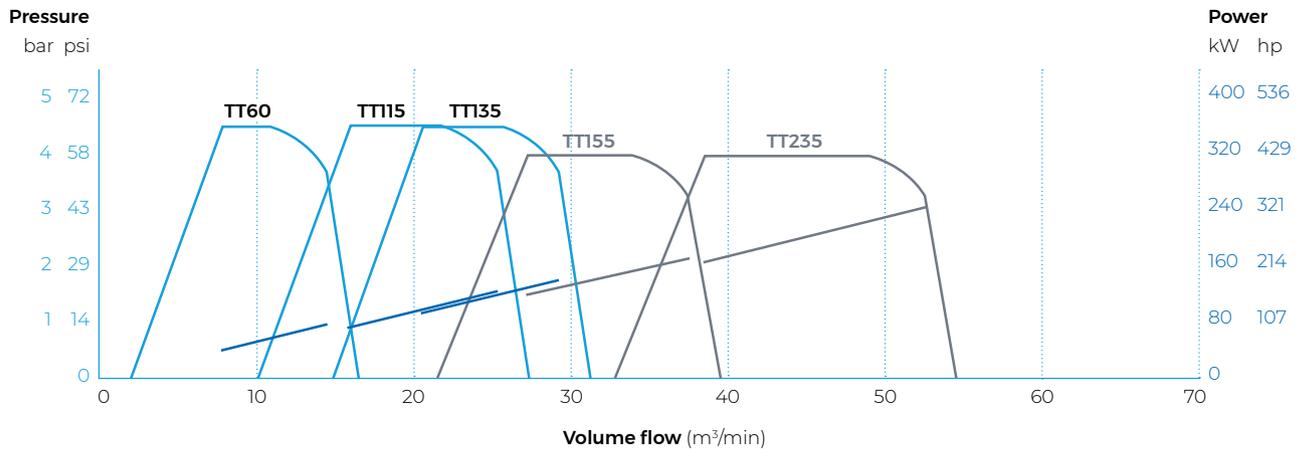


**TT155**



**TT235**

## LOW PRESSURE PRODUCT RANGE



## MEDIUM PRESSURE



**TT145**  
5–9 bar  
70–130 psig



**TT185**  
5–9 bar  
70–130 psig

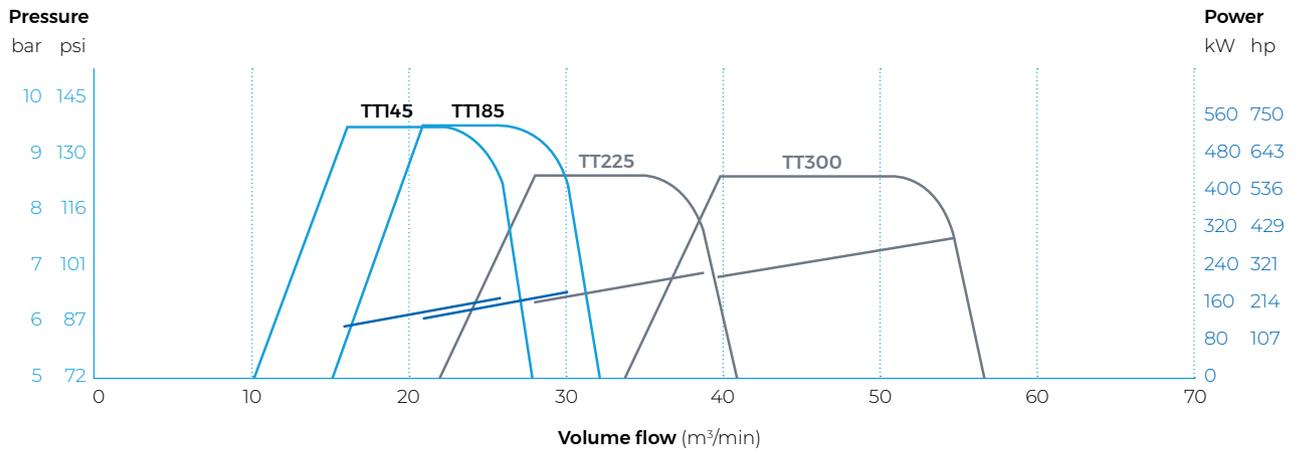


**TT225**



**TT300**

## MEDIUM PRESSURE PRODUCT RANGE



# Touch-Free. Oil-Free. Care-Free.

Tamturbo was started in 2010 around the founding idea that the world needs a more environmentally friendly alternative to producing compressed air – we cannot continue wasting our most valuable resources, energy and harming the environment. Our unique technological advances combined with ingenious engineering work have brought to life a range of compressors that far surpasses the legacy technologies both in performance and life cycle cost. Our Touch-Free™ technology enables reliable and fully Oil-Free design and eliminates risks of compressed air contamination. In the end, we provide exactly what is needed – Just Air.

Developed in one of the compressor capitals of the world, Tampere Finland, Tamturbo is expanding its footprint globally through distributors and partners. The compressor product family is complimented by a range of value-adding products and services for efficient management of compressed air production. From our mobile container-based compressor rooms, to our multi-compressor control systems all with 24/7 remote monitoring and service, we want our partners and customers to feel Care-Free, knowing that we have their compressed air production secured!

**TAMTURBO – JUST AIR.**

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