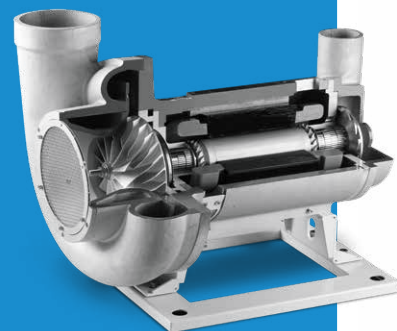


# ROBUSCH<sup>®</sup>



## TURBO BLOWER



Evolving  
Technologies



At Robuschi, we have been providing products and services in the low pressure market for a long time. We have also supplied generations of customers worldwide with blower solutions.

We are well aware that success is a process based on a stream of innovations and on working closely with our customers. Our latest innovation comes in the form of a blower boosted by turbo technology. Now, as a customer, you have access to a full spectrum

of low pressure technologies, including lobe, screw and, now turbo blowers.

You can now benefit from dealing with a single, well-established, knowledgeable supplier for every application. At Robuschi, we are able to provide the most suitable solution for your needs that combines superior efficiency, a small footprint, minimum maintenance, operating costs, long service life and low noise emission.

*Regardless of your operating needs, we have the perfect solution for your (everyday) needs.*

## ENERGY EFFICIENCY IS KEY

Energy consumption has been a priority for a long time, but now more than ever, our customers are looking for on-going reductions in energy costs.

### ENTER TURBO POWER

Introducing a Turbo range of blowers can tackle energy savings concerns for customers conscious of their environmental and financial impacts (total cost of ownership).

When choosing the right technology to help you save and reduce your environmental impact, trust our Robuschi Experts to offer you the best combination of solution.

# ROBUSCHI TURBO - CHARGES EFFICIENCY, INCREASES POWER!

At Robuschi, we introduced turbo powered blowers to support our Customers with a full spectrum of technologies and energy saving solutions.

Our Robox range of turbo blowers can tackle energy saving concerns for customers conscious of their environmental and financial impacts (total cost of ownership). When choosing the right technology to help you save and reduce your environmental impact, trust Robuschi Experts to offer you the best combination of technologies to provide you with the ideal solution.

Now, to cover more industry needs, we have expanded our Robox Turbo range to provide up to 1,500 mbar(g).

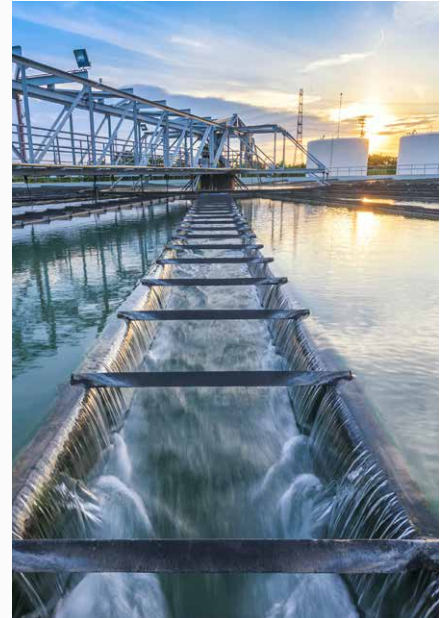


## POWER AND EFFICIENCY WHERE AND WHEN YOU NEED IT!

### WASTEWATER TREATMENT

In wastewater treatment plants for example, energy can account for as much as 75% of the overall operation costs of the facility. Aeration systems are the largest energy user (more than 60% of the total electricity cost). Up to 75% of your compressed air costs will be spent on energy, so state-of-the-art aeration equipment can make the difference, not only to reduce your carbon footprint, but by substantially lower life cycle costs.

As industrial wastewater treatment aeration lanes and tanks become over 10 meters deep, they require higher powered blowers to function properly. In addition, the effluent used can be denser and/or have more solids, which can require higher pressure for the process to operate as designed. This is where a blower rated up to 1,500 mbar(g), like the Robox Turbo, is needed to run the WWT processes smoothly and efficiently.



### FERMENTATION

During the fermentation process where organisms are converted to carbohydrates, production can be increased by introducing clean, warm air into the process. For larger and taller fermentation tanks, a blower with a high pressure output of up to 1,500 mbar(g) is required to provide 100% oil-free air at a high pressure - the Robox Turbo ticks all those boxes.

Fermentation is used in many food and beverage manufacturing processes such as soya and meat-free products. It is also widely used in the brewing industry where sugar is converted into alcohol.

### PNEUMATIC CONVEYING

The Robox Turbo is ideally designed to be used in Light Phase Conveying applications where clean, dry, pulse free and 100% Oil-Free air is required. Pneumatic conveying is a method of transferring large volumes of bulk materials such as powders, flour, cement and granulated product. The material is moved from one location to another through an enclosed conveying line or sealed tube using a combination of the pressure differential and air flow.



# ROBOX TURBO OUTLINE



## Benefits at a glance

1. Touch Screen HMI
2. Inverter
3. PLC
4. Cooling air silencer
5. Blow-off valve and silencer
6. Air-end
7. Inlet silencer

## INNOVATIVE DESIGN FOR HIGH EFFICIENCY



Turbo Blower technology relies on centrifugal compression which generates pressure by transforming kinetic energy (speed) into static energy (pressure). This compression is generated within the blower's air end. To control every running and safety parameter of the unit, a PLC-based controller ensures safe and sound operation. Additional core components are also present to guarantee a complete piece of mind for the product but also the operators.





## AIR END

- Compress ambient air and gas
- Centrifugal compression using impeller, diffuser and volute
- Oil free because of using air foil bearing
- Air cooled as standard with water cooled option
- High efficiency Permanent Magnet Synchronous Motor (**PMSM**)

## HIGH SPEED MOTOR AND DRIVE FOR MAXIMUM EFFICIENCY

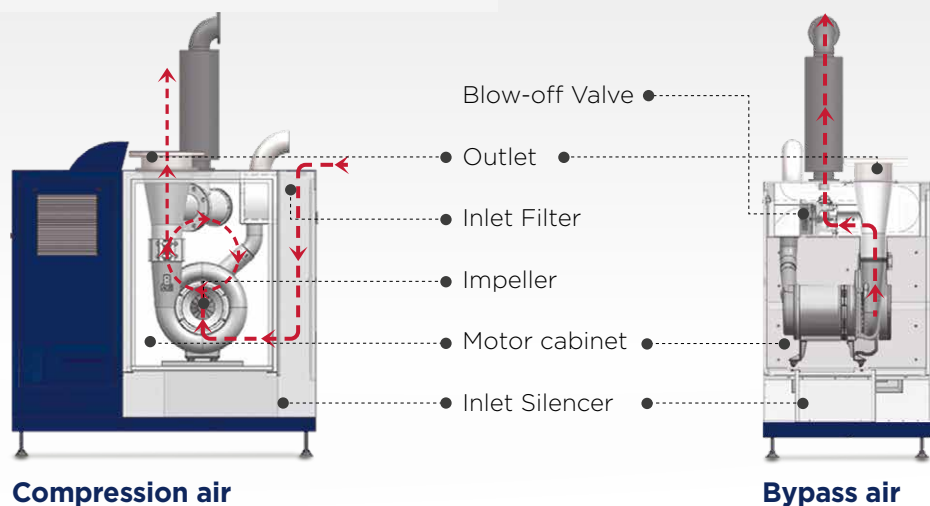
Another key aspect of turbo technology is the need for a high rotational speed required to reach the operating pressure level. The rotational speed is generated by a high speed motor, coupled with a high frequency drive both controlled by the PLC-based unit controller. The rotational speed together with additional parameter adjustments is ensured by the machine without the need of user intervention.

All Robox Turbo are supplied as standard with **PMSM** providing the highest efficiency and reliability:

- **PMSM Permanent Magnet Synchronous Motor** (from 10 Hp to 700 Hp)



## OPERATING PRINCIPLE - AIR FLOW





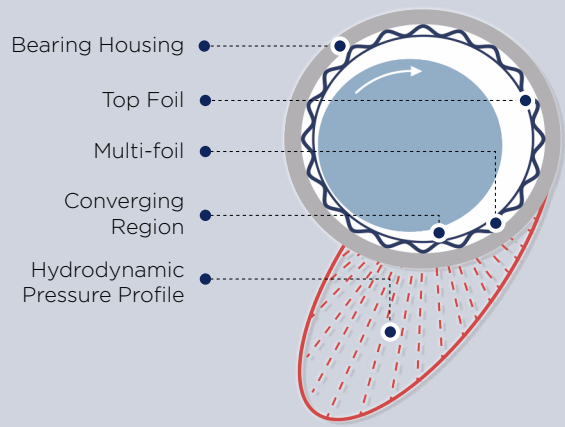
# BEARINGS

## AIR FOIL BEARING

### Air Foil Bearing benefits, include:

- Simplicity
- Reliability
- Ease of Operation and Maintenance
- Low Total Cost Ownership

The air bearing operating principle is comprised of various technologies applied in a simple way. Levitation is generated by the hydrodynamic pressure present between the rotating part (shaft) and its fixed components when the machine is running. This principle allows an almost friction-free operation, with a very high efficiency output.



## JOURNAL BEARINGS

Journal bearing technology allows the system to sustain loads while mitigating the effects of operational changes. This results in temperature variation and the creation of mechanical force. The main challenge with this technology is mastering the clearance between components, which guarantees a secured operation within the operating limits of the machine.

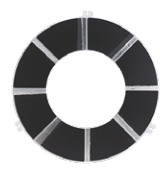
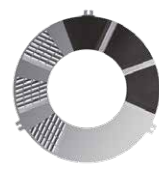


MULTI-FOIL

TOP FOIL

## THRUST BEARINGS

Thrust bearings exist to withstand axial loads generated from the machine's operation. These forces are compensated with an architecture of foils that allow the transfer and attenuation of mechanical energy. Combined with the journal bearings, operating loads are sustained and countered in all directions, protecting the technology against loads damage.



MULTI-FOIL

TOP FOIL





# ROBOX TURBO RANGE



TS 3



TS 6

Robox Turbo	Power Hp	Frames	Pressure Code
TS	10 ÷ 700	1 ÷ 6	06-08-10-12-15*

- \* 06 : 600 mbar(g)
- 08 : 800 mbar(g)
- 10 : 1,000 mbar(g)
- 12 : 1,200 mbar(g)
- 15 : 1,500 mbar(g)

The Robox Turbo range is able to reach up to 1,200 mbar(g) with a maximum flow of 26,500 m<sup>3</sup>/h and up to 1,500 mbar(g) with a maximum flow of 11,500 m<sup>3</sup>/h.

Our Engineers are at your disposal to size the Robox Turbo to best fit your plant. They will provide all the technical information and support as well.





# UNIQUE FEATURES FOR TOTAL PIECE OF MIND

## HIGH EFFICIENCY FOR LOW LIFE CYCLE COST

A superior design of the Robox Turbo ensures energy savings and low lifecycle costs. Furthermore, the high-speed motor can assure high efficiency over the entire operating range.

## COMPACT DESIGN FOR EASY INSTALLATION

The compact design of the Robox Turbo helps to reduce costs and minimize installation space.







## LOW NOISE

Limited noise emission is assured by the concept design. In addition the silencers guarantee quiet running to meet the most stringent low noise regulations common in today's cities.

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## OIL LESS FOR ANY APPLICATION REQUIREMENT

The Robox Turbo is completely oil-free to meet the most rigorous of environmental standards and reduce contamination.

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## PLUG & PLAY: READY TO BE INSTALLED

Thanks to its power electric cabinet and integrated variable frequency drive, the Robox Turbo is easy to install. All it needs is a connection to the pipework and electric power, making it virtually "plug & play"!

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## EASY AND COST-EFFECTIVE MAINTENANCE

Designed for easy access to internal components. All you have to do is open its front door.

Maintenance costs are at minimum thanks to the small number of machine components and their simple and robust construction.

---

## RELIABILITY

The Robox Turbo is manufactured with high quality components and carefully tested to grant a steadfast and continuous operation during the entire process.

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## EXTENSIVE RANGE OF OPTIONS

Robox Turbo can be configured with a wide range of options and accessories to meet the customer's exacting requirements. For instance, several types of silencers are available as well as a special noise enclosure for outdoor installation.

Don't hesitate to ask us for more options.

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## WIDE TURNDOWN

The Robox Turbo is able to meet a large range of demand for compressed air without wasting energy. Thanks to its integrated variable frequency drive (VFD), it maintains the highest efficiency and flexibility.

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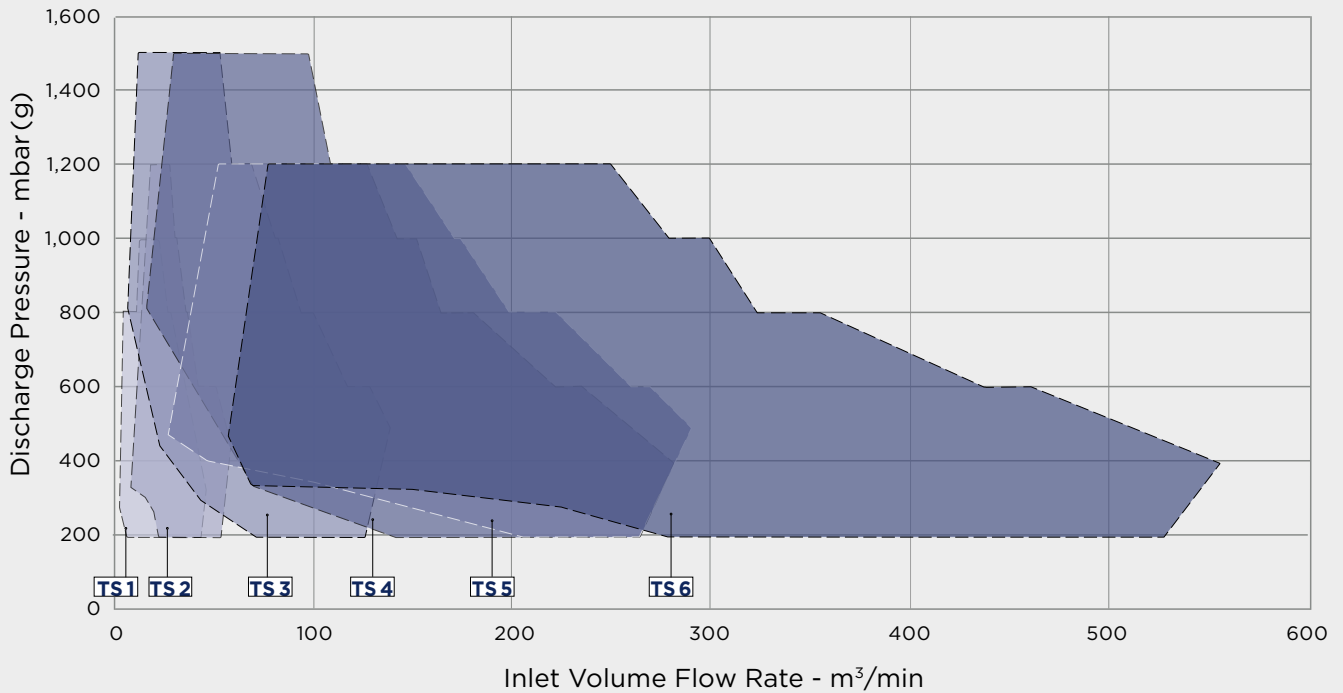
## INNOVATIVE CONTROLLER

The Robox Turbo is equipped with an advanced control system that is extremely user friendly by way of an intuitive menu. The ability to monitor the Robox Turbo continuously ensures reliable operation and proactive protection.

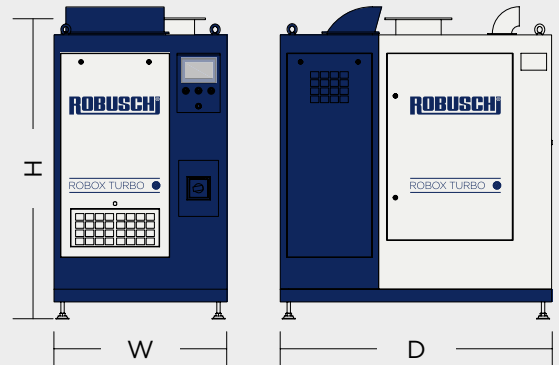
The controller manages a variety of operating modes, with the possibility of a remote connection to verify measured parameters and respond to possible alarms.

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## PERFORMANCE AIR MAP



## OVERALL DIMENSIONS



Robox Turbo	POWER		W	D	H	Weight	DN			
	Frames	Hp / kW						mm	mm	mm
<b>TS 1</b>	10	/ 7.4	800	1,200	1,350	390	80			
<b>TS 2</b>	20	/ 14.7	800	1,200	1,350	415	150			
	30	/ 22.1				510	150			
<b>TS 3</b>	50	/ 36.8	920	1,450	1,500	540	150			
	75	/ 55.2				600	200			
	100	/ 73.5				1,020	1,700	1,900	870	250
	125	/ 91.9							870	250
<b>TS 4</b>	150	/ 110.3	1,300	2,000	1,900	900	250			
	200	/ 147.1				950	300			
	250	/ 183.9				1,400	350			
<b>TS 5</b>	300	/ 220.6	1,700	2,500	2,040	1,480	350			
	350	/ 257.4				1,500	350			
<b>TS 6</b>	400	/ 294.2	1,800	3,500	2,200	2,200	400			
	500	/ 367.7				3,700	500			
	600	/ 441.3				3,860	500			
	700	/ 514.8				3,900	500			

Manufactured by ACE - 471, Techno valley-ro, Bongdong-eup, Wanju-Gun, Jeollabuk-do, Republic of Korea.

# ROBUSCH®

## ROBOX RANGE TO BOOST YOUR BOTTOM LINE



### TOTAL BLOWER CAPABILITY

Range up to 2,500 mbar(g) and flow up to 70,000 m<sup>3</sup>/h.



**ROBOX**   
LOBE

**ROBOX**   
SCREW

**ROBOX**   
TURBO

**ROBOX**   
MULTISTAGE

**ROBOX**   
SIDE CHANNEL



An Ingersoll Rand Business

## Maximum uptime. Extending performance.

We provide a range of services to ensure our customers' machines are well maintained to deliver maximum performance.

We offer preventative and planned maintenance programs, genuine parts, on-site service, professional maintenance and efficient training.

Within our service portfolio, you will find many and varied options and services needed to get optimal performance, maximum uptime and operating efficiency from your Robuschi equipment.

Find your Genuine Parts at



Scan the QR code

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