



Eco-Friendly High Efficiency Turbo Blower and Compressors

Turbo Blower NX Series
Turbo Compressor NC Series

Masterpiece beyond compare

Customer satisfaction is our number one priority at Neuros which is the secret behind every blower that we make. NX and NC series are the embodiment of highest efficiency and quality.

THE HIGHEST PERFORMANCE

With many years of experience in the research and development of gas turbine engines, used in aircraft, and production know-how of turbo machineries, Usha Neuros Turbo Blowers and Turbo Compressors provide the world best performance reaching up to 75% of total efficiency.

EXCELLENT RELIABILITY

Its Award Winning High Speed Turbo Blowers are considered the industry reference for high quality thanks to the use of proven state-of-the-art air bearing, PMSM and blower aeration control system technologies.

ECONOMICAL LIFE CYCLE COST

NX and NC series provide the end users with significant reduction in operating costs through energy savings of up to 40% (according to third party studies), low installation and maintenance costs – only air filters need periodical cleaning or replacing.

CUSTOMER ORIENTED TECHNOLOGY

User-friendly PLC for easy control, monitoring and diagnostics. Eco-friendly technology with low noise and vibration and no lubricating oil required.



Born from aerospace technology

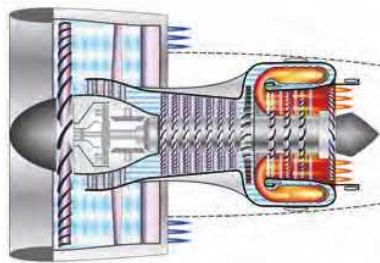
Usha Neuros Turbo Blower and Compressor technology was founded and utilized in the aerospace and defense industry, making the technology tested and reliable. Consequently, Usha Neuros acquired a premium brand reputation by providing sustainable and energy efficient solutions to its customers.

Usha Neuros will continue providing value-added energy efficient solutions through the continuous improvement, development and innovation of industrial turbo machineries as well as the commercialization of the next generation turbo charger and the environmental control system in the field of automation and aviation industry.

Municipal
and
Industrial



Turbo Blower
Turbo Compressor



Aerospace Turbo Engine
Technology

Turbo Engines,
ACM,
ECS



Aerospace
Turbo
Machinery



Water
Treatment

Pump,
Filtration Equipment,
Water Treatment
Process

THE HIGHEST PERFORMANCE

The ultimate turbo machinery integrating the state-of-the-art aerospace high performance technologies.

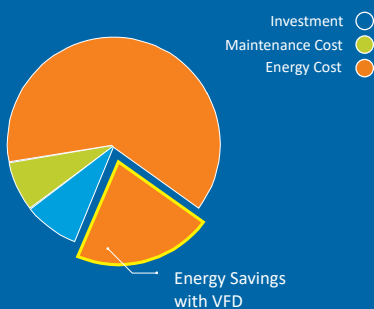


High Efficiency Impeller with Aerodynamic Optimization Design

- The design of the impeller and diffuser plays a key role in maximizing the efficiency of the turbo machinery.
- Impeller has higher integrity and higher fatigue life, as well as a larger diameter and precise impeller shape combined with optimal specific speed resulting in higher efficiency.
- Impeller's structural integrity is verified by a Spin Test at a rotational speed of 120%.
- Most suitable material, forged Aluminum Alloy, is used for the high-speed turbo machinery to manufacture the impeller, which is machined with a 5-axis CNC machine to minimize tip clearance.
- A hard anodizing coating on the impeller and casing improves corrosion resistance and durability.

High Speed PMSM

- Self-developed Permanent Magnet Synchronous Motor(PMSM) has a high efficiency and power factor of more than 95%.
- Permits continuous operation with low current loss and offers excellent speed control.
- There is negligible mechanical loss during operation thanks to the rotor of motor and impeller being directly coupled.



High Efficiency VFD

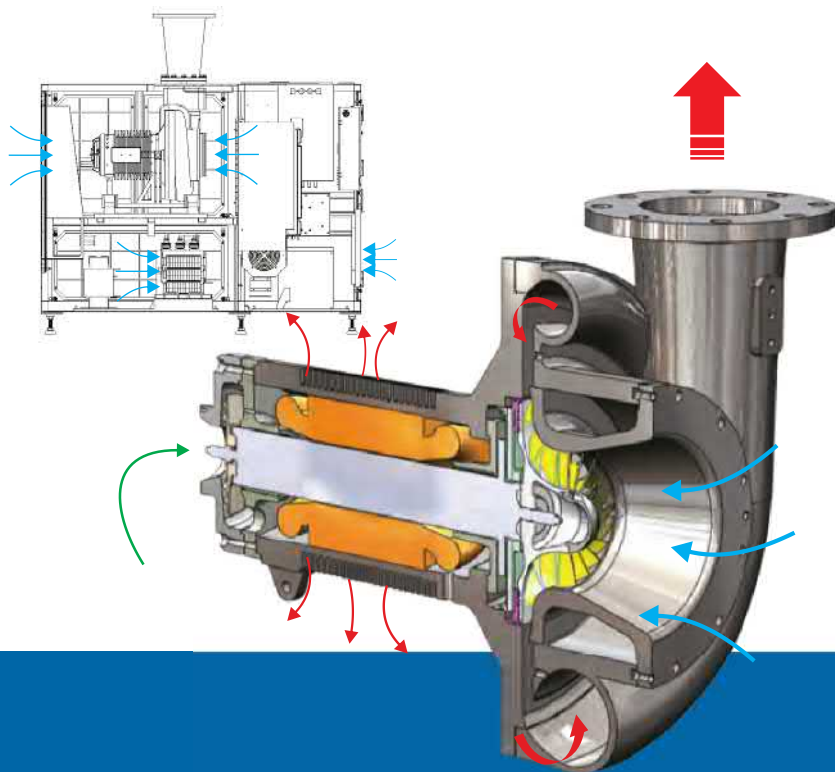
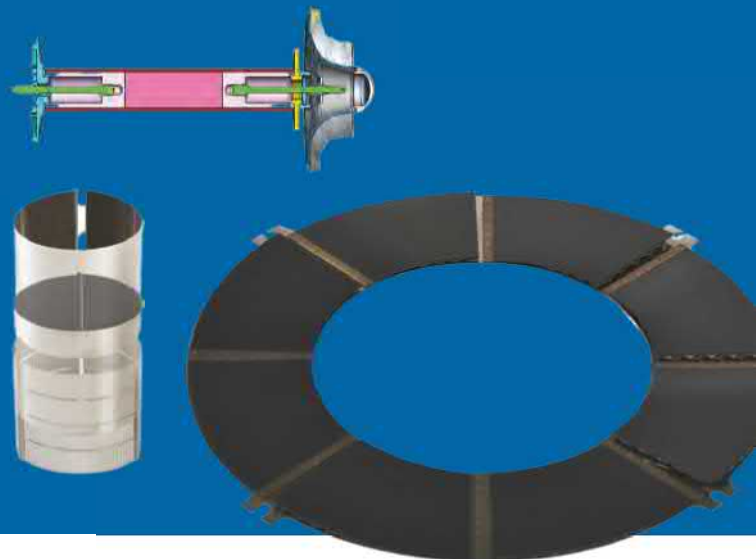
- The Variable Frequency Drive(VFD) conserves energy by controlling the rotational speed of the PMSM in order to adjust the discharge pressure and flow rate to meet customer needs.
- Inverter start of below 100% current at the time of initial start
- Rapid load response

EXCELLENT RELIABILITY

Proven air bearing and patented cog system ensures continued trouble-free operation.

Aerospace Air Bearing Technology

- Non-contact air bearing that utilizes the dynamic pressure of air fluid. It is composed of two parts: a corrugated bump foil and high temperature alloy inner foil. As the rotor speeds up, a thin film of air creates a cushion between the shaft and the bearing surface.
- 100% Oil-Free Compressed Air – no lubricating oil or associated maintenance required.
- Reliable and proven technologies used in Aircraft Environmental Control Systems and Air Cycle Machines.
(Usha Neuros air bearing used in a small-size turbo compressor installed in a fuel cell vehicle passed a 1,000,000 start/stop test.)
- Patent No. 10-0964883 : Patent No. 10-1068542

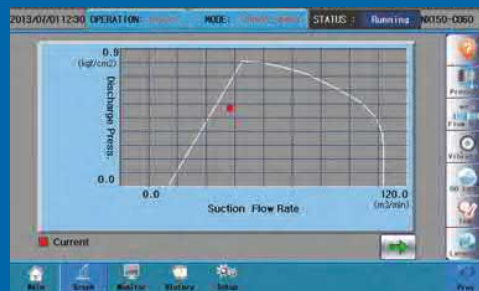


Patented Cooling System

- The blower motor, VFD and other electrical components are cooled off using blower inlet air.
- No heat emission from the blower to the surroundings
- Cooling System Patent No. 10-0572849

Surge Protection Logic

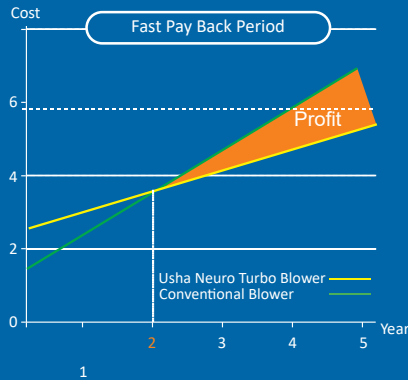
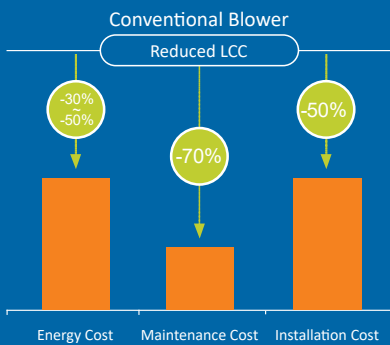
- Built-in Protection Logic in the blower to prevent surge during its operation by controlling its speed or blowing off air automatically.



ECONOMICAL LIFE CYCLE COST

Low LCC thanks to the blower's energy savings and low maintenance costs.

• Usha Neuros Turbo Blower



Return on Investment

- NX and NC series can maximize the profitability of end users through significant reduction of LCC.
- Usha Neuros Turbo Compressors save customers 50 to 70% of energy in applications that require a more flexible operation with air pressure of 120 - 250 kPa by replacing conventional compressors which produce 700 – 1,000 kPa.

Low Maintenance Cost

- Regular maintenance involves only cleaning or replacing air filters.
- No expenditures on the replacement of oil, oil filters and water cooling systems.
- Reduced labor costs



	New Filtration System		Remarks	Applying
	Pre Filter	Main Filter		
Filtration Efficiency	80% @ 100 μ m	99% @ 2 μ m	ASHRAE 52.2-1999	
Type	Coarse	Fine		
Material	Non-woven Fabric	Synthetic Fiber		
Stage	2 Stages (Pre Filter + Main Filter)			
Maintenance	Air Wash once a month Replacement every 3 months	Replacement every 3-6 months	Warning & Fault Alarms Depending on Circumstances	

Improved Filter System

- NX and NC series use a Two-Stage filtration system to protect the mechanical and electrical components and increase their efficiency.
- An alarm will alert the operator when the differential pressure goes above a preset point indicating that the filter needs to be replaced.

CUSTOMER ORIENTED TECHNOLOGY

Easy to use control system and eco-friendly technology.

Control System to Meet Various Customer Demands

- Programmable Logic Controller is the central control point of the blower. It allows the end users to run the blower in automated mode at constant speed, pressure, flow or dissolved oxygen control mode.
- It is equipped with an easy to use touch screen which allows for easy control, monitoring and diagnostics to view all blower parameters and conditions.
- The blowers and compressors can be controlled and monitored remotely using a Master Control Panel through communication protocols such as Ethernet, Modbus, Profibus, and Hard Wiring.
- Various languages are available including English, Chinese, Japanese, Korean, Turkish and Russian.

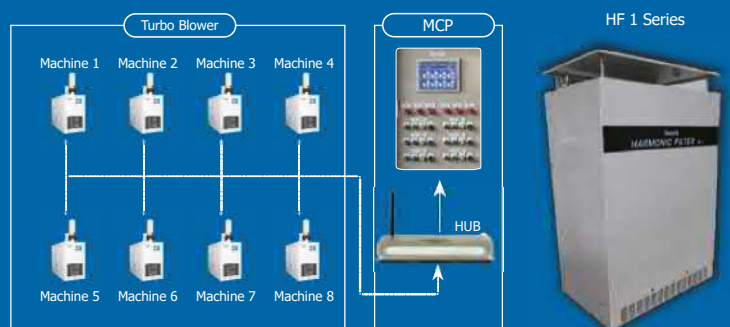


Eco-Friendly & User-Friendly Design

- Thanks to the patented non-contact air bearing and enclosure, the blower has very low vibration of less than 1mm/s without the special foundations and noise levels below 85 dB(A).
- Patent No. 10-0572850
- No environmental pollution thanks to the 100% Oil-Free System
- Co2 emission reduction thanks to the energy savings
- Construction, electricity and plumbing costs are reduced thanks to the smaller footprint.
- Plug & Play operation with “all-in-one package”

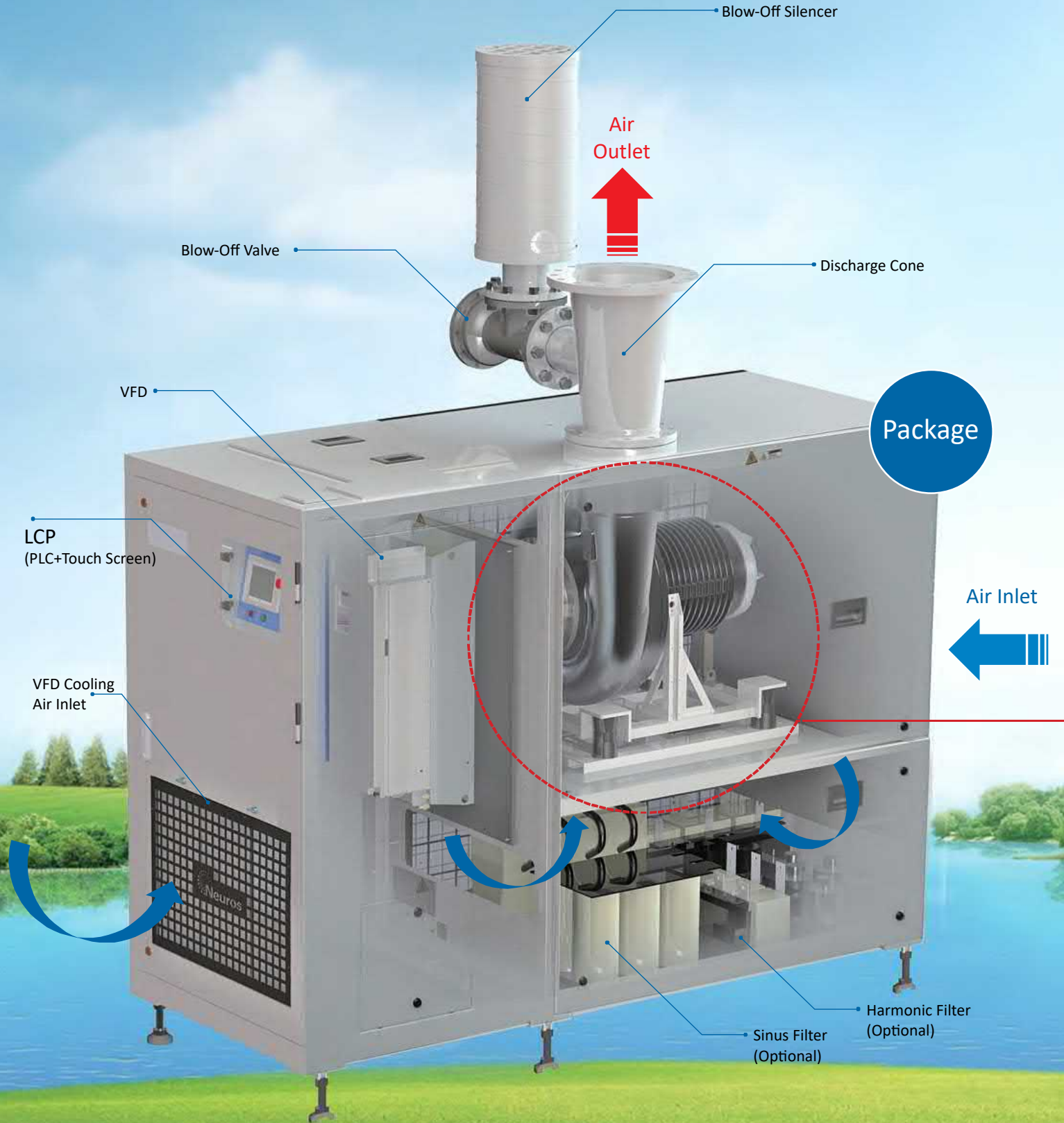
Optional Items

- Master Control Panel (MCP) can be used to control up to 12 blowers giving the operator one point of control and monitoring, and each machine can be controlled through the remote communication with SCADA.
- Harmonic Filter can be installed inside or outside the enclosure of NX and NC series which provides an additional level of protection from harmonic distortion, removing harmonics generated during operation below the levels of THD_V 5%, THD_I 8%.

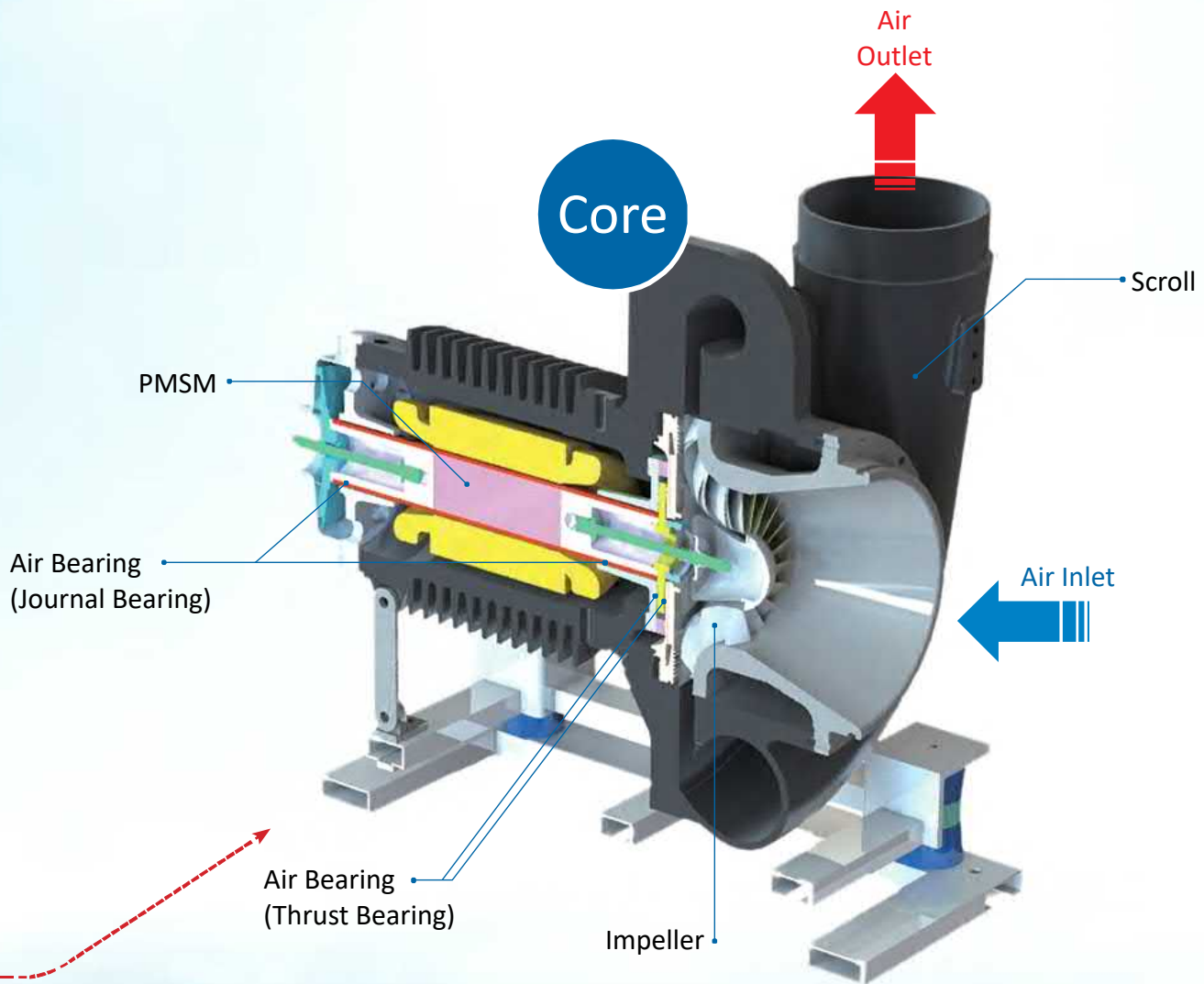




Eco-Friendly High Efficiency Turbo Blowers and Compressors



Are a Smart Choice for Mankind and the Environment



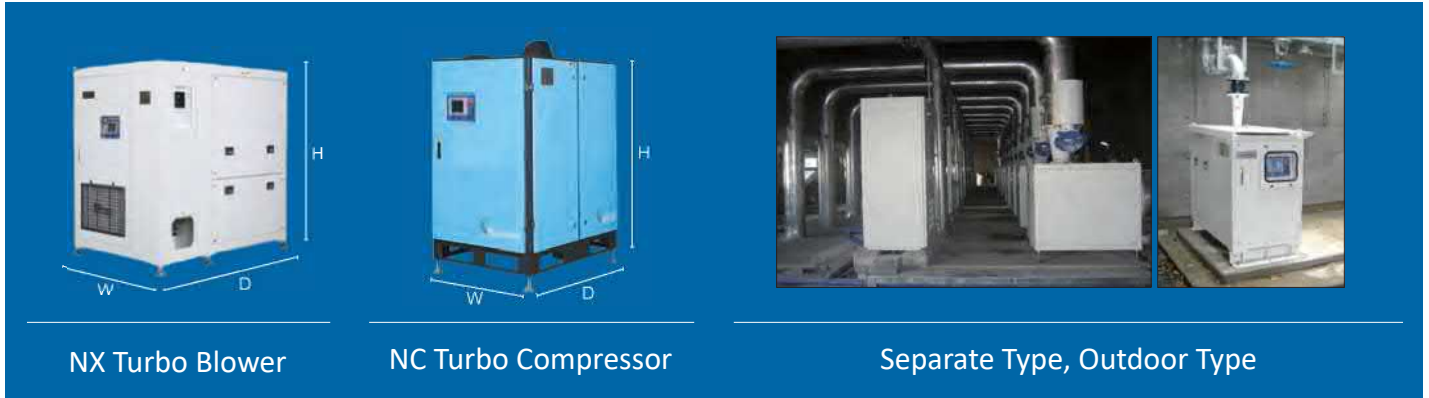
Turbo Blower NX Series

- Suction Flow Rate: 9-668 m³/min
- Discharge Pressure : 0.3-1.0 kgf/cm²G
- Turndown : 45-100%
- Noise Level : Below 85dB(A)
- 100% Oil-Free System

Turbo Compressor NC Series

- Suction Flow Rate: 12-230 m³/min
- Discharge Pressure : 1.1-2.0 kgf/cm²G
- Turndown: 70-100%
- Noise level: Below 85dB(A)
- 100% Oil-Free System

Product Specifications



Specifications

Model	Specification			Dimensions and Weights (standard)			
	Cooling	Suction Flow (m ³ /min)	Motor Power (kW)	W (mm)	D (mm)	H (mm)	Weight (kg)
NX30S	Air	9 ~ 23	22	770	1070	940	330
NX50S	Air	19 ~ 45	37	770	1550	1350	580
NX75S	Air	28 ~ 62	56	770	1550	1350	620
NX100S	Air	42 ~ 98	74	1000	1550	1660	700
NX150S	Air	63 ~ 129	111	1000	1850	1670	800
NX200S	Air	85 ~ 167	149	1000	2300	1650	1190
	Water	85 ~ 167	149	1000	2100	1650	1090
NX250S	Air	98 ~ 169	179	1400	2100	1810	1500
	Water	98 ~ 169	179	1400	2100	2020	1600
NX300S	Air	131 ~ 257	223	1400	2100	1810	1500
	Water	131 ~ 257	223	1400	2100	2020	1750
NX350S	Water	144 ~ 266	246	1500	2100	2120	1890
NX400S	Water	170 ~ 334	298	1650	2300	2058	2140
NX400D	Air	170 ~ 334	298	1680	2240	1900	2140
	Water	170 ~ 334	298	1680	2240	1900	2150
NX500S	Water	196 ~ 337	358	1650	2300	2058	2980
NX500D	Air	196 ~ 337	358	1880	3000	2150	2980
	Water	196 ~ 337	358	1880	3000	2150	2750
NX600D	Air	262 ~ 514	447	1880	3000	2150	2950
	Water	262 ~ 514	447	1880	3000	2150	3020
NX700D	Water	288 ~ 532	492	1880	3000	2150	3150
NX800D	Water	340 ~ 668	492	1926	3866	2150	3300
NC50S	Air	12 ~ 14	37	1010	1300	1620	720
NC100S	Water	26 ~ 33	74	970	1750	1560	980
NC300S	Water	82 ~ 115	223	1400	2100	2020	1920
NC600D	Water	164 ~ 230	447	1880	3000	2150	3330

- Discharge Pressure: NX series(0.3 ~ 1.0 kgf/cm² G), NC series(1.1 ~ 2.0 kgf/cm² G)
- Reference Conditions: 1.033 kgf/cm² A, 20°C, 65% RH
- Tolerance: Air Flow ±4%, Power ±5%
- Compliant with ISO5389, ASME PTC 10
- The specification of the product may be changed for improvement of performance without notice.

Reference Sites

1. Water and Waste Water Treatment Plant



Daejeon WWTP (Nx200), Korea



Hoeya WWTP (NX150), Korea



Suji WWTP (NX300), Korea



Sudokwon Landfill Site (NX150), Korea



Hollister (NX100/NX150), USA



Rupert (Nx300), USA



He Dong (Nx300), China



Chang Sha (Nx300), China



Podolsk (Nx300), Russia



Malatya 2 OSB (NX300), Turkey



Kyowa (NX300), Japan



Abu Dhabi (NX300), UAE

2. Industry



Honam Petrochemical (Nx50), Korea



LG Chemical Ulsan (NX150), Korea



POSCO 4CGL (NX150), Korea



Nisshin Steel (NX100), Japan

3. Dual Core



American Bottoms (Nx600), USA



Cincinnati (NX500), USA



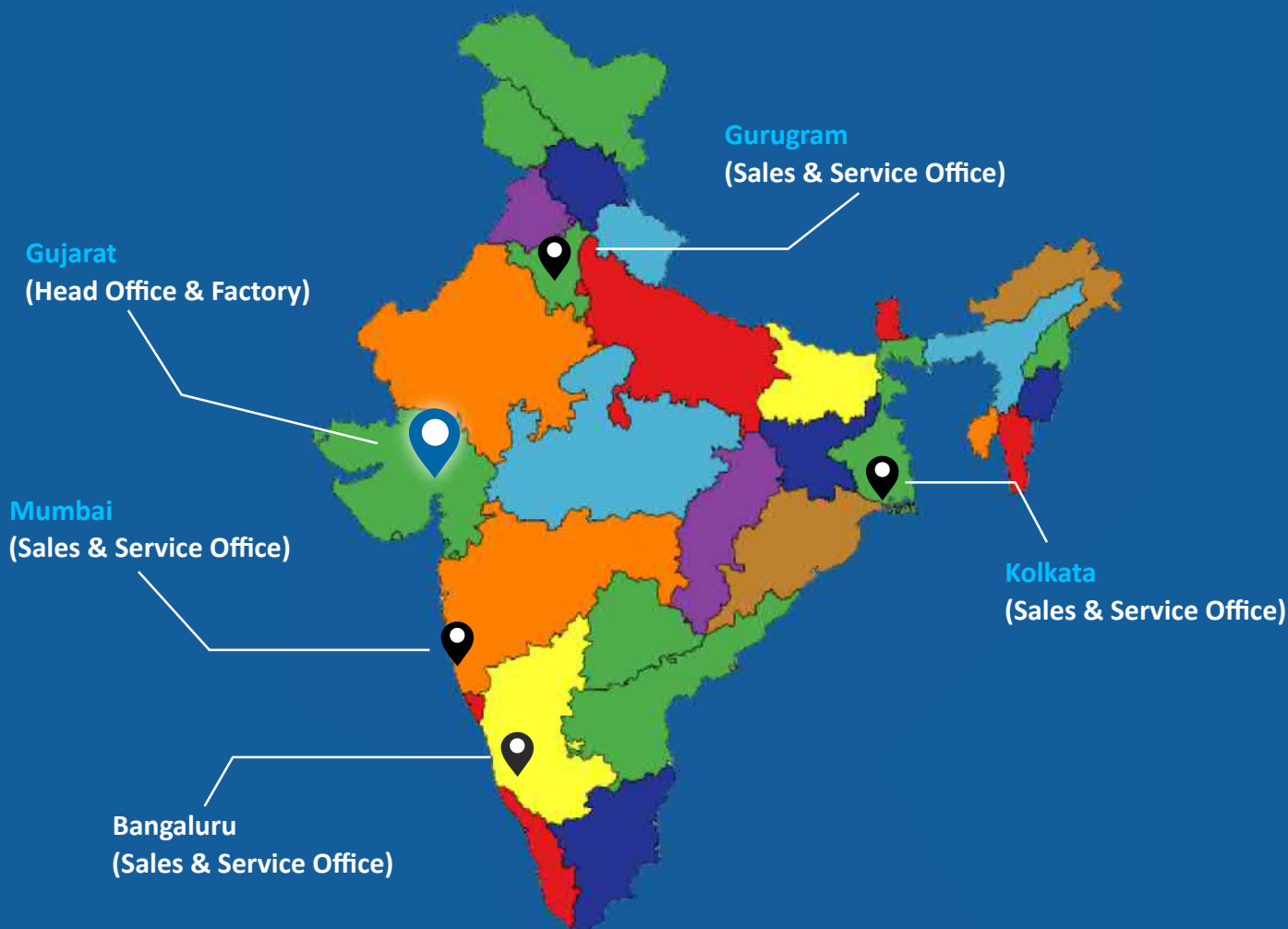
Tuzla Deri OSB 2 (NC600), Turkey



Yuhan-Kimberly (NC500), Korea

Sales & Service Network in India

USHA NEUROS TURBO LLP operates a network of key locations in India and promises to do its best to provide prompt service.



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