



TURBO TECHNOLOGY



Turbo Technology Co., Ltd

AIR BEARING

TURBO COMPRESSOR

TURBO BLOWER

Company Introduction of Turbo Technology Co., Ltd

Turbo Technology Co., Ltd (hereinafter "Turbo Technology") is headquartered in Dongtan City where has very easy access to Seoul Metropolitan and other southern Korean big cities and factories as well as the Incheon airport. We strive to provide a one-stop solution for our clients from sales, marketing, training, and customer service. For example, the showroom of Turbo Technology displays real stock of both WH Series and WL Series together with mock-up motor and impeller samples. This is the biggest size showroom among the Turbowin's authorized Tier 1 distributors. Specifically, Turbo Technology responds to both Before Service and After Service with the 7/24 concept of customer-care program. Also, has professional engineers skilled in installation and commissioning. Our experienced staffs are proficient in foreign languages including English and Chinese to provide the best services regardless of territories such as Korea domestic or overseas regions. The world renowned innovative WH Series and WL Series leading delivers optimized 100% pure compressed air while reducing both operating and management costs. Our goal is to maximize the economic benefits of our clients using our technology.

Company Introduction of Turbowin Co., Ltd

Turbowin Co., Ltd (hereinafter "Turbowin") has been acquiring new technology patents and certifications while launching new products every year. It is led by some of the best research and development engineers who commercialized the aerospace technology of the US NASA for the first time in the world. As a result, Turbowin is the only company in the world who can manufacture turbo compressors and turbo blowers with wide range of air pressures (from 420 Torr to 9.5 Bar) and air flows (from 3 HP to 2,100 HP). Turbowin has 18 kinds of turbo products as product line-up totally.



| Key Points - Core of Excellence

1 Quality - 100% pure compressed air

Traditional blowers and compressors which are labeled as "oil-free" still contain lubricants in the operating parts, while only oil-free in the controlling parts. Even products with Class 0 certification discharge impurities such as oil mist and iron powder with continued use. Turbowin's product applies for air bearing, so not even a single drop of oil is injected into the machinery at all. Since no oil whatsoever is used, there is no waste oil produced, making our products extremely environmentally friendly, therefore, Turbowin's turbo products are ESG-friendly and carbon-neutral Industry 4.0 that doesn't require any CAPEX or maintenance/repair management costs associated with removing oil other impurities, especially for those who are very sensitive to require high quality compressed air, Turbowin's turbo products deliver 100% pure compressed air.

2 Economic Benefit - Save your precious money

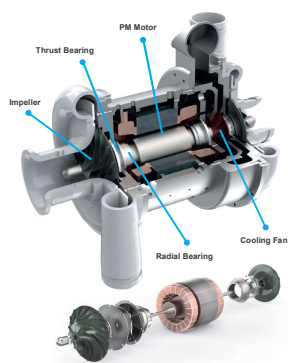
Recently, due to the Russian-Ukraine war, OPEC's mutual consent and rising in interest rate worldwide, almost every cost such as electricity, labor and service is constantly rising. Turbowin's turbo product applies for air bearing, so there is no energy loss due to friction which enables energy savings of at least 30% to 50%. In addition, service cost and labor cost for lubricants, oil filters, parts purchase cost etc. that were incurred for maintenance of existing products are also greatly reduced by at least 70% to 90%. By using Turbowin's turbo compressor and turbo blower, you may significantly achieve manufacturing cost competitiveness.

3 Optimized Operating System

- > Tired of the harsh noise and rattling vibration of existing compressors and blowers?
- > Tired of the uncustomed, unfriendly piping design that don't take your factory environment into account?
- > Is your factory cramped with too many bulks and load?
- > Are you struggling with the lack of space to install a separate compressor or blower room?
- > Is there no solution for the problem created by your existing products which are exposed to the external environment of extreme cold/hot weather including rain, snow as well as dust, sandy wind which can cause inefficiencies of the product or frequent breakdown?
- > Is waste oil spilled on the factor floor, making it dirty and smelly, which can increase the risk of industrial accidents, despite the high monthly labor costs of the maintenance team and outsourcing costs causing you problem?
- > Are you worried about the constraints of existing technology as your factory has many explosion-sensitive processes?
- > Are you finding it hard to find a system controlled by smart IoT and artificial intelligence?

**Please put your mind at ease and let Turbo Technology take care of the rest.
Turbo Technology strongly believes Turbowin's WH Series and WL Series
should be your solution for above issues or problems.**

Turbowin's Difference – Core Technology



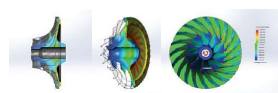
UHEPM Motor (Ultra High Efficiency Permanent Magnet Motor)

The UHEPM Motor is based on Turbowin's global patents and certification technology and internal structural unique design. The motor's energy-saving performance and durability exceeds the IE4 class. It is a non-contact, permanent magnet-based motor with a pressure range from 420 Torr to 9.5 Bar and flow range from 3 HP to 2,100 HP based on the rotor rotation from 20,000 RPM to 320,000 RPM.



NBW Air Foil Bearing (No Bending & No Welding)

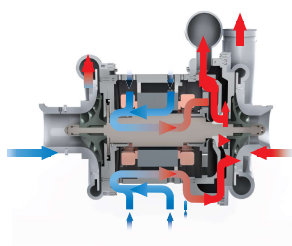
The NBW Air Foil Bearing is manufactured without any bending or welding process which can cause any physical or chemical weaknesses. In addition, the special coating applied to the bearings for heat and wear resistance, ensures at least 150,000 to 200,000 stop-and-go cycles. NBW air foil bearings demonstrate why Turbowin's turbo products are the world's number one in longevity, durability and efficiency.



ALUMINUM STAINLESS TITANIUM

Supersonic Impeller

Supersonic Impellers are the culmination of state-of-the-art hydrodynamics and material mechanics, providing 100% customized and optimized alternative for the diverse and complex requirements of any industrial sites in the world. For example, aluminum alloy, stainless steel, titanium, etc can be selected and applied as impeller materials to fit the needs of industrial environment and nano-specific and hard-anodizing coatings together with Turbowin's own patented solutions can be applied to adjust the resistance against corrosion, chemical or heat.



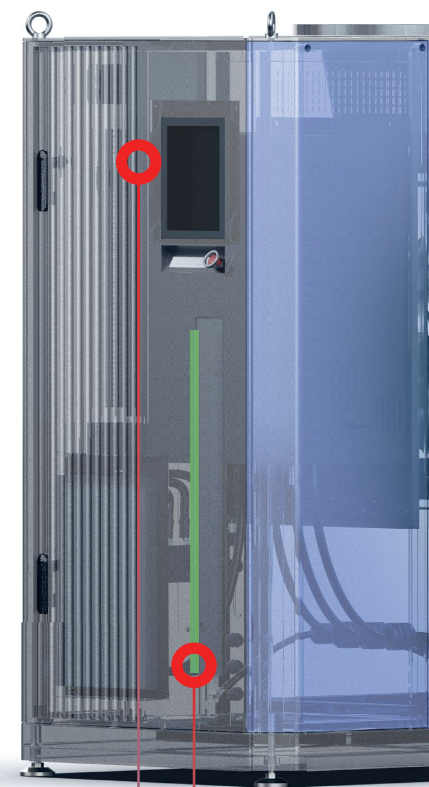
Dual Air Cooling System

Unlike other products who have to add sperate cooling devices such as water cooling devices in the motor core for higher air pressure or air flow, the dual air cooling system of Turbowin is the only one in the world that embeds a cooling impeller in the motor core itself. This reduces the internal temperature of the motor by more than 10 degrees with purely intake air without any additional cooling devices, while simultaneously reducing the temperature difference between the external surface and internal rotor core. This difference in core cooling technology plays a crucial role in enabling product development customized to flow rate, pressure and characteristics, while significantly increasing product durability and energy-saving efficiency.



SMART HMI (Human Machine Interface)

Smart turbo system uses the web and mobile APP for IoT and AI system and is easy to get connected with Turbowin's own server system. This interface increases user convenience, energy-saving efficiency and improves system performance and durability to a world-class level.

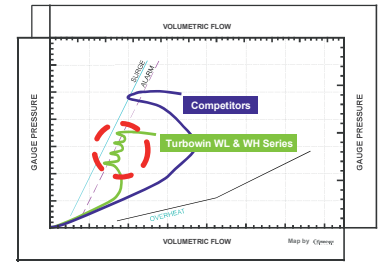




Auto Surge Protection System

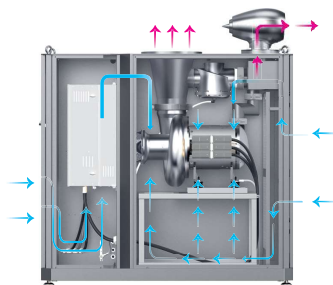
Surge has been called as the “Covid virus of pneumatics” and has always been a very powerful obstacle, especially for compressors and blowers.

Turbowin has designed the globally patented sub-solenoid valve to operate at least 3-4 times to cushion the impact and provide effective automatic control to prevent the turbo compressors and the turbo blowers from breaking, even if the operating point enters the surge zone due to unexpected factors during product operation. This prevents sudden shutdown, core breakage and explosions, keeping the machinery, field-site and users safe.



Auto Air-Cooling System for Internal Devices

Turbowin's globally patented Auto Air-Cooling System for Internal Devices is designed to automatically cool not only the motor but also the VFD and PLC inside the machinery package through internal circulating air without a separate cooling device. Due to this design, the air-cooling system alone is sufficient to cool the first stage / up to 2 Bar(g), and the cooling system through the inter cooler is applied in parallel for the second to fourth stages / from 4 to 9.5 Bar(g), and the temperature rise of the discharge air compared to the intake air is kept stable at the level of up to 5°C.



Dual Cooling System



2bar

(Air Cooling)



4bar

(Water Cooling)



7~9bar

Anti-Explosive Turbo Motor

Turbowin's explosion-proof air-bearing based turbo motors are the world's first and only turbo compressor and turbo blower to receive IECEx European explosion-proof certification. This protects products, field-site and users from explosion in hazardous industrial environments where explosive gases and impurities may be presented.



Ambient Lighting

Intuitive clarity in system operating status is essential for fast and accurate control and operation of industrial sites.

Turbowin's ambient lighting is a state-of-the-art technology that can be found in German luxury cars and plays an important role in the implementation of Smart Industry 4.0.



Product Line-up



◆ WH&WL-i Series (Smart Turbo Compressor & Blower)

Turbowin's Smart Turbo Compressor & Blower provide IoT remote control system that connects end users and Turbowin turbo machinery through wireless communication even in workplace that uses closed communication for security reasons, without adding additional external communications devices. In user environments that specifically require a very sophisticated level of pneumatics such as EV Batteries, semiconductor & display, bio-chemical and F&B, it is possible to achieve an automated workplace that operates 24 hours a day by connecting with the user's artificial intelligence system.



◆ WH&WL-m Series (Micro Turbo Compressor & Blower)

Turbowin's Micro Turbo Compressor & Blower have achieved a power range from 3kW to 25Kw, maximum 320,000 RPM and pressure ratio of 1.0 to 2.2 with its air bearing technology. IP65, CE and UL certifications prove energy efficiency and durability even under harsh conditions.



◆ WH&WL-ex Series (Explosion-proof Turbo Compressor & Blower)

An explosion at an industrial site can harm a company's reputation and sustainable development. Explosions especially in the field or factory in specialized industries such as Oil & Gas, Bio-Chemical, mining, F&B or any dusty field-site such as cement can be catastrophic.

Turbowin provides WH-ex & WL-ex Series for industrial sites where explosive gases may be present with international certifications such as IECEx, ATEX, CE, UL, ISO, etc. which are widely recognized in the EU, North America and Japan as well as proven UHEPM Motor and simplified structure design to ensure user safety and convenience at the same time.



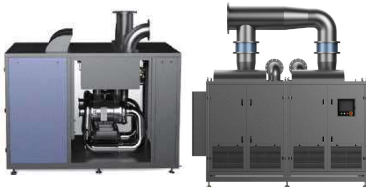
◆ WH&WL-o Series (Outdoor Type Turbo Compressor & Blower)

Turbowin provides companies with outdoor products that are completely resistant to rain, snow, salt and other hazards in applications where a separate compressor/blower room is not possible. In particular, the package enclosures of Turbowin's outdoor products are internationally certified to IEC motor protection class IP55 and IP65 in terms of structure, materials, and paint, and are fully protected against all kinds of fine dust and water droplets from all directions. In addition, Turbowin's dual-cooling system plays a crucial role in ensuring stable operation even at high outside temperatures without additional cooling equipment.



◆ **WH&WL-s Series** (Separated Type Turbo Compressor & Blower)

Turbowin's separated turbo compressors and blowers, which are installed and operated separately in the motor room and control room are especially powerful when combined with IoT smart functions and explosion-proof technology. These products are suited when you need to transport explosive materials or when users are exposed to dangerous working environments.



◆ **WH&WL-d Series** (Dual Core Turbo Compressor & Blower)

WH-d Series is an air bearing based high-efficiency turbo compressor and turbo blower capable of outputting up to 1,200 horsepower with dual motors and dual impellers. With the installment of only one Turbowin WH-d Series, end users can eliminate the burden of installing multiple old-fashioned compressors and achieve extremely high energy efficiency, ease of management, and product durability.



◆ **WL-t Series** (Triple Core Turbo Blower)

WL-t Series is the world's first turbo blower with three cores and six impellers, covering up to 2,100 HP in a single turbo blower, with extreme energy efficiency, durability, and user convenience.



◆ **WL-v Series** (Vacuum Turbo Blower)

Vacuum blowers can be applied for dental clinics or hospitals, optical coating, semiconductor & display, nanoscience industries that require vacuum pressure. This product offers high quality vacuum compressed air to users who suffer from low efficiency, high cost, low user-friendliness and lack of durability of older/lower-grade blowers.

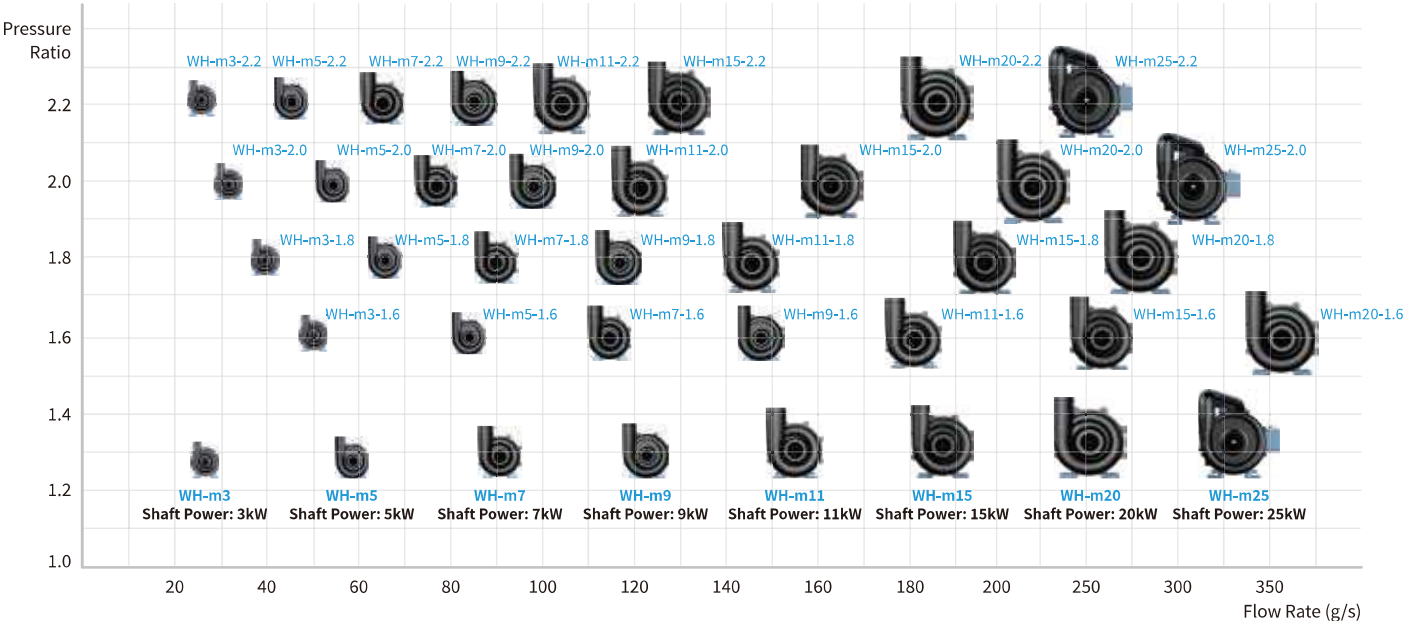
◆ **WH-g Series** (Gas Turbo Compressor)



Gas compressors are essential industrial equipment for the extraction and treatment of oil and gas. Most of the existing gas compressors were positive displacement type old-fashioned compressors which have a lot of disadvantages such as low efficiency, high maintenance cost, big noise, and frequent part breakage. Turbowin's WH-g Series offers a new alternative to overcoming these shortcomings, especially the insulators and heaters with Turbowin's proprietary technology, offering a range of compression ratios from 2.0 to 8.0 even in harsh environments below minus one hundred degrees celsius. Another benefit of pure oil-free with an air bearing solution is that it also prevents any contamination within the system and limits the risk of any compressed pipeline fires caused by oil carryover.

SPECIFICATION - Turbo Compressor, WH Series

The Performance of WH-m Series



1.5 ~ 4.0 kgf/cm²G

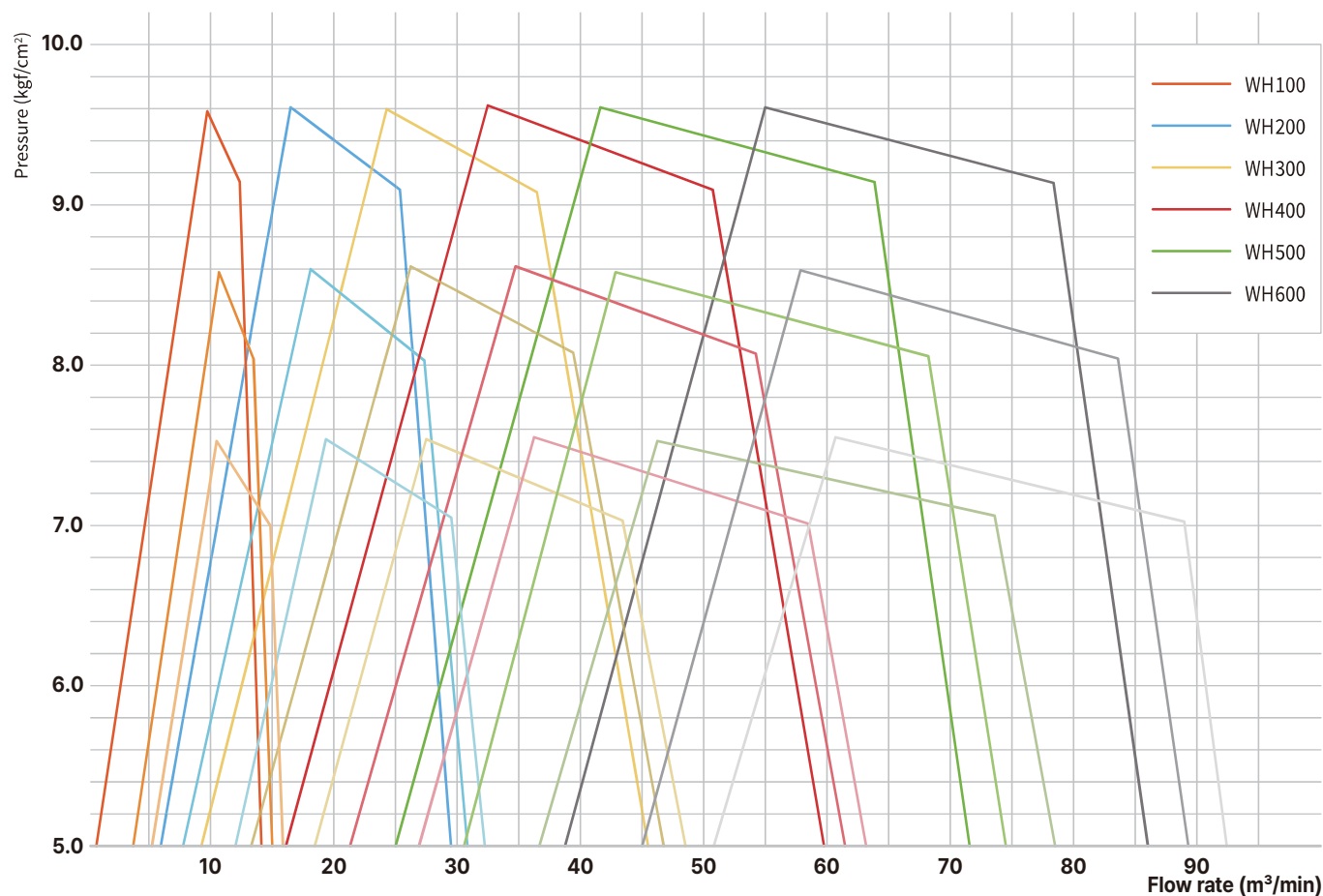
MODEL	MAX. WORKING PRESSURE		CAPACITY		MOTOR POWER		DISCHARGE AIR OULET	COOLING WATER INLET / OUTLET	NOISE	DIMENSION (L x W x H)	WEIGHT
	kgf/cm ² G	psig	m ³ /min	cfm	kW	HP	A(B)	A(B)/A(B)	dB(A)	mm	kg
WH50	1.5	24.3	9.6~16	339~565	37	50	100(4)	Air cooled	75±5	750x1,700x1,250	600
	2.0	28.4	7.2~12	254~423			100(4)				
WH75	1.5	24.3	14.4~24	509~847	55	75	125(5)	Air cooled	75±5	850x1,800x1450	750
	2.0	28.4	10.8~18	381~635			100(4)				
WH100	1.5	24.3	19.2~32	678~1,130	75	100	150(6)	Air cooled	75±5	850x1,800x1450	800
	2.0	28.4	15~25	530~883			125(5)			850x1,800x1450	800
	4.0	56.9	10.8~18	381~636			100(4)	80(3)/80(3)		1,100x2,200x1,800	1,400
WH150	1.5	24.3	28.8~48	1,017~1,695	112	150	150(6)	Air cooled	75±5	1,050x2,100x1,700	1,100
	2.0	28.4	22.2~37	784~1,306			150(6)				
WH200	1.5	24.3	39~65	1,377~2,295	150	200	200(8)	Air cooled	75±5	1,050x2,100x1,700	1,200
	2.0	28.4	30~50	1,059~1,766			150(6)			1,050x2,100x1,700	1,200
	4.0	56.9	21.6~36	763~1,271			125(5)	80(3)/80(3)		1,100x2,500x1,800	1,600
WH300	1.5	24.3	57.6~96	2,034~3,390	225	300	250(10)	Air cooled	75±5	1,150x2,350x1,900	1,500
	2.0	28.4	45~75	1,589~2,649			200(8)			1,150x2,350x1,900	1,500
	4.0	56.9	33~55	1,165~1,942			150(6)	80(3)/80(3)		1,400x2,700x2,200	2,200
WH400	1.5	24.3	76.2~127	2,691~4,485	300	400	300(12)	Air cooled	75±5	1,500x2,600x2,000	2,000
	2.0	28.4	60~100	2,119~3,532			250(10)			1,500x2,600x2,000	2,000
	4.0	56.9	43.2~72	1,526~2,543			200(8)	100(4)/100(4)		1,500x3,200x2,200	2,800
WH500	1.5	24.3	96.6~161	3,411~5,686	375	500	300(12)	Air cooled	75±5	1,600x2,800x2,000	2,500
	2.0	28.4	75~125	2,649~4,414			300(12)			1,600x2,800x2,000	2,500
	4.0	56.9	54~90	1,907~3,178			200(8)	100(4)/100(4)		1,600x3,200x2,200	3,000
WH600	1.5	24.3	117.6~195	4,153~6,922	450	600	350(14)	Air cooled	75±5	1,950x2,700x2,000	3,000
	2.0	28.4	90~150	3,178~5,297			300(12)				
WH800	1.5	24.3	152.4~254	5,382~8,970	600	800	400(16)	Air cooled	75±5	2,500x3,200x2,000	4,000
	2.0	28.4	120~200	4,238~7,063			350(14)				



7.0 ~ 9.0 kgf/cm²G

MODEL	MAX. WORKING PRESSURE		CAPACITY		MOTOR POWER		DISCHARGE AIR OULET	COOLING WATER INLET / OUTLET	NOISE	DIMENSION (L x W x H)	WEIGHT
	kgf/cm ² G	psig	m ³ /min	cfm	kW	HP	A(B)	A(B)/A(B)	dB(A)	mm	kg
WH100	7.0	100	8.2~13.7	290~484	75	100	65(2½)	65(2½)/65(2½)	75±5	1,300x2,200x2,000	1,800
	8.0	114	7.5~12.5	265~441							
	9.0	128	6.78~11.3	239~399							
WH200	7.0	100	17.1~28.5	604~1,006	150	200	80(3)	80(3)/80(3)	75±5	1,700x2,400x2,000	2,500
	8.0	114	15.9~26.5	561~936							
	9.0	128	14.7~24.5	519~865							
WH300	7.0	100	25.5~42.5	900~1,501	225	300	80(3)	80(3)/80(3)	75±5	1,700x2,400x2,000	2,500
	8.0	114	23.4~39	826~1,377							
	9.0	128	21.3~35.5	752~1,254							
WH400	7.0	100	34.8~58	1,229~2,048	300	400	100(4)	80(3)/80(3)	75±5	1,900x3,500x2,000	3,000
	8.0	114	32.4~54	1,144~1,907							
	9.0	128	30~50	1,059~1,766							
WH500	7.0	100	43.8~73	1,547~2,578	375	500	125(5)	100(4)/100(4)	75±5	2,100x3,500x2,000	3,300
	8.0	114	40.8~68	1,441~2,401							
	9.0	128	37.8~63	1,335~2,225							
WH600	7.0	100	52.8~88	1,864~3,108	450	600	150(6)	100(4)/100(4)	75±5	2,700x3,800x2,300	5,000
	8.0	114	49.8~83	1,758~2,931							
	9.0	128	46.8~78	1,653~2,755							

PERFORMANCE MAP

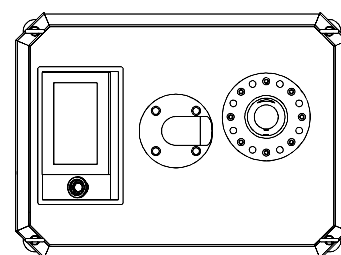
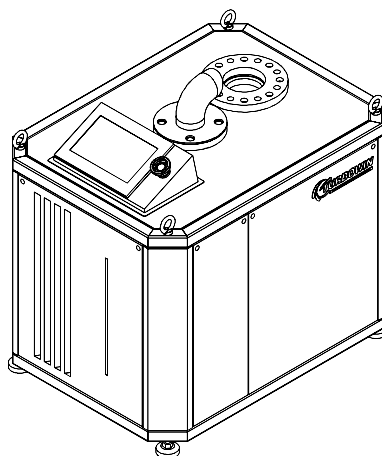
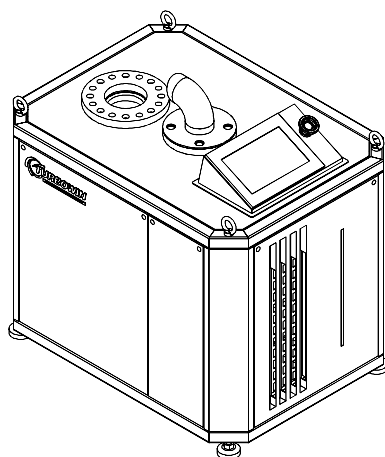
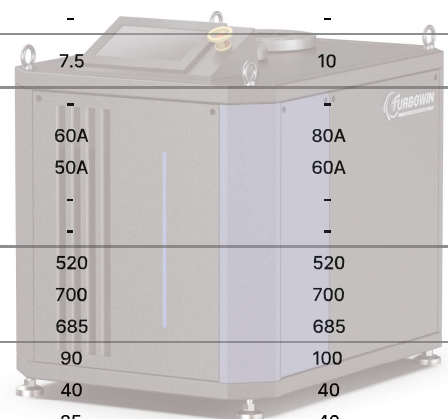


SPECIFICATION - Turbo Blower, WL Series

WL-m Series (Micro Turbo Blower)



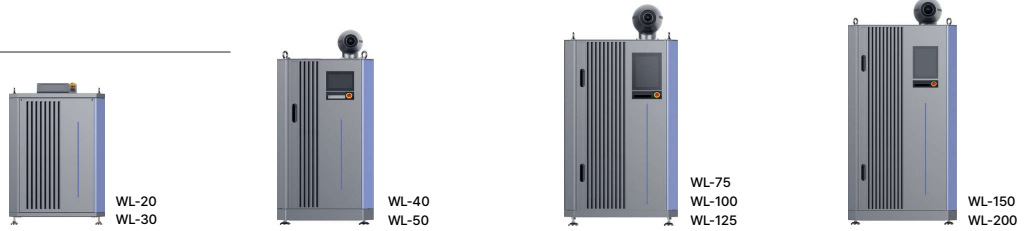
SPECIFICATION	DISCHARGE PRESSURE (mmAq)	SINGLE TYPE Air Flow (m³/min) : 1 atm, 20°C, 65%RH, density=1.2kg/m³, Tolerance=5±%			
		WL-m3	WL-m5	WL-m7	WL-m10
AIR FLOW RATE (m³/min)	4000	-	-	-	-
	6000	2.5	3.5	5	7
	8000	-	-	3.5	5
	10000	-	-	-	-
	12000	-	-	-	-
SHAFT POWER (HP)		3	5	7.5	10
EXHAUST PIPE (mm)	4000	-	-	-	-
	6000	40A	50A	60A	80A
	8000	-	-	50A	60A
	10000	-	-	-	-
	12000	-	-	-	-
DIMENSION (mm)	W	520	520	520	520
	L	700	700	700	700
	H	685	685	685	685
WEIGHT (kg)		70	80	90	100
BLOW OFF V/V (mm)		20	30	40	40
NO FUSE BREAKER		10	15	25	40





SINGLE TYPE

Single Motor
Single Impeller



SPECIFICATION	DISCHARGE PRESSURE (mmAq)	SINGLE TYPE									
		Air Flow (m³/min) : 1 atm, 20°C, 65%RH, density=1.2kg/m³, Tolerance=5±%									
		WL-20	WL-30	WL-40	WL-50	WL-75	WL-100	WL-125	WL-150	WL-200	WL-250
AIR FLOW RATE (m³/min)	4000	-	28	37	47	70	100	115	130	-	-
	6000	14	20	25	34	51	69	82	105	140	160
	8000	11	17	22	28	42	55	70	84	109	135
	10000	8	14	18	21	34	45	55	65	87	104
	12000	-	-	-	18	28	38	47	57	75	93
SHAFT POWER (HP)		20	30	40	50	75	100	120	150	200	250
EXHAUST PIPE (mm)	4000	-	150	150	200	250	300	300	300	-	-
	6000	100	125	150	150	200	200	250	300	300	300
	8000	100	125	150	150	200	200	200	250	300	300
	10000	100	100	125	150	150	200	200	200	250	300
	12000	-	-	-	125	150	150	200	200	200	250
DIMENSION (mm)	W	650	650	700	700	850	850	850	900	900	1200
	L	1100	1100	1300	1300	1500	1500	1500	1800	1800	1900
	H	1000	1000	1100	1100	1400	1400	1400	1650	1650	2000
WEIGHT (kg)		320	350	450	450	550	650	650	800	850	900
BLOW OFF V/V (mm)		50	50	65	65	125	125	125	125	125	125
NO FUSE BREAKER (A)		50	60	100	100	150	250	250	300	350	400

TWIN TYPE

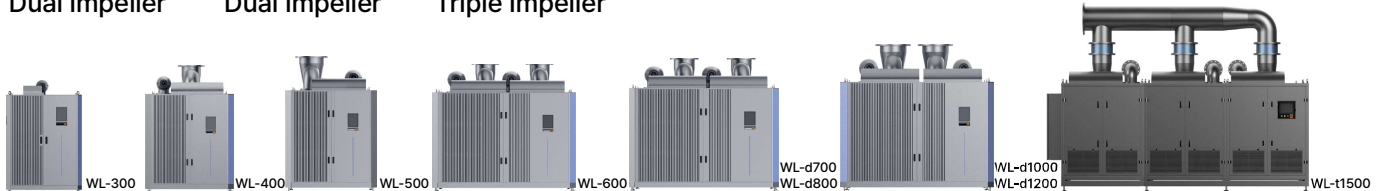
Single Motor
Dual Impeller

DUAL TYPE

Dual Motor
Dual Impeller

TRIPLE TYPE

Triple Motor
Triple Impeller



SPECIFICATION	DISCHARGE PRESSURE (mmAq)	TWIN TYPE					DUAL & TRIPPLE TYPE				
		Air Flow (m³/min) : 1 atm, 20°C, 65%RH, density=1.2kg/m³, Tolerance=5±%					Air Flow (m³/min) : 1 atm, 20°C, 65%RH, density=1.2kg/m³, Tolerance=5±%				
		WL-200	WL-300	WL-400	WL-500	WL-600	WL-d700	WL-d800	WL-d1000	WL-d1200	WL-t1500
AIR FLOW RATE (m³/min)	4000	200	266	-	-	-	-	-	-	-	-
	6000	-	210	272	320	420	475	540	640	840	960
	8000	-	164	216	270	325	370	430	540	650	810
	10000	-	133	172	208	265	300	340	416	530	624
	12000	-	114	150	185	228	264	300	370	456	535
SHAFT POWER (HP)		220	300	400	500	600	700	800	1000	1200	1500
EXHAUST PIPE (mm)	4000	400	400	-	-	-	-	-	-	-	-
	6000	-	400	400	500	500	600	600	700	700	800
	8000	-	400	400	400	500	500	600	600	700	700
	10000	-	300	400	400	400	400	500	600	600	600
	12000	-	300	300	400	400	400	400	500	600	600
DIMENSION (mm)	W	1200	1200	1600	1600	1900	2200	2200	3200	3200	6500
	L	2200	2200	3000	3000	3500	3500	3500	3500	3700	3000
	H	2000	2000	2000	2000	2000	2100	2100	2100	2100	2100
WEIGHT (kg)		1300	1500	1700	2000	3000	3200	3500	5000	6000	8000
BLOW OFF V/V (mm)		175	175	175	175*2	175*2	175*2	175*2	175*4	175*4	175*6
NO FUSE BREAKER (A)		400	500	630	800	500*2	630*2	630*2	800*2	1000*2	800*3



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