LPR GLOBAL

WL SERIES BROCHURE
TURBO BLOWER

WORLD'S HIGHEST **EFFICIENCY**

WORLD'S WIDEST **LINEUP**

WORLD'S BEST **PATENTS AND CERTIFICATES**

WORLD'S FIRST **IOT SMART TURBO BLOWER**

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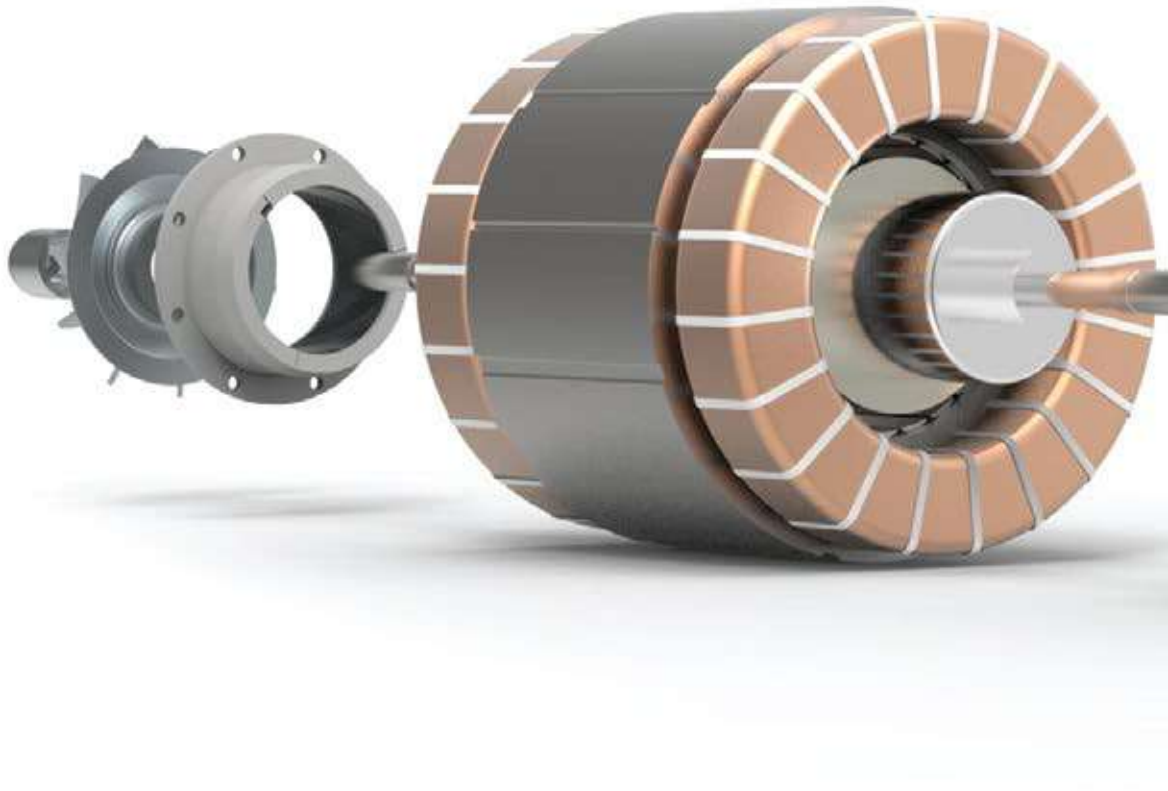
URL: https://www.uskoreahotlink.com/products/energy/high-speed-turbo-blowers-aeration/

Overview

World’s leading turbo technology products manufacturer which has successfully commercialized NASA’s aerospace technology. All our products are designed and produced in S. Korea.

Turbo blowers cover 10-1200HP and can reach up to 1.2 bar.

We offer single motor-single impeller, single motor-dual impeller, dual motor-dual impeller types of turbo blowers.



PM Motor, Air Foil Bearing and Impeller

WL Series is the outcome of continuous effort in research and development, leading to the world's highest efficiency, world's widest product lineup, and world's first launch of Smart turbo blower integrated with IoT. Since the establishment in 2015, new products have been launched annually, constantly upgrading product features and enhancing quality to ensure customer satisfaction. With over 50 global patents and certificates, we ensure durability and quality to more than 2 billion people in more than 80 countries around the world.

CERTIFICATIONS, PATENTS AND AWARDS

Domestic Certifications	33
International Certifications	22
Domestic & International Patents	56
Awards	16

DIVERSE

KEY APPLICATION AREAS

WATER

SEWAGE / WASTEWATER TREATMENT PLANT
Aeration blowers associated with the biological treatment of effluent within municipal sewage treatment plants

DOWNSTREAM CONTROL
Bioactive Response System (BARS) is a fully-automated, highly efficient control system that optimizes the operation of aeration turbo blowers

POWER

CIRCULATING FLUIDIZED BED COMBUSTION
Blowers providing fluidizing air within the loop seal system on a circulating fluidized bed

FLUE GAS DESULPHURIZATION
Oxidation air blowers associated with the cleaning of flue gases produced within power and heavy industrial plants

MINING

IRON PRODUCTION
Blast furnace air blowers for reaction (hot blast) and combustion air applications

METAL SMELTING
Oxidation air blowers for smelting processes

PETROCHEMICAL / REFINING

FERTILIZER PRODUCTION
Blowers providing atomizing air for fertilized bed

SULPHUR RECOVERY UNITS
Blowers providing reaction air for the catalytic recovery of Sulphur within refineries and gas processing facilities

FLUE GAS DESULPHURIZATION
Oxidation air blowers associated with the cleaning of flue gases produced within power and heavy industrial plants

INDUSTRIAL

CARBON BLACK
Blowers providing combustion air for the associated furnaces

EFFLUENT TREATMENT
Aeration blowers associated with the biological treatment of effluent within industrial plants

FERMENTATION
Air blowers associated with biochemical fermentation within pharmaceutical and yeast production markets

MECHANICAL VAPOR RECOMPRESSION
Air blowers used to recompress vapor generated during an evaporation process so that it can be used as the heating medium for the same evaporation process

FLUE GAS DESULPHURIZATION
Oxidation air blowers associated with the cleaning of flue gases produced within power and heavy industrial plants

Save Your Energy Costs

57.5%

- **Energy Saving 57.5%**
- **Low Vibration Under 1.0 mm/s**
- **Low Noise Under 75dB ± 5dB**

PROJECT	ROOTS BLOWER (A)	TURBOWIN TURBO BLOWER (B)	ENERGY SAVING (A-B)	ENERGY SAVING (ANNUAL)	ENERGY SAVING (PERCENTAGE)
EXPECTATION	**132kW**	**93kW**	**39kW**	**341,640kWh**	**29.5%**
REAL VALUE	**105.6kW**	**44.9kW**	**60.7kW**	**531,732kWh**	**57.5%**

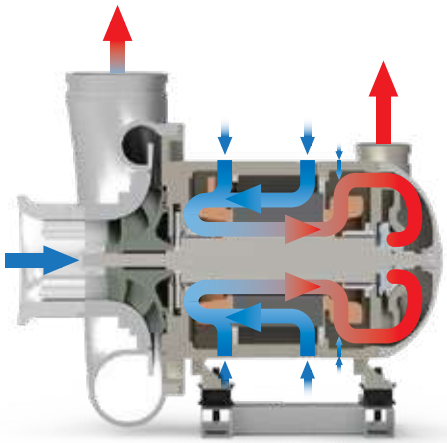
CUSTOMER AUO

LOCATION Hsinchu Science Park, Hsinchu City 30078, Taiwan, R.O.C.

APPLICATION Wastewater treatment

Advantages

MAXIMIZED EFFICIENCY FROM PROVEN TECHNOLOGY



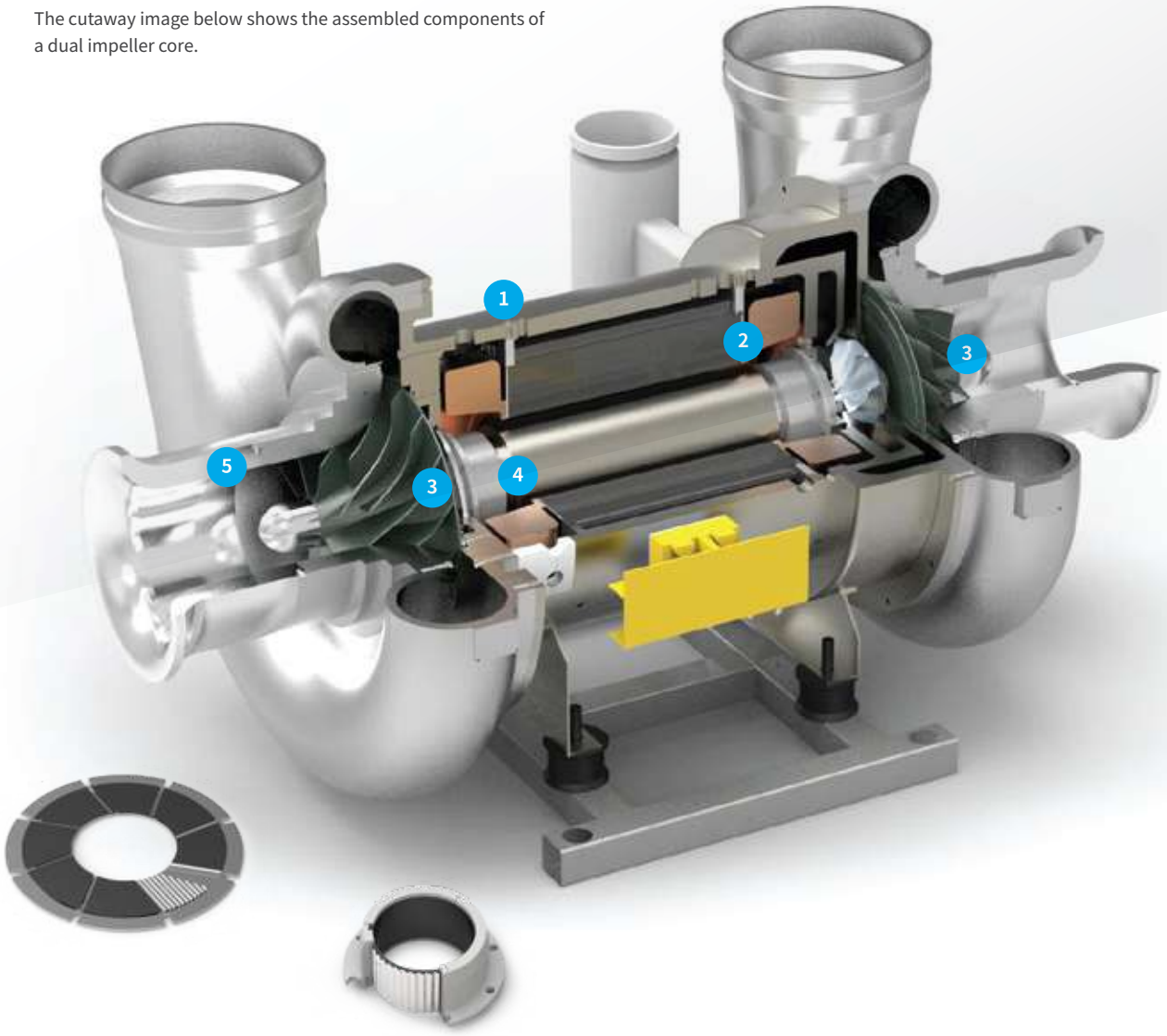
Cooling path in a single impeller core.

DUAL AIR-COOLING SYSTEM

Patent # : 10-1580877 / 10-1607492

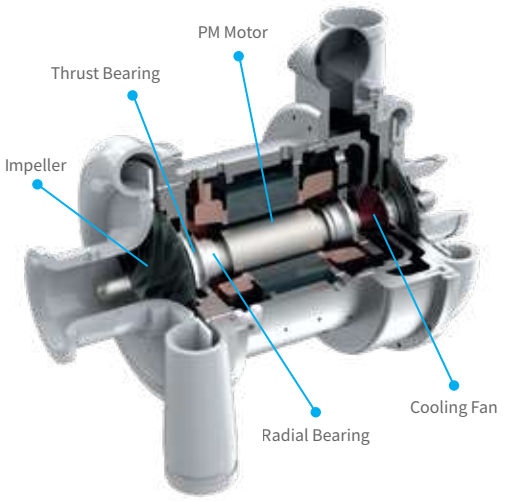
Our blowers lower motor temperature by at least 10C degrees compared to other brands through its dual cooling system. This patented technology is composed of motor and inverter with no separate cooling device such as an external cooling fan or sinus filter.

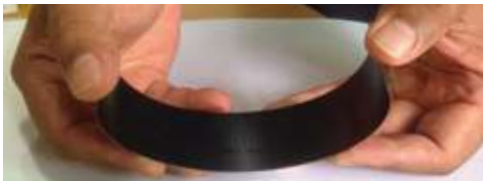
The cutaway image below shows the assembled components of a dual impeller core.



ULTRA HIGH EFFICIENT PERMANENT MAGNET MOTOR

Ultra high efficiency permanent magnet motor guarantees more than 97% high efficiency in the range from 20,000 to 220,000 RPM.





NBW AIR FOIL BEARING

Patent # : 10-1632356 / 30-0858674

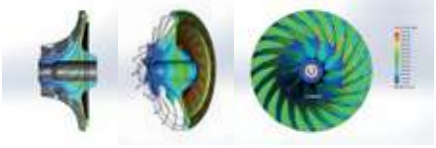
Air foil bearing is never bended nor welded.
This is based on our innovative technology to ensure our bearing to be extremely durable and reliable. Our bearing has passed on/off testing of over 150,000 cycles.

NBW air foil bearing does not require any welding process with no holding bars. This patented technology makes the bearing durable, and it is not easily deformed even at high temperatures.

AI

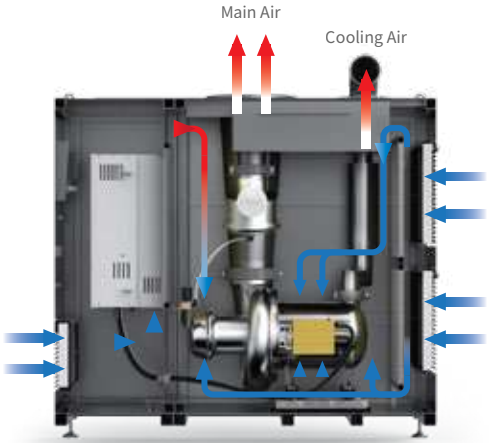
SUPERSONIC IMPELLER

Supersonic Impeller is in-house designed and manufactured which can be made of aluminum alloy (AL7075-T651), stainless steel or titanium depending on customer's requirement. It does not allow 0.001mm of error in machining and processing. Our Supersonic Impeller is specially coated with hard anodizing on the surface providing excellent corrosion and chemical resistance.



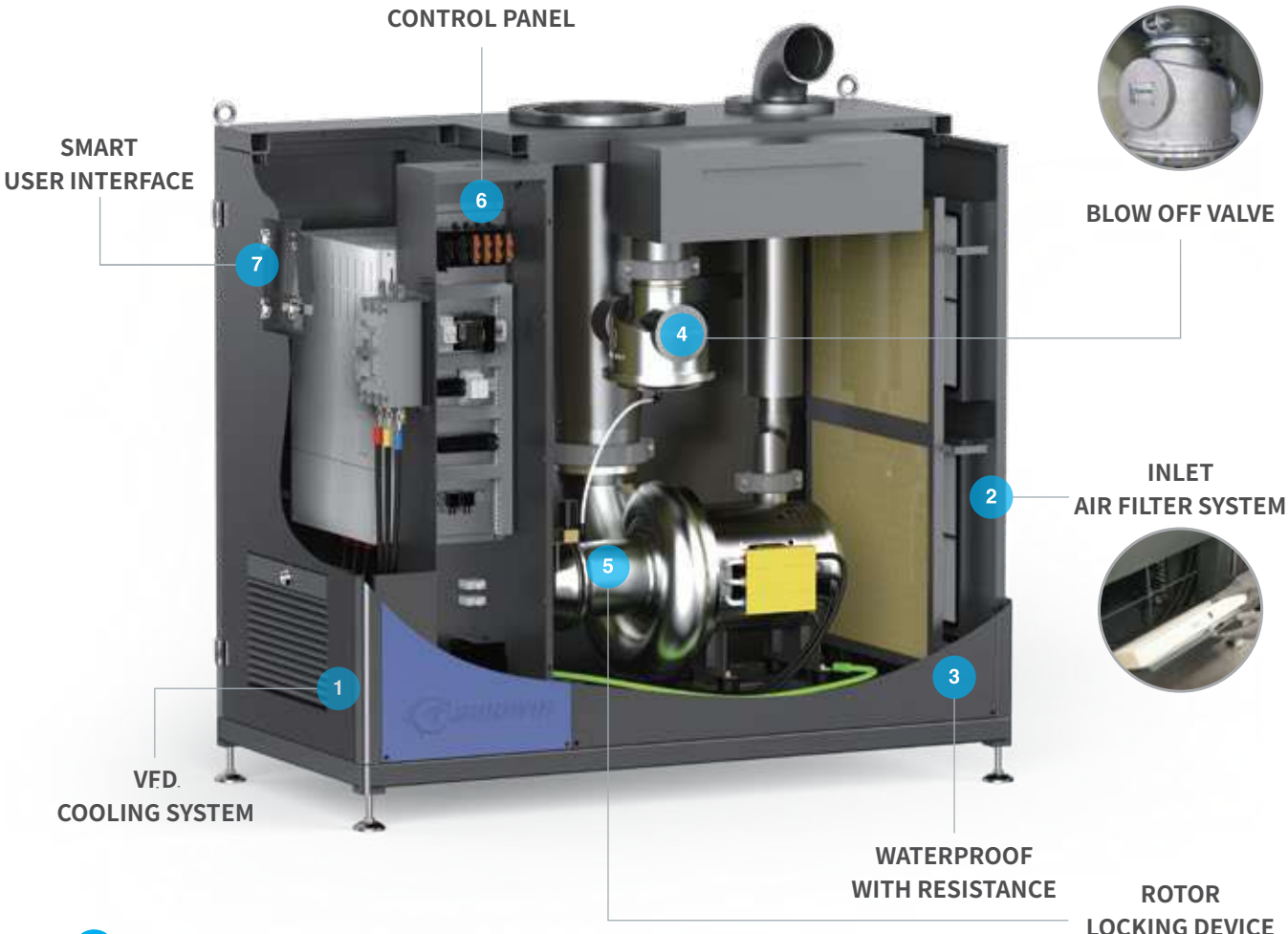
SIMPLIFIED STRUCTURE

INNOVATIVE PRODUCT STRUCTURE



1 VFD COOLING SYSTEM

WL Series is based on dual air cooling system which does not require additional motor cooling. Even for the inverter, we do not require additional cooling system thanks to our Smart VFD inverter cooling system. The cooling air passing through the inverter is combined with the cooling air passing through the motor which is then released outside altogether.



2 INLET AIR FILTER SYSTEM

WL Series can effectively remove potentially harmful contaminants as intake air passes through non-woven fabric filters first and then through medium filters. Dusts and other foreign particles are effectively filtered. Filters can be easily replaced during stop or operation mode, maximizing user convenience.

3 WATERPROOF WITH RESISTANCE

Patent # : 10-1616274

Patented waterproof and moisture-proof enclosure allows for both indoor and outdoor applications. WL Series can be installed without incurring additional constructional costs for separate blower room.

4 BLOW OFF VALVE

Patent # : 10-1651589

With our Blow Off Valve protection, WL Series is structured for operating in emergency situations such as in surge areas. Our patented Blow Off Valve has a unique design that is operated by internally generated differential pressure without supply of external compressed air.

5 ROTOR LOCKING DEVICE

Patent # : 10-1791977

Rotor locking device has been carefully designed considering durability and convenience.
It prevents the damage of air foil bearing inside the motor from any external shocks during transportation or installation.

6 INDUSTRY 4.0 CONTROL PANEL

WL Series is compatible with world's prestigious PLC system including Allen Bradley, Siemens, RS Automation and LG PLC. Depending on customer's requirement we also offer MICOM controller. The three common communication protocols (RS485, RS232, Ethernet) are well-suited and compatible to meet the global standards. PLC can be easily accessible in our blowers, ensuring easy maintenance and quality management.

7 SMART USER INTERFACE

WL Series dramatically improves user convenience and product utilization by providing 'smart turbo system,' connecting our own server with our webpage and mobile application for IoT and AI systems. Four switches (Run, Load, Stop and Emergency) can be controlled quickly even in emergencies. Smart Turbo Blower WL-i Series offers information such as pressure, temperature, flow, RPM and power can be easily monitored and controlled.

GLOBAL REFERENCE

GLOBAL REFERENCE WITH STRONG CUSTOMER SATISFACTION

U.S.A.

RUSSIA

JAPAN

INFORMATION	
CUSTOMER	U.S.A.
DATE	2016
MODEL	WL100-10
UNITS	2EA
SATISFACTION	Very High

INFORMATION	
CUSTOMER	RUSSIA
DATE	2017
MODEL	WL300-06
UNITS	1EA
SATISFACTION	Very High

INFORMATION	
CUSTOMER	JAPAN
DATE	2018
MODEL	WL75-08
UNITS	2EA
SATISFACTION	Very High

PRODUCT LINEUP

TURBO BLOWER WL SERIES

10~1200HP [0.4~1.2 BAR]

WL20
WL30

WL40
WL50

WL75
WL100
WL125

WL150
WL200

WL300

HIGH EFFICIENCY SMART TURBO BLOWER

ENERGY SAVING

57.5%

WIDEST LINEUP

10-1200HP

EXCEPTIONAL TURNDOWN RATIO

40-100%

WL400

WL500

WL600

WL700
WL800

WL1000
WL1200

SPECIFICATION

SINGLE TYPE

Single Motor

Single Impeller WL Series

*METRIC

SPECIFICATION		WL20	WL30	WL40	WL50	WL75	WL100	WL125	WL150	WL200	WL250
DISCHARGE PRESSURE (mmAq)		SINGLE TYPE Air Flow (m^3/min) : 1atm, 20°C, 65%RH, Tolerance=±5%									
AIR FLOW RATE (m^3/min)	4,000	-	28	37	47	70	100	115	130	-	-
	6,000	14	20	25	34	51	69	82	105	140	160
	8,000	11	17	22	28	42	55	70	84	109	135
	10,000	-	14	18	21	34	45	55	65	87	104
	12,000	-	-	-	18	28	38	47	57	75	93
SHAFT POWER (HP)		20	30	40	50	75	100	120	150	200	250
EXHAUST PIPE (mm)	4,000	-	150	150	200	250	300	300	300	-	-
	6,000	100	125	150	150	200	200	250	300	300	300
	8,000	100	125	150	150	200	200	200	250	300	300
	10,000	-	100	125	150	150	200	200	200	250	300
	12,000	-	-	-	125	150	150	200	200	200	250
DIMENSION (mm)	W	700	700	700	700	850	850	850	900	900	900
	L	1300	1300	1300	1300	1500	1500	1500	1800	1800	1800
	H	1100	1100	1100	1100	1400	1400	1400	1650	1650	1650
WEIGHT (kg)		320	350	450	450	550	600	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	80	100	150	200	250	300	350	400

*IMPERIAL

SPECIFICATION		WL20	WL30	WL40	WL50	WL75	WL100	WL125	WL150	WL200	WL250
DISCHARGE PRESSURE (psi)		SINGLE TYPE Air Flow (cfm) : 14.696psi, 20°C, 35%RH, Tolerance=±5%									
AIR FLOW RATE (cfm)	4,000	-	989	1,306	1,660	2,472	3,531	4,061	4,590	-	-
	6,000	494	706	883	1,201	1,801	2,436	2,895	3,708	4,943	5,650
	8,000	388	600	777	989	1,483	1,942	2,472	2,966	3,849	4,767
	10,000	-	494	636	742	1,201	1,589	1,942	2,295	3,072	3,672
	12,000	-	-	-	636	989	1,342	1,660	2,013	2,648	3,284
SHAFT POWER (HP)		20	30	40	50	75	100	120	150	200	250
EXHAUST PIPE (in)	4,000	-	6	6	8	10	12	12	12	-	-
	6,000	4	5	6	6	8	8	10	12	12	12
	8,000	4	5	6	6	8	8	8	10	12	12
	10,000	-	4	5	6	6	8	8	8	10	12
	12,000	-	-	-	5	6	6	8	8	8	10
DIMENSION (ft)	W	2.30	2.30	2.30	2.30	2.79	2.79	2.79	2.95	2.95	2.95
	L	4.26	4.26	4.26	4.26	4.92	4.92	4.92	5.90	5.90	5.90
	H	3.61	3.61	3.61	3.61	4.59	4.59	4.59	5.41	5.41	5.41
WEIGHT (lbs)		706	772	992	992	1,213	1,323	1,433	1,764	1,874	1,985
BLOW OFF V/V (in)		2	2	2 1/2	2 1/2	5	5	5	5	5	5
NO FUSE BREAKER (A)		50	60	80	100	150	200	250	300	350	400

TWIN TYPE

Single Motor

Dual Impeller WL Series

*METRIC

SPECIFICATION		WL200	WL300	WL400	WL500	WL600
DISCHARGE PRESSURE (mmAq)			TWIN TYPE Air Flow (m^3/min) : 1atm, 20°C, 65%RH, Tolerance=±5%			
AIR FLOW RATE (m^3/min)	4,000	200	266	-	-	-
	6,000	-	210	272	320	420
	8,000	-	164	216	270	325
	10,000	-	133	172	208	265
	12,000	-	114	150	185	228
SHAFT POWER (HP)		220	300	400	500	600
EXHAUST PIPE (mm)	4,000	400	400	-	-	-
	6,000	-	400	400	500	500
	8,000	-	400	400	400	500
	10,000	-	300	400	400	400
	12,000	-	300	300	400	400
DIMENSION (mm)	W	1200	1200	1600	1600	1900
	L	2200	2200	3000	3000	3500
	H	2000	2000	2000	2000	2000
WEIGHT (kg)		1300	1500	1700	2000	3000
BLOW OFF V/V (mm)		175	175	175	175*2	175*2
NO FUSE BREAKER (A)		400	500	630	800	500*2

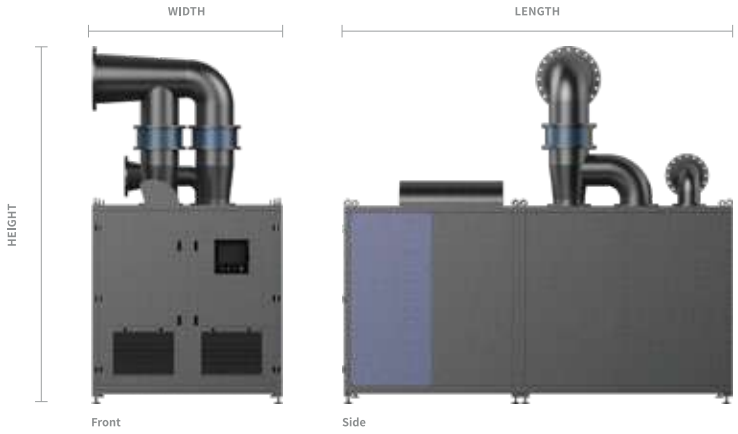
*IMPERIAL

SPECIFICATION		WL200	WL300	WL400	WL500	WL600
DISCHARGE PRESSURE (psi)			TWIN TYPE Air Flow (cfm) : 14.696psi, 20°C, 35%RH, Tolerance=±5%			
AIR FLOW RATE (cfm)	4,000	7,062	9,392	-	-	-
	6,000	-	7,415	9,604	11,299	14,830
	8,000	-	5,791	7,627	9,534	11,476
	10,000	-	4,696	6,073	7,344	9,357
	12,000	-	4,025	5,297	6,532	8,051
SHAFT POWER (HP)		220	300	400	500	600
EXHAUST PIPE (in)	4,000	16	16	-	-	-
	6,000	-	16	16	20	20
	8,000	-	16	16	16	20
	10,000	-	12	16	16	16
	12,000	-	12	12	16	16
DIMENSION (ft)	W	3.94	3.94	5.25	5.25	6.23
	L	7.22	7.22	9.84	9.84	11.48
	H	6.56	6.56	6.56	6.56	6.56
WEIGHT (lbs)		2,867	3,308	3,749	4,410	6,615
BLOW OFF V/V (in)		7	7	7	7*2	7*2
NO FUSE BREAKER (A)		400	500	630	800	500*2

TWIN*2 TYPE

Dual Motor

Dual Impeller WL Series



*METRIC

SPECIFICATION		WL700	WL800	WL1000	WL1200
DISCHARGE PRESSURE (mmAq)			TWIN*2 TYPE Air Flow (cfm) : 14.696psi, 20°C, 35%RH, Tolerance=±5%		
AIR FLOW RATE (㎥/min)	4,000	-	-	-	-
	6,000	475	540	640	840
	8,000	370	430	540	650
	10,000	300	340	416	530
	12,000	264	300	370	456
SHAFT POWER (HP)		700	800	1000	1200
EXHAUST PIPE (mm)	4,000	-	-	-	-
	6,000	600	600	700	700
	8,000	500	600	600	700
	10,000	400	500	600	600
	12,000	400	400	500	600
DIMENSION (mm)	W	2200	2200	3200	3200
	L	3500	3500	3500	3700
	H	2100	2100	2100	2100
WEIGHT (kg)		3200	3500	5000	6000
BLOW OFF V/V (mm)		175*2	175*2	175*4	175*4
NO FUSE BREAKER (A)		630*2	630*2	800*2	800*2

*IMPERIAL

SPECIFICATION		WL700	WL800	WL1000	WL1200
DISCHARGE PRESSURE (psi)			TWIN*2 TYPE Air Flow (cfm) : 14.696psi, 20°C, 35%RH, Tolerance=±5%		
AIR FLOW RATE (cfm)	4,000	-	-	-	-
	6,000	16,772	19,067	22,598	29,660
	8,000	13,065	15,183	19,067	22,952
	10,000	10,593	12,005	14,689	18,714
	12,000	9,322	10,593	13,065	16,101
SHAFT POWER (HP)		700	800	1000	1200
EXHAUST PIPE (in)	4,000	-	-	-	-
	6,000	24	24	28	28
	8,000	20	24	24	28
	10,000	16	20	24	24
	12,000	16	16	20	24
DIMENSION (ft)	W	7.22	7.22	10.50	10.50
	L	11.48	11.48	11.48	12.14
	H	6.89	6.89	6.89	6.89
WEIGHT (lbs)		7,056	7,718	11,025	13,230
BLOW OFF V/V (in)		7*2	7*2	7*4	7*4
NO FUSE BREAKER (A)		630*2	630*2	800*2	800*2

GLOBAL PATENTS AND CERTIFICATIONS

EFFORTS TO GAIN TRUST AND ENSURE HIGH QUALITY

GLOBAL CERTIFICATIONS

We have been constantly and actively obtaining global certifications which are required in various industries such as anti-explosive certification, CE certification, and American electronics certification.

MAIN PATENTS

(1) Direct Drive Type Turbo Blower Cooling Structure (Korea/10-1580877)

(2) Direct Drive Type Dual Core Turbo Blower Cooling Structure (China/ZL-2016-8-0000612.8)

(3) Turbo Blower with Waterproof and Moisture-proof Function (Japan/6524999)

(4) High-Speed and High-Load Air Foil Bearing Device Capable of Maintaining Precision (Korea/10-1632356)

(6) Turbo Machine Cover for Preventing Foreign Particles from Entering (Korea/10-1791977)

(5) Blow-off Valve Using Differential Pressure of Air (Korea/10-1651589)

(7) Turbo Blower Capable of Operating in Surge Area (Korea/10-1991784)

(8) Direct Drive Type Turbo Blower Cooling Structure (China/ZL-2016-8-0002134.4)

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