

Centrifugal Double Width Blowers Model CDB

- Backward Inclined



BUILDING VALUE IN AIR.



November
2021

Model CDB

Centrifugal Double Width Blowers

Designed for **supply air** installations in **air handling** applications, which requires **higher performance and efficiency**. Model CDB brings you the best performance at the lowest cost.



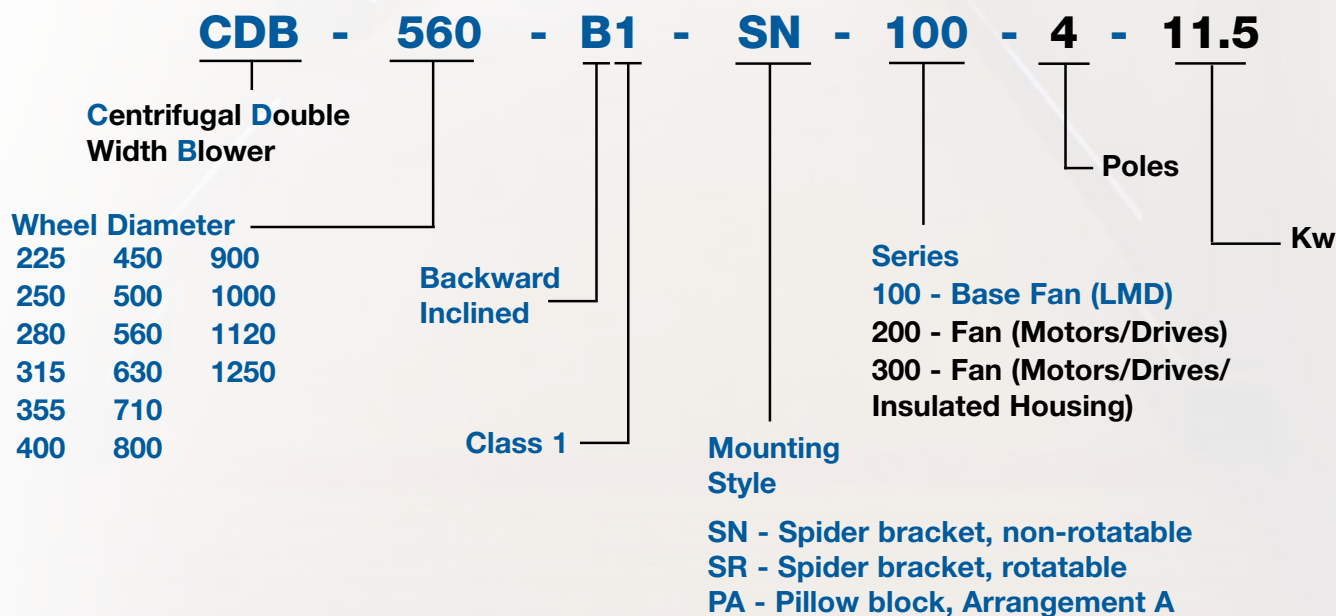
Typical Applications

- Offices
- Shopping centers
- Mid and high-rise buildings
- Hospitals and clinics
- Hotels
- Metros

Benefits

- High-efficiency optimized for air handling units
- Installation savings
- Value-based construction
- Fast and reliable lead time
- Reduced operating torque with aluminum wheel

The Model Number Code is designed to completely identify the unit. The correct code letters must be specified to designate configurations. The remainder of the model number is determined by the size and performance selected from the *Model CDB Sound and Air Performance Supplement*.



Model CDB

Centrifugal Double Width Blowers

Model Comparison																							
Model	Location		Mounting					Airflow				Application					Drive Type		Impeller Type			Performance	
	Outdoor	Indoor	Roof Curb	Base/Floor	Hanging	Wall	Ceiling Mounted	Exhaust	Supply	Reversible	Recirculate	Shopping Centers	Mid/High-Rise Buildings	Hospitals/Clinics	Hotels	Car Parks	Belt	Direct	Centrifugal	Propeller/Axial	Mixed Flow	Maximum Volume (cmh)	Maximum Static Pressure (Pa)
CDB	X	X		X				X	X			X	X	X	X	X	X		X			150,000	1,600

The Greenheck centrifugal double width blower offers backward inclined wheels. These easy-to-install blowers feature high-efficiency operation and are suitable for supply or exhaust applications in air handling units (AHU) and industrial HVAC systems with up to 79% efficiency, increasing long-term savings.

- Model CDB is available in 16 sizes that cover AMCA pressure Class 1 volumes and pressures.
- Capacities range for volumes up to 150,000 cmh (88,500 cfm) and static pressures up to 1,600 Pa (6.4 in. wg).
- Licensed to bear the AMCA Sound and Air seal.
- Licensed to bear the AMCA FEI seal. FEI_T values are calculated in accordance with ANSI/AMCA Standard 208 and are based on default motor efficiencies (50 Hz IE2). FEI_T values for fans with specific motors will vary slightly from those shown.



Greenheck India Pvt. Ltd. certifies that the CDB models shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



Greenheck India Pvt Ltd. certifies that the CDB models shown herein are licensed to bear the AMCA FEI Seal. FEI_T values are calculated in accordance with ANSI/AMCA Standard 208 and are based on default motor efficiencies (50 Hz IE2). FEI_T values for fans with specific motors will vary slightly from those shown.



CDB Mounting Configurations

Each fan type has its maximum operating speed and power due to its mechanical design. The operating limit of different fan types of CDB models is set according to the requirement of class I as defined in AMCA Standard 99-2408-69.

Type SN

This type is supplied with mounting feet and can be mounted in three different orientations. The construction is mainly for OEM application.

Fan Size: 225 to 710

Volume: 1,700 to 50,000 cmh

Total Pressure: up to 1,600 Pa

Type SR

This type has frames fitted on both sides of the fan, providing better strength and rigidity. It allows mounting in four different orientations.

Fan Size: 225 to 710

Volume: 1,700 to 50,000 cmh

Total Pressure: up to 1,600 Pa

Type PA

This type has a welded frame, giving increased stiffness and rigidity required for higher operating performance.

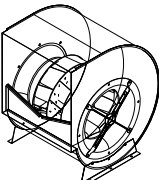
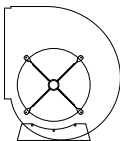
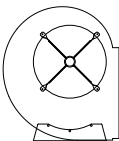
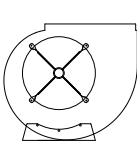
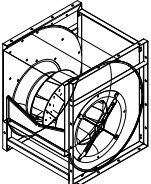
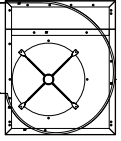
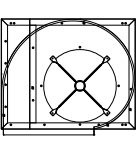
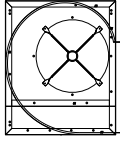
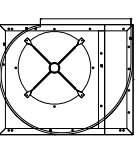
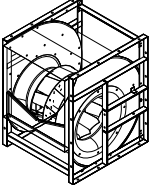
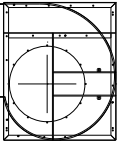
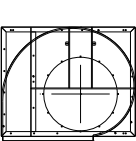
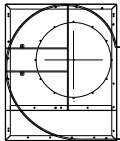
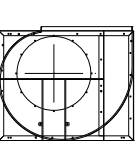
Fan Size: 800 to 1250

Volume: 16,000 to 150,000 cmh

Total Pressure: up to 1,600 Pa

Discharge Positions and Rotatable Housings

All double-width centrifugal fans are available with clockwise (CW) or counterclockwise (CCW) rotation in all standard discharge positions. **Rotation and discharge is always determined from the drive side of the fan.**

Bearing	Configuration Type	Rotation
SN - Spider Bracket Non-Rotatable		   Top Horizontal (TH) Bottom Horizontal (BH) Upblast (UB)
SR - Spider Bracket Rotatable		    Top Horizontal (TH) Downblast (DB) Bottom Horizontal (BH) Upblast (UB)
PA - Pillow Block Rotatable		    Top Horizontal (TH) Downblast (DB) Bottom Horizontal (BH) Upblast (UB)

Class of Construction

Fan class refers to a construction level designed to handle a given fan outlet velocity and pressure. As the fan performance requirements increase, the fan construction (material gauge, shaft diameter, motor size) must also increase to handle the new workload.

CDB models target Class I performance range for backward inclined fans, as defined by AMCA pressure class.



Housing

Constructed of galvanized steel with zinc GSM275, preventing additional corrosion than industry standard, extending product life and increasing long-term savings.

Permalock™ Housing

Permalock™ housings use a mechanically fastened seam instead of welding. This airtight and watertight housing construction uses the same structural support as the all-welded housings. Permalock construction is an excellent value engineering option for applications up to 8.5 in. wg (2.1 kPa).



Sizes	225-1250
Class	I
Housing Material	Steel - Galvanized
Wheel Type	Backward-Inclined

Fan Shaft

Turned and polished steel that is sized so the first critical speed is at least 25% over the maximum operating speed for each pressure class.

Frames

Constructed of coated steel to reduce corrosion in humid areas and coastal regions while providing durability and saving on replacement or maintenance costs in the future.

Wheels

Greenheck's double width, double inlet, backward inclined wheels are constructed of aluminum (sizes: 225-1000mm) and coated steel (sizes: 1120 and 1250mm) providing high efficiency with low sound levels. Wheels are statically and dynamically balanced to AMCA G2.5 standard for smooth vibration-free operation.

Premium Bearings

Double-width centrifugal products are manufactured with "air handling quality" self-aligning bearings with insert or housed pillow block type. The adapter sleeve collar lock ensures smooth operation and provides superior grip force between the bearing collar and fan shaft. All bearings are selected for a basic rating fatigue life of L_{10} in excess of 40,000 hours at the maximum RPM for the selected pressure class.

L_{10} life implies 90% reliability or a 10% failure rate after the stated hours.

Insert bearings on sizes up to 710 and pillow block bearings for sizes 800 to 1250. Standard bearing life is L_{10} life in excess of 40,000 hours.

Vibration Analysis

All Greenheck double-width products undergo a complete mechanical vibration test after assembly. Our custom data acquisition system uses tri-axial accelerometers to measure the vibration in three planes at the design operating speed. A permanent record for each fan's performance is kept on file and is available upon request.

The standard "filter-in" vibration levels attained meet the requirements of Fan Application BV-4 as defined in AMCA Standard 204-05 "Balance Quality and Vibration Levels for Fans". Consult the factory if more stringent vibration levels are necessary.

Drive Type	Filter-In Vibration Limit (Rigidly Mounted)
Belt, Arrg. 3	0.15 in/sec-pk

Optional Accessories

Double-Sided Shaft

Allows for motor mounting options on either side of the fan and the option to couple two fans in tandem.

Scroll Stiffener

Reduces vibration of the housing by providing additional structural rigidity resulting in lower sound levels. This often is applied in the absence of an outlet duct connection and/or insulated housing.

Motor Selection

- CDB-200 series offers motors and drive set along with a motor base frame.
- Motors should be selected based on the absorbed power at the operating point represented by the performance curves.

Unique Base Frame Design

- CDB base frames offer a compact and optimized design to accommodate a range of motor frame sizes and positions.
- Flexible design allows for motor installation in CW and CCW configuration.



Insulated Housing

- CDB 300 series offers an easy-to-install to install insulated housing incorporated with the CDB blower and motor.
- Insulated housing is constructed with a hollow aluminum profile and double skin galvanized steel panels with CFC-free PUF insulation ensuring robust operation at low noise levels.
- Fan can be accessed through the side panels.
- Provided with inlet and outlet flange for duct connections.
- Available inlet filter section as an option.

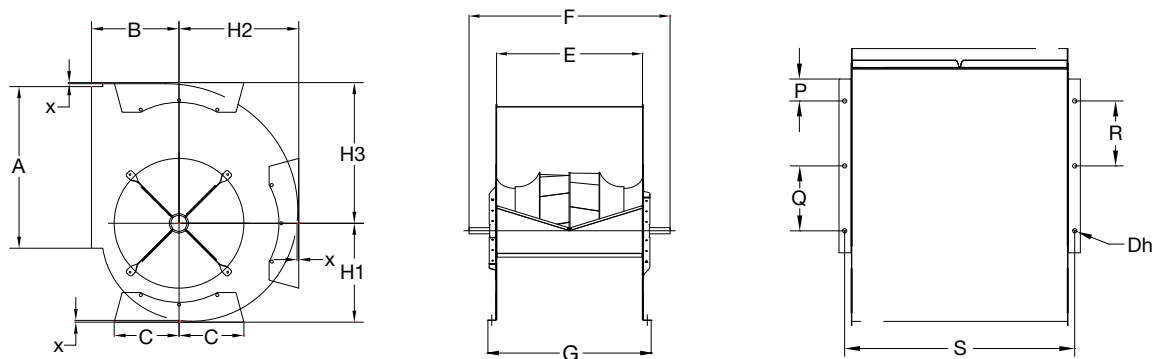


Model	Image	Applications
CDB-100 Base Fan, LMD		• Air Handling Units
CDB-200 Fan with motors/drives		Supply and exhaust applications for: • Offices • Shopping centers • Mid and high-rise buildings • Hospitals and clinics • Hotels • Metros
CDB-300 Fan with motors/drives in insulated housing		

CDB-100 Series

Dimensional Information

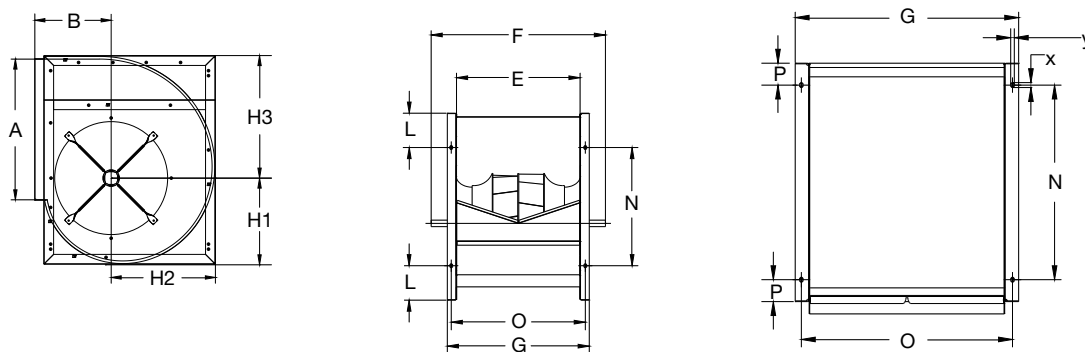
Mounting Arrangement SN (225-710)



Size	A	B	C	x	H1	H2	H3	E	F	G	P	Q	R	S	Dh	Shaft Diameter
225	288	175	115	5	185	223	261	288	452	339	53	62	62	317	14	20
250	322	189	128	5	203	246	288	322	486	373	53	75	75	351	14	20
280	358	206	143	5	225	273	321	358	556	410	53	90	90	388	14	20
315	404	226	161	5	251	305	359	404	600	466	53	108	108	439	14	20
355	452	247	182	5	279	340	402	452	672	514	53	128	128	487	14	25
400	506	274	205	5	313	381	450	506	726	578	53	151	151	546	14	25
450	568	319	230	5	351	428	505	568	798	640	53	177	177	608	14	25
500	638	343	256	5	385	470	556	638	876	720	72	183	183	683	14	30
560	714	387	286	5	437	529	621	714	980	796	72	214	214	759	14	30
630	800	420	322	5	485	592	699	800	1066	892	72	250	250	850	14	35
710	898	466	363	5	544	664	786	898	1180	990	105	258	258	948	14	40

All dimensions are in millimeters.

Mounting Arrangement SR (225-450)

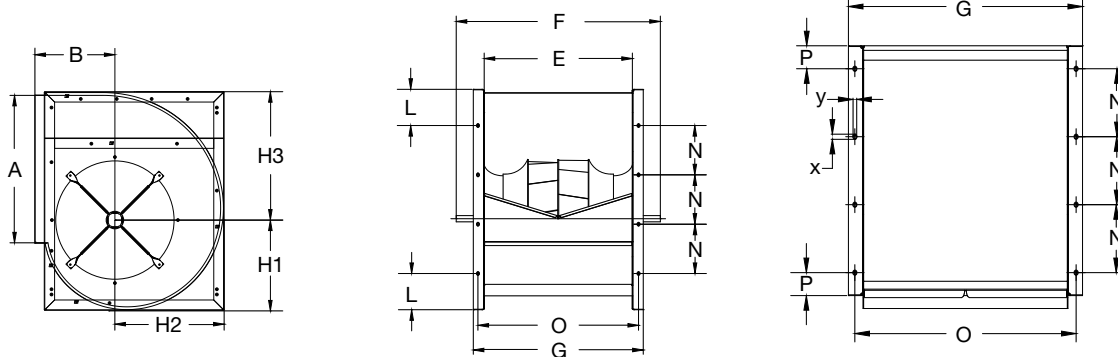


Size	A	B	H1	H2	H3	E	F	G	L	N	O	P	x	y	Shaft Diameter
225	288	175	185	223	261	288	452	354	104	238	325	65	12	9	20
250	322	189	203	246	288	322	486	388	108	274	359	65	12	9	20
280	358	206	225	273	321	358	556	424	113	319	395	65	12	9	20
315	404	226	251	305	359	404	600	474	120	371	444	65	16	11	20
355	452	247	279	340	402	452	672	534	127	427	498	65	16	11	25
400	506	274	313	381	450	506	726	588	134	495	552	65	16	11	25
450	568	319	351	428	505	568	798	650	157	541	614	80	18	13	25

All dimensions are in millimeters.

CDB-100 Series Dimensional Information

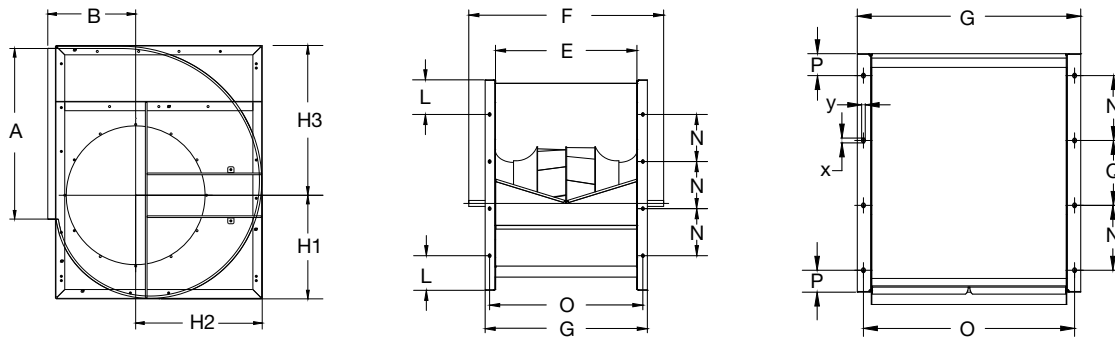
Mounting Arrangement SR (500-710)



Size	A	B	H1	H2	H3	E	F	G	L	N	O	P	x	y	Shaft Diameter
500	638	343	385	470	556	638	876	740	167	203	695	80	18	13	30
560	714	387	437	529	621	714	980	816	174	237	771	80	18	13	30
630	800	420	485	592	699	800	1066	902	189	269	857	80	18	13	35
710	898	466	544	664	786	898	1180	1010	202	309	960	80	22	17	40

All dimensions are in millimeters.

Mounting Arrangement PA (800-1250)



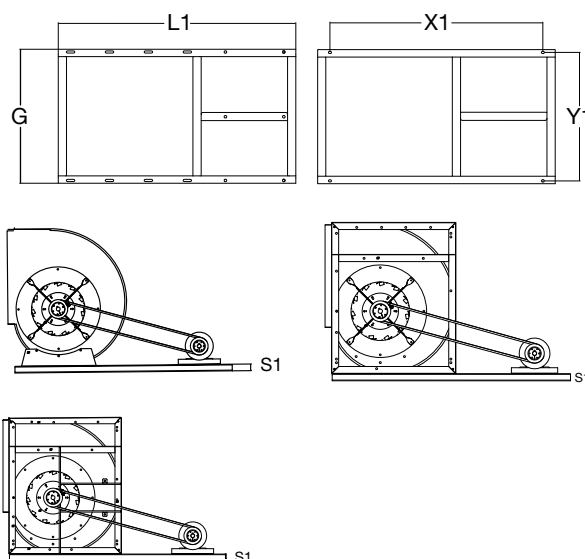
Size	A	B	H1	H2	H3	E	F	G	L	N	Q	O	P	x	y	Shaft Diameter
800	1006	518	611	746	883	1006	1288	1118	257	382	326	1069	65	22	17	45
900	1130	616	685	838	991	1130	1466	1252	274	376	376	1204	120	22	17	50
1000	1266	671	759	928	1100	1266	1614	1388	292	425	425	1340	120	22	17	55
1120	1422	739	848	1038	1230	1422	1800	1544	313	484	484	1496	120	22	17	75
1250	1524	813	941	1155	1371	1524	1975	1646	335	547	547	1598	120	22	17	80

All dimensions are in millimeters.

CDB-200/300 Series Dimensional Information

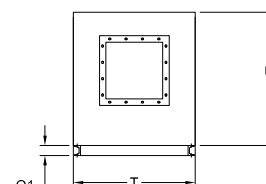
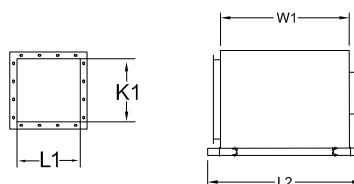
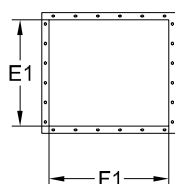
CDB-200 Mounting Arrangement Base Frame, SN, SR, & PA

Size	L1	G	X1	Y1	S1
225	719	354	599	332	50
250	771	388	651	336	50
280	824	424	704	402	50
315	887	474	767	450	50
355	991	534	871	504	50
400	1115	588	995	558	50
450	1179	650	938	620	60
500	1243	740	1093	700	60
560	1446	816	1296	776	60
630	1554	902	1404	862	80
710	1861	1010	1711	965	80
800	1969	1118	1739	1073	100
900	2127	1252	1897	1197	100
1000	2336	1388	2106	1338	120
1120	2496	1544	2266	1494	120
1250	2808	1646	1596	2578	120



All dimensions are in millimeters.

CDB-300 Insulated Housing



CDB-300 Box dimensions (without filter)					
Size	W1	T	U	O1	L2
225	905	730	730	80	1005
250	960	800	765	80	1060
280	1020	900	810	80	1120
315	1100	1000	850	80	1200
355	1190	1130	920	80	1290
400	1290	1260	1000	80	1390
450	1400	1400	1100	80	1500
500	1520	1550	1185	80	1620
560	1640	1720	1350	80	1740
630	1780	1930	1450	80	1880
710	2000	2160	1630	80	2100
800	2200	2430	1820	80	2300
900	2450	2700	2000	80	2550
1000	2600	3000	2200	80	2700
1120	2900	3340	2450	100	3000
1250	3190	3700	2650	100	3290

All dimensions are in millimeters.

CDB-300 Box dimensions (with filter)					
Size	W1	T	U	O1	L2
225	1105	730	730	80	1205
250	1160	800	765	80	1260
280	1220	900	810	80	1320
315	1300	1000	850	80	1400
355	1390	1130	920	80	1490
400	1490	1260	1000	80	1590
450	1600	1400	1100	80	1700
500	1720	1550	1185	80	1820
560	1840	1720	1350	80	1940
630	1980	1930	1450	80	2080
710	2200	2160	1630	80	2300
800	2400	2430	1820	80	2500
900	2650	2700	2000	80	2750
1000	2800	3000	2200	80	2900
1120	3100	3340	2450	100	3200
1250	3390	3700	2650	100	3490

All dimensions are in millimeters.

CDB-Insulated Housing-Inlet/Outlet Connections				
Size	Inlet Connections		Outlet Connections	
	E1	F1	L1	K1
225	670	670	288	288
250	685	720	322	322
280	730	820	358	358
315	790	940	404	404
355	840	1050	452	452
400	940	1200	506	506
450	1020	1320	568	568
500	1105	1470	638	638
560	1290	1660	714	714
630	1370	1850	800	800
710	1550	2080	898	898
800	1760	2370	1006	1006
900	1920	2620	1130	1130
1000	2120	2920	1266	1266
1120	2240	3280	1422	1422
1250	2470	3620	1524	1524

All dimensions are in millimeters.

[illegible]

Design and Selection Support

Enjoy Greenheck's extraordinary service, before, during and after the sale.

Greenheck offers added value to our wide selection of top performing, energy-efficient products by providing several unique Greenheck service programs.



Greenheck's free computer aided product selection program CAPS®, rated by many as the best in the industry, helps you conveniently and efficiently select the right products for the challenge at hand.

Greenheck continues to take an industry-wide leadership position to affect positive global sustainability. We believe that providing education on products we offer contributes to reducing energy consumption and improving healthier indoor environments.

Find out more about these Greenheck services at www.greenheck.co.in



Building Value in Air

Greenheck delivers value to mechanical engineers by helping them solve virtually any air quality challenges their clients face with a comprehensive selection of

top quality, innovative air-related equipment. We offer extra value to contractors by providing easy-to-install, competitively priced, reliable products that arrive on time.

And building owners and occupants value the energy efficiency, low maintenance and quiet dependable operation they experience long after the construction project ends.

Our Commitment

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.



International
00.INT.2027 R7 11-2021
Copyright © 2021 Greenheck Fan Corp.

Greenheck India: 201-202, 2nd Floor, Landmark Cyber Park, Sector-67, Gurgaon, Haryana-122018 • www.greenheck.co.in
Greenheck U.S.A.: P.O. Box 410 • Schofield, WI 54476-0410 • Phone +1 (715) 359-6171 • www.greenheck.com

Greenheck India Private Ltd has been independently audited and confirmed as being in conformity with ISO 9001:2015 and ISO 14001:2015.

