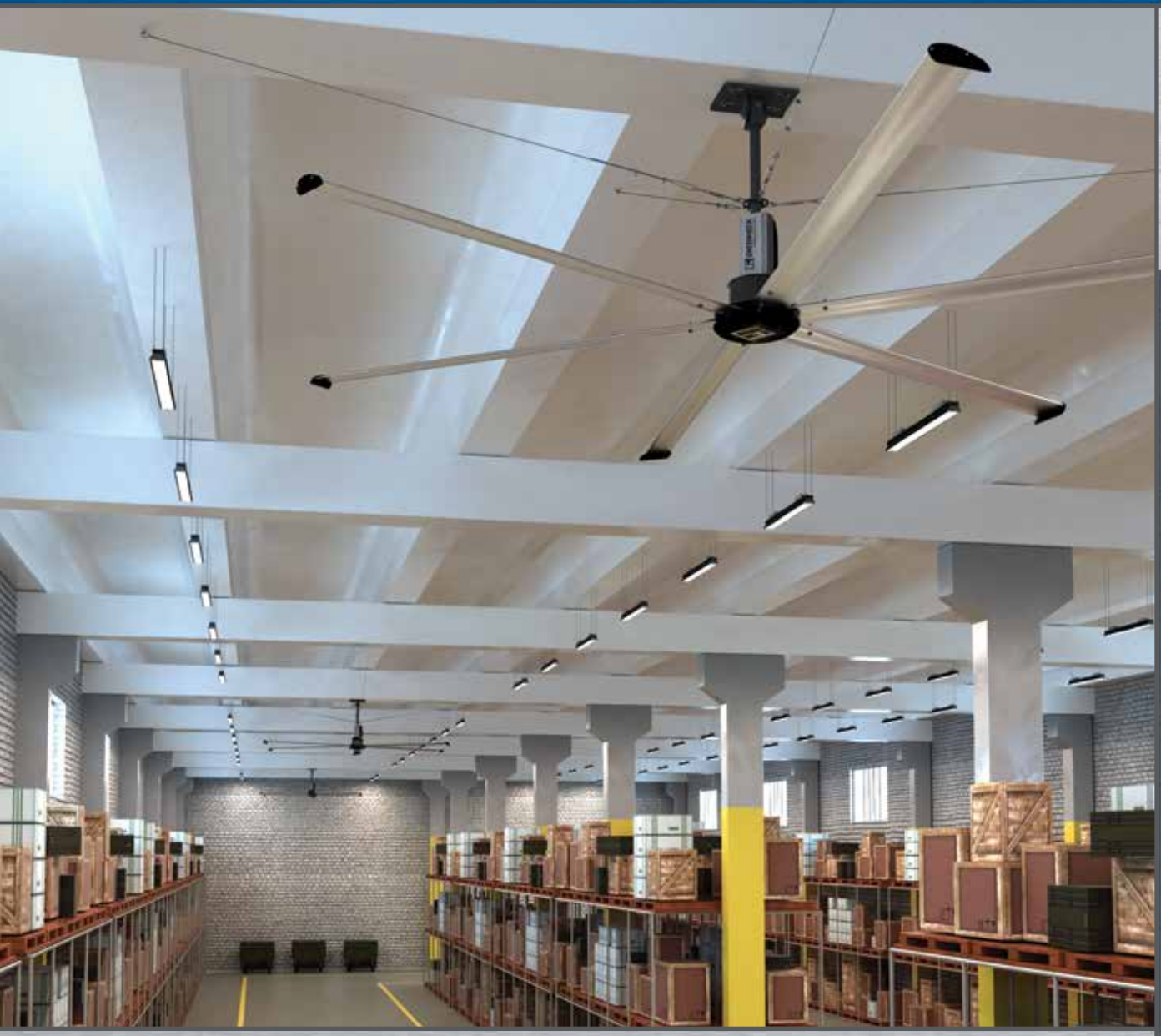
High Volume, Low Speed (HVLS) Fans

Models DC and DS

Direct Drive HVLS



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Building Value in Air.

BUILDING VALUE IN AIR.

July
2020

Model DC and DS HVLS Fan

Whether for comfort cooling, destratification, or aesthetics, we have you covered! Greenheck strives to provide you with the highest performing fans on the market through our extensive research, testing and product offering.

Model DC

Model DC-5 is an aesthetically pleasing five-blade, direct drive design for use in commercial spaces with low to medium height ceilings. Its sleek design combines comfortable air movement with a variety of unique color options. These fans are effortless to install having a total weight less than one hundred pounds, the lightest among comparable HVLS fans.

- Fan diameters of 8, 10, 12, and 14 ft.
- Up to 55,800 cfm
- UL/cUL 507 Electrical, UL/cUL 507 Damp
- AMCA Circulating Fan Performance



Applications:

- Office spaces
- Restaurants and bars
- Education facilities
- Supermarkets and grocery stores
- Retail stores
- Fitness centers

Model DS

Model DS-3 is an efficient and economical three-blade, direct drive HVLS fan designed for commercial or industrial spaces with medium to high ceilings. These fans are the ideal balance of cost and performance, making DS-3 a smart choice for budget-conscious building owners. Plus, with a lighter weight than comparable HVLS fans, the DS-3 is a breeze to install in any building.



- Fan diameters in 2-foot increments between 8 and 24 ft.
- Up to 176,900 cfm
- UL/cUL 507 Electrical
- AMCA Circulating Fan Performance

Model DS-6 is a six-blade, direct drive HVLS fan designed for commercial or industrial spaces with medium to high ceilings. As the industry's best performing HVLS fan, the DS-6 delivers unrivaled airflow at incredibly quiet sound levels. Along with reduced operating costs, the DS-6 clearly is the best value HVLS product on the market.

- Fan diameters in 2-foot increments between 8 and 24 ft.
- Up to 243,000 cfm
- UL/cUL 507 Electrical
- AMCA Circulating Fan Performance



Applications:

- Airports
- Gymnasiums
- Agricultural facilities
- Manufacturing facilities
- Automotive facilities
- Distribution centers
- Stadiums and arenas

Standard Construction and Features

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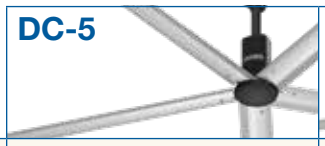
	DC-5 	DS-3 	DS-6 
Building Types	High End Residential and Commercial	Commercial and Industrial	Commercial and Industrial
Max CFM Range	29,000 – 55,800	23,500 – 176,900	28,600 – 243,000
Max Coverage Area Range (ft^2)	9,200 – 12,500	9,100 – 18,700	11,300 – 23,700
Fan Size (ft)	8 – 14	8 – 24	8 – 24
AMCA Certification	Circulating Fan Performance	Circulating Fan Performance	Circulating Fan Performance
UL/cUL 507 Listed for Electrical	✓	✓	✓
UL/cUL 507 Listed for Damp	✓		
Universal Ceiling Mount	✓	✓	✓
Weight (lbs)	70 – 91	104 – 144	129 – 222
Direct Drive Motor (hp)	¼	¾	¾ – 1½
Voltage & Phase	115-230/1	208-277/1, 208-460/3	208-277/1, 208-460/3
Forward and Reverse Operation	✓	✓	✓
Drop Length (ft.)	2	3½	3½
Airfoil Finish	Mill or Black	Mill	Mill
Accent Color	Black	Black or Blue	Black or Blue
100 ft. of CAT-5e Control Cable	✓	✓	✓
Fire Relay (For Fire Suppression System)	✓	✓	✓
10 Year Warranty	✓	✓	✓

Standard Construction Features

Airfoils - Unique extruded aluminum airfoil shape is designed to maximize airflow and coverage area.

Intelligent VFD and Motor - Factory-mounted, wired and programmed variable frequency drive (VFD). Direct drive motor and VFD combination results in high efficiency, low sound and ultra-light installation. Smart features include over-speed and impact detection along with temperature, voltage and current monitoring.

Fire Relay - Keep your buildings and products safe. Low voltage relay can be wired into a building's fire suppression system for automatic fan shutdown when sprinklers are activated.

Guy Wire Kit - Braided steel guy wires prevent lateral fan movement for safe installations.

Model DC: 15-foot guy wires included for drop lengths greater than or equal to four feet.

Model DS: 20-foot guy wires included with all drop lengths.

Certifications

Greenheck Fan Corporation certifies that the models DC and DS 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 comply with the requirements of the AMCA Certified Ratings Program.

c UL us LISTED

UL/cUL 507 Listed for Electrical (Models DC and DS)
UL/cUL 507 Listed for Damp (Model DC)
File no. E504380

Optional Accessories and Controls

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Mounting Kits - Mounts to a variety of building structures. Kit options available for I-beam, steel truss, Unistrut®, wood beam, and Z-purlin construction.

LED Light - Light option is dimmable when used with optional fan controls. Requires separate 115V power (by others).

Model DC: 24W, 1,900 lumen output rating, 120° beam angle, Model DS: 150W, 19,500 lumen output rating, 120° beam angle

Extended Drop Lengths - By using extended drop lengths, the fan can accommodate every space, even sloped ceilings. Various drop lengths are available.

Model DC: 3 to 10 foot
Model DS: 4 to 10 foot

Extended Length CAT-5e Control Cable - Allow flexibility with the installation and placement of control options by selecting pre-assembled 150 ft. or 200 ft. CAT-5e cables. Or, customize individual cable lengths with 1,000 ft. bulk spools of CAT-5e cable and 20 RJ45 end connectors.

Disconnect Switch - Toggle type and heavy-duty disconnect switches; both with fused protection options are available for positive electrical shut-off and safety in servicing fans.

Extended Warranty - Protect your investment with an 11, 12, 13, or 14 year extended warranty.

HVLS Keypad Control - Keypad control with LCD can operate 1, 3, 5, or 10 fans of the same model and size as a group, with all fans running at the same speed and direction. The keypad control provides full status monitoring capability and fault-logging, making this an excellent stand-alone control solution. Available with surface-mounted or recessed enclosures.



HVLS Standard Touchscreen Control - Features a sleek design that fits in a standard 2x4 junction box and has an intuitive LCD screen. Allows the user to operate 1, 3, 5, or 10 fans with any combination of models and sizes. The touchscreen offers password protection along with advanced diagnostics for ease of troubleshooting.



HVLS Advanced Touchscreen Control - Touchscreen control with LCD screen. Group or independently control up to 10 fans with any combination of models and sizes, allowing maximum flexibility and convenience. Supports fan scheduling, password protection and advanced fan diagnostics for ease in troubleshooting. Available with surface-mounted or recessed enclosures.



HVLS Advanced Touchscreen Control with BACnet® Ability to communicate with a building management system (BMS) through BACnet MS/TP. Allows a BMS to control or monitor the status of the entire HVLS fan system through a single access point, simplifying integration in the field. Available with surface-mounted or recessed enclosures.

Temperature and Humidity Sensors - Package includes two sensors for mounting on the ceiling and at occupant height. Sensors modulate the fans for optimal speed and rotation to improve occupant comfort based on temperature and humidity inside the building.

Finish Options - Available for the winglets, downtube, hub plate, airfoils, and universal ceiling mount. Unlimited custom color match or select from 13 optional paint colors (Hi-Pro Polyester).

Airfoil finishes available include: anodized (not shown), Hi-Pro Polyester or woodgrain.

Safety Orange	Concrete Grey
Safety Yellow	Hampton Brown
Signal Violet	Medium Bronze
Utility Red	Flat Black
Signal Blue	Cinnamon Cherry
Equipment Green	Dark Oak
Bone White	Golden Knotty Pine
Ivory	Honey Knotty Pine
Telegray 4	Natural Cherry

**Color is for reference only and is not to be used for final color matching. Anodized finishes not shown. Additional finish charges may apply.*

Air Velocity Selection Guide

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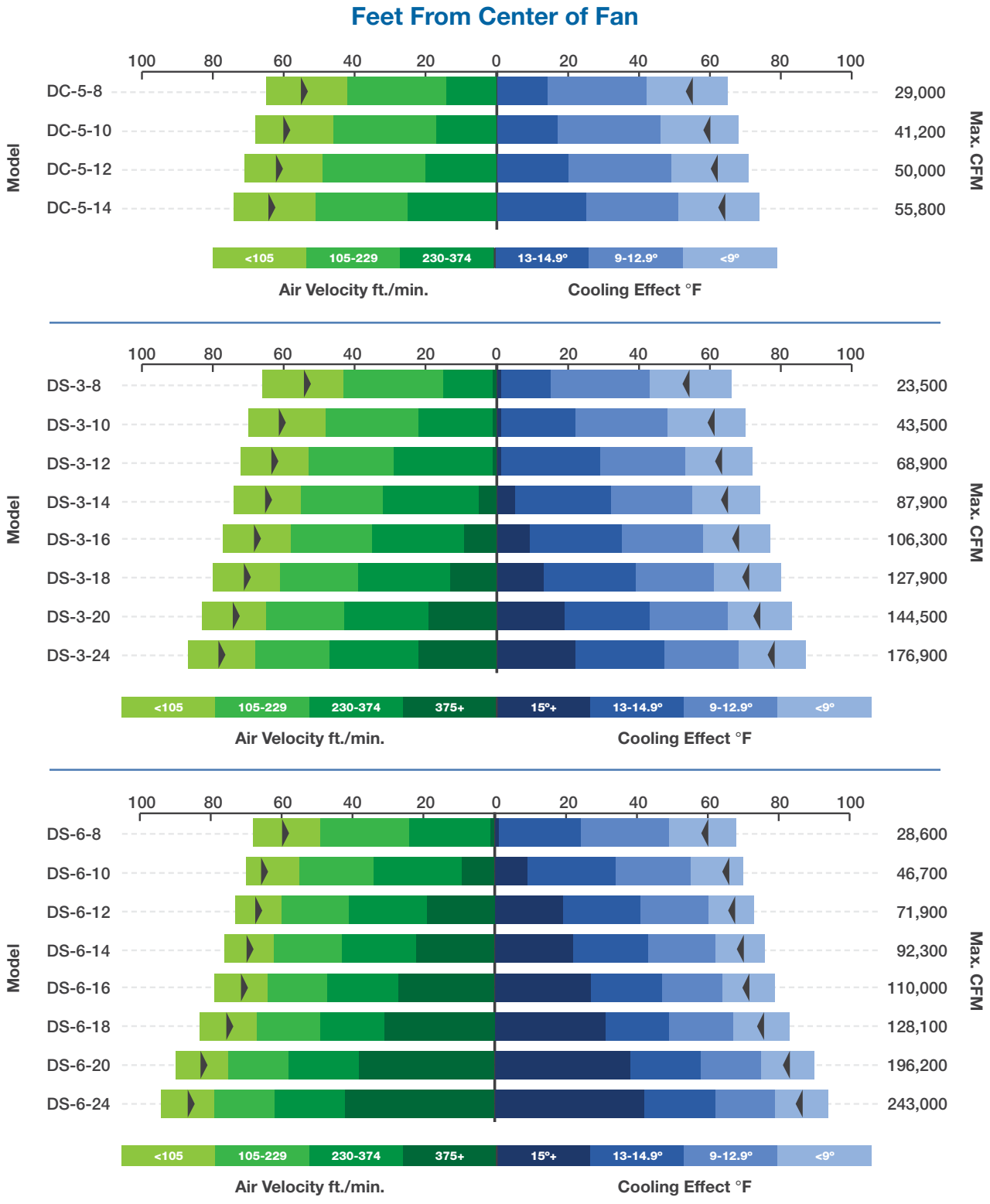
It is important to understand how the size and aerodynamics of the fan affect the velocity of air movement and the benefits of increased air in the building area. Selection guides such as the one shown below help identify the best HVLS fan for your application based on fan size and aerodynamics. This selection guide uses the widely respected and accepted ANSI/ASHRAE 55 Standard to illustrate the perceived cooling effect that happens with the addition of HVLS fans.



Recommended Max. Coverage Area

Testing conditions are based on a fan operating at full speed mounted 20 feet above the floor with air velocity measured at a height of 4 feet.

Model DC-5

Fan Diameter (ft.)	Fan RPM	CFM	Total Sound Pressure (dBA)	Max. Coverage Area (sq. ft.)	Max. Coverage Radius (ft.)	Min. Fan Spacing (ft.)	*Integrated Efficiency (CFM/W)	Base Fan Weight (lbs.)
8	184	29,000	49	9,200	54	24	139	70
10	140	41,200	55	11,300	60	30	207	77
12	103	50,000	48	12,000	62	36	277	84
14	76	55,800	45	12,500	64	42	343	91

**Based on 115/60/1 testing per ANSI/AMCA Standard 230 and 10 CFR 430*

Model DS-3

Fan Diameter (ft.)	Fan RPM	CFM	Total Sound Pressure (dBA)	Max. Coverage Area (sq. ft.)	Max. Coverage Radius (ft.)	Min. Fan Spacing (ft.)	*Integrated Efficiency (CFM/W)	Base Fan Weight (lbs.)
8	145	23,500	44	9,100	54	24	120	104
10	141	43,500	46	11,600	61	30	162	109
12	134	68,900	48	12,400	63	36	175	115
14	120	87,900	50	13,200	65	42	181	121
16	101	106,300	48	14,200	68	48	226	126
18	87	127,900	48	15,800	71	54	255	130
20	76	144,500	48	17,200	74	60	279	135
24	56	176,900	48	18,700	78	72	382	144

**Based on 208/60/3 testing per ANSI/AMCA Standard 230 and 10 CFR 430*

Model DS-6

Fan Diameter (ft.)	Fan RPM	CFM	Total Sound Pressure (dBA)	Max. Coverage Area (sq. ft.)	Max. Coverage Radius (ft.)	Min. Fan Spacing (ft.)	*Integrated Efficiency (CFM/W)	Base Fan Weight (lbs.)
8	142	28,600	45	11,300	60	24	133	129
10	136	46,700	49	13,600	66	30	128	138
12	119	71,900	49	14,500	68	36	148	147
14	97	92,300	49	15,300	70	42	190	156
16	81	110,000	48	16,200	72	48	221	165
18	69	128,100	47	18,100	76	54	262	174
20	78	196,200	52	21,600	83	60	224	204
24	61	243,000	50	23,700	87	72	249	222

**Based on 208/60/3 testing per ANSI/AMCA Standard 230 and 10 CFR 430*



Greenheck Fan Corporation certifies that the models DC and DS 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 comply with the requirements of the AMCA Certified Ratings Program.

The AMCA Certified Ratings Seals applies to air performance ratings only. The AMCA Certified Ratings Seal applies at free delivery only. Performance ratings do not include the effects of appurtenances (accessories).

Model DC



Ceiling mounted circulation or destratification fans shall be of the large diameter direct drive (high volume, low speed) type.

Fan construction shall include a universal ceiling mount that is designed for a fast and secure connection to a variety of ceiling substrates via heavy-duty mounting hardware kits (specified upon order). Universal ceiling mount shall be constructed of heavy gauge steel and shall include a single-axis pivot to accommodate any ceiling angle. Fans shall also include a heavy gauge steel downtube to provide a structural connection between the universal ceiling mount and fan motor. Downtube shall include a factory-programmed variable frequency drive. All components of the universal ceiling mount and downtube shall be powder-coated for corrosion resistance and aesthetic appearance.

Motors shall be of the high torque, low speed direct drive type, carefully matched to the fan load and furnished at the specified voltage and phase. Motors shall include plug-and-play connectors for power and control wiring to the variable frequency drive. Motors shall also be provided with a factory-installed, heavy gauge steel hub with precision-cut steel struts for ease of airfoil installation.

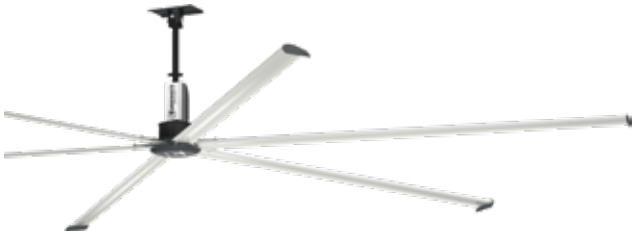
Airfoils shall be constructed of 6005A-T6 extruded aluminum with a unique aerodynamic profile that has been optimized for maximum airflow and efficiency. Airfoils shall be provided with a mill finish as standard, with additional finishes available in a variety of types and colors (specified upon order). Airfoils shall also be provided with precision-cut, powder-coated aluminum winglets as standard.

Fan shall be provided with a multi-point, redundant safety system comprised of a heavy-duty safety retention cable, hub retention system, and airfoil retaining ring as standard.

Fan shall bear a manufacturer's nameplate containing the model number and individual serial number for future identification.

Fan shall be Model DC as manufactured by Greenheck Fan Corporation of Schofield, Wisconsin, USA.

Model DS



Ceiling mounted circulation or destratification fans shall be of the large diameter direct drive (high volume, low speed) type.

Fan construction shall include a universal ceiling mount that is designed for a fast and secure connection to a variety of ceiling substrates via heavy-duty mounting hardware kits (specified upon order). Universal ceiling mount shall be constructed of heavy gauge steel and shall include a bidirectional pivot to accommodate any ceiling angle. Fans shall also include a heavy gauge steel downtube to provide a structural connection between the universal ceiling mount and fan motor. Downtube shall include a factory-programmed variable frequency drive. Downtube shall also include a welded guy wire connection ring for fast and secure connection of the fan's guy wires. All components of the universal ceiling mount and downtube shall be powder-coated for corrosion resistance and aesthetic appearance.

Motors shall be of the high torque, low speed direct drive type, carefully matched to the fan load and furnished at the specified voltage and phase. Motors shall include plug-and-play connectors for power and control wiring to the variable frequency drive. Motors shall also be provided with a factory-installed hub that consists of heavy gauge, precision-cut aluminum plates and machined aluminum struts for ease of airfoil installation.

Airfoils shall be constructed of 6005A-T6 extruded aluminum with a unique aerodynamic profile that has been optimized for maximum airflow and efficiency. Airfoils shall be provided with a mill finish as standard, with additional finishes available in a variety of types and colors (specified upon order). Airfoils shall also be provided with precision-cut, powder-coated aluminum winglets as standard.

Fan shall be provided with a multi-point, redundant safety system comprised of a heavy-duty safety retention cable, guy wire kit, hub retention system, and airfoil retaining ring as standard.

Fan shall bear a manufacturer's nameplate containing the model number and individual serial number for future identification.

Fan shall be Model DS as manufactured by Greenheck Fan Corporation of Schofield, Wisconsin, USA.

Quick Delivery and Quick Build Program

Models DC and DS are available for shipment to your jobsite in less than 24 hours from our strategically located warehouses or available on our 10-day Quick Build program.

Model	Size	Best Available Program
DC-5	8, 12	In Stock
DS-3	16, 20, 24	
DS-6	16, 20, 24	
DC-5	8 through 14	10 Days
DS-3	8 through 24	
DS-6	8 through 24	



Computer Aided Product Selection

All Greenheck products are supported by the industry's best product literature, electronic media and two product selection tools – CAPS®, our computer aided product selection software program and eCAPS®, our online selection tool. These programs will guide you from initial design through detailed submittals.



And, of course, you can always count on the personal service and expertise of our national and international representative organization. To locate your nearest Greenheck representative call 715-359-6171 or visit our website at www.greenheck.com



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.

Product warranties can be found online at Greenheck.com, either on the specific product page or in the literature section of the website at Greenheck.com/Resources/Library/Literature.

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Building Value in Air.

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