Fantech

August 2009 FSD0809

FSD SERIES

INLINE MIXED FLOW CENTRIFUGAL FANS

100% Speed Controllable
Three Year Warranty

amca CERTIFIED RATINGS
SOUND AND AIR PERFORMANCE
® AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

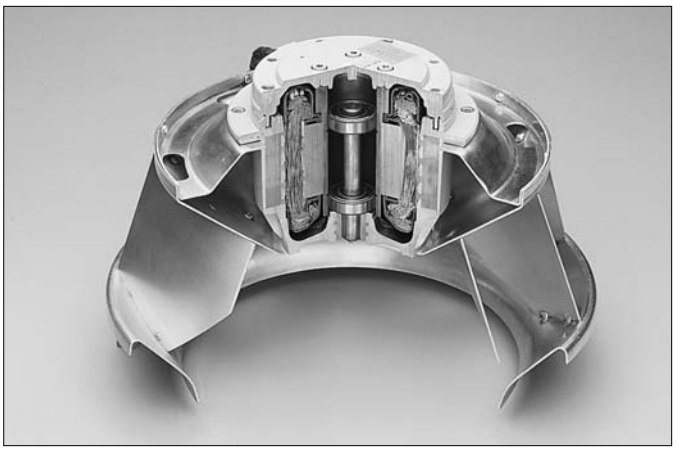
Fantech, Inc. and Fantech Limited certifies that the FSD Series shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

FSD SERIES

SQUARE INLINE MIXED FLOW DUCT FANS

Description

A mixed flow centrifugal type exhaust/supply fan for moderate size ventilation applications specifically designed to bridge the transition from centrifugal to axial. FSD Series fans offer substantially quieter performance and are easier to install than axial arrangements. Fans can be mounted at any angle at any point along the duct work and straight-through air flow design allows easy installation. Fan motors are capable of operating in air stream temperatures up to 140°F. Motor bearings are a permanently sealed, self lubricating ball type. ***All FSD Series fans are backed by Fantech's Three Year Warranty.***



All FSD Series fans are powered by an external rotor motorized impeller. This design provides excellent heat dissipation even at low rpm. All of the FSD Series fans are 100% speed controllable through voltage or frequency reduction allowing for precision balancing of systems. FSD Models 18 - 22 can be supplied with 115/1/60 or 208-230/1/60 motors. FSD22 can also be supplied with a 230-460/3/60 motor. Model FSD26 is supplied with a 230-460/3/60 motor.

Features

- 100% Speed Controllable
- Air Flows up to 6993 cfm
- 18" - 26" square duct dimensions
- External rotor motor, class F insulation. Sufficient service factor provided to ensure long and maintenance free operation over maximum load conditions.
- Automatic Reset Thermal Overload Protection
- Self-lubricating/sealed for life precision ball bearings
- Capable of operation in air streams temperatures up to 140°F
- Galvanized steel housing
- Terminal box with prewired electrical strip
- Mixed Flow Impeller
- ***Three Year Warranty***

Construction Specifications

Fan housings are constructed of rigid structural members and formed galvanized steel panels. An internal liner is provided on each side of the housing to suppress casing radiated noise. Inlet and outlet discharge "ductmate" type connection collars are provided for easy connection to flexible or rigid duct sections. The square design provides a larger discharge area than tubular centrifugal or vane axial fans, so outlet velocities are reduced for quieter operation.

Fan impellers are a mixed flow type, incorporating a higher flow characteristic associated with axial fans as well as higher pressure, non-overloading characteristics of backward curved wheels. The FSD18 impeller is a high density polyamide resin and the FSD20 - 26 are aluminum. Inlet cones are carefully matched to the venturi for maximum efficiency. Each motorized impeller assembly is statically and dynamically balanced for smooth, vibration free operation.

All of the FSD Series fans use 100% speed controllable direct drive motorized impeller assemblies with sealed, self lubricating bearings. Because of these unique features, the time and costs associated with initial system balancing and constant maintenance schedules are virtually eliminated. Fans are supplied with a factory installed prewired electrical terminal strip for ease of electrical connection. Three phase units are typically supplied prewired for 460 volts but may be supplied as 208-230 when specified or are easily rewired in the field.

All FSD Series fans are UL and cUL listed for electrical safety and AMCA Certified for sound and air performance.

Mounting

All FSD Series fans can be mounted either horizontally or vertically. Any side of the fan can be adapted to match particular installation requirements. Fan mounting options include suspending the unit with neoprene or spring hanging isolators or horizontal surface mounting the unit with neoprene or spring base isolators. The fans may also be secured to a vertical surface using angle brackets and vibration isolators.

Speed Controllability

Due to the excellent heat dissipating characteristic of the external rotor motor, all FSD Series fans are 100% speed controllable through a reduction in the voltage or frequency. Speed Control performance regulation also eliminates the need for correct belt alignment and tension as well as ongoing maintenance associated with belt drive systems. Fantech offers a variety of fan motor speed control options including solid state variable voltage controls, step transformers, solid state proportional output controls, and solid state propotional - integral "logical" control systems, in both single and three phase. Most speed controls may also be used as secondary steps for multiple speed systems. By using a contactor, fan speed can be manually or automatically switched from high to low and back again.

System Balancing

System balancing is achieved by measuring the system flow or pressure and adjusting the fan performance by “dialing-in” or setting the fan speed with a variable voltage control. (See options available in paragraph above.) This control flexibility allows the system to be adjusted to exacting specifications.

Performance Data

Air Performance Data

FSD air performance data has been presented at five voltages representing a percentage of full line voltage. Additional performance can be interpolated between the charted test points and achieved using a variable voltage control. For additional assistance determining fan operation at intermediate voltages/rpm, please contact Fantech’s engineering department.

Sound Data

Sound data is presented in eight full octave bands as fan inlet sound power - L_{wi}, dB; total fan inlet sound power L_{wi}, dB(A); and in fan inlet sone levels.

Typical Specifications for Model FSD Inline Duct Fans

Supply, exhaust or return air inline fans shall be of the mixed flow, direct driven type.

Construction

Fan housing shall be constructed of heavy gauge galvanized sheet metal. Fan housing shall be lined with vibration dampening/sound attenuating padding for noise suppression. Fan shall be supplied with externally mounted electrical terminal box with pre-wired terminal strip connections.

Motorized impeller shall be a totally enclosed external rotor type, Class F insulation. Single phase motors shall be permanent split capacitor type. Three phase motors shall be dual wound for 208/230V or 440/460V. All motors shall be a permanently sealed self lubricating ball bearing type. Motors shall be equipped with automatic reset thermal overload protection. Motors shall be acceptable for continuous duty. Sufficient service factor shall be provided to ensure long maintenance free operation over maximum load conditions.

Fan wheel shall be of the mixed flow centrifugal type with a well designed inlet venturi for maximum performance. Motorized impeller shall be both statically and dynamically balanced as one integral unit to provide for vibration free performance. Impellers for models FSD 18 through FSD 22 shall be molded of high impact polypropylene. Impeller for model FSD 20 shall be constructed of aluminum.

Performance

Fan airflow and sound performance shall be based on tests conducted in accordance with AMCA Standards 210 and 301 and shall be licensed to bear the AMCA Certified Ratings label.

Code Approval

Fan shall be tested and approved by UL (or equal) for safety.

FSD Series shall be manufactured under the authority of Fantech, Inc., Sarasota, FL.

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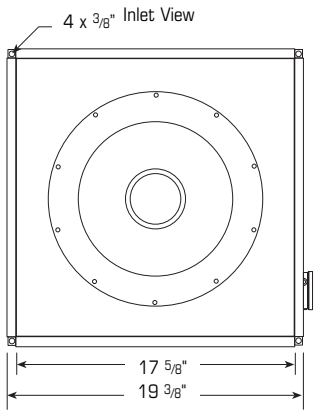
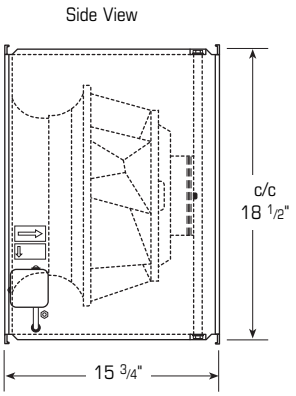
FSD 18

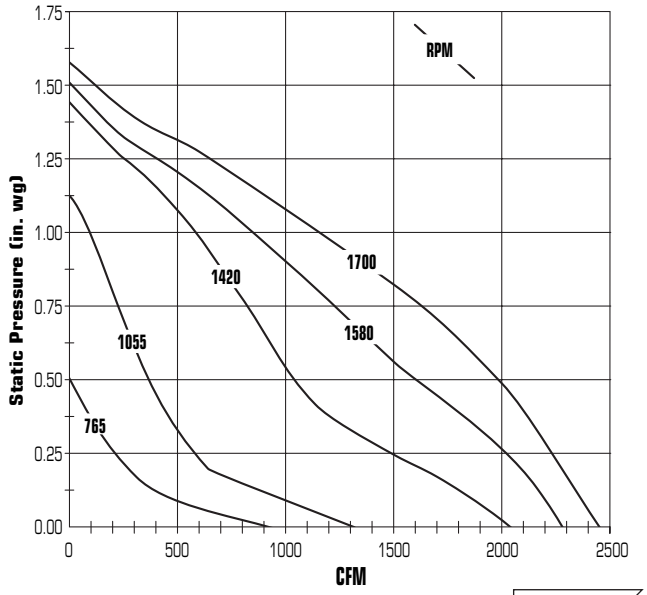




All dimensions in inches.

Unit Specifications:
Housing Metal Thickness - 16 Gauge
Approximate Weight - 55 lbs.
Nominal Hp - 0.50 Hp

Outlet Velocity (fpm) = CFM x 0.464
Tip Speed (fpm) = RPM x 3.717



Air Performance Data

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.								
					0.0"	.125"	.25"	.375"	.50"	.625"	.75"	1.0"	1.25"
115	1700	517	4.80	0.45	2463	2349	2237	2126	1987	1833	1644	1180	658

Sound Data

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{WI} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
115	1700	0.500	75	72	77	73	70	68	60	56	76	12.4
		0.625	76	74	78	73	70	67	59	54	75	12.1
		0.750	78	75	76	72	69	66	59	53	75	11.8
		1.000	78	77	76	73	69	66	59	53	75	11.7
		1.250	75	78	75	74	70	67	60	55	75	12.3

*Air Performance Data with Speed Control**

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.								
					0.0"	.125"	.25"	.375"	.50"	.625"	.75"	1.0"	1.25"
45	765	163	4.30	0.14	899	423	230	–	–	–	–	–	–
60	1055	259	5.22	0.23	1292	887	587	467	376	303	–	–	–
75	1420	404	6.00	0.35	2067	1825	1516	1225	1058	929	828	588	–
85	1580	447	5.53	0.39	2299	2181	2029	1837	1623	1421	1239	860	406

*Sound Data with Speed Control**

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{WI} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
45	765	0.125	59	55	52	47	41	34	24	18	49	1.8
60	1055	0.250	66	61	59	56	51	45	36	28	57	3.7
75	1420	0.375	70	68	67	65	62	56	49	44	67	7.1
		0.500	73	69	68	65	62	56	49	43	67	7.2
85	1580	0.375	72	70	74	71	68	64	57	54	73	10.4
		0.500	73	71	73	70	67	63	56	52	72	9.9
		0.625	75	72	73	70	67	62	55	50	72	9.7
		0.750	78	73	73	70	67	62	55	49	72	9.9

Speed (RPM) shown in nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances (accessories).
Performance certified is for installation Type A: Free inlet, Free outlet.

Note: Electrical specifications reflect voltage/phase/cycles for stock delivery motor/fans sets. Alternative motors are available. Please consult factory for electrical specifications and delivery on alternative motor voltages.

The sound power level ratings shown are in decibels, referred to 10-12 watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation type A: free inlet, free outlet. Ratings do not include the effect of duct end correction.

† The sound ratings shown are loudness values in fan sones at 5ft. (1.5m) in hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical fan sone levels.
**Units using speed control are not licensed to bare the AMCA Seal.*
***dB(A) levels are not licensed by AMCA International*

amca CERTIFIED RATINGS SOUND AND AIR PERFORMANCE ® AIR MOVEMENT AND CONTROL ASSOCIATION, INC.

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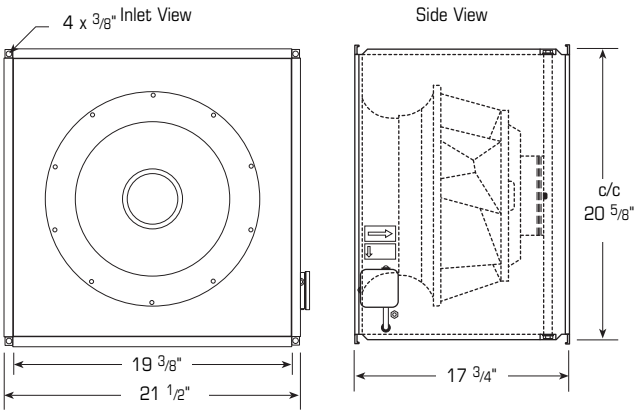
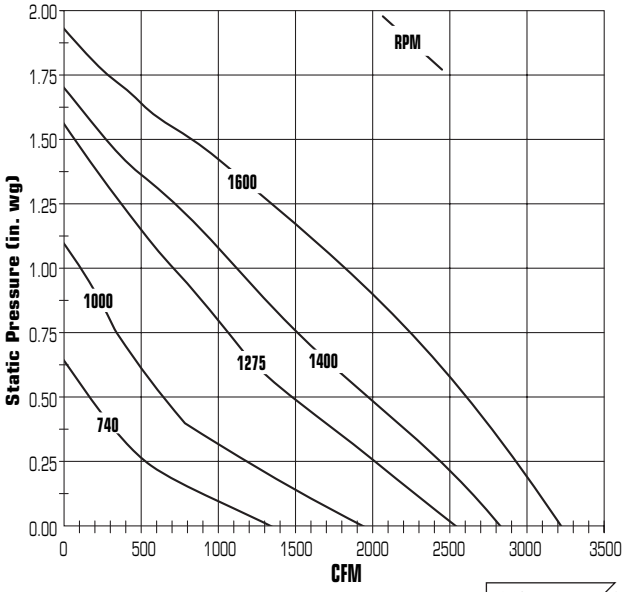
FSD 20



All dimensions in inches.

Unit Specifications:
Housing Metal Thickness - 16 Gauge
Approximate Weight - 65 lbs.
Nominal Hp - 0.75 Hp

Outlet Velocity (fpm) = CFM x 0.369
Tip Speed (fpm) = RPM x 4.346



Air Performance Data

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.									
					0.0"	.125"	.25"	.375"	.50"	.625"	.75"	1.0"	1.25"	1.50"
115	1600	753	6.36	0.66	3225	3073	2921	2766	2605	2433	2241	1829	1341	815

Sound Data

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{WI} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
115	1600	0.250	76	77	80	76	74	71	66	59	79	15.0
		0.500	76	77	79	75	73	69	64	57	78	14.1
		0.750	76	78	78	74	72	68	62	56	77	13.5
		1.000	76	78	78	74	71	67	61	55	76	13.0
		1.250	77	79	77	75	72	68	62	56	77	13.5

*Air Performance Data with Speed Control**

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.									
					0.0"	.125"	.25"	.375"	.50"	.625"	.75"	1.0"	1.25"	1.50"
45	740	223	4.99	0.19	1259	843	520	325	–	–	–	–	–	–
60	1000	337	5.99	0.29	1821	1448	1120	840	636	485	–	–	–	–
75	1275	506	6.76	0.44	2519	2256	1996	1733	1463	1236	1053	708	–	–
85	1400	591	6.75	0.51	2823	2626	2422	2023	1962	1724	1502	1121	698	–

*Sound Data with Speed Control**

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{WI} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
45	740	0.125	65	60	54	52	51	41	34	31	55	3.1
		0.250	64	59	55	54	51	42	35	32	55	3.3
60	1000	0.125	69	65	62	59	57	51	44	36	61	5.2
		0.250	68	63	60	57	55	48	41	34	59	4.5
		0.375	70	63	61	58	55	49	43	35	61	4.8
75	1275	0.250	72	72	71	67	65	62	55	49	70	8.9
		0.375	72	72	70	67	64	60	53	47	69	8.3
		0.500	73	72	69	66	63	59	52	46	68	8.0
		0.625	74	73	70	67	64	59	52	46	69	8.3
85	1400	0.250	74	73	75	72	69	66	60	54	74	11.1
		0.375	74	73	74	71	68	64	58	52	73	10.4
		0.500	74	73	73	70	67	63	57	51	72	10.0
		0.625	75	74	73	70	66	62	56	50	72	9.8
		0.750	76	75	73	70	66	62	56	50	72	9.9

Speed (RPM) shown in nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances (accessories). Performance certified is for installation Type A: Free inlet, Free outlet.

Note: Electrical specifications reflect voltage/phase/cycles for stock delivery motor/fans sets. Alternative motors are available. Please consult factory for electrical specifications and delivery on alternative motor voltages.

The sound power level ratings shown are in decibels, referred to 10-12 watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation type A: free inlet, free outlet. Ratings do not include the effect of duct end correction.

† The sound ratings shown are loudness values in fan sones at 5ft. (1.5m) in hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical fan sone levels.

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***dB(A) levels are not licensed by AMCA International*

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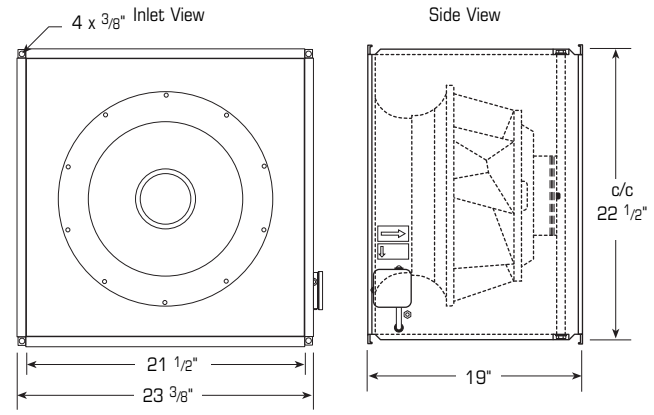
For Speed Control Options call Fantech Technical Support 1.800.747.1762

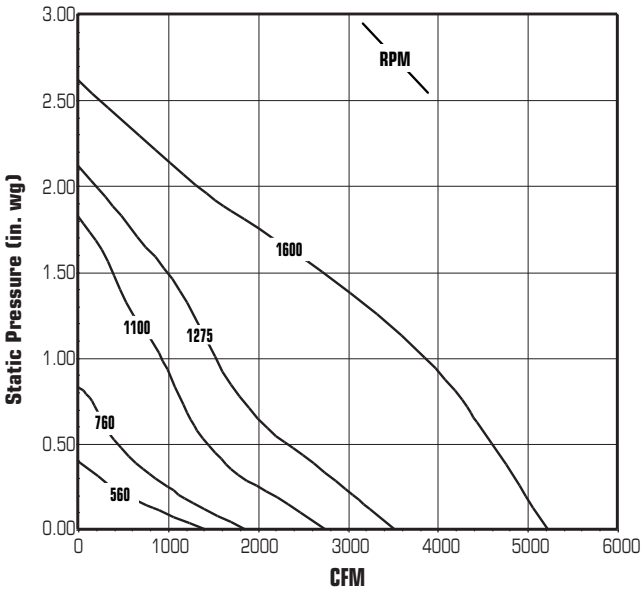
FSD 22



All dimensions in inches.

Unit Specifications:
Housing Metal Thickness - 16 Gauge
Approximate Weight - 95 lbs.
Nominal Hp - 1.50 Hp

Outlet Velocity (fpm) = CFM x 0.312
Tip Speed (fpm) = RPM x 4.869



Air Performance Data

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.											
					0.0"	.125"	.25"	.375"	.50"	.625"	.75"	1.0"	1.25"	1.50"	1.75"	2.00"
115	1600	1554	15.00	1.35	5223	5070	4918	4766	4605	4443	4282	3865	3337	2716	2013	1308

Sound Data

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{WI} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
115	1600	0.00	69	78	83	80	78	77	73	76	84	24
		0.25	69	78	82	79	77	75	71	74	83	22
		0.50	68	78	81	78	76	74	70	73	82	21
		1.00	73	79	81	78	75	73	68	68	81	18.0
		1.25	79	81	81	78	75	73	68	65	81	18.0

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*Air Performance Data with Speed Control**

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.											
					0.0"	.125"	.25"	.375"	.50"	.625"	.75"	1.0"	1.25"	1.50"	1.75"	2.00"
45	560	332	8.06	0.29	1412	798	379	—	—	—	—	—	—	—	—	—
60	760	542	10.24	0.47	1856	1384	1002	680	450	—	—	—	—	—	—	—
75	1100	915	13.04	0.80	2751	2385	2006	1677	1456	1283	1161	930	632	—	—	—
85	1275	1166	14.24	1.02	3515	3239	2931	2633	2319	2042	1851	1548	1285	991	586	—

Sound Data

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{WI} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
45	560	0.150	59	54	51	50	45	38	24	15	51	2.0
60	760	0.150	62	58	57	55	50	49	46	26	57	3.7
		0.250	63	60	58	56	51	47	42	28	57	3.8
75	1100	0.250	71	67	65	64	59	54	54	41	65	6.6
		0.375	71	68	65	64	59	54	52	41	65	6.6
		0.500	73	69	67	66	61	56	52	43	67	7.4
		0.625	76	70	69	68	64	59	54	46	69	8.4
85	1275	0.250	74	76	73	70	67	64	59	64	73	12.3
		0.375	75	75	72	69	66	63	57	60	72	10.8
		0.500	76	74	71	69	65	62	56	57	71	9.9
		0.625	78	74	72	69	65	62	56	55	71	9.9
		0.750	80	75	73	70	67	63	57	54	72	10.5

Speed (RPM) shown in nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances (accessories).
Performance certified is for installation Type A: Free inlet, Free outlet.
Note: Electrical specifications reflect voltage/phase/cycles for stock delivery motor/fans sets. Alternative motors are available. Please consult factory for electrical specifications and delivery on alternative motor voltages.
The sound power level ratings shown are in decibels, referred to 10^{12} watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation type A: free inlet, free outlet. Ratings do not include the effect of duct end correction.
† The sound ratings shown are loudness values in fan sones at 5ft. (1.5m) in hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical fan sone levels
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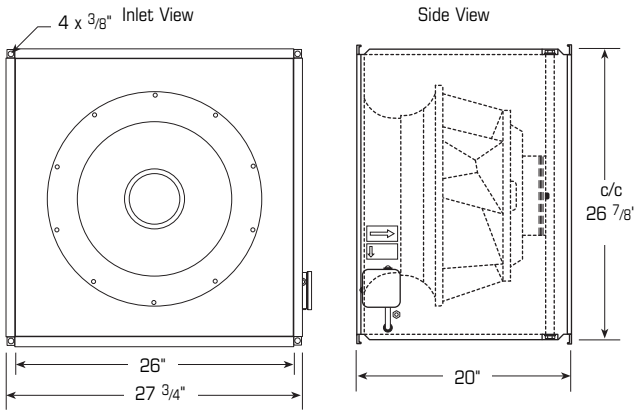
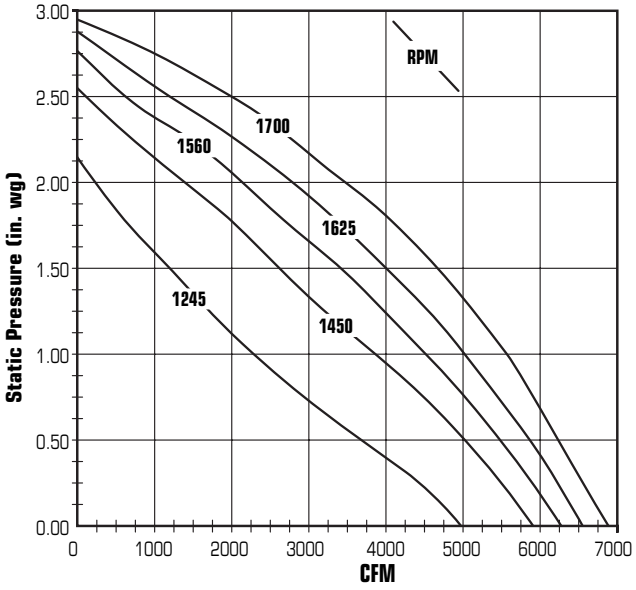
***dB(A) levels are not licensed by AMCA International*

FSD 26



All dimensions in inches.



Unit Specifications:
Housing Metal Thickness - 16 Gauge
Approximate Weight - 135 lbs.
Nominal Hp - 3.00 Hp

Outlet Velocity (fpm) = CFM x 0.213
Tip Speed (fpm) = RPM x 5.393

Air Performance Data

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.												
					0.0"	.125"	.25"	.375"	.50"	.75"	1.0"	1.25"	1.50"	1.75"	2.00"	2.25"	2.50"
460	1700	2328	3.82	2.65	6993	6818	6644	6473	6317	5981	5608	5177	4681	4140	3469	2761	1937

Sound Data

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{wi} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
460	1700	0.750	86	89	89	85	83	81	75	69	88	27
		1.000	86	89	89	84	82	80	74	68	88	26
		1.250	86	89	88	84	82	79	73	67	87	25
		1.500	86	89	88	84	82	79	72	67	87	25
		1.750	86	89	88	83	81	78	71	66	87	24
		2.000	86	89	88	83	81	78	71	66	87	24

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*Air Performance Data with Speed Control**

Volts	Nom. RPM	Max. Watts	Max. Amps	Hp	Static Pressure in Inches W.G.												
					0.0"	.125"	.25"	.375"	.50"	.75"	1.0"	1.25"	1.50"	1.75"	2.00"	2.25"	2.50"
165	1245	1234	4.91	1.41	4974	4660	4342	4002	3642	2913	2282	1731	1201	678	—	—	—
220	1450	1666	4.81	1.89	5889	5677	5464	5218	4949	4376	3792	3187	2595	2004	1342	—	—
265	1560	1884	4.48	2.15	6285	6114	5943	5754	5541	5080	4569	4004	3431	2779	2101	1384	—
320	1625	2057	4.11	2.34	6590	6437	6289	6114	5908	5495	5070	4592	4027	3424	2768	2007	1165

*Sound Data with Speed Control**

Volts	Nom. RPM	SP	Sound Power re 10^{-12} Watts Octave Bands, Hz								L_{wi} dB(A)**	†Sones
			63	125	250	500	1000	2000	4000	8000		
165	1245	0.500	74	76	74	72	69	65	57	48	74	10.9
		0.750	78	78	75	73	70	65	57	50	75	11.5
		1.000	81	80	76	74	71	67	59	53	76	12.8
220	1450	0.625	83	85	84	80	78	76	69	64	83	20
		0.750	83	85	83	79	77	76	68	63	83	19.7
		1.000	84	84	83	79	77	74	66	61	82	18.5
		1.250	85	84	82	78	76	73	65	60	81	17.9
265	1560	0.625	84	86	86	82	80	79	72	66	86	23
		0.750	84	86	86	82	80	78	71	65	85	23
		1.000	84	86	85	81	79	77	70	64	84	22
		1.250	85	86	84	80	78	76	69	63	84	21
		1.500	85	86	84	80	78	75	68	62	83	20
320	1625	0.625	75	83	85	81	79	78	71	61	85	21
		0.750	77	84	85	81	79	78	71	61	85	21
		1.000	79	85	85	81	79	76	70	62	85	21
		1.250	82	86	86	82	79	77	70	63	85	21
		1.500	84	87	86	82	79	77	69	63	85	22

Speed (RPM) shown in nominal. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances (accessories).
Performance certifed is for installation Type A: Free inlet, Free outlet.
Note: Three phase motors are dual wound for 230/460 volts. Motors are pre-wired for 460 volts but may be delivered as 208-230 volts or may be rewired in the field. Please consult factory for electrical specifications an delivery on alternative motor voltages.
The sound power level ratings shown are in decibels, referred to 10-12 watts calculated per AMCA Standard 301. Values shown are for inlet Lwi and LwiA sound power levels for installation type A: free inlet, free outlet. Ratings do not include the effect of duct end correction.
† The sound ratings shown are loudness values in fan sones at 5ft. (1.5m) in hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type A: free inlet hemispherical fan sone levels.
**Units using speed control are not licensed to bare the AMCA Seal.*
***dB(A) levels are not licensed by AMCA International*

For Speed Control Options call Fantech Technical Support 1.800.747.1762

Three (3) Year Warranty

This warranty supersedes all prior warranties

DURING ENTIRE WARRANTY PERIOD:
FANTECH will repair or replace any part which has a factory defect in workmanship or material. Product may need to be returned to the Fantech factory, together with a copy of the bill of sale and identified with RMA number.

FOR FACTORY RETURN YOU MUST:

- Have a Return Materials Authorization (RMA) number. This may be obtained by calling FANTECH either in the USA at 1.800.747.1762 or in CANADA at 1.800.565.3548. Please have bill of sale available.
- The RMA number must be clearly written on the outside of the carton, or the carton will be refused.
- All parts and/or product will be repaired/replaced and shipped back to buyer; no credit will be issued.

OR

The Distributor may place an order for the warranty part and/or product and is invoiced. The Distributor will receive a credit equal to the invoice only after product is returned prepaid and verified to be defective.

FANTECH WARRANTY TERMS DO NOT PROVIDE FOR REPLACEMENT WITHOUT CHARGE PRIOR TO INSPECTION FOR A DEFECT.
REPLACEMENTS ISSUED IN ADVANCE OF DEFECT INSPECTION ARE INVOICED, AND CREDIT IS PENDING INSPECTION OF RETURNED
MATERIAL. DEFECTIVE MATERIAL RETURNED BY END USERS SHOULD NOT BE REPLACED BY THE DISTRIBUTOR WITHOUT CHARGE TO THE END USER, AS CREDIT TO DISTRIBUTOR'S ACCOUNT WILL BE PENDING INSPECTION AND VERIFICATION OF ACTUAL DEFECT BY FANTECH.

THE FOLLOWING WARRANTIES DO NOT APPLY:

- Damages from shipping, either concealed or visible. Claim must be filed with freight company.
- Damages resulting from improper wiring or installation.
- Damages or failure caused by acts of God, or resulting from improper consumer procedures, such as:
    1. Improper maintenance
    2. Misuse, abuse, abnormal use, or accident, and
    3. Incorrect electrical voltage or current.
- Removal or any alteration made on the FANTECH label control number or date of manufacture.
- Any other warranty, expressed, implied or written, and to any consequential or incidental damages, loss or property, revenues, or profit, or costs of removal, installation or reinstallation, for any breach of warranty.

WARRANTY VALIDATION

- The user must keep a copy of the bill of sale to verify purchase date.
- These warranties give you specific legal rights, and are subject to an applicable consumer protection legislation. You may have additional rights which vary from state to state.

Limitation of Warranty and Liability

This warranty does not apply to any FANTECH INC. product or part which has failed as a result of faulty installation or abuse, incorrect electrical connections or alterations made by others, or use under abnormal operating conditions or misapplication of the product or parts. We will not approve for payment any repair not made by us or our authorized agent without prior written consent. The foregoing shall constitute our sole and exclusive warranty and our sole exclusive liability, and is in lieu of any other warranties, whether written, oral, implied or statutory. There are no warranties which extend beyond the description on the page hereof. In no event, whether as a result of breach of contract, or warranty or alleged negligence, defect incorrect advice or other causes, shall FANTECH be liable for special or consequential damages, including, but not limited to, loss of profits or revenue, loss of use of equipment or any other associated equipment, cost of capital, cost of substitute equipment, facilities or services, downtime costs, or claims of customers of purchase for such damages. FANTECH neither assumes or authorizes any person to assume for it any other liability in connection with the sale of product(s) or part(s). Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you.

Warning

FANTECH, INC. products are designed and manufactured to provide reliable performance, but they are not guaranteed to be 100% free from defects. Even reliable products will experience occasional failures and this possibility should be recognized by the user. If these products are used in a life support ventilation system where failure could result in loss or injury, the user should provide adequate backup ventilation, supplementary natural ventilation, failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

Fantech, reserves the right to modify, at any time and without notice, any or all of its products' features, designs, components and specifications to maintain their technological leadership position.

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