



INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

FORWARD CURVED INLINE DUCT BLOWERS

DBS (Single) | DBT (Twin)



DUCT BLOWERS

Overview

DBS | DBT



Model DBS

General Information

Twin City Fan's belt driven DBS (single) and DBT (twin) duct blowers are specifically designed for duct applications handling relatively clean air, including supply, exhaust and return air systems. These fans offer high efficiency and quiet operation in a compact design that can be mounted in bottom horizontal or top horizontal positions. Duct collars are provided for easy mounting connections. The units can be easily serviced through access panels without removing duct connections.

Duct blowers feature forward curved centrifugal impellers that produce high air volumes at low speeds. All impellers are statically and dynamically balanced. Units are manufactured under strict quality assurance standards to ensure cataloged performance and years of trouble-free operation.

Typical Applications Include

General HVAC, Generator Room Ventilation

Arrangements

Available in Arrangement 3

Impeller Type

Forward Curved

Optional Construction

UL 705

Certifications

AMCA Air and FEI, UL 705 Listed for Electrical



Model DBT



Twin City Fan & Blower certifies that the Model DBS and Model DBT fans shown herein are licensed to bear the AMCA Seal. Certified performance data may be found in Twin City Fan & Blower's Fan Selector software.



Scan the QR code to search Twin City Fan & Blower's AMCA-certified products.



All DBS and DBT models are UL/cUL 705 listed, for electrical, File No. E158680.



For complete product performance, drawings and available accessories, download our Fan Selector software at tcf.com.

Overview

DBS | DBT

Capabilities

DBS and DBT fans are each available in 8 sizes, ranging from 8" through 20" impeller diameters.

Performance capabilities include a broad capacity range from 400 to 31,500 CFM and static pressure capabilities to 4 inches w.g.

Construction Features

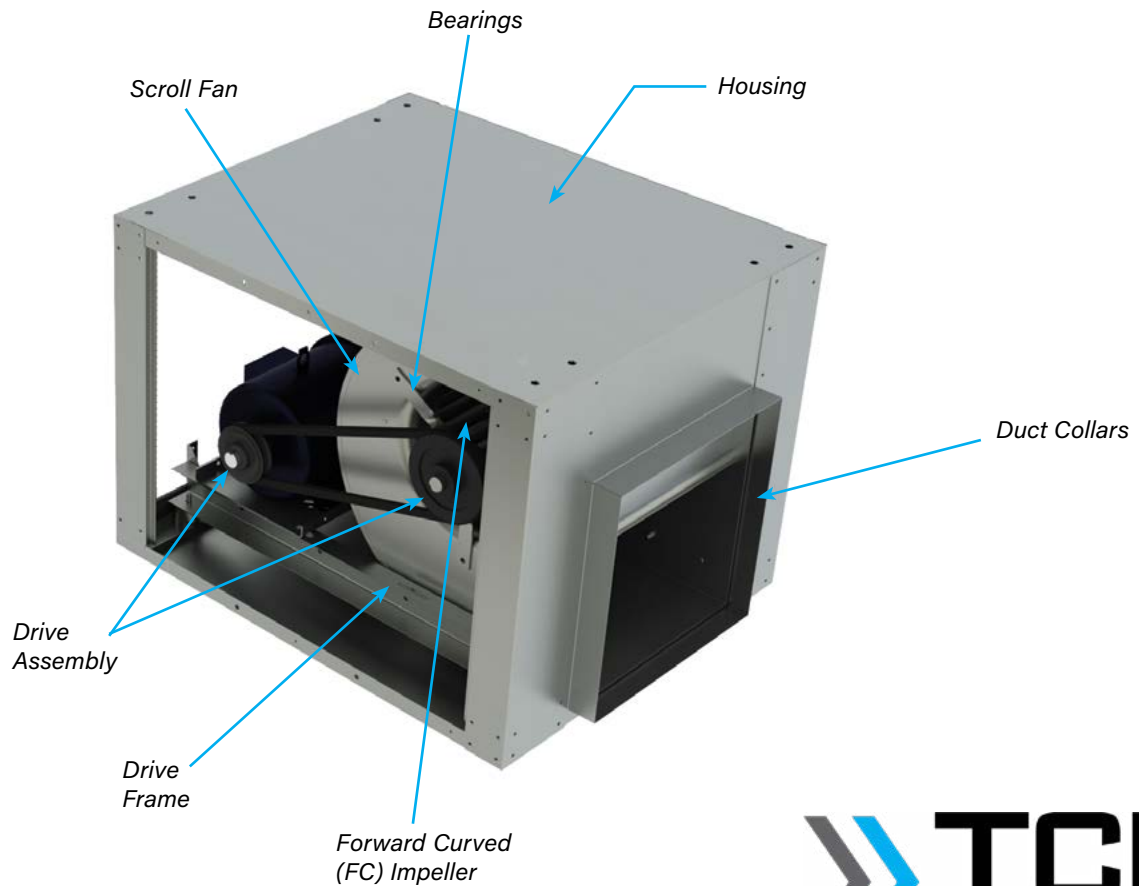
- Housing assembly features heavy-gauge galvanized steel construction. Housing sides and scroll are spot welded on sizes 8"-18". Size 20" housing is lock seam design.
- Duct collars provide ready attachment to ductwork.
- Removable side panels provide easy access for service and maintenance without the need to remove duct connections. Complete removal of the power assembly is also possible through side access panels.
- Forward curved, galvanized steel impellers are statically and dynamically balanced to assure long life and quiet operation.
- Heavy-duty cast iron adjustable pulleys to permit speed variation.
- All models are furnished with deep groove, self aligning ball bearings, permanently lubricated and sealed.



Top Horizontal Discharge

Energy Regulations

Twin City Fan & Blower supports energy efficiency regulations enacted by the U.S. Department of Energy (DOE) and specific states. The selection and application of fan products is a significant part of these regulations. Engineers and specifiers must understand how to apply TCF products to their specific applications to meet applicable DOE and state regulatory requirements. Twin City Fan & Blower has made significant investments in product testing and development to provide efficient products. Developments in Twin City Fan & Blower's Fan Selector software are in place to aid your decision in product selection to assist with meeting the efficiency requirements as stipulated in the applicable regulations.



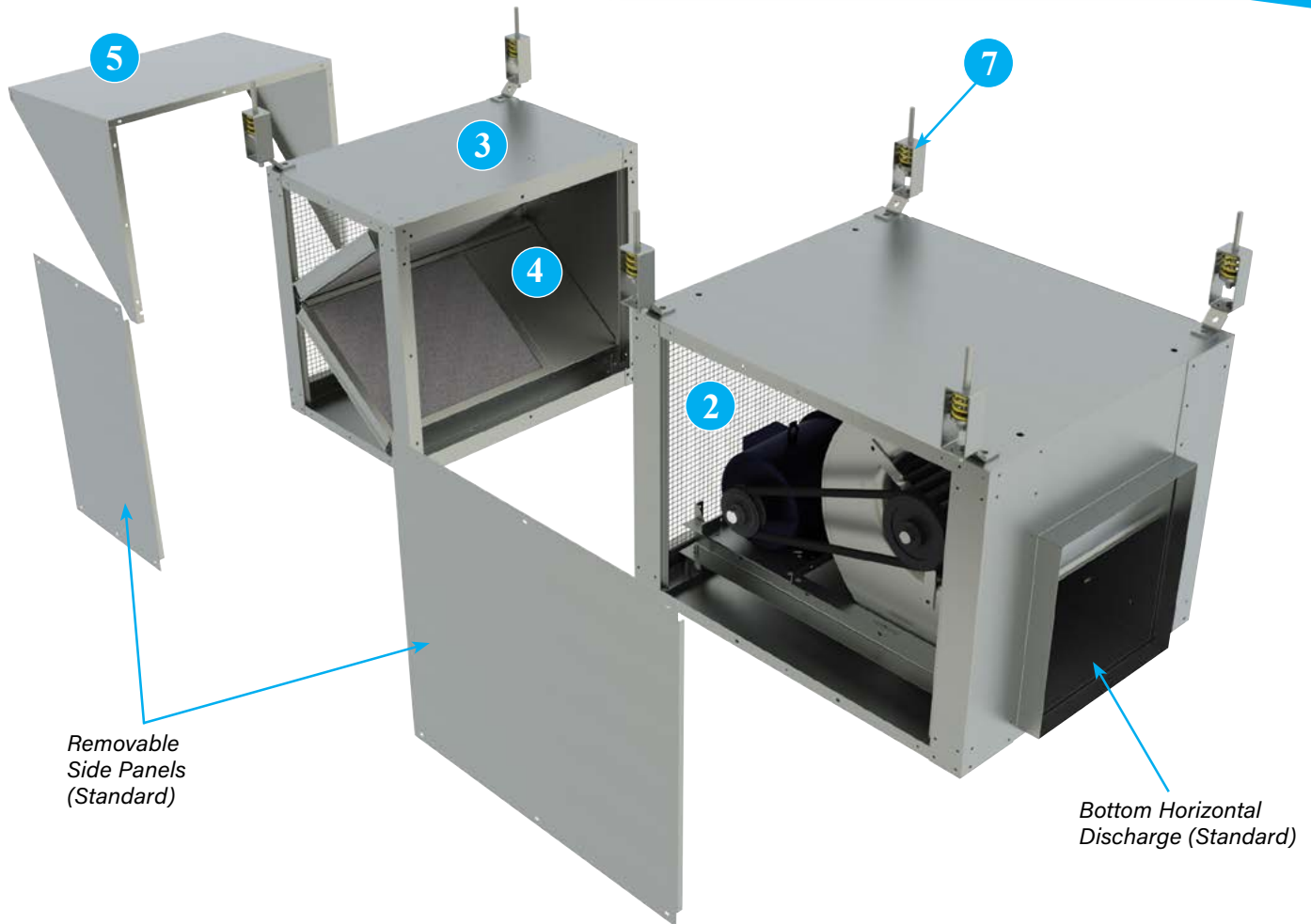
Impeller Construction

Double width, double inlet forward curved centrifugal fan impellers are constructed of galvanized steel with FC blades. The FC blades are constructed of galvanized steel with FC blades tab locked into the end rings and a heavy duty steel hub is bolted to the impeller.

Bearings

Deep groove, self-aligning ball bearings are permanently lubricated and sealed. The bearing is mounted inside a rubber isolator and attached directly to the fan housing with a three prong (sizes 8-12) or a four prong (sizes 14-20) mount. Twin blowers (DBT) have three bearings.





1 Backdraft Dampers, (not shown) with automatic or motorized operation, feature felt-edged damper blades for quiet operation. Damper frames are constructed of 20-gauge galvanized steel and blades are constructed of 26-gauge aluminum. Dampers are channel frame and ship loose for field mounting in duct work.

Motorized dampers are recommended for low CFM applications to assure unrestricted airflow. Motorized dampers are available with 24, 115, 208, 230, 460 or 575 volt service.

2 Inlet Screen is available to enclose the motor and drive compartment, protecting personnel and preventing birds from gaining entry to the fan and building. Screen attaches to fan or filter box, if ordered.

3 Filter Box, containing two inch wire mesh, removable and washable filters is available for attachment to the fan inlet side. The filter box is constructed of galvanized steel, with duct collars for easy mounting and removable side panels for easy filter cleaning or replacement. Disposable Merv 8 paper filters are also available. One inch filters are available on either type. For filter box pressure drops contact factory. See page 9 for dimensional data.

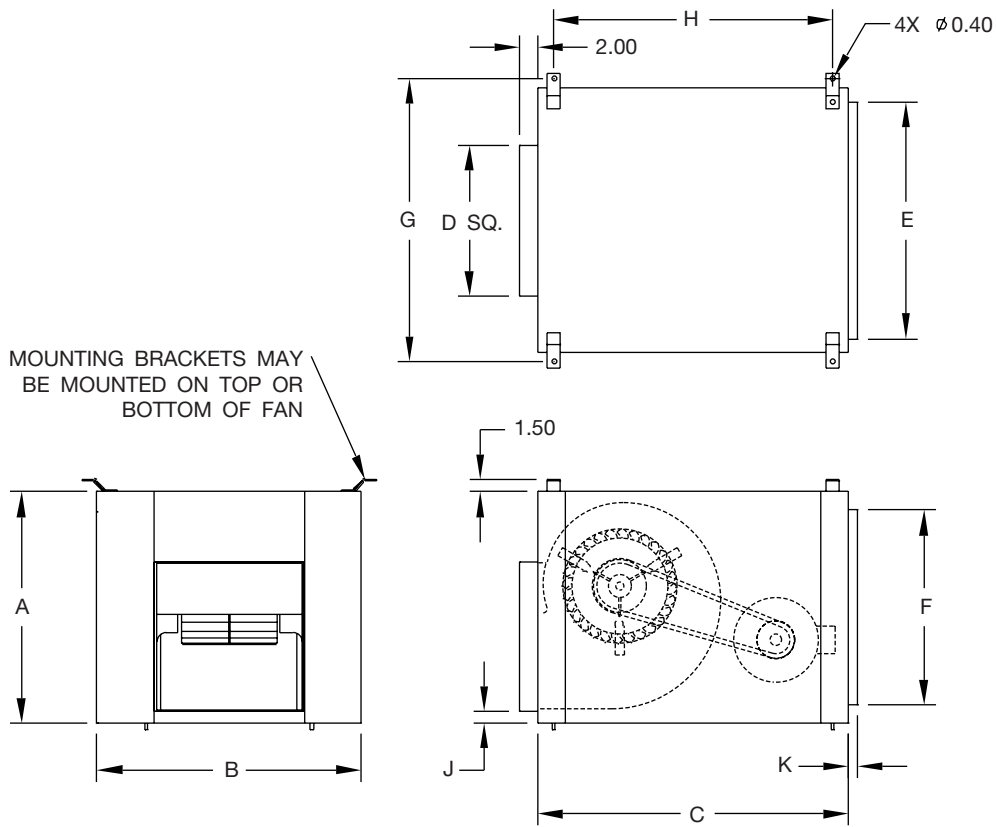
4 Insulated Housing A one-inch thick layer of fiberglass insulation on the interior of the fan housing is available to provide protection against condensation and to aid in noise reduction. Neoprene coated or foil face insulation is available.

5 Intake Weather Hood are available to keep rain and snow from entering the building. Hood includes a galvanized bird screen, which mounts to fan housing at inlet or to filter box, if ordered.

6 Disconnect Switches (not shown) NEMA-rated switches are available for positive electrical shutoff of the fan and the protection of service personnel. Switches can be shipped loose or mounted and wired.

7 Vibration Isolators
Spring or neoprene type vibration isolators are available for ceiling suspension or floor mounting.

Model DBS (Single)



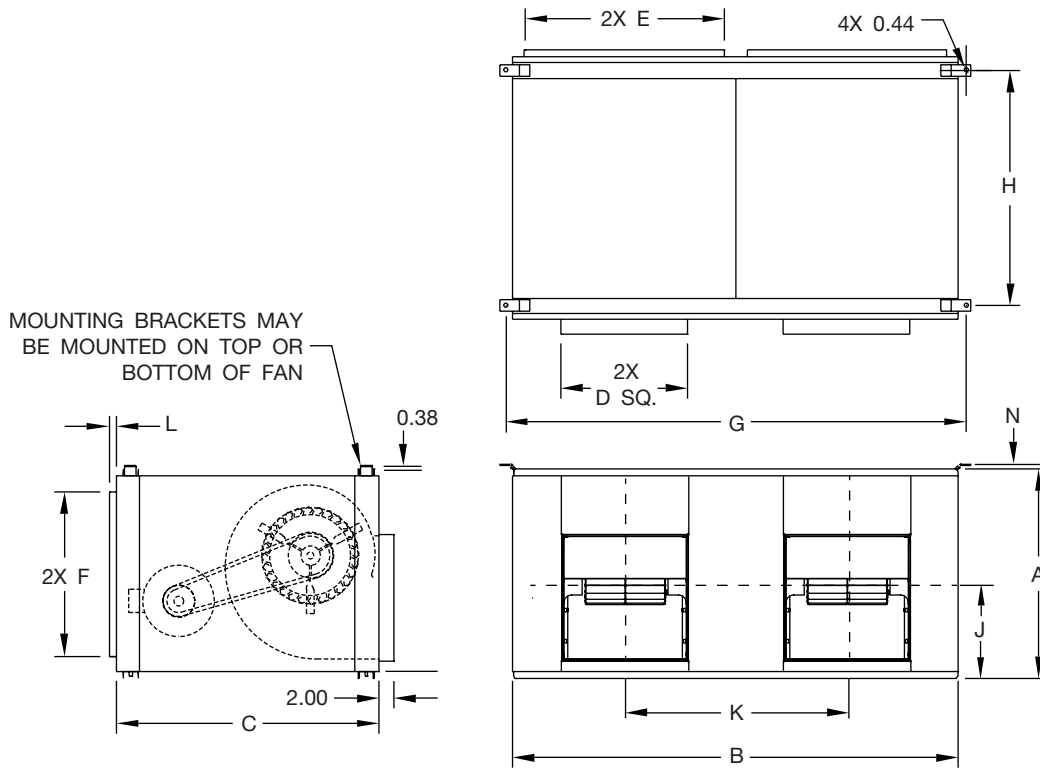
MODEL DBS	A	B	C	D SQ.	E	F	G	H	J	K	MAX FRAME	DAMPER SIZE, SQ.	AVG. SHIP WT. (LBS.)
080	16.13	18.38	23.31	10.53	15.38	13.13	20.43	20.13	1.31	1.00	145T	10.50	57
090	18.00	20.63	24.31	11.78	17.63	15.00	22.68	21.13	1.31	1.00	145T	11.75	65
100	19.69	22.25	28.31	13.12	19.25	16.69	24.31	24.88	1.31	1.00	184T	13.13	77
120	25.25	28.75	33.81	16.38	25.75	21.25	30.81	30.38	1.31	1.00	184T	16.38	129
140	27.50	32.38	34.09	18.31	28.38	23.50	34.43	30.00	1.63	1.50	184T	18.25	151
160	30.75	36.25	38.09	20.44	32.25	26.75	38.31	34.00	1.63	1.50	184T	20.44	180
180	34.88	41.00	43.09	22.88	37.00	30.88	43.06	39.00	1.63	1.63	215T	22.88	226
200	38.63	45.38	47.59	25.59	41.38	34.63	47.43	43.38	1.63	2.00	256T	25.63	261

Notes:

1. All figures are in inches unless noted otherwise.
2. Average ship weight is for fan and motor assembly.
3. Dimensions are not to be used for construction.

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Model DBT (Twin)



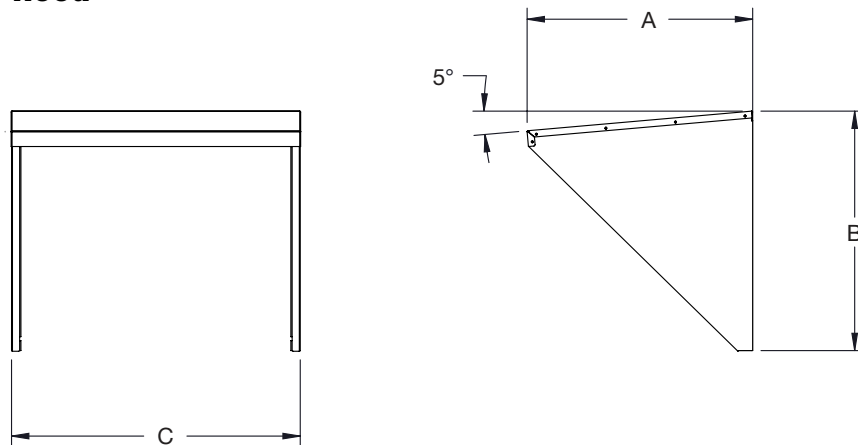
MODEL DBT	A	B	C	D SQ.	E	F	G	H	J	K	L	N	MAX FRAME	DAMPER SIZE, SQ.	AVG. SHIP WT. (LBS.)
080	17.63	36.63	23.31	10.50	15.38	13.13	38.63	20.13	1.31	4.00	1.00	0.75	145T	10.50	97
090	19.50	41.13	24.31	11.75	17.63	15.00	43.13	21.13	1.31	4.44	1.00	0.75	145T	11.75	115
100	21.19	44.50	28.31	13.06	19.25	16.69	46.50	24.88	1.31	4.63	1.00	0.75	184T	13.13	143
120	27.00	57.50	33.81	16.38	25.75	21.25	59.50	30.38	1.31	6.25	1.00	0.63	184T	16.38	242
140	29.25	64.75	34.09	18.31	28.38	23.50	66.75	30.00	1.63	7.00	1.50	0.63	184T	18.25	270
160	32.50	72.50	38.09	20.44	32.25	26.75	74.50	34.00	1.63	8.00	1.50	0.63	215T	20.44	322
180	36.88	82.00	43.09	22.88	37.00	30.88	84.00	39.00	1.63	9.00	1.50	0.50	215T	22.88	413
200	40.63	90.75	47.59	25.63	41.38	34.63	92.75	43.38	1.63	10.00	2.00	0.50	286T	25.63	523

D-4220-2B

Notes:

1. All figures are in inches unless noted otherwise.
2. Average ship weight is for fan and motor assembly.
3. Dimensions are not to be used for construction.
4. Damper quantity is two.

Intake Weather Hood

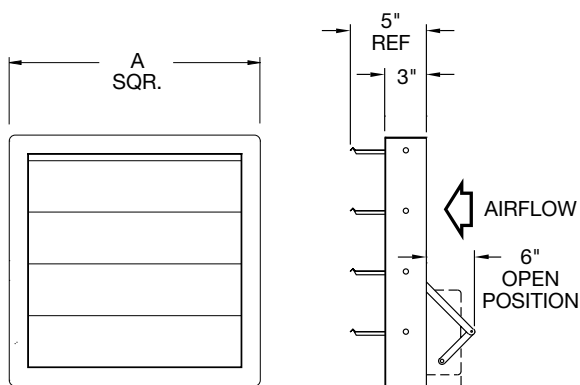


FAN SIZE	A	B	C
080	13.00	15.50	17.81
090	15.00	17.38	20.13
100	17.00	19.13	21.75
120	22.00	23.38	28.25
140	25.00	25.63	30.81
160	28.00	28.88	34.75
180	32.00	33.00	39.50
200	36.00	36.75	43.81

Notes:

- Quantity of two (2) hoods required for Model DBT, Twin Duct Blower.
- Includes inlet screen, which mounts to fan housing or to optional filter box, if ordered. Screen does not mount to hood.

Backdraft Damper



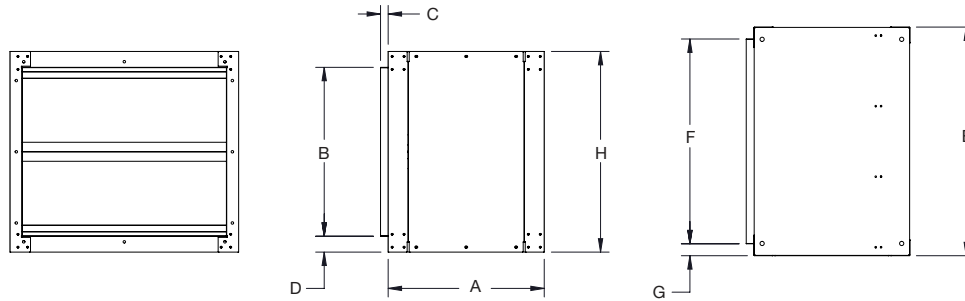
FAN SIZE	A
080	10.50
090	11.75
100	13.13
120	16.38
140	18.25
160	20.44
180	22.88
200	25.63

Notes:

- Quantity of two (2) dampers required for Model DBT, Twin Duct Blower.
- Available as automatic or motorized.

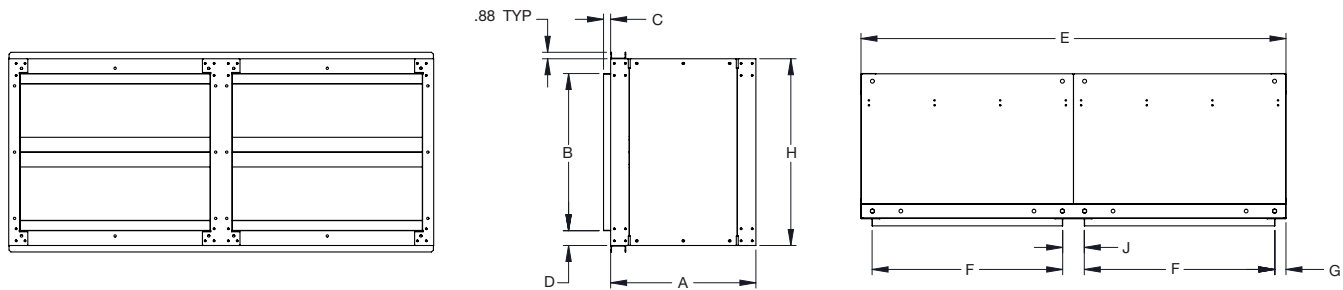
Accessories

Filter Box (Single)



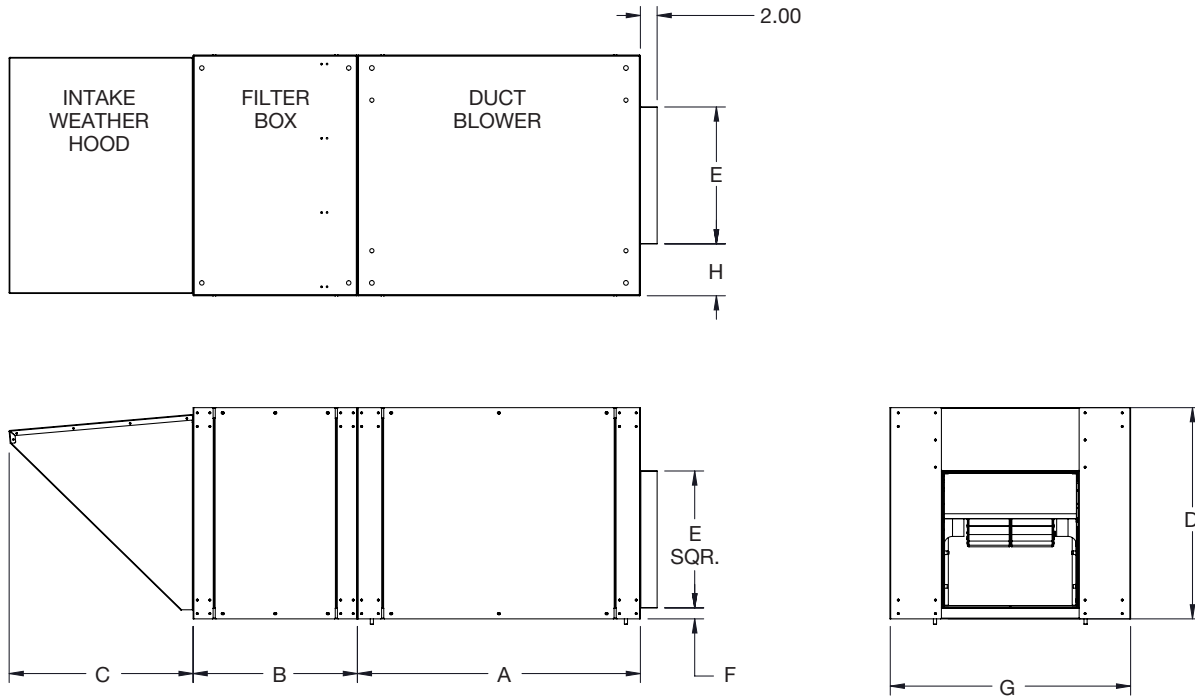
DBS SIZE	A	B	C	D	E	F	G	H	FILTER SIZE	QTY.
080	17.19	13.13	1.00	1.50	18.38	15.38	1.50	16.13	16 x 16	1
090	18.19	15.00	1.00	1.50	20.63	17.63	1.50	18.00	18 x 20	1
100	19.31	16.69	1.00	1.50	22.25	19.25	1.50	19.69	20 x 20	1
120	19.63	21.25	1.00	2.00	28.75	25.75	2.00	25.25	16 x 20	2
140	19.09	23.50	1.50	2.00	32.38	28.38	2.00	27.50	16 x 16	4
160	23.81	26.75	1.50	2.00	36.25	32.25	2.00	30.75	18 x 20	4
180	23.09	30.88	1.50	2.00	41.00	37.00	2.00	34.88	20 x 20	4
200	21.75	34.63	2.00	2.00	45.38	41.38	2.00	38.63	20 x 20	4

Filter Box (Twin)



DBT SIZE	A	B	C	D	E	F	G	H	J	FILTER SIZE	QTY.
080	17.19	13.13	1.00	1.50	36.63	15.38	1.50	16.13	2.92	16 x 16	2
090	18.19	15.00	1.00	1.50	41.13	17.63	1.50	18.00	2.92	18 x 20	2
100	19.31	16.69	1.00	1.50	44.50	19.25	1.50	19.69	2.92	20 x 20	2
120	19.63	21.25	1.00	2.00	57.50	25.75	2.00	25.25	2.92	16 x 20	4
140	19.09	23.50	1.50	2.00	64.75	28.38	2.00	27.50	3.92	16 x 16	8
160	23.81	26.75	1.50	2.00	72.50	32.25	2.00	30.75	3.92	18 x 20	8
180	23.09	30.88	1.50	2.00	82.00	37.00	2.00	34.88	3.92	20 x 20	8
200	21.75	34.63	2.00	2.00	90.75	41.38	2.00	38.63	3.92	20 x 20	8

Model DBS (Single)



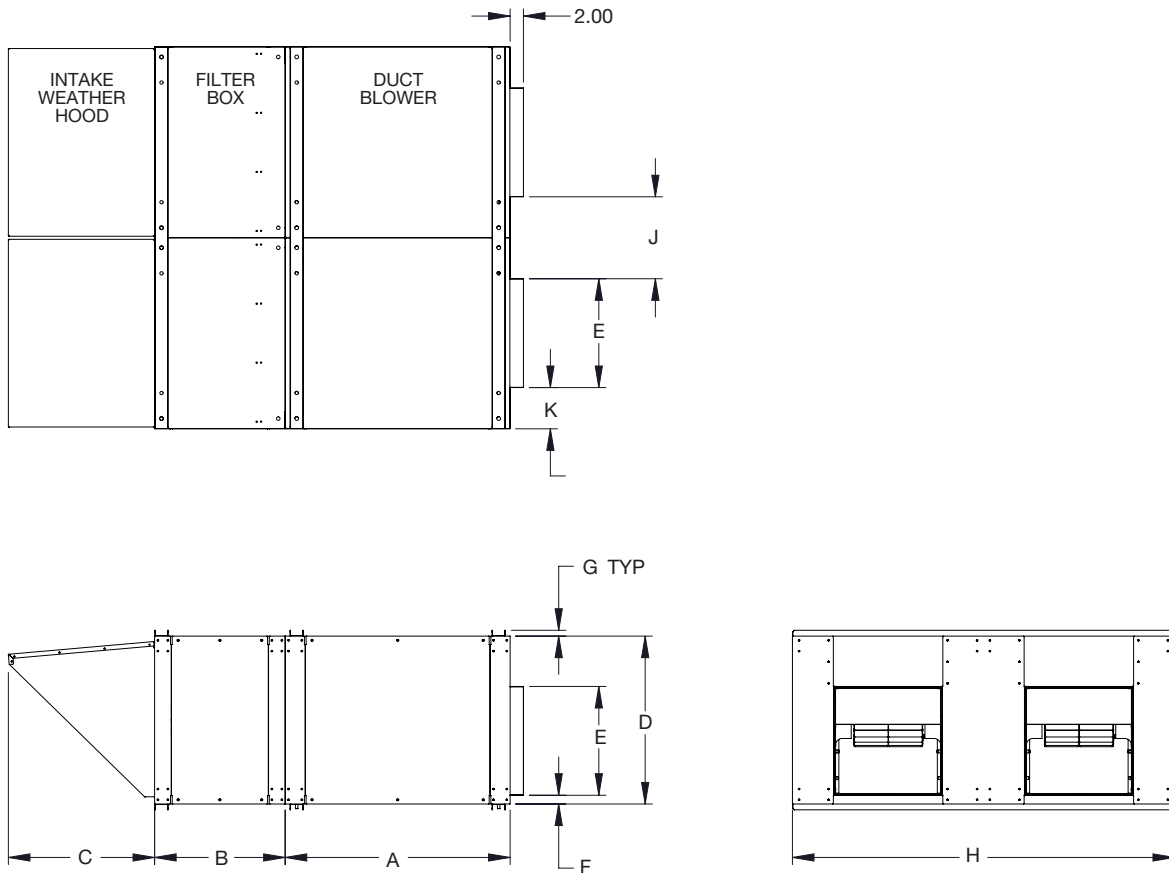
DBS	A	B	C	D	E SQR.	F	G	H
080	23.31	17.19	13.00	16.13	10.50	1.31	18.38	4.00
090	24.31	18.19	15.00	18.00	11.75	1.31	20.63	4.44
100	28.31	19.31	17.00	19.69	13.06	1.31	22.25	4.63
120	33.81	19.63	22.00	25.25	16.38	1.31	28.75	6.25
140	34.09	19.09	25.00	27.50	18.31	1.63	32.38	7.00
160	38.09	23.81	28.00	30.75	20.44	1.63	36.25	8.00
180	43.09	23.09	32.00	34.88	22.88	1.63	41.00	9.00
200	47.59	21.75	36.00	38.63	25.63	1.63	45.38	10.00

Note:
Dimensions are not to be used for construction.



Accessories, Assembled

Model DBT (Twin)



DBT SIZE	A	B	C	D	E SQR.	F	G	H	J	K
080	23.31	17.19	13.00	16.13	10.50	1.31	0.75	36.63	7.75	4.00
090	24.31	18.19	15.00	18.00	11.75	1.31	0.75	41.13	8.75	4.44
100	28.31	19.31	17.00	19.69	13.06	1.31	0.75	44.50	9.13	4.63
120	33.81	19.63	22.00	25.25	16.38	1.31	0.88	57.50	12.38	6.25
140	34.09	19.09	25.00	27.50	18.31	1.63	0.88	64.75	14.00	7.00
160	38.09	23.81	28.00	30.75	20.44	1.63	0.88	72.50	15.75	8.00
180	43.09	23.09	32.00	34.88	22.88	1.63	1.00	82.00	18.13	9.00
200	47.59	21.75	36.00	38.63	25.63	1.63	1.00	90.75	19.75	10.00

Note:
Dimensions are not to be used for construction.



Model

DBS

Forward curved inline duct blowers shall be model DBS (single) as manufactured by Twin City Fan Companies Ltd., Minneapolis, MN.

BLOWER HOUSING - Heavy gauge galvanized steel blower housings with removable access panels.

FAN HOUSING - Fan housings are constructed of galvanized steel for corrosion resistance. For fan sizes up to 18" the housing sides and scroll are spot welded together to form a durable assembly. For fan size 20" the side plates are lock formed to the scroll for a durable, air tight construction without compromising the galvanized surface coating of the metal.

IMPELLER - Double width, double inlet fan impellers are constructed of galvanized steel, forward curve blades, tab locked into the end rings. A galvanized structural steel plate mounted in the center of the impeller supports the shaft and stabilizes the blades.

SHAFTS - Shafts are formed from C40 carbon steel. The shafts are ground, polished and ring gauged for accuracy. Fan assemblies are provided with coated shafts for enhanced corrosion protection. Single solid shafts are standard on all sizes.

BEARINGS - Deep groove, self aligning ball bearings are permanently lubricated and sealed. The bearings are mounted inside a rubber isolator and attached directly to the fan housing with a three (sizes 8-12) or four (sizes 14-20) prong mount.

MOTORS - All motors shall be single phase or three phase induction, permanently lubricated, heavy-duty, ball bearing type, closely matched to the fan load and provided at the voltage, phase, hertz and enclosure as provided on the fan schedule.

DRIVES - Motor sheaves shall be cast iron, and supplied as variable pitch standard. Drives and belts shall be rated for a minimum of 150% of the required motor HP.





Model

DBT

Forward curved inline duct blowers shall be model DBT (twin) as manufactured by Twin City Fan Companies Ltd., Minneapolis, MN.

BLOWER HOUSING - Heavy gauge galvanized steel blower housings with removable access panels.

FAN HOUSING - Fan housings are constructed of galvanized steel for corrosion resistance. For fan sizes up to 18" the housing sides and scroll are spot welded together to form a durable assembly. For fan size 20" the side plates are lock formed to the scroll for a durable, air tight construction without compromising the galvanized surface coating of the metal.

IMPELLER - Double width, double inlet fan impellers are constructed of galvanized steel, forward curve blades, tab locked into the end rings. A galvanized structural steel plate mounted in the center of the impeller supports the shaft and stabilizes the blades.

SHAFTS - Shafts are formed from C40 carbon steel. The shafts are ground, polished and ring gauged for accuracy. Fan assemblies are provided with coated shafts for enhanced corrosion protection. Single solid shafts are standard on all sizes.

BEARINGS - Deep groove, self aligning ball bearings are permanently lubricated and sealed. The bearings are mounted inside a rubber isolator and attached directly to the fan housing with a three (sizes 8-12) or four (sizes 14-20) prong mount.

MOTORS - All motors shall be single phase or three phase induction, permanently lubricated, heavy-duty, ball bearing type, closely matched to the fan load and provided at the voltage, phase, hertz and enclosure as provided on the fan schedule.

DRIVES - Motor sheaves shall be cast iron, and supplied as variable pitch standard. Drives and belts shall be rated for a minimum of 150% of the required motor HP.



INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

CENTRIFUGAL FANS | UTILITY SETS | PLENUM & PLUG FANS | INLINE CENTRIFUGAL FANS
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TWIN CITY FAN & BLOWER
WWW.TCF.COM

5959 TRENTON LANE N. | MINNEAPOLIS, MN 55442 | PHONE: 763-551-7600 | FAX: 763-551-7601

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