

TUBEAXIAL FANS, DIRECT DRIVE & BELT DRIVEN

**Model BSTAB
Belt Driven**



**Model BSTA
Direct Drive**



MODELS: BSTA / BSTAB



Models BSTA / BSTAB

Direct Drive & Belt Driven



Motor Side View of BSTA
Direct Drive Tubeaxial Fan



Drive Side View of
BSTAB Belt Driven
Tubeaxial Fan

Aerovent BSTA and BSTAB Tubeaxial Fans are specifically designed for cost effective, reliable air movement in commercial and light industrial ducted and non-ducted applications. Direct and belt driven models are available with cast aluminum impellers to meet specific application requirements.

Sizes and Performance

- Direct drive sizes 14" to 48"
- Belt driven sizes 14" to 54"
- Airflow to 61,000 CFM
- Static pressures to 1 1/2" w.g.

Construction Features

- Die cast aluminum blades and hubs.
- Continuously-welded, heavy-gauge, corrosion resistant, TGIC polyester powder coated steel housing.
- Heavy-gauge steel motor and bearing supports provide maximum strength with minimal resistance to airflow.
- Flanged housings with prepunched mounting holes can easily be connected to ductwork.
- Dynamically balanced impellers for quiet, limited vibration operation.
- Designed for continuous-duty.
- Available with a wide variety of ODP, TEFC and explosion proof ball bearing motors.
- Extended lube lines are standard on Model BSTAB fans.
- Externally mounted conduit box standard on model BSTA fans.



Aerovent, a Twin City Fan Company, certifies that the Model BSTA/BSTAB shown herein are licensed to bear the AMCA Seal. Certified performance data may be found in Aerovent's Fan Selector software.



Scan the QR code to search Aerovent's AMCA-certified products.

AEROVENT 
INDUSTRIAL VENTILATION SYSTEMS

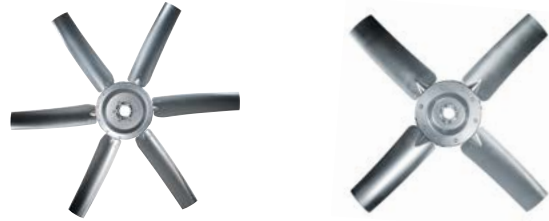


For complete product performance, drawings and available accessories, download our Fan Selector software at aerovent.com.

Impeller

"B" Backswept Impeller

The "B" series features an adjustable pitch die cast aluminum impeller available in 4, 5 and 6 blade designs. Blade angles are factory set and mounted in a die cast aluminum hub. "B" impellers are available in 14" through 54" diameters.



Model Nomenclature

BSTAB - 24 - B - 1 - 05 - 25

Model

BSTA = Direct Drive
BSTAB = Belt Driven

Fan Size

Impeller Type

B = Backswept

Hub Designation

Blade Count

Blade Angle

Energy Regulations

Aerovent 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 Aerovent products to their specific applications to meet applicable DOE and state regulatory requirements. Aerovent has made significant investments in product testing and development to provide efficient products. Developments in Aerovent'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.

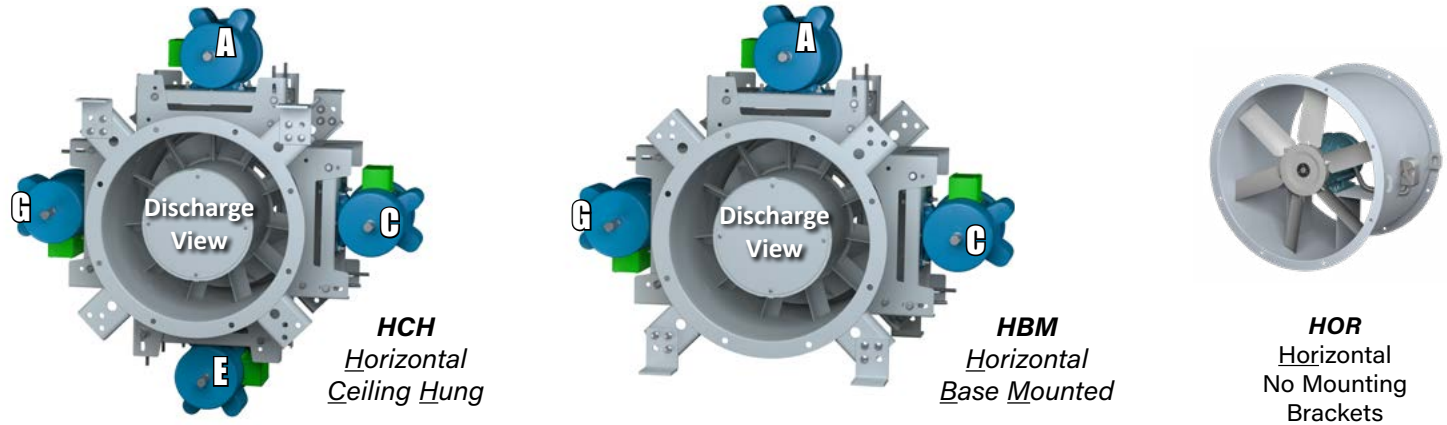
Mounting Configurations

Horizontal Construction

Horizontal Base Mounted (HBM) — Support legs are provided at each end of the fan for floor mounting.

Horizontal Ceiling Hung (HCH) — For duct mounted fans, four suspension clips are welded to the fan casing to allow ceiling suspension using rod hangers.

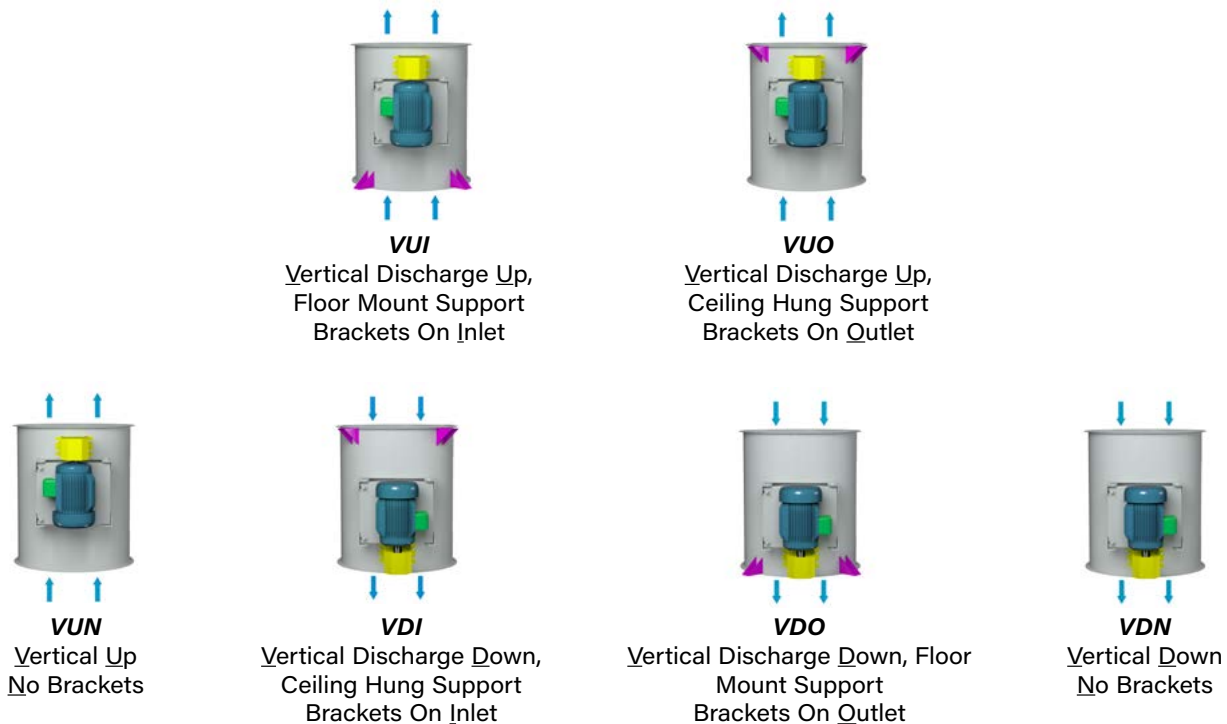
Horizontal (HOR) — For mounting configurations where support legs and suspension clips are not required.

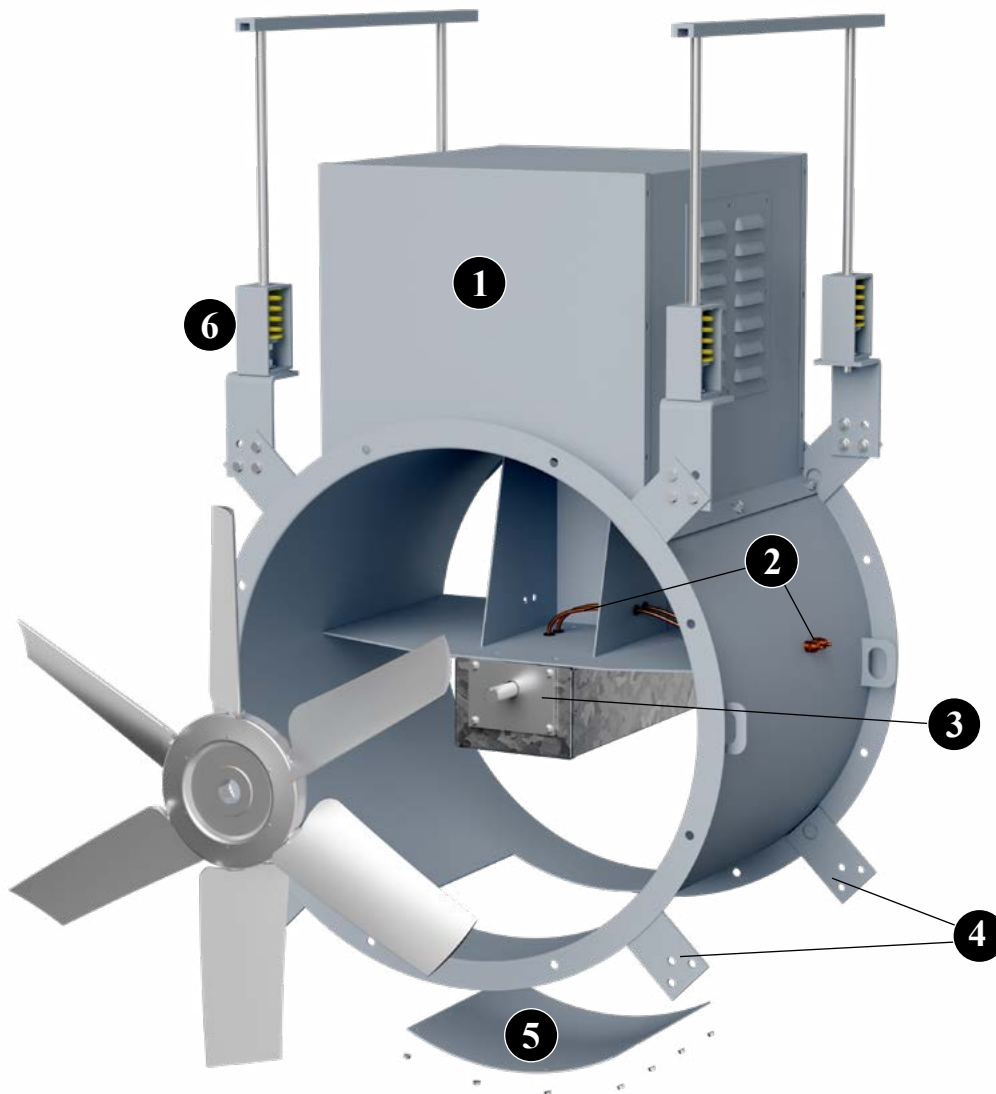


Vertical Construction

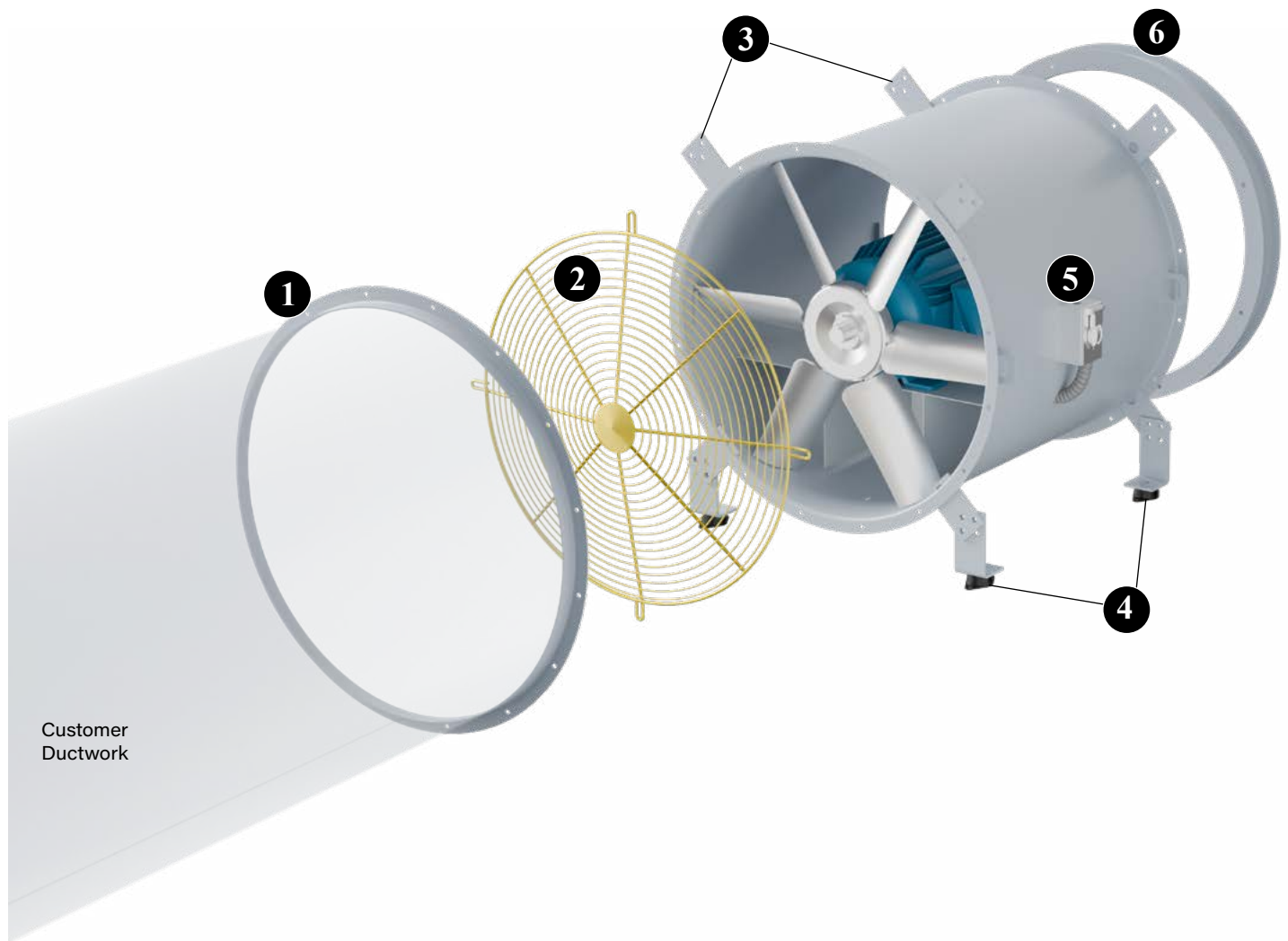
Floor or Ceiling Mounted (VUI/VUO/VDI/VDO) — Four vertical brackets are welded to either end of the fan housing. Bracket location is determined by airflow direction and support details (see below).

Vertical (VUN/VDN) — For mounting configurations where support brackets are not required.





- 1 Motor Cover** A weatherproof motor cover is available on belt driven models to protect the motor and drive components. Motor covers also serve as an OSHA guard to protect personnel from rotating parts and can easily be removed for inspection. (Model BSTAB fans only.)
- 2 Extended Lube Lines** Allow for easy lubrication of bearings on belt driven units without disassembly by extending polyethylene lines from fan bearings to exterior of base.
- 3 Shaft Seal** Shaft seal consists of a rubbing ring at the impeller end of the inner cylinder. A shaft seal is recommended when the fan is exposed to wet, corrosive or dirty contaminants. The shaft seal does not make the fan gas tight. (Model BSTAB fans only.)
- 4 Mounting Brackets** Mounted to fan housing. Location varies with discharge orientation and mounting option. See page 8 for available options.
- 5 Access Door** A bolted access door allows for inspection and maintenance of internal fan components.
- 6 Hanging Spring Isolators** Spring type isolators are available to damper vibration and noise transmission in ceiling suspended installations. Also available in rubber-in-shear construction.



- 1 Companion Flange** Inlet and outlet companion flanges are available for ease of duct connection. Companion flanges are rolled angle rings punched to match the standard inlet or outlet flange.
- 2 Outlet Screen** Safety screens are available for mounting in the fan inlet or outlet in non-ducted applications. Screens are removable for routine inspection and cleaning of the impeller.
- 3 Mounting Brackets** Mounted to fan housing. Location varies with discharge orientation and mounting option. See page 4 for available options.
- 4 Floor Mount RIS** Rubber-in-shear type isolators are available to dampen vibration and noise transmission in floor mounted installations. Also available in spring type construction.
- 5 Disconnect Switch** A NEMA 1, 3R, 4 or 7/9 safety disconnect switch is available for positive electrical shutoff of the fan and the protection of service personnel. Disconnects are shipped loose for field mounting and wiring.
- 6 Inlet Bell** An inlet bell is recommended to minimize entrance losses for installations where the inlet of the fan is non-ducted. Inlet bell is flanged and punched to mate up with the standard flanged inlet.

Other Accessories Include:

- Spark Resistant Construction - Type B is available on belt driven fans. (Model BSTAB fans only.)
- Special Coatings
- Belt Guard (Model BSTAB fans only)

Disconnect switches provide positive electrical shutoff during fan cleaning or maintenance.

NEMA-1 Disconnect Switch

A NEMA-1 disconnect switch is available shipped loose for field mounting and wiring or factory mounted and wired with ODP or TEFC motors.



NEMA-1 Disconnect Switch

NEMA-3R Disconnect Switch

A NEMA-3R, rain proof, disconnect is available shipped loose for field mounting and wiring or factory mounted and wired externally.



NEMA-3R Disconnect Switch

NEMA-4 Disconnect Switch

A NEMA-4, water and dust tight, disconnect is available shipped loose for field mounting and wiring or factory mounted and wired externally.



NEMA-4 Disconnect Switch

NEMA-7/9 Disconnect Switch

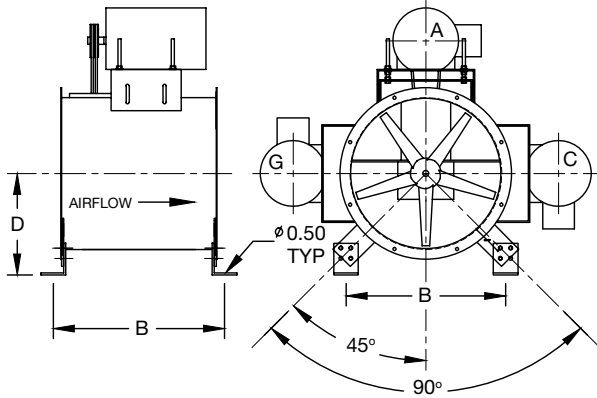
A NEMA-7/9 disconnect switch is recommended on fans with explosion proof motors. The NEMA-7/9 switch is designed for use with fans operating in hazardous environments. Available shipped loose for field mounting and wiring. (Not shown.)

Engineering Data

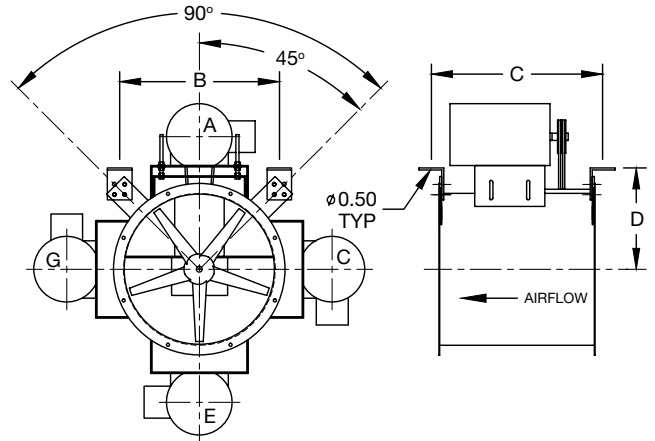
Material Specifications

FAN SIZE	HOUSING (GAUGE)	IMPELLERS (GAUGES)	SHAFT SIZE (IN.)	APPROX. SHIP WT. (LB)	
				BSTA	BSTAB
				W/ALUM PROP	W/ALUM PROP
14	14	DIE CAST ALUM.	3/4	33	40
16	14		3/4	53	67
18	14		3/4	60	75
21	14		3/4	85	104
24	14		1	97	118
30	12		1	149	183
36	12		13/16	234	288
42	12		17/16	305	375
48	12		17/16	547	664
54	12		17/16	N/A	803

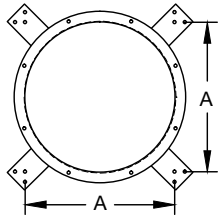
Mounting Brackets



HORIZONTAL BASE MOUNT (HBM)
VERTICAL FLOOR



HORIZONTAL CEILING HUNG (HCH)
VERTICAL CEILING



VERTICAL MOUNT (VUI, VUO, VDI, VDO)
TOP VIEW

FAN SIZE	A	B	C	D
14	15.35	16.60	21.34	10.93
16	16.68	17.93	21.34	11.59
18	18.18	19.43	21.34	12.34
21	20.30	21.55	23.03	13.40
24	22.42	23.67	23.03	14.46
30	26.75	28.00	28.34	18.63
36	31.13	32.38	29.28	22.81
42	35.55	36.80	33.28	25.03
48	39.70	40.95	37.28	28.60
54	43.94	45.20	42.28	30.72
60	48.18	49.43	42.28	34.34

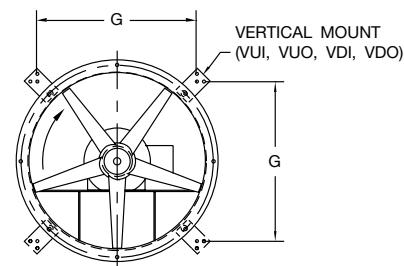
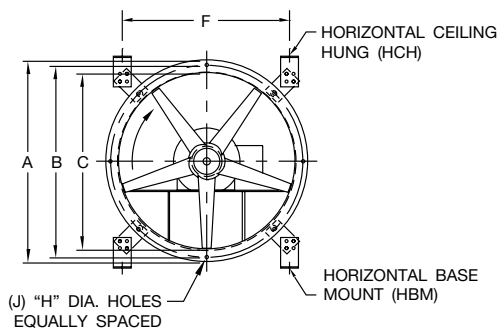
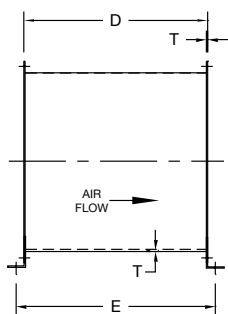
30013101F



AEROVENT 
INDUSTRIAL VENTILATION SYSTEMS

BSTA/BSTAB

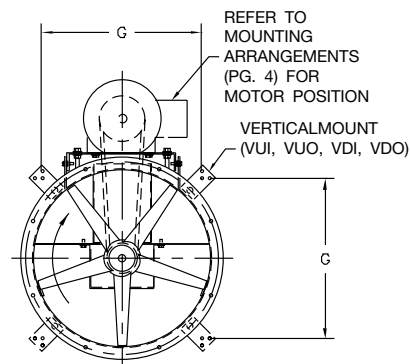
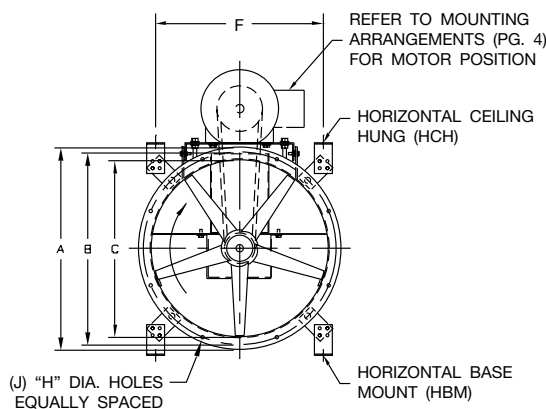
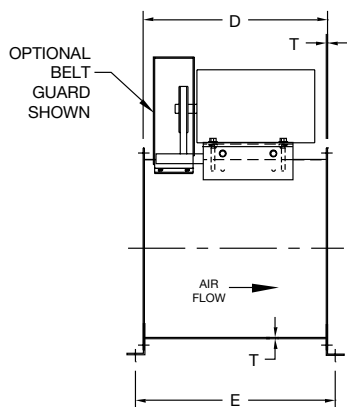
Direct Drive - BSTA



FAN SIZE	A	B	C	D	E	F	G	H	J	T	MAX. HP	MAX FRAME
14	16.88	15.88	14.25	19.00	21.88	16.00	14.81	0.56	8	14 GA.	3/4	56
16	19.63	17.88	16.13	19.00	21.88	17.88	16.68	0.56	8	14 GA.	1	143T
18	21.75	19.88	18.25	19.00	21.88	19.50	18.25	0.56	8	14 GA.	1 1/2	145T
21	24.75	22.88	21.25	20.69	23.56	21.50	20.25	0.56	8	14 GA.	2	145T
24	27.75	25.88	24.25	20.69	23.56	23.63	22.44	0.56	8	14 GA.	3	184T
30	33.88	32.00	30.38	26.00	28.88	28.00	26.75	0.56	8	12 GA.	5	184T
36	40.50	38.38	36.50	27.00	29.88	32.38	31.13	0.56	16	12 GA.	1 1/2	215T
42	46.75	44.63	42.75	31.00	33.88	34.63	33.44	0.69	16	12 GA.	10	215T
48	52.63	50.63	48.63	35.00	37.88	41.00	39.75	0.69	16	12 GA.	10	254T

Dimensions shown are in inches unless otherwise indicated.
Dimensions are not to be used for construction.

Belt Driven - BSTAB



FAN SIZE	A	B	C	D	E	F	G	H	J	T	SHAFT SIZE	MAX. HP	MAX FRAME
14	16.88	15.88	14.25	19.00	21.88	16.00	14.81	0.56	8	14 GA.	3/4	3/4	56
16	19.63	17.88	16.13	19.00	21.88	17.88	16.68	0.56	8	14 GA.	3/4	1	143T
18	21.75	19.88	18.25	19.00	21.88	19.50	18.25	0.56	8	14 GA.	3/4	1 1/2	145T
21	24.75	22.88	21.25	20.69	23.56	21.50	20.25	0.56	8	14 GA.	3/4	2	145T
24	27.75	25.88	24.25	20.69	23.56	23.63	22.44	0.56	8	14 GA.	1	3	184T
30	33.88	32.00	30.38	26.00	28.88	28.00	26.75	0.56	8	12 GA.	1	5	213T
36	40.50	38.38	36.50	27.00	29.88	32.38	31.13	0.56	16	12 GA.	1 3/16	7 1/2	215T
42	46.75	44.63	42.75	31.00	33.88	34.63	33.44	0.69	16	12 GA.	1 7/16	10	215T
48	52.63	50.63	48.63	35.00	37.88	41.00	39.75	0.69	16	12 GA.	1 7/16	10	254T
54	58.63	57.25	54.63	40.00	42.88	45.13	44.00	0.69	16	12 GA.	1 7/16	15	256T

Dimensions shown are in inches unless otherwise indicated.
Dimensions are not to be used for construction.



Models

BSTA | BSTAB

Tubeaxial fans shall be Model BSTA direct drive or BSTAB belt driven as manufactured by Aerovent, Minneapolis, Minnesota.

PERFORMANCE — Performance ratings shall conform to AMCA Standard 211 (air performance) and 311 (sound performance). Fans shall be tested in accordance with ANSI/AMCA Standard 210 (air performance) and 300 (sound performance) in an AMCA accredited laboratory. Fans shall be licensed to bear the AMCA certified ratings seal for both sound and air, and fan energy index (FEI).

CONSTRUCTION — Housings shall be constructed of heavy-gauge, continuously-welded steel to prevent air leakage. Housings shall include punched inlet and outlet flanges for duct mounting. Motor and bearing supports shall be constructed of heavy-gauge steel and shall be suitably braced to prevent vibration or pulsation.

IMPELLERS — Impellers shall be constructed of cast aluminum blades and hubs. Impellers shall be secured to the motor shaft with a taper lock bushing.

SHAFTS (BSTAB Only) — Shafts shall be AISI 1045 cold rolled steel, accurately turned, ground, polished and ring-gauged for accuracy. Shafts shall be sized for the first critical speed of at least 1.43 times the maximum speed.

BEARINGS (BSTAB Only) — Bearings are to be pillow block, heavy-duty, anti-friction, self-aligning, grease lubricated, ball type. Each fan's bearings are sized with a minimum average life, per AFBMA, in excess of 200,000 hours when operating at the maximum RPM of the fan size.

DRIVES (BSTAB Only) — Motor sheaves shall be cast iron and supplied as either variable pitch or fixed pitch. Drives and belts shall be rated for a minimum of 150% of the required motor HP.

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.

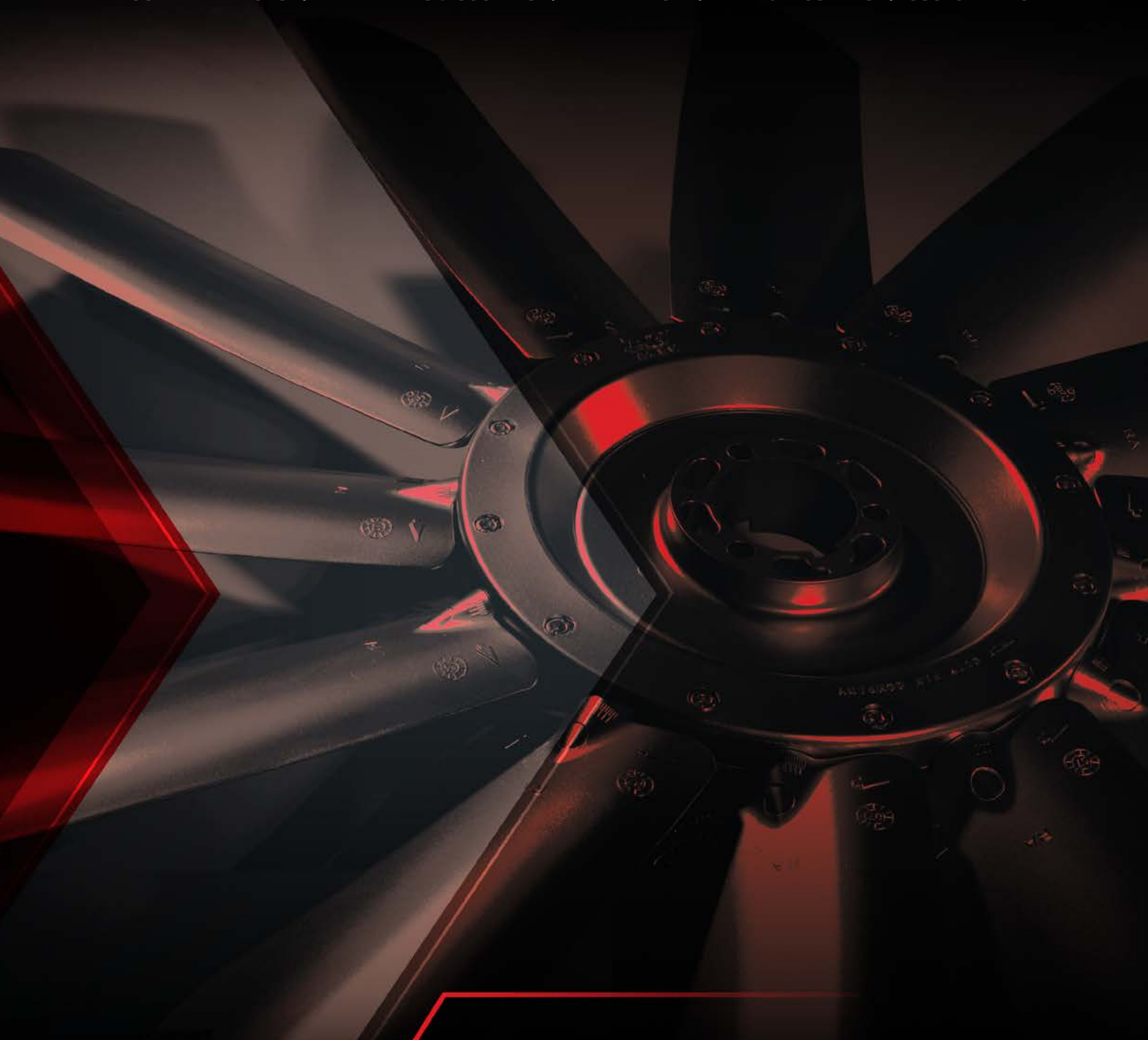
FINISH AND COATING — The entire fan assembly, excluding the shaft and impeller, shall be properly washed and pretreated before application of a rust-preventative primer, if called out on the order. A finish coat of paint shall be applied to the entire assembly, if called out on the order. The fan shaft shall be coated with a petroleum-based rust protectant. Aluminum components shall be unpainted.

ACCESSORIES — When specified, accessories such as belt guards, motor covers, shaft seals, inlet bells, inlet and outlet guards, mounting brackets, vibration isolators and disconnect switches shall be provided by Aerovent to maintain one source responsibility.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.



WALL MOUNTED FANS | TUBEAXIAL & VANEAXIAL FANS | CENTRIFUGAL FANS & BLOWERS
ROOF VENTILATORS | AIR HEATERS & COOLERS | AIR MAKE-UP | FIBERGLASS FANS | CUSTOM FANS



AEROVENT 
INDUSTRIAL VENTILATION SYSTEMS

AEROVENT.COM

5959 Trenton Lane N. | Minneapolis, MN 55442 | Phone: 763-551-7500 | Fax: 763-551-7501

©2013-2024 Aerovent, Minneapolis, MN. All rights reserved. Catalog illustrations cover the general appearance of Aerovent products at the time of publication and we reserve the right to make changes in design and construction at any time without notice.