ROTRON / AMETEK®
AEROSPACE & DEFENSE

Rotron MAXIAX® 4.50
Large Vaneaxial Fans

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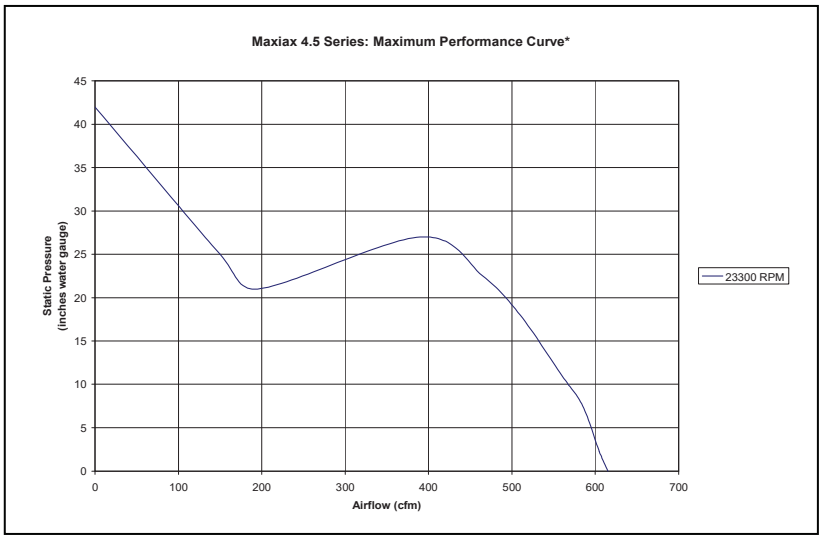
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General Large Vaneaxial Information

MAXIAX® fans provide relatively high flows against high impedance in a compact axial flow package. They operate at high rotational speeds, typically with 400 Hz motors or internal ECDC brushless motors. MAXIAX® fans are extremely efficient and highly customizable, allowing for precise airflow design. MAXIAX® fans are typically utilized to cool airborne radar and other devices with high power transmitters. They are also employed as evaporator/condenser fans in environmental controls systems and to duct air to various aircraft avionics bays, cockpit displays and cabin compartments. MAXIAX® fans are also used extensively in general aviation aircraft, military vehicles and shelters and shipboard applications. They come in a variety of voltages and frequencies and are available with lead wires, terminal blocks and MS connectors. Most units are available with an optional internal Fan Performance Sensor (FPS) or an internal or external Low Speed Warning Device (LSWD).

Rotron MAXIAX® 4.50





General Large Vaneaxial Information

- Physical envelope: 4.50" diameter, 5.25" to 12.12" lengths[1]
- Weight: 4.7 to 8.16 lbs.
- Specially designed for avionics/equipment cooling and environmental control systems
- Speeds as high as 23,300 RPM
- Airflow as high as 618 CFM
- Functional Static Pressures: as high as 25 IWG

Materials and Finishes

- All aluminum components finished with a chemical conversion coating per MIL-C-5541, top coat of lusterless black enamel, color #37038, per Federal Standard 595 conforming to TT-E-489 Type B
- Corrosion-resistant stainless steel shaft and hardware
- Impeller runs on two high-precision, double-shielded, stainless steel ball bearings (ABEC Class 5) for a long, maintenance-free life
- Motors have stator winding insulation which is rated for continuous duty for either Class F or Class H

1. See specific part-number drawing for complete product dimensions

Options/Accessories

- Flanges
- Beads
- Check Valves
- Custom Designs Available
- Integral EMI filter
- LSWD (Low Speed Warning Device)
- FPS (Fan Performance Sensor

AC Line Powered Units [1]

- 3-phase and 1-phase permanent-split capacitor motor designs
- Fixed speeds (performance) based on input frequency
- Meets or exceeds the requirements of MIL-B-23071 and other applicable U.S. military and commercial aerospace specifications[2]
- Max free delivery airflow of 618 CFM at 400 Hz
- Ambient temperature range: -54°C to 100°C
- Acoustic levels as low as 78 dBA

DC Line Powered Units – E.C.D.C.® [1]

- Brushless permanent magnet design (Electronically Commutated DC)
- Speed (performance) fixed by input voltage
- Meets or exceeds the requirements of MIL-B-28873 and other applicable U.S. military and commercial aerospace specifications[2]
- Max free delivery airflow of 400 CFM
- Ambient temperature range: -40°C to 90°C
- Acoustic levels as low as 63 dBA
- Standard 24, 28, and 270 volt designs

[1] Airflow, maximum ambient and acoustic levels will vary depending on design parameters

[2] Please call for further information concerning applicable U.S. military and commercial aerospace specifications

Optional DC-AC Inverters and AC-AC Converters for AC Powered Models[1]

BATAC® Inverter Driven Units

- AC square wave fans driven from a DC power source through a BATAC® Inverter.
- Low cost alternative when multiple fans are used in a single application or area.
- Allows for greater than 100 VDC input voltage.

[1] See Accessories: Power Conversion

DELTAC® Converter Driven Units

- DELTAC® converters allow high frequency (typically 400 Hz) fans to be driven by variable frequency (typically 360-800 Hz) power or low frequency 50/60 Hz power to obtain the higher frequency performance.

Unit Description Key

The unit description key is for reference only and should not be confused with a part number. While most units are custom configurations, not all variations of the key shown below are possible. Please contact the Application Engineering department for more information regarding possible custom configurations.

AC MODELS

MAX | 475 | 01 | A | Q | 2 | C | L | N | 1894 JF

- 1894 JF → MOTOR SERIES
- N → FAN PERFORMANCE SENSOR
  - N- WITHOUT, S-WITH
- L → CONNECTOR
  - L- LEADWIRES
  - M- MILITARY, MS ATTACHED TO HOUSING
  - N- MILITARY, MS ATTACHED TO LEADS
  - T- TERMINAL BLOCK
- C → MOUNTING CONFIGURATION
  - A- FLANGED, INLET ONLY
  - B- FLANGED, OUTLET ONLY
  - C- FLANGED, BOTH ENDS
  - D- FLANGED INLET, BEADED OUTLET
  - E- FLANGED OUTLET, BEADED INLET
  - F- BEADED, BOTH ENDS
  - G- FLANGED CENTER, PLAIN ENDS
  - H- FLANGED CENTER, BEADED ENDS
  - I- PLAIN, BOTH ENDS
  - J- FLANGED INLET ONLY WITH INLET PERFORMANCE RING
  - K- FLANGED OUTLET ONLY WITH INLET PERFORMANCE RING
  - L- FLANGED, BOTH ENDS WITH INLET PERFORMANCE RING
  - M- FLANGED INLET, BEADED OUTLET WITH INLET PERFORMANCE RING
  - N- FLANGED OUTLET, BEADED INLET WITH INLET PERFORMANCE RING
  - O- BEADED, BOTH ENDS WITH INLET PERFORMANCE RING
  - P- FLANGED CENTER, PLAIN ENDS WITH INLET PERFORMANCE RING
  - Q- FLANGED CENTER, BEADED ENDS WITH INLET PERFORMANCE RING
  - R- PLAIN, BOTH ENDS WITH INLET PERFORMANCE RING
  - S- LEGS, WITH INLET PERFORMANCE RING
  - T- SERVO RINGS, BOTH ENDS
  - X- SPECIAL
- 2 → VOLTAGE
  - 1- 115
  - 2- 200
  - 3- 115/230
  - 4- 416
- Q → ELECTRICAL DATA
  - A- AC LINE OPERATED
- A → DESIGN SEQUENCE
- 01 → SIZE GROUP
  - APPROXIMATE HOUSING O.D.; NUMBER IS DIMENSIONED IN INCHES TO TWO DECIMAL PLACES. THE PERIOD IS NOT SHOWN
- 475 → MAXIAX

•	NO. POLES	NO. PHASES	APPOX.. SPEED- NO LOAD (REF.) 50 Hz	60 Hz	400 Hz
A	2	3	2900	3500	-
B	4	3	1450	1750	-
E	6	1 OR 3	950	1150	-
F	8	1 OR 3	700	850	-
K	2	1	2900	3500	-
L	4	1	1450	1750	-
M	6	1 OR 3	-	-	7500
N	8	1 OR 3	-	-	5500
P	12	1 OR 3	-	-	3900
Q	4	1 OR 3	-	-	11000
R	2	1 OR 3	-	-	23000

NOTE: DUAL FREQUENCY OR DUAL POLE MOTORS DESIGNATED BY USING 2 DIGITS. EX: KM = 2 POLE 1Φ 50/60 Hz, 6 POLE 1Φ 400 Hz

DC MODELS (SAME AS AC EXCEPT WHERE INDICATED)

MAX | 420 | 01 | D | 28 | G | N | N | 1894 JF

- 28 → VOLTAGE
- D → ELECTRICAL DATA
  - D- DC LINE OPERATED
  - E- ECDC
  - M- MCDC

EXAMPLE: MAX47501AQ2CL, N, 1894 JF

Ordering Information

When ordering, please specify the specific Rotron part number listed on the following model table. Further ordering information, based on the configuration and motor series,may be obtained by contacting customer service. Please refer to the Unit Description Key explanation above.

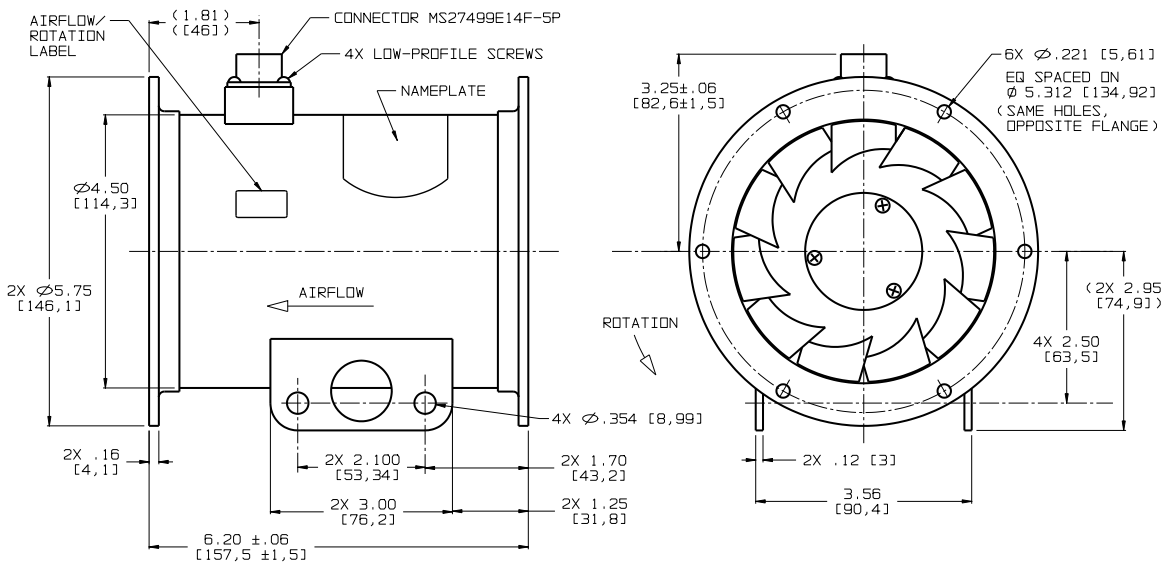
Standard Product Offering of AC Line Powered Models

Part #	Prod. Desc.	Flow (CFM)	Max Pressure (IWG)	Nom. RPM	Nom. Watts	Line Amps (A)	Max Amb (C)	Weight	Volts	Phase	Hz	Capacitor	Airflow Source Data	Features
035823000	MAX45007 3142J7	296	27.0	22500	673	2.0	72	6.0	400	3	200	N/A	A610-15	CONNECTOR, THERMAL PROTECTOR
041268000	MAX45001 2830JF	280	27.0	22500	537	1.6	72	5.6	400	3	200	N/A	A424-14	CONNECTOR
041456000	MAX45010 3197JF	615	41.0	23300	1820	8.0	60	7.0	400	3	200	N/A	A638-24	CONNECTOR

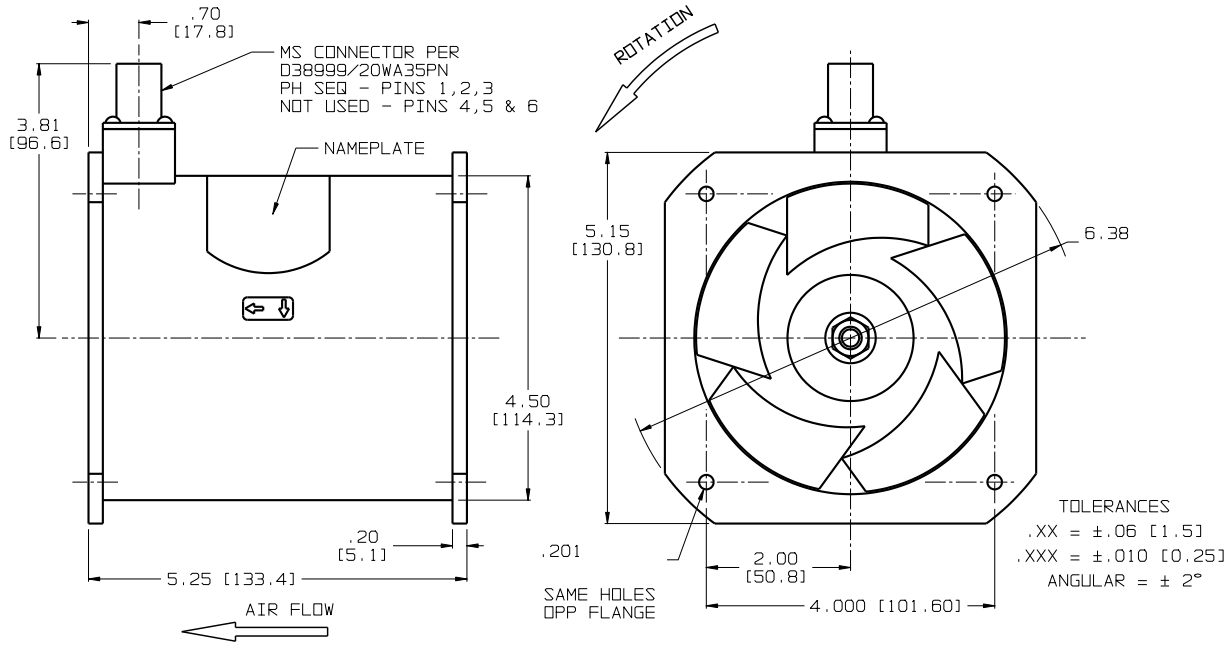
Standard Product Offering of DC Line Powered Models

Part #	Prod. Desc.	Flow (CFM)	Max Pressure (IWG)	Nom. RPM	Nom. Watts	Line Amps (A)	Max Amb. (C)	Weight	Volts	Airflow Source Data	Features
011455000	MAX45005 3115SF	313	24.7	19700	573	21	70	7.8	28	A592-12J	CONNECTOR, LSWD
012267000	MAX45012 3472SF	372	13.9	13500	764	26	70	6.1	28	A686-25	LSWD, 2 SPEED
011665000	MAX45003 3493SF	277	7.0	10300	319	11	70	4.7	28	A609-23	CONNECTOR, FPS
011776000	MAX45009 3395SF	219	14.2	13700	235	9	70	4.1	28	A648-4A	CONNECTOR, FPS
012028000	MAX45016 3782RF	275	19.5	19200	561	20	70	6.5	28	A674-23A	LEADS. CONNECTOR
011967000	MAX45008 3362XF	273	10.0	12000	326	12	70	4.1	27.5	A553-1	FPS, 2 SPEED
012268000	MAX45014 3632SF	295	9.5	8800 & 12500	331	10	72	6.1	28	A667-20B	CONNECTOR, LSWD

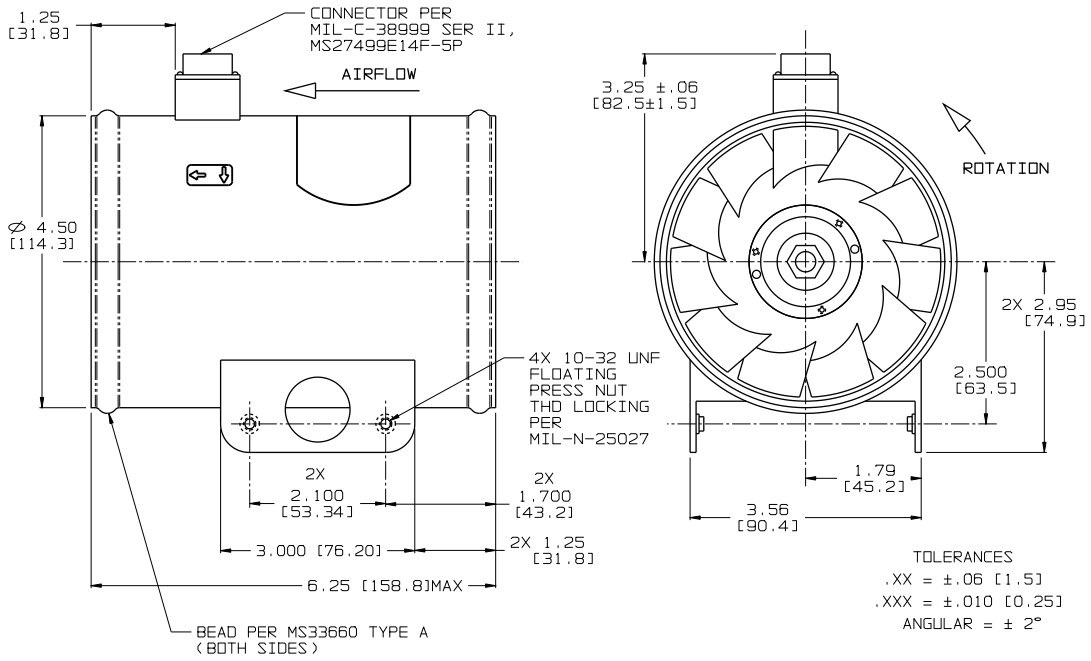
MAXIAX 45003 - DC



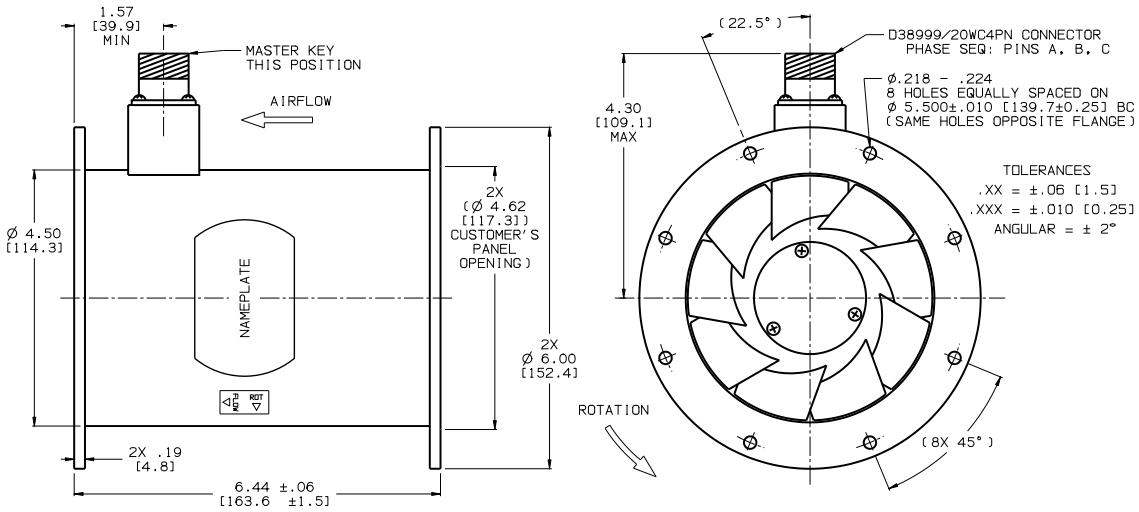
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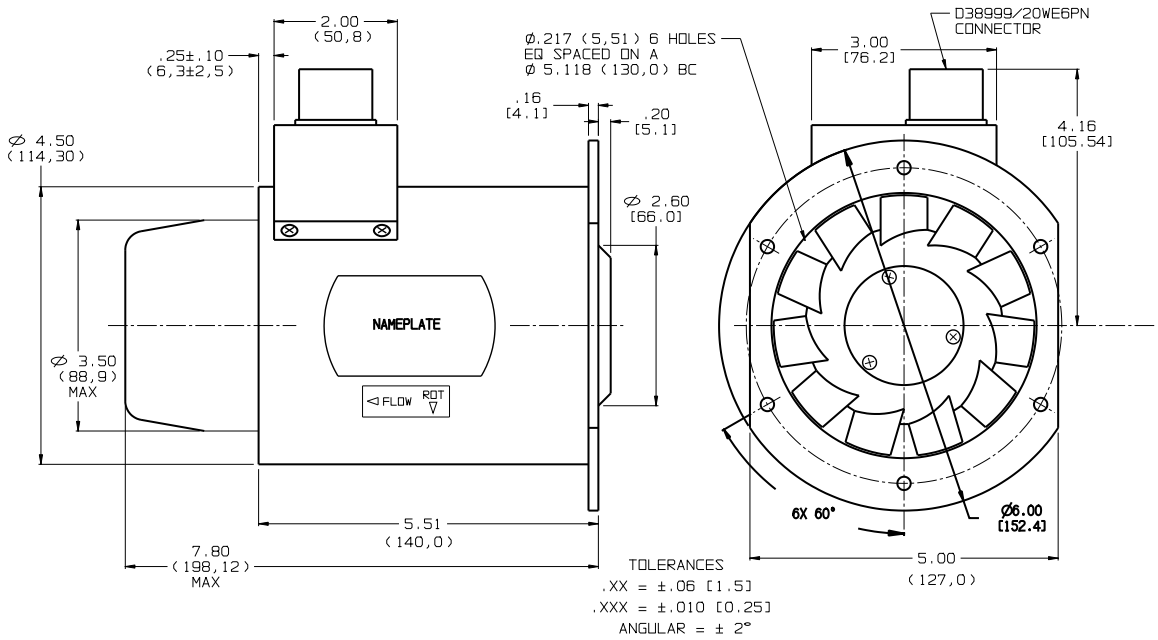
MAXIAX 45008/09 - DC



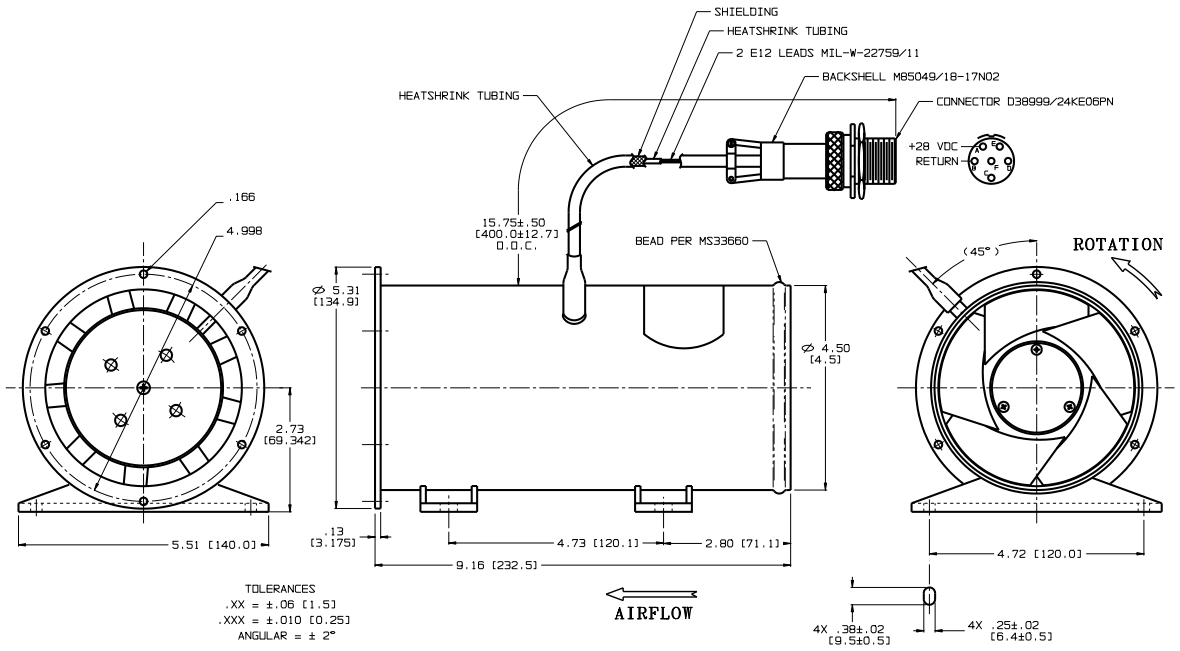
MAXIAX 45010 - AC



MAXIAX 45012 - DC



MAXIAX 45016 - DC



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Specifications subject to change without notice