AEROSYSTEMS S.r.l. - Precision Aerospace Components
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AXIAL FAN 7010000

The new AXIAL FAN Part Number 7010000 is a cooling and ventilation fan device developed for the application on Aircrafts ECS Environmental Control Systems and for Industrial Machinery Systems or Vehicles. The new AXIAL FAN is designed for high demands on performances and reliability.

The new AXIAL FAN PN 7010000, like other axial fans, have both aerodynamic impeller blades and stationary guide vanes to enhance static pressure efficiency. This fan produces a combination of high air flows and static pressures in a compact lightweight package. This fan is driven by highly efficient 24/28 VDC electronically commutated brushless DC motor. The fan propeller and venturi housing are injection molded thermoplastic polymer. Aerosystems' long life brushless DC motor has a stainless-steel shaft and three high-precision double-shielded, stainless-steel ball bearings. Power and Filter electronic circuits are mounted inside special CNC machined aluminum covers. The key advantages of axial airflow fans are compactness, low cost, and light weight. Axial fans are frequently used in exhaust and cooling applications where airborne particulate size is small, such as dust streams, smoke, and steam.

The new AXIAL FAN has a "special aggressive fan blades design" and a new improved flow straightener behind in order to optimize the airflow with reduced turbulences, to reduce the noise, to provide a stable fan operation and is designed to generate flow in one direction.

The AXIAL FAN consists of an electric brushless motor, a case, an impeller and two electronic circuits, coupled together as a unit. The rotor impeller and blades are made of PEEK high-performance thermoplastic polymer as well as the stator, covers are made in anodized aluminium. Integrated power and filter electronics circuits with D38999 connector, 28Vdc power supply, two selectable High and Low speeds.

PEEK is a trademark of Victrex, Inc.

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TECHNICAL DATA SHEET FOR AXIAL FAN

December 2021

The purpose of the AXIAL FAN is to provide ventilation of the avionic equipment, to provide air in the AC Cockpit/Cabin Ventilation Environmental Control Systems ECS (Helicopters, Airplanes, Airliners, Cargo etc.), the cooling of electronic components in avionics bays and is suitable for Industrial Machinery Systems or Ground Vehicles. The fan can be installed on suitable inlet/outlet ducts or panels walls through four metric inserts. The AXIAL FAN is designed to be the state-of-the-art of this technology applying also design to cost disciplines to assure maximum cost effectiveness.

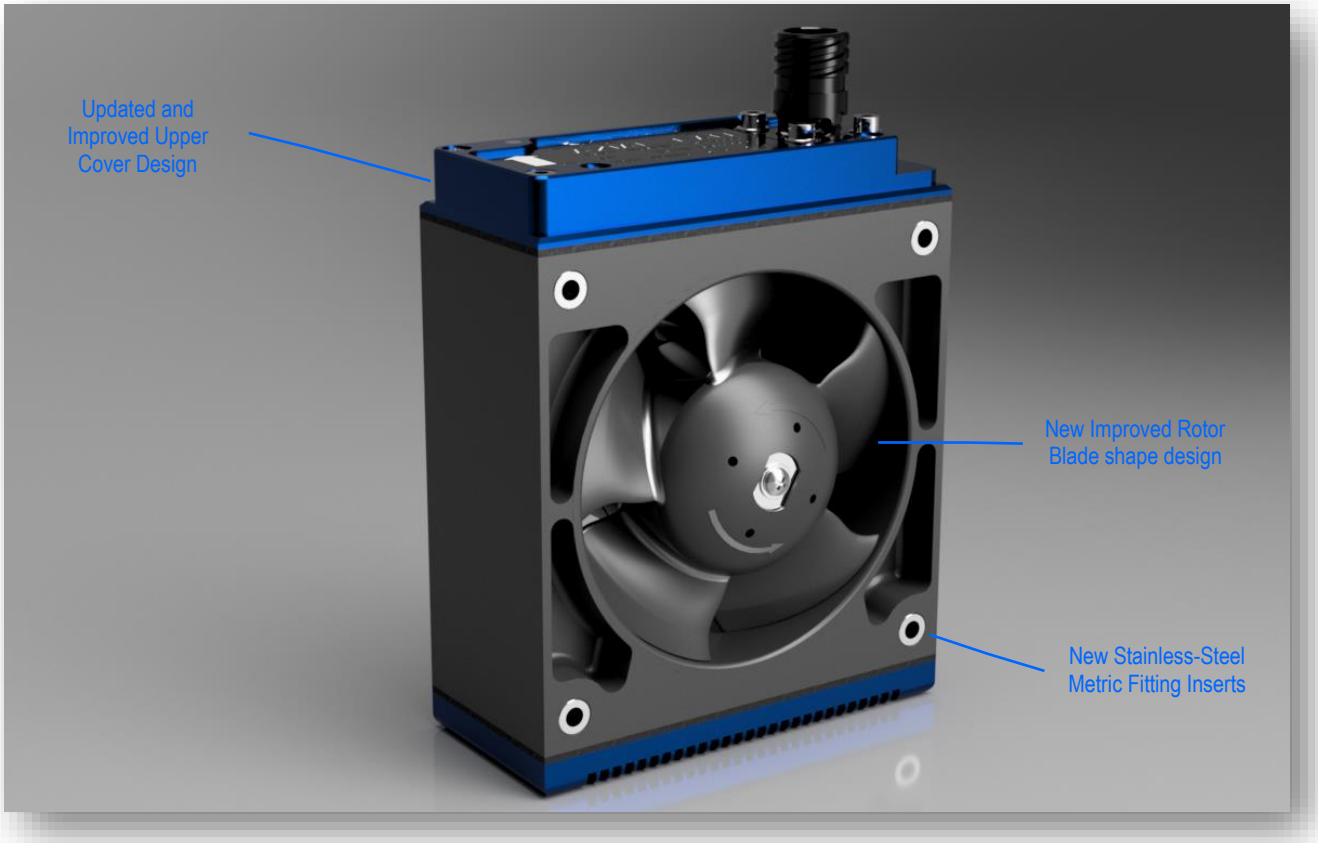
The AXIAL FAN is designed to operate at two selectable speeds: High and Low Speed

Power Supply	28 Vdc*
Normal Operating Conditions	22 to 30.3 Vdc
Abnormal Operating Conditions	20.5 to 32.2 Vdc
High Speed	17000 ± 500 RPM
Current Consumption	4.5 Amp MAX
Airflow	210 m^3/h
Pressure	600 Pa
Low Speed	11000 ± 500 RPM
Current Consumption	2.5 Amp MAX
Airflow	125 m^3/h
Pressure	240 Pa
Weight	700 grams MAX
Operating Temperature	-40°C +70°C
Short Time Not Operating	-54°C +85°C
Connector	D38999-20WA35PN
*The AXIAL FAN performances are given at 28Vdc however the equipment can be supplied at 24Vdc with a minimum loss of airflow performances.	

The AXIAL FAN is able to operate at any installed position. Unit operation is unaffected by the position in which the unit is mounted.

NEW IMPROVED DESIGN

The AXIAL FAN 7010000 has a new improved design with the following technical characteristics: Updated Covers design for dissipation improvement and finishing, new stainless-steel Metric Fitting Inserts, new incorporated protection Guard, new sealed ogive and new improved cover sealing gasket. New improved Stator straightener and Rotor blades design for airflow improvement.



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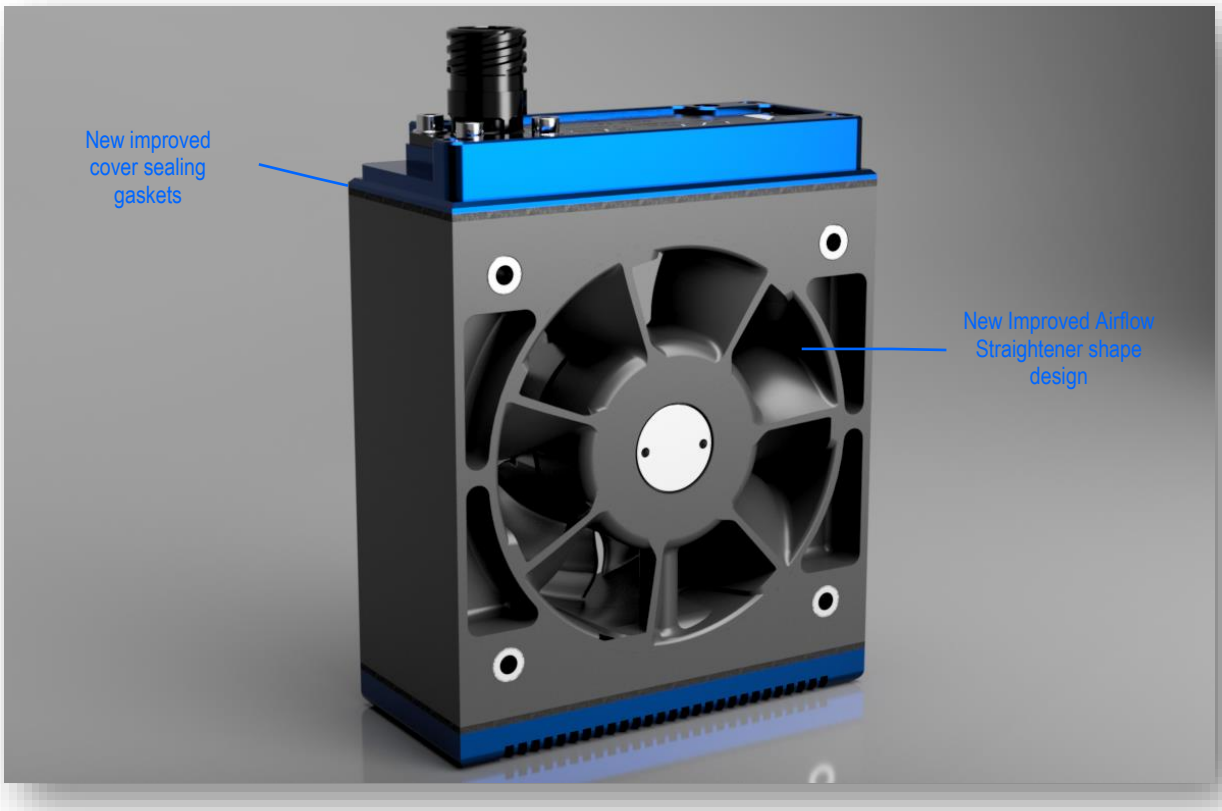
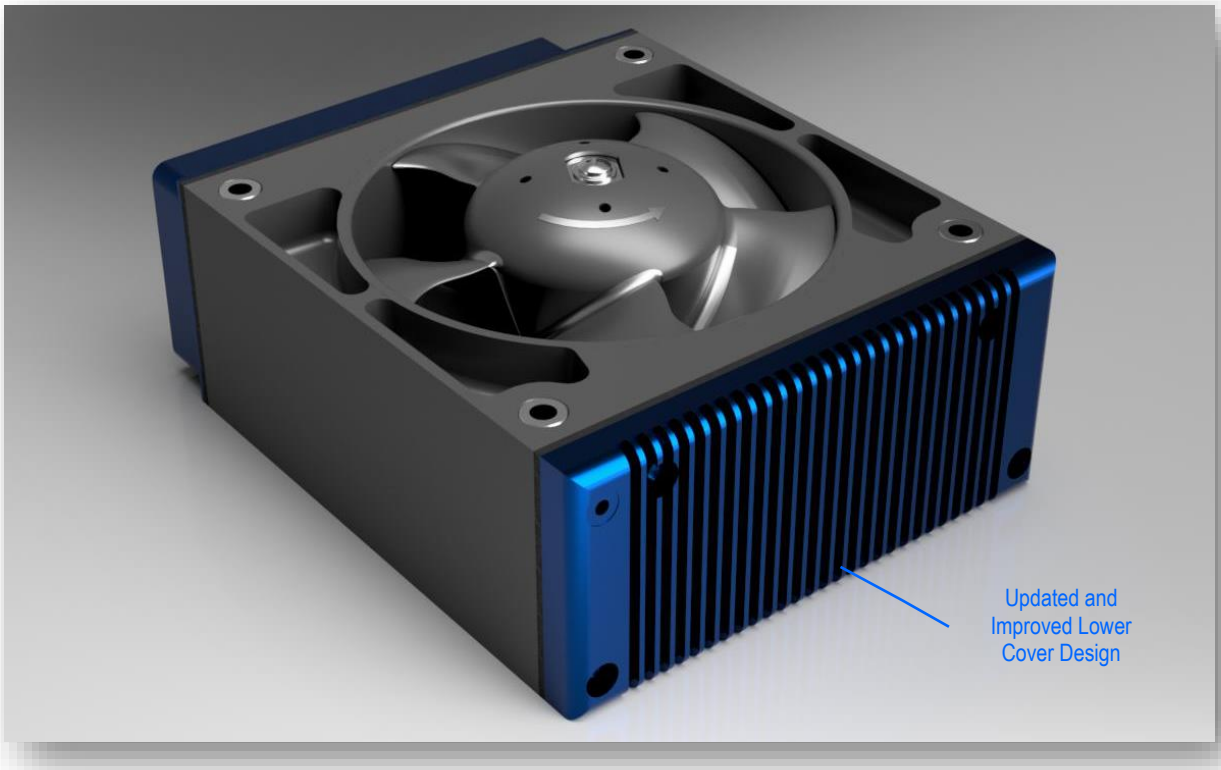
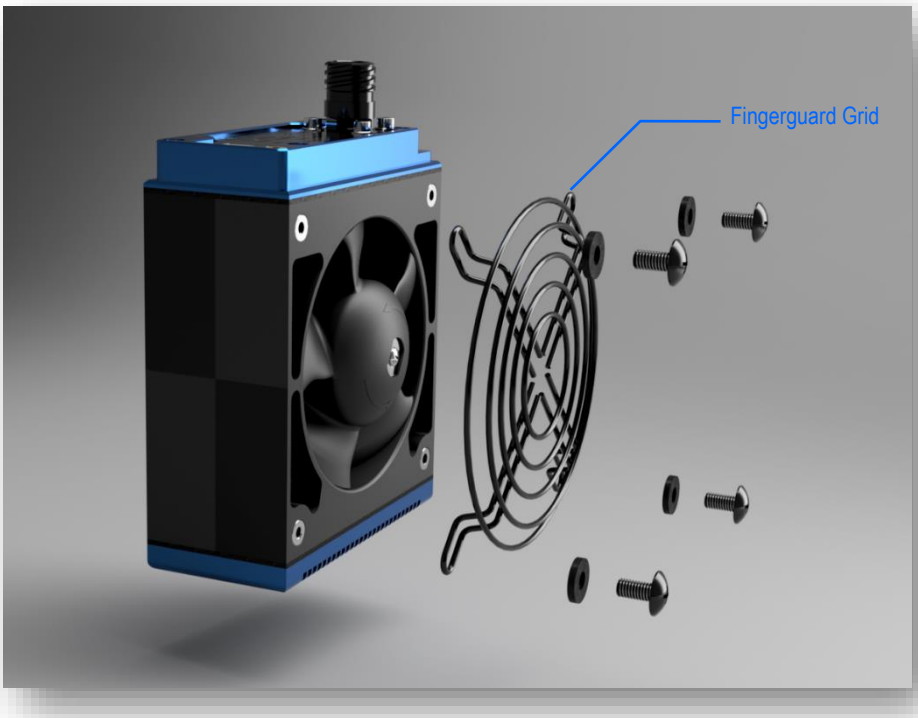
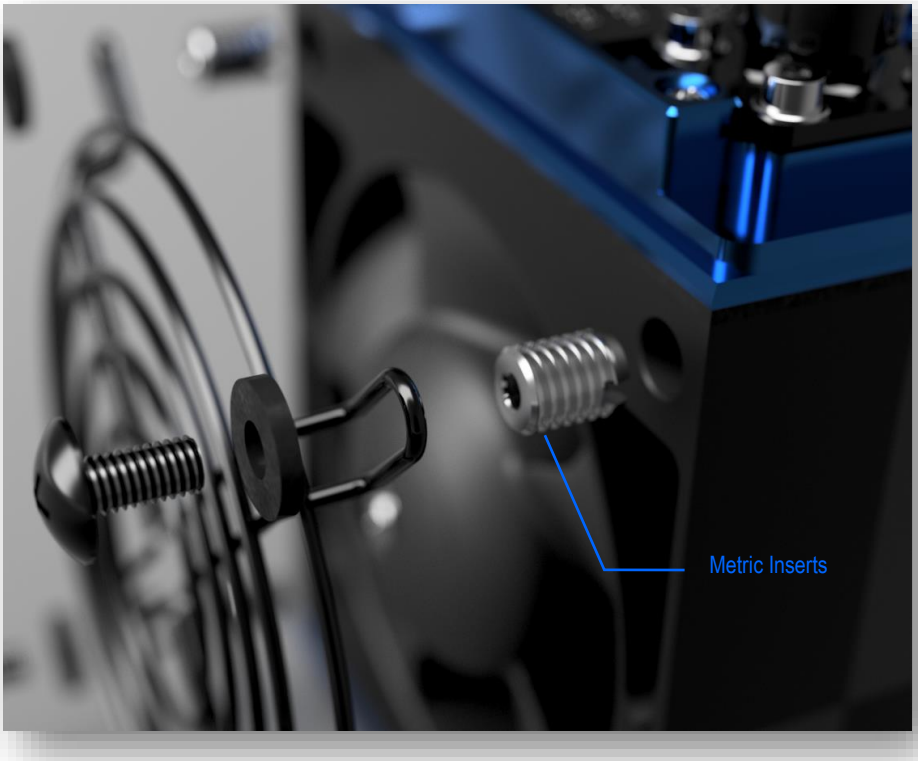




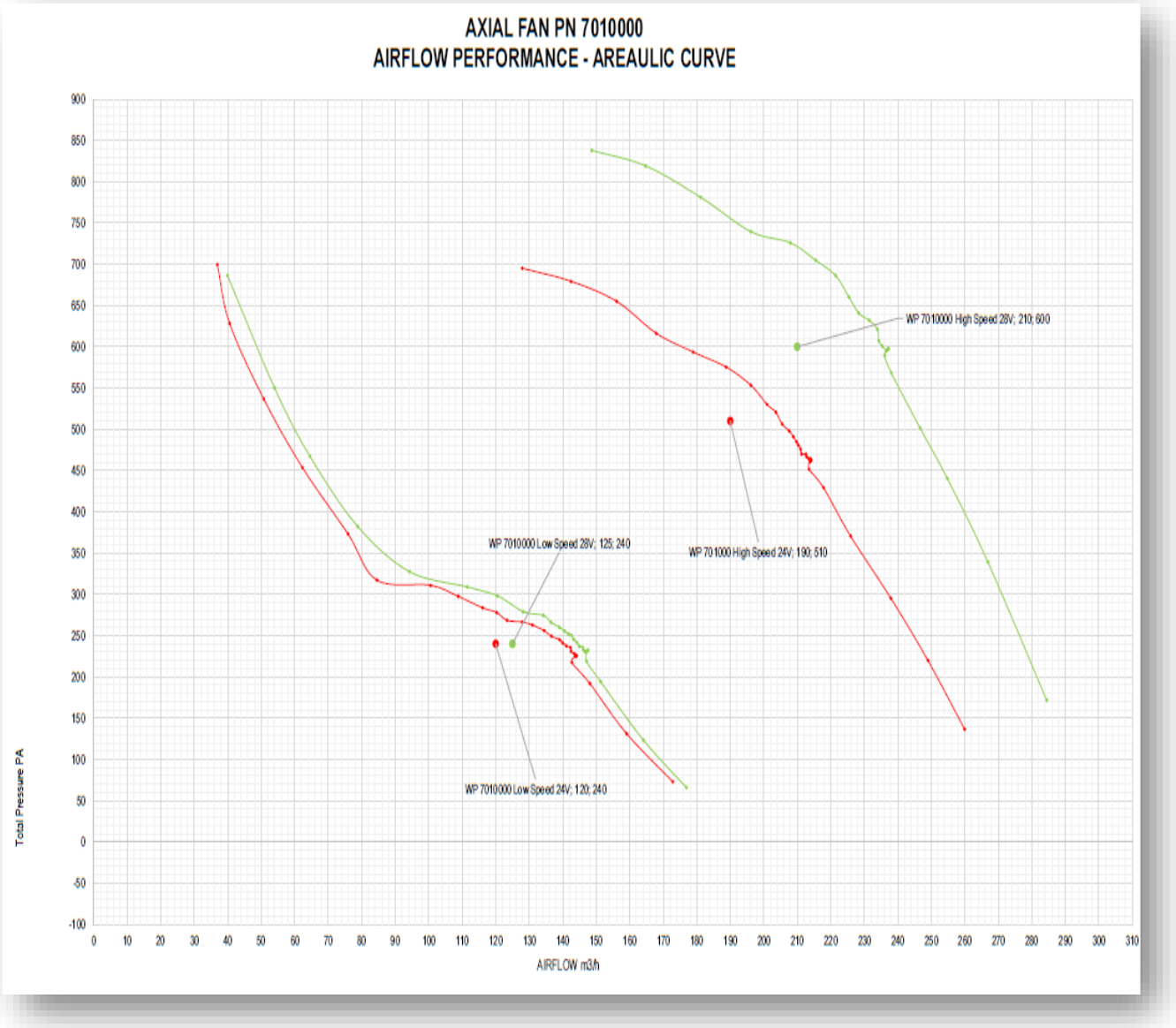




The product images shown are for illustration purposes only and may not be an exact representation of the product. Actual product may vary due to product enhancement. Aerosystems reserves the right to change product images and specifications at any time without notice.

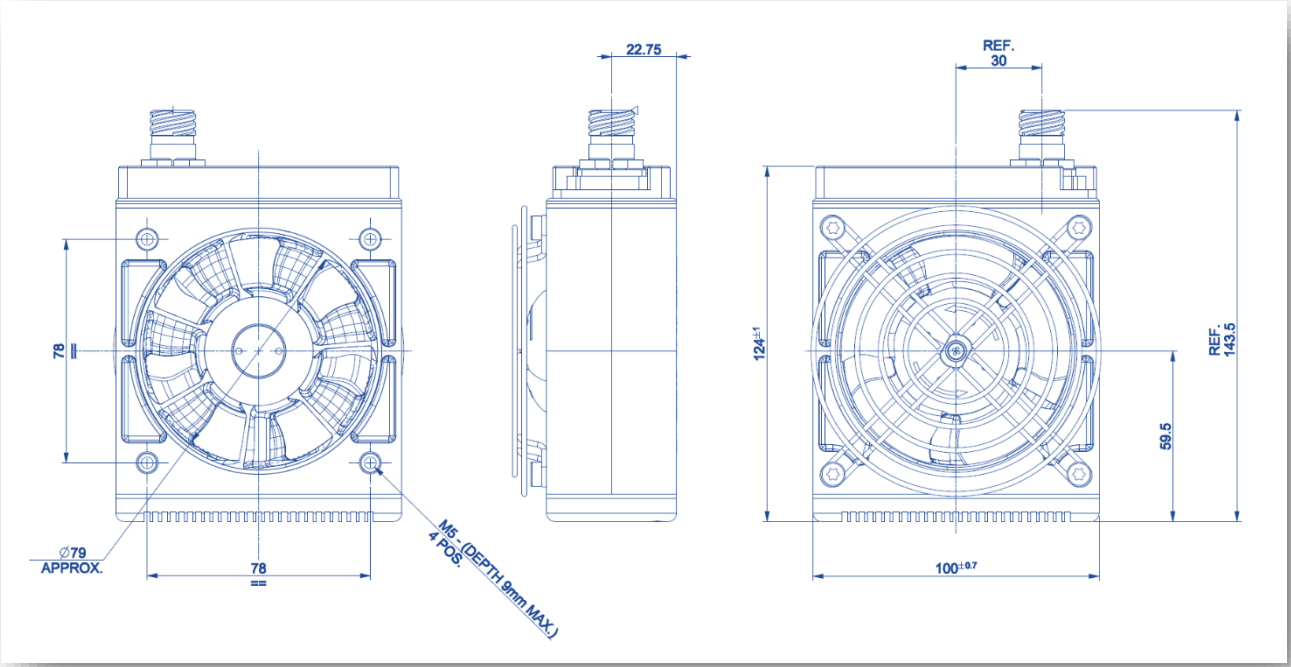
AIRFLOW PERFORMANCES

The following table shows the Airflow Performances of the AXIAL FAN PN 7010000 at High and Low Speed, at 24 and 28 Vdc Power Supply.



These envelopes represent the performance limits of our existing products. Aerosystems continuously develops new products that expand these envelopes. For the latest capability of our products, please contact our Field Sales Engineers or our in-house Application Engineers.

AXIAL FAN DIMENSIONS

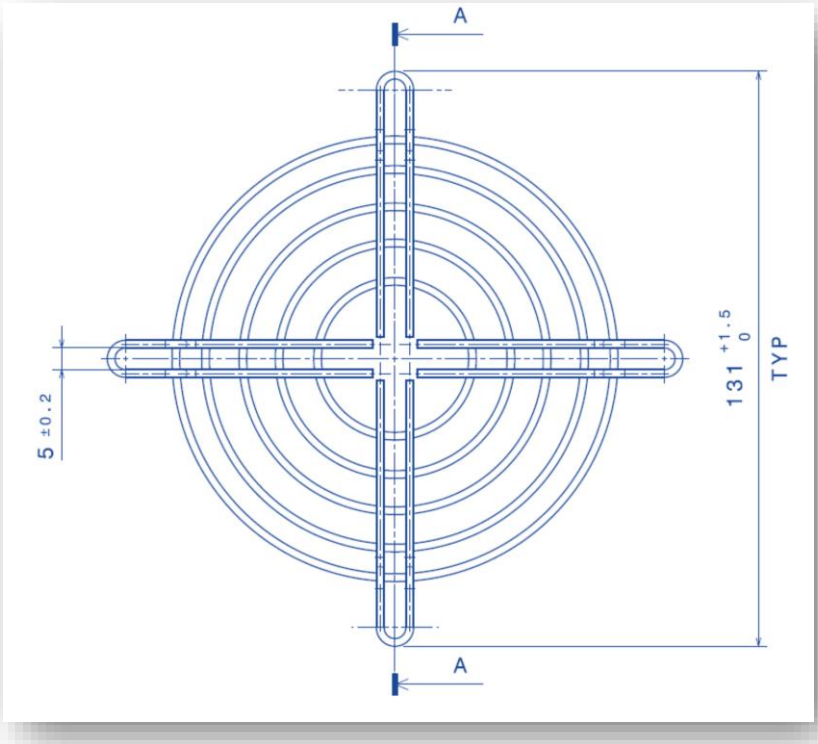


AXIAL FAN ACCESSORIES

The Fingerguard Grid PN 70-177 must be used for the purpose to Protect Operators fingers due to high speed and aggressive blade shape design of the AXIAL FAN; the Grid has the following characteristics:

- removable, to remove the grid to be cleaned periodically;
- with the same fittings used for the installation;
- with stainless steel metal wire and a design with a 90% free section to allow a higher air passage and guarantee reduced losses of load, but maintaining safety for the operator;
- the fingerguard grid must be installed on the intake side of the fan and kept in its position spaced from the blades but also from the duct to allow air to transit through the entire free section of each element: duct, blades and grid;

The Fingerguard Grid PN 70-177 keeps the same airflow unchanged with negligible minimum pressure drop.



Please contact your local Aerosystems field sales representative or the factory at:

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