

Meggitt Airdynamics

Military land vehicles



Technology. Capabilities. Products.

MEGGITT
smart engineering for
extreme environments

Meggitt Airdynamics



Meggitt Airdynamics

Meggitt Airdynamics is an engineering-oriented manufacturing company, recognized as a leading designer and manufacturer of high performance custom fans, pumps, high pressure air compressors and related components for the defense, marine and aerospace markets.

Occupying a modern 100,000 sq ft facility in Southern California, Meggitt Airdynamics first began operations in 1969 as a specialty machine shop dedicated to supporting the close-tolerance, high volume requirements of the local aerospace industry. Through internal growth and a number of strategic acquisitions, the company continues to develop its products and capabilities.

Thanks to dedication, technical excellence and quality, Meggitt Airdynamics is a leader in its field.



Product platforms

Major ground vehicles

- Future Combat Systems (FCS)
- M1A2 Abrams
- M113 APC
- M2 Bradley
- AAV-P7
- EFV
- M109
- M9 ACE
- M93 NBC
- LAV
- Ground carts
- Advanced Amphibious vehicle [AAAV]
- Patriot
- Minuteman



Nuclear/biological fan

Established manufacturing



Future combat vehicles - engine cooling

Meggitt Airdynamics has developed a 600 VDC controller to support the Future Combat System (FCS).

This technology will provide the basis for a number of products for the FCS program including fans, pumps, compressors and systems.

Traction motor design and manufacturing have been established.



600 VDC fan



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Merkava tank - flame heater pump



Merkava flame heater pump

Pump applications

- Fuel
- Lube
- Auxiliary
- Bilge
- Electronic cooling



Developed engine cooling

LAV - engine cooling



Light armored vehicle engine cooling fans



M109 Howitzer - engine cooling



M109 Howitzer engine cooling fan



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AAV P7 - engine cooling

Meggitt Airdynamics' fans and blowers are found in a diverse range of applications including armored combat vehicles, weapons systems, helicopters and fixed wing aircraft, and are available in a wide range of flows and pressures. Our designs offer high performance, low weight and reliable solutions to numerous specialized customer requirements.

Our mechanically-driven fans are used in a variety of applications including engine and transmission cooling and air cleaner scavenge fans for ground vehicles and aircraft. Our electrical drive fans include AC (400Hz) and DC brushless (28 270 VDC) designs. Typical applications include electronic/avionics cooling, crew ventilation, NBC protection, ECS and air conditioning systems.



AAV P7 engine cooling fan



Fan applications

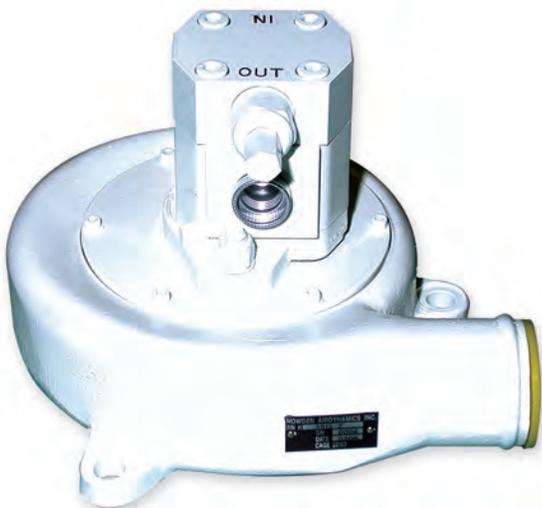
- Engine/transmission cooling
- Scavenge
- Personnel/crew compartment cooling
- Electronic cooling
- Air conditioning

Variety of applications

AAAV - water pump

Meggitt Airdynamics manufactures a full line of lube, scavenge and hydraulic pumps. Each is custom-designed to optimize performance and reliability with minimum size and weight. Our positive displacement gear, vane and centrifugal pumps are lightweight and operate with fractional horsepower motors. They have no shaft seals or ball bearings, resulting in higher reliability and optimized performance. Our unique motor "canning" process allows low dielectric fluid to circulate between the stator, rotor and bearings for added lubrication and cooling.

We specialize in creative problem solving, tailored to our customer's specific needs. Our strong technology base in fluid power pump and motor design offers our customers proven solutions to their specific requirements.



Advanced amphibious assault vehicle water pump



Pump capabilities

Flow: .2 to 200 GPM

Pressures: .5 to 1500 PSI

Speeds: 1,200 to 25,000 RPM

Shaft seal free designs

Fluids: Skydrol, lube oils, fuel, PAO,

WEG, PGW, alcohol

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High pressure air compressors

Meggitt Airdynamics' compressors are lightweight, durable, high performance reciprocating machines with integrated components. MAI compressors employ a unique "keystone" cam which eliminates multiple crankshaft journals for a compact and dynamically balanced design. They are used in a number of high pressure pneumatic applications, and are designed to meet exacting customer specifications. Current applications include pneumatic systems on military and commercial aircraft, land and ocean-based weapons systems and support equipment.

Output: 500- 6000 PSI
Flow: .5 to 15 SCFM
Altitude: 60,000 feet
Drives: direct, AC motor, hydraulic
Combat aircraft qualified
High pressure breathing air compressors



Air handling unit evaporator fan

VCSU condenser fan

M1 Abrams tank



Applications

- High pressure compressor
- Condenser fan
- Air handling unit
- Pneumatic systems

Extensive product experience

Systems

Meggitt Airdynamics is able to meet the demands of customers seeking to procure complete systems or modules. Based on our extensive product experience, we are able to engineer integrated systems to meet exacting customer requirements. Using current computer modeling techniques, we are able to accurately predict system performance and installation requirements. We currently manufacture integrated systems for applications including weapons system support and shipboard breathing air supply, and are able to design systems to meet cooling and thermal management requirements in a variety of applications.

Thermal management systems
Air conditioning
Weapon systems
NBC systems
ECS systems



M1 Abrams tank scavenge blower

Drives

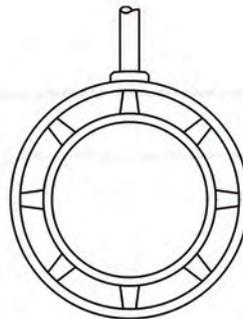
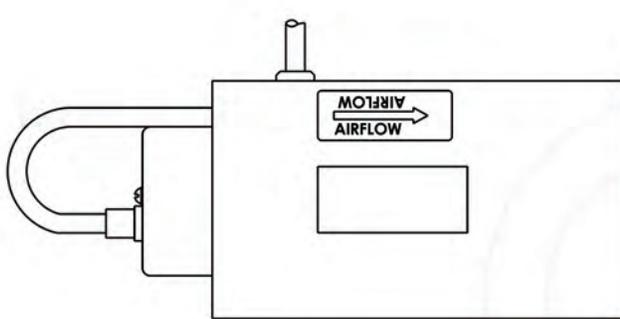
Direct (shaft or belt) drive
Gearbox
Motor capability
Hydraulic
DC motor designs
27 VDC - 600 VDC motor drives
AC motor designs
200 VAC, 400 Hz, 3ph
Power: to 200 HP
Wet motor stators



Scavenge blower

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M2 Bradley - engine cooling and gun purge



Gun purge



M2 Bradley engine cooling fans

Fan capabilities

0.5 to 100 HP

Speed: 1200 to 22,000 RPM

Temperature: -65 to 230° F

Flow: 60 to 22,000 CFM

Pressure: to 30" WG

Altitude up to 50,000 feet

Creative problem solving



M9 ACE - engine cooling



M9 ACE fan

M113 - engine cooling



M113 fan





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Meggitt Airdynamics is a Meggitt group company.

Headquartered in the United Kingdom, Meggitt PLC is an international group operating in North America, Europe and Asia. Known for its specialized extreme environment engineering, Meggitt is a world leader in the aerospace, defense and electronics industries.

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