

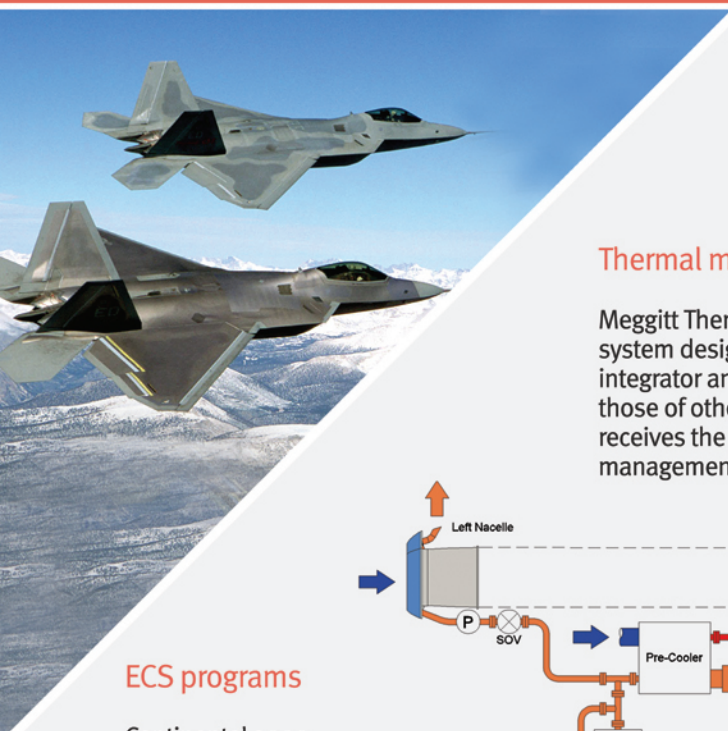
Meggitt Thermal Systems



ECS integration. Ducting systems. Ice protection.

MEGGITT
smart engineering for
extreme environments

Environmental control systems



Thermal management systems

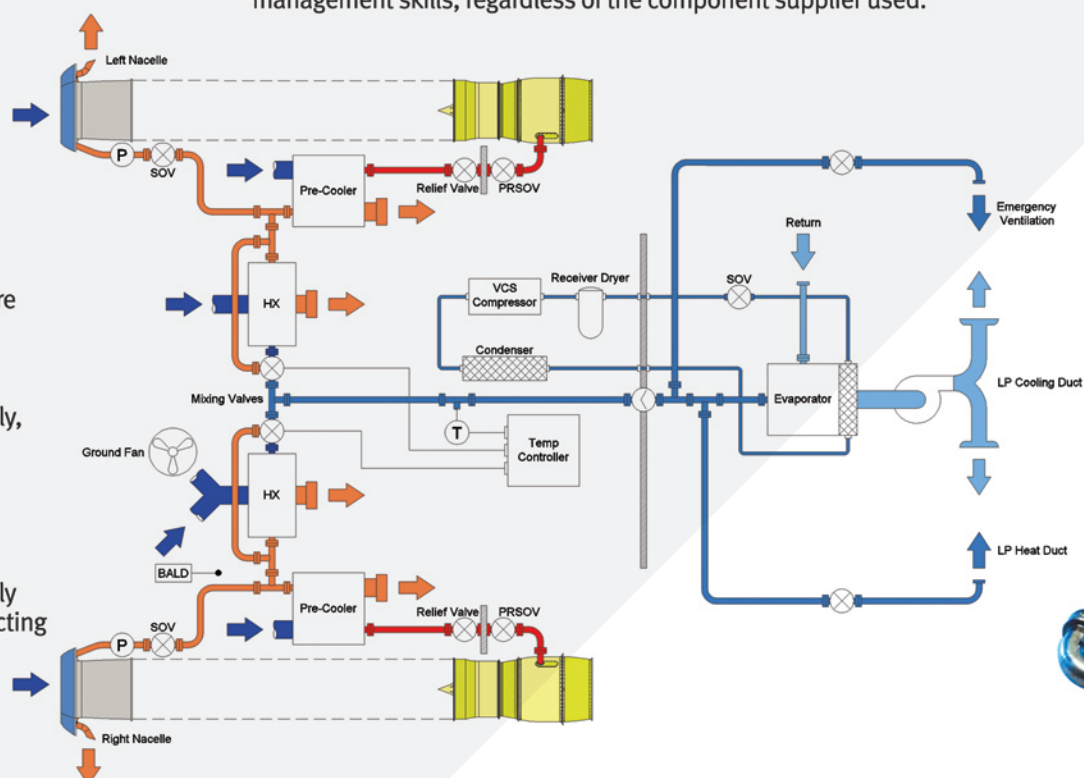
Meggitt Thermal Systems (MTS) provides aircraft environmental control systems including system design, test, qualification, manufacturing and kitting. MTS is a true system integrator and will use other Meggitt group companies' products and, where necessary, those of other vendors to ensure the best solution for our customers. Each customer receives the power of the Meggitt group's engineering talent, financial position and management skills, regardless of the component supplier used.

ECS programs

Continental 3000
High and low pressure
ducting

ATG Javelin
Inlet anti-ice assembly,
pneumatic ducting,
heat exchangers and
valves

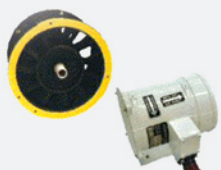
Eclipse 500
Inlet anti-ice assembly
and low pressure ducting



HP ducting



Shutoff, PRSOV, TCV,
FCV valves



Fans, pumps, blowers



Heat exchangers and
pre-coolers



Low pressure systems



Bleed air leak detection



Nacelle anti-Ice,
lipskin and inner
barrel

Ducting systems and components



High pressure ducting systems

Meggitt Thermal Systems manufactures a wide range of aircraft and spacecraft ducting products. MTS engineering has over 60 years of experience designing, testing and qualifying pneumatic ducting components and systems. Our facilities are Nadcap, ISO-9001:2000 and AS9100 accredited.

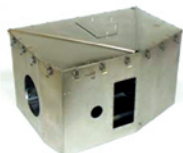


Ducting products

- Aerospace ducting and tubes
- Dual wall fuel ducts
- Ball joints
- Gimbal joints
- Peri-seal connectors
- Vibreakers
- Bellows
- AS1424 flexible metal hoses
- Pressure balanced joints
- Universal rotational joints
- Tolerance take-up joints
- Ducting insulation
- Ozone converters
- APU enclosures

Ducting programs

- F-22
- F-18 A, B, C, D
- Aermacchi M-346
- C130J EBU
- Space Shuttle
- Ariane
- Boeing 717
- CRJ 100/200
- ATG Javelin
- Eclipse 500

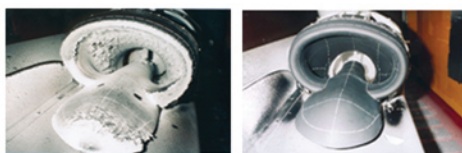


Ice protection systems



Anti-ice and de-ice systems

Meggitt Thermal Systems can provide either electro-thermal or engine bleed air ice protection depending on our customer's requirements. Both products are designed, manufactured and qualified at Meggitt. MTS will also provide icing wind tunnel and in-flight test support. As many of our electro-thermal inlets are manufactured with composites, MTS designs and manufactures composite structures such as inlets and nacelles.

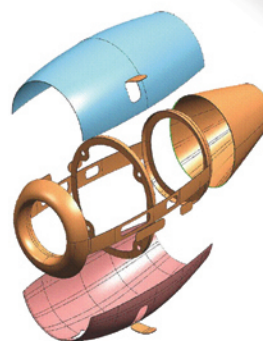


Before

After

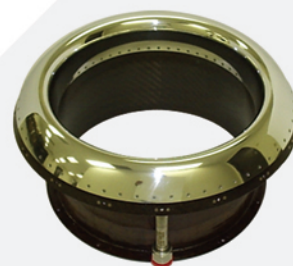
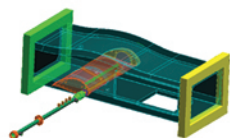
Fixed wing programs

Eclipse 500
ATG Javelin
Rolls-Royce Dart & Tyne
C160 Transall
Shorts SD 3-60
ATP/Jetstream 61
Fokker 50
Piaggio P180 Avanti



Rotocraft programs

Westland Sea King
Westland Lynx
Agusta Westland EH101
Sikorsky S92
Agusta Westland Super Lynx 300
Sikorsky Comanche
Eurocopter NH90
Westland Sea King



Meggitt Thermal Systems



Company overview

Meggitt Thermal Systems comprises three Meggitt group companies - Dunlop Ice Protection, Avica US and Avica UK with over 160 years' aerospace and industrial experience among them. The synergy of the Thermal Systems group delivers:

Ducting systems and components

Ice protection

Environmental control systems

Meggitt Thermal Systems products include:

ECS systems

HP-LP ducting
Bleed air leak detection
Heat exchangers
Pneumatic valves
Vapor cycle systems

Ducting systems

Ball and gimbal joints
Peri-Seal connectors
Ducting
Ozone converters
APU enclosures

Ice protection

Electro-thermal systems
Engine bleed air systems
Inlet assemblies
Nacelle structure
Structural composite parts

Meggitt Thermal Systems is the environmental control Integrator within the Meggitt group focusing on the business jet market segment. The company designs and manufactures ECS systems by integrating the components of other successful Meggitt companies such as Serck Aviation and Stewart Warner South Wind for heat exchangers, Whittaker Controls for pneumatic valves, and Meggitt Western Design for vapor cycle machines. With our recent wins on the Eclipse 500 and ATG Javelin, Meggitt Thermal Systems is the market leader for ECS and ice protection for light business jets.

We are dedicated to supplying value to our customers by reducing manufacturing costs and providing engineered solutions. Meggitt Thermal Systems is committed to the highest level of product quality, with on-time deliveries and the best in customer support.

Engineering and test capabilities



Test capabilities

Fuel - Pd680 MIL-C-7024

Pressure 0 - 1500 PSIG

Flow 0 - 1500 GPM

Temperature

Air

Pressure 0 - 600 PSIG

Flow 0 - 200 PPM

Temperature -320° F to +1250° F

Nitrogen

Pressure 0 - 6000 PSIG

Flow 0 - 3 PPM

Temperature

Helium

Pressure 0 - 6000 PSIG

Flow

Temperature -320° F to +1250° F

Thermal

-320° F to +1250° F

Pressure

-13 psi to +15000 psi

Endurance

Pressure and motion cycling at temperature

Shock and vibration

Pressure drop and flow induced vibration

Engineering analysis

Kinematics / Loads

CAE pipe

Algor pipeplus

Stress/Thermal

Nastran

Patran

MSC laminate modeler

Flow analysis

Flowmaster

Fluent CFD

Vibration/Fatigue

Nastran

Icing

ICECREMO

Bellows

Bespoke EJMA

Engineering design

Software

Solid works

Unigraphics NX3

CATIA V4 and V5

CADDs

Mechanical desktop

Materials

Aluminum

5052

6061

Corrosion resistant steel (CRES)

15-5PH

21-6-9

321

347

Titanium

Commercially Pure

5Al-2.5Sn

6Al-4Vd

Nickel alloys

625

718

Composites

Elastomers

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MEGGITT
smart engineering for
extreme environments