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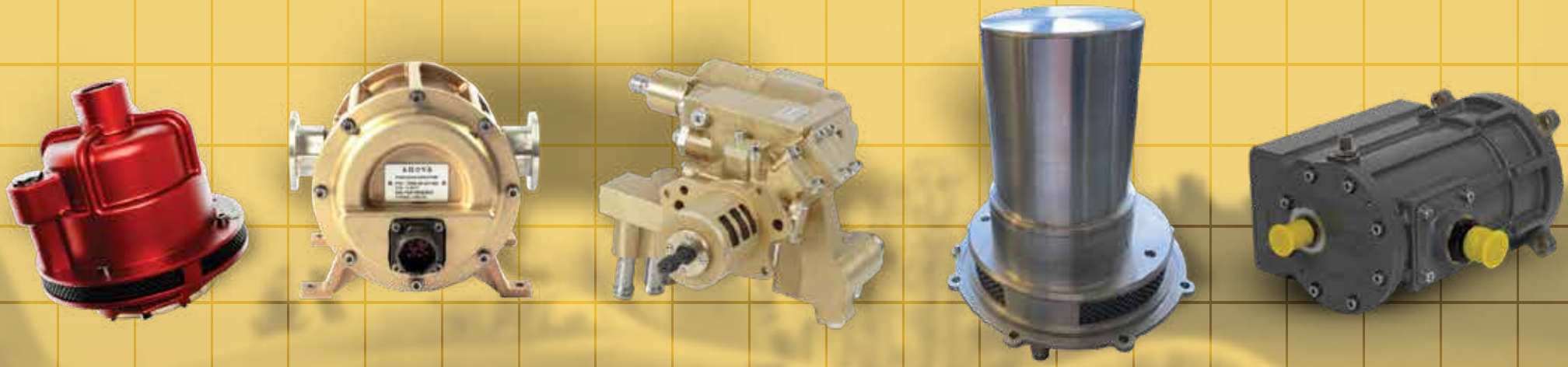

AEROSPACE GRADE PUMPS

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CONTENTS

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FUEL BOOSTER PUMP 27LPM

High efficiency fuel booster pump designed for civil rotary wing aircrafts.

Technical Data:

Type	Fuel Booster Pump Brushless DC Canister Type
Flow Rate	27LPM
Fuel Type	JP5,JP8, JET A1
Pressure	1,5 Bar (max.)
Nominal Voltage	28 VDC (18-32 VDC)
Nominal Current	Max 8A
Operating Temperature	(-40°C) – (+50°C)

Environmental Specifications:

- High Temperature: RTCA DO-160
- Low Temperature: RTCA DO-160
- Temperature Shock: RTCA DO-160
- Vibration: RTCA DO-160
- Shock: RTCA DO-160
- Acceleration: RTCA DO-160

Applications:

- Civil Rotary Wing Aircrafts

Designed by ANOVA:

- Mechanical Design
- Fluidic Design
- Electronics Design
- Driver Card
- Driver Software

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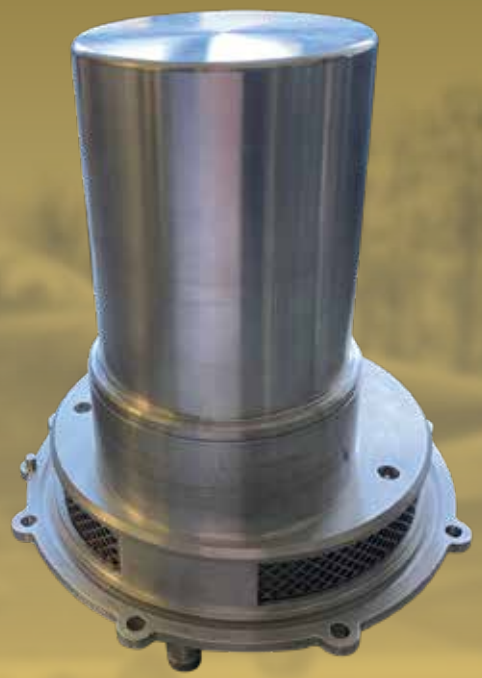
FUEL BOOSTER PUMP 12LPM

High efficiency fuel booster pump designed for civil rotary wing aircrafts.



Technical Data:

Type	Fuel Booster Pump Brushless DC Canister Type
Flow Rate	12LPM
Fuel Type	JP5,JP8, JET A1
Pressure	1.1 Bar (max.)
Nominal Voltage	28 VDC (18-32 VDC)
Nominal Current	Max 8A
Operating Temperature	(-40°C) – (+70°C)

Environmental Specifications:

- High Temperature: MIL-STD-810
- Low Temperature: MIL-STD-810
- Temperature Shock: MIL-STD-810
- Vibration: MIL-STD-810
- Shock: MIL-STD-810
- Acceleration: MIL-STD-810

Applications:

- Military Rotary Wing Aircrafts

Designed by ANOVA:

- Mechanical Design
- Fluidic Design
- Electronics Design
- Driver Card
- Driver Software

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ENGINE OIL PUMP

High efficiency oil pump designed for Turboprop and Turboshaft engines.

Technical Data:

Type	Oil Pump Accessory Gearbox Driven
Flow Rate	Supply Port Oil : 18 LPM Scavenge Ports Air+Oil Total : 58 LPM
Pressure	Supply : 7 Bar Scavenge : 3 Bar
Oil Temperature	130 °C
Operating Temperature	(-40°C) – (+170°C)
Storage Temperature	(-40°C) – (+80°C)

Environmental Specifications:

- High Temperature: RTCA DO-160
- Low Temperature: RTCA DO-160
- Temperature Shock: RTCA DO-160
- Vibration: RTCA DO-160
- Shock: RTCA DO-160
- Acceleration: RTCA DO-160

Applications:

- Turboprop Engines
- Turboshaft Engines

Designed by ANOVA:

- Mechanical Design
- Fluidic Design

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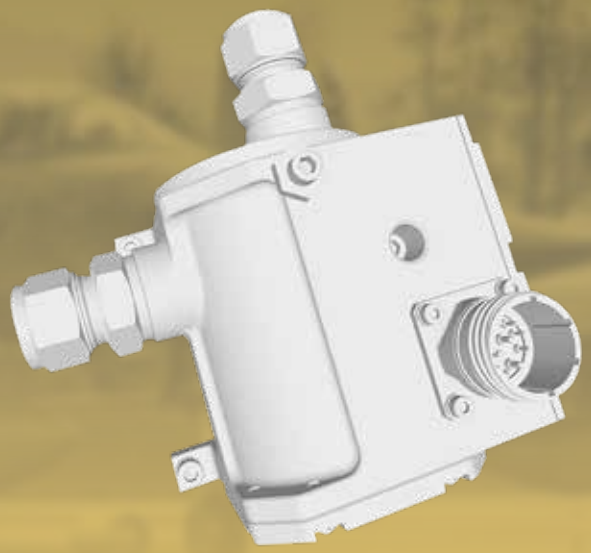
POSITIVE DISPLACEMENT PUMP COOLANT MEG

High efficiency positive displacement pump designed for liquid cooling of avionics.



Technical Data:

Tip	Positive Displacement Pump (Fluid: MEG) - Gerotor Brushless DC – 28 VDC
Debi	5 LPM MEG@5 Bar Pressure Head @60°C
Akışkan	MEG Water Mixture (Antifrogen - N)
Çalışma Sıcaklığı	(-40°C) – (+71°C)

Environmental Specifications:

- Vibration: MIL-STD-810F Method 514.5 Procedure I
- Acceleration: MIL-STD-810F Method 513.5 Procedure I & II
- High Temperature: MIL-STD-810F Method 501.4 Procedure II
- Mechanical Shock: MIL-STD-810F Method 516.5 Procedure I
- Gunfire Vib.: MIL-STD-810F Method 519.5 Procedure I
- Temperature Shock: MIL-STD-810F Method 503.4 Procedure I
- Altitude: MIL-STD-810F Method 500.4 Procedure II
- Crash Safety: MIL-STD-810F Method 516.5 Procedure I
- Humidty: MIL-STD-810F Method 507.4 Notice 2 Figure 504.4-1
- Salt Fog: MIL-STD-810F Method 509.4 Paragraph 4.5.2
- Rain: MIL-STD-810G Method 506.4 Procedure III
- Sand and Dust: MIL-STD-810G Method 510.5 Procedure I

Applications:

- Liquid Cooling Systems

Designed by ANOVA:

- Mechanical Design
- Fluidic Design
- Electronics Design
- Driver Card
- Driver Software

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CENTRIFUGAL PUMP COOLANT MEG

Smart drive centrifugal pump designed for transferring coolant fluid within cooling systems.

Technical Data:

Type	Variable Speed Smart Drive Centrifugal Pump
Flow Rate	20 GPM
Pressure	5 Bar
Coolant Fluid	6000 RPM
Input Voltage	270 VDC
Current	8 Amps
Material	Aluminum

Operating Temperature

[-54°C] – [+85°C]

Environmental Specifications

· Compliant with: DO-160 MIL STD 810

Designed for

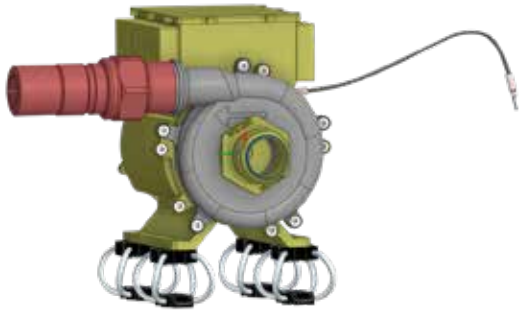
· Thermal Management Systems

· Closed-Loop Cooling Circuits

Designed by ANOVA:

· Mechanical Design

· Control & Drive Electronics



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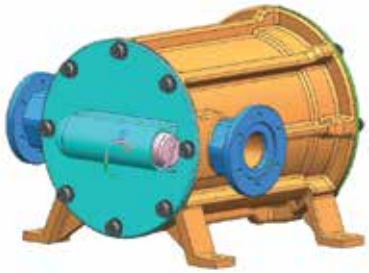
POSITIVE DISPLACEMENT PUMP COOLANT PAO

Compact & high efficiency
military grade positive displacement
pump for airborne platforms

Technical Data:

Motor	Dimensions and Weight
115 VAC 400 Hz	211 mm x 165 mm x 125 mm
Nominal Performance	Weight: 5 Kg (in dry condition)
35 LPM at 3 bar	
Operating Conditions	
Tested with PAO	
Operating Temperature: (-54°C) – (+71°C)	

- Wet running, asynchronous motor driven gerotor type hydrolic pump
- Lightweight, compact design
- Large range working temperature,
- Various connection types,
- Pump and motor all in one compact body design,
- Qualified per, MIL – STD – 461, MIL – STD – 810



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POSITIVE DISPLACEMENT PUMP COOLANT PAO

Compact & high efficiency
military grade positive displacement
pump for airborne platforms

Technical Data:

Unit Weight	4.5 kg
Unit Operating Temperature Range	-40 | +71 °C
Unit Storage Temperature Range	-54 | +95 °C
Flow	10 LPM, @60 °C, @3.5 BAR STEP HEIGHT
Maximum Power Consumption	350 W
Electrical Power Connection	28 VDC

*The qualification process in accordance with MIL-STD-810, MIL-STD-461, MIL-STD-704 standards is ongoing.

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Anova Headquarters

ODTÜ MET Yerleşkesi
Mustafa Kemal Mahallesi
Dumlupınar Bulvarı
Bina No: 280 B Blok No:16
Çankaya / ANKARA Turkey

Factory

Ankara Sanayi Odası
1.OSB, Babürşah Caddesi, No:10
06935 Sincan /ANKARA
+90 312 210 12 45