Thermal Transfer Products is now

TTP
AN **API** HEAT TRANSFER COMPANY

BRUSHLESS DC FAN

EXTREME FAN PERFORMANCE

NEW OPTION!
on many MA Standard Models

We **COOL** what you **POWER**

BRUSHLESS DC FAN

NEW OPTION!
Now available on many MA Standard Models

TTP now offers axial fans equipped with Brushless DC electric motors for Oil Cooling. These fans are a featured option on many P-BAR Series MA standard catalog Oil Coolers. Brushless motors offer benefits for extended life, low current draw on start up, desired variable fan speed control, lower ambient noise and greater machine efficiency.

Axial Fan Efficiency

The air mover is a high-end performance fan blade, designed for optimal fluid dynamic performance. When combined with our highest performing Bar and Plate aluminum core, the result is outstanding airside performance while using minimal electrical load.

Brushless DC Motor Efficiency

Motors can achieve remarkable electrical efficiency—greater than 82%—making them among the most efficient motors in the Series power range.

Features

- Cutting edge motor/fan blade technology
- High energy ferrite magnets and state-of-the-art sine wave sensor-less drive
- Fans compliant with IP68/IP6K9K, fully sealed motors
- Operates in challenging environments
- Electronic controls with on-board diagnostics
- EMC directives: 2006/28/EC
- Spark free
- Protection:
  - Overtemperature
  - Overcurrent
  - Load dump
  - Mechanical overload
  - Locked rotor
  - Under/over voltage
  - Active reverse polarity
- Low noise, vibration and harshness
- Battery compensation system
- Low inertia inner rotor design
- Low weight motor
- Higher ambient working temperature
- Speed control if tied to a direct interface to an external temperature sensor
- High resistance to vibration and mechanical stress
- Reduce maximum coolant temperature
- Eliminate engine power cut-back

Performance

- Pusher/Puller and 12/24 V configurations available to meet any application need
- Applying Distributed Cooling Principle increases available engine horsepower

Longevity

- Power and control electronics are integrated and separated within the sealed motor to ensure operation at lower surface temperature levels. This design ensures long life and increased product reliability.
- Double-sealed ball bearing design, guaranteeing product life of up to 40,000 hours in most conditions

Off Road Ready

Brushless motor fan for all conditions. Protection against mud, sand, dust, water, saline fog and chemicals, coupled with an Oil Cooler core that is easy to clean and service, equals a lasting solution!

Variable Fan Controller & Sensor

Pair the Brushless Fan MA oil cooler with the TTP MAGHEX Variable Fan Controller Sensor.

- Built in PWM Signal will provide proportional control of fan speed that will ultimately allow for energy savings in your application
- Easy set up and programming
- Simple installation and wiring

Inquire with TTP sales for detailed information.

Motor Specifications

Typical Ratings @ Continuous Operation
Operating Temperature Range: -40° – 239°F (-40° – 115°C)
Storage Temperature Range: -40° – 298°F (-40° – 148°C)
Lifetime: Up to 40,000 hrs (depending on specific mission profile)
Operating Voltage Range: 8 – 16V and 16 – 32V
Stand-By Current: < 0.1 Ma SBLI300+
30W Electrical Input @ 212°F (100°C) ambient temperature
250W Electrical Input @ 230°F (110°C) ambient temperature

The maximum electrical input power depends on the maximum operating temperature of the fan module and can be customized accordingly.

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