



DAE Systems



HVDC Engine Cooling Fans

BETTER SOLUTIONS

HVDC - Electric Engine Cooling Fans



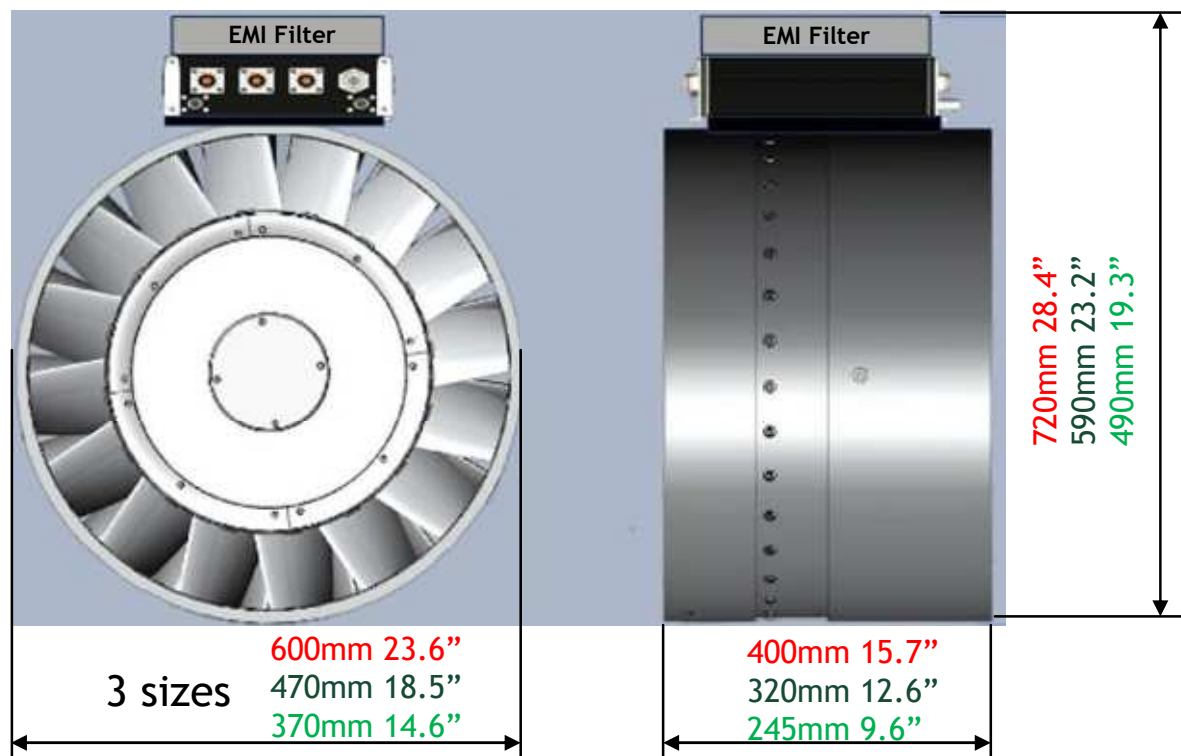
DAE Engine Cooling System is fully integrated Fan/Motor And Controller.

The motor and controller are cooled with pumped ethylene glycol.

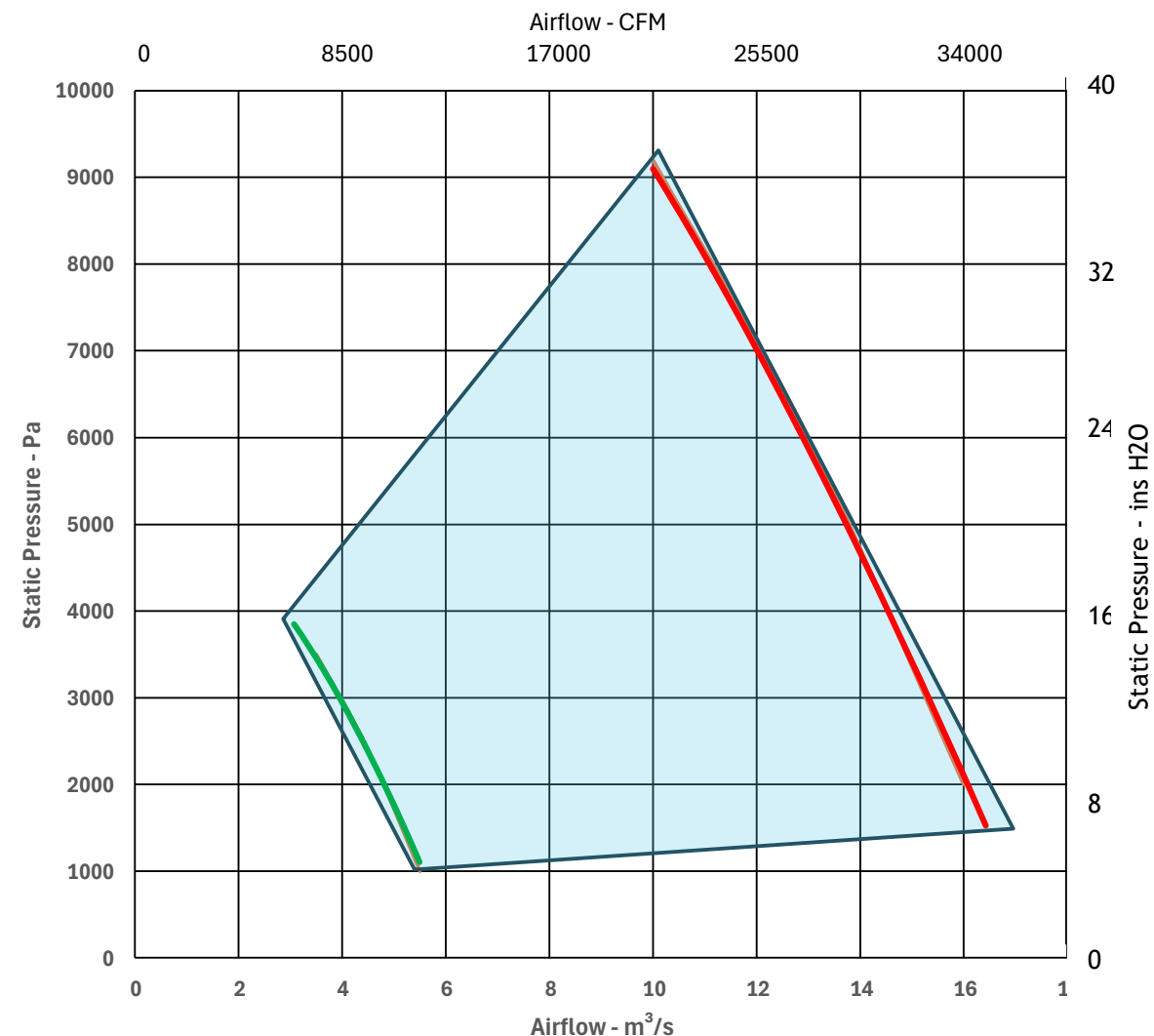
Power demand modulated with respect to the fan inlet temperature

Variable speed range, Max power 146 kw, Voltage range 500-800 V

Customer interfaces, as required



Performance Range 500-800V DC Fan Series



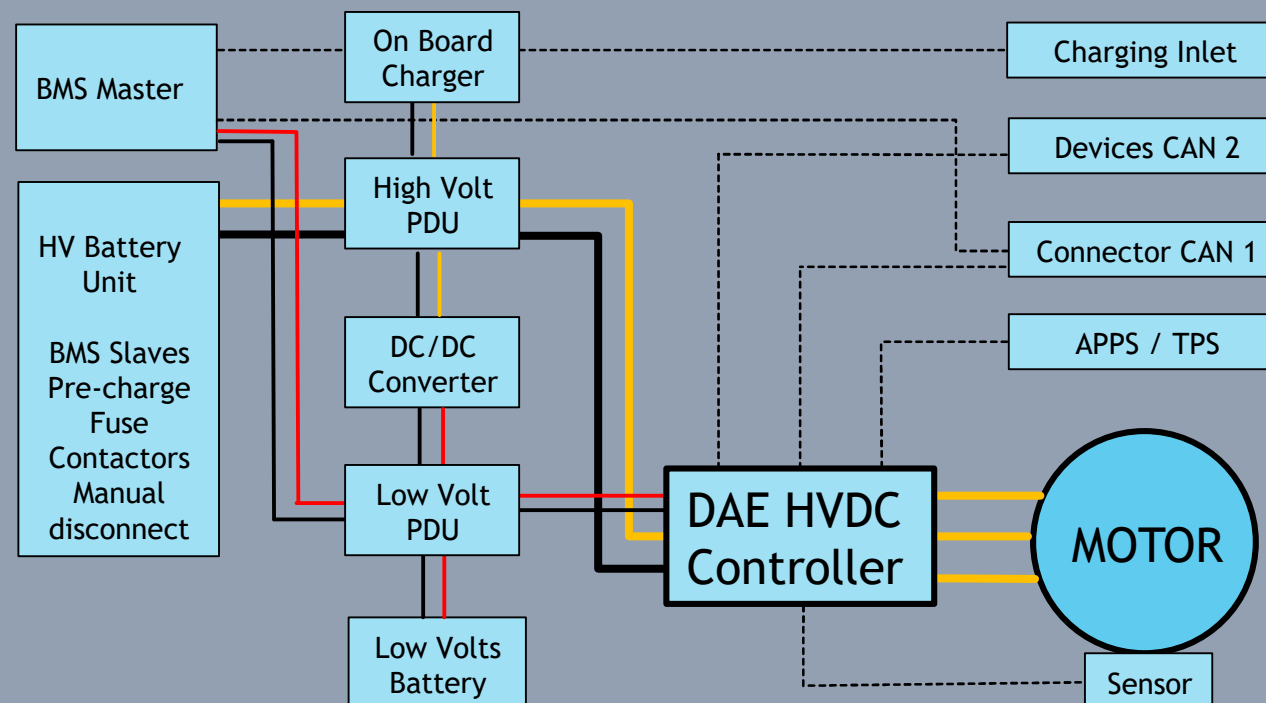
HVDC - Fan Testing

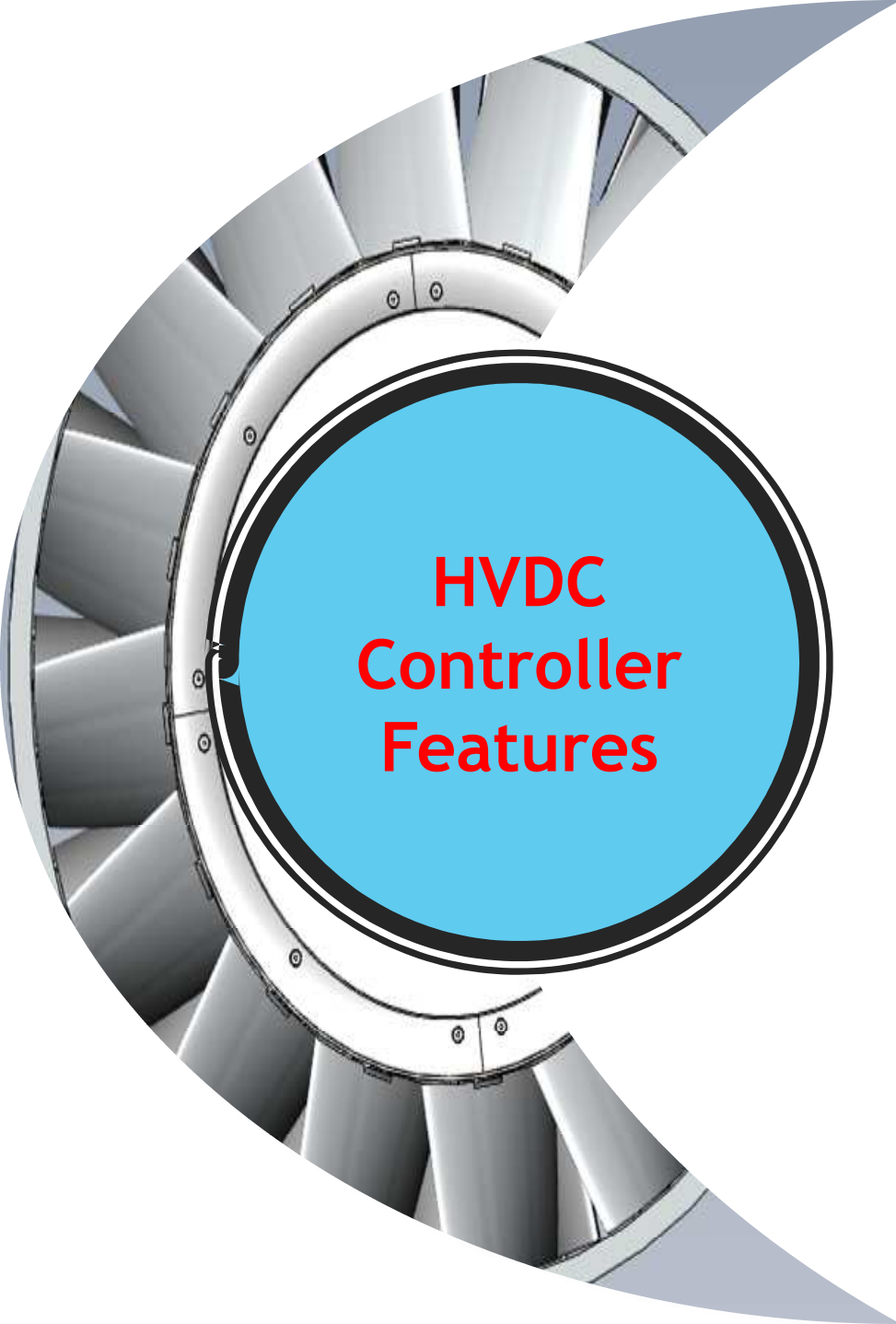


**HVDC
Controller
550-850 VDC
Ethylene
Glycol Cooling
Circuit**



Motor Controller Architecture



A graphic showing a close-up of a large industrial motor's fan blades. In the center, there is a blue circle with a black border containing the text "HVDC Controller Features" in red.

HVDC Controller Features

Key Features	Key Features
50-800V power stage input range	Power stage and Motor temperature protection and limitation
9-28V logic stage input range	Motor Speed limitation
388/600 Arms current rating	Motor Power limitation
Up to 100.000 eRPM motor speed	Position sensor error sensing
Multiple controlling peripherals	AC and DC current limitation
Analog input	Configurable APPS/TPS
CAN (ISO 11898-2)	Double redundant APPS/TPS
Multiple controlling methods	Configurable APPS/TPS characteristics
Current (Torque) mode	Configurable reverse characteristics
Speed control mode (eRPM)	Configurable digital Inputs (Inverter enable, reverse switch, custom drive mode triggering)
Duty Cycle control mode	
Field Orientated Control (FOC)	Configurable digital Outputs (RPM output for VDO instruments, Error output, limiting feedback)
8-14kHz Switching frequency using central aligned PWM	
Motor angle positioning	Auto-Tune for motor position sensors
SSI & ABI Encoder, Resolver or HALL Sensor	Undervoltage protection and limitation
Hardware and software overvoltage, overcurrent protections	EMI Filter