CASCON

CUSTOM GEROTOR AND GEAR PUMPS

APPLICATION CASE STUDY CS-131

Gas Turbine – Marine

The new small turbine engine is an innovative design featuring a high-speed alternator that eliminates the reduction gearbox, and a heat recovery recuperator for high thermal efficiency. The compact design is ideally suited for marine propulsion and railway traction applications driving electric motors.

Pump Description:

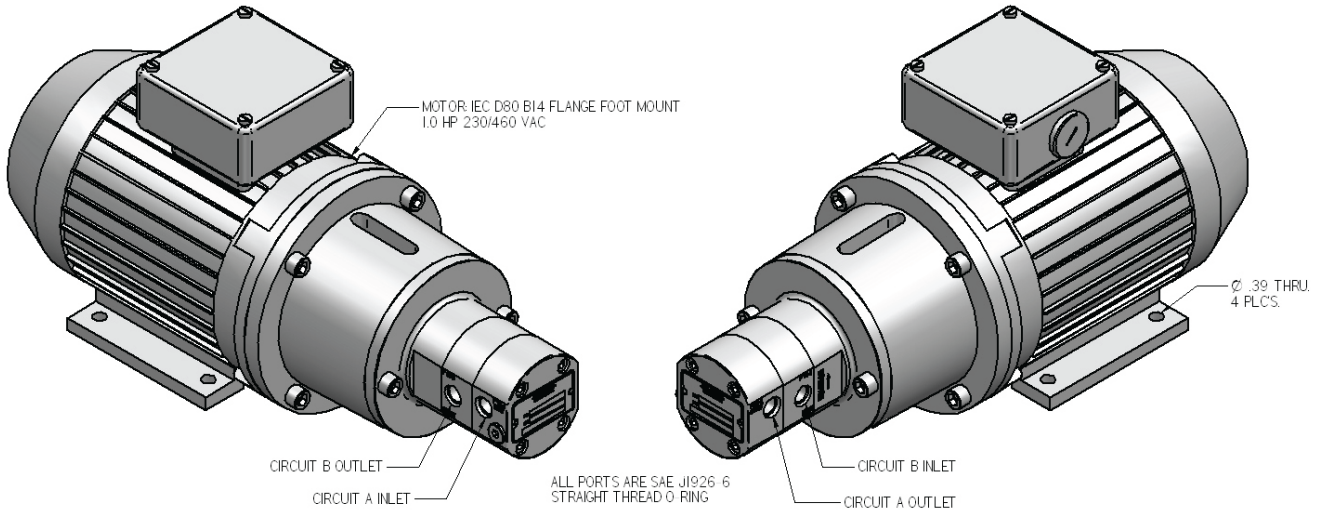
The gerotor pump assembly consists a multi circuit, positive displacement pump, pump mount, drive coupling, and a 1.1 kw, 3 phase marine duty electric drive motor. The gerotor style pump consists of one independent scavenge circuit rated at 550 lph, and a lube oil circuit rated at 220 lph. The housings are machined from grade 30 cast-iron bar that are finished with electroless nickel plating for corrosion protection. The shaft is machined from hardened AISI 8620 steel, and is supported by hydrodynamic journal bearings, which operate over the pressure and speed range of the pump. The scavenge pump is internally lubricated by the lube pump, and can therefore operate for short periods (5 minutes) without oil.

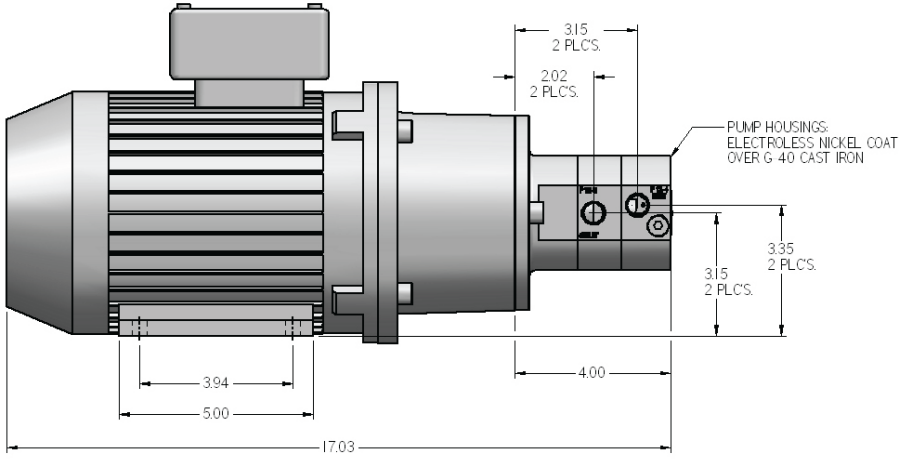
Selected Performance Data:

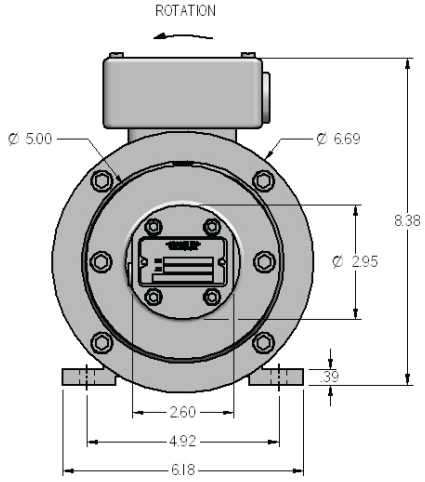
Fluid	MIL-L-23699 turbine oil
Lube Circuit Flow	220 lph @ 4 bar max
Scavenge Circuit	550 lph @ 1 bar
Ambient Temp. Range	-5 degC to +80 degC
Operating Speed	3600 rpm
Lube Relief Valve	Integral – 15 bar crack
Electric Drive Motor	230vac, 3 ph, 60 hz, Lloyds Register
MTBO	20,000 hours
Duty Cycle	Continuous
Ingress Protection	IP55
Weight	24 kg

ANAB ACCREDITED

ISO 9001:2000 SGS







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LUBE & SCAVENGE MARINE GAS TURBINE