

## Gas Turbine - Marine

The aeroderivative design of this gas turbine engine provides a lightweight, fuel efficient, compact configuration that can be easily adapted for a variety of mechanical drive and marine propulsion applications rated up to 11,000 hp, and for power generation systems ranging from 6.4 to 7.9 MW.



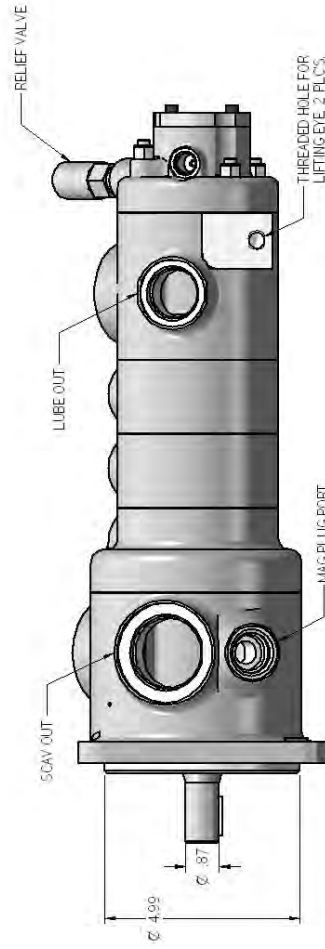
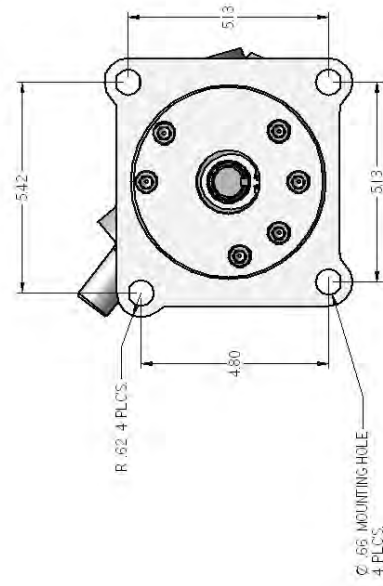
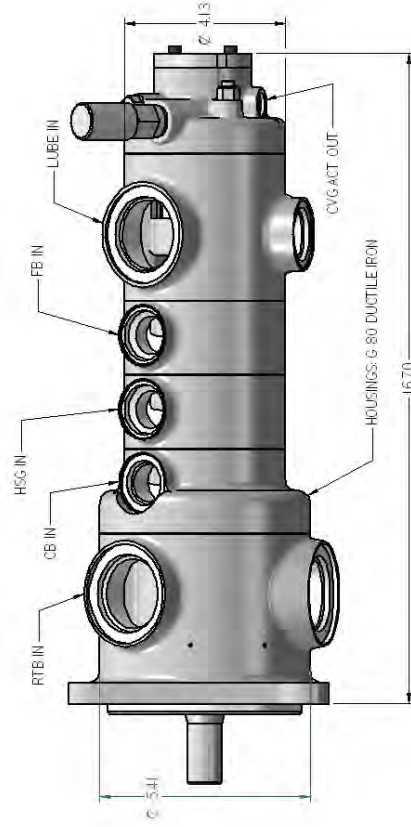
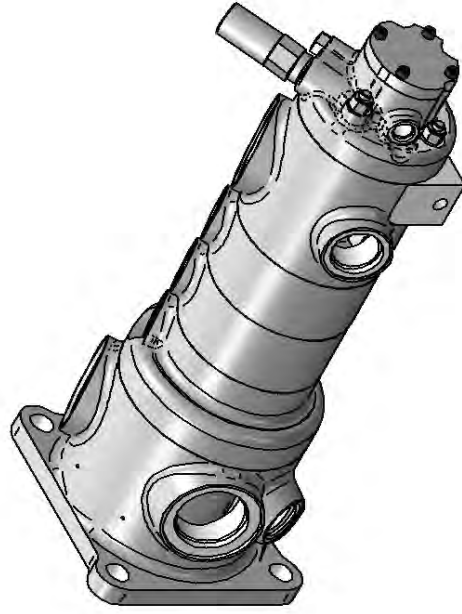
### Pump Description:

A custom designed, multi-circuit, gerotor pump provides seven independent functions; lube oil supply to the turbine bearings, oil scavenge from five independent oil sumps, and a high pressure circuit for actuation of the turbine VIGV's. The positive displacement pump is a modular construction that can be easily adapted to support different engine configurations such as marine propulsion or power generation. All circuits feature cast ductile iron housings with gerotors carried on a single hardened AISI 8620 steel shaft, supported by steel backed PTFE-lead impregnated bronze journal bearings. Dowel pins provide accurate positional alignment of adjoining cast iron housings, which are then clamped together with a series of tie-bolts. Pressure relief valves are included for protection of the actuator and lubrication functions. The pump features an internal, forced lubrication system that protects critical components during adverse operating conditions.

### Selected Performance Data:

Fluid	MIL-L-23699, MIL-L-7808
Flow Rate - Lube Circuit	24.5 GPM @ 100 psid
Flow Rate - Actuator Circuit	2.4 GPM @ 300 psid
Flow Rate - Scav #1,#2,#3,#4	11 GPM @ 35 psid
Flow Rate - Scav #5	48 GPM @ 35 psid
Temperature Range	-45 degF to +275 degF
Operating Speed	3000 - 3600 rpm (4400 max overspeed)
Lube Relief Valve	Integral - 150 psi crack
Actuator Relief Valve	Integral - 430 psi crack
MTBF	40,000 hours
Duty Cycle	Continuous
Weight	80 lbs
Drive Interface	Mechanical or Electric Motor





CASE STUDY CS-057 LUBE & SCAVENGE PUMP