

International Space Station Oxygen Generation System

The ISS Oxygen Generation System (OGA) electrolyzes potable water from the Water Recovery System to provide gaseous oxygen to the ISS module atmosphere. The OGA requires one pump to circulate clean water having 5% gas by volume through the electrolysis cell stack.



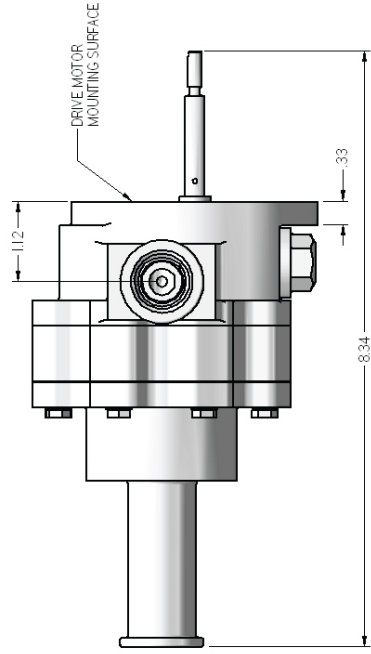
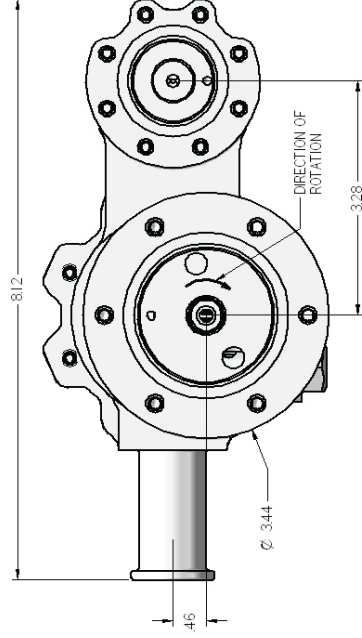
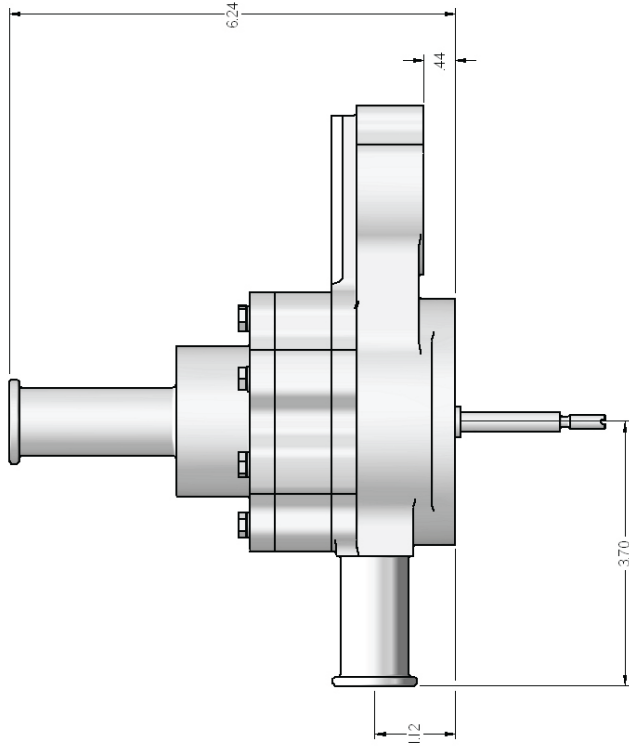
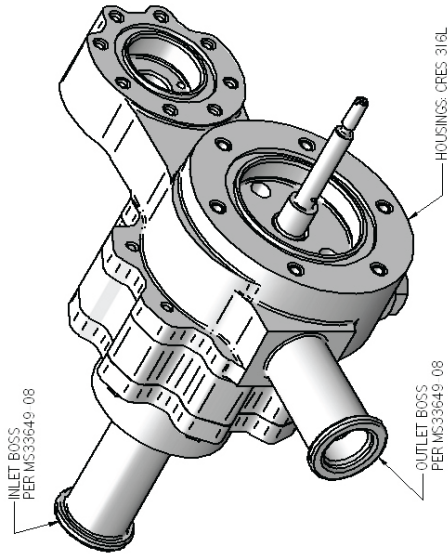
Pump Description:

The OGA pump is a fixed clearance positive displacement gear pump featuring ceramic spur gears carried on Stellite 6B shafts running on silicon carbide journal bearings. Three component housings machined from 316L stainless steel provide the mechanical interface for isolation mounting, the electric drive motor, and fluid connections. The pump delivers a flow rate of 560 PPH and 28 PSID. It is also designed to withstand a system explosion pressure of 1447 PSI and operates at an ambient temperature of 63 - 109 F. The pump runs continuously and is required to operate for more than 8760 hours.

Selected Performance Data:

Operating Fluid	Deionized Water
Flow Rate	500 – 620 pph
Operating Pressure	28 psid nom.
Operating Temperature	63-109 degF
Operating Speed	2300 rpm
Design Life	8760 hours





CASE STUDY CS-085 DI WATER PUMP