Kearfott Corporation
A Subsidiary of Astronautics Corporation of America
Motion Systems Division

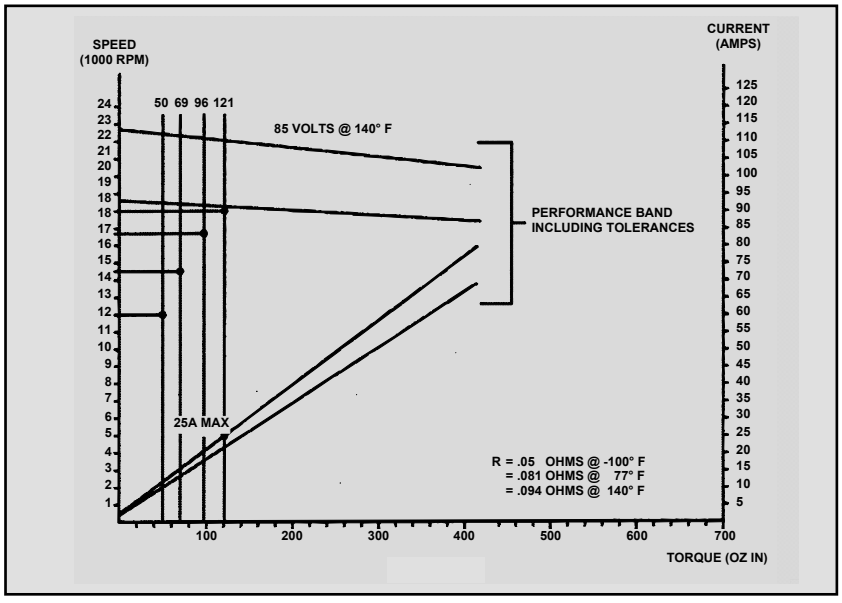
P/N CU09616039

RESOLVER, BRUSHLESS

This brushless DC motor is used in the International Space Station Alpha (ISSA). It drives a centrifugal pump used to circulate liquid ammonia through the Active Thermal Control System cooling system. The motor is tested at loads up to 2.16 horsepower mechanical output. The rotor uses samarium cobalt magnets. Hall effect sensors provide the commutation signal. The rotor and stator are both sealed by stainless steel membranes, leaving a passage for liquid ammonia to pass axially through the air gap to cool the stator. The motor uses hydrodynamic bearings lubricated by the liquid ammonia.

PERFORMANCE CHARACTERISTICS	
MOTOR	
WINDING RESISTANCE	0.05 OHMS ±10% AT -100°F
	0.081 OHMS ±10% AT 77°F
	0.094 OHMS ±10% AT 140°F
WINDING INDUCTANCE	0.17 MH ±38%
BACK EMF CONSTANT	4.17 VOLTS/KRPM ±10
TORQUE CONSTANT	5.64 OZ IN/AMP ±10%
MAX EXCITATION VOLTAGE	85 VOLTS AT 90% MAX DUTY CYCLE
MAX CURRENT DRAW	25 AMPS
SPEED/TORQUE	PER FIGURE 1
EFFICIENCY *	73% MINIMUM 121 OZ IN
DIELECTRIC STRENGTH ±60 Hz	1500 VOLTS MIN (NOTE 14)
INSULATION RESISTANCE ±500 V dc	1 MEGOHM MIN
SENSOR	
EXCITATION VOLTAGE	15 VOLTS ±10%
OUTPUT VOLTAGE	5 VOLTS ±5%
SENSOR OUTPUT	60° ELECTRICAL

* MOTOR ONLY, CONTROLLER AND CABLE LOSSES NOT INCLUDED



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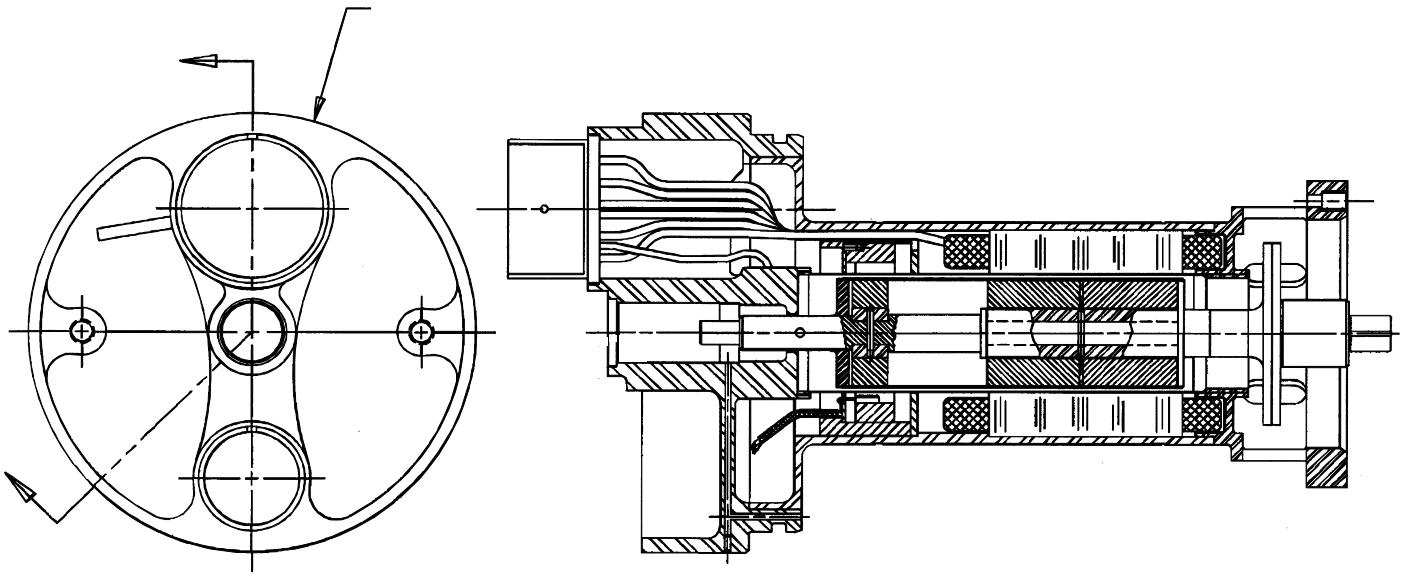

ASHEVILLE PRODUCT LIST

SENSORS	MOTORS	OTHER
LVDT	AC	Motor Gearheads
RVDT	DC	Servo Systems
Synchros	Brush/Brushless	Dampers
Resolvers	Induction/Synchronous	Angle Sensors
		Torquers
ELECTRONICS	**ACTUATORS**	Tachometers
PWM Amps	Linear	Generators
Servo Amps	Rotary	Alternators
Converters		PC Boards
Power Supplies		Harnesses

For additional information on this product or any other product listed above please contact Kearfott's Marketing Department at:

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