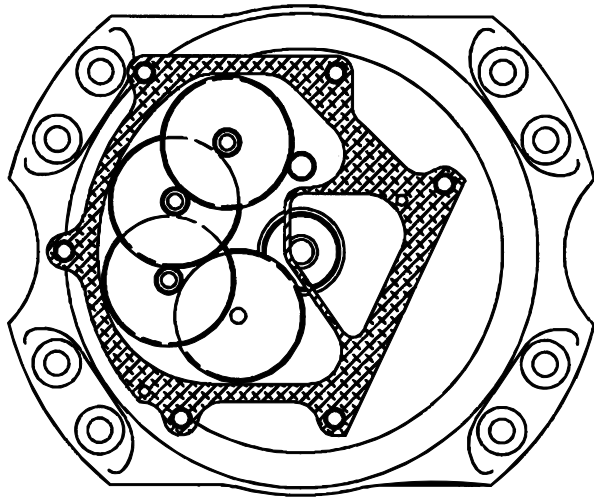


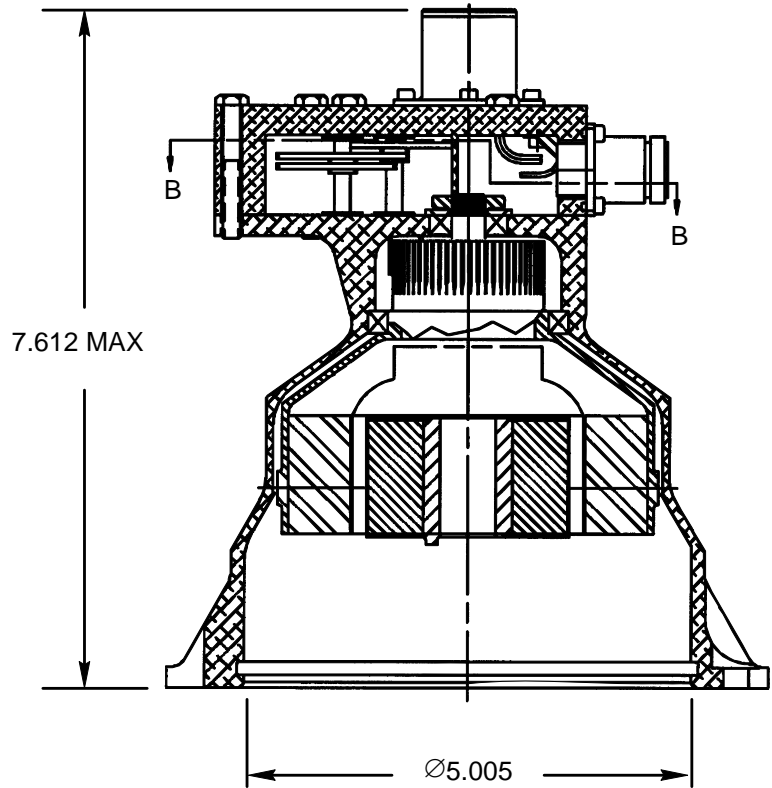
## ACTUATOR – MOTOR VALVE POSITION INDICATOR

This rotary actuator is used in the International Space Station Alpha (ISSA). It controls the position of a control valve used in the liquid ammonia cooling system. The actuator consists of a stepper motor, five-stage gear reduction, and a magnetic coupling. The stepper motor's incremental motion simplifies the system control loop. The gear reduction increases output torque, and reduces output step increment to 1.8 arc minutes. One half of the magnetic coupling is inside the ammonia vessel, eliminating the possibility of leakage through shaft seals. A Rotary Variable Differential Transformer (RVDT), also manufactured by Kearfott, is used to sense the valve position.

TYPICAL ACTUATOR DATA		
CHARACTERISTIC	UNITS	VALUE
WEIGHT (MAX)	POUNDS	8.79
ROTATION	DEGREES	360
GEAR RATIO	–	3000:1
TORQUE @ 35 PPS	IN-OZ	800
ACCURACY	DEGREES	1.5
OPERATING TEMPERATURE RANGE	DEGREES F	-65 TO +160
MECHANICAL BACKLASH @ 5 IN-LBS	DEGREES	1.5
MAGNETIC BACKLASH @ 2 IN-LBS	DEGREES	2.0
OPERATING SPEED @ 35 PPS	RPM	0.17 - 0.25
LEAKAGE @ 15 PSID	SEC He/SEC	1 X 10 <sup>-1</sup>



SECTION B-B



### ASHEVILLE PRODUCT LIST

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LVDT  
RVDT  
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Resolvers

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Converters  
Power Supplies

#### MOTORS

AC  
DC  
Brush/Brushless  
Induction/Synchronous

#### ACTUATORS

Linear  
Rotary

#### OTHER

Motor Gearheads  
Servo Systems  
Dampers  
Angle Sensors  
Torquers  
Tachometers  
Generators  
Alternators  
PC Boards  
Harnesses

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

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