

CRYO ROTARY MOTOR (CRM)



Features

- Endless rotation
- Integrated scanner functionality
- High torque output
- Compact and robust design
- 20 mK to 375K, vacuum compatible
- Materials: stainless steel, phosphor bronze
- Moving parts non magnetic
- Cryo Optical Encoder option "COE"
- COE offers full 360 degrees range

Description / Applications

The Cryo Rotary Motor (CRM) is a rotational drive with high torque output. An optical encoder can be fitted for closed loop control. In contrast to typical resistive based encoders it has no blind spots and can measure over 360 angular degrees. The moving parts are made out of non-magnetic phosphor bronze to minimize interaction with external magnetic fields.

Specifications

specs	unit	CRM ₁	CRM ₁ -COE
SYSTEM SPECIFICATIONS			
Active axes	-	1	
Type of motion	-	Rotational	
Coarse/scanning actuator *	-	Piezo ceramic	
Coarse Range	deg	Endless	
Speed @ 293 K	rev/min	5	
Speed @ 4 K	rev/min	1	
Coarse step size @ 293 K	mrاد (deg)	0.15 - 0.75 (0.008 - 0.04)	
Coarse step size @ 4 K	mrاد (deg)	0.1 - 0.25 (0.005 - 0.015)	
Scan Range @ 293K	mrاد (deg)	0.6 (0.034)	
Scan Range @ 4K	mrاد (deg)	0.15 (0.009)	
Scanner sensitivity @ 293 K **	mrاد/V (deg/V)	0.005 (0.0003)	
Scanner sensitivity @ 4 K **	mrاد/V (deg/V)	0.001 (0.00006)	
Driving torque	Nmm	15	
Load capacity	grams	200	
Operating temperature	K	0.02 - 375	
Main construction material	-	Stainless steel, phosphor bronze	
Mass	grams	170	180
Dissipation @ 293K	mJ/step	0,59	
Dissipation @ 4K	mJ/step	0,055	
Encoder resolution	PPR	N/A	850
DRIVE ELECTRONICS			
Controller/driver	-	CAB-230(115), CADM(2), MCM	
Encoder readout	-	N/A	OEM ₂
* Coarse/scan positioning is both done with the CADM(2), not simultaneously			
** 0-150V, 10 bits resolution, setpoint rate approx. 10Hz			

Mechanical and electrical information

Download 3D-Step files, interface drawings and user manuals from:
www.jpe.nl/cryo-nano-positioning/

Contact

For quotations, orders, customization or specials, please contact us at:
www.jpe.nl/contact

Ordering Information

CRM1

CRM1 incl. Scanner

CRM1-COE

CRM1 incl. Scanner and Cryo Optical Encoder