

PRODUCT DATASHEET

ES-HG-S05-F17-R120

Precision Transmission Component

Cup Harmonic Gearboxes | High-Torque Cup Unit Type I

Product Overview

Precision Transmission Component with rated Torque 31 Nm, instantaneous Maximum Torque 109 N·m and start/Stop Peak Torque 70 Nm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	31	Nm
Instantaneous Maximum Torque	109	Nm
Start/Stop Peak Torque	70	Nm
Reduction Ratio	120	
Backlash	≤20 / 20	arc sec
Maximum Input Speed	7300	r/min
Allowable Average Torque	51	Nm
Frame Size	17	
Weight	0.67	kg

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	31	Nm	
Instantaneous Maximum Torque	109	Nm	
Start/Stop Peak Torque	70	Nm	
Backlash	≤ 20 / 20	arc sec	
Allowable Average Torque	51	Nm	
Angular Transmission Accuracy	1.5	arc min	
Hysteresis Loss	1	arc min	
Starting Torque	3.4 / 0.034	Nm	
MECHANICAL			
Frame Size	17		
Weight	0.67	kg	
Wave Generator Dimension T	9.4+0.10 / 12.8+0.10	mm	Varies by published configuration.

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Wave Generator Bore U	φ8H7 / φ11H7		Varies by published configuration.
Wave Generator Keyway W	3JS9/P9 / 4JS9/P9		Varies by published configuration.
RELIABILITY			
Design Life	15000	h	
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	120		
Maximum Input Speed	7300	r/min	
Average Input Speed	3500	r/min	
Torsional Rigidity K1	1 / 10000	Nm/rad	
Torsional Rigidity K2	1.4 / 14000	Nm/rad	
Torsional Rigidity K3	1.6 / 16000	Nm/rad	
Torsional Rigidity T2	12	Nm	
Torsional Rigidity T1	3.9	Nm	

Dimensional & Integration Overview

Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	17	
Weight	0.67	kg
Wave Generator Dimension T	9.4+0.10 / 12.8+0.10	mm
Wave Generator Bore U	ϕ8H7 / ϕ11H7	
Wave Generator Keyway W	3JS9/P9 / 4JS9/P9	

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01 Specifications are subject to change without notice. Verify the current product configuration before final design release.

02 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.