

PRODUCT DATASHEET

ES-HG-S09-F50-R120

Precision Transmission Component

Hollow Shaft Harmonic Gearboxes | High-Torque Hollow Shaft Gear Unit

Product Overview

Precision Transmission Component with rated Torque 688 N·m, instantaneous Maximum Torque 2678 N·m and start/Stop Peak Torque 1404 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	688	N·m
Instantaneous Maximum Torque	2678	N·m
Start/Stop Peak Torque	1404	N·m
Reduction Ratio	120	
Maximum Input Speed	3500	r/min
Allowable Average Torque	1057	N·m
Backlash	≤20	arc sec
Frame Size	50	
Weight	14.5	kg

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	688	Nm	Frame Size: 50; Reduction Ratio: 120; Size: 50
Instantaneous Maximum Torque	2678	Nm	Frame Size: 50; Reduction Ratio: 120; Size: 50
Start/Stop Peak Torque	1404	Nm	Frame Size: 50; Reduction Ratio: 120; Size: 50
Backlash	≤20	arc sec	Reduction Ratio: 120; Size: 50; Frame Size: 50
Allowable Average Torque	1057	Nm	Frame Size: 50; Reduction Ratio: 120; Size: 50
Angular Transmission Accuracy	1	arcmin	Frame Size: 50; Reduction Ratio: 120; Reduction Ratio Min: 50; Size: 50
Hysteresis Loss	1	arcmin	Frame Size: 50; Reduction Ratio: 120; Reduction Ratio Min: 50; Size: 50
MECHANICAL			
Frame Size	50		Frame Size: 50; Reduction Ratio: 120; Size: 50
Weight	14.5	kg	Frame Size: 50; Reduction Ratio: 120; Size: 50

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
RELIABILITY			
Design Life	15000	h	Frame Size: 50; Reduction Ratio: 120; Size: 50
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	120		Frame Size: 50; Reduction Ratio: 120; Size: 50
Maximum Input Speed	3500	r/min	Frame Size: 50; Reduction Ratio: 120; Size: 50
Average Input Speed	2500 / 3500	r/min	Frame Size: 50; Reduction Ratio: 120; Size: 50 / Frame Size: 50; Reduction Ratio: 120
Torsional Rigidity K2	40	$\times 10^4$ Nm/rad	Frame Size: 50; Reduction Ratio: 120; Reduction Ratio Min: 50; Size: 50
Torsional Rigidity K1	25	$\times 10^4$ Nm/rad	Frame Size: 50; Reduction Ratio: 120; Reduction Ratio Min: 50; Size: 50
Torsional Rigidity K3	44	$\times 10^4$ Nm/rad	Frame Size: 50; Reduction Ratio: 120; Reduction Ratio Min: 50; Size: 50
Torsional Rigidity T2	382	Nm	Frame Size: 50; Reduction Ratio: 120; Reduction Ratio Min: 50; Size: 50
Torsional Rigidity T1	108	Nm	Frame Size: 50; Reduction Ratio: 120; Reduction Ratio Min: 50; Size: 50

Dimensional & Integration Overview

Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	50	
Weight	14.5	kg

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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.