PRODUCT DATASHEET

ES-HG-S18-F50-R120

Precision Transmission Component

Hollow Shaft Harmonic Gearboxes | Simple 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	
Backlash	≤20	arc sec
Maximum Input Speed	3500	r/min
Allowable Average Torque	1057	N·m
Frame Size	50	
Weight	14.5	kg

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	688	N·m	Frame Size: 50; Reduction Ratio: 120; Size: 50
Instantaneous Maximum Torque	2678	N·m	Frame Size: 50; Reduction Ratio: 120; Size: 50
Start/Stop Peak Torque	1404	N·m	Frame Size: 50; Reduction Ratio: 120; Size: 50
Backlash	≤20	arc sec	Frame Size: 50; Reduction Ratio: 120; Size: 50
Allowable Average Torque	1057	N·m	Frame Size: 50; Reduction Ratio: 120; Size: 50
MECHANICAL			
Frame Size	50		Frame Size: 50; Reduction Ratio: 120; Size: 50
Weight	14.5	kg	Frame Size: 50; Reduction Ratio: 120
RELIABILITY			
Design Life	15000	h	Frame Size: 50; Reduction Ratio: 120; Size: 50
CONFIGURATION			
Variant Style	Simple Integrated Hollow-Shaft Type		Frame Size: 50; Reduction Ratio: 120
Unit Structure	Complete Unit		Frame Size: 50; Reduction Ratio: 120
Series Family	High-Torque Hat-Type Harmonic Gear Series		Frame Size: 50; Reduction Ratio: 120

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
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	r/min	Frame Size: 50; Reduction Ratio: 120; Size: 50
Angle Transmission Accuracy	1	arcmin	Frame Size: 50; Reduction Ratio Min: 50; Size: 50
Torsional Rigidity K2	40	×10⁴ N·m/rad	Frame Size: 50; Reduction Ratio: 120; Rigidity Scope: reduction ratio above 50; Size: 50
Torsional Rigidity K1	25	×10⁴ N·m/rad	Frame Size: 50; Reduction Ratio: 120; Rigidity Scope: reduction ratio above 50; Size: 50
Torsional Rigidity K3	44	×10⁴ N·m/rad	Frame Size: 50; Reduction Ratio: 120; Rigidity Scope: reduction ratio above 50; Size: 50
Torsional Rigidity T2	382	N·m	Frame Size: 50; Rigidity Scope: all reduction ratios; Size: 50
Hysteresis Loss	1	arcmin	Frame Size: 50; Reduction Ratio Min: 50; Size: 50
Torsional Rigidity T1	108	N·m	Frame Size: 50; Rigidity Scope: all reduction ratios; Size: 50
Starting Torque	57	N·m	Frame Size: 50; Reduction Ratio: 120; 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.