PRODUCT DATASHEET

ES-HG-S18-F45-R80

Precision Transmission Component

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

Product Overview

Precision Transmission Component with rated Torque 407 N·m, instantaneous Maximum Torque 1651 N·m and start/Stop Peak Torque 918 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	407	N·m
Instantaneous Maximum Torque	1651	N·m
Start/Stop Peak Torque	918	N·m
Reduction Ratio	80	
Backlash	≤20	arc sec
Maximum Input Speed	3800	r/min
Allowable Average Torque	507	N·m
Frame Size	45	
Weight	6.5	kg

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	407	N·m	Frame Size: 45; Reduction Ratio: 80; Size: 45
Instantaneous Maximum Torque	1651	N·m	Frame Size: 45; Reduction Ratio: 80; Size: 45
Start/Stop Peak Torque	918	N·m	Frame Size: 45; Reduction Ratio: 80; Size: 45
Backlash	≤20	arc sec	Frame Size: 45; Reduction Ratio: 80; Size: 45
Allowable Average Torque	507	N·m	Frame Size: 45; Reduction Ratio: 80; Size: 45
MECHANICAL			
Frame Size	45		Frame Size: 45; Reduction Ratio: 80; Size: 45
Weight	6.5	kg	Frame Size: 45; Reduction Ratio: 80
RELIABILITY			
Design Life	15000	h	Frame Size: 45; Reduction Ratio: 80; Size: 45
CONFIGURATION			
Variant Style	Simple Integrated Hollow-Shaft Type		Frame Size: 45; Reduction Ratio: 80
Unit Structure	Complete Unit		Frame Size: 45; Reduction Ratio: 80
Series Family	High-Torque Hat-Type Harmonic Gear Series		Frame Size: 45; Reduction Ratio: 80

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	80		Frame Size: 45; Reduction Ratio: 80; Size: 45
Maximum Input Speed	3800	r/min	Frame Size: 45; Reduction Ratio: 80; Size: 45
Average Input Speed	3000	r/min	Frame Size: 45; Reduction Ratio: 80; Size: 45
Angle Transmission Accuracy	1	arcmin	Frame Size: 45; Reduction Ratio Min: 50; Size: 45
Torsional Rigidity K2	29	×10⁴ N·m/rad	Frame Size: 45; Reduction Ratio: 80; Rigidity Scope: reduction ratio above 50; Size: 45
Torsional Rigidity K1	18	×10⁴ N·m/rad	Frame Size: 45; Reduction Ratio: 80; Rigidity Scope: reduction ratio above 50; Size: 45
Torsional Rigidity K3	33	×10⁴ N·m/rad	Frame Size: 45; Reduction Ratio: 80; Rigidity Scope: reduction ratio above 50; Size: 45
Torsional Rigidity T2	275	N·m	Frame Size: 45; Rigidity Scope: all reduction ratios; Size: 45
Hysteresis Loss	1	arcmin	Frame Size: 45; Reduction Ratio Min: 50; Size: 45
Torsional Rigidity T1	76	N·m	Frame Size: 45; Rigidity Scope: all reduction ratios; Size: 45
Starting Torque	54	N·m	Frame Size: 45; Reduction Ratio: 80; Size: 45

Dimensional & Integration Overview

Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	45	
Weight	6.5	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.