PRODUCT DATASHEET

ES-HG-S18-F20-R160

Precision Transmission Component

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

Product Overview

Precision Transmission Component with rated Torque 52 N·m, instantaneous Maximum Torque 191 N·m and start/Stop Peak Torque 120 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	52	N·m
Instantaneous Maximum Torque	191	N·m
Start/Stop Peak Torque	120	N·m
Reduction Ratio	160	
Backlash	≤20	arc sec
Maximum Input Speed	6500	r/min
Allowable Average Torque	64	N·m
Frame Size	20	
Weight	0.82	kg

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	52	N·m	Frame Size: 20; Reduction Ratio: 160; Size: 20
Instantaneous Maximum Torque	191	N·m	Frame Size: 20; Reduction Ratio: 160; Size: 20
Start/Stop Peak Torque	120	N·m	Frame Size: 20; Reduction Ratio: 160; Size: 20
Backlash	≤20	arc sec	Frame Size: 20; Reduction Ratio: 160; Size: 20
Allowable Average Torque	64	N·m	Frame Size: 20; Reduction Ratio: 160; Size: 20
MECHANICAL			
Frame Size	20		Frame Size: 20; Reduction Ratio: 160; Size: 20
Weight	0.82	kg	Frame Size: 20; Reduction Ratio: 160; Size: 20
RELIABILITY			
Design Life	15000	h	Frame Size: 20; Reduction Ratio: 160; Size: 20
CONFIGURATION			
Variant Style	Simple Integrated Hollow-Shaft Type		Frame Size: 20; Reduction Ratio: 160
Unit Structure	Complete Unit		Frame Size: 20; Reduction Ratio: 160
Series Family	High-Torque Hat-Type Harmonic Gear Series		Frame Size: 20; Reduction Ratio: 160

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	160		Frame Size: 20; Reduction Ratio: 160; Size: 20
Maximum Input Speed	6500	r/min	Frame Size: 20; Reduction Ratio: 160; Size: 20
Average Input Speed	3500	r/min	Frame Size: 20; Reduction Ratio: 160; Size: 20
Angle Transmission Accuracy	1	arcmin	Frame Size: 20; Reduction Ratio Min: 50; Size: 20
Torsional Rigidity K2	2.5	$\times 10^4$ N·m/rad	Frame Size: 20; Reduction Ratio: 160; Rigidity Scope: reduction ratio above 50; Size: 20
Torsional Rigidity K1	1.6	$\times 10^4$ N·m/rad	Frame Size: 20; Reduction Ratio: 160; Rigidity Scope: reduction ratio above 50; Size: 20
Torsional Rigidity K3	2.9	$\times 10^4$ N·m/rad	Frame Size: 20; Reduction Ratio: 160; Rigidity Scope: reduction ratio above 50; Size: 20
Torsional Rigidity T2	25	N·m	Frame Size: 20; Rigidity Scope: all reduction ratios; Size: 20
Hysteresis Loss	1	arcmin	Frame Size: 20; Reduction Ratio Min: 50; Size: 20
Torsional Rigidity T1	7	N·m	Frame Size: 20; Rigidity Scope: all reduction ratios; Size: 20
Starting Torque	3.6	N·m	Frame Size: 20; Reduction Ratio: 160; Size: 20

Dimensional & Integration Overview

Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	20	
Weight	0.82	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.