PRODUCT DATASHEET

ES-HG-S28-F32-R80

Precision Transmission Component

Ultra-Thin Harmonic Gearboxes | Ultra-Short Hollow Shaft Gear Unit

Product Overview

Precision Transmission Component with rated Torque 83 N·m, instantaneous Maximum Torque 398 N·m and start/Stop Peak Torque 213 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	83	N·m
Instantaneous Maximum Torque	398	N·m
Start/Stop Peak Torque	213	N·m
Reduction Ratio	80	
Maximum Input Speed	4800	r/min
Allowable Average Torque	117	N·m
Frame Size	32	
Weight	3.56	kg
Average Input Speed	3500	r/min

Technical Specifications

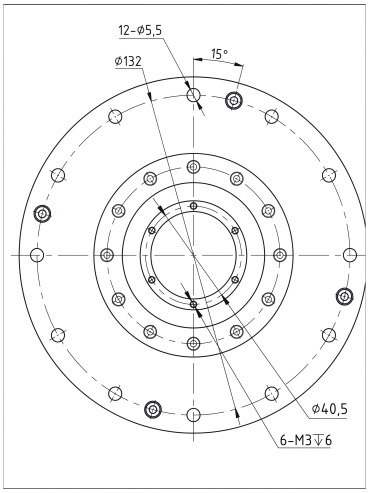
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	83	N·m	Frame Size: 32; Reduction Ratio: 80; Size: 32
Instantaneous Maximum Torque	398	N·m	Frame Size: 32; Reduction Ratio: 80; Size: 32
Start/Stop Peak Torque	213	N·m	Frame Size: 32; Reduction Ratio: 80; Size: 32
Allowable Average Torque	117	N·m	Frame Size: 32; Reduction Ratio: 80; Size: 32
Angle Transmission Accuracy	1	arc min	Frame Size: 32; Ratio Bucket: >50; Reduction Ratio: 80; Reduction Ratio Min: 50; Size: 32
Hysteresis Loss	1	arc min	Frame Size: 32; Ratio Bucket: >50; Reduction Ratio: 80; Reduction Ratio Min: 50; Size: 32
MECHANICAL			
Frame Size	32		Frame Size: 32; Reduction Ratio: 80; Size: 32
Weight	3.56	kg	Frame Size: 32; Reduction Ratio: 80; Size: 32
RELIABILITY			
Design Life	10000	h	Frame Size: 32; Reduction Ratio: 80; Size: 32
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	80		Frame Size: 32; Reduction Ratio: 80; Size: 32
Maximum Input Speed	4800	r/min	Frame Size: 32; Reduction Ratio: 80; Size: 32
Average Input Speed	3500	r/min	Frame Size: 32; Reduction Ratio: 80; Size: 32
Torsional Rigidity K2	3.7	$\times 10^4$ N·m/rad	Frame Size: 32; Ratio Bucket: >50; Reduction Ratio: 80; Reduction Ratio Min: 50; Size: 32; Source Condition: ratio>50
Torsional Rigidity K1	2.7	$\times 10^4$ N·m/rad	Frame Size: 32; Ratio Bucket: >50; Reduction Ratio: 80; Reduction Ratio Min: 50; Size: 32; Source Condition: ratio>50
Torsional Rigidity K3	4.7	$\times 10^4$ N·m/rad	Frame Size: 32; Ratio Bucket: >50; Reduction Ratio: 80; Reduction Ratio Min: 50; Size: 32; Source Condition: ratio>50
Torsional Rigidity T2	48	N·m	Frame Size: 32; Ratio Bucket: >50; Reduction Ratio: 80; Reduction Ratio Min: 50; Size: 32; Source Condition: all ratios
Torsional Rigidity T1	14	N·m	Frame Size: 32; Ratio Bucket: >50; Reduction Ratio: 80; Reduction Ratio Min: 50; Size: 32; Source Condition: all ratios

Dimensional & Integration Overview

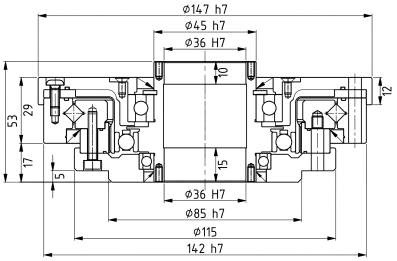
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	32	
Weight	3.56	kg

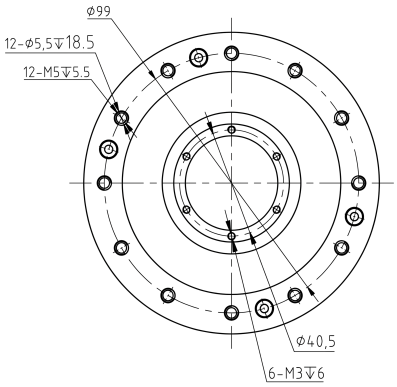
Dimensional Drawings



Mechanical View 1



Mechanical View 2



Mechanical View 3

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	12 holes diameter 5.5	12 × Ø5.5 holes
	Bolt circle diameter	Ø132 bolt circle diameter
	Angular offset	15 degrees angular offset
	Diameter 40.5 circular feature	Ø40.5
	6 M3 threaded holes depth 6	6 × M3 threaded holes, depth 6

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Maximum outside diameter fit	Diameter 147 h7
	Upper shaft diameter fit	Diameter 45 h7
	Upper bore diameter fit	Diameter 36 H7
	Local height dimension	10
	Right-side local height dimension	12
	Left middle height dimension	29
	Left overall height dimension	53
	Left lower height dimension	17
	Central lower height dimension	15
	Bottom local height dimension	5
	Lower bore diameter fit	Diameter 36 H7
	Lower shaft diameter fit	Diameter 85 h7
	Outside diameter	Diameter 115
	Bottom outside diameter fit	Diameter 142 h7 not explicitly marked with diameter symbol in OCR crop

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting hole pitch circle diameter	Pitch circle diameter 99
	12-hole diameter and depth callout	12 holes, diameter 5.5, depth 18.5
	12 M5 threaded holes depth	12 M5 threaded holes, depth 5.5
	Central interface diameter	Diameter 40.5
	6 M3 threaded holes depth	6 M3 threaded holes, depth 6

View Product Online Request Engineering Data Request a Quote

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.