PRODUCT DATASHEET

ES-HG-S06-F25-R50

Precision Transmission Component

Cup Harmonic Gearboxes | High-Torque Cup Unit Type II

Product Overview

Precision Transmission Component with rated Torque 51 N·m, instantaneous Maximum Torque 242 N·m and start/Stop Peak Torque 127 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	51	N·m
Instantaneous Maximum Torque	242	N·m
Start/Stop Peak Torque	127	N·m
Reduction Ratio	50	
Backlash	≤20 / 20	arc sec
Maximum Input Speed	5600	r/min
Allowable Average Torque	72	N·m
Frame Size	25	
Weight	1.46	kg

Technical Specifications

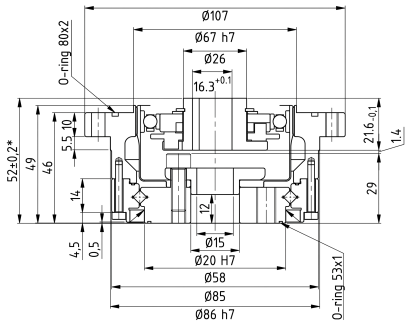
PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	51	N·m
Instantaneous Maximum Torque	242	N·m
Start/Stop Peak Torque	127	N·m
Backlash	≤20 / 20	arc sec
Allowable Average Torque	72	N·m
Angular Transmission Accuracy	1	arc min
Hysteresis Loss	2	arc min
Starting Torque	17 / 0.17	N·m
MECHANICAL		
Frame Size	25	
Weight	1.46	kg
RELIABILITY		
Design Life	10000	h
ADDITIONAL SPECIFICATIONS		
Reduction Ratio	50	
Maximum Input Speed	5600	r/min
Average Input Speed	3500	r/min
Torsional Rigidity K1	2.5 / 25000	N·m/rad
Torsional Rigidity K2	3.4 / 34000	N·m/rad
Torsional Rigidity K3	4.4 / 44000	N·m/rad
Torsional Rigidity T2	48	N·m
Torsional Rigidity T1	14	N·m

Dimensional & Integration Overview

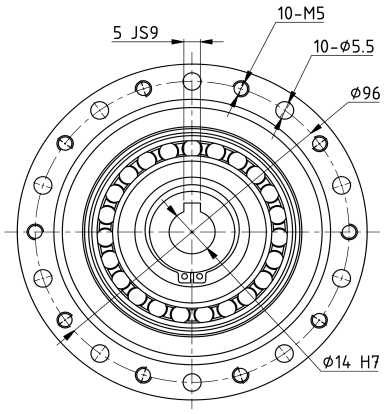
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	25	
Weight	1.46	kg

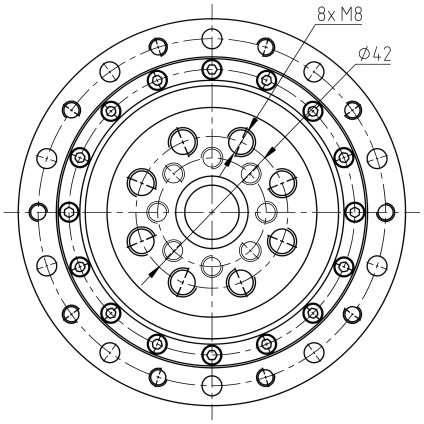
Dimensional Drawings



Mechanical View 1



Mechanical View 2



Mechanical View 3

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Outer diameter	Φ107 mm
	Shaft diameter (upper side)	Φ67 h7
	Central shaft bore diameter	Φ26 mm
	Shaft length (upper side)	16.3 +0.1/0 mm
	Shaft length (lower side)	21.6 0/-0.1 mm
	Feature dimension	1.4 mm
	Mounting feature dimension	5.5 mm
		10 mm
	Overall height (reference)	52±0.2 mm (reference)
	Middle section height	49 mm
		46 mm
	Local height	29 mm
	Mounting shoulder height	14 mm
		12 mm
	Central hole diameter	Φ15 mm
	Groove depth	0.5 mm
		4.5 mm
	Shaft diameter (lower side)	Φ20 H7

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Middle diameter	Φ58 mm
	Shaft diameter (lower side, outer ring)	Φ86 h7
	O-ring specification (upper side)	O-ring 80×2 mm
	O-ring specification (lower side)	O-ring 53×1 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Threaded hole quantity and thread size	10 × M5 threaded holes
	Keyway width tolerance class	Keyway width 5 JS9
	Hole quantity and diameter	10 × Ø5.5 holes
	Pitch circle diameter	Ø96 pitch circle diameter
Mechanical View 3	Mounting threaded hole quantity and size	8 × M8 threaded holes
	Mounting hole pitch circle diameter	Pitch circle diameter Φ42 mm

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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.