PRODUCT DATASHEET

ES-HG-S28-F25-R50

Precision Transmission Component

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

Product Overview

Precision Transmission Component with rated Torque 27 N·m, instantaneous Maximum Torque 127 N·m and start/Stop Peak Torque 69 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	27	N·m
Instantaneous Maximum Torque	127	N·m
Start/Stop Peak Torque	69	N·m
Reduction Ratio	50	
Maximum Input Speed	5600	r/min
Allowable Average Torque	38	N·m
Frame Size	25	
Weight	1.75	kg
Average Input Speed	3500	r/min

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	27	N·m	Frame Size: 25; Reduction Ratio: 50; Size: 25
Instantaneous Maximum Torque	127	N·m	Frame Size: 25; Reduction Ratio: 50; Size: 25
Start/Stop Peak Torque	69	N·m	Frame Size: 25; Reduction Ratio: 50; Size: 25
Allowable Average Torque	38	N·m	Frame Size: 25; Reduction Ratio: 50; Size: 25
Angle Transmission Accuracy	1	arc min	Frame Size: 25; Ratio Bucket: 50; Reduction Ratio: 50; Size: 25
Hysteresis Loss	2	arc min	Frame Size: 25; Ratio Bucket: 50; Reduction Ratio: 50; Size: 25
MECHANICAL			
Frame Size	25		Frame Size: 25; Reduction Ratio: 50; Size: 25
Weight	1.75	kg	Frame Size: 25; Reduction Ratio: 50; Size: 25
RELIABILITY			
Design Life	9000	h	Frame Size: 25; Reduction Ratio: 50; Size: 25

Technical Specifications

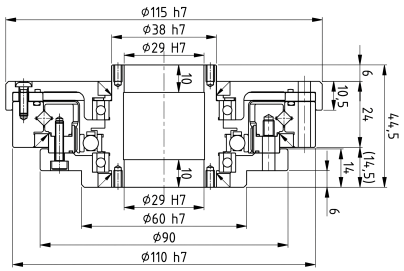
PARAMETER	SPECIFICATION	UNIT	NOTES
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	50		Frame Size: 25; Reduction Ratio: 50; Size: 25
Maximum Input Speed	5600	r/min	Frame Size: 25; Reduction Ratio: 50; Size: 25
Average Input Speed	3500	r/min	Frame Size: 25; Reduction Ratio: 50; Size: 25
Torsional Rigidity K2	1.3	×10⁴ N·m/rad	Frame Size: 25; Ratio Bucket: 50; Reduction Ratio: 50; Size: 25; Source Condition: ratio=50
Torsional Rigidity K1	1.1	×10⁴ N·m/rad	Frame Size: 25; Ratio Bucket: 50; Reduction Ratio: 50; Size: 25; Source Condition: ratio=50
Torsional Rigidity K3	2	×10⁴ N·m/rad	Frame Size: 25; Ratio Bucket: 50; Reduction Ratio: 50; Size: 25; Source Condition: ratio=50
Torsional Rigidity T2	25	N·m	Frame Size: 25; Ratio Bucket: 50; Reduction Ratio: 50; Size: 25; Source Condition: all ratios
Torsional Rigidity T1	7	N·m	Frame Size: 25; Ratio Bucket: 50; Reduction Ratio: 50; Size: 25; Source Condition: all ratios

Dimensional & Integration Overview

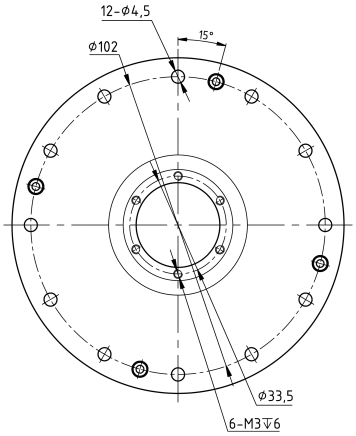
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	25	
Weight	1.75	kg

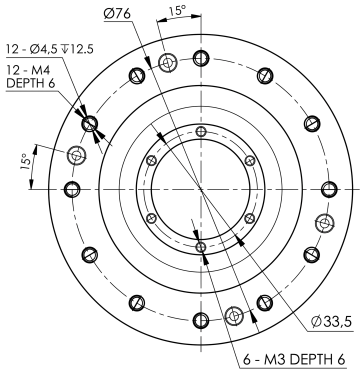
Dimensional Drawings



Mechanical View 1



Mechanical View 2



Mechanical View 3

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Maximum outer diameter	Φ115 h7
	Upper shaft diameter	Φ38 h7
	Upper mounting hole diameter	Φ29 H7
	Upper axial dimension	10
	Right side radial dimension	9
	Right side longitudinal dimension	10.5
	Middle longitudinal dimension	24
	Right side total height	44.5
	Reference dimension	(14.5)
	Middle radial dimension	14
	Lower axial dimension	10
	Lower mounting hole diameter	Φ29 H7
	Lower shaft diameter	Φ60 h7
	Lower radial dimension	9
	Middle outer diameter	Φ90
	Bottom outer diameter	Φ110 h7

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Mounting holes	12 holes, Φ4.5 mm
	Hole angular spacing	15 degrees
	Bolt circle diameter	Φ102 mm
	Inner feature circle diameter	Φ33.5 mm
	Countersunk threaded holes	6 holes, M3 thread, countersink depth 6 mm
Mechanical View 3	Mounting flange outer diameter	Ø76
	Mounting hole pattern (outer ring)	12× Ø4.5 holes, depth 12.5 mm
	Mounting hole angular spacing (outer ring)	15° angular spacing
	Threaded hole specification (outer ring)	12× M4 threaded holes, depth 6 mm
	Mounting hole angular spacing (middle ring)	15° angular spacing
	Inner ring hole diameter	Ø33.5
	Threaded hole specification (inner ring)	6× M3 threaded holes, depth 6 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.