PRODUCT DATASHEET

ES-HG-S11-F20-R100

Precision Transmission Component

Cup Harmonic Gearboxes | Lightweight Cup Unit Type I

Product Overview

Precision Transmission Component with rated Torque 40 N·m, instantaneous Maximum Torque 147 N·m and start/Stop Peak Torque 82 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	40	N·m
Instantaneous Maximum Torque	147	N·m
Start/Stop Peak Torque	82	N·m
Reduction Ratio	100	
Backlash	≤20	arc sec
Maximum Input Speed	6500	r/min
Allowable Average Torque	49	N·m
Frame Size	20	
Weight	0.73	kg

Technical Specifications

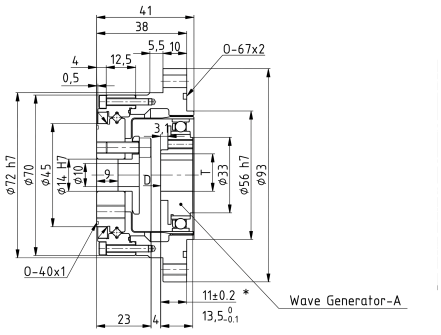
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	40	N·m	Frame Size: 20; Reduction Ratio: 100
Instantaneous Maximum Torque	147	N·m	Frame Size: 20; Reduction Ratio: 100
Start/Stop Peak Torque	82	N·m	Frame Size: 20; Reduction Ratio: 100
Backlash	≤20	arc sec	Frame Size: 20; Reduction Ratio: 100
Allowable Average Torque	49	N·m	Frame Size: 20; Reduction Ratio: 100
MECHANICAL			
Frame Size	20		Frame Size: 20; Reduction Ratio: 100
Weight	0.73	kg	Frame Size: 20; Reduction Ratio: 100
Wave Generator Dimension T	9.4+0.10 / 16.3+0.10 / 12.8+0.10	mm	Varies by published configuration.
Wave Generator Bore U	φ11H7 / φ14H7 / φ8H7		Varies by published configuration.
Wave Generator Keyway W	5JS9/P9 / 4JS9/P9 / 3JS9/P9		Varies by published configuration.
RELIABILITY			
Design Life	15000	h	Frame Size: 20; Reduction Ratio: 100
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	100		Frame Size: 20; Reduction Ratio: 100
Maximum Input Speed	6500	r/min	Frame Size: 20; Reduction Ratio: 100
Average Input Speed	3500	r/min	Frame Size: 20; Reduction Ratio: 100

Dimensional & Integration Overview

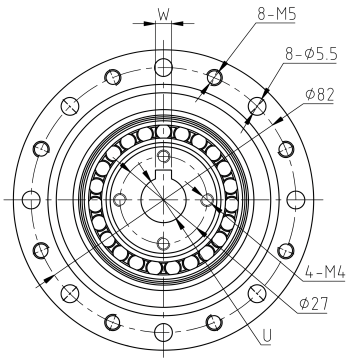
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	20	
Weight	0.73	kg
Wave Generator Dimension T	9.4+0.10 / 16.3+0.10 / 12.8+0.10	mm
Wave Generator Bore U	φ11H7 / φ14H7 / φ8H7	
Wave Generator Keyway W	5JS9/P9 / 4JS9/P9 / 3JS9/P9	

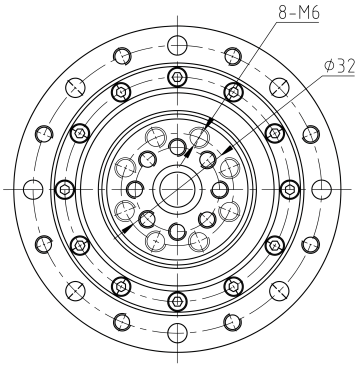
Dimensional Drawings



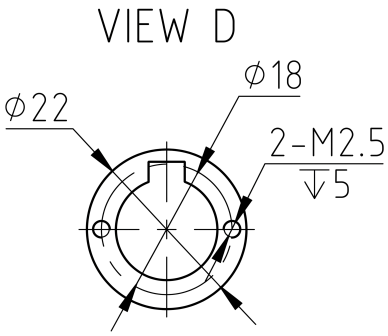
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Upper overall width	41
	Upper inner width	38
	Local step dimensions	5.5 and 10
	Upper right leader callout	O-67x2
	Upper left local width	12.5
	Upper left small step dimension	0.5
	Left outer diameter fit	Diameter 72 h7
	Left diameter	Diameter 70
		Diameter 45
	Bore diameter fit	Diameter 14 H7
	Bore diameter	Diameter 10
	Local width	9
	Datum or label D	D
	Datum or label T	T
	Right diameter	Diameter 33
	Right outer diameter fit	Diameter 56 h7
	Right outer diameter	Diameter 93
	Lower left leader callout	O-40x1

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Axial dimension with symmetric tolerance	11 +/- 0.2
	Component name	Wave Generator-A
	Axial dimension with unilateral tolerance	13.5 +0/-0.1
	Bottom width	23

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Threaded hole quantity and thread size	8 × M5 threaded holes
	Width designation	W, numeric value not specified in this crop
	Through-hole quantity and diameter	8 × Ø5.5 holes
	Diameter 82 feature	Ø82
	Threaded hole quantity and thread size	4 × M4 threaded holes
	Diameter 27 feature	Ø27
	Datum or view identifier U	U identifier
Mechanical View 3	A-side mounting threaded hole quantity and thread size	8 × M6 threaded holes
	Mounting hole pitch circle diameter	Diameter 32
Mechanical View 4	View direction	View D
	Central diameter	Diameter 18 mm
	Outer diameter	Diameter 22 mm
	Threaded hole quantity and size	2 × M2.5 threaded holes
	Hole depth	Depth 5 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.