PRODUCT DATASHEET

ES-HG-S01-F20-R160

Precision Transmission Component

Harmonic Component Sets | Cup Component Set

Product Overview

Precision Transmission Component with rated Torque 40 N·m, instantaneous Maximum Torque 147 N·m and start/Stop Peak Torque 92 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	40	N·m
Instantaneous Maximum Torque	147	N·m
Start/Stop Peak Torque	92	N·m
Reduction Ratio	160	
Backlash	≤20	arc sec
Maximum Input Speed	6500	r/min
Allowable Average Torque	49	N·m
Frame Size	20	
Weight	0.28	kg

Technical Specifications

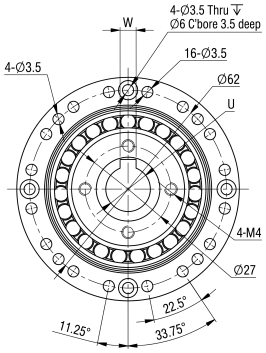
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	40	N·m	Frame Size: 20; Reduction Ratio: 160
Instantaneous Maximum Torque	147	N·m	Frame Size: 20; Reduction Ratio: 160
Start/Stop Peak Torque	92	N·m	Frame Size: 20; Reduction Ratio: 160
Backlash	≤20	arc sec	Frame Size: 20; Reduction Ratio: 160
Allowable Average Torque	49	N·m	Frame Size: 20; Reduction Ratio: 160
MECHANICAL			
Frame Size	20		Frame Size: 20; Reduction Ratio: 160
Weight	0.28	kg	Frame Size: 20; Reduction Ratio: 160
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 / φ8H7 / φ14H7		Varies by published configuration.
Wave Generator Keyway W	5JS9/P9 / 3JS9/P9 / 4JS9/P9		Varies by published configuration.
RELIABILITY			
Design Life	15000	h	Frame Size: 20; Reduction Ratio: 160
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	160		Frame Size: 20; Reduction Ratio: 160
Maximum Input Speed	6500	r/min	Frame Size: 20; Reduction Ratio: 160
Average Input Speed	3500	r/min	Frame Size: 20; Reduction Ratio: 160

Dimensional & Integration Overview

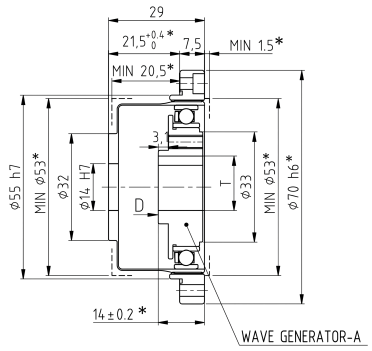
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	20	
Weight	0.28	kg
Wave Generator Dimension T	9.4+0.10 / 16.3+0.10 / 12.8+0.10	mm
Wave Generator Bore U	φ11H7 / φ8H7 / φ14H7	
Wave Generator Keyway W	5JS9/P9 / 3JS9/P9 / 4JS9/P9	

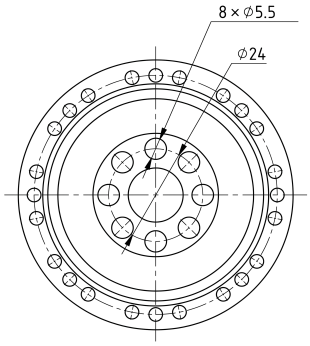
Dimensional Drawings



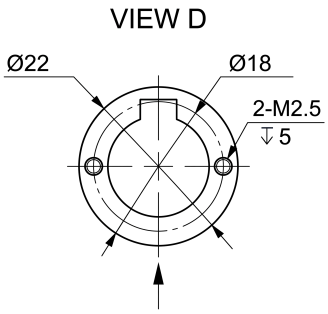
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Width label W	W dimension label; value not specified in this crop
	4 through holes with counterbore	4 × Φ3.5 through; counterbore Φ6 × 3.5 deep
	16-hole diameter	16 × Φ3.5 holes
	4-hole diameter	4 × Φ3.5 holes
	Outer diameter	Outer diameter Φ62
	Label U	U label; value not specified
	4 M4 threaded holes	4 × M4 threaded holes
	Diameter	Diameter Φ27
	Hole pattern angular spacing	22.5 degrees
	Hole pattern angular offset	11.25 degrees
	Hole pattern angular span	33.75 degrees

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Left step length with unilateral tolerance	21.5 +0.4/0 mm
	Right step length	7.5 mm
	Right minimum clearance	Minimum 1.5 mm
	Left minimum length	Minimum 20.5 mm
	Left outer diameter fit	Diameter 55 h7
	Left minimum diameter	Minimum diameter 53 mm
	Left inner diameter	Diameter 32 mm
	Left bore diameter fit	Diameter 14 H7
	Local horizontal distance	3.1 mm
	Dimension symbol D	D, value not specified in this crop
	Dimension symbol T	T, value not specified in this crop
	Right inner diameter	Diameter 33 mm
	Right minimum diameter	Minimum diameter 53 mm
	Right outer diameter fit	Diameter 70 h6
	Right outer diameter	Diameter 70 mm
	Bottom horizontal width	14 ±0.2 mm
Mechanical View 3	Quantity and diameter of equally spaced mounting holes	8 holes, diameter 5.5 mm
	Pitch circle diameter for hole pattern	Pitch circle diameter 24 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 4	View identifier	View D
	Outer diameter	Diameter 22 mm
	Inner circle diameter	Diameter 18 mm
	Threaded hole quantity and size	2 x M2.5 threaded holes
	Countersink or depth callout	▽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.