PRODUCT DATASHEET

ES-HG-S04-F25-R50

Precision Transmission Component

Harmonic Component Sets | High-Torque Hat Component Set

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	arc sec
Maximum Input Speed	5600	r/min
Allowable Average Torque	72	N·m
Frame Size	25	
Weight	0.46	kg

Technical Specifications

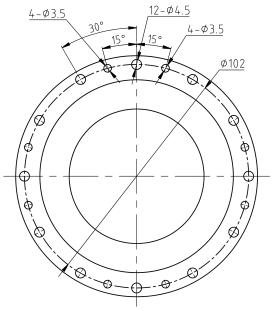
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	51	N·m	Frame Size: 25; Reduction Ratio: 50
Instantaneous Maximum Torque	242	N·m	Frame Size: 25; Reduction Ratio: 50
Start/Stop Peak Torque	127	N·m	Frame Size: 25; Reduction Ratio: 50
Backlash	≤20	arc sec	Frame Size: 25; Reduction Ratio: 50
Allowable Average Torque	72	N·m	Frame Size: 25; Reduction Ratio: 50
MECHANICAL			
Frame Size	25		Frame Size: 25; Reduction Ratio: 50
Weight	0.46	kg	Frame Size: 25; Reduction Ratio: 50
Wave Generator Dimension T	16.3+0.10 / 12.8+0.10	mm	Frame Size: 25; Option Index: 1; Option Label: Wave generator - A φ14; Reduction Ratio: 50; Wave Generator Option: wave-generator-307ae5fd0846 / Frame Size: 25; Option Label: Wave generator - A φ11; Reduction Ratio: 50; Wave Generator Option: wave-generator-fd26f6670d9b
Wave Generator Bore U	φ11H7 / φ14H7		Frame Size: 25; Option Label: Wave generator - A φ11; Reduction Ratio: 50; Wave Generator Option: wave-generator-fd26f6670d9b / Frame Size: 25; Option Index: 1; Option Label: Wave generator - A φ14; Reduction Ratio: 50; Wave Generator Option: wave-generator-307ae5fd0846
Wave Generator Keyway W	5JS9/P9 / 4JS9/P9		Frame Size: 25; Option Index: 1; Option Label: Wave generator - A φ14; Reduction Ratio: 50; Wave Generator Option: wave-generator-307ae5fd0846 / Frame Size: 25; Option Label: Wave generator - A φ11; Reduction Ratio: 50; Wave Generator Option: wave-generator-fd26f6670d9b
RELIABILITY			
Design Life	10000	h	Frame Size: 25; Reduction Ratio: 50
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	50		Frame Size: 25; Reduction Ratio: 50
Maximum Input Speed	5600	r/min	Frame Size: 25; Reduction Ratio: 50
Average Input Speed	3500	r/min	Frame Size: 25; Reduction Ratio: 50

Dimensional & Integration Overview

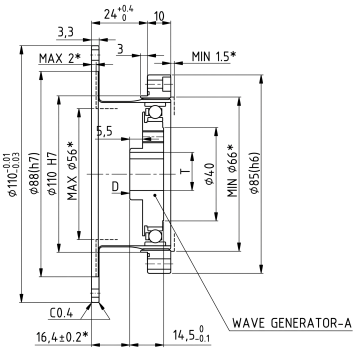
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	25	
Weight	0.46	kg
Wave Generator Dimension T	16.3+0.10 / 12.8+0.10	mm
Wave Generator Bore U	φ11H7 / φ14H7	
Wave Generator Keyway W	5JS9/P9 / 4JS9/P9	

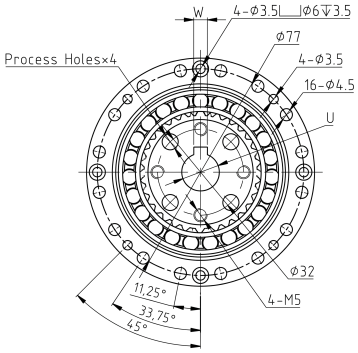
Dimensional Drawings



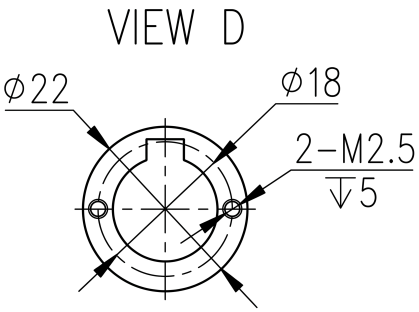
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Diameter of 12 holes	12 holes, diameter 4.5
	Diameter of left 4 holes	4 holes, diameter 3.5
	Diameter of right 4 holes	
	Hole angular spacing	30 degree angular spacing
	Left hole angular offset	15 degree angular offset
	Right hole angular offset	
	Bolt circle diameter	Bolt circle diameter 102

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Upper axial distance	24 +0.4/0
	Adjacent upper axial distance	10
	Upper left local spacing	3.3
	Upper local thickness	3
	Minimum clearance	Minimum 1.5
	Maximum clearance	Maximum 2
	Middle local spacing	5.5
	Maximum outside diameter	Maximum diameter 56
	Minimum clearance diameter	Minimum diameter 66
	Shaft fit diameter	Diameter 85 h6
	Bore fit diameter	Diameter 110 H7
	Shaft fit diameter	Diameter 88 h7
	Shaft diameter	Diameter 40
	Diameter tolerance	Diameter 110 -0.01/-0.03
	Datum D	
	Chamfer	Chamfer C0.4
	Component name	Wave generator-A
	Bottom axial distance	14.5 0/-0.1

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	W labeled width	W dimension value Not specified
	4-hole counterbore/depth callout	4 holes Ø3.5 with Ø6 counterbore or spotface, depth 3.5
	Hole pitch circle diameter	Ø77
	Process holes quantity	Process holes quantity: 4
	4 holes diameter	4 holes Ø3.5
	16 holes diameter	16 holes Ø4.5
	U labeled feature	U value Not specified
	Hole pitch circle diameter	Ø32
	Angular spacing 11.25 degrees	11.25°
	4 M5 threaded holes	
	Angular spacing 33.75 degrees	33.75°
	Angular spacing 45 degrees	45°
Mechanical View 4	View designation	View D
	Diameter 22 circular feature	Diameter 22 mm
	Diameter 18 circular feature	Diameter 18 mm
	Two M2.5 threaded holes with depth	2 × M2.5 threaded holes, 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.