PRODUCT DATASHEET

ES-HG-S21-F25-R50

Precision Transmission Component

Cup Harmonic Gearboxes | Special Standard Cup Unit

Product Overview

Precision Transmission Component with rated Torque 39 N·m, instantaneous Maximum Torque 186 N·m and start/Stop Peak Torque 98 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	39	N·m
Instantaneous Maximum Torque	186	N·m
Start/Stop Peak Torque	98	N·m
Reduction Ratio	50	
Backlash	≤20	arc sec
Maximum Input Speed	5600	r/min
Allowable Average Torque	55	N·m
Frame Size	25	
Weight	1.46	kg

Technical Specifications

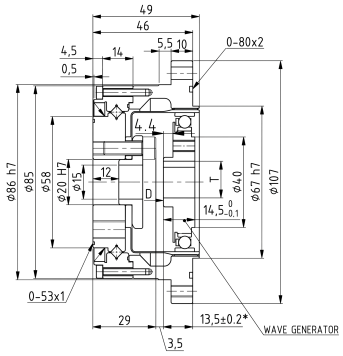
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	39	N·m	Frame Size: 25; Reduction Ratio: 50
Instantaneous Maximum Torque	186	N·m	Frame Size: 25; Reduction Ratio: 50
Start/Stop Peak Torque	98	N·m	Frame Size: 25; Reduction Ratio: 50
Backlash	≤20	arc sec	Frame Size: 25; Reduction Ratio: 50
Allowable Average Torque	55	N·m	Frame Size: 25; Reduction Ratio: 50
MECHANICAL			
Frame Size	25		Frame Size: 25; Reduction Ratio: 50
Weight	1.46	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	φ14H7 / φ11H7		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 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

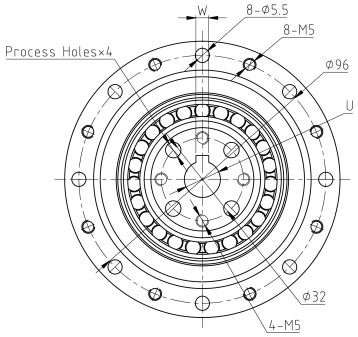
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	25	
Weight	1.46	kg
Wave Generator Dimension T	16.3+0.10 / 12.8+0.10	mm
Wave Generator Bore U	φ14H7 / φ11H7	
Wave Generator Keyway W	5JS9/P9 / 4JS9/P9	

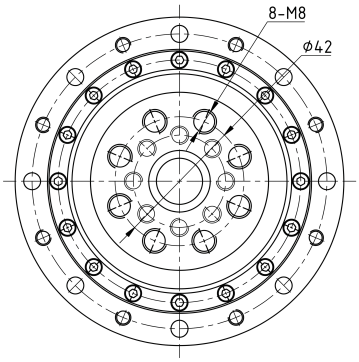
Dimensional Drawings



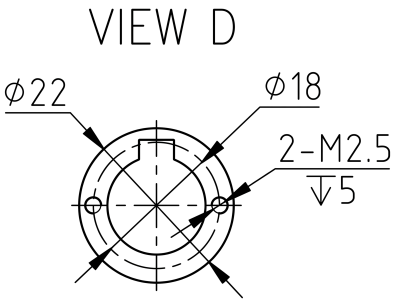
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Overall length	49 mm
	Main body length	46 mm
	O-ring specification	O-ring 0-80x2
	Mounting groove width	5.5 mm
	Mounting groove depth	10 mm
	Left flange height	4.5 mm
	Center boss width	14 mm
	Left flange thickness	0.5 mm
	Center boss depth	12 mm
	Datum T	
	Right side outer diameter	Φ107 mm
	Left output shaft outer diameter with tolerance	Φ86 h7
	Left shaft section diameter	Φ85 mm
	Center bore diameter	Φ58 mm
	Right output shaft outer diameter with tolerance	Φ67 h7
	Center bore section diameter	Φ15 mm
	Right through hole diameter	Φ40 mm
	Center bore section diameter with tolerance	Φ20 H7

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Datum D (right)	Datum D
	Right shaft section length with negative deviation	14.5 -0.1 mm
	O-ring specification	O-ring 0-53x1
	Bottom boss width	29 mm
	Bottom dimension with bilateral deviation	13.5±0.2 mm
	Bottom boss height	3.5 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Eight mounting holes diameter 5.5	8 holes, diameter 5.5
	Width symbol W	Symbolic width W; numeric value not specified in this crop
	Eight M5 threaded holes	8 × M5 threaded holes
	Process holes quantity	4 process holes
	Outer diameter 96	Diameter 96
	Symbol U	Symbol U; associated numeric value not specified in this crop
	Diameter 32 interface	Diameter 32
	Four M5 threaded holes	4 × M5 threaded holes
Mechanical View 3	Quantity and specification of M8 threaded holes	8 × M8 threaded holes
	Diameter 42 circular feature	Diameter 42 mm
Mechanical View 4	View direction	View D
	Inner bore diameter	Diameter 18 mm
	Outer circular feature or hole diameter	Diameter 22 mm
	Threaded hole quantity and thread size	2 × M2.5 threaded holes
	Hole depth or countersink 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.