PRODUCT DATASHEET

ES-HG-S27-F17-R80

Precision Transmission Component

Ultra-Thin Harmonic Gearboxes | Thin Cup Gear Unit

Product Overview

Precision Transmission Component with rated Torque 15 N·m, instantaneous Maximum Torque 61 N·m and start/Stop Peak Torque 29 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	15	N·m
Instantaneous Maximum Torque	61	N·m
Start/Stop Peak Torque	29	N·m
Reduction Ratio	80	
Backlash	≤20	arc sec
Maximum Input Speed	7300	r/min
Allowable Average Torque	19	N·m
Frame Size	17	
Weight	0.46	kg

Technical Specifications

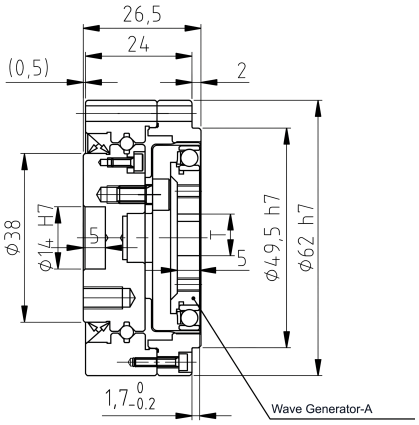
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	15	N·m	Frame Size: 17; Reduction Ratio: 80
Instantaneous Maximum Torque	61	N·m	Frame Size: 17; Reduction Ratio: 80
Start/Stop Peak Torque	29	N·m	Frame Size: 17; Reduction Ratio: 80
Backlash	≤20	arc sec	Frame Size: 17; Reduction Ratio: 80
Allowable Average Torque	19	N·m	Frame Size: 17; Reduction Ratio: 80
MECHANICAL			
Frame Size	17		Frame Size: 17; Reduction Ratio: 80
Weight	0.46	kg	Frame Size: 17; Reduction Ratio: 80
Wave Generator Dimension T	9.4+0.10	mm	Frame Size: 17; Option Label: Wave generator - A φ8; Reduction Ratio: 80; Wave Generator Option: wave-generator-dd7ad026bda9
Wave Generator Bore U	φ15H7 / φ8H7		Frame Size: 17; Option Index: 1; Option Label: Wave generator - A φ11; Reduction Ratio: 80; Wave Generator Option: wave-generator-60faafd165ad / Frame Size: 17; Option Label: Wave generator - A φ8; Reduction Ratio: 80; Wave Generator Option: wave-generator-dd7ad026bda9
Wave Generator Keyway W	3P9/JS9		Frame Size: 17; Option Label: Wave generator - A φ8; Reduction Ratio: 80; Wave Generator Option: wave-generator-dd7ad026bda9
RELIABILITY			
Design Life	10000	h	Frame Size: 17; Reduction Ratio: 80
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	80		Frame Size: 17; Reduction Ratio: 80
Maximum Input Speed	7300	r/min	Frame Size: 17; Reduction Ratio: 80
Average Input Speed	3500	r/min	Frame Size: 17; Reduction Ratio: 80

Dimensional & Integration Overview

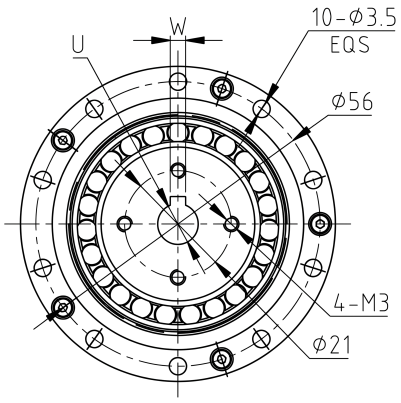
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	17	
Weight	0.46	kg
Wave Generator Dimension T	9.4+0.10	mm
Wave Generator Bore U	φ15H7 / φ8H7	
Wave Generator Keyway W	3P9/JS9	

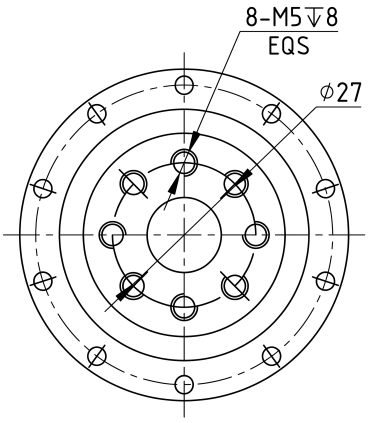
Dimensional Drawings



Mechanical View 1



Mechanical View 2



Mechanical View 3

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Overall length	26.5 mm
	Mid-section length	24 mm
	Left side length (reference)	0.5 mm (reference)
	Right side length	2 mm
	Outer diameter	φ38 mm
	Inner bore diameter with tolerance	φ14 H7
	Left local width	5 mm
	Right local width	
	Shaft diameter with tolerance	φ49.5 h7
	Outer diameter with tolerance	φ62 h7
	Lower dimension tolerance	1.7 mm (+0/-0.2)
	Component identifier	Wave Generator-A
Mechanical View 2	Dimension label W	W
	Equally spaced holes quantity and diameter	10 holes of Φ3.5 mm
	Equally spaced notation	EQS (equally spaced)
	Outer circle diameter	Φ56 mm
	Mounting threaded holes quantity and specification	4 threaded holes M3
	Center bore diameter	Φ21 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting hole pattern	8 holes, M5 threaded, counterbore depth 8mm, equally spaced
	Hole diameter	φ27

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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.