PRODUCT DATASHEET

ES-HG-S06-F17-R80

Precision Transmission Component

Cup Harmonic Gearboxes | High-Torque Cup Unit Type II

Product Overview

Precision Transmission Component with rated Torque 29 N·m, instantaneous Maximum Torque 109 N·m and start/Stop Peak Torque 56 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	29	N·m
Instantaneous Maximum Torque	109	N·m
Start/Stop Peak Torque	56	N·m
Reduction Ratio	80	
Backlash	≤20 / 20	arc sec
Maximum Input Speed	7300	r/min
Allowable Average Torque	35	N·m
Frame Size	17	
Weight	0.67	kg

Technical Specifications

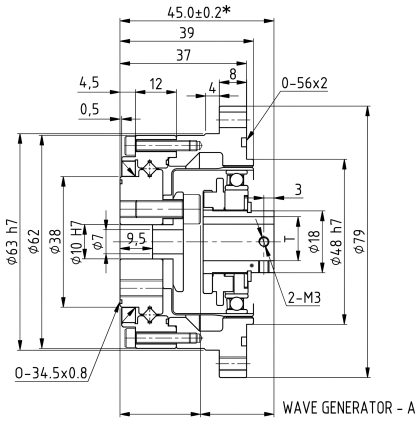
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	29	N·m	
Instantaneous Maximum Torque	109	N·m	
Start/Stop Peak Torque	56	N·m	
Backlash	≤20 / 20	arc sec	
Allowable Average Torque	35	N·m	
Angular Transmission Accuracy	1.5	arc min	
Hysteresis Loss	1	arc min	
Starting Torque	4.4 / 0.044	N·m	
MECHANICAL			
Frame Size	17		
Weight	0.67	kg	
Wave Generator Dimension T	9.4+0.10 / 12.8+0.10	mm	Varies by published configuration.
Wave Generator Bore U	φ8H7 / φ11H7		Varies by published configuration.
Wave Generator Keyway W	4JS9/P9 / 3JS9/P9		Varies by published configuration.
RELIABILITY			
Design Life	15000	h	
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	80		
Maximum Input Speed	7300	r/min	
Average Input Speed	3500	r/min	
Torsional Rigidity K1	1 / 10000	N·m/rad	
Torsional Rigidity K2	1.4 / 14000	N·m/rad	
Torsional Rigidity K3	1.6 / 16000	N·m/rad	
Torsional Rigidity T2	12	N·m	
Torsional Rigidity T1	3.9	N·m	

Dimensional & Integration Overview

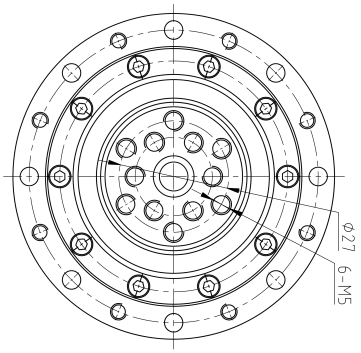
Mechanical Overview

PARAMETER	VALUE	UNIT
Frame Size	17	
Weight	0.67	kg
Wave Generator Dimension T	9.4+0.10 / 12.8+0.10	mm
Wave Generator Bore U	φ8H7 / φ11H7	
Wave Generator Keyway W	4JS9/P9 / 3JS9/P9	

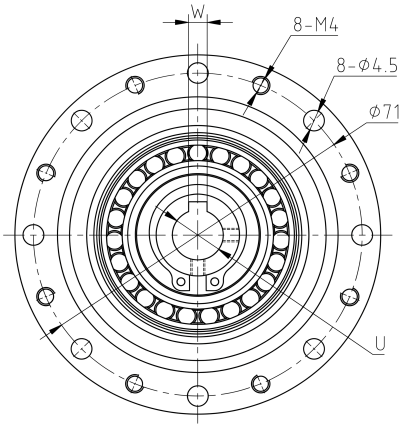
Dimensional Drawings



Mechanical View 1



Mechanical View 2



Mechanical View 3

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Overall length	45.0±0.2*
	Middle section length	39
	Inner section length	37
	Right boss width	8
	Left step height	4.5
	O-ring specification	O-ring 56x2
	Groove width	12
	Left bottom height	0.5
	Right boss height	3
	Left shaft outer diameter	φ63 h7
	Middle diameter	φ62
	Internal bore diameter	φ38
	Internal hole diameter	φ10 H7
	Small hole diameter	φ7
	Middle section width	9.5
	Datum T	
	Right side diameter	φ18
	Right shaft outer diameter	φ48 h7

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Maximum outer diameter	φ79
	Threaded hole specification	2-M3
	O-ring specification	O-ring 34.5x0.8

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Threaded hole bolt circle diameter	φ27
	Threaded hole specification	6-M5 threaded holes
Mechanical View 3	Mounting hole thread specification	8 holes, M4 thread
	Mounting hole diameter	8 holes, Φ4.5 mm diameter
	Mounting hole bolt circle diameter	Φ71 mm
	Width identifier	Width dimension (value not specified on drawing)
	Datum identifier	Datum U

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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.