

PRODUCT DATASHEET

ES-HG-S03-F20-R120

Precision Transmission Component

Harmonic Component Sets | High-Torque Cup Component Set

Product Overview

Precision Transmission Component with rated Torque 52 N·m, instantaneous Maximum Torque 191 N·m and start/Stop Peak Torque 113 N·m.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	52	N·m
Instantaneous Maximum Torque	191	N·m
Start/Stop Peak Torque	113	N·m
Reduction Ratio	120	
Backlash	≤20	arc sec
Maximum Input Speed	6500	r/min
Allowable Average Torque	64	N·m
Frame Size	20	
Weight	0.28	kg

Technical Specifications

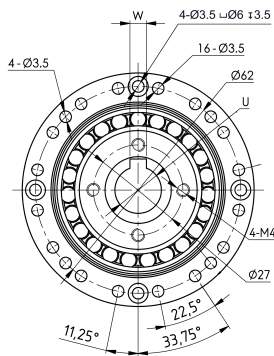
PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	52	Nm	Frame Size: 20; Reduction Ratio: 120
Instantaneous Maximum Torque	191	Nm	Frame Size: 20; Reduction Ratio: 120
Start/Stop Peak Torque	113	Nm	Frame Size: 20; Reduction Ratio: 120
Backlash	≤20	arc sec	Frame Size: 20; Reduction Ratio: 120
Allowable Average Torque	64	Nm	Frame Size: 20; Reduction Ratio: 120
MECHANICAL			
Frame Size	20		Frame Size: 20; Reduction Ratio: 120
Weight	0.28	kg	Frame Size: 20; Reduction Ratio: 120
Wave Generator Dimension T	12.8+0.10 / 9.4+0.10 / 16.3+0.10	mm	Varies by published configuration.
Wave Generator Bore U	φ8H7 / φ11H7 / φ14H7		Varies by published configuration.
Wave Generator Keyway W	4JS9/P9 / 3JS9/P9 / 5JS9/P9		Varies by published configuration.
RELIABILITY			
Design Life	15000	h	Frame Size: 20; Reduction Ratio: 120
ADDITIONAL SPECIFICATIONS			
Reduction Ratio	120		Frame Size: 20; Reduction Ratio: 120
Maximum Input Speed	6500	r/min	Frame Size: 20; Reduction Ratio: 120
Average Input Speed	3500	r/min	Frame Size: 20; Reduction Ratio: 120

Dimensional & Integration Overview

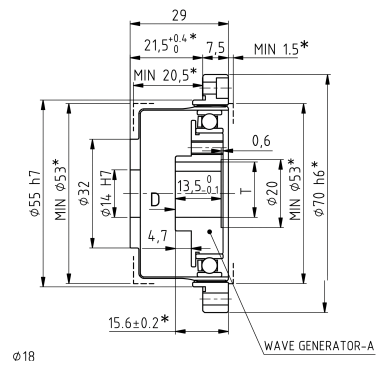
Mechanical Overview

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

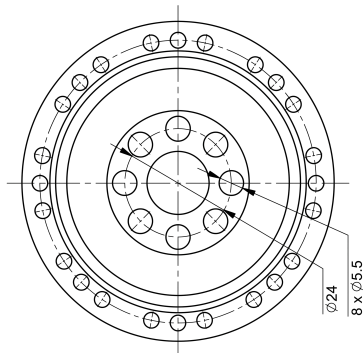
Dimensional Drawings



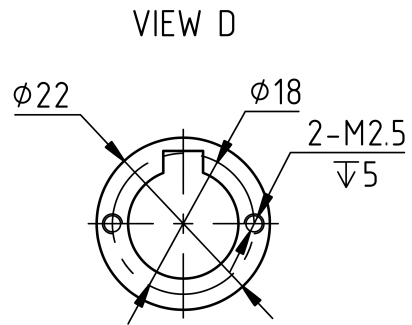
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Width designation W	W dimension label; numeric value not specified in this crop
	4-hole counterbore mounting hole specification	4 holes, diameter 3.5, counterbore diameter 6, depth 3.5
	16-hole diameter	16 holes, diameter 3.5
	4-hole diameter	4 holes, diameter 3.5
	Outer diameter	Diameter 62
	U dimension label	U dimension label; numeric value not specified in this crop
	4 M4 threaded holes	4 × M4 threaded holes
	Hole diameter 27	Diameter 27
	Angular spacing 11.25 degrees	11.25 degrees
	Angular spacing 22.5 degrees	22.5 degrees
	Angular spacing 33.75 degrees	33.75 degrees

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Overall axial length	29 mm
	Left axial step length with unilateral tolerance	21.5 +0.4/0 mm
	Right axial step length	7.5 mm
	Minimum right clearance	Minimum 1.5 mm, starred note
	Minimum internal axial length	Minimum 20.5 mm, starred note
	Local clearance	0.6 mm
	Outside diameter fit	Diameter 55 h7
	Minimum diameter	Minimum diameter 53 mm, starred note
	Diameter	Diameter 32 mm
	Bore diameter fit	Diameter 14 H7
	Datum or local label D	D
	Local axial length with tolerance	13.5 +0/-0.1 mm
	Diameter	Diameter 20 mm
	Local label T	T
Mechanical View 3	Mounting hole pitch circle diameter	Diameter 24
	Mounting hole quantity and diameter	8 holes, diameter 5.5

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 4	View label	View D
	Outer diameter	Diameter 22 mm
	Inner diameter	Diameter 18 mm
	Threaded hole quantity and size	2 × M2.5 threaded holes
	Surface finish marking	Surface finish mark V5

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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.