

MOFLON

HARMONIC GEARBOX



MOFLON TECHNOLOGY CO., LIMITED

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ABOUT US



Shenzhen MOFLON Technology Co., Ltd. (Brand name: MOFLON) is a world-leading manufacturer of high-end precision slip rings and harmonic drive gearboxes. The harmonic-drive business is a dedicated division of the company.

Since 2015 MOFLON has concentrated on precision harmonic reducers. Backed by solid technical expertise and deep industrial-automation know-how, the company centers its strategy on product R&D and customer service. More than 60 % of the staff are engineers and technicians, and the team is supported by world-class machining and inspection equipment imported from abroad. An advanced industrial-robot engineering laboratory has been established, and close industry–university–research partnerships have been formed with internationally renowned universities. Numerous technical and process bottlenecks have been solved, and large-scale deployments on press lines have passed extended field tests, proving the reliability of MOFLON’ s technology and products. The company’ s solutions are now sold worldwide and are already in mature, wide-ranging use in Europe, the United States, Canada, Russia, Australia, Japan, India, Southeast Asia and other regions, earning recognition from multinational corporations.

MOFLON harmonic drives are widely used in robotics, telecommunications equipment, semiconductor fabrication tools, medical devices, inspection and analysis instruments, and many other fields. Guided by the spirit of “Relentless Craftsmanship,” MOFLON is committed to continuously enhancing product value and service, striving to become the world’ s most trusted specialist in precision harmonic reducers.

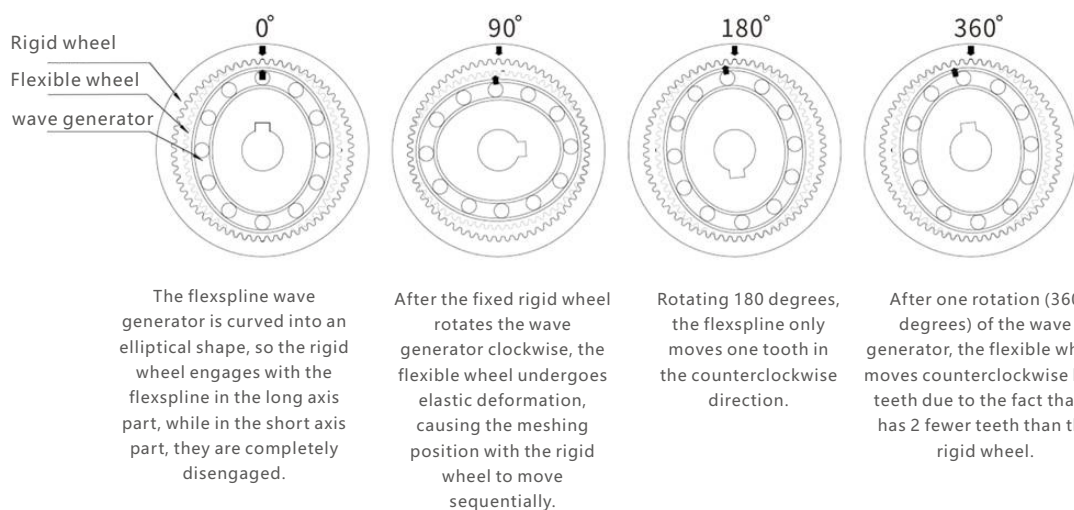
TRANSMISSION PRINCIPLE

Principle of harmonic gear drive

The harmonic gear drive was invented by American inventor C.W. Musser in 1955. It is a novel transmission method that utilizes the elastic deformation of flexible working components for motion or power transmission. It breaks through the traditional mode of mechanical transmission using rigid component mechanisms, employing a flexible component to achieve mechanical transmission, thereby obtaining a series of special functions that are difficult to achieve with other transmissions. The name "harmonic gear drive" derives from the fact that the deformation process of the intermediate flexible component is essentially a symmetrical harmonic wave. Except for the Soviet Union, which referred to this transmission as "waveform drive" or "flexible wheel drive", countries such as the United States, Britain, Germany, and Japan all use the term "harmonic gear drive".

Harmonic drive principle

The principle of harmonic gear drive reduction refers to the utilization of the relative motion between the flexible wheel, the rigid wheel, and the wave generator, primarily relying on the controllable elastic deformation of the flexible wheel to achieve motion and power transmission. The elliptical cam within the wave generator rotates inside the flexible wheel, inducing deformation in the flexible wheel. When the teeth of the flexible wheel and the teeth of the rigid wheel at both ends of the long axis of the elliptical cam of the wave generator engage, the teeth of the flexible wheel at both ends of the short axis disengage from the teeth of the rigid wheel. For the teeth between the long axis and the short axis of the wave generator, they are in a semi-engagement state where they gradually engage along different sections of the perimeters of the flexible wheel and the rigid wheel, which is called meshing-in; and they are in a semi-engagement state where they gradually disengage, which is called meshing-out. As the wave generator rotates continuously, the flexible wheel continuously deforms, causing the teeth of the two wheels to change their original working states continuously through meshing-in, meshing, meshing-out, and disengagement, resulting in a staggered tooth movement, thus achieving motion transmission from the driving wave generator to the flexible wheel.



Composition of harmonic gear transmission device

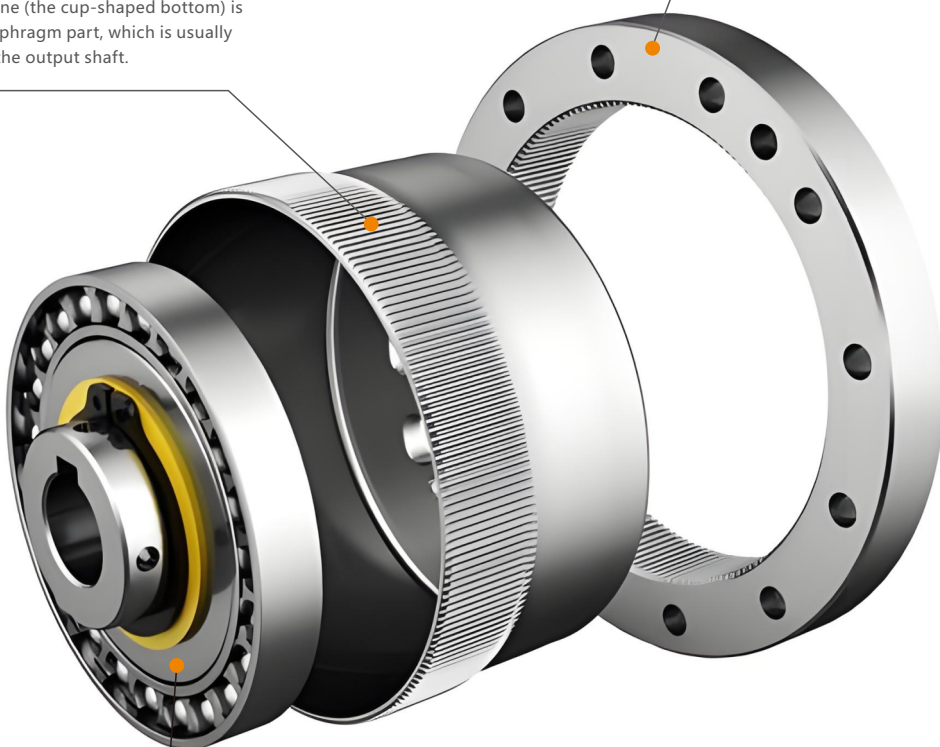
- ① Rigid gear: A rigid internal gear, which typically has 2 more teeth than a flexible gear and is usually fixed to the housing;
- ② Flexspline: A thin, cup-shaped metal elastic component with gears on the outer edge of its opening, which deforms as the wave generator rotates and is typically connected to the output shaft;
- ③ Wave generator: It consists of an elliptical cam and a flexible bearing, typically connected to the input shaft. The inner ring of the flexible bearing is fixed to the cam, while the outer ring can undergo elastic deformation into an elliptical shape through the action of rolling balls.

Flexible wheel

Thin-walled cup-shaped metal elastomer component. The outer circumference of the opening is engraved with gear teeth. The bottom of the flexspline (the cup-shaped bottom) is called the diaphragm part, which is usually mounted on the output shaft.

Rigid wheel

Rigid annular component. The inner circumference is engraved with gears, which have 2 more teeth than the flexible teeth. Usually fixed on the casing.



wave generator

A component that assembles a thin-walled ball bearing on the outer circumference of an elliptical cam. The inner race of the bearing is fixed to the cam, while the outer race can undergo elastic deformation through the balls. It is usually installed on the output shaft.

Coding Rules

KMCG - 25 - 100 - Shape - SP

Model name	Specification Code	Reduction ratio					Shape(Standard)	special specifications
KMCG	14	50	80	100	120	-	A:Component type B:Combined type (cross slider) C:Combined type (integrated cam)	Standard product: shape, performance, etc Special Specification: Blank SP: Special
	17	50	80	100	120	-		
	20	50	80	100	120	160		
	25	50	80	100	120	160		
	32	50	80	100	120	160		
	40	50	80	100	120	160		
KMCD	14	50	80	100	-	-	D:Combination type (super flat)	
	17	50	80	100	-	-		
	20	50	80	100	-	-		
	25	50	80	100	-	-		
	32	50	80	100	-	-		
KMHG	14	50	80	100	-	-	E:Combined type (hollow shaft) B:Simple combination type (cross slider) C:Simple combination type (integrated cam) I:Simple combined type (hollow shaft) F:Combined type (input shaft) G:Combined type (hollow long shaft)	
	17	50	80	100	120	-		
	20	50	80	100	120	160		
	25	50	80	100	120	160		
	32	50	80	100	120	160		
	40	50	80	100	120	160		
KMHD	14	50	80	100	-	-	E:Combined type (hollow shaft) H:Simple combination type (ultra-flat hollow shaft)	
	17	50	80	100	-	-		
	20	50	80	100	-	-		
	25	50	80	100	-	-		
	32	50	80	100	100	100		

Note 1: Specification Code

Specification Code	14	17	20	25	32	40
Harmonic gear pitch diameter	35.6	43.2	50.8	63.5	81.3	101.6

Note 2: Shape of flexspline

Flexsplines's shapes are divided into cup and hat, "C" refers to cup and "H" refers to hat.

Flexsplines's lengths are divided into standard and dwarf, "S" refers to standard and "D" refers to dwarf.

An exploded view of a mechanical assembly, possibly a turbine or engine component, rendered in a futuristic style with glowing blue highlights. The components are arranged in a vertical stack, showing various internal features like teeth, holes, and a central shaft. The background is dark blue with some faint, glowing lines.

Product Introduction

KMCG-A Harmonic Gearbox

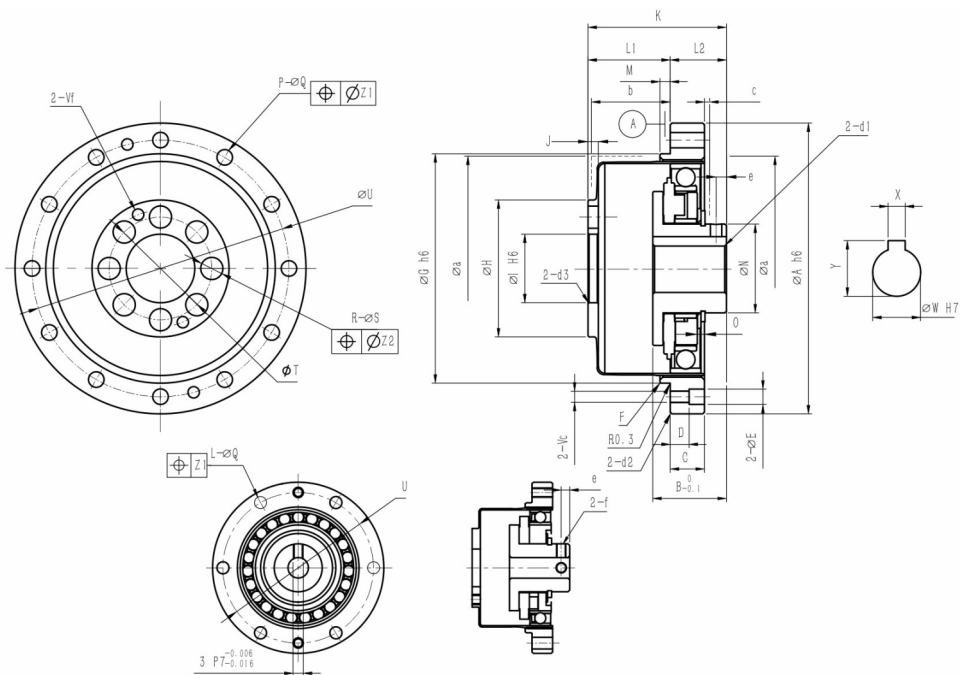


The KMCG A series is composed of three basic components: the flexspline, the rigid gear, and the wave generator. The flexspline adopts a cup-shaped standard structure, with the input shaft directly fitting into the inner hole of the wave generator and connected via a flat key or set screw.

Feature

- Consists of three basic components
- Compact and concise design
- No backlash
- Input and output on the same axis
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

KMCG-B Harmonic Gearbox

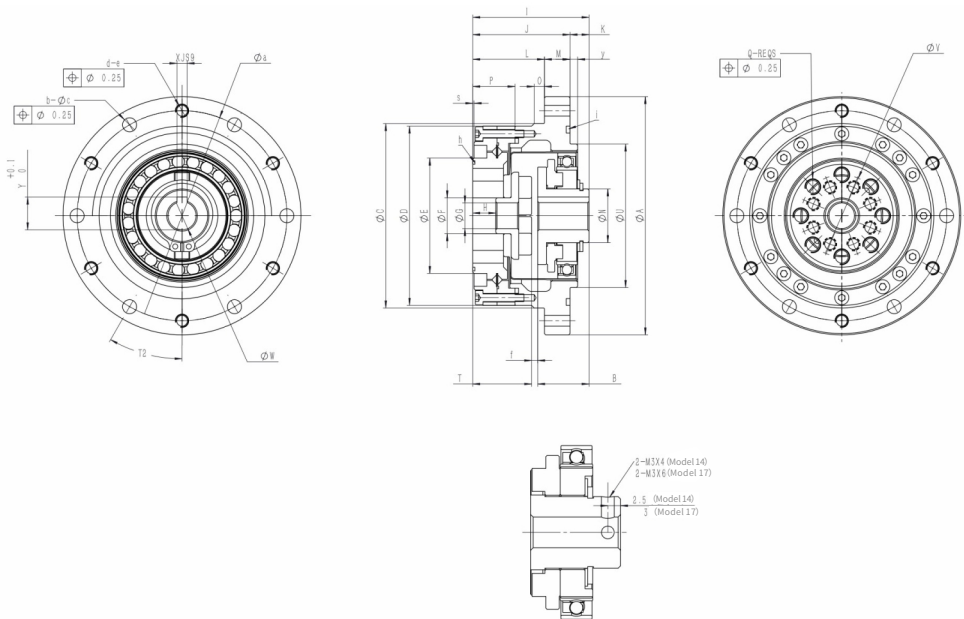


The KMCG-B series flexspline adopts a cup-shaped standard structure, with the input shaft connected to the inner hole of the wave generator through a cross-slide coupling. Generally, the connection method of rigid spline end fixed and flexspline end output is used.

Feature

- Cup-shaped standard structure
- No backlash
- Input/output coaxial
- Excellent positioning accuracy and rotation accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32	40
Weight(kg)	0.52	0.68	0.98	1.5	3.22	5.02

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

KMCG-C Harmonic Gearbox

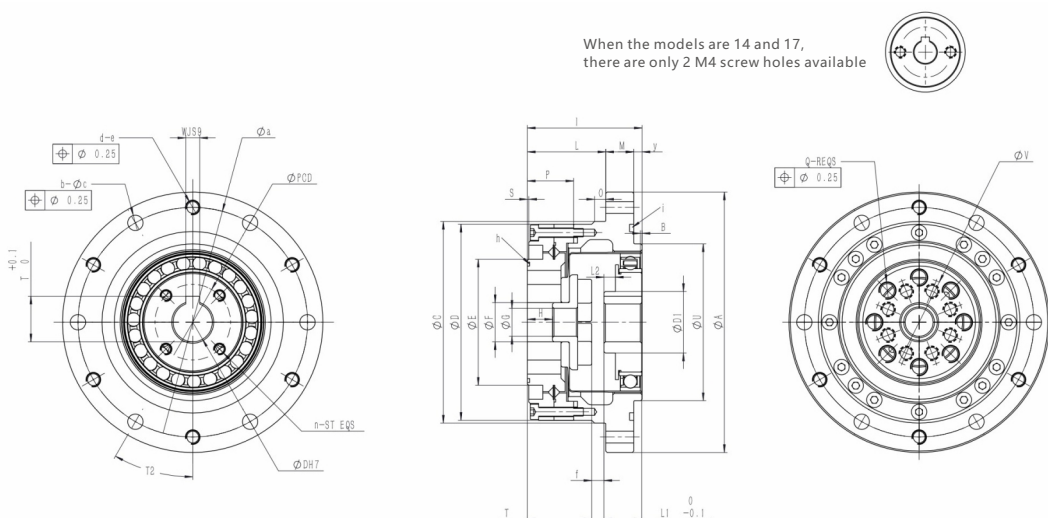


The KMCG-C series flexspline adopts a cup-shaped standard structure, with the input shaft directly fitting into the inner hole of the wave generator and connected via a flat key. Generally, the rigid spline end is fixed, while the output connection method of the flexspline end is used.

Feature

- Cup-shaped integrated cam structure
- Compact and concise design
- No backlash
- Input and output are coaxial
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32	40
Weight(kg)	0.52	0.68	0.98	1.5	3.22	5.02

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

KMHG-B Harmonic Gearbox

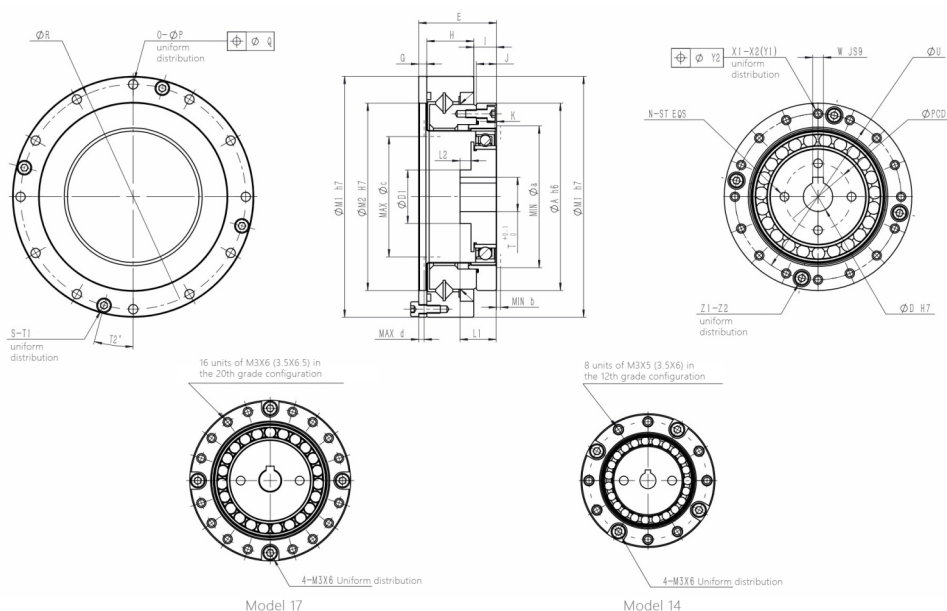


The KMHG-B series flexspline adopts a hollow inverted U-shaped standard structure, featuring a compact overall design. The input shaft is connected to the inner hole of the wave generator through a cross-slide coupling. It can be used in either connection mode: rigid spline end fixed, flexspline end output; or flexspline end fixed, rigid spline end output.

Feature

- Flat shape & standard structure
- Compact and concise design
- No backlash
- Input and output are coaxial
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32	40
Weight(kg)	0.41	0.57	0.81	1.31	2.94	5.1

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

KMHG-C Harmonic Gearbox

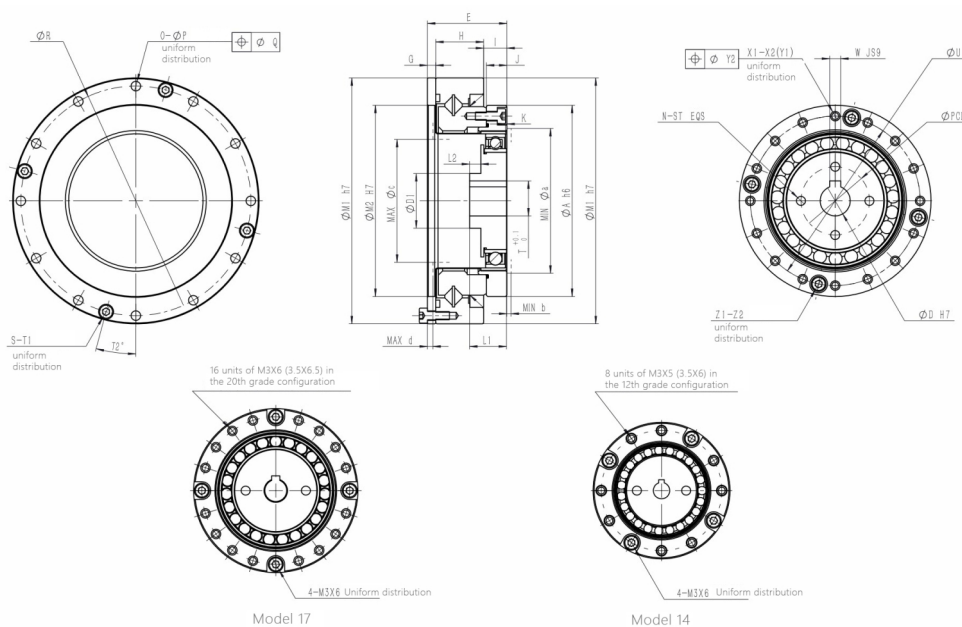


The KMHG-C series flexspline adopts a hollow inverted-L-shaped standard structure, featuring a compact overall design. The input shaft is connected to the inner hole of the wave generator through an integrated cam. It can be used in either connection mode: rigid wheel end fixed, flexspline end output; or flexspline end fixed, rigid wheel end output.

Feature

- Flat shape; integrated cam structure
- Compact and concise design
- No backlash
- Input and output are coaxial
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32	40
Weight(kg)	0.41	0.57	0.79	1.3	2.97	5.12

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

KMHG-E Harmonic Gearbox

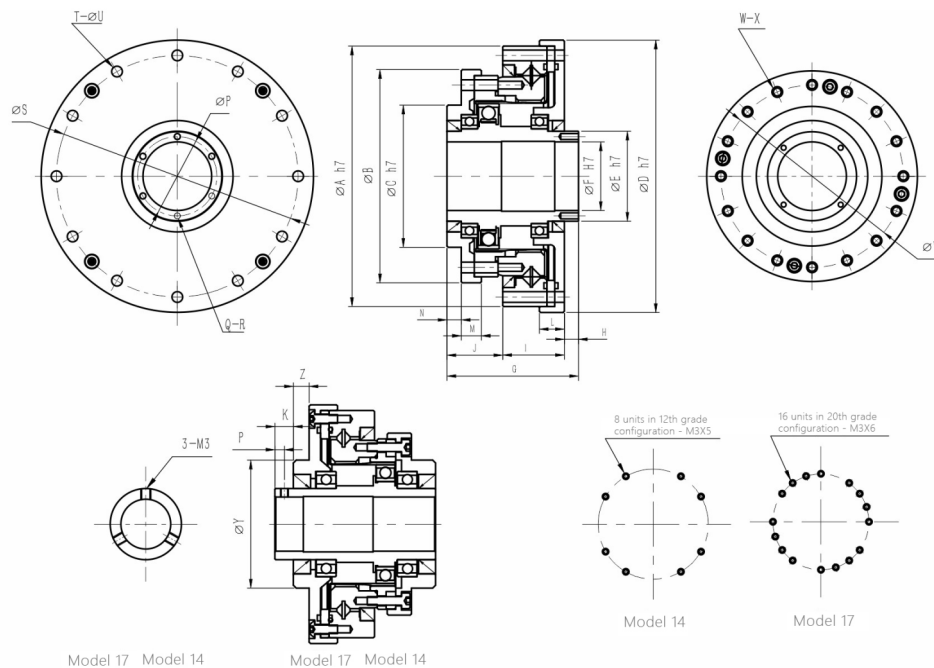


The HMG-E series flexspline adopts a hollow inverted U-shaped standard structure. The wave generator cam features a large-diameter hollow shaft hole in its center. The reducer is internally designed with a support bearing and a fully sealed structure, making it easy to install and highly suitable for applications where wires need to be routed through the center of the reducer.

Feature

- Large diameter & hollow shaft
- Compact and concise design
- No backlash
- Input and output are coaxial
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32	40
Weight(kg)	0.71	1	1.38	2.1	4.5	7.7

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

KMHG-F Harmonic Gearbox

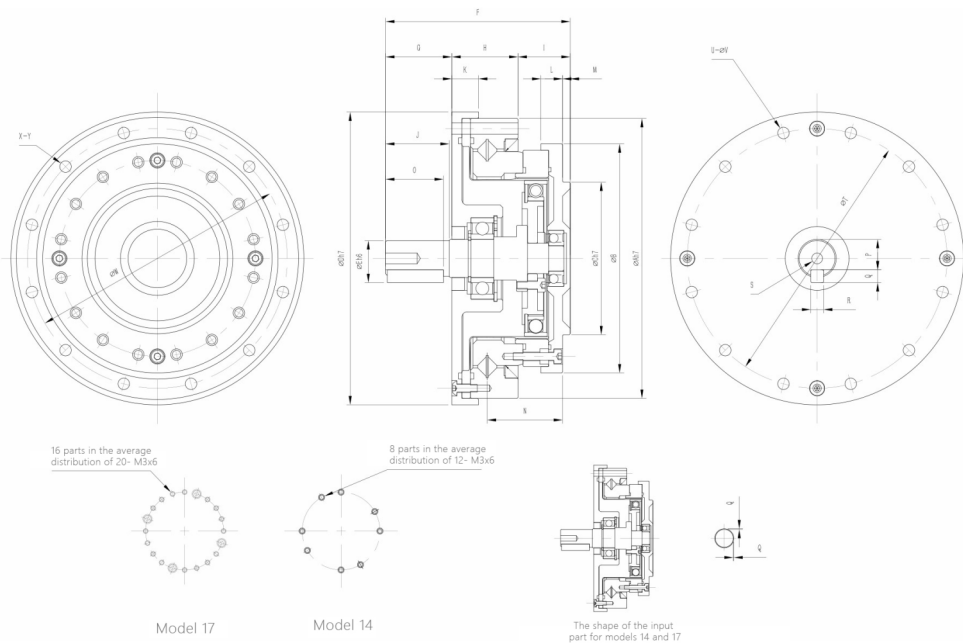


The HMHG-F series flexspline adopts a hollow flanged standard structure, with a wave generator cam integrated with the input shaft. The reducer features an internal support bearing and a fully sealed design, enabling easy installation. It is particularly suitable for applications requiring the mounting of bevel gears or synchronous belt drives on the input side.

Feature

- Capable of handling multiple input formats
- Compact and concise design
- No backlash
- Input and output on the same axis
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32	40
Weight(kg)	0.66	0.94	1.38	2.1	4.4	7.3

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

Feature

- Hollow cable passage, safe and reliable
- Save joint space
- No backlash
- Excellent positioning accuracy and rotational accuracy
- The motor and encoder have small runout in their installation positions

[illegible]

Model	14	17	20	25	32	40
Weight(kg)	0.66	0.94	1.38	2.1	4.4	7.3

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

Feature

- Easy to install and use
- Compact and concise design
- No backlash
- Input and output are coaxial
- Excellent positioning accuracy and rotational accuracy

Model	14	17	20	25	32	40
Weight(kg)	0.45	0.63	0.89	1.44	3.1	5.4

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	7	23	9	46	8000	3500	20	90
	80	10	30	14	51			20	90
	100	10	36	14	70			10	90
	120	10	36	14	70			10	90
17	50	21	44	34	91	7000	3500	20	90
	80	29	56	35	113			20	90
	100	31	70	51	143			10	90
	120	31	70	51	112			10	90
20	50	33	73	44	127	6000	3500	20	60
	80	44	96	61	165			20	60
	100	52	107	64	191			10	60
	120	52	113	64	191			10	60
	160	52	120	64	191			10	60
25	50	51	127	72	242	5500	3500	20	60
	80	82	178	113	332			20	60
	100	87	204	140	369			10	60
	120	87	217	140	395			10	60
	160	87	229	140	408			10	60
32	50	99	281	140	497	4500	3500	20	60
	80	153	395	217	738			10	60
	100	178	433	281	841			10	60
	120	178	459	281	892			10	60
	160	178	484	281	892			10	60
40	50	178	523	255	892	4000	3000	10	60
	80	268	675	369	1270			10	60
	100	345	738	484	1400			10	60
	120	382	802	586	1530			10	60
	160	382	841	586	1530			10	60

KMCD-H Harmonic Gearbox

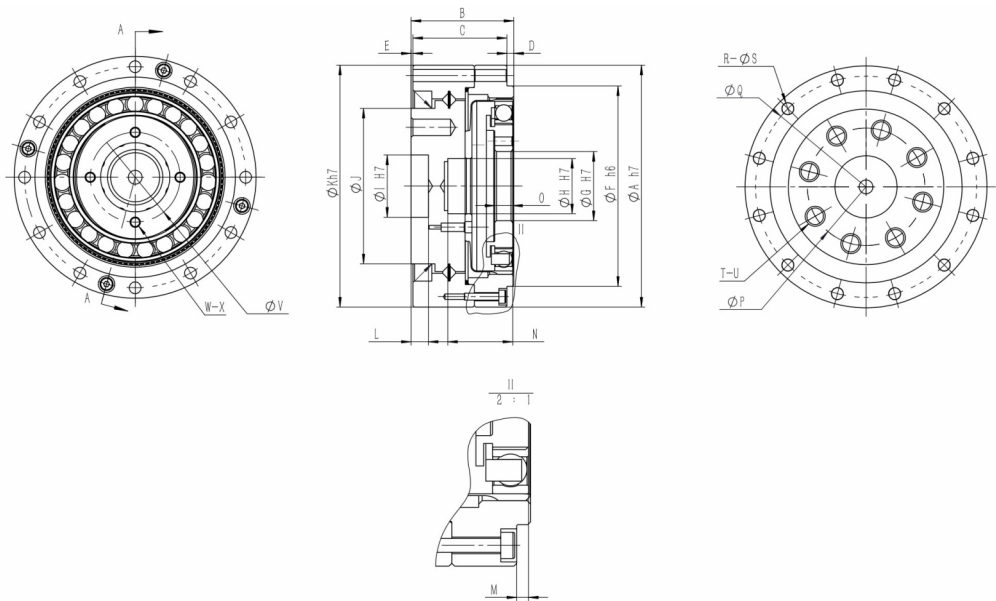


Dedicated to the lightweight and compact characteristics of harmonic gear transmission, the KMCD-H series was born as the times require. While inheriting the excellent performance of traditional products, it achieves a bold shape design. The overall design adopts an ultra-flat structure, which is lightweight and compact, making it highly suitable for use as a robot end joint and client-side reducer.

Feature

- Ultra-flat structure
- Compact and concise design
- High static moment capacity
- Input and output are coaxial
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32
Weight(kg)	0.5	0.66	0.94	1.7	3.3

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	3.5	11.4	4.6	23	8000	3500	20	90
	80	5.1	15	6.2	29			20	90
	100	5.1	18	7	33			20	90
17	50	10.5	22	17	46	7000	3500	20	90
	80	14	29	21	54			20	90
	100	15	35	26	67			20	90
20	50	16	37	23	66	6000	3500	20	90
	80	23	49	28	78			10	90
	100	27	54	32	90			10	90
25	50	26	66	36	121	5500	3500	10	60
	80	42	91	62	157			10	60
	100	45	105	71	175			10	60
32	50	50	143	71	255	4500	3500	20	60
	80	79	202	126	350			10	60
	100	91	221	143	399			10	60

KMHD-H Harmonic Gearbox

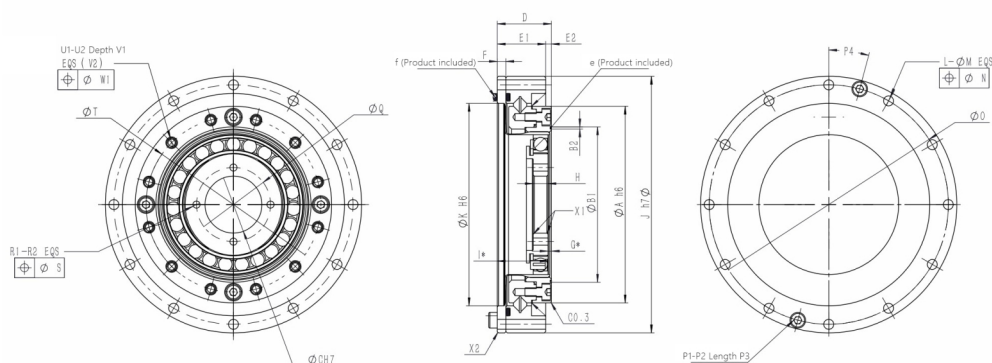


The KMHD-H series is designed to pursue the ultimate in flatness. Compared to the KMHG series, its axial length is shortened by approximately 50%. The flexspline features an ultra-thin hollow flange structure, and a high-rigidity crossed roller bearing is assembled on the output side. It is highly suitable for applications requiring a flat design.

Feature

- Ultra-flat structure
- Compact and concise design
- High static moment capacity
- Input and output are coaxial
- Excellent positioning accuracy and rotational accuracy

Overall Dimension Drawing



Weight

Model	14	17	20	25	32
Weight(kg)	0.33	0.42	0.52	0.91	1.87

Parameters

Model	reduction ratio	Input 2000r/min Rated torque at time	Maximum allowable torque for starting and stopping	Maximum allowable average load torque	Instantly allowing the most high torque	Allow maximum input high speed rotation	Allowable average loss Input speed	Back gap (arc sec)	transmission error (arc sec)
		Nm	Nm	Nm	Nm	r/min	r/min	≤	≤
14	50	3.5	11.4	4.6	23	8000	3500	20	90
	80	5.1	15	6.2	29			20	90
	100	5.1	18	7	33			20	90
17	50	10.5	22	17	46	7000	3500	20	90
	80	14	29	21	54			20	90
	100	15	35	26	67			20	90
20	50	16	37	23	66	6000	3500	20	90
	80	23	49	28	78			10	90
	100	27	54	32	90			10	90
25	50	26	66	36	121	5500	3500	10	60
	80	42	91	62	157			10	60
	100	45	105	71	175			10	60
32	50	50	143	71	255	4500	3500	20	60
	80	79	202	126	350			10	60
	100	91	221	143	399			10	60

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