



**APEX PRECISION  
MECHATRONIX PVT.LTD.**

303-308, Krishna Bhuvan Annex, 22-B, Govandi  
Station Road, Deonar, Mumbai - 400088,  
Maharashtra,  
INDIA.

**PHONE NO.**

61464444 / 9967550131

**EMAIL**

[sales@apexprecision.co.in](mailto:sales@apexprecision.co.in)



## Features



KHK stock worm gears are available in modules 0.5 to 6, reduction ratios of 1/10 to 1/120, and a wide range of materials and shapes. Duplex worm gears with adjustable backlash and highly accurate rotation are also available. The following table lists the main features.

Type	Catalog Number	Module	Number of Starts or Reduction Ratio	Material <small>Old JIS in parentheses</small>	Heat treatment	Tooth Surface Finish	Precision Grade <small>KHK W 001 KHK W 002 Note 2</small>	Features	
Duplex Worm Gears	Worms	<b>KWGD</b> L	2-4	Single Start	SCM440	Thermal refined, gear teeth induction hardened	Ground	1	Duplex worms that have been tempered, hardened and ground that has excellent accuracy, strength and abrasion resistance. Secondary operations can be given except for the teeth. Moving it in axial direction will adjust the backlash.
	Worms	<b>KWGD</b> LS	1.5-4	Single Start	SCM440	Thermal refined, gear teeth induction hardened	Ground	1	Duplex worms with shafts that have been tempered, hardened and ground that has excellent accuracy, strength and abrasion resistance. Secondary operations can be given except for the teeth. Moving it in axial direction will adjust the backlash.
	Wheels	<b>AGD</b> L	1.5-4	20-60	CAC702 (A & BC2)	—	Cut	1	Duplex worm wheels made of aluminum bronze with excellent accuracy and a good balance between machinability and wear resistance. Used in combination with KWGD or KWGDLS.
Worm Gears	Worms	<b>KWG</b>	0.5-6	Single or Double Start	SCM440	Thermal refined, gear teeth induction hardened	Ground	2	Worms with shafts that have been tempered, hardened and ground that has excellent accuracy, strength and abrasion resistance. Secondary operations can be given except for the teeth.
	Wheels	<b>AGF</b> <small>NOTE 1</small>	2-6	10-60	CAC702 (A & BC2)	—	Cut	2	Worm wheels made of aluminum bronze with a good balance between machinability and wear resistance. Used in combination with KWG.
	Worms	<b>SWG</b>	1-6	Single or Double or Triple Start	S45C	Gear teeth induction hardened	Ground	2	Worms that have been hardened and ground with a good balance of accuracy, wear resistance and cost. Secondary operations are possible except for the teeth.
	Wheels	<b>AG</b> <small>NOTE 1</small>	1-6	10-60	CAC702 (A & BC2)	—	Cut	2	Worm wheels made of aluminum bronze with a good balance between machinability and wear resistance. Used in combination with SWG. Note 1
	Worms	<b>SW</b>	0.5-6	Single or Double Start	S45C	—	Cut (Rolling)	4	Many lineups are available at a low price and excellent usability.
	Worms	<b>SUW</b>	0.5-3	Single or Double Start	SUS303	—	Cut	4	Stainless steel worms with rust resistance.
	Wheels	<b>BG</b>	0.5-6	10-60	CAC502 (PBC2)	—	Cut	4	Worm wheels made of phosphorus bronze with excellent wear resistance. Used in combination with SW and SUW.
	Wheels	<b>CG</b>	1-6	10-120	FC200	—	Cut	4	Cast iron worm wheels that are inexpensive and suitable for light loads. Used in combination with SW and SUW.
	Wheels	<b>DG</b>	0.5-0.8	10-60	Polyacetal	—	Cut	5	Worm wheels made of polyacetal. Used in combination with SW and SUW.
	Wheels	<b>PG</b>	1-3	10-50	MC901	—	Cut	5	Worm wheels made of MC nylon. Can be used with no lubrication. Used in combination with SW and SUW.

[Note 1] FC200 is the material for the hubs of AGF and AG worm wheels. The AG worm wheels are normally combined with the SWG worms, but are also compatible with the KWG worms with module 1.5 and below.

[Note 2] The precision grade of KHK stock worm gears controls the product quality based on the KHK standards. Please see "Precision of Worm Gears" in Selection Hints section for details.

## High-precision ground gear worms are available.

We use screw grinding machines manufactured by DRAKE, USA, to manufacture high-precision ground worms of module 0.5 to 8.



CNC Screw Grinding Machine (TE-LM200)

Worm ground gear machining range	
Maximum gear accuracy	KHK Grade 1
Maximum module	m8
Maximum nominal lead angle	±35°
Maximum outer diameter	φ 200mm
Maximum length	330mm

## Application Examples



KHK stock worm gears are used in a wide range of fields, including reduction gears and positioning mechanisms.

### Wiper Drive Device



Image: Provided by PK Design

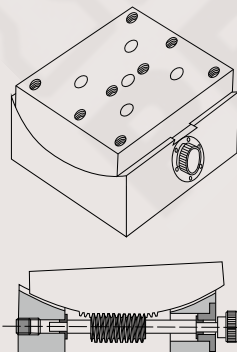
Worm gear used for the oscillating mechanism of wipers

### Yaesu Steam Kettle



SW worm and CG worm wheel used for rotating large pans

### Gonio Stage Design Example



Worm gear used for rotating tables (design example)

### Masdac Food Filling Device



KWGLD used for indexing and driving, for accurate filling of a fixed amount of ingredients  
Duplex Worms and AGDL Wheels

### Fabric Feeding Device



SW worm and BG worm wheel used for adjusting height