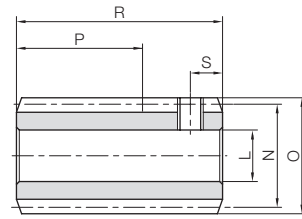




Specifications	
Precision grade	KHK W 001 grade 4
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating



W2

Catalog Number	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width (right)	Hub width (left)
						L <sub>H8</sub>	M	N	O	P	Q	Q'
<b>SW0.5-R1</b> <b>SW0.5-R2</b>	<b>m0.5</b>	1 2	2°36' 5°13'	R	W2	5	—	11	12	(10)	—	—
<b>SW0.8-R1</b> <b>SW0.8-R2</b>	<b>m0.8</b>	1 2	3°17' 6°34'	R	W2	6	—	14	15.6	(18)	—	—

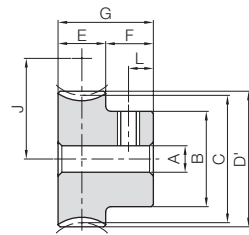
Total length	Socket head screw		Weight (kg)	Catalog Number
	R	S		
18	M3	3	0.010	<b>SW0.5-R1</b> <b>SW0.5-R2</b>
30	M4	5	0.029	<b>SW0.8-R1</b> <b>SW0.8-R2</b>

BG Module 0.5, 0.8  
Worm Wheels

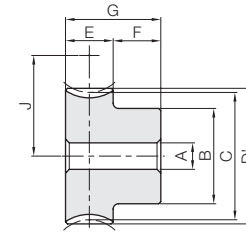
Bronze Worm Wheels



Specifications	
Precision grade	KHK W 002 grade 4
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	CAC502 (old JIS PBC2)
Heat Treatment	—
Tooth hardness	—



HAT



HA



Catalog Number	Reduction ratio	Normal module	No. of teeth	No. of starts of mating worm	Lead angle	Direction of helix	Shape	Bore	Hub dia.	Pitch dia.	Throat dia.	Outside dia.	Face width
								A <sub>H7</sub>	B	C	D	D'	E
<b>BG0.5-20R1</b> <b>BG0.5-20R2</b> <b>BG0.5-30R1</b> <b>BG0.5-30R2</b> <b>BG0.5-40R1</b>	20 10 30 15 40	<b>m0.5</b>	20 20 30 30 40	1 2 1 2 1	2°36' 5°13' 2°36' 5°13' 2°36'	R	HAT	4 4 4 4 5	9 9 12 12 15	10.01 10.04 15.02 15.06 20.02	—	11 11 16 16 21	5
<b>BG0.5-50R1</b> <b>BG0.5-60R1</b>	50 60		50 60	1 1	2°36' 2°36'			5 5	20 25	25.03 30.03		26 31	

Catalog Number	Reduction ratio	Normal module	No. of teeth	No. of starts of mating worm	Lead angle	Direction of helix	Shape	Bore	Hub dia.	Pitch dia.	Throat dia.	Outside dia.	Face width
								A <sub>H7</sub>	B	C	D	D'	E
<b>BG0.8-20R1</b> <b>BG0.8-20R2</b> <b>BG0.8-30R1</b> <b>BG0.8-30R2</b> <b>BG0.8-40R1</b>	20 10 30 15 40	<b>m0.8</b>	20 20 30 30 40	1 2 1 2 1	3°17' 6°34' 3°17' 6°34' 3°17'	R	HA	5 5 5 5 6	12 12 18 18 20	16.03 16.11 24.04 24.16 32.05	—	17.6 17.6 25.6 25.6 33.6	9
<b>BG0.8-50R1</b> <b>BG0.8-60R1</b>	50 60		50 60	1 1	3°17' 3°17'			8 8	25 25	40.06 48.08		41.6 49.6	

NOTE 1: Allowable torque based on worm speed (rpm)

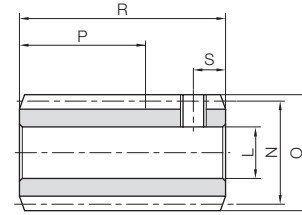
Hub width	Total length	Mounting distance	Socket head screw		Allowable torque (N·m) <small>NOTE 1</small>						Backlash (mm)	Weight (kg)	Catalog Number
			Size	L	30 <sub>rpm</sub>	100 <sub>rpm</sub>	300 <sub>rpm</sub>	600 <sub>rpm</sub>	900 <sub>rpm</sub>	1200 <sub>rpm</sub>			
7	12	10.5	M3	3.5	0.27	0.23	0.19	0.15	0.14	0.13	0~0.16	0.0061	<b>BG0.5-20R1</b> <b>BG0.5-20R2</b> <b>BG0.5-30R1</b> <b>BG0.5-30R2</b> <b>BG0.5-40R1</b>
			M3		0.28	0.23	0.18	0.15	0.13	0.12			
			M3		0.58	0.50	0.41	0.34	0.30	0.28			
			M3		0.59	0.49	0.39	0.32	0.29	0.26			
			M4		0.99	0.85	0.71	0.60	0.54	0.50			
			M4		1.50	1.28	1.08	0.92	0.83	0.77			
7	12	18	M4	3.5	1.50	1.28	1.08	0.92	0.83	0.77	0~0.16	0.039	<b>BG0.5-50R1</b> <b>BG0.5-60R1</b>
			M4		2.10	1.80	1.52	1.31	1.19	1.09			
			M4		2.10	1.80	1.52	1.31	1.19	1.09			

NOTE 1: Allowable torque based on worm speed (rpm)

Hub width	Total length	Mounting distance	Allowable torque (N·m) <small>NOTE 1</small>						Backlash (mm)	Weight (kg)	Catalog Number
			30 <sub>rpm</sub>	100 <sub>rpm</sub>	300 <sub>rpm</sub>	600 <sub>rpm</sub>	900 <sub>rpm</sub>	1200 <sub>rpm</sub>			
9	18	15	1.05	0.88	0.71	0.58	0.52	0.48	0.04~0.22	0.023	<b>BG0.8-20R1</b> <b>BG0.8-20R2</b> <b>BG0.8-30R1</b> <b>BG0.8-30R2</b> <b>BG0.8-40R1</b>
			1.06	0.86	0.66	0.54	0.48	0.44			
			1.23	1.89	1.53	1.29	1.15	1.06			
			2.24	1.87	1.46	1.20	1.07	0.98			
			3.81	3.24	2.67	2.26	2.02	1.87			
			5.76	4.90	4.07	3.47	3.13	2.90			
9	18	31	8.06	6.88	5.73	4.90	4.46	4.12	0.13	0.18	<b>BG0.8-50R1</b> <b>BG0.8-60R1</b>
			8.06	6.88	5.73	4.90	4.46	4.12			



Specifications	
Precision grade	KHK W 001 grade 4
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating

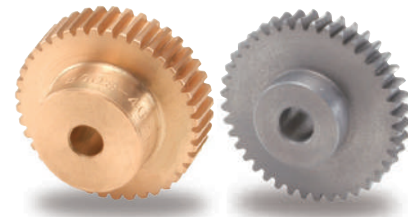


W2

Catalog Number	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width (right)	Hub width (left)
						L <sub>H7(H8)</sub>	M						
SW1-R1 SW1-R2	m1	1 2	3°35' 7°11'	R	W2	6 <sup>H8</sup>	—	—	16	18	(20)	—	—
SW1.25-R1 SW1.25-R2	m1.25	1 2	3°25' 6°50'	R	W2	8	—	—	21	23.5	(25)	—	—

Total length R	Socket head screw		Weight (kg)	Catalog Number
	Size	S		
32	M4	5	0.043	SW1-R1 SW1-R2
37	M5	5	0.085	SW1.25-R1 SW1.25-R2

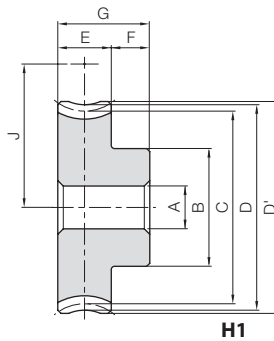
BG/CG Module 1, 1.25  
Worm Wheels



Specifications	
Catalog Number	BG CG
Precision grade	KHK W 002 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	CAC502 (old JIS PBC2) FC200**
Heat treatment	—
Tooth hardness	—

\* The precision grade of J Series products is equivalent to the value shown in the table.  
\*\* FC200's tensile strength (200N/mm<sup>2</sup>) is derived from test specimens and differs according to the product shape.

A <sub>H7</sub>	Bore
B	Hub dia.
C	Pitch dia.
D	Throat dia.
D'	Outside dia.
E	Face width
F	Hub width
G	Total length
J	Mounting distance



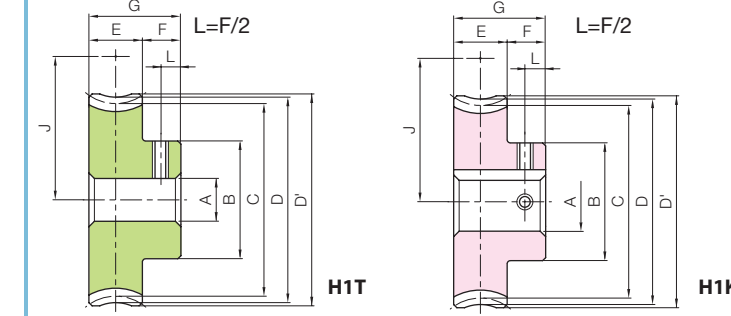
H1

NOTE 1: Allowable torque based on worm speed (rpm)

Catalog Number	Reduction ratio	No. of teeth	No. of starts of mating worm	Lead angle helix direction	Shape	A <sub>H7</sub>	B	C	D	D'	E	F	G	J	Allowable torque (N·m) NOTE 1						Backlash (mm)	Weight (kg)
															30 rpm	100 rpm	300 rpm	600 rpm	900 rpm	1200 rpm		
BG1-20R1	20	20	1	3°35'	R	H1	6	16	20.05	22	23	—	—	18	1.89	1.58	1.26	1.04	0.92	0.85	0.06~0.24	0.043
BG1-20R2	10	20	2	7°11'	R	H1	6	16	20.16	22	23	—	—	18	1.90	1.54	1.18	0.97	0.85	0.78	0.06~0.24	0.043
BG1-30R1	30	30	1	3°35'	R	H1	6	20	30.07	32	33	10	10	23	4.00	3.38	2.74	2.29	2.05	1.87	0.06~0.24	0.089
BG1-30R2	15	30	2	7°11'	R	H1	6	20	30.24	32	33	—	—	23	4.03	3.35	2.62	2.14	1.91	1.74	0.06~0.24	0.089
BG1-40R1	40	40	1	3°35'	R	H1	8	26	40.08	42	43	—	—	28	6.85	5.79	4.76	4.03	3.61	3.31	0.06~0.24	0.15
BG1-50R1	50	50	1	3°35'	R	H1	8	30	50.10	52	53	—	—	33	10.3	8.76	7.27	6.18	5.58	5.14	0.06~0.24	0.23
BG1.25-20R1	20	20	1	3°25'	R	H1	6	20	25.04	27.5	28.75	—	—	23	3.19	2.65	2.10	1.72	1.53	1.40	0.08~0.26	0.070
BG1.25-20R2	10	20	2	6°50'	R	H1	6	20	25.18	27.5	28.75	—	—	23	3.19	2.58	1.96	1.60	1.40	1.27	0.08~0.26	0.070
BG1.25-30R1	30	30	1	3°25'	R	H1	6	25	37.57	40	41.25	11	9	29.25	6.75	5.67	4.56	3.81	3.40	3.09	0.08~0.26	0.15
BG1.25-30R2	15	30	2	6°50'	R	H1	6	25	37.77	40	41.25	—	—	29.25	6.77	5.60	4.33	3.54	3.16	2.85	0.08~0.26	0.15
BG1.25-40R1	40	40	1	3°25'	R	H1	8	30	50.09	52.5	53.75	—	—	35.5	11.5	9.71	7.92	6.70	5.98	5.47	0.08~0.26	0.24
BG1.25-50R1	50	50	1	3°25'	R	H1	8	40	62.61	65	66.25	—	—	41.75	17.4	14.7	12.1	10.3	9.25	8.49	0.08~0.26	0.40
CG1-60R1	60	60	1	3°35'	R	H1	10	30	60.12	62	63	—	—	38	8.69	7.39	6.14	5.24	4.78	4.39	0.06~0.24	0.25
CG1-80R1	80	80	1	3°35'	R	H1	10	35	80.16	82	83	—	—	48	14.7	12.6	10.5	9.11	8.30	7.72	0.06~0.24	0.43
CG1-100R1	100	100	1	3°35'	R	H1	10	40	100.20	102	103	—	—	58	21.9	19.0	16.0	13.9	12.7	11.9	0.06~0.24	0.66
CG1-120R1	120	120	1	3°35'	R	H1	10	40	120.24	122	123	—	—	68	30.5	26.7	22.5	19.6	18.0	16.7	0.06~0.24	0.91

Bronze Worm Wheels & Gray Iron Worm Wheels

J Series



To order J Series products, please specify: **Catalog No. + J + BORE.**

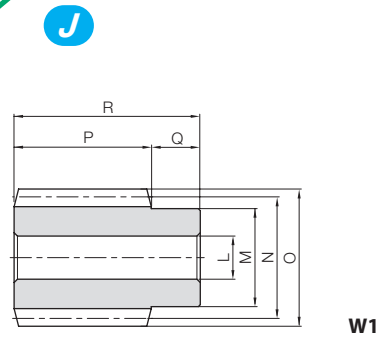
Bore H7	* The product shapes of J Series items are identified by background color.											
	6	8	10	12	14	15	16	17	18	19	20	22
Keyway J <sub>S9</sub>	—											
Screw size	4x1.8			5x2.3				6x2.8				
Catalog Number	M4	M5	M4				M5					
BG1-20R1 J BORE	H1T											
BG1-20R2 J BORE	H1T											
BG1-30R1 J BORE	H1T	H1T										
BG1-30R2 J BORE	H1T	H1T										
BG1-40R1 J BORE		H1T	H1K	H1K								
BG1-50R1 J BORE		H1T	H1K	H1K	H1K	H1K	H1K	H1K				
BG1.25-20R1 J BORE	H1T	H1T										
BG1.25-20R2 J BORE	H1T	H1T										
BG1.25-30R1 J BORE	H1T	H1T	H1K	H1K								
BG1.25-30R2 J BORE	H1T	H1T	H1K	H1K								
BG1.25-40R1 J BORE		H1T	H1K	H1K	H1K	H1K	H1K	H1K				
BG1.25-50R1 J BORE		H1T	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K		
CG1-60R1 J BORE			H1K	H1K	H1K	H1K	H1K	H1K				
CG1-80R1 J BORE			H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K		
CG1-100R1 J BORE			H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	
CG1-120R1 J BORE			H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K





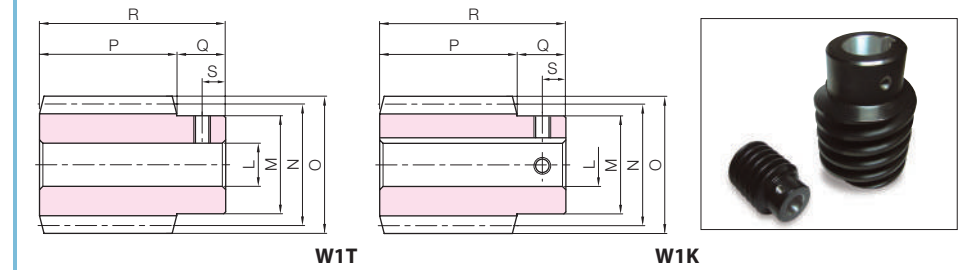
Specifications	
Precision grade	KHK W 001 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating

\* The precision grade of J Series products is equivalent to the value shown in the table.



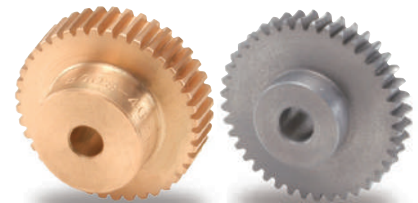
Catalog Number ● : J Series (Available-on-request)	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width (right)	Hub width (left)
						L <sub>H7</sub>	M						
<b>SW1.5-R1</b> ● <b>SW1.5-R1J8</b> ● <b>SW1.5-R1J10</b>	m1.5	1	3°26'	R	W1	8	20	25	28	30	10	—	
W1T					8								
<b>SW1.5-R2</b> ● <b>SW1.5-R2J8</b> ● <b>SW1.5-R2J10</b>	m1.5	2	6°54'	R	W1	8	20	25	28	30	10	—	
W1T					8								
					W1K	10							

J Series



Total length R	Keyway Width × Depth	Socket head screw		Weight (kg)	Catalog Number ● : J Series (Available-on-request)
		Size	S		
40	—	—	—	0.12	<b>SW1.5-R1</b>
		M5	5	0.12	● <b>SW1.5-R1J8</b>
	4 x 1.8	M4	5	0.11	● <b>SW1.5-R1J10</b>
		—	—	0.12	<b>SW1.5-R2</b>
	—	M5	5	0.12	● <b>SW1.5-R2J8</b>
	4 x 1.8	M4	5	0.11	● <b>SW1.5-R2J10</b>

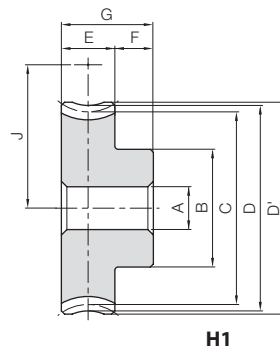
BG/CG Module 1.5  
Worm Wheels



Specifications	
Catalog Number	BG CG
Precision grade	KHK W 002 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	CAC502 (old JIS PBC2) FC200**
Heat treatment	—
Tooth hardness	—

\* The precision grade of J Series products is equivalent to the value shown in the table.  
\*\* FC200's tensile strength (200N/mm<sup>2</sup>) is derived from test specimens and differs according to the product shape.

A <sub>H7</sub>	Bore
B	Hub dia.
C	Pitch dia.
D	Throat dia.
D'	Outside dia.
E	Face width
F	Hub width
G	Total length
J	Mounting distance

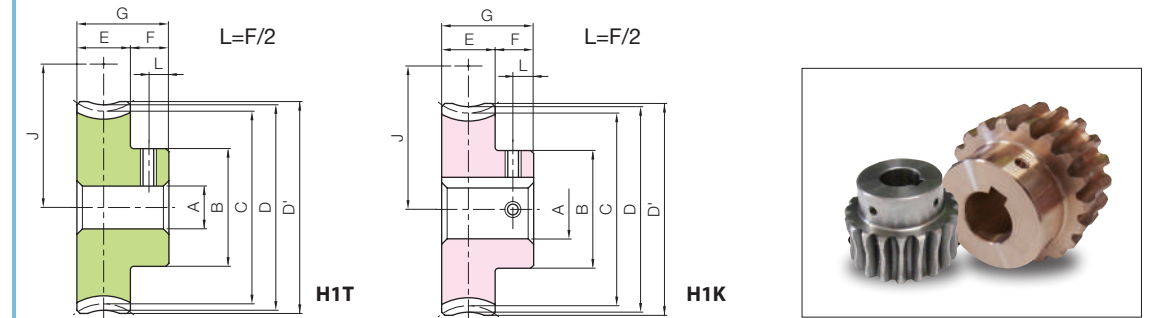


Catalog Number	Reduction ratio	No. of teeth	No. of starts of mating worm	Lead angle helix direction	Shape	A <sub>H7</sub>	B	C	D	D'	E	F	G	J	Allowable torque (N·m) NOTE 1							Backlash (mm)	Weight (kg)
															30 rpm	100 rpm	300 rpm	600 rpm	900 rpm	1200 rpm			
<b>BG1.5-20R1</b>	20	20	1	3°26'	R	H1	8	22	30.05	33	34.5	12	22	27.5	4.76	3.96	3.10	2.56	2.27	2.06	0.08~0.26	0.10	
<b>BG1.5-20R2</b>	10	20	2	6°54'			8	22	30.22	33	34.5	12	22	27.5	4.75	3.85	2.89	2.38	2.08	1.87			
<b>BG1.5-30R1</b>	30	30	1	3°26'			10	30	45.08	48	49.5	12	22	35	10.1	8.47	6.72	5.67	5.03	4.55			
<b>BG1.5-30R2</b>	15	30	2	6°54'			10	30	45.33	48	49.5	12	22	35	10.1	8.37	6.40	5.26	4.67	4.20			
<b>BG1.5-40R1</b>	40	40	1	3°26'			12	30	60.11	63	64.5	12	22	42.5	17.2	14.5	11.7	9.96	8.86	8.04			
<b>BG1.5-50R1</b>	50	50	1	3°26'			12	40	75.13	78	79.5	14	24	50	30.4	25.6	20.8	17.8	16.0	14.6			
<b>CG1.5-30R1</b>	30	30			R	H1	10	30	45.08	48	49.5	12	22	35	6.04	5.08	4.03	3.40	3.02	2.73	0.08~0.26	0.18	
<b>CG1.5-40R1</b>	40	40					12	30	60.11	63	64.5	12	22	42.5	10.3	8.71	7.01	5.98	5.31	4.83			
<b>CG1.5-50R1</b>	50	50					12	40	75.13	78	79.5	14	24	50	18.2	15.4	12.5	10.7	9.59	8.74			
<b>CG1.5-50R1</b>	50	50	1	3°26'			12	40	75.13	78	79.5	14	24	50	18.2	15.4	12.5	10.7	9.59	8.74			
<b>CG1.5-60R1</b>	60	60					12	40	90.16	93	94.5	14	24	57.5	25.5	21.6	17.6	15.1	13.7	12.4			

NOTE 1: Allowable torque based on worm speed (rpm)

Bronze Worm Wheels & Gray Iron Worm Wheels

J Series



To order J Series products, please specify: **Catalog No. + J + BORE.**

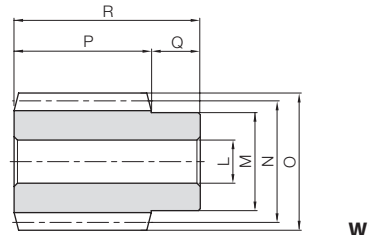
Bore H7	* The product shapes of J Series items are identified by background color.																																									
	8	10	12	14	15	16	17	18	19	20	22	25	28	30																												
Keyway Js9	8			10			12			14			15			16			17			18			19			20			22			25			28			30		
Screw size	—					4x1.8					5x2.3					6x2.8					8x3.3																					
Catalog Number	M5					M4					M5					M6																										
<b>BG1.5-20R1 J BORE</b>	H1T	H1K																																								
<b>BG1.5-20R2 J BORE</b>	H1T	H1K																																								
<b>BG1.5-30R1 J BORE</b>		H1K	H1K	H1K	H1K	H1K	H1K																																			
<b>BG1.5-30R2 J BORE</b>		H1K	H1K	H1K	H1K	H1K	H1K																																			
<b>BG1.5-40R1 J BORE</b>			H1K	H1K	H1K	H1K	H1K																																			
<b>BG1.5-50R1 J BORE</b>				H1K	H1K	H1K	H1K	H1K	H1K	H1K																																
<b>CG1.5-30R1 J BORE</b>		H1K	H1K	H1K	H1K	H1K	H1K																																			
<b>CG1.5-40R1 J BORE</b>			H1K	H1K	H1K	H1K	H1K																																			
<b>CG1.5-50R1 J BORE</b>				H1K	H1K	H1K	H1K	H1K	H1K	H1K																																
<b>CG1.5-60R1 J BORE</b>					H1K	H1K	H1K	H1K	H1K	H1K																																





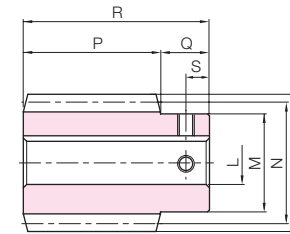
Specifications	
Precision grade	KHK W 001 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	14°30'
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating

\* The precision grade of J Series products is equivalent to the value shown in the table.



W1

J Series



W1K

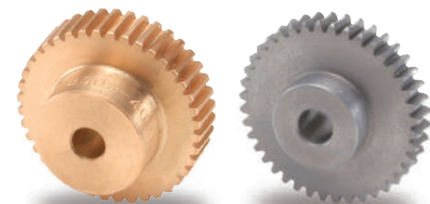


Catalog Number	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore LH7	Hub dia. M	Pitch dia. N	Outside dia. O	Face width P	Hub width (right) Q	Hub width (left) Q'	
● J Series (Available-on-request)													
SW2-R1 ● SW2-R1J12 ● SW2-R1J14	m2	1	3°42'	R	W1	12	25	31	35	32	14	—	
W1K					12								
W1K					14								
W1		12											
W1K		12											
W1K		14											
SW2-R2 ● SW2-R2J12 ● SW2-R2J14		2	7°25'	L	W1	12							
W1K					12								
W1K					14								
SW2-L1 ● SW2-L1J12 ● SW2-L1J14		1	3°42'		R	W1							12
W1K						12							
W1K						14							
SW2-L2 ● SW2-L2J12 ● SW2-L2J14	2	7°25'	L	W1		12							
W1K				12									
W1K				14									

Total length R	Keyway Width × Depth	Socket head screw Size	Weight (kg)	S	Catalog Number
46	—	—	0.20	—	● SW2-R1
	4 × 1.8	M4	0.20	7	● SW2-R1J12
	5 × 2.3	M4	0.18	7	● SW2-R1J14
	—	—	0.20	—	● SW2-R2
	4 × 1.8	M4	0.20	7	● SW2-R2J12
	5 × 2.3	M4	0.18	7	● SW2-R2J14
	—	—	0.20	—	● SW2-L1
	4 × 1.8	M4	0.20	7	● SW2-L1J12
	5 × 2.3	M4	0.18	7	● SW2-L1J14
	—	—	0.20	—	● SW2-L2
	4 × 1.8	M4	0.20	7	● SW2-L2J12
	5 × 2.3	M4	0.18	7	● SW2-L2J14



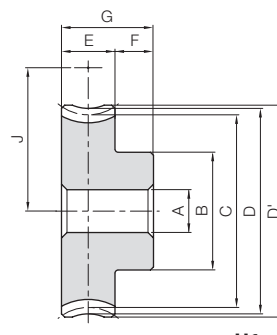
BG/CG Module 2  
Worm Wheels



Specifications	
Catalog Number	BG CG
Precision grade	KHK W 002 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	14°30'
Material	CAC502 (old JIS PBC2) FC200**
Heat treatment	—
Tooth hardness	—

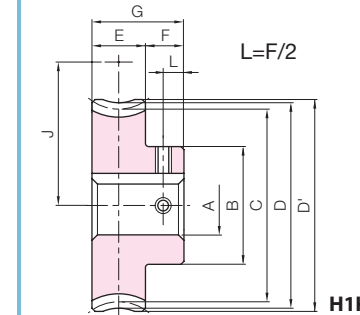
\* The precision grade of J Series products is equivalent to the value shown in the table.  
\*\* FC200's tensile strength (200N/mm<sup>2</sup>) is derived from test specimens and differs according to the product shape.

A <sub>H7</sub>	Bore
B	Hub dia.
C	Pitch dia.
D	Throat dia.
D'	Outside dia.
E	Face width
F	Hub width
G	Total length
(H)	Web thickness
(I)	Web O.D.
J	Mounting distance



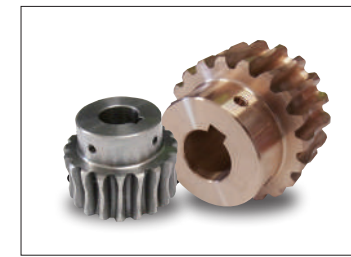
H1

J Series



H1K

Bronze Worm Wheels & Gray Iron Worm Wheels



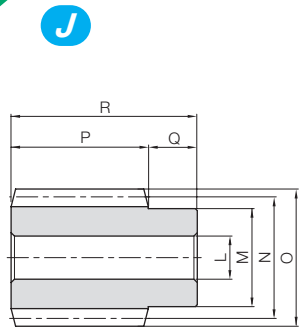
To order J Series products, please specify: **Catalog No. + J + BORE.**

Catalog Number	Production ratio	No. of teeth	No. of starts of mating worm	Lead angle helix direction	Shape	A <sub>H7</sub>	B	C	D	D'	E	F	G	(H)	(I)	J	Allowable torque (N·m) NOTE 1						Backlash (mm)	Weight (kg)
																	30 rpm	100 rpm	300 rpm	600 rpm	900 rpm	1200 rpm		
BG2-20R1	20	20	1	3°42'	R	12	33	40.08	44	46	22	13	35	—	—	35.5	12.3	10.2	8.00	6.59	5.78	5.25	0.10~0.28	0.33
BG2-20R2	10	10	2	7°25'	H1	12	33	40.34	44	46	22	13	35	—	—	35.5	12.3	10.0	7.51	6.15	5.32	4.80		
BG2-20L1	20	20	1	3°42'	R	12	33	40.08	44	46	22	13	35	—	—	35.5	12.3	10.2	8.00	6.59	5.78	5.25	0.10~0.28	0.33
BG2-20L2	10	10	2	7°25'	H1	12	33	40.34	44	46	22	13	35	—	—	35.5	12.3	10.0	7.51	6.15	5.32	4.80		
CG2-20R1	20	20	1	3°42'	R	12	33	40.08	44	46	22	13	35	—	—	35.5	7.38	6.15	4.80	3.95	3.47	3.15	0.10~0.28	0.27
CG2-20R2	10	10	2	7°25'	H1	12	33	40.34	44	46	22	13	35	—	—	35.5	7.40	6.00	4.51	3.69	3.19	2.88		
CG2-30R1	30	30	1	3°42'	R	12	40	60.13	64	66	—	—	—	—	—	45.5	15.6	13.1	10.4	8.74	7.70	6.96	0.10~0.28	0.57
CG2-30R2	15	15	2	7°25'	H1	12	40	60.51	64	66	—	—	—	—	—	45.5	15.7	13.1	9.96	8.15	7.18	6.45		
CG2-40R1	40	40	1	3°42'	R	12	45	80.17	84	86	—	—	—	—	—	55.5	26.7	22.5	18.1	15.4	13.55	12.3	0.10~0.28	0.96
CG2-40R2	20	20	2	7°25'	H1	12	45	80.17	84	86	—	—	—	—	—	55.5	26.7	22.5	18.1	15.4	13.55	12.3		
CG2-50R1	50	50	1	3°42'	R	12	48	100.21	104	106	—	—	—	—	—	65.5	40.3	34.1	27.6	23.6	21.0	19.1	0.10~0.28	1.44
CG2-50R2	25	25	2	7°25'	H1	12	48	100.84	104	106	—	—	—	—	—	65.5	40.7	34.0	26.9	22.4	19.6	17.8		
CG2-60R1	60	60	1	3°42'	R	12	60	120.25	124	126	—	—	—	—	—	75.5	56.4	47.9	38.9	33.3	29.9	27.2	0.10~0.28	2.09
CG2-60R2	30	30	2	7°25'	H1	12	60	120.25	124	126	—	—	—	—	—	75.5	56.4	47.9	38.9	33.3	29.9	27.2		
CG2-20L1	20	20	1	3°42'	R	12	33	40.08	44	46	—	—	—	—	—	35.5	7.38	6.15	4.80	3.95	3.47	3.15	0.10~0.28	0.27
CG2-20L2	10	10	2	7°25'	H1	12	33	40.34	44	46	—	—	—	—	—	35.5	7.40	6.00	4.51	3.69	3.19	2.88		
CG2-30L1	30	30	1	3°42'	R	12	40	60.13	64	66	—	—	—	—	—	45.5	15.6	13.1	10.4	8.74	7.70	6.96	0.10~0.28	0.57
CG2-40L1	40	40	1	3°42'	H1	12	45	80.17	84	86	—	—	—	—	—	55.5	26.7	22.5	18.1	15.4	13.55	12.3		
CG2-50L1	50	50	1	3°42'	R	12	48	100.21	104	106	—	—	—	—	—	65.5	40.3	34.1	27.6	23.6	21.0	19.1	0.10~0.28	1.44
CG2-60L1	60	60	1	3°42'	H1	12	60	120.25	124	126	—	—	—	—	—	75.5	56.4	47.9	38.9	33.3	29.9	27.2		

Bore H7	* The product shapes of J Series items are identified by background color.														
	12	14	15	16	17	18	19	20	22	25	28	30	32	35	
Keyway JS9	4×1.8					5×2.3					6×2.8				
Screw size	4×1.8					5×2.3					6×2.8				
Catalog Number	M4														
BG2-20R1 J BORE	H1K	H1K	H1K	H1K	H1K										
BG2-20R2 J BORE	H1K	H1K	H1K	H1K	H1K										
BG2-20L1 J BORE	H1K	H1K	H1K	H1K	H1K										
BG2-20L2 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-20R1 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-20R2 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-30R1 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-30R2 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-40R1 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-40R2 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-50R1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K						
CG2-50R2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K						
CG2-60R1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K					
CG2-60R2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K					
CG2-20L1 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-20L2 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-30L1 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-30L2 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-40L1 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-40L2 J BORE	H1K	H1K	H1K	H1K	H1K										
CG2-50L1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K					
CG2-50L2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K					
CG2-60L1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K				
CG2-60L2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K			



Specifications	
Precision grade	KHK W 001 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating

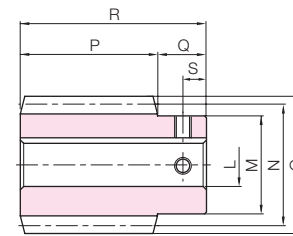


W1

\* The precision grade of J Series products is equivalent to the value shown in the table.

Catalog Number ●: J Series (Available-on-request)	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width (right)		Hub width (left)	
						LH7	M					N	O		P
SW2.5-R1 ● SW2.5-R1J15 ● SW2.5-R1J16 ● SW2.5-R1J17	m2.5	1	3°52'	R	W1	15	30	M	37	42	45	18	—	—	
W1K					15	—							—		
W1K					16	—							—		
W1K					17	—							—		
W1		15	2	7°46'	R	W1K							15	—	—
W1K		15				—							—		
W1K		16				—							—		
W1K		17				—							—		
W1	15	1	3°52'	L	W1	15	—	—							
W1K	15				—	—									
W1K	16				—	—									
W1K	17				—	—									
W1	15	2	7°46'	L	W1	15	—	—							
W1K	15				—	—									
W1K	16				—	—									
W1K	17				—	—									

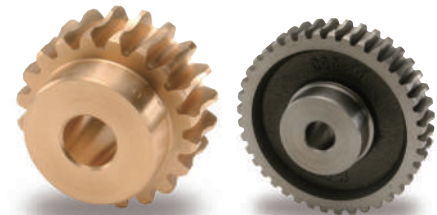
J Series



W1K

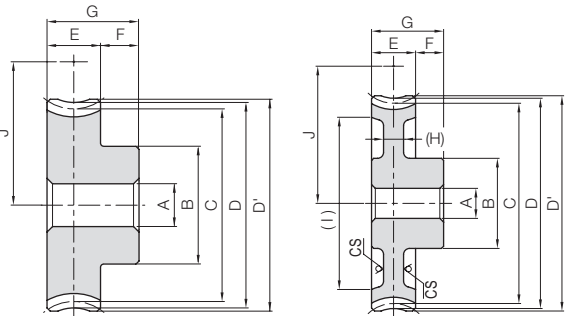


Total length	Keyway	Socket head screw	Weight (kg)	Catalog Number	
				●: J Series (Available-on-request)	
R	Width × Depth	Size	S	—	—
63	—	—	—	0.39	SW2.5-R1
	5 × 2.3	M4	9	0.39	● SW2.5-R1J15
	5 × 2.3	M4	9	0.37	● SW2.5-R1J16
	5 × 2.3	M4	9	0.36	● SW2.5-R1J17
	—	—	—	0.39	SW2.5-R2
	5 × 2.3	M4	9	0.39	● SW2.5-R2J15
	5 × 2.3	M4	9	0.37	● SW2.5-R2J16
	5 × 2.3	M4	9	0.36	● SW2.5-R2J17
	—	—	—	0.39	SW2.5-L1
	5 × 2.3	M4	9	0.39	● SW2.5-L1J15
	5 × 2.3	M4	9	0.37	● SW2.5-L1J16
	5 × 2.3	M4	9	0.36	● SW2.5-L1J17
—	—	—	0.39	SW2.5-L2	
5 × 2.3	M4	9	0.39	● SW2.5-L2J15	
5 × 2.3	M4	9	0.37	● SW2.5-L2J16	
5 × 2.3	M4	9	0.36	● SW2.5-L2J17	



Specifications	
Catalog Number	BG CG
Precision grade	KHK W 002 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	20°
Material	CAC502 (old JIS PBC2) FC200*
Heat treatment	—
Tooth hardness	—

\* The precision grade of J Series products is equivalent to the value shown in the table.  
\*\* FC200's tensile strength (200N/mm²) is derived from test specimens and differs according to the product shape.



H1

HB

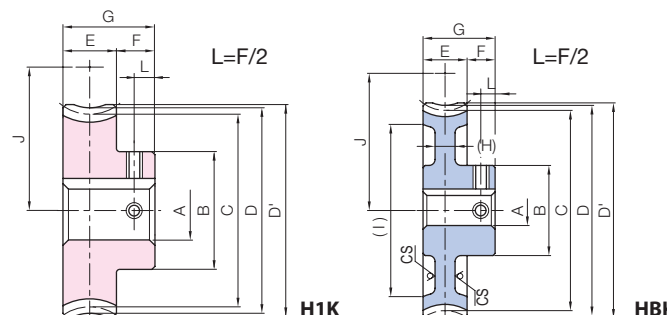
\*\* CS has a forged finish surface.

NOTE 1: Allowable torque based on worm speed (rpm)

Catalog Number	Reduction ratio	No. of teeth	No. of starts of mating worm	Lead angle helix direction	Shape	A <sub>H7</sub>	B	C	D	D'	E	F	G	(H)	(I)	J	Allowable torque (N·m) NOTE 1						Backlash (mm)	Weight (kg)				
																	30 rpm	100 rpm	300 rpm	600 rpm	900 rpm	1200 rpm						
BG2.5-20R1	20	10	1	3°52'	R	12	35	50.11	55	57.5	22	14	36	—	—	43.5	21.5	17.7	13.8	11.4	9.94	9.07	0.13~0.31	0.49				
BG2.5-20R2	10	20	2	7°46'	H1	12	35	50.46	55	57.5	22	14	36	—	—	43.5	21.5	17.3	13.0	10.6	9.14	8.27						
BG2.5-20L1	20	10	1	3°52'	L	12	40	50.11	80	82.5	—	—	—	—	—	43.5	21.5	17.7	13.8	11.4	9.94	9.07	0.13~0.31	0.49				
BG2.5-20L2	10	20	2	7°46'	H1	12	40	50.46	80	82.5	—	—	—	—	—	43.5	21.5	17.3	13.0	10.6	9.14	8.27						
CG2.5-20R1	20	20	2	3°52'	R	12	35	50.11	55	57.5	22	14	36	—	—	43.5	12.9	10.6	8.30	6.83	5.97	5.44	0.13~0.31	0.40				
CG2.5-20R2	10	20	2	7°46'	H1	12	35	50.46	55	57.5	22	14	36	—	—	43.5	12.9	10.4	7.78	6.36	5.49	4.96						
CG2.5-30R1	30	30	1	3°52'	H1	12	40	75.17	80	82.5	—	—	—	—	—	43.5	56	27.3	22.8	18.0	15.1	13.2			12.0			
CG2.5-30R2	15	30	2	7°46'	R	12	40	75.68	80	82.5	—	—	—	—	—	43.5	56	27.5	22.5	17.2	14.1	12.3			11.1			
CG2.5-40R1	40	40	1	3°52'	R	15	45	100.23	105	107.5	—	—	—	—	—	68.5	46.7	39.0	31.3	26.5	23.3	21.2			13.9			
CG2.5-50R1	50	50	1	3°52'	HB	15	50	125.29	130	132.5	22	14	36	—	—	(9)	(110)	81	70.6	59.0	47.8	40.7			36.1	33.0	1.54	2.02
CG2.5-60R1	60	60	1	3°52'	HB	15	55	150.34	155	157.5	22	14	36	—	—	(9)	(136)	93.5	98.8	82.9	67.3	57.6			51.5	47.0		
CG2.5-20L1	20	20	2	3°52'	L	12	35	50.11	55	57.5	—	—	—	—	—	43.5	12.9	10.6	8.30	6.83	5.97	5.44			0.40	0.40		
CG2.5-20L2	10	20	2	7°46'	H1	12	35	50.46	55	57.5	—	—	—	—	—	43.5	12.9	10.4	7.78	6.36	5.49	4.96						
CG2.5-40L1	40	40	1	3°52'	H1	15	45	100.23	105	107.5	—	—	—	—	—	68.5	46.7	39.0	31.3	26.5	23.3	21.2						

Bronze Worm Wheels & Gray Iron Worm Wheels

J Series



H1K

HBK



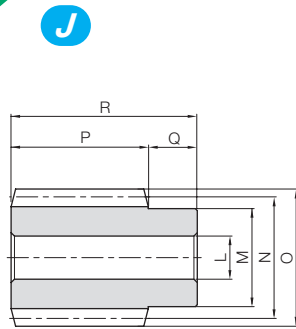
To order J Series products, please specify: **Catalog No. + J + BORE.**

Bore H7	* The product shapes of J Series items are identified by background color.																							
	12	14	15	16	17	18	19	20	22	25	28	30	32	35										
Keyway J <sub>S9</sub>	4x1.8				5x2.3				6x2.8				8x3.3				10x3.3							
Screw size	M4				M5				M6				M8											
Catalog Number																								
BG2.5-20R1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
BG2.5-20R2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
BG2.5-20L1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
BG2.5-20L2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
CG2.5-20R1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
CG2.5-20R2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
CG2.5-30R1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K								
CG2.5-30R2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K								
CG2.5-40R1 J BORE				H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K							
CG2.5-50R1 J BORE				HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK						
CG2.5-60R1 J BORE				HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK						
CG2.5-20L1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
CG2.5-20L2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K										
CG2.5-40L1 J BORE				H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K	H1K						





Specifications	
Precision grade	KHK W 001 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	14°30'
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating

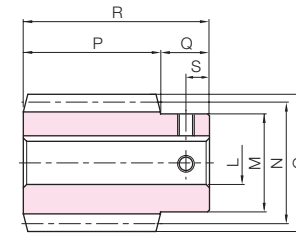


W1

\* The precision grade of J Series products is equivalent to the value shown in the table.

Catalog Number ● : J Series (Available-on-request)	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore		Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width (right)	Hub width (left)
						L <sub>H7</sub>	M						
SW3-R1 ● SW3-R1J17 ● SW3-R1J18 ● SW3-R1J19 ● SW3-R1J20	m3	1	3°55'	R	W1	16	35	44	50	50	20	—	
W1K					17								
W1K					18								
W1K					19								
W1K		20											
W1		16											
W1K		17											
W1K		18											
W1K	19												
W1K	20												
SW3-L1 ● SW3-L1J17 ● SW3-L1J18 ● SW3-L1J19 ● SW3-L1J20	1	3°55'	L	W1	16								
W1K				17									
W1K				18									
W1K				19									
W1K	20												
SW3-L2 ● SW3-L2J17 ● SW3-L2J18 ● SW3-L2J19 ● SW3-L2J20	2	7°50'	L	W1	16								
W1K				17									
W1K				18									
W1K				19									
W1K	20												

J Series



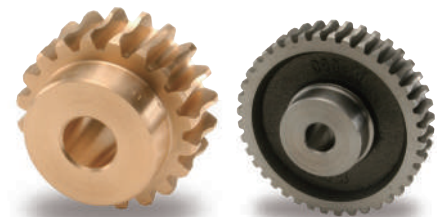
W1K



Total length R	Keyway Width × Depth	Socket head screw		Weight (kg)	Catalog Number ● : J Series (Available-on-request)
		Size	S		
70	5 × 2.3	M4	10	0.64	SW3-R1
				0.62	● SW3-R1J17
				0.60	● SW3-R1J18
				0.58	● SW3-R1J19
	6 × 2.8	M5	10	0.56	● SW3-R1J20
				0.64	SW3-R2
				0.62	● SW3-R2J17
				0.60	● SW3-R2J18
	6 × 2.8	M5	10	0.58	● SW3-R2J19
				0.56	● SW3-R2J20
				0.64	SW3-L1
				0.62	● SW3-L1J17
6 × 2.8	M5	10	0.60	● SW3-L1J18	
			0.58	● SW3-L1J19	
			0.56	● SW3-L1J20	
			0.64	SW3-L2	
6 × 2.8	M5	10	0.62	● SW3-L2J17	
			0.60	● SW3-L2J18	
			0.58	● SW3-L2J19	
			0.56	● SW3-L2J20	



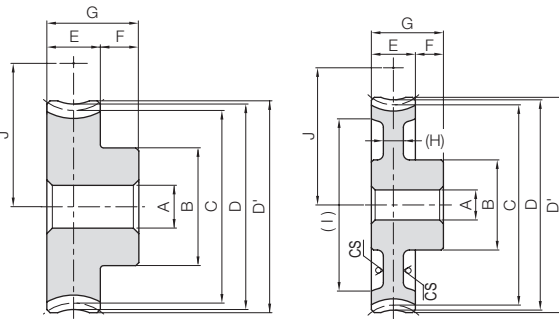
BG/CG Module 3  
Worm Wheels



Specifications	
Catalog Number	BG CG
Precision grade	KHK W 002 grade 4*
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	14°30'
Material	CAC502 (old JIS PBC2) FC200**
Heat treatment	—
Tooth hardness	—

\* The precision grade of J Series products is equivalent to the value shown in the table.  
\*\* FC200's tensile strength (200N/mm<sup>2</sup>) is derived from test specimens and differs according to the product shape.

	A <sub>H7</sub>	Bore
B		Hub dia.
C		Pitch dia.
D		Throat dia.
D'		Outside dia.
E		Face width
F		Hub width
G		Total length
(H)		Web thickness
(I)		Web O.D.
J		Mounting distance

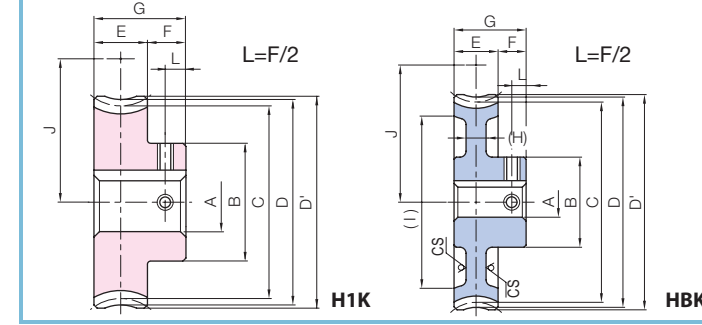


H1

HB

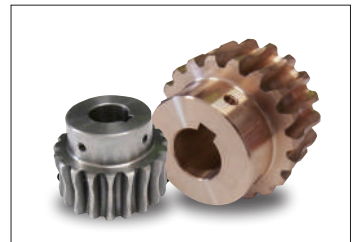
\*\* CS has a forged finish surface.

J Series



H1K

HBK



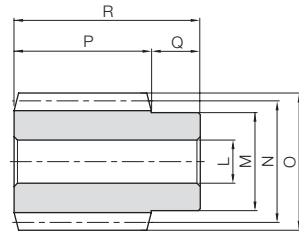
To order J Series products, please specify: **Catalog No. + J + BORE.**

Catalog Number	Reduction ratio	No. of teeth	No. of starts of mating worm	Lead angle helix direction	Shape	A <sub>H7</sub>	B	C	D	D'	E	F	G	(H)	(I)	J	Allowable torque (N·m) NOTE 1						Backlash (mm)	Weight (kg)
																	NOTE 1							
																	30 rpm	100 rpm	300 rpm	600 rpm	900 rpm	1200 rpm		
BG3-20R1	20	10	1	3°55'	R	20	50	60.14	66	69	28	15	43	—	—	52	36.8	30.1	23.5	19.1	16.7	15.2	0.15~0.33	0.89
BG3-20R2	20	10	2	7°50'	R	20	50	60.57	66	69	28	15	43	—	—	52	37.0	29.5	22.1	17.9	15.4	14.0		
BG3-20L1	20	10	1	3°55'	L	20	50	60.14	66	69	28	15	43	—	—	52	36.8	30.1	23.5	19.1	16.7	15.2	0.15~0.33	0.89
BG3-20L2	20	10	2	7°50'	L	20	50	60.57	66	69	28	15	43	—	—	52	37.0	29.5	22.1	17.9	15.4	14.0		
CG3-20R1	20	20	1	3°55'	R	20	50	60.14	66	69	28	15	43	—	—	52	22.1	18.1	14.1	11.5	10.0	0.15~0.33	0.73	
CG3-20R2	20	20	2	7°50'	R	20	50	60.57	66	69	28	15	43	—	—	52	22.2	17.7	13.3	10.7	9.24			
CG3-30R1	30	30	1	3°55'	R	20	55	90.21	96	99	30	45	(9)	(107)	(138)	82	79.8	66.3	53.2	44.6	39.1	0.15~0.33	1.50	
CG3-30R2	30	30	2	7°50'	R	20	55	90.85	96	99	30	45	(9)	(138)	(166)	97	121	100	81.1	68.4	60.5			
CG3-40R1	40	40	1	3°55'	R	20	63	150.28	126	129	30	45	(9)	(138)	(166)	112	169	141	114	96.7	86.3	0.15~0.33	3.58	
CG3-50R1	50	50	1	3°55'	R	20	63	150.35	156	159	30	45	(9)	(138)	(166)	112	169	141	114	96.7	86.3			
CG3-60R1	60	60	1	3°55'	R	20	70	180.42	186	189	30	45	(9)	(138)	(166)	112	169	141	114	96.7	86.3	0.15~0.33	3.58	
CG3-20L1	20	20	1	3°55'	L	20	50	60.14	66	69	28	15	43	—	—	52	22.1	18.1	14.1	11.5	10.0			
CG3-20L2	20	20	2	7°50'	L	20	50	60.57	66	69	28	15	43	—	—	52	22.2	17.7	13.3	10.7	9.24			
CG3-30L1	30	30	1	3°55'	L	20	55	90.21	96	99	30	45	(9)	(138)	(166)	97	121	100	81.1	68.4	60.5			
CG3-50L1	50	50	1	3°55'	L	20	63	150.35	156	159	30	45	(9)	(138)	(166)	97	121	100	81.1	68.4	60.5			
CG3-60L1	60	60	1	3°55'	L	20	70	180.42	186	189	30	45	(9)	(138)	(166)	97	121	100	81.1	68.4	60.5			

Bore H7	* The product shapes of J Series items are identified by background color.							
Keyway JS9	20	22	25	28	30	32	35	40
Screw size	6×2.8			8×3.3			10×3.3	
Catalog Number	M5			M6			M8	
BG3-20R1 J BORE	H1K	H1K	H1K	H1K	H1K			
BG3-20R2 J BORE	H1K	H1K	H1K	H1K	H1K			
BG3-20L1 J BORE	H1K	H1K	H1K	H1K	H1K			
BG3-20L2 J BORE	H1K	H1K	H1K	H1K	H1K			
CG3-20R1 J BORE	H1K	H1K	H1K	H1K	H1K			
CG3-20R2 J BORE	H1K	H1K	H1K	H1K	H1K			
CG3-30R1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K		
CG3-30R2 J BORE	H1K	H1K	H1K	H1K	H1K	H1K		
CG3-40R1 J BORE	HBK	HBK	HBK	HBK	HBK	HBK		
CG3-50R1 J BORE	HBK	HBK	HBK	HBK	HBK	HBK	HBK	
CG3-60R1 J BORE	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK
CG3-20L1 J BORE	H1K	H1K	H1K	H1K	H1K			
CG3-20L2 J BORE	H1K	H1K	H1K	H1K	H1K			
CG3-30L1 J BORE	H1K	H1K	H1K	H1K	H1K	H1K		
CG3-50L1 J BORE	HBK	HBK	HBK	HBK	HBK	HBK	HBK	
CG3-60L1 J BORE	HBK	HBK	HBK	HBK	HBK	HBK	HBK	HBK



Specifications	
Precision grade	KHK W 001 grade 4
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	14°30'
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating



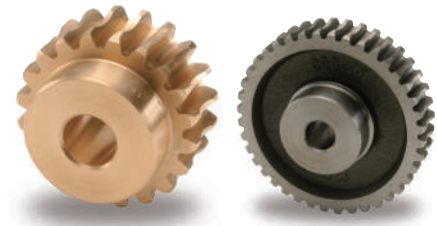
W1

Catalog Number	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Face width	Hub width (right)	Hub width (left)
						L <sub>H7</sub>	M	N	O	P	Q	Q'
SW4-R1 SW4-R2	<b>m4</b>	1 2	3°42' 7°25'	R	W1	22	50	62	70	70	25	—

Total length	Socket head screw		Weight (kg)	Catalog Number
R	Size	S		
95	—	—	1.76	SW4-R1 SW4-R2

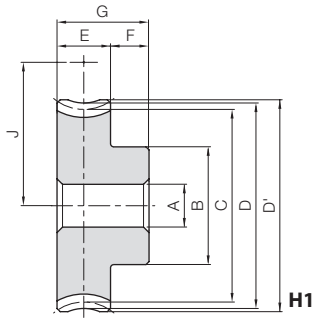
BG/CG Module 4  
Worm Wheels

Bronze Worm Wheels & Gray Iron Worm Wheels



Specifications	
Catalog Number	BG CG
Precision grade	KHK W 002 grade 4 KHK W 002 grade 4
Reference section of gear	Normal plane Normal plane
Gear teeth	Standard full depth Standard full depth
Normal pressure angle	14°30' 14°30'
Material	CAC502 (old JIS PBC2) FC200*
Heat Treatment	— —
Tooth hardness	— —

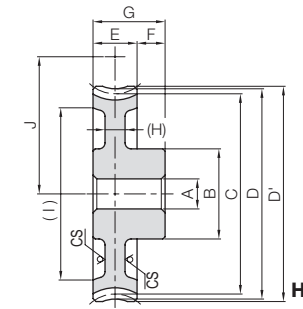
\* FC200's tensile strength (200N/mm<sup>2</sup>) is derived from test specimens and differs according to the product shape.



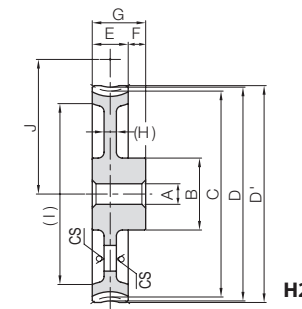
H1

Catalog Number	Reduction ratio	Normal module	No. of teeth	No. of starts of mating worm	Lead angle	Direction of helix	Shape	Bore	Hub dia.	Pitch dia.	Throat dia.	Outside dia.	Face width
								A <sub>H7</sub>	B	C	D	D'	E
BG4-20R1 BG4-20R2	20 10	<b>m4</b>	20	1 2	3°42' 7°25'	R	H1	20	60	80.17 80.67	88	90	35

Catalog Number	Reduction ratio	Normal module	No. of teeth	No. of starts of mating worm	Lead angle	Direction of helix	Shape	Bore	Hub dia.	Pitch dia.	Throat dia.	Outside dia.	Face width
								A <sub>H7</sub>	B	C	D	D'	E
CG4-20R1 CG4-20R2 CG4-30R1 CG4-30R2 CG4-40R1	20 10 30 15 40	<b>m4</b>	20 20 30 30 40	1 2 1 2 1	3°42' 7°25' 3°42' 7°25' 3°42'	R	H1 H1 H1 H1 HB	20	60 60 60 60 70	80.17 80.67 120.25 121.01 160.33	88 88 128 128 168	90 90 130 130 171	35
CG4-50R1 CG4-50R2 CG4-60R1	50 25 60		50 50 60	1 2 1	3°42' 7°25' 3°42'		H2		70 70 80	200.42 201.69 240.5	208 208 248	211 211 251	



HB



H2

\* CS has a forged finish surface. NOTE 1: Allowable torque based on worm speed (rpm)

Hub width	Total length	Mounting distance	Allowable torque (N·m) NOTE 1						Backlash (mm)	Weight (kg)	Catalog Number
			30 <sub>rpm</sub>	100 <sub>rpm</sub>	300 <sub>rpm</sub>	600 <sub>rpm</sub>	900 <sub>rpm</sub>	1200 <sub>rpm</sub>			
F	G	J	75.9	61.7	47.9	38.4	33.7	30.1	0.17~0.37	1.91	BG4-20R1 BG4-20R2
17	52	71	75.9	60.0	44.8	35.7	30.9	27.5			

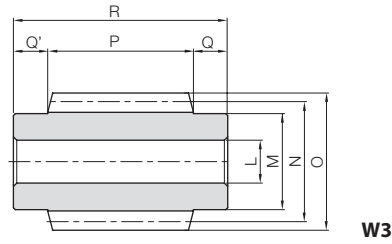
NOTE 1: Allowable torque based on worm speed (rpm)

Hub width	Total length	Web thickness	Web O.D.	Mounting distance	Allowable torque (N·m) NOTE 1				Backlash (mm)	Weight (kg)	Catalog Number
					30 <sub>rpm</sub>	100 <sub>rpm</sub>	300 <sub>rpm</sub>	600 <sub>rpm</sub>			
17	52	—	—	71	45.6	37.0	28.7	23.0	0.17~0.37	1.56	CG4-20R1 CG4-20R2 CG4-30R1 CG4-30R2 CG4-40R1
		—	—	71	45.5	36.0	26.9	21.4			
		—	—	91	96.3	79.1	62.3	50.9			
		—	—	91	96.8	78.3	59.4	47.3			
		(11)	(136)	111	165	136	108	89.4			
		(12)	(176)	131	249	205	165	137			
(12)	(176)	131	250	204	160	130	4.97	CG4-50R1 CG4-50R2			
(12)	(218)	151	348	288	233	194	6.58	CG4-60R1			





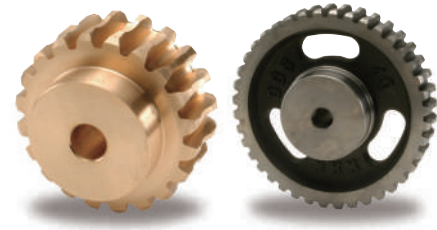
Specifications	
Precision grade	KHK W 001 grade 4
Reference section of gear	Normal plane
Gear teeth	Standard full depth
Normal pressure angle	14°30'
Material	S45C
Heat treatment	—
Tooth hardness	(less than 194HB)
Surface treatment	Black oxide coating



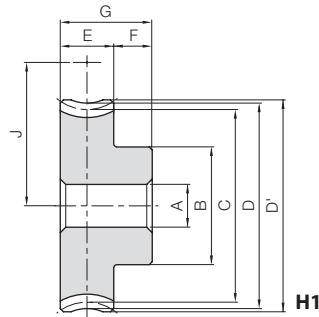
Catalog Number	Normal module	Number of Starts	Nominal lead angle	Direction of helix	Shape	Bore		Pitch dia.	Outside dia.	Face width	Hub width (right)		Hub width (left)	
						L <sub>H7</sub>	M				N	O	P	Q
<b>SW5-R1</b> <b>SW5-R2</b>	<b>m5</b>	1 2	4°06' 8°13'	R	W3	25	56	70	80	85	20	20		
<b>SW6-R1</b> <b>SW6-R2</b>	<b>m6</b>	1 2	4°18' 8°38'	R	W3	30	64	80	92	100	25	25		

Total length R	Socket head screw		Weight (kg)	Catalog Number
	Size	S		
125	—	—	2.86	<b>SW5-R1</b> <b>SW5-R2</b>
150	—	—	4.38	<b>SW6-R1</b> <b>SW6-R2</b>

BG/CG Module 5, 6  
**Worm Wheels**



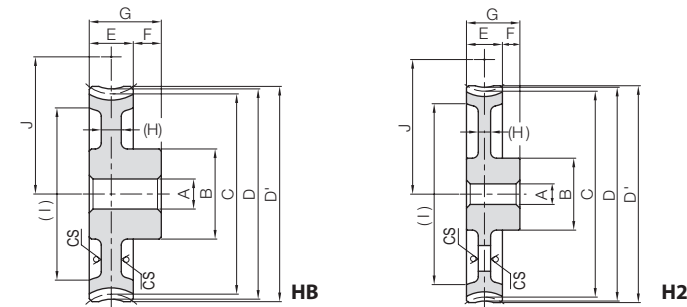
Specifications	
Catalog Number	BG CG
Precision grade	KHK W 002 grade 4 KHK W 002 grade 4
Reference section of gear	Normal plane Normal plane
Gear teeth	Standard full depth Standard full depth
Normal pressure angle	14°30' 14°30'
Material	CAC502 (old JIS PBC2) FC200*
Heat Treatment	— —
Tooth hardness	— —



\* FC200's tensile strength (200N/mm<sup>2</sup>) is derived from test specimens and differs according to the product shape.

Catalog Number	Reduction ratio	Normal module	No. of teeth	No. of starts of mating worm	Lead angle	Direction of helix	Shape	Bore		Pitch dia.	Throat dia.	Outside dia.	Face width
								A <sub>H7</sub>	B				
<b>BG5-20R1</b> <b>BG5-20R2</b>	20 10	<b>m5</b>	20	1 2	4°06' 8°13'	R	H1	22	75	100.26 101.04	110	113	45
<b>BG6-20R1</b> <b>BG6-20R2</b>	20 10	<b>m6</b>	20	1 2	4°18' 8°38'	R	H1	25	100	120.34 121.38	132	136	52

Catalog Number	Reduction ratio	Normal module	No. of teeth	No. of starts of mating worm	Lead angle	Direction of helix	Shape	Bore		Pitch dia.	Throat dia.	Outside dia.	Face width
								A <sub>H7</sub>	B				
<b>CG5-20R1</b> <b>CG5-30R1</b> <b>CG5-30R2</b> <b>CG5-40R1</b>	20 30 15 40	<b>m5</b>	20 30 30 40	1 1 2 1	4°06' 4°06' 8°13' 4°06'	R	H1 HB H2	22	75	100.26 150.38 151.56 200.51	110 160 160 210	113 163 163 213	45
<b>CG5-50R1</b> <b>CG5-60R1</b>	50 60	<b>m5</b>	50 60	1 1	4°06' 4°06'	R	H2	22	90	250.61 300.77	260 310	263 313	45
<b>CG6-20R1</b> <b>CG6-30R1</b> <b>CG6-40R1</b>	20 30 40	<b>m6</b>	20 30 40	1 1 1	4°18' 4°18' 4°18'	R	H1 HB H2	25	100	120.34 180.51 240.68	132 192 252	136 196 256	52
<b>CG6-50R1</b> <b>CG6-60R1</b>	50 60	<b>m6</b>	50 60	1 1	4°18' 4°18'	R	H2	25	100 120	300.85 361.02	312 372	316 376	52



\* CS has a forged finish surface.

NOTE 1: Allowable torque based on worm speed (rpm)

Hub width F	Total length G	Mounting distance J	Allowable torque (N·m) <sup>NOTE 1</sup>						Backlash (mm)	Weight (kg)	Catalog Number
			30 <sub>rpm</sub>	100 <sub>rpm</sub>	300 <sub>rpm</sub>	600 <sub>rpm</sub>	900 <sub>rpm</sub>	1200 <sub>rpm</sub>			
20	65	85	146 146	117 115	91.2 85.8	73.0 68.4	63.7 58.8	56.9 52.2	0.20~0.40	3.89	<b>BG5-20R1</b> <b>BG5-20R2</b>
20	72	100	232 235	185 183	144 136	115 109	99.2 92.3	88.8 82.0	0.22~0.42	6.60	<b>BG6-20R1</b> <b>BG6-20R2</b>

NOTE 1: Allowable torque based on worm speed (rpm)

Hub width F	Total length G	Web thickness (H)	Web O.D. (I)	Mounting distance J	Allowable torque (N·m) <sup>NOTE 1</sup>				Backlash (mm)	Weight (kg)	Catalog Number
					30 <sub>rpm</sub>	100 <sub>rpm</sub>	300 <sub>rpm</sub>	600 <sub>rpm</sub>			
20	65	—	—	85	87.4	70.3	54.7	43.8	0.20~0.40	3.18 5.07 5.07 7.75	<b>CG5-20R1</b> <b>CG5-30R1</b> <b>CG5-30R2</b> <b>CG5-40R1</b>
		(13)	(127)	110	185	150	119	96.8			
		(13)	(127)	110	187	150	114	90.6			
		(16)	(172)	135	316	258	206	170			
20	72	(16)	(223)	160	477	390	315	261	0.22~0.42	10.1 12.3	<b>CG5-50R1</b> <b>CG5-60R1</b>
		(14)	(276)	185	668	548	443	369			
		—	—	100	139	111	86.2	—			
		(15)	(155)	130	294	237	187	—			
20	72	(15)	(213)	160	502	407	325	—	0.22~0.42	14.5 20.3	<b>CG6-20R1</b> <b>CG6-30R1</b> <b>CG6-40R1</b>
		(16)	(275)	190	760	615	496	—			
		(17)	(336)	220	1060	865	698	—			

