GGM
GLOBAL GEARED MOTOR

Hollow Shaft GEAR HEAD

(BTH Type)

Introduction

Thank you for purchasing the GGM product.
Please refer to this manual for installation and use.
Other inquiries, please contact your nearest dealer

Checking model names and accessories

Applicable Products : K6H□BTH, K8H□BTH, K9H□BTH, K10H□BTH
* □ in the model names indicates a number representing the gear ratio.
Check the model names of the motor and gearhead. Only a motor and a gearhead of the same model type and pinion-shaft type can be connected, as shown in the example below.

Ex) Motor Name　　Name of Gear Head

K 9 L H 100 N 2　　K 9 H □ B T H

SIZE　　Pinion Shaft type

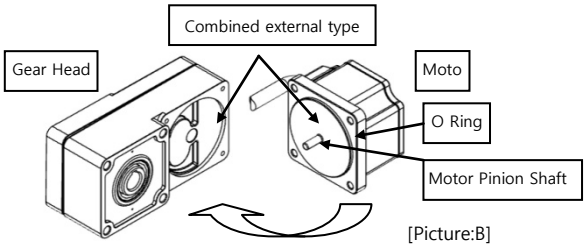
Includes the following accessories in addition to the gear head body.
•Hexagon bolts for mounting set
Bolts , hex nuts , flat washers , spring washers-----4 pcs, each
•Motor, Gear Head bolt assembly ----------4 pcs
•Safety cover ---------- 1pc
•Safety cover mounting screws(M3) ----------2 pcs
•Parallel Keys ----------1 pc

Model name	Bolt set for motor and gear head assembly (Nut, P/W, S/W)	Bolt set for mounting devices (Nut, P/W, S/W)	Dust cap mounting bolt	KEY (mm)
K6H□BTH	M4×16L (WRENCH BOLT)	M5×65L (WRENCH BOLT)	M3×8L (PAN HEADBOLT)	4×4×25 -1R
K8H□BTH	M6×16L (WRENCH BOLT)	M6×70L (WRENCH BOLT)	M3×12L (PAN HEADBOLT)	5×5×25 -1R
K9H□BTH	M8×20L (WRENCH BOLT)	M8×90L (WRENCH BOLT)	M3×12L (PAN HEADBOLT)	6×6×25 -1R
K10H□BTH	M8×20L (WRENCH BOLT)	M8×100L (WRENCH BOLT)	M3×12L (PAN HEADBOLT)	8×7×30 -1R

* □ in the model names indicates a number representing the gear ratio.[Table:1]

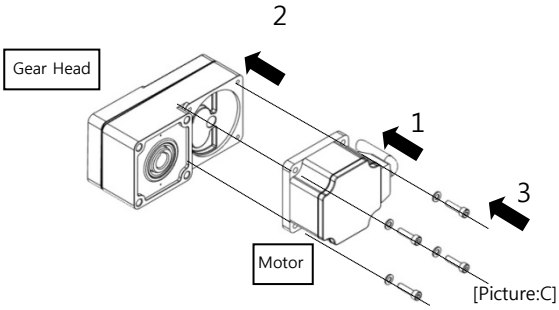
Assembling the motor and gearhead

■ Important
•Do not assemble the motor and gear head violently.
Please avoid impurities from entering the gear head.
Due to the occurrence of scratched it may cause noise and reduced service life.
• Attach the head gear and the motor, coupling, do not attach the other side has an additional adhesive.
•When assembling the gear heads and motor Please also careful not to pinch the O-ring.The cause of the leak in the gear heads are Greece



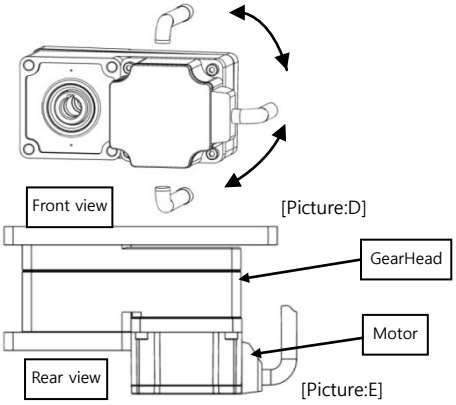
[Picture:B]

1. The assembly determines the position of the motor cable
2. The mounting of the motor on the gear head.
3. Tighten the motor and gear assembly bolt head (4).



[Picture:C]

■Changes in the motor cable position
Motor cable position 90 can also be assembled in a third direction as a unit



[Picture:D]
[Picture:E]

Installation products.

■ Installation direction
Hollow shaft gear head can be mounted in two directions of the front and rear.
■ Installation method
• Please gear head fixed on a flat metal surface machining with a set of bolts for attaching the supplied hex wrench.
• it makes Mounting holes in the metal plate when installing the gear head.
• eliminate the gap between the unit and the mounting surface using the mounting holes in four places in the gear head fixed to the mounting surface, please hex wrench set of bolts for mounting of accessories.
• Please assemble the intermediate output shaft or dust cap attached on the opposite side of the intermediate shaft to the output shaft mounted load.

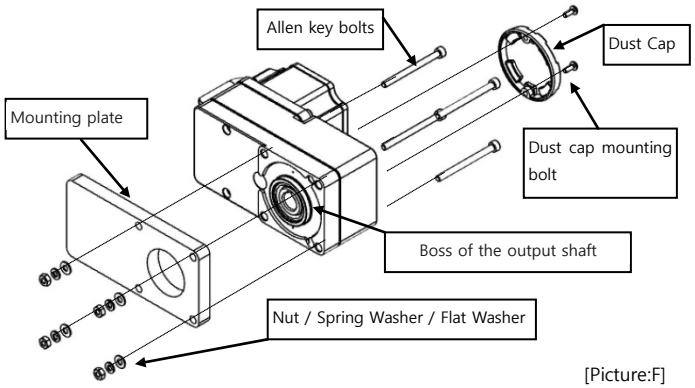
Maximum applicable plate thickness
Table dimension is the case with the supplied Allen key bolts.

Model Name	Maximum applicable plate thickness(mm)
K6H□BTH	5
K8H□BTH	8
K9H□BTH	12
K10H□BTH	12

[Table:2]

* □ in the model names indicates a number representing the gear ratio.

■Using the front side as the mounting surface



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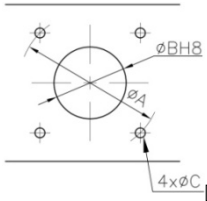
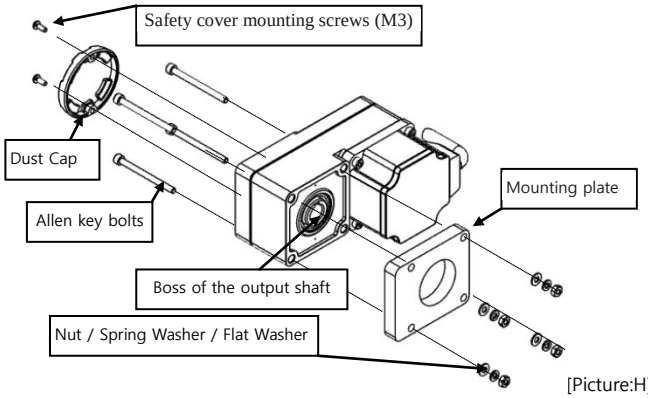
Mounting Hole dimensions:Front



[Picture:G]

■Using the rear side as the mounting surface



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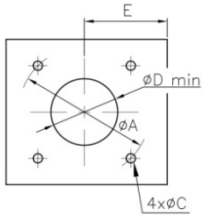
Mounting Hole dimensions:Rear



[Picture:I]

■ Important

Please ensure that if you are installing from the rear mounting plate and motor exceed the 'E' portion size to avoid interference.

Mounting hole dimensions (mm)

Model Name	ØA	ØB H8	ØC	ØD	E
K6H□BTH	70	$34^{+0.039}_{0}$	5.5	25	29
K8H□BTH	94	$38^{+0.039}_{0}$	6.5	30	39
K9H□BTH	104	$50^{+0.039}_{0}$	8.5	35	44
K10H□BTH	120	$58^{+0.039}_{0}$	8.5	42	57

[Table:3]

* □ in the model names indicates a number representing the gear ratio.

■Installation of the load

• When mounted on a hollow output shaft of gear head shaft load Please match the center axis of the load shaft and hollow shaft.

• The hollow output shaft key is grooving.

Please key in the load shaft parallel to the fixed part of the key to the grooving.

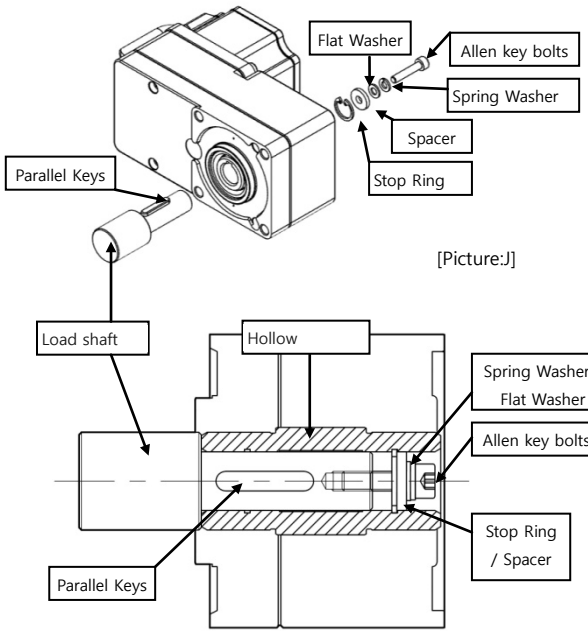
The load shaft tolerance is recommended [h7].

• If the shock caused by frequent or large instantaneous stop-overs hangers (hanging) loads large, fixed to the end plate, please use the load in two axes.Please see the details of the method used to secure the end plates.

■If you have a staircase to the load axis

•Fixing method using a stop ring for holes

Halls spacer ring to stop, flat washers, spring washers, please use the hex wrench to tighten the bolt.

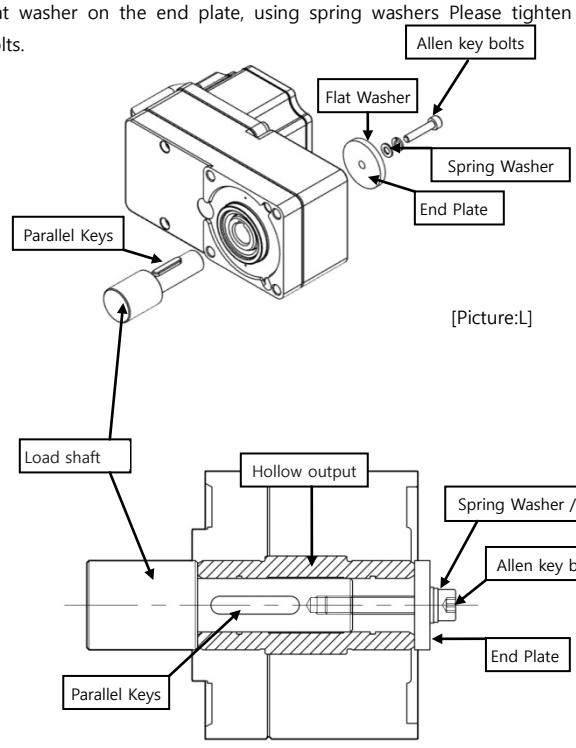


[Picture:J]

[Picture:K]

•Affixing method using end plate

Flat washer on the end plate, using spring washers Please tighten the hex bolts.



[Picture:L]

[Picture:M]

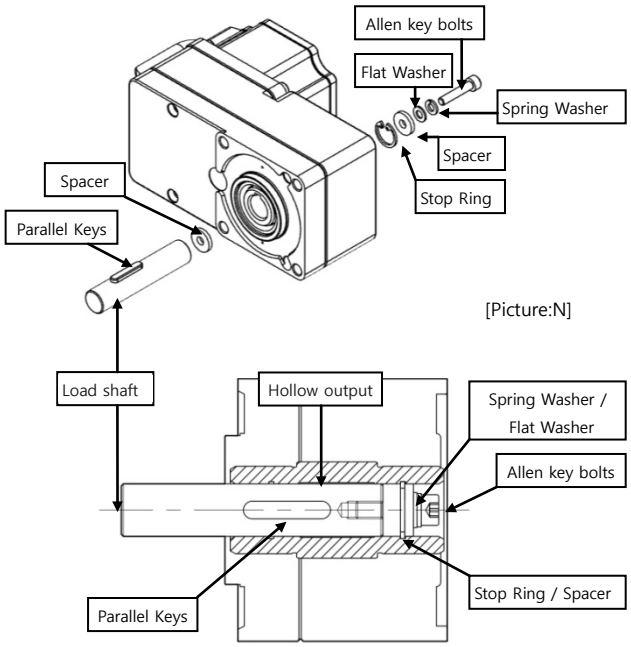
■ Important

Dust caps supplied can not be mounted because the interference in the hexagonal bolts

Please provide a protection against the rotating part of the customer side.

■If there are no stairs to the load axis

Axle load even when using a spacer, spacer ring to stop, flat washers, spring washers, please use the hex wrench to tighten the bolt.



[Picture:N]

[Picture:O]

Recommended load shaft installation dimensions (mm)

Model Name	Hollow shaft diameter(H8)	Recommended tolerance of load shaft (h7)
K6H□BTH	$Ø12^{+0.027}_{0}$	$Ø12^{0}_{-0.018}$
K8H□BTH	$Ø15^{+0.027}_{0}$	$Ø15^{0}_{-0.018}$
K9H□BTH	$Ø20^{+0.033}_{0}$	$Ø20^{0}_{-0.021}$
K10H□BTH	$Ø25^{+0.033}_{0}$	$Ø25^{0}_{-0.021}$

[Table:4]

Model Name	Nominal diameter of retaining ring	Applicable bolt	Space thickness	Outer diameter of stepped shaft (ØD)
K6H□BTH	Ø12	M4	3	20
K8H□BTH	Ø15	M5	4	25
K9H□BTH	Ø20	M6	5	30
K10H□BTH	Ø25	M8	6(3)	40

* □ in the model names indicates a number representing the gear ratio. [Table:5]

■Important

If you are attached to a hollow output shaft, the shaft load, please do not damage the output shaft or hollow shaft receiving portion.

• Please apply grease (grease molybdenum, etc.) on the load shaft and hollow output shaft inner surface to prevent heat damage.

• Please do not output, or modifications hollow shaft machining. If you have a damaged shaft damage given to the receiving portion of the gear head.

•If the motor receives an overhung load, it is recommended that the load be affixed using one of the installation methods explained under "Stepped load shaft".

Notes on use

•Use the gearhead in an ambient temperature between 0 to +50℃ and at a humidity of 85% or less.

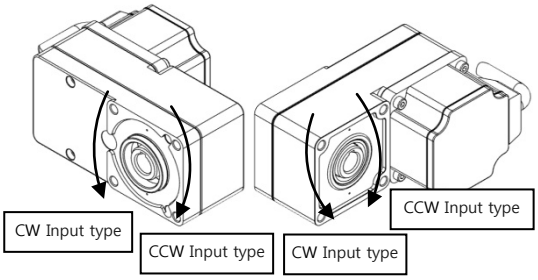
•Please avoid the place or places where water or oil in direct sunlight.

• vibration, shock, or place heavy dusty places, flammable gas, where Avoid the generation of corrosive gases.

■Gearhead output shaft rotation direction

Hollow shaft rotation direction of the gear head is different if viewed from the rear with the gear when viewed from the front of the head.

•Viewed from front• Viewed from rear



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•Maximum allowable torque

The output torque of the gear head is in proportion to the reduction ratio, but the magnitude of the load torque applied to the gearhead by the shaft material or other condition value is limited.

This is called the maximum allowable torque and can be defined by the size reduction ratio of gear head.

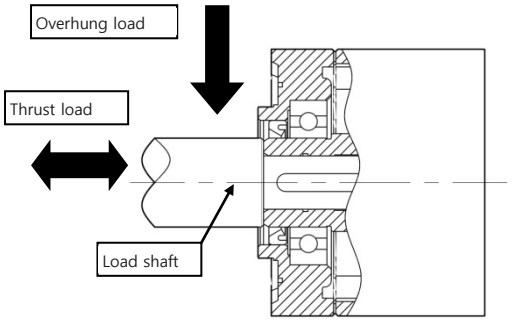
Please use within the allowable torque corresponding to the gear ratio.

•Permitted overhang load and allowable thrust load

The load applied perpendicular to the gearhead output shaft is referred to as an overhang load.

A load applied in the axial direction of the output shaft is known as the thrust load.

Related to the life cycle of the product, please be careful not to exceed the allowable overhang load and allowable thrust load in the table below.



[Picture:Q]

Allowable overhung load and allowable thrust load

Model Name	GearRatio	Allowable overhung load (N) Distance from hollow shaft gearhead mounting surface		Allowable trust load (N)
		10mm	20mm	
K6H□BTH	5,10	450(410)	370(330)	200
	15~200	500(460)	400(370)	
K8H□BTH	5,10	800(730)	660(600)	400
	15~200	1200(1100)	1000(910)	
K9H□BTH	5,10	900(820)	770(700)	500
	15,20	1300(1200)	1110(1020)	
	30~200	1500(1400)	1280(1200)	
K10H□BTH	5,10	1230(1130)	1070(990)	800
	15,20	1680(1550)	1470(1360)	
	30~100	2040(1900)	1780(1660)	

[Table:6]

1.□ in the model names indicates a number representing the gear ratio.

2. The allowable overhang load when the dimensions of the motor shaft rotation speed 3000rpm. / ( ) is the value at 4000 rpm.

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