

GEARBOX User's Manual



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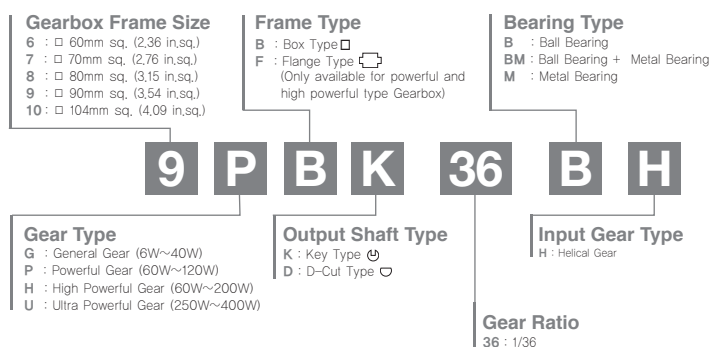
Thanks for using products of DKM Motor Co., Ltd.

Before using please read this user's manual for the product knowledge and information about safety, handling with care and correct using.

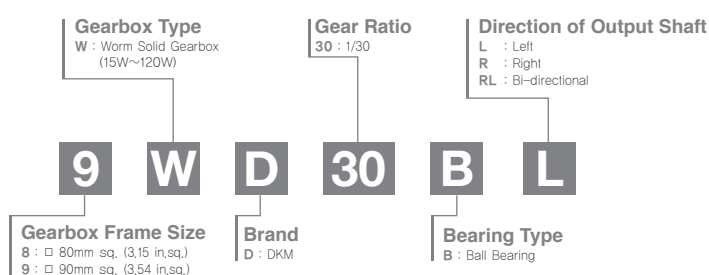
Also keep this user's manual for your reference at any time.

Product Coding System

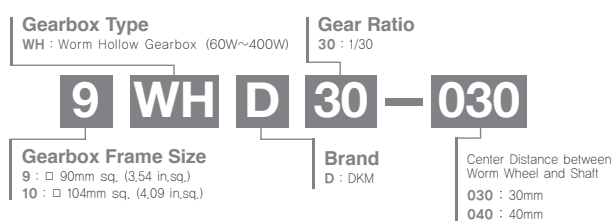
Parallel Gearbox



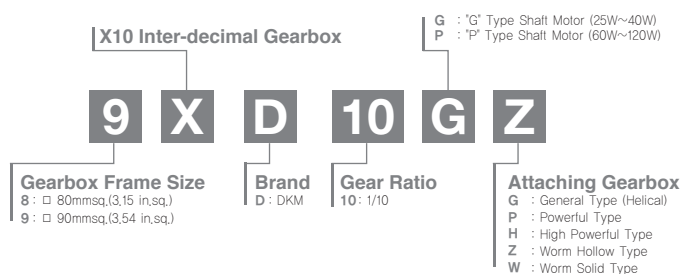
Worm Solid Gearbox



Worm Hollow Gearbox



X10 Inter-decimal Gearbox



Check List of Product After Receiving

Confirmation of products

Make sure that you have received all of the items listed below. If there is any shortage or any damage, please contact the sales department or local agent.

1) Gearbox 1pc. 2) Mounting bolts, nuts, spring washers each 4pcs. 3) Straight key 1pc. 4) This user's manual 1pc.

Confirmation of model name

Please check the model name in 'CODING SYSTEM' and if there is any problem or difference, contact the sales point.

Mouting bolt size

Frame Size	Model	Ratio	BOLT Standard
60mm	6GBD □ MH / 6GBD □ BH	1/3~18	M4 × L50
		1/20~250	M4 × L60
70mm	7GBK □ BMH / 7GBK □ BH	1/3~18	M5 × L50
		1/20~180	M5 × L60
80mm	8GBK □ BMH / 8GBK □ BH	1/3~18	M5 × L50
		1/20~360	M5 × L60
	8WD □ BL / BR / BRL	1/10~60	M5 × L25
90mm	8XD10G □	1/10	M5 × L90
90mm	9GBK □ BMH / 9GBK □ BH	1/2~18	M6 × L65
		1/20~200	M6 × L80

Frame Size	Model	Ratio	BOLT Standard
90mm	9PBK □ BH	1/2~200	M6 × L90
	9PFK □ BH		M6 × L25
	9HBK □ BH	1/3~200	M6 × L30
	9HFK □ BH		
	9WD □ BL / BR / BRL	1/10~60	M6 × L25
9WHD □ -030	1/7.5~80		
9WHD □ -040	1/50~100		
104mm	9XD10 □	1/10	M6 × L90, M6 × L120
	10UBK □ BH	1/3~180	M8 × L25
	10WHD □ -040	1/5~40	M8 × L30

Condition Point in Operation

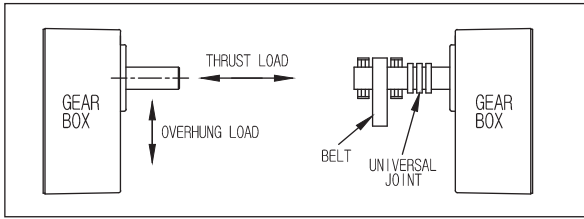
Condition of using

- Ambient temperature on -10~+40°C, humidity max. 85% · Avoid the place which has a lot of sunlight, water and oil.
- Avoid the place which has amount of dust, inflammable gas or corrosive gas.

Daily inspection after the installation

Our products are shipped under the strict quality control. However, there are possibility that some problems come up such as noise, vibration or oil leakage due to carelessness on the installation or other reasons. Please do a daily inspection of the products to prevent a secondary damage. If there is a risk of the problem, contact us anytime.

Overhung load, Thrust load and Max. Permissible torque of gearbox



(Figure1)

- Overhung load is defined as a load applied to the output shaft in the right-angle direction.
- Do not exceed the torque of overhung load and thrust load at the same time in case of using helical gear or worm gear as transmission equipments.
- Place the load closely with gearbox in case of connecting the load to output shaft directly. Install the structure as (Figure1) in case of overhung load is over the torque in chart.

Max. permissible torque of gearbox

- It is minimum load torque which can be applied to the out shaft of the gearbox.
- It is determined by the mechanical strength such as material of gearbox, gear teeth, bearing and the size of gearbox as well as the gear ratio.

Permissible overhung load, permissible thrust load and Max. permissible torque of gearbox

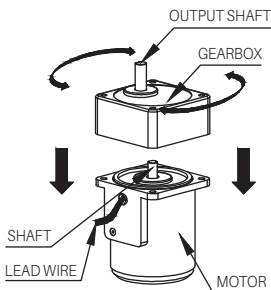
Model	Ratio	Max.permissible torque (Kgfc _m)	permissible Overhung load(Kg)	Permissible Thrust load(Kg)
6GBD □ MH / 6GBD □ BH	1/3~18	1~6	6	3
	1/20~250	6~30	15	
7GBK □ BMH / 7GBK □ BH	1/3~18	3~18	10	4
	1/20~180	20~50	20	
8GBK □ BMH / 8GBK □ BH	1/3~18	2~25	12	5
	1/20~360	30~80	24	
9GBK □ BMH / 9GBK □ BH	1/2~18	4~40	30	10
	1/20~200	40~100	37	
9PBK □ BH / 9PFK □ BH	1/2~10	8~40	45	15
	1/12.5~200	40~80	52	
9HBK □ BH / 9HFK □ BH	1/25~200	50~200	60	15
	1/3~200	18~300	55	
10UBK □ BH	1/5~60	50~400	55	20
	1/75~180	400	60	

Model	Ratio	Max.permissible torque (Kgfc _m)	Permissible Overhung load(Kg)
8WD □ BL / BR / BRL	1/10~18	10~29	8
	1/25~60	21~72	15
9WD □ BL / BR / BRL	1/10~18	23~130	20
	1/25~60	49~163	25
9WHD □ -030	1/7.5~80	20~214	100
9WHD □ -040	1/50~100	230~350	170
10WHD □ -040	1/5~40	70~395	

* Overhung load values for hollow shaft models are measured at 10mm distances from the flange mounting surface.

Installation of Products and Assembly

Motor assembly with gearbox



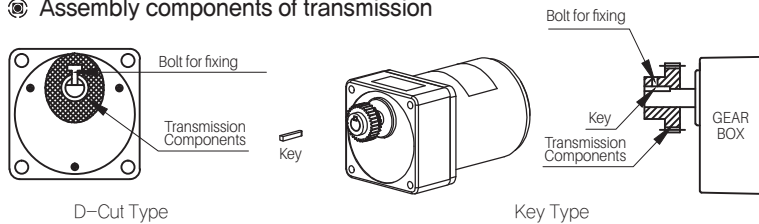
- 1) With motor's output shaft placed upward, choose direction of gearbox with considering direction of out-coming lead wire.
- 2) Needs to be careful between motor shaft and gear trails of inside gearbox mounting. Turning right and left slightly not to be crushed hardly and make assembly easy.
- 3) Use the provided mounting screws when mounting gearbox with motor.

Caution) Gear of gearbox can get damaged such as abnormal noise or shortened life if forced to be assembled with motor.

* Installation of bolt

Flam Size	Screw type	Recommended torque of tightening
60mm	M4	2.0N.m (20kgfc _m)
70mm	M5	2.5N.m (25kgfc _m)
80mm	M5	2.5N.m (25kgfc _m)
90mm	M6	3.0N.m (30kgfc _m)
104mm	M8	6.0N.m (60kgfc _m)

Assembly components of transmission



- The diameter tolerance is h7 and there are Key type and D-cut type output shafts of gearbox.
- In case of using D-cut type shaft, fix the bolt properly on D-cut shaft not to be slipped.
- In case of using key type shaft, fix the key on transmission equipments such as chain pulley and sprocket.

Troubleshooting

- Is proper voltage applied to the motor?
- Are lead wires connected correctly?
- Is the load large?
- Is capacitor connected as diagram and same value as written on label?
- Are motor and gearbox mounted correctly?
- Do you use same type of gearbox shaft as motor shaft?
- Is the motor TP (Thermal Protector) type?
- Do transmission components get damaged or do not connected properly?
- Does motor or gearbox end the life expectation?
- Dose output shaft break down?
- If gearbox doesn't rotate even though motor rotates, there is possibility for gear to be damaged. (If so, please check permissible torque refer to 'Max. permissible torque of gearbox')

Formality of A/S



*DKM decides whether repair service is free or in charge after defining whether it is caused by user's fault or manufacturer's fault by strict inspection rule.

Agents Information

- Please visit our website : www.dkmmotor.com