

Instruction Manual XG Series Gum-type Flexible Coupling

Couplicon[®]
NBK[®]
The Motion Control Components

Be sure to read the manual before use to ensure correct usage.

1. Introduction

Thank you very much for purchasing Couplicon.

- Once you unpack the product, make sure that it is what you ordered.
- Check for any damage that occurred during transportation. In the unlikely event that the product is incorrect or parts are missing, please contact the dealer where you purchased the item.

2. Safety Precautions

Be sure to read the "Safety Precautions" thoroughly prior to use for the safe use of the product.

Danger

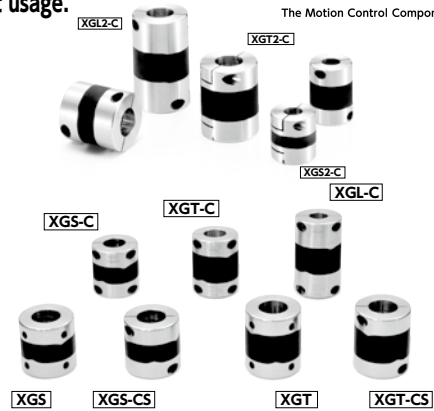
In the case it is thought that improper handling may cause a person to die or be heavily injured.

- The devices must be covered with our product protection covers. Otherwise your hands or fingers may contact the device in operation and get injured. However, do not fully cover the device but ventilate the surrounding air.
- A safety mechanism must be installed on the equipment for hazard prevention.
- When mounting or removing a product, never turn on the device. Otherwise your hands or fingers may contact the device suddenly driven and get injured.
- The load torque generated by continuous operation must be not more than a rated torque of the coupling. Use of the unit exceeding the allowable value may damage the product or affect peripheral devices.
- In case of a device with large load fluctuation, please apply adhesive agent or upgrade the part number of a coupling to use by one level to prevent screw loosening.
- If any abnormal sound or vibration occurs during operation, immediately stop the operation and check the alignment, interference with peripheral devices, and loosening of screws.
- Screws other than our specified ones (hex socket set screw or hex socket head cap screw) should not be used.
- When discarding the used products, please ask a special dealer to discard them so as to prevent bad influence on environment.
- Never touch the product immediately after stopping the operation. Heat transmission from peripheral devices may cause the product to be highly heated, which may cause the worker to be burned.
- The data in the Technical Information are for reference only. They are not guaranteed values. Carry out tests under conditions similar to actual operating conditions in advance.
- After mounting the coupling, perform a load test for about 10 minutes prior to continuous operation to check the tightness of the screws of each part.

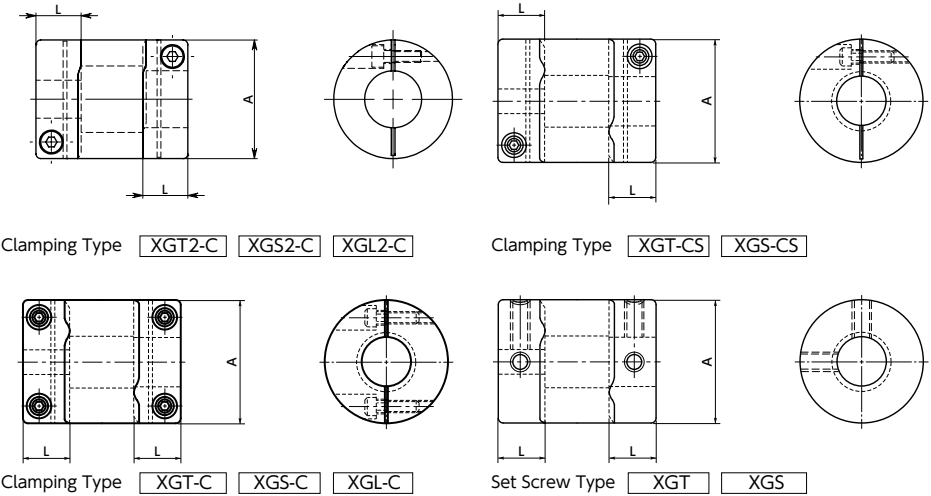
Precautions

In the case it is thought that improper handling may cause a person to be injured or physical damage to occur.

- Do not store or use the products in an environment that may affect them.
- Be careful about handling the products. Dropping a product may damage them. Also, be careful not to damage your waist or drop a product and damage your feet when transporting products.
- The edges of the product may cause injury during installation or removal. Wear safety gear such as safety glasses and gloves, etc., when working.
- Coupling should be used with misalignment of not more than the allowable value. Use of the unit exceeding the allowable value may damage the product or affect peripheral devices.
- The load torque generated by continuous operation must be not more than a rated torque of the coupling. Use of the unit exceeding the allowable value may damage the product or affect peripheral devices.
- In case of a device with large load fluctuation, please apply adhesive agent or upgrade the part number of a coupling to use by one level to prevent screw loosening.
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- The data in the Technical Information are for reference only. They are not guaranteed values. Carry out tests under conditions similar to actual operating conditions in advance.
- After mounting the coupling, perform a load test for about 10 minutes prior to continuous operation to check the tightness of the screws of each part.



3. Shape Diagram



4. Mounting the Coupling on Equipment

Be sure to read the "Safety Precautions" and confirm safety before mounting and removal.

• Cleaning the shaft and bore

Wipe away any foreign matter such as dirt, dust, debris, or rust from the surface of the drive shaft and driven shaft to be assembled and the inner periphery of the coupling.

• Shaft insertion amount

The length of the shaft that should be inserted into the coupling is the L dimension in Table 1. If the inserted amount is too short, the shaft may slip or the clamping part may break. If the inserted amount is too long, there may be shaft interference within the coupling, leading to damage. Recommended tolerance for shaft diameters is h6 and h7.

• Mounting on a D-cut shaft For clamping type

As a rule, use round shafts with clamping types. When using D-cut shafts or shafts with key grooves, mount the D-cut surface or key groove in a position which avoids slits and bolt spot facing. If the D-cut surface or key groove is not in the recommended position, the clamp part may be damaged if excessive load is applied due to hexagon socket head cap screw tightening.

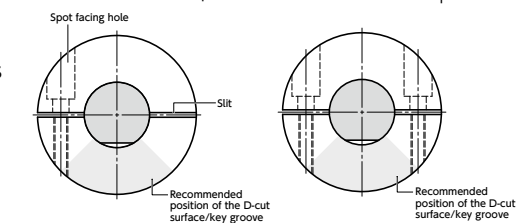
For set screw type

Set the D-cut surface as the set screw fastening position when using set screw types.

Table 1 Hub length L for each coupling size

Part Number	O.D. A (mm)	Hub Length L (mm)
XGT2 - C	15	6.5
XGL2 - C	19	7.7
XGS2 - C	25	9.5
XGT	27	9.5
XGT - CS	30	11
XGL - C	34	12
XGS	39	15.5
XGS - CS	44	15
XGS - C	56	19.5
Common for products above	68	24

- For clamping types with 1 hex socket head cap screw
- For clamping types with 2 hex socket head cap screws



- For set screw type

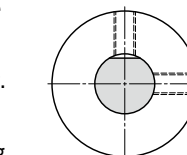


Fig. 1 Positions of D-cut shaft and hub

● **Alignment adjustment**

- ① Although flexible coupling permits misalignment and transmits rotation angle and torque, if the misalignment exceeds the allowable value, vibration may occur or the life may be rapidly shortened. Be sure to perform alignment adjustment.
- ② Shaft center misalignment includes eccentricity (parallel error of both shaft centers), angular (angle error of both shaft centers), and end-play (shaft direction movement of the shaft). Adjust the shaft alignment so that it is not more than an allowable value described in the Dimension/ Performance table in this catalog.
- ③ The allowable values of misalignment described in the Dimension/Performance table are for the case where any one of eccentricity, angular, and endplay occurs independently. Mixing of two or more misalignment causes each of the allowable values to be reduced to half.
- ④ Misalignment may occur not only in mounting into the device but also due to vibration, thermal expansion, and shaft bearing abrasion during operation. Therefore, misalignment is recommended to be not more than one third of the allowable value.

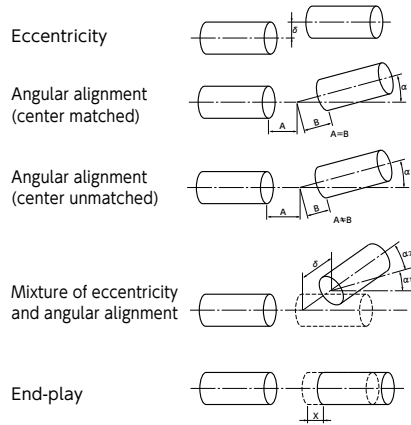


Fig. 2 Types of misalignment

Table 2 Allowable misalignment value for each coupling part number/sleeve

Part Number	A O.D.	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Part Number	A O.D.	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)
XGT2 - C	15	0.15	1.5	±0.2	XGS2 - C	15	0.15	1.5	±0.2
	19	0.15	1.5	±0.2		19	0.15	1.5	±0.2
	25	0.15	1.5	±0.2		25	0.15	1.5	±0.2
XGL2 - C	27	0.15	1.5	±0.2	XGS XGS - CS XGS - C	27	0.15	1.5	±0.2
	30	0.2	1.5	±0.3		30	0.2	1.5	±0.3
XGT XGT - CS XGT - C	34	0.2	1.5	±0.3	Common for products above	34	0.2	1.5	±0.3
	39	0.2	1.5	±0.3		39	0.2	1.5	±0.3
XGL - C	44	0.2	1.5	±0.3					
	56	0.2	1.5	±0.3					
Common for products above	68	0.2	1.5	±0.3					

● **Confirmation before screw tightening**

When the positions of the drive shaft and driven shaft are determined, make sure that the coupling can be moved smoothly by sliding the coupling in the axial direction while the shaft is loose. Alternatively, slide the coupling in the rotational direction to make sure that it can be rotated smoothly.

● **Screw tightening**

Be sure to tighten the hex socket set screws or hex socket head cap screws properly, using a torque screwdriver or torque wrench. Refer to Table 3 or 4 for the tightening torque.

● **Trial run**

After mounting the coupling on the equipment, perform a trial run and confirm that there is no vibration, abnormal noise, or shaft slippage.

Table 3 Screw tightening torque for set screw type

Part Number	O.D. A (mm)	Hex Socket Set Screw Nominal Size	Screw Tightening Torque (N · m)
XGT	15	M3	0.7
	19	M3	0.7
	25	M4	1.7
XGS	27	M4	1.7
	30	M4	1.7
Common for products above	34	M5	4
	39	M5	4
	44	M6	7
	56	M6	7

Table 4 Screw tightening torque for clamping type

Part Number	O.D. A (mm)	Hex Socket Set Screw Nominal Size	Screw Tightening Torque (N · m)
XGT2 - C XGL2 - C XGS2 - C	15	M1.6	0.25
	19	M2	0.5
	25	M2.5	1
XGT - CS XGT - C	27	M2.5	1
	30	M3	1.5
XGL - C XGS - CS XGS - C	34	M3	1.5
	39	M4	2.5
	44	M4	2.5
Common for products above	56	M5	7
	68	M6	12

5. **Inquiries**

Please contact us as below for inquiries regarding the instruction manual.

NBK America LLC
 ☎ 1-484-685-7500
 📠 1-484-685-7600
9:00 to 17:00 on weekdays, Eastern Standard Time

For product specifications and performance, please refer to the Catalog. Note that contents may be changed without prior notice. Please visit our website for details of changed content.