

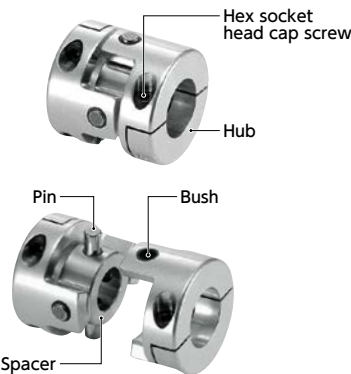
XUT-C Flexible Couplings - Cross Joint Type

High Rigidity
 Vibration absorption
 Small Eccentric Reaction Force

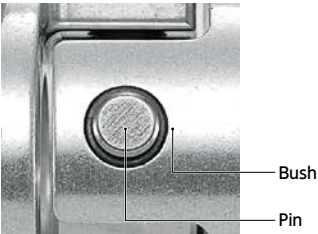
Structure

Clamping Type

XUT-C → P.xxxx



The high accuracy fitting of pin and bush allows the extremely small backlash.
 For the bush of **XUT**, a polyimide resin with excellent abrasion-resistance is adopted.
 The backlash at the initial stage is maintained for a long period.



Applicable motors

| | XUT-C |
|-----------------------|-------|
| Servomotor | ○ |
| Stepping Motor | ○ |
| General-purpose Motor | ● |

○: Excellent ●: Available

Property

| | XUT-C |
|--------------------------------------|-------|
| Zero Backlash | ○ |
| High Torque | ○ |
| High Torsional Stiffness | ○ |
| Allowable Misalignment | ○ |
| Vibration Absorption Characteristics | ○ |

○: Excellent ○: Very good

- This is a cross joint type flexible coupling.
- Slippage of the bush built in the hubs and the pins of the spacer allows eccentricity and angular misalignment to be accepted.
- The high accuracy fitting of pin and bush allows the extremely small backlash.
- The load on the shaft generated by misalignment is small and the burden on the shaft is reduced.

Application

Actuator / XY stage / Index table

Material/Finish



| | XUT-C |
|---------------------------|---|
| Hub | A2017*1 |
| Spacer | SUS304 |
| Pin | SUJ2 |
| Bush | Polyimide |
| Hex Socket Head Cap Screw | SCM435 Ferrosioferric Oxide Film (Black) |

*1: Anodized products are also available. Please contact our customer service.

Part number specification

XUT-25C-6-8

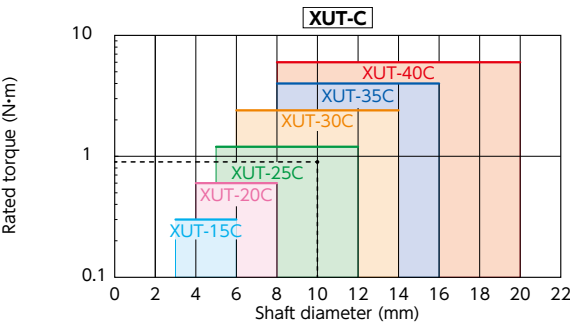
Product Code Size Bore Diameter

Please refer to dimensional table for part number specification.

Selection

Selection Based on Shaft Diameter and Rated Torque

The area bounded by the shaft diameter and rated torque indicates the selection size.



Selection Example

In case of selected parameters of shaft diameter of ϕ 10 and load torque of 0.9 N·m, the selected size is

XUT-25C

Selection Based on the Rated Output of the Servomotor

| Rated Output (W) | Servomotor Specifications*1 | | | Selection Size |
|------------------|------------------------------|--------------------|---------------------------------|----------------|
| | Diameter of Motor Shaft (mm) | Rated Torque (N·m) | Instantaneous Max. Torque (N·m) | XUT-C |
| 10 | 5 - 6 | 0.032 | 0.096 | XUT-15C |
| 20 | 5 - 6 | 0.064 | 0.19 | XUT-15C |
| 30 | 5 - 7 | 0.096 | 0.29 | XUT-20C |
| 50 | 6 - 8 | 0.16 | 0.48 | XUT-20C |
| 100 | 8 | 0.32 | 0.95 | XUT-25C |
| 200 | 9 - 14 | 0.64 | 1.9 | XUT-30C |
| 400 | 14 | 1.3 | 3.8 | XUT-35C |
| 750 | 16 - 19 | 2.4 | 7.2 | — |

*1: Motor specifications are based on general values. For details, see the motor manufacturer's catalogs. This is the size for cases where devices such as reduction gears are not used.



Additional Keyway at Shaft Hole → P.xxxx
 Cleanroom Wash & Packaging → P.xxxx
 Change to Stainless Steel Screw → P.xxxx

Please feel free to contact us

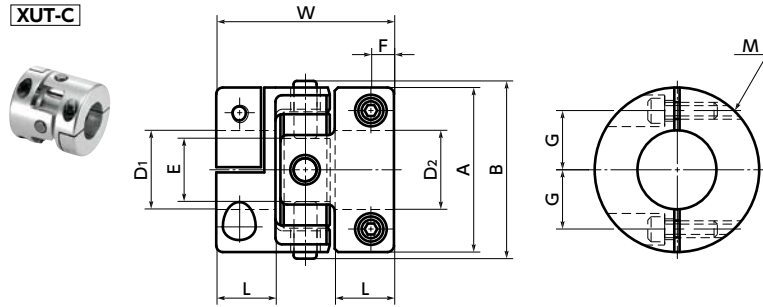
Not Available

Available / Add'l charge

XUT-C Flexible Couplings - Cross Joint Type - Clamping Type

High Rigidity Vibration absorption Small Eccentric Reaction Force


XUT-C



Dimensions

Unit : mm

| Part Number | A | B | L | W | E | F | G | M | Screw Tightening Torque (N·m) |
|----------------|----|----|------|----|----|-----|------|------|-------------------------------|
| XUT-15C | 15 | 16 | 6 | 18 | 4 | 2.5 | 5.2 | M2 | 0.5 |
| XUT-20C | 20 | 22 | 7 | 20 | 7 | 2.7 | 6.5 | M2 | 0.5 |
| XUT-25C | 25 | 27 | 9 | 27 | 10 | 3.5 | 9 | M2.5 | 1 |
| XUT-30C | 30 | 32 | 9.5 | 30 | 10 | 4 | 10.5 | M3 | 1.5 |
| XUT-35C | 35 | 37 | 11.5 | 35 | 13 | 5 | 12.5 | M4 | 2.5 |
| XUT-40C | 40 | 42 | 12.5 | 40 | 15 | 5.5 | 15 | M4 | 2.5 |

| Part Number | Standard Bore Diameter | | | | | | | | | | | | | | |
|-------------|---|---|---|---|---|----|----|----|----|----|----|----|----|----|--|
| | D1/D2  | | | | | | | | | | | | | | |
| | 3 | 4 | 5 | 6 | 8 | 10 | 11 | 12 | 14 | 15 | 16 | 18 | 19 | 20 | |
| XUT-15C | ● | ● | ● | ● | | | | | | | | | | | |
| XUT-20C | | ● | ● | ● | ● | | | | | | | | | | |
| XUT-25C | | | ● | ● | ● | ● | ● | ● | | | | | | | |
| XUT-30C | | | | ● | ● | ● | ● | ● | ● | | | | | | |
| XUT-35C | | | | | ● | ● | ● | ● | ● | ● | ● | | | | |
| XUT-40C | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |

- All products are provided with hex socket head cap screw.
- Recommended tolerance for shaft diameters is h6 and h7.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft.
- For the shaft insertion amount to the coupling, see Mounting/maintenance.

Performance

| Part Number | Max. Bore Diameter (mm) | Rated Torque *1 (N·m) | Max. Rotational Frequency (min ⁻¹) | Moment*2 of Inertia (kg·m ²) | Static Torsional Stiffness (N·m/rad) | Max. Lateral Misalignment (mm) | Max. Angular Misalignment (°) | Mass *2 (g) |
|----------------|-------------------------|-----------------------|--|--|--------------------------------------|--------------------------------|-------------------------------|-------------|
| XUT-15C | 6 | 0.3 | 42000 | 2.3×10 ⁻⁷ | 200 | 0.2 | 1 | 8 |
| XUT-20C | 8 | 0.6 | 31000 | 8.1×10 ⁻⁷ | 400 | 0.2 | 1 | 16 |
| XUT-25C | 12 | 1.2 | 25000 | 2.7×10 ⁻⁶ | 900 | 0.2 | 1 | 33 |
| XUT-30C | 14 | 2.4 | 21000 | 6.2×10 ⁻⁶ | 1300 | 0.2 | 1 | 53 |
| XUT-35C | 16 | 4 | 18000 | 1.3×10 ⁻⁵ | 2200 | 0.2 | 1 | 81 |
| XUT-40C | 20 | 6 | 15000 | 2.6×10 ⁻⁵ | 2300 | 0.2 | 1 | 120 |

*1 : Correction of rated torque due to load fluctuation is not required.

*2 : These are values with max. bore diameter.

- Part number specification

XUT-30C-10-12

1

2

| | | |
|--|-------------------------------------|--|
| Additional Keyway at Shaft Hole → P.0000 | Cleanroom Wash & Packaging → P.0000 | Change to Stainless Steel Screw → P.0000 |
| Please feel free to contact us | Not Available | Available / Add'l charge |

XUT-C Flexible Couplings - Cross Joint Type



High Rigidity



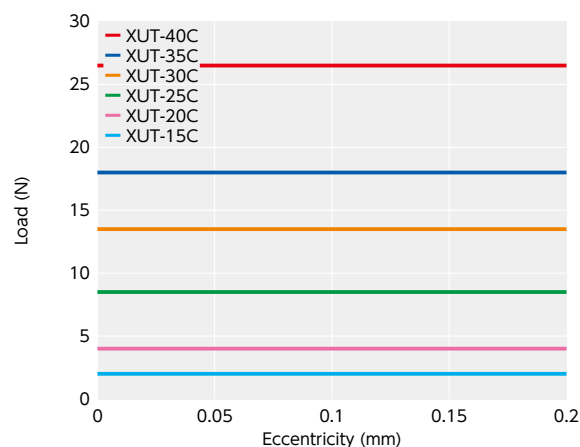
Vibration absorption



Small Eccentric Reaction Force

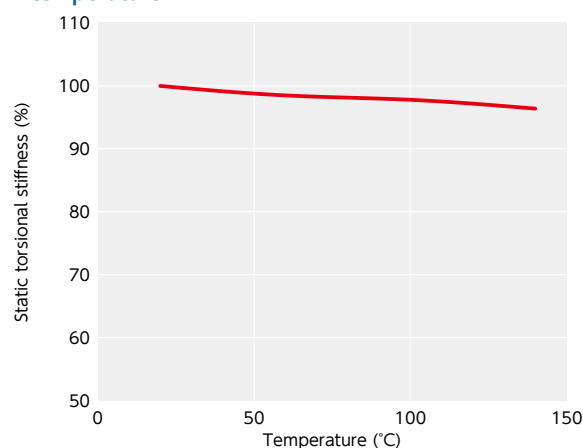
Technical Information

• Eccentric Reaction Force



XUT-C has small eccentric reaction force and an extremely small shaft load generated by misalignment. This reduces the load to such components as shaft bearings.

• Change in static torsional stiffness due to temperature



This is a value under the condition where the static torsional stiffness at 20°C is 100%.

The change of **XUT-C** in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. If the unit is used under higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.