Couplicon®

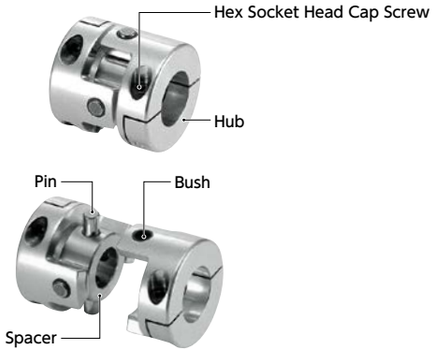
XUT Flexible Coupling - Cross joint - type

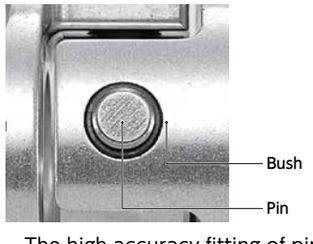
WEB Selection Tool WEB CAD Download High Rigidity Vibration absorption

Structure

● Clamping type

XUT-C ➡ P.159





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

● Recommended applicable motor

	XUT
Servomotor	◎
Stepping Motor	◎
General-purpose motor	△

◎: Excellent ○: Very good △: Available

● Property

	XUT
Zero Backlash	○
High torque	○
High Torsional Stiffness	◎
Allowable Misalignment	○
Vibration absorption	◎

◎: 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

RoHS2 Compliant

	XUT-C
Hub	A2017*1
Spacer	SUS304
Pin	SUJ2
Bush	Polyimide
Hex Socket Head Cap Screw	SCM435 Ferrosoferric oxide film

*1: Manufacturing alumite treatment products is also possible. Please feel free to contact our customer service.

● Part number specification

XUT - 25C - 6-8

Product Code / Size / Bore Diameter

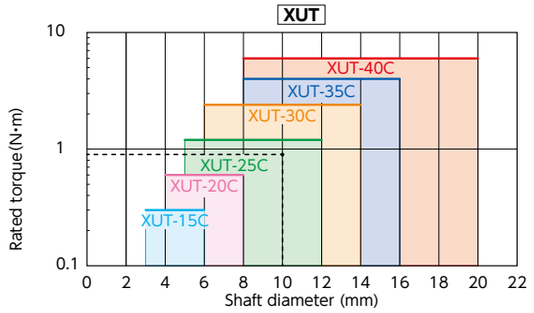
Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Available / Add'l charge	Please feel free to contact us	Available / Add'l charge

Selection

● Selection based on shaft diameter and rated torque

The area bounded by the shaft diameter and rated torque indicates is 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 maximum 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.

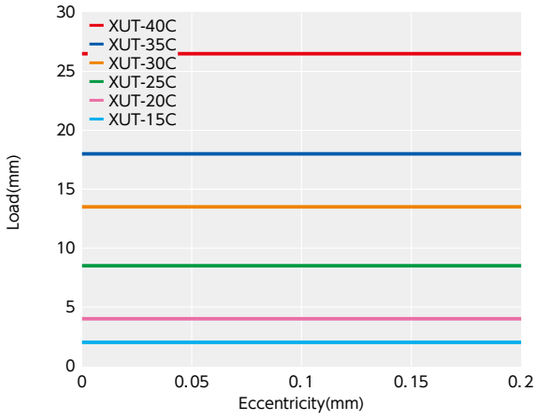
Couplicon®

XUT Flexible Coupling - Cross joint - type

Selection Tool | CAD Download | High Rigidity | Vibration absorption

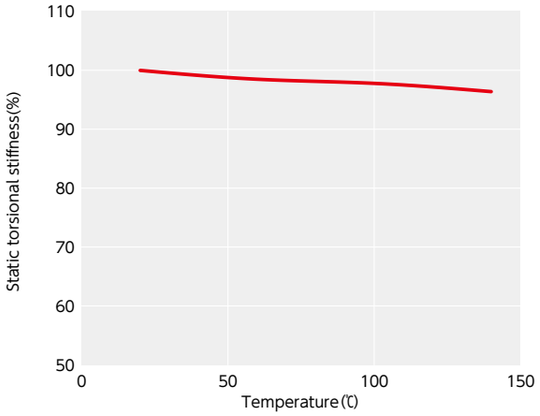
Technical Information

● Eccentric Reaction Force



XUT 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℃ is 100%.
XUT 's change in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. However, if the unit is used under higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.

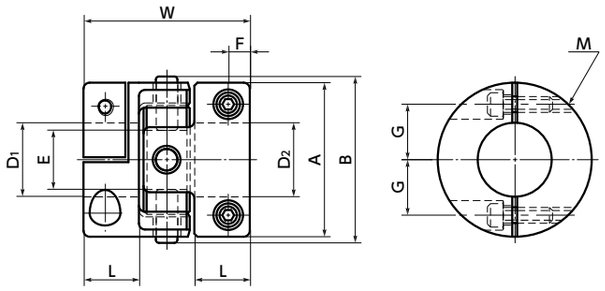
158

Couplicon®

XUT-C Flexible coupling - Cross joint - type - Clamping type

WEB Selection Tool　WEB CAD Download　High Rigidity　Vibration absorption

XUT-C



Dimensions

Unit : mm

Part Number 1	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 2													
	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 dimensional allowances of applicable shaft diameter are h6 and h7.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. ➡ P.258

Additional Keyway at Shaft Hole ➡ P.803	Cleanroom Wash & Packaging ➡ P.807	Change to Stainless Steel Screw ➡ P.805
Available / Add'l charge	Please feel free to contact us	Available / Add'l charge

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (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