XRP Rigid coupling - High precision

WEB Selection Tool | WEB CAD Download | Zero Backlash | High Rigidity

Structure

● Clamping type

XRP-C ➡ P.208

● Material/Finish

RoHS Compliant

	XRP-C
Main Body	A7075
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film

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 14 and load torque of 9 N・m, the selected size is **XRP-39C**.

● Applicable motors

	XRP-C
Servomotor	◎
Stepping motor	◎
General-purpose motor	–

◎: Excellent ○: Very good

● Property

	XRP-C
Zero Backlash	◎
High Torque	○
High Torsional Stiffness	◎

◎: Excellent ○: Very good

- This is a high precision rigid coupling.
- Coaxiality, bore diameter, and run out have been pursued to the ultimate level.
- An inspection report is attached to all products before shipment.
- Light weight and ultra small moment of inertia. High response.
- This is a shaft fastening structure with consideration of rotational balance and unbalance is ultra small.
- Extra super duralumin (A7075) featuring the highest strength among aluminum alloy is adopted.

● Application

High precision measurement device/High precision XY stage/Encoder

● Part number specification

XRP-19C-6-8

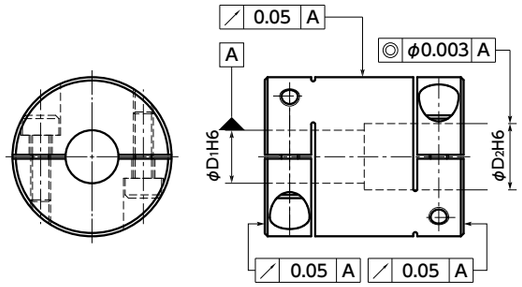
Product Code | size | Bore Diameter

Please refer to dimensional table for part number specification.

Additional Keyway at Shaft Hole ➡ P.788	Cleanroom Wash & Packaging ➡ P.792	Change to Stainless Steel Screw ➡ P.790
Please feel free to contact us	Available / Add'l charge	Available / Add'l charge

● Commitment to high precision

- The coaxiality of both bores is not more than 3 μm.
- Bore diameter tolerance is H6.
- Radial run out and run out of end face against bore are not more than 50μm.



● Precision assurance by total inspection

- The inspection is conducted in an environment of constant temperature and humidity.
- Inspection item:
  Bore diameters D_1 and D_2
  Coaxiality of bores D_1 and D_2
  Radial run out and run out of end face against bore

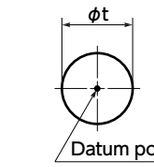
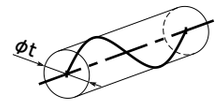
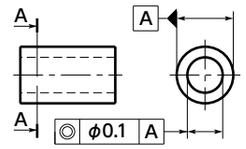
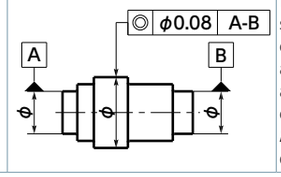
● 3D measurement device:

UPMC850CARAT SuperAcc made by Carl Zeiss

Measurement precision	Max. allowable instruction error 0.7+L/600μm Max. allowable probing error 0.6μm
Measurement environment	Temperature 20±1℃ Humidity 50±10%

ZEISS ACCRETECH

● Concentricity tolerance and coaxiality tolerance

Property symbol	Definition of tolerance zone	
◎		If the symbol ϕ is attached to the tolerance value, the tolerance zone is regulated by a circle of diameter t. The center of circular tolerance zone coincides with datum A.
		If the symbol ϕ is attached to the tolerance value, the tolerance zone is regulated by a cylinder of diameter t. The axis line of cylindrical tolerance zone coincides with datum A.
	Example and explanation of instruction method	
◎		The actual (reproduced) center of the outside circle must be within the circle concentric with datum circle A and of 0.1 in diameter.
		The actual (reproduced) shaft line of inside cylinder must be within a cylindrical tolerance area coaxial with common datum axis line A-B and of 0.08 in diameter.

● Excerpt from JIS B 0021

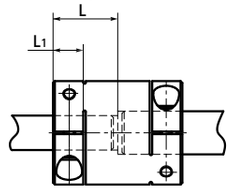
● Shaft insertion length

The shaft insertion length should be not less than L_1 (clamp portion) and not more than L.

The insertion length of a shaft to maintain the high precision should be L dimension if possible.

However, be careful so that both shaft ends do not interfere with each other.

If the shaft insertion length is less than L_1, it may derange the coaxiality or generate vibration when fastening the shaft.



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