

XBS-C/XBSS-C Flexible Couplings - Single - Disk Type

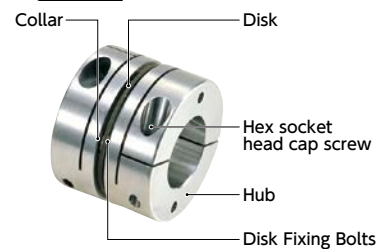
Zero Backlash High Rigidity SUS Stainless steel

Structure

- Clamping Type → P.xxxx

XBS-C Aluminum Alloy Hub

XBSS-C Made of All Stainless Steel



- Applicable motors

	XBS-C	XBSS-C
Servomotor	○	○
Stepping Motor	○	○
General-purpose Motor	●	●

○: Excellent ●: Available

- Property

	XBS-C	XBSS-C
Zero Backlash	○	○
High Torque	○	○
High Torsional Stiffness	○	○
Allowable Misalignment	○	○
Corrosion Resistance (All S.S.)	—	○

○: Excellent ○: Very good

- This is a disk type flexible coupling.
- It has compact design with short entire length.
- The stainless steel disk allows eccentricity, and angular misalignment, and end-play.
- Wide variation of outside diameter ϕ 15 - ϕ 104 and bore diameter ϕ 3 - ϕ 50.
- Extra super duralumin (A7075) featuring the highest strength among aluminum alloy is adopted for **XBS-C** hubs.
- XBSS-C** is the all stainless steel type with stainless steel hubs.

- Application

Actuator / Surface-mount machine / High precision XY stage / Index table

- Material/Finish



	XBS-C	XBSS-C
Hub	A7075*1	SUS303
Disk Fixing Bolts	SCM435 Ferroferric Oxide Film (Black)	SUSXM7
Disk	SUS304	SUS304
Collar	SUS304	SUS304
Hex Socket Head Cap Screw	SCM435 Ferroferric Oxide Film (Black)	SUSXM7

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

- Related Products

The Single-Disk type Flexible Coupling **XHS-C** is compatible with the servomotor with 350% instantaneous max. torque is available.

→ P.xxxx



- Part number specification

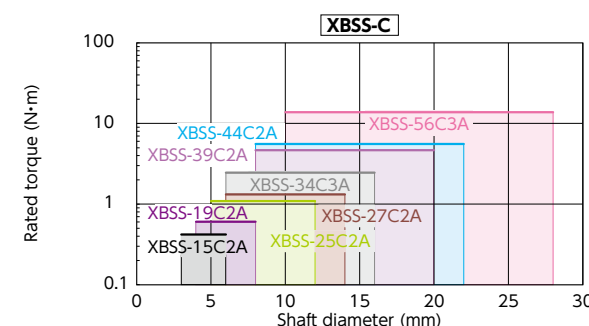
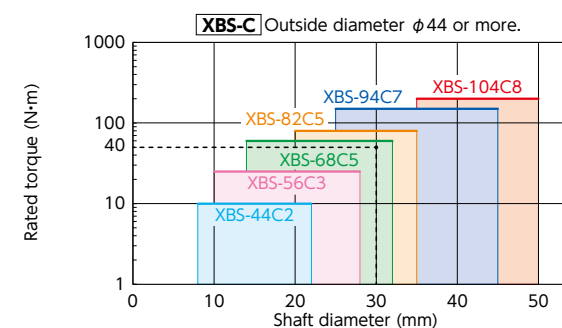
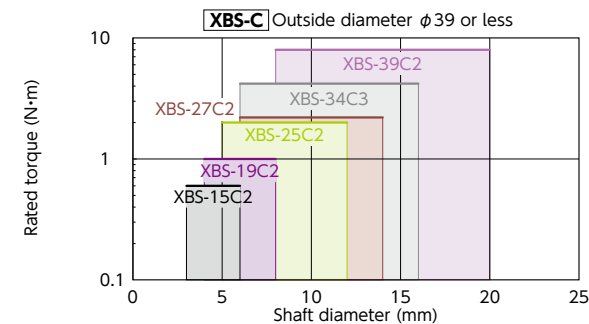
XBS-25C2-8-8

Product Code Size Bore Diameter

Please refer to dimensional table for part number specification.

Selection

- Selection Based on Shaft Diameter and Rated Torque



- Selection Example

In case of selected parameters of shaft diameter of ϕ 30 and load torque of 40 N·m, the selected size is

XBS-68C5.

- 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)	XBW-C Aluminum Alloy Hub	XBWS-C Made of All Stainless Steel
10	5 - 6	0.032	0.096	XBS-15C	XBSS-15C
20	5 - 6	0.064	0.19	XBS-15C	XBSS-15C
30	5 - 7	0.096	0.29	XBS-19C	XBSS-19C
50	6 - 8	0.16	0.48	XBS-19C	XBSS-19C
100	8	0.32	0.95	XBS-19C	XBSS-25C
200	9 - 14	0.64	1.9	XBS-27C	XBSS-34C
400	14	1.3	3.8	XBS-34C	XBSS-39C
750	16 - 19	2.4	7.2	XBS-39C	XBSS-56C

*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.

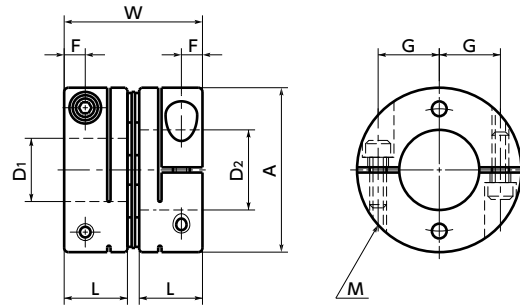


Additional Keyway at Shaft Hole → P.xxxx Available / Add'l charge
Cleanroom Wash & Packaging → P.xxxx Please feel free to contact us
Change to Stainless Steel Screw → P.xxxx Please feel free to contact us

XBS-C/XBSS-C Flexible Couplings - Single - Disk Type - Clamping Type

Zero Backlash High Rigidity SUS Stainless steel

XBS-C Aluminum alloy hub
XBSS-C Made of all stainless steel



Dimensions

Unit : mm

Part Number	A	L	W	F	G	M	Screw Tightening Torque (N·m)
XBS-15C2	15	7.5	16	2.3	5.25	M2	0.5
XBS-19C2	19	9	19	2.5	7.1	M2	0.5
XBS-25C2	25	11	23.6	3.5	9.25	M2.5	1
XBS-27C2	27	11	23.6	3.5	10.25	M2.5	1
XBS-34C3	34	12	26.2	4	13	M3	1.5
XBS-39C2	39	15	32.8	5	14.5	M4	3.5
XBS-44C2	44	15	32.8	5	17	M4	3.5
XBS-56C3	56	20	43.2	6	21.25	M5	8
XBS-68C5	68	24	53	7	25	M6	13
XBS-82C5	82	31	68	9	29.5	M8	30
XBS-94C7	94	31	68.8	9	35.5	M8	30
XBS-104C8	104	32	71.2	9	40.5	M8	30
XBSS-15C2A	15	7.5	16	2.3	5.25	M2	0.5
XBSS-19C2A	19	9	19	2.5	7.1	M2	0.5
XBSS-25C2A	25	11	23.6	3.5	9.25	M2.5	1
XBSS-27C2A	27	11	23.6	3.5	10.25	M2.5	1
XBSS-34C3A	34	12	26.2	4	13	M3	1.5
XBSS-39C2A	39	15	32.8	5	14.5	M4	3.5
XBSS-44C2A	44	15	32.8	5	17	M4	3.5
XBSS-56C3A	56	20	43.2	6	21.25	M5	8

Size	Standard Bore Diameter D1 / D2 																									
	3	4	5	6	8	10	11	12	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	50
15C2	●	●	●	●																						
19C2		●	●	●	●																					
25C2			●	●	●	●	●	●																		
27C2				●	●	●	●	●	●																	
34C3				●	●	●	●	●	●	●	●															
39C2					●	●	●	●	●	●	●	●	●	●												
44C2					●	●	●	●	●	●	●	●	●	●	●	●										
56C3						●	●	●	●	●	●	●	●	●	●	●	●	●	●							
68C5*1									●	●	●	●	●	●	●	●	●	●	●	●						
82C5*1														●	●	●	●	●	●	●	●	●				
94C7*1																		●	●	●	●	●	●	●	●	
104C8*1																					●	●	●	●	●	●

- 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.
- *1: This size is only for XBS-C.

Additional Keyway at Shaft Hole → P.xxxx Cleanroom Wash & Packaging → P.xxxx SUS Change to Stainless Steel Screw → P.xxxx
Available / Add'l charge Please feel free to contact us Please feel free to contact us

Performance

Part Number	Max. Bore Diameter (mm)	Rated Torque (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass *2 (g)
XBS-15C2	6	0.6	42000	9.8×10 ⁻⁸	300	0.02	0.5	±0.1	5
XBS-19C2	8	1	33000	2.9×10 ⁻⁷	600	0.02	1	±0.1	9
XBS-25C2	12	2	25000	1.1×10 ⁻⁶	1300	0.02	1	±0.2	17
XBS-27C2	14	2.2	23000	1.4×10 ⁻⁶	1600	0.02	1	±0.2	21
XBS-34C3	16	4.2	18000	4.0×10 ⁻⁶	2500	0.02	1	±0.3	43
XBS-39C2	20	8	16000	9.8×10 ⁻⁶	4600	0.02	1	±0.3	83
XBS-44C2	22	10	14000	1.6×10 ⁻⁵	6000	0.02	1	±0.3	105
XBS-56C3	28	25	11000	5.7×10 ⁻⁵	14000	0.02	1	±0.4	232
XBS-68C5	32	60	9000	1.6×10 ⁻⁴	25000	0.02	1	±0.5	388
XBS-82C5	35	80	7000	4.2×10 ⁻⁴	42000	0.02	1	±0.6	740
XBS-94C7	45	150	6000	6.9×10 ⁻⁴	55000	0.02	1	±0.7	960
XBS-104C8	50	200	6000	1.1×10 ⁻³	68000	0.02	1	±0.7	1180
XBSS-15C2A	6	0.42	42000	2.3×10 ⁻⁷	500	0.02	0.5	±0.1	15
XBSS-19C2A	8	0.6	33000	7.4×10 ⁻⁷	1000	0.02	1	±0.1	29
XBSS-25C2A	12	1.1	25000	2.8×10 ⁻⁶	1500	0.02	1	±0.2	53
XBSS-27C2A	14	1.3	23000	3.8×10 ⁻⁶	2100	0.02	1	±0.2	67
XBSS-34C3A	16	2.5	18000	1.1×10 ⁻⁵	3800	0.02	1	±0.3	115
XBSS-39C2A	20	4.8	16000	2.3×10 ⁻⁵	5500	0.02	1	±0.3	185
XBSS-44C2A	22	5.6	14000	3.9×10 ⁻⁵	7000	0.02	1	±0.3	305
XBSS-56C3A	28	14	11000	1.4×10 ⁻⁴	15000	0.02	1	±0.4	610

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

※ The shaft's slip torque may be smaller than the coupling's rated torque depending on the shaft bore. → P.xxxx

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

High-torque specification XHS-C is available. → P.xxxx

Rated Output (W)	Servomotor Type				Servomotor Specifications			Selection Size	
	Mitsubishi Electric Corporation	YASKAWA Electric Corporation	SANYO DENKI Co., Ltd.	KEYENCE CORPORATION	Diameter of Motor Shaft (mm)	Rated Torque (N·m)	Instantaneous Max. Torque (N·m)	XHS-C	XBS-C
100	HG-KR	SGMJV	R2	SV	8	0.32	1.1	XHS-19C	XBS-25C
200					14	0.64	2.2	XHS-27C	XBS-34C
400					14	1.3	4.5	XHS-34C	XBS-39C
750					16 - 19	2.4	8.4	XHS-39C	XBS-44C

- Part number specification

XBS-39C2-12-14

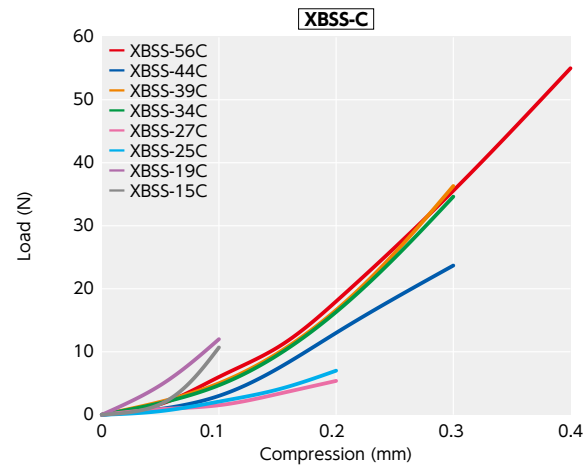
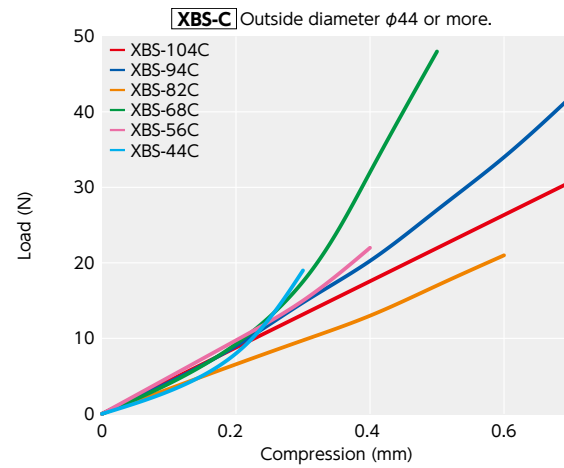
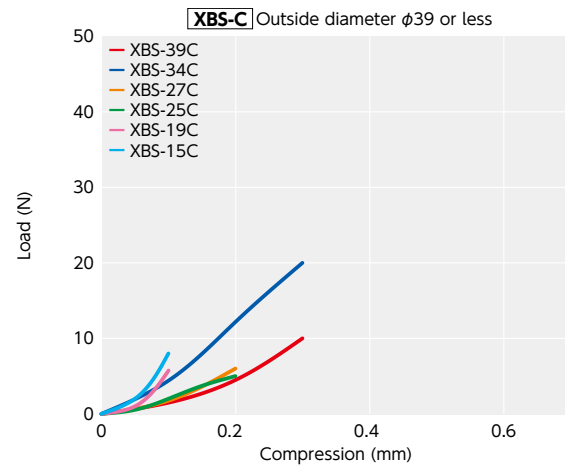
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XBS-C/XBSS-C Flexible Couplings - Single - Disk Type

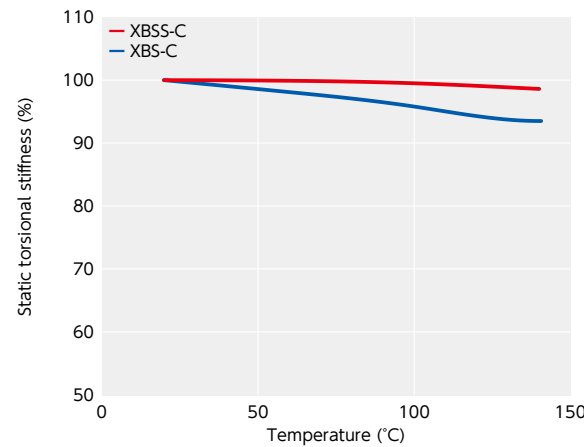
SUS Stainless steel 0 Zero Backlash High Rigidity

Technical Information

• Thrust Reaction Force



• 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 **XBS-C** and **XBSS-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.

• Slip Torque

As in the table below, the clamping types **XBS-C** and **XBSS-C** have different slip torque according to the bore diameter. Take care during selection.

Unit: N · m

Part Number	Bore Diameter (mm)							
	3	4	6	8	10	11	14	15
XBS-15C2	1							
XBS-19C2		1.6						
XBS-34C3			5.2	6				
XBS-44C2				15				
XBS-56C3					25	32		
XBS-68C5							80	100

- These are test values based on the conditions of shaft dimensional allowance: h7, hardness: 34 - 40 HRC, and screw tightening torque of the values described in **XBS-C** **XBSS-C** dimension tables. They are not guaranteed values.
- Slip torque changes with usage conditions. Carry out tests under conditions similar to actual conditions in advance.

Unit: N · m

Part Number	Bore Diameter (mm)							
	4	6	8	10	11	12	14	15
XBSS-19C2A	1							
XBSS-34C3A		5						
XBSS-39C2A			5.5	8				
XBSS-44C2A			4.5	6	10			
XBSS-56C3A				9	13	18	25	28

• Comparison of static torsional stiffness (single disk-type)

