Stronger, Easier to Use

Disc-Type Coupling

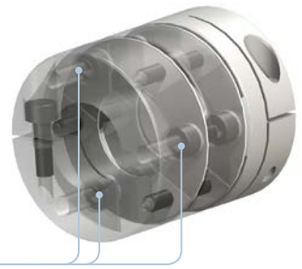
XHW/XHS/XHW-L

1. Transmission torque has improved by 1.5 times.

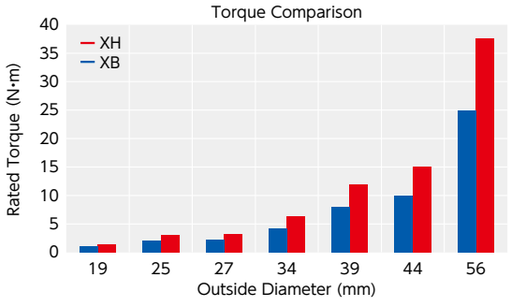
- The number of disc fixing bolts on one side, which was two for conventional XB series products, has been changed to three for XH series products.
  The increased disc fixing power has enhanced transmission torque by 1.5 times.

XB Series

XH Series



Fixing Bolts for Disc



- XH series is the successor to XB series.
- Total length / outside diameter, and max. bore diameter are the same as **XBW**.
- Affordable price compared with identical sizes of XB series products.

XBW Part Number	Total Length (mm)	Rated Torque (N•m)	**XHW** Part Number	Total Length (mm)	Rated Torque (N•m)	**XHW-L** Part Number	Total Length (mm)	Rated Torque (N•m)
XBW-19C	25.5	1	**XHW-19C**	25.7	1.5	**XHW-19C-L**	34	1.5
XBW-25C	32.2	2	**XHW-25C**	32.2	3	**XHW-25C-L**	42	3
XBW-27C	32.2	2.2	**XHW-27C**	32.2	3.3	**XHW-27C-L**	42	3.3
XBW-34C	37.4	4.2	**XHW-34C**	36.8	6.3	**XHW-34C-L**	44	6.3
XBW-39C	46.6	8	**XHW-39C**	46.6	12	**XHW-39C-L**	55	12
XBW-44C	46.6	10	**XHW-44C**	46.6	15	–	–	–
XBW-56C	60.4	25	**XHW-56C**	61.2	37.5	–	–	–

2. Compact and Lower Cost

- Downsizing and cost reduction of couplings can be achieved by selecting XH series when servomotors' instantaneous maximum torque improve by 350%.

Servomotor Specifications			instantaneous maximum torque (N•m)	**XBW** Part Number	Total Length (mm)	Rated Torque (N•m)	**XHW** Part Number	Total Length (mm)	Rated Torque (N•m)	**XHW-L** Part Number	Total Length (mm)	Rated Torque (N•m)
Rated Output (W)	Shaft Diameter (ϕ)	Rated Torque (N•m)										
100	8	0.32	1.1	**XBW-25C**	32.2	2	**XHW-19C**	25.7	1.5	**XHW-19C-L**	34	1.5
200	14	0.64	2.2	**XBW-34C**	37.4	4.2	**XHW-27C**	32.2	3.3	**XHW-27C-L**	42	3.3
400	14	1.3	4.5	**XBW-39C**	46.6	8	**XHW-34C**	36.8	6.3	**XHW-34C-L**	44	6.3
750	16 - 19	2.4	8.4	**XBW-44C**	46.6	10	**XHW-39C**	46.6	12	**XHW-39C-L**	55	12

3. Expansion of Standard Bore Diameter

- Standard bore diameters, which are not in XB series, have been added.
  (● indicates standardized bore diameters newly added in XH series.)
  ① Minimum bore diameter has been added
  ② Inch sizes (ϕ6.35・ϕ9.525) have been added
  ③ Inside bearing diameter of ϕ17 has been added

Part Number	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28
XH-19C	●	●	●	●	●	●															
XH-25C		●	●	●	●	●	●	●	●	●											
XH-27C		●	●	●	●	●	●	●	●	●	●										
XH-34C			●	●	●	●	●	●	●	●	●	●	●								
XH-39C				●	●	●	●	●	●	●	●	●	●	●	●	●	●				
XH-44C						●	●	●	●	●	●	●	●	●	●	●	●	●			
XH-56C						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

4. Standardization of Long Type **XHW-L**

- If the coupling cannot reach the shaft when connecting an electric actuator and a motor, usually a special product with its total length elongated is used. However, in XH series, long type **XHW-L** has been standardized.
- With its improved torque transmission capability, XH series will enable downsizing from conventional products. If **XHW** does not provide sufficient total length, use long type **XHW-L** instead.

XHS Flexible Coupling - Single Disk Type

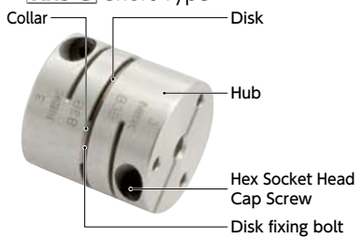
Additional Size

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

Structure

● Clamping type ➡ P.75

XHS-C Short Type



● Recommended applicable motor

	XHS
Servomotor	◎
Stepping Motor	◎
General-Purpose Motor	△

◎: Excellent ○: Very good △: Available

● Property

	XHS
Zero Backlash	◎
High gain supported	○
High Torque	◎
High Torsional Stiffness	◎
Allowable Misalignment	○

◎: Excellent ○: Very good

- This is a single disk type flexible coupling.
- High-torque specification with rated torque 1.5 times higher than conventional products.
- This is the most appropriate for a servomotor with the instantaneous max. torque of 350%.
- The stainless steel disk allows the eccentricity, angular misalignment, and end-play.

● Application

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

● Material/Finish

RoHS2 Compliant

	XHS
Hub	A2017 Alumite Treatment
Disk fixing bolt	SCM435 Ferrosoferric Oxide Film (Black)
Disk	SUS304
Collar	SUS304
Hex Socket Head Cap Screw	SCM435 Ferrosoferric Oxide Film (Black)

● Part number specification

XHS-27C-10-11

Product code | Size | bore diameter

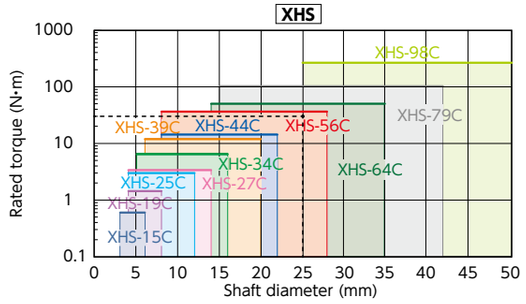
Please refer to dimensional table for part number specification.

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

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 25 and load torque of 30 N•m, the selected size is **XHS-56C**.

● Selection based on the rated output of the servomotor

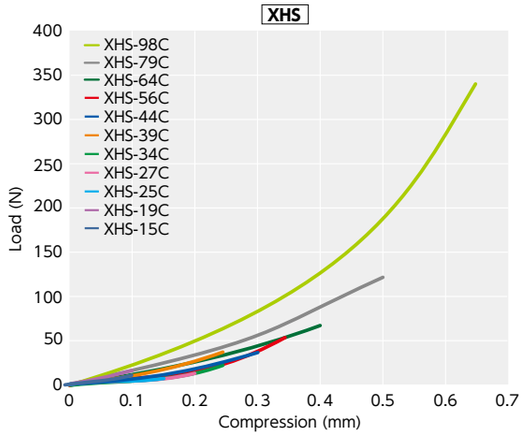
XHS supports the servomotor with instantaneous max. torque increased to 350% of the rated torque and the size can be more reduced than the size of conventional product **XBS**.

Rated Output (W)	Servomotor type				Servomotor Specifications*1			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

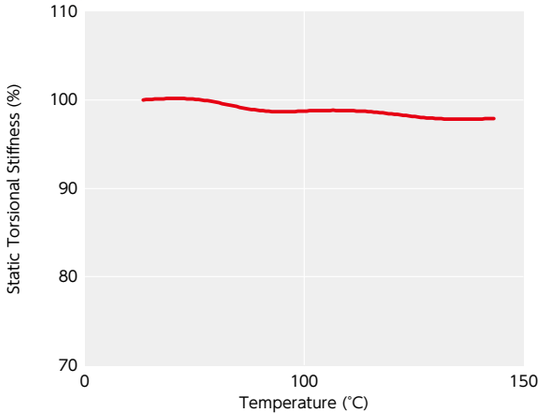
*1: Motor specifications are based on general values. For details, see the motor manufacturer's catalogs. This is the size for cases where devices such as reduction gears are not used.

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

● Slip Torque

Concerning the sizes shown in the table, please note that the shaft's slip torque is smaller than the rated torque of **XHS-C**.

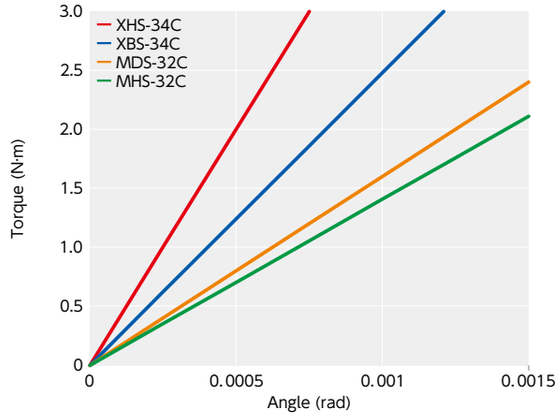
Unit : N·m

Part Number	Bore Diameter (mm)								
	3	4	5	6	6.35	8	9.525	10	11
XHS-19C	0.7								
XHS-25C		2.5							
XHS-27C		2	2.9						
XHS-34C			3.5	4.9	5.5				
XHS-39C				6	8				
XHS-44C						8	13		
XHS-56C						22	34	37	
XHS-64C								23	42

● These are test values based on the condition of shaft's dimensional allowance: h7, hardness: from 34 - 40 HRC, and screw tightening torque of the values described in **XHS-C** dimensional table.

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

XHS have high torsional stiffness and responsiveness.
Optimal for high-speed and precision positioning for servomotors, etc.

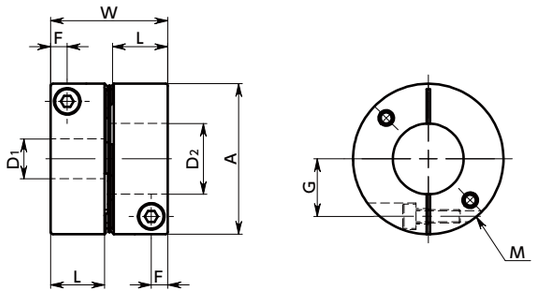


XHS-C Flexible Coupling - Single Disk Type

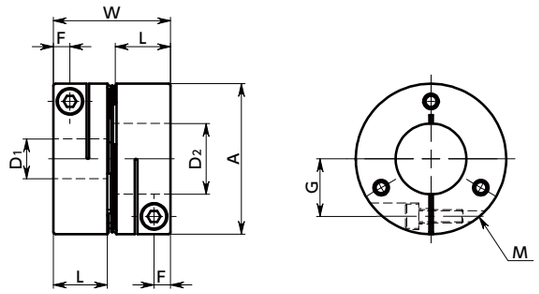
Additional Size

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

XHS-C



Outside diameter ϕ15



Outside diameter ϕ19 - ϕ98

Dimensions

Unit : mm

Part Number ◀1	A	L	W	F	G	M	Screw Tightening Torque (N・m)
XHS-15C	15	7.5	15.8	2.1	5	M2	0.45
XHS-19C	19	9.2	19.4	2.6	7	M2	0.5
XHS-25C	25	11	23.1	3.3	9.25	M2.5	1
XHS-27C	27	11	23.1	3.3	10.25	M2.5	1
XHS-34C	34	12.5	26.5	3.75	13	M3	1.5
XHS-39C	39	15.5	32.8	4.5	14.5	M4	3.5
XHS-44C	44	15.5	32.8	4.5	17	M4	3.5
XHS-56C	56	20.5	43.2	6	21	M5	8
XHS-64C	64	24	51.2	7	24	M6	13
XHS-79C	79	30	63.6	8.75	29	M8	28
XHS-98C	98	32	69	8.7	38	M8	28

Part Number	Standard Bore Diameter D1・D2 ◀2																											
	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	50
XHS-15C	●	●	●	●																									
XHS-19C	●	●	●	●	●	●																							
XHS-25C		●	●	●	●	●	●	●	●	●																			
XHS-27C		●	●	●	●	●	●	●	●	●	●																		
XHS-34C			●	●	●	●	●	●	●	●	●	●	●																
XHS-39C				●	●	●	●	●	●	●	●	●	●	●	●	●	●												
XHS-44C						●	●	●	●	●	●	●	●	●	●	●	●	●											
XHS-56C						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
XHS-64C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
XHS-79C											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
XHS-98C																				●	●	●	●	●	●	●	●	●	●

- 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	Available / Add'l charge	Please feel free to contact us

Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N・m)	Max. Rotational Frequency (min^{-1})	Moment*2 of Inertia ($kg \cdot m^2$)	Static Torsional Stiffness (N・m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass*2 (g)
XHS-15C	6	0.6	42000	2.2×10^{-7}	110	0.01	0.7		6.6
XHS-19C	8	1.5	33000	6.3×10^{-7}	330	0.02	1	±0.1	13
XHS-25C	12	3	25000	2.3×10^{-6}	1200	0.02	1	±0.15	25
XHS-27C	14	3.3	23000	3.1×10^{-6}	1800	0.02	1	±0.2	27
XHS-34C	16	6.3	18000	9.2×10^{-6}	3900	0.02	1	±0.25	52
XHS-39C	20	12	16000	2.0×10^{-5}	6000	0.02	1	±0.25	84
XHS-44C	22	15	14000	3.3×10^{-5}	7900	0.02	1	±0.3	107
XHS-56C	28	37.5	11000	1.1×10^{-4}	14000	0.02	1	±0.35	233
XHS-64C	35	50	9800	2.2×10^{-4}	16000	0.02	1		328
XHS-79C	42	100	7900	6.7×10^{-4}	23000	0.02	1		748
XHS-98C	50	280	6400	1.7×10^{-3}	52000	0.02	1	±0.65	1120

*1 : Correction of rated torque due to load fluctuation is not required.
*2 : These are values with max. bore diameter.

- Part number specification

XHS-27C - 8-10
◀1 ◀2