

XHW-C / XHW-C-L / XHW-AC Flexible Couplings - Disk Type

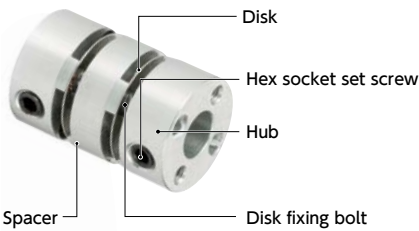
Zero Backlash
 High torque
 High Rigidity

Structure

• Set Screw Type

XHW-10

Outside diameter $\phi 10$

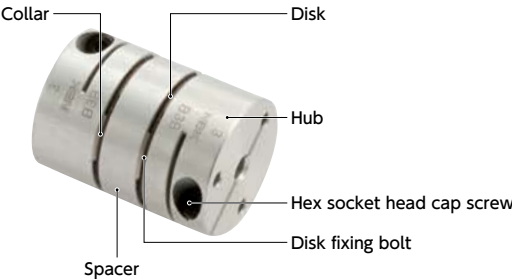


• Clamping Type

XHW-C

XHW-C-L

Outside diameter $\phi 15 - \phi 98$



• Adapter + Clamping Type

XHW-AC

Outside diameter $\phi 34 - \phi 79$



• Part Number Specification

XHW-34C-10-11

Product Symbol Size Bore Diameter

Please refer to dimensional table for part number specification.

• Applicable motors

	XHW-C / XHW-C-L / XHW-AC
Servomotor	○
Stepping Motor	○
General-purpose Motor	●

○: Excellent ●: Available

• Property

	XHW-C / XHW-C-L / XHW-AC
Zero Backlash	○
High-gain Supported	○
High Torque	○
High Torsional Stiffness	○
Allowable Misalignment	○

○: Excellent ○: Very good

- This is a 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 instantaneous max. torque of 350%.
- The stainless steel disk allows eccentricity, angular alignment, and end-play.
- Standardized **XHW-AC** adapter type that also supports 1/10 taper shafts of servomotors.

• Application

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

• Material/Finish

RoHS

	XHW-10	XHW-C / XHW-C-L	XHW-AC
Hub	A2017 Anodized*1	A2017 Anodized*1	A2017 Anodized*1
Spacer	A2017 Anodized	A2017 Anodized	A2017 Anodized
Disk Fixing Bolt	SWCH16A Black Trivalent Chromate Treatment*2	SCM435 Ferroferric Oxide Film (Black)	SCM435 Ferroferric Oxide Film (Black)
Disk	SUS304	SUS304	SUS304
Collar	-	SUS304	SUS304
Adapter	-	-	SUS303
Hex Socket Head Cap Screw	-	SCM435 Ferroferric Oxide Film (Black)	SCM435 Ferroferric Oxide Film (Black)
Hex Socket Set Screw	SCM435 Ferroferric Oxide Film (Black)	-	-

*1: Due to manufacturing process requirements, couplings may have bores with or without surface treatment. This does not affect the performance of the couplings.

*2: Because **XHW-10** is a disk fixing bolt with anti-loosening applied, its heat resistant temperature is 90°C.

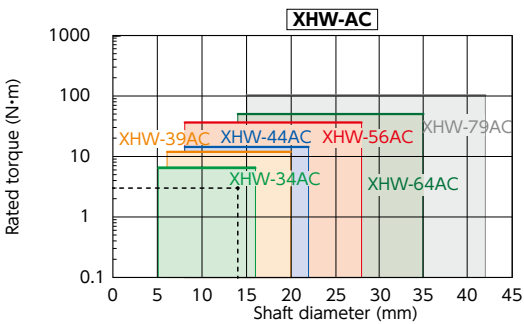
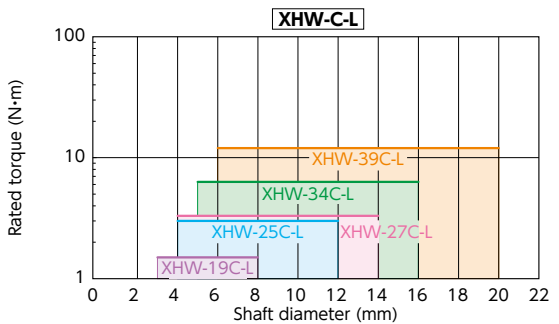
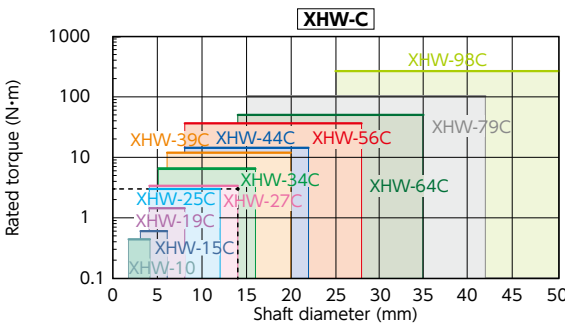
• Bore/keyway additional modification and stainless steel screw change service are not available for **XHW-10**.



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 $\phi 14$ and load torque of $3\text{N}\cdot\text{m}$, the selected size is

XHW-27C.

• Selection Based on the Rated Output of the Servomotor

XHW-C 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 **XBW-C**.

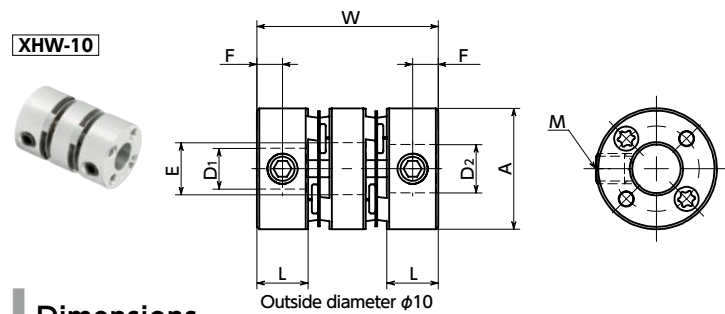
Rated Output (W)	Servomotor Type				Servomotor Specifications*1			Selection Size	
	Mitsubishi Electric Corporation	YASKAWA Electric Corporation	SANYO DENKI Co., Ltd.	KEYENCE CORPORATION	Diameter of Motor Shaft (mm)	Rated Torque (N·m)	Instantaneous Max. Torque (N·m)	XHW-C	XBW-C
100	HG-KR	SGMJV	R2	SV	8	0.32	1.1	XHW-19C	XBW-25C
200					14	0.64	2.2	XHW-27C	XBW-34C
400					14	1.3	4.5	XHW-34C	XBW-39C
750					16 - 19	2.4	8.4	XHW-39C	XBW-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.

Additional Keyway at Shaft Hole Available / Add'l charge	Cleanroom Wash & Packaging Please feel free to contact us	Change to Stainless Steel Screw Available / Add'l charge
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XHW-C/XHW-C-L Flexible Couplings - Disk Type

Zero Backlash High torque High Rigidity



Dimensions

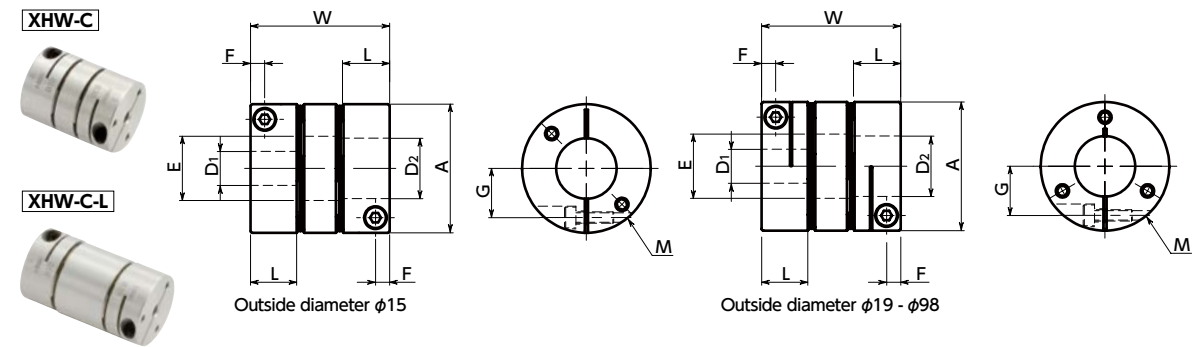
Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
XHW-10	10	4.25	15	4.3	2.125	—	M2.5	0.5
XHW-15C	15	7.8	22.4	6.3	2.3	5	M2	0.45
XHW-19C	19	9.2	25.7	8.5	2.6	7	M2	0.5
XHW-25C	25	11	32.2	12.5	3.3	9.25	M2.5	1
XHW-27C	27	11	32.2	14.5	3.3	10.25	M2.5	1
XHW-34C	34	12.5	36.8	16.5	3.75	13	M3	1.5
XHW-39C	39	15.5	46.6	20.5	4.5	14.5	M4	3.5
XHW-44C	44	15.5	46.6	22.5	4.5	17	M4	3.5
XHW-56C	56	20.5	61.2	28.5	6	21	M5	8
XHW-64C	64	24	74.4	36	7	24	M6	13
XHW-79C	79	30	97.2	43	8.75	29	M8	28
XHW-98C	98	32	104	51	8.7	38	M8	28
XHW-19C-L	19	9.2	34	8.5	2.6	7	M2	0.5
XHW-25C-L	25	11	42	12.5	3.3	9.25	M2.5	1
XHW-27C-L	27	11	42	14.5	3.3	10.25	M2.5	1
XHW-34C-L	34	12.5	44	16.5	3.75	13	M3	1.5
XHW-39C-L	39	15.5	55	20.5	4.5	14.5	M4	3.5

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
XHW-10	●	●	●																											
XHW-15C		●	●	●	●																									
XHW-19C		●	●	●	●	●	●																							
XHW-25C			●	●	●	●	●	●		●	●	●																		
XHW-27C			●	●	●	●	●	●		●	●	●	●																	
XHW-34C				●	●	●	●	●		●	●	●	●	●		●														
XHW-39C					●	●	●	●		●	●	●	●	●	●	●	●	●												
XHW-44C							●	●		●	●	●	●	●	●	●	●	●	●	●										
XHW-56C							●	●		●	●	●	●	●	●	●	●	●	●	●	●	●								
XHW-64C									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
XHW-79C												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XHW-98C																						●	●	●	●	●	●	●	●	●
XHW-19C-L		●	●	●	●	●	●																							
XHW-25C-L			●	●	●	●	●	●		●	●	●																		
XHW-27C-L			●	●	●	●	●	●		●	●	●	●																	
XHW-34C-L				●	●	●	●	●		●	●	●	●	●		●														
XHW-39C-L					●	●	●	●		●	●	●	●	●	●	●	●	●	●											

- All products are provided with hex socket head cap screw. (Only XHW-10 is provided with hex socket set screws.)
- Recommended tolerance for shaft diameters is h6 and h7. (Recommended tolerance for shaft diameter φ35 only is -0.025 to +0.010.)
- Bore/keyway additional modification and stainless steel screw change service are not available for XHW-10.

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



Performance

Part Number	Max. Bore Diameter (mm)	Rated Torque *1 (N·m)	Max. Rotational Frequency (min ⁻¹)	Moment of Inertia *2 (kg·m ²)	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Max. Axial Misalignment (mm)	Mass *2 (g)
XHW-10	4	0.25	63000	3.8×10 ⁻⁸	70	0.05	1.4	±0.2	2.5
XHW-15C	6	0.6	42000	3.0×10 ⁻⁷	100	0.1	1.4	±0.2	9.6
XHW-19C	8	1.5	33000	8.8×10 ⁻⁷	300	0.12	2	±0.2	17
XHW-25C	12	3	25000	3.4×10 ⁻⁶	1000	0.15	2	±0.3	35
XHW-27C	14	3.3	23000	4.4×10 ⁻⁶	1400	0.15	2	±0.4	39
XHW-34C	16	6.3	18000	1.3×10 ⁻⁵	2500	0.2	2	±0.5	75
XHW-39C	20	12	16000	2.9×10 ⁻⁵	4700	0.25	2	±0.5	123
XHW-44C	22	15	14000	4.7×10 ⁻⁵	6400	0.25	2	±0.6	156
XHW-56C	28	37.5	11000	1.7×10 ⁻⁴	12000	0.3	2	±0.7	340
XHW-64C	35	50	9800	3.3×10 ⁻⁴	15000	0.35	2	±0.9	490
XHW-79C	42	100	7900	1.0×10 ⁻³	22000	0.5	2	±1.1	1100
XHW-98C	50	280	6400	2.6×10 ⁻³	47000	0.5	2	±1.3	1740
XHW-19C-L	8	1.5	33000	1.2×10 ⁻⁶	300	0.25	2	±0.2	22
XHW-25C-L	12	3	25000	4.3×10 ⁻⁶	1000	0.3	2	±0.3	45
XHW-27C-L	14	3.3	23000	5.8×10 ⁻⁶	1400	0.3	2	±0.4	50
XHW-34C-L	16	6.3	18000	1.6×10 ⁻⁵	2500	0.3	2	±0.5	89
XHW-39C-L	20	12	16000	3.4×10 ⁻⁵	4700	0.4	2	±0.5	144

*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.

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

Precautions for Use

- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft.
- There are sizes where the hex socket head cap screw exceeds the outer diameter of the coupling and the rotating diameter is larger than the outer diameter. Please be careful of the interference of coupling.

Part Number Specification

XHW-25C-L-8-10

1

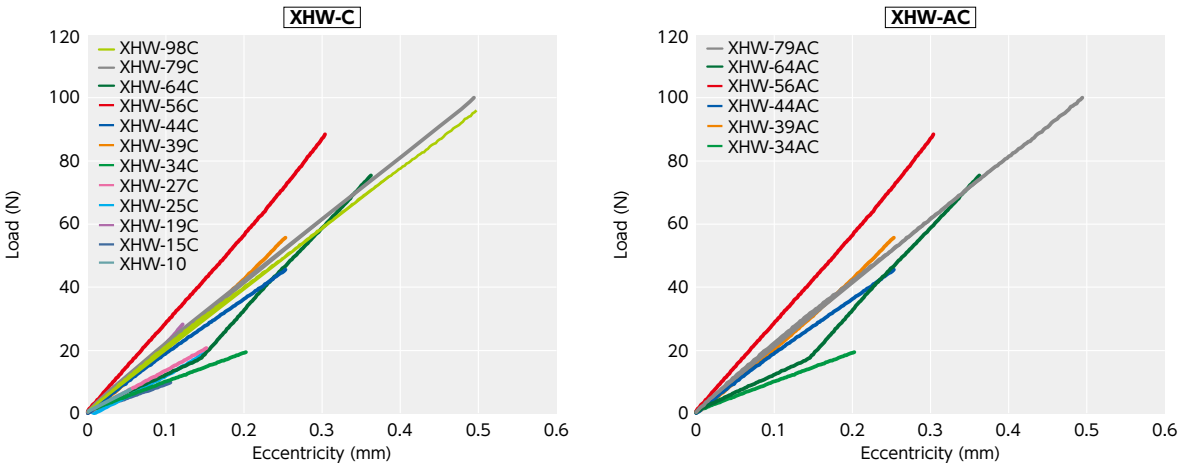
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XHW-C/XHW-C-L/XHW-AC Flexible Couplings - Disk Type

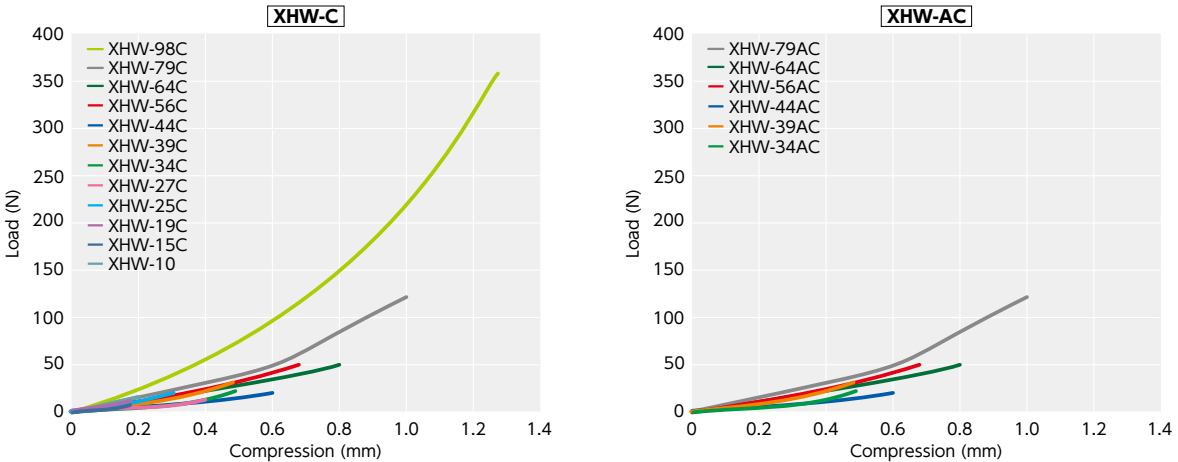
Zero Backlash
 High torque
 High Rigidity

Technical Information

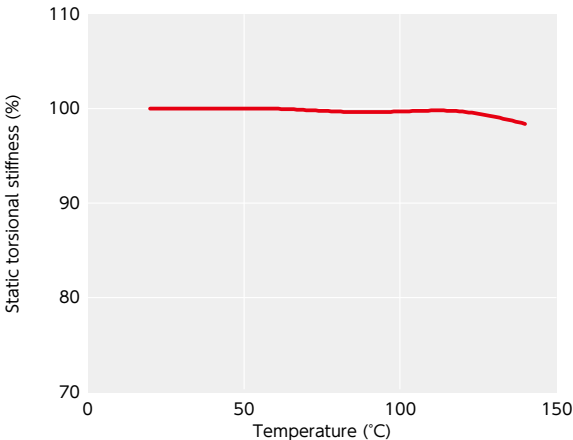
• Eccentric Reaction Force



• 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 **XHW-C** and **XHW-AC** 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 **XHW-C** and **XHW-C-L** have different slip torque according to the bore diameter. Take care during selection.

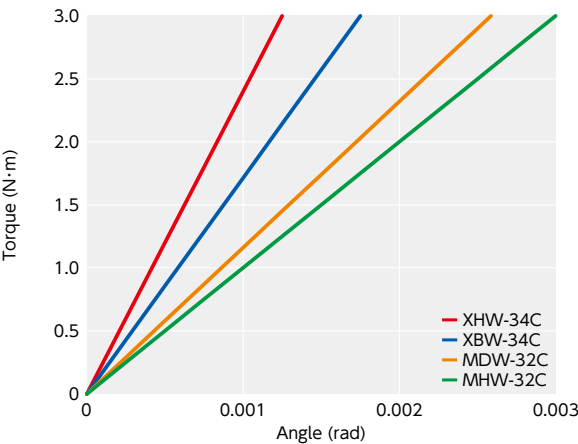
Outside Diameter	Bore Diameter (mm)																				Unit : N・m				
	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	25	28	30	32	35	38	40	42	45			
15	0.7																								
19	0.7	1.7	3																						
25		2.5	3.6	4.7	5																				
27		2	2.9	4	4.2	5.8																			
34			3.5	4.9	5.5	7.9	10	11	12																
39				6	8	13	18	19	23																
44						8	13	15	20	26															
56							22	34	37	45	55	66													
64									23	42	60	88													
79											140	150	180												
98														120	140	150	170	190	210	220	240	260			

- 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 **XHW-C** **XHW-C-L** dimension tables. They are not guaranteed values.
- Slip torque changes with usage conditions. Carry out tests under conditions similar to actual conditions in advance.

• Comparison of Static Torsional Stiffness (Double Disk Type)

XHW-C and **XHW-AC** have high static torsional stiffness and responsiveness.

Optimal for high-speed and precision positioning for servomotors, etc.



XHW-C / XHW-C-L / XHW-AC Flexible Couplings - Disk Type

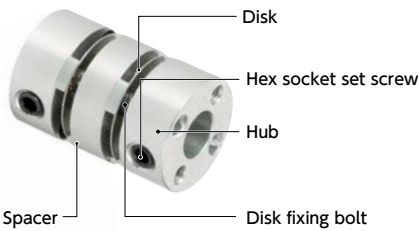
Zero Backlash
 High torque
 High Rigidity

Structure

• Set Screw Type

XHW-10

Outside diameter $\phi 10$

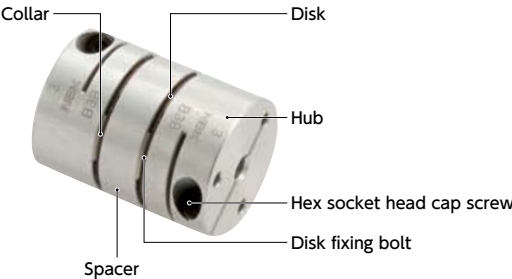


• Clamping Type

XHW-C

XHW-C-L

Outside diameter $\phi 15 - \phi 98$



• Adapter + Clamping Type

XHW-AC

Outside diameter $\phi 34 - \phi 79$



• Part Number Specification

XHW-34C-10-11

Product Symbol Size Bore Diameter

Please refer to dimensional table for part number specification.

• Applicable motors

	XHW-C / XHW-C-L / XHW-AC
Servomotor	○
Stepping Motor	○
General-purpose Motor	●

○: Excellent ●: Available

• Property

	XHW-C / XHW-C-L / XHW-AC
Zero Backlash	○
High-gain Supported	○
High Torque	○
High Torsional Stiffness	○
Allowable Misalignment	○

○: Excellent ○: Very good

- This is a 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 instantaneous max. torque of 350%.
- The stainless steel disk allows eccentricity, angular alignment, and end-play.
- Standardized **XHW-AC** adapter type that also supports 1/10 taper shafts of servomotors.

• Application

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

• Material/Finish



	XHW-10	XHW-C / XHW-C-L	XHW-AC
Hub	A2017 Anodized*1	A2017 Anodized*1	A2017 Anodized*1
Spacer	A2017 Anodized	A2017 Anodized	A2017 Anodized
Disk Fixing Bolt	SWCH16A Black Trivalent Chromate Treatment*2	SCM435 Ferroferric Oxide Film (Black)	SCM435 Ferroferric Oxide Film (Black)
Disk	SUS304	SUS304	SUS304
Collar	-	SUS304	SUS304
Adapter	-	-	SUS303
Hex Socket Head Cap Screw	-	SCM435 Ferroferric Oxide Film (Black)	SCM435 Ferroferric Oxide Film (Black)
Hex Socket Set Screw	SCM435 Ferroferric Oxide Film (Black)	-	-

*1: Due to manufacturing process requirements, couplings may have bores with or without surface treatment. This does not affect the performance of the couplings.

*2: Because **XHW-10** is a disk fixing bolt with anti-loosening applied, its heat resistant temperature is 90°C.

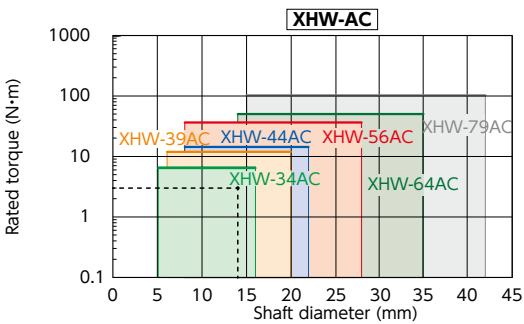
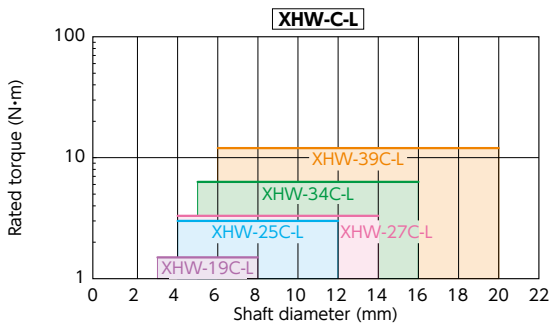
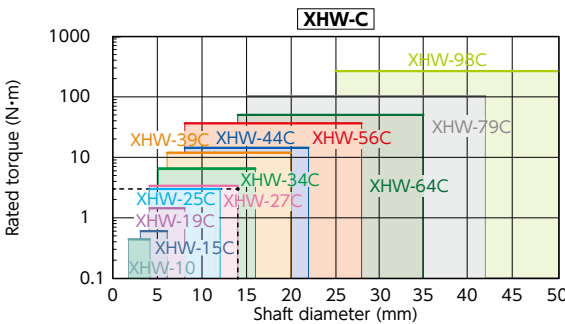
• Bore/keyway additional modification and stainless steel screw change service are not available for **XHW-10**.



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 $\phi 14$ and load torque of $3\text{N} \cdot \text{m}$, the selected size is

XHW-27C.

• Selection Based on the Rated Output of the Servomotor

XHW-C 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 **XBW-C**.

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)	XHW-C	XBW-C
100	HG-KR	SGMJV	R2	SV	8	0.32	1.1	XHW-19C	XBW-25C
200					14	0.64	2.2	XHW-27C	XBW-34C
400					14	1.3	4.5	XHW-34C	XBW-39C
750					16 - 19	2.4	8.4	XHW-39C	XBW-44C

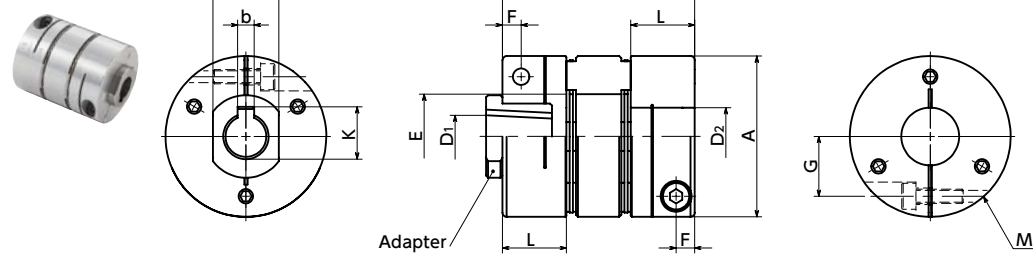
*1: Motor specifications are based on general values. For details, see the motor manufacturer's catalogs. This is the size for cases where devices such as reduction gears are not used.

Additional Keyway at Shaft Hole Available / Add'l charge	Cleanroom Wash & Packaging Please feel free to contact us	Change to Stainless Steel Screw Available / Add'l charge
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XHW-AC Flexible Couplings - Disk Type - Adapter + Clamping Type

Zero Backlash High torque High Rigidity

XHW-AC



Dimensions

Unit : mm

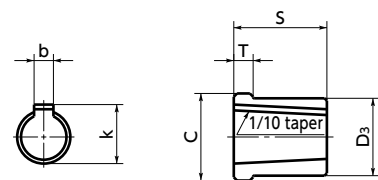
Part Number	A	L	W	E	F	G	M	Adapter					Screw Tightening Torque (N · m)
								D3	C	S	T	H	
XHW-34AC	34	12.5	36.8	16.5	3.75	13	M3	16	20	16	4	18	1.5
XHW-39AC	39	15.5	46.6	20.5	4.5	14.5	M4	16	20	16	4	18	3.5
XHW-44AC	44	15.5	46.6	22.5	4.5	17	M4	16	20	16	4	18	3.5
XHW-56AC	56	20.5	61.2	28.5	6	21	M5	24	30	29	6	27	8
XHW-64AC	64	24	74.4	36	7	24	M6	24	30	29	6	27	13
XHW-79AC	79	30	97.2	43	8.75	29	M8	24	30	29	6	27	28

Part Number	Standard Bore Diameter D1 	Standard Bore Diameter D2 																									
		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	
XHW-34AC	11T																										
XHW-39AC	11T																										
XHW-44AC	11T																										
XHW-56AC	16T																										
XHW-64AC	16T																										
XHW-79AC	16T																										

- All products are provided with adapter and hex socket head cap screws.
- Recommended tolerance for shaft diameters is h6 and h7.
- Bore and keyway modifications are available on request for D2 only. Please take advantage of our modification services.
- Bore and keyway modifications are available on request. Please contact our customer service.
- For the shaft insertion amount to the coupling, see Mounting/maintenance.

Standard Bore Diameter D1	Keyway			
	b		k	
	Reference Dimensions	Allowance (JS9)	Reference Dimensions	Allowance
11T	4	±0.0150	12.7	0 - +0.1
16T	5	±0.0150	18.3	0 - +0.2

Adapter Details



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 Alignment (°)	Allowable End-Play (mm)	Mass *2 (g)
XHW-34AC	16	6.3	18000	1.3×10 ⁻⁵	2500	0.2	2	±0.5	92
XHW-39AC	20	12	16000	2.9×10 ⁻⁵	4700	0.25	2	±0.5	140
XHW-44AC	22	15	14000	4.7×10 ⁻⁵	6400	0.25	2	±0.6	173
XHW-56AC	28	37.5	11000	1.7×10 ⁻⁴	12000	0.3	2	±0.7	413
XHW-64AC	35	50	9800	3.3×10 ⁻⁴	15000	0.35	2	±0.9	563
XHW-79AC	42	100	7900	1.0×10 ⁻³	22000	0.5	2	±1.1	1173

*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.

⚠ Precautions for Use

- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.xxxx
- There are sizes where the hex socket head bolt exceeds the outer diameter of the coupling and the rotating diameter is larger than the outer diameter. Please be careful of the interference of coupling. → P.xxxx

- Part number specification

XHW-34AC-11T-10

1 D1 2 D2 3

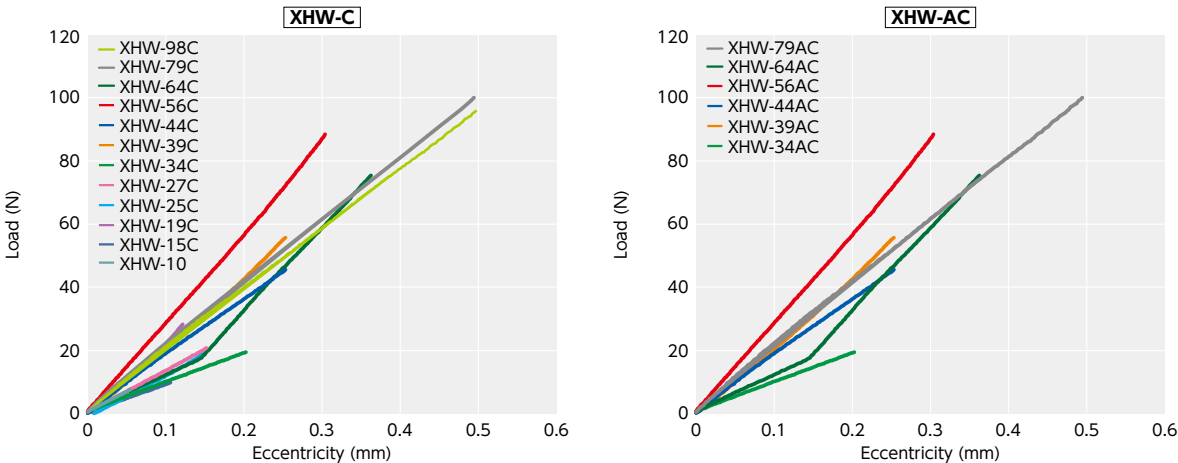
Additional Keyway at Shaft Hole → P.xxxx Cleanroom Wash & Packaging → P.xxxx Change to Stainless Steel Screw → P.xxxx
Please feel free to contact us Please feel free to contact us Available / Add'l charge

XHW-C/XHW-C-L/XHW-AC Flexible Couplings - Disk Type

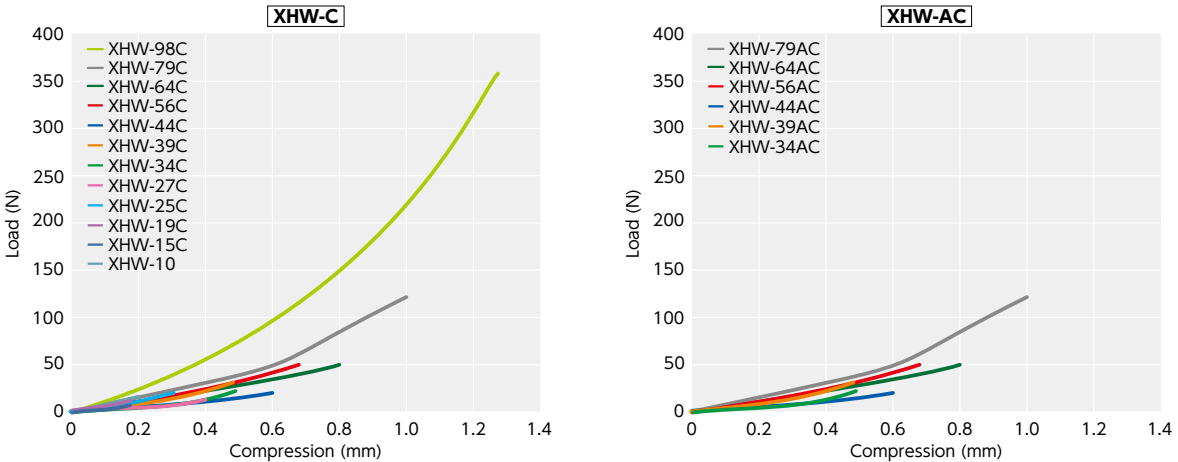
Zero Backlash
 High torque
 High Rigidity

Technical Information

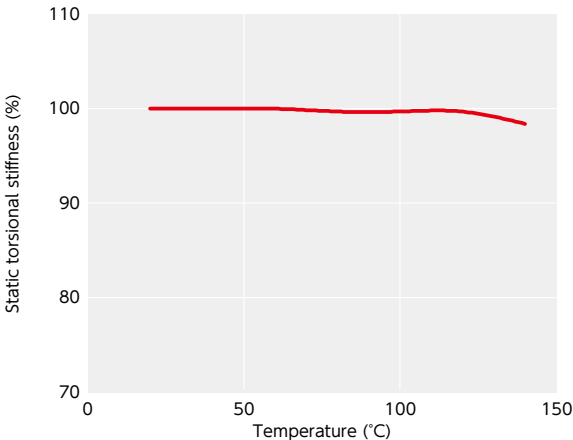
• Eccentric Reaction Force



• 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 **XHW-C** and **XHW-AC** 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 **XHW-C** and **XHW-C-L** have different slip torque according to the bore diameter. Take care during selection.

Outside Diameter	Bore Diameter (mm)																						
	3	4	5	6	6.35	8	9.525	10	11	12	14	15	16	25	28	30	32	35	38	40	42	45	
15	0.7																						
19	0.7	1.7	3																				
25		2.5	3.6	4.7	5																		
27		2	2.9	4	4.2	5.8																	
34			3.5	4.9	5.5	7.9	10	11	12														
39				6	8	13	18	19	23														
44						8	13	15	20	26													
56						22	34	37	45	55	66												
64								23	42	60	88												
79											140	150	180										
98														120	140	150	170	190	210	220	240	260	

- 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 **XHW-C** **XHW-C-L** dimension tables. They are not guaranteed values.
- Slip torque changes with usage conditions. Carry out tests under conditions similar to actual conditions in advance.

• Comparison of Static Torsional Stiffness (Double Disk Type)

XHW-C and **XHW-AC** have high static torsional stiffness and responsiveness.

Optimal for high-speed and precision positioning for servomotors, etc.

