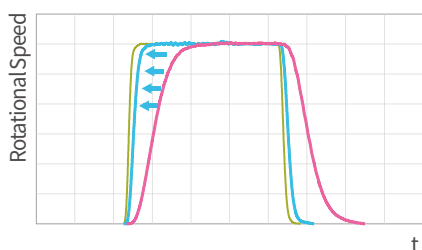


# SHR SERIES



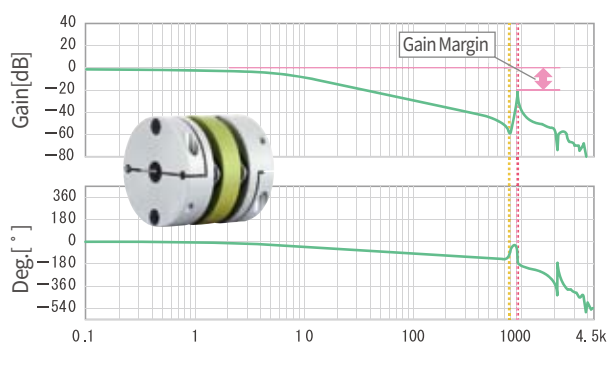
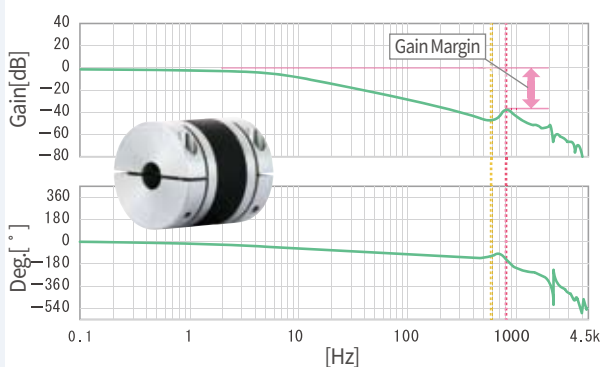
## High Performance Rubber Coupling

### Higher Efficiency through Higher Gain Allowance

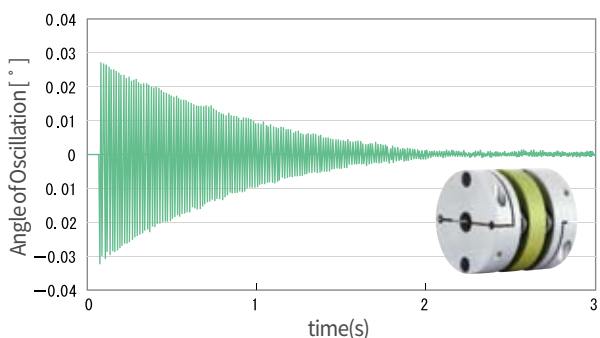
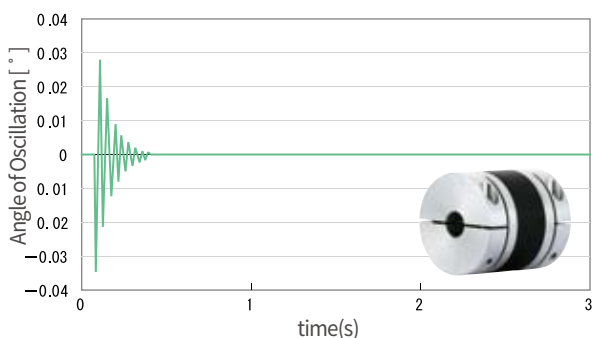


- Gain value is an indicator that shows how accurately it operates according to the command on servo motors.
- Higher gain brings higher responsivity, at the same time it also results in hunting and resonance onto application.
- The anti-vibration rubber (HNBR) is excellent for damping and has higher dynamic stiffness, so it enables to reduce side-effects under the increased gain value.

When SHR series is used, the gain value can be increased higher than SD series (Disk type) as there is relatively bigger gain margin on Bode Plot -180deg.

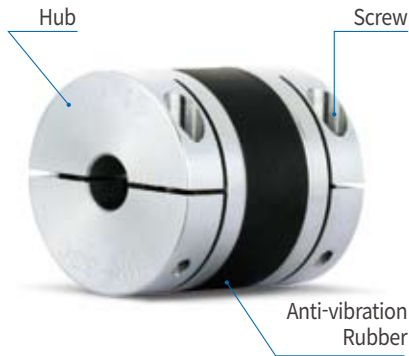


SHR series has the excellent function of damping so it allows to minimize stabilization time of the application.



# SHR SERIES

## High Performance Rubber Coupling



### Structure and Material

Structure	Material	Surface Treatment
Hub	High Strength Aluminum Alloy	-
Anti-vibration Rubber	HNBR	-
Screw	SCM435	Black Oxide

### Product Features & Application

**Product Features :** Great for Anti-vibration & increasing gain on Servo motor → High Productivity

Backlash free		☆
High Torque (Durability)		☆
Torsional Stiffness		○
Vibration Absorption		☆
Misalignment Absorption		○
Oil Resistance		△
Applicable Motors	Servo	☆
	Stepping	☆
	Encoder	○
	General	-
Permissible Temperature		-20°C ~ 80°C

**Application :** Semi-conductor manufacturing machine, SMT, Cartesian Robot, UVW Stage

### Chemical Resistance

For your reference, please check whether SHR product is being used at an appropriate environment, referring to the below table for chemical resistance of HNBR material.

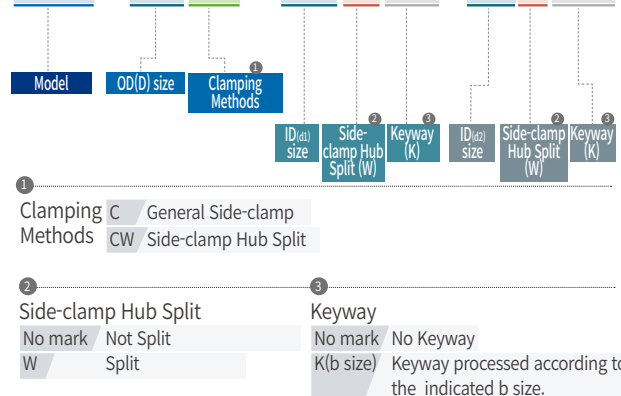
Weather-resistance, Ozone-resistance	excellent
Gasoline, Diesel	allowed
Water, Alcohol	excellent
Organic Acid & Low concentration	excellent
Inorganic Acid	excellent
High concentration Inorganic Acid	allowed
Strong/Weak Alkali	excellent
Benzene & Toluene	not-allowed
Ether & Ethyl Acetate	not-allowed

### Clamping Methods

Set-screw (No mark)	General	X
	With Keyway	X
Side-clamp (C)	General	○
	Hub Split	○
	With Keyway	○
Taper-ring (T)		X

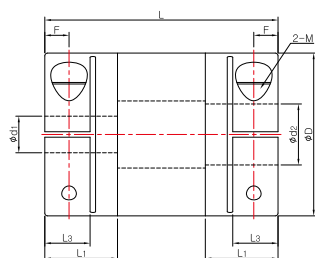
### How to Order

**SHR - 33 CW - 10 W K3 x 14 W K4**



# SHR SERIES

## High Performance Rubber Coupling



### Dimensions / Performance

Model	Size ( $\pm 0.3\text{mm}$ )					Screw		Rated Torque (N·m)	Max. Torque (N·m)	Max. rpm ( $\text{min}^{-1}$ )	Moment of Inertia ( $\text{kg}\cdot\text{m}^2$ )	Static Torsional Stiffness (N·m/rad)	Mass (g)	Permissible Misalignment			Side-clamp Hub Split (W)
	D	L	L <sub>1</sub>	L <sub>3</sub>	F	Size	Fastening Torque (N·m)							Angular ( $^{\circ}$ )	Parallel (mm)	End-play (mm)	
SHR-14C	13.8	22.4	6.7	4	2.1	M1.6	0.3	1	2	42,000	$1.6 \times 10^{-7}$	41	6	1.5	0.15	$\pm 0.2$	○
SHR-18C	17.8	25.5	8	5	2.7	M2	0.6	1.9	3.8	33,000	$4.9 \times 10^{-7}$	84	11	1.5	0.15	$\pm 0.2$	○
SHR-24C	23.8	31.2	9.6	6.3	3.1	M2.6	1.1	3.5	7	25,000	$1.9 \times 10^{-6}$	132	22	1.5	0.15	$\pm 0.2$	○
SHR-29C	28.8	35	11	7.2	3.7	M3	1.8	5.7	11.4	21,000	$4.4 \times 10^{-6}$	209	34	1.5	0.2	$\pm 0.3$	○
SHR-33C	32.8	37	12	7.3	3.8	M3	1.8	7	14	18,000	$8.3 \times 10^{-6}$	370	51	1.5	0.2	$\pm 0.3$	○
SHR-38C	37.8	47	15.5	8.9	4.6	M4	3.7	12	24	16,000	$1.8 \times 10^{-5}$	479	78	1.5	0.2	$\pm 0.3$	○
SHR-43C	42.8	48	15.5	9	4.8	M4	3.7	16	32	14,000	$3.2 \times 10^{-5}$	610	115	1.5	0.2	$\pm 0.3$	○
SHR-55C	54.8	59	19.5	10.8	5.5	M5	8.5	31.5	63	11,000	$1.1 \times 10^{-4}$	1430	250	1.5	0.2	$\pm 0.3$	○

- The Moment of Inertia and Mass values are based on products with max. Inner diameter.
- Please modify rated/max. torque value with temperature correction factor when it's higher than 30°C.
- Max. torque/rated torque is the value regarding to a coupling's self-durability and is not related to slip-torque between the coupling bore and the shaft.

### Standard Inner Diameter (ID)

Model	Standard Inner Diameter ( $d_1, d_2$ ) (mm)																						
	3	4	4.5	5	6	6.35	7	8	10	11	12	13	14	15	16	17	18	19	20	22	24	25	
SHR-14C	●	●	●	●	●																		
SHR-18C		●	●	●	●	●	●	●															
SHR-24C				●	●	●	●	●	●	●	●												
SHR-29C					●	●	●	●	●	●	●	●	●	●									
SHR-33C								●	●	●	●	●	●	●	●								
SHR-38C								●	●	●	●	●	●	●	●	●	●	●	●	●	●		
SHR-43C									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SHR-55C											●	●	●	●	●	●	●	●	●	●	●	●	●

- The recommended shaft tolerance is h7.
- Custom process (e.g. non-standard Inner diameter, special tolerance etc.) is also available upon a special request in prior to order placement.
- Keyway is available. (Optional)
- Side-clamp Hub Split is available. (Optional)

# SHR SERIES

## High Performance Rubber Coupling

### Slip Torque

- The below table shows the actual permissible torque values when the slip torque value is lower than the coupling's max. torque value.
- If the slip torque value is lower than the coupling's max. torque value, please check and compare between the slip torque in the below table and the operating torque value of the connected motor. It is safer to size up the coupling or use a key/keyway when the slip torque value is lower than the motor's operating torque.
- The below slip torque values may be subject to change according to different testing conditions. (e.g. shaft tolerance, Surface roughness, or acceleration/deceleration of driving shafts). On the other hand, the values could be affected when a different kind of fastening screw is used (body material or surface treatment). Therefore, we recommend you test under the same conditions before mounting.

Model	Max. Torque(N·m)	Slip Torque (N.m) by Inner Diameter (d <sub>1</sub> , d <sub>2</sub> )																			
		3	4	4.5	5	6	6.35	7	8	10	11	12	14	15	16	17	18	19	20	22	24
SHR-14C	2	0.5	0.6	0.6	0.7	0.8															
SHR-18C	3.8		1.5	1.6	1.6	1.9	2	2.5	2.9												
SHR-24C	7				4	4.6	5	5.5	6												
SHR-29C	11.4					5	5.5	6	6.4												
SHR-33C	14								8	9	10	12									
SHR-38C	24								9	12	13	17	19	20	21						
SHR-43C	32									14	15	16	20	21	22	23	24	25	29		
SHR-55C	63											35	38	40	42	45	47	50	53	56	60

### Side-clamp Hub Split(W) Option is available on all sizes of SHR series

- Please refer to "HOW TO ORDER" page for more details.



### Temperature Correction Factor

- Please modify rated/max. torque value with the below temperature correction factor when it's higher than 30°C.

Ambient Temperature	Correction Factor
-20 °C ~ 30 °C	1.0
30 °C ~ 40 °C	0.8
40 °C ~ 60 °C	0.7
60 °C ~ 120 °C	0.55