

Sprockets **Lock Sprocket (with keyless locking device) S Type**

Lock Sprockets are sprockets with integrated keyless friction type integrated couplings.

Available models: RS35 to RS100 1B type RS sprockets Note: All models are made-to-order.

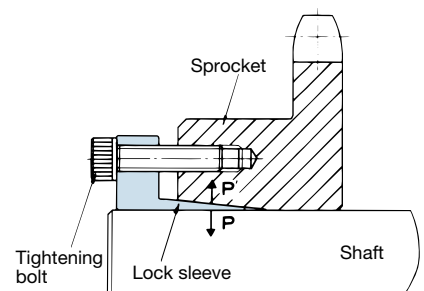
Features



- ◆ No wobbling after mounting (tightening)
- ◆ Easy phase alignment
- ◆ Easy mounting and dismounting
- ◆ No retainers required

Tightening Principle

The inner diameter of the sprocket and the outer diameter of the lock sleeve are tapered. When the mounting bolts are tightened, the sprocket will slide and move up on the tapered surface. A wedge action will generate force P and force P' in the radial direction to press on the shaft and tapered inner side, and frictional force will tightly secure the sprocket and shaft.

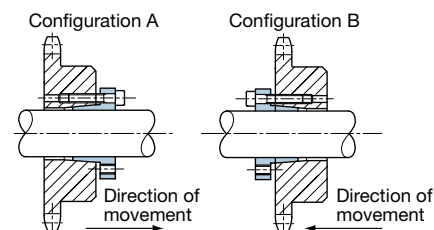


Bolt Tightening Positions

The same sleeve is used for all models, so some holes may not be used. Check the installation guide that comes with the product before attaching the mounting bolts for use.

Direction of Sprocket Movement when Tightening Bolts

When mounting an S Type Lock Sprocket, the sprocket will move 0.5mm to 1.0mm in the direction of the shaft between the time the sprocket is initially secured and the time the sprocket is tightened. Therefore, take this movement into consideration when centering the sprocket. The amount of sprocket movement varies with the type. (See the illustration on the right.)



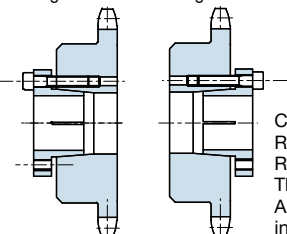
General Precautions

- 1) Allowable transmission torque:
Ensure that the load torque does not exceed the specified transmission torque in the dimension table.
- 2) Shaft diameter tolerance and surface roughness:
Use a shaft diameter tolerance of h8 and a surface roughness degree of 12S as your standards.
- 3) Mounting to shafts provided with keyways or D-shaped shafts:
The allowable transmission torque will decrease by 10% when mounting the sprocket to a shaft provided with a finished keyway, such as a motor shaft, or to a D-shaped shaft.
- 4) Mounting to cold finished carbon steel bars:
The allowable transmission torque will decrease by 10% when mounting the sprocket to a cold finished carbon steel bar (drawn steel with an allowable diameter of 8 to 10 class).
- 5) Ensure that the shaft is a solid shaft using S35C grade or higher steel.
- 6) Operating temperature range: -20°C to 200°C
- 7) Always use a torque wrench when tightening the bolts. (Refer to the torque wrench operation manual for proper use.)

Ordering S Type Lock Sprockets

Sleeve mounting configuration

Configuration A Configuration B



Caution regarding sleeve mounting:
RS35-1B19TQ-S33□□
RS40-1B15TQ-S33□□
The above models can use configuration A only, as configuration B will cause interference with the chain.

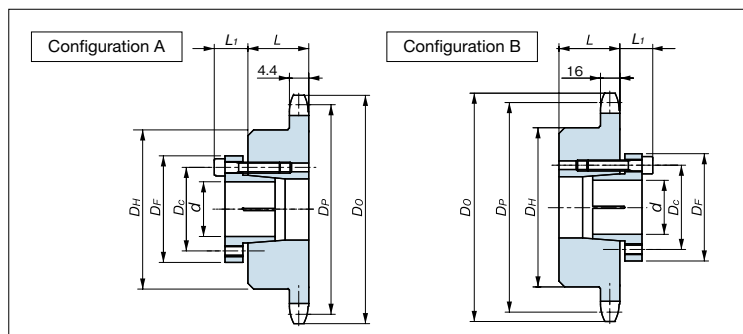
Model numbering example

RS40 - 1B 21T Q - S4825 A

- Size
- Number of strands
- Hub type
- Number of teeth
- Teeth
Q: Hardened teeth
Blank: Non-hardened teeth
- Configuration
- Sleeve model number
- Bore dia. (φ25mm)
- Number of mounting bolts (8)
- Sleeve model (S4)

RS35

Applicable chain pitch: 9.525mm Roller dia.: 5.08mm



S Type lock sleeve dimensions

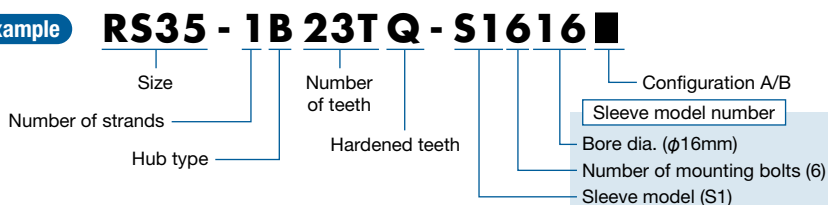
Sleeve model	ϕD_F mm	ϕD_C mm	L_1 mm	Bolt size (M×S)	Tightening torque (N·m)
S1	32.0	24.0	12.0	M4×16	4.2
S2	42.0	32.0	14.0	M5×18	8.3
S3	48.5	38.5	15.5	M5×20	8.3
S4	56.0	46.0	15.5	M5×20	8.3
S5	66.0	56.0	17.5	M5×22	8.3
S6	80.0	68.0	21.0	M6×25	16.8
S7	101.0	86.0	24.5	M8×30	40.5

All models feature hardened teeth.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd												No. of teeth
					10	11	12	14	15	16	17	18	19	20	21	22	
RS35-1B15TQ-S14□□■	45.81	51	35	20	●	●	●	●	●	●							15
RS35-1B16TQ-S14□□■	48.82	54	37	20	●	●	●	●	●	●							16
RS35-1B17TQ-S14□□■	51.84	57	41	20	●	●	●	●	●	●							17
RS35-1B17TQ-S24□□■											●	●	●	●	●	●	17
RS35-1B18TQ-S14□□■	54.85	60	44	20		●	●	●	●	●							18
RS35-1B18TQ-S24□□■											●	●	●	●	●	●	18
RS35-1B19TQ-S14□□■	57.87	63	47	20		●	●	●	●	●							19
RS35-1B19TQ-S24□□■											●	●	●	●	●	●	19
RS35-1B20TQ-S14□□■	60.89	66	50	20			●	●	●	●							20
RS35-1B20TQ-S24□□■											●	●	●	●	●	●	20
RS35-1B21TQ-S16□□■	63.91	69	53	20				●	●	●							21
RS35-1B21TQ-S24□□■											●	●	●	●	●	●	21
RS35-1B22TQ-S16□□■	66.93	72	53	20				●	●	●							22
RS35-1B22TQ-S24□□■											●	●	●	●	●	●	22
RS35-1B23TQ-S16□□■	69.95	75	53	20				●	●	●							23
RS35-1B23TQ-S24□□■											●	●	●	●	●	●	23
RS35-1B24TQ-S16□□■	72.97	78	53	20				●	●	●							24
RS35-1B24TQ-S24□□■											●	●	●	●	●	●	24
RS35-1B25TQ-S16□□■	76.00	81	53	20				●	●	●							25
RS35-1B25TQ-S24□□■											●	●	●	●	●	●	25
RS35-1B26TQ-S16□□■	79.02	84	53	22				●	●	●							26
RS35-1B26TQ-S24□□■											●	●	●	●	●	●	26
RS35-1B27TQ-S16□□■	82.05	87	53	22				●	●	●							27
RS35-1B27TQ-S24□□■											●	●	●	●	●	●	27
RS35-1B28TQ-S16□□■	85.07	90	53	22				●	●	●							28
RS35-1B28TQ-S24□□■											●	●	●	●	●	●	28
RS35-1B30TQ-S16□□■	91.12	96	53	22				●	●	●							30
RS35-1B30TQ-S24□□■											●	●	●	●	●	●	30
RS35-1B32TQ-S16□□■	97.18	102	53	22				●	●	●							32
RS35-1B32TQ-S24□□■											●	●	●	●	●	●	32
RS35-1B34TQ-S16□□■	103.23	109	53	22				●	●	●							34
RS35-1B34TQ-S24□□■											●	●	●	●	●	●	34
RS35-1B35TQ-S16□□■	106.26	112	53	22				●	●	●							35
RS35-1B35TQ-S24□□■											●	●	●	●	●	●	35
RS35-1B36TQ-S16□□■	109.29	115	53	22				●	●	●							36
RS35-1B36TQ-S24□□■											●	●	●	●	●	●	36
RS35-1B38TQ-S16□□■	115.34	121	63	25				●	●	●							38
RS35-1B38TQ-S24□□■											●	●	●	●	●	●	38
RS35-1B40TQ-S16□□■	121.40	127	63	25				●	●	●							40
RS35-1B40TQ-S24□□■											●	●	●	●	●	●	40

Input the bore diameter in the white □□ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.

Model numbering example



RS35

All models feature hardened teeth.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd						No. of teeth
					24	25	28	30	32	35	
*RS35-1B19TQ-S33□□A	57.87	63	47	20	●	●	●				19
RS35-1B20TQ-S33□□■	60.89	66	50	20	●	●	●				20
RS35-1B21TQ-S34□□■	63.91	69	53	20	●	●	●				21
RS35-1B22TQ-S44□□■	66.93	72	53	20	●	●	●	●	●	●	22
RS35-1B23TQ-S44□□■	69.95	75	53	20	●	●	●	●	●	●	23
RS35-1B24TQ-S44□□■	72.97	78	53	20	●	●	●	●	●	●	24
RS35-1B25TQ-S44□□■	76.00	81	53	20	●	●	●	●	●	●	25
RS35-1B26TQ-S44□□■	79.02	84	53	22	●	●	●	●	●	●	26
RS35-1B27TQ-S44□□■	82.05	87	53	22	●	●	●	●	●	●	27
RS35-1B28TQ-S44□□■	85.07	90	53	22	●	●	●	●	●	●	28
RS35-1B30TQ-S44□□■	91.12	96	53	22	●	●	●	●	●	●	30
RS35-1B32TQ-S44□□■	97.18	102	53	22	●	●	●	●	●	●	32
RS35-1B34TQ-S44□□■	103.23	109	53	22	●	●	●	●	●	●	34
RS35-1B35TQ-S44□□■	106.26	112	53	22	●	●	●	●	●	●	35
RS35-1B36TQ-S44□□■	109.29	115	53	22	●	●	●	●	●	●	36
RS35-1B38TQ-S44□□■	115.34	121	63	25	●	●	●	●	●	●	38
RS35-1B40TQ-S44□□■	121.40	127	63	25	●	●	●	●	●	●	40

Input the bore diameter in the white □□ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.
Note: Models with asterisks * indicate that only configuration A is available.

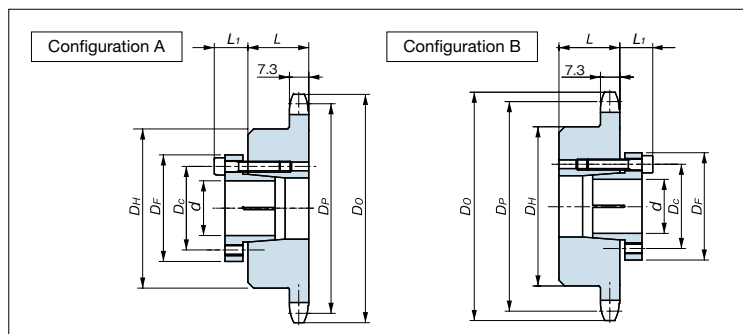
■ RS35 Lock Sprocket (S Type) maximum allowable torque

(Unit: N·m)

Bore dia. No. of teeth	10	11	12	14	15	16	17	18	19	29	22	24	25	28	30	32	35
15T																	
16T	58																
17T		63															
18T			69	81	86	92											
19T																	
20T							158	167	177	186	205	167	174	195			
21T																	
22T to 40T				121	130	138						223	232	260	279	298	325

RS40

Applicable chain pitch: 12.7mm Roller dia.: 7.92mm



S Type lock sleeve dimensions

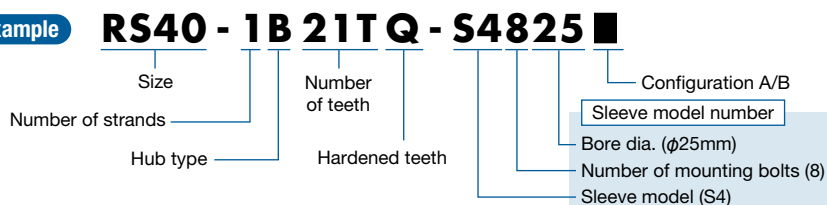
Sleeve model	ϕD_f mm	ϕD_c mm	L_1 mm	Bolt size (M×S)	Tightening torque (N·m)
S1	32.0	24.0	12.0	M4×16	4.2
S2	42.0	32.0	14.0	M5×18	8.3
S3	48.5	38.5	15.5	M5×20	8.3
S4	56.0	46.0	15.5	M5×20	8.3
S5	66.0	56.0	17.5	M5×22	8.3
S6	80.0	68.0	21.0	M6×25	16.8
S7	101.0	86.0	24.5	M8×30	40.5

All models feature hardened teeth.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd								No. of teeth
					14	15	16	17	18	19	20	22	
RS40-1B14TQ-S16□□■	57.07	63	42	22	●								14
RS40-1B14TQ-S24□□■						●	●	●	●	●	●	●	
RS40-1B15TQ-S16□□■	61.08	67	46	22	●								15
RS40-1B15TQ-S24□□■						●	●	●	●	●	●	●	
RS40-1B16TQ-S16□□■	65.10	71	50	22	●								16
RS40-1B16TQ-S24□□■						●	●	●	●	●	●	●	
RS40-1B17TQ-S24□□■	69.12	76	54	22		●	●	●	●	●	●	●	17
RS40-1B18TQ-S24□□■	73.14	80	57	22		●	●	●	●	●	●	●	18
RS40-1B19TQ-S24□□■	77.16	84	62	22		●	●	●	●	●	●	●	19
RS40-1B20TQ-S25□□■	81.18	88	67	25		●	●	●	●	●	●	●	20
RS40-1B21TQ-S25□□■	85.21	92	71	25		●	●	●	●	●	●	●	21
RS40-1B22TQ-S25□□■	89.24	96	75	25		●	●	●	●	●	●	●	22
RS40-1B23TQ-S25□□■	93.27	100	77	25		●	●	●	●	●	●	●	23
RS40-1B24TQ-S25□□■	97.30	104	63	25		●	●	●	●	●	●	●	24
RS40-1B25TQ-S25□□■	101.33	108	63	25			●	●	●	●	●	●	25
RS40-1B26TQ-S25□□■	105.36	112	63	25				●	●	●	●	●	26
RS40-1B27TQ-S25□□■	109.40	116	63	25				●	●	●	●	●	27
RS40-1B28TQ-S25□□■	113.43	120	63	25				●	●	●	●	●	28
RS40-1B30TQ-S25□□■	121.50	128	63	25						●	●	●	30
RS40-1B32TQ-S25□□■	129.57	137	68	28							●	●	32

Input the bore diameter in the white □□ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.

Model numbering example



RS40

All models feature hardened teeth.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd										No. of teeth
					24	25	28	30	32	35	38	40	42	45	
*RS40-1B15TQ-S33□□A	61.08	67	46	22	●	●	●								15
RS40-1B16TQ-S33□□■	65.10	71	50	22	●	●	●								16
RS40-1B17TQ-S44□□■	69.12	76	54	22	●	●	●	●	●	●					17
RS40-1B18TQ-S44□□■	73.14	80	57	22	●	●	●	●	●	●					18
RS40-1B19TQ-S44□□■	77.16	84	62	22	●	●	●	●	●	●					19
RS40-1B20TQ-S48□□■	81.18	88	67	25	●	●	●	●	●	●					20
RS40-1B20TQ-S56□□■											●	●	●	●	
RS40-1B21TQ-S48□□■	85.21	92	71	25	●	●	●	●	●	●					21
RS40-1B21TQ-S56□□■											●	●	●	●	
RS40-1B22TQ-S48□□■	89.24	96	75	25	●	●	●	●	●	●					22
RS40-1B22TQ-S56□□■											●	●	●	●	
RS40-1B23TQ-S48□□■	93.27	100	77	25	●	●	●	●	●	●					23
RS40-1B23TQ-S56□□■											●	●	●	●	
RS40-1B24TQ-S48□□■	97.30	104	63	25	●	●	●	●	●	●					24
RS40-1B24TQ-S56□□■											●	●	●	●	
RS40-1B25TQ-S48□□■	101.33	108	63	25	●	●	●	●	●	●					25
RS40-1B25TQ-S56□□■											●	●	●	●	
RS40-1B26TQ-S48□□■	105.36	112	63	25	●	●	●	●	●	●					26
RS40-1B26TQ-S56□□■											●	●	●	●	
RS40-1B27TQ-S48□□■	109.40	116	63	25	●	●	●	●	●	●					27
RS40-1B27TQ-S56□□■											●	●	●	●	
RS40-1B28TQ-S48□□■	113.43	120	63	25	●	●	●	●	●	●					28
RS40-1B28TQ-S56□□■											●	●	●	●	
RS40-1B30TQ-S48□□■	121.50	128	63	25	●	●	●	●	●	●					30
RS40-1B30TQ-S56□□■											●	●	●	●	
RS40-1B32TQ-S48□□■	129.57	137	68	28	●	●	●	●	●	●					32
RS40-1B32TQ-S56□□■											●	●	●	●	
RS40-1B34TQ-S48□□■	137.64	145	68	28	●	●	●	●	●	●					34
RS40-1B34TQ-S56□□■											●	●	●	●	
RS40-1B35TQ-S48□□■	141.68	149	68	28	●	●	●	●	●	●					35
RS40-1B35TQ-S56□□■											●	●	●	●	
RS40-1B36TQ-S48□□■	145.72	153	68	28	●	●	●	●	●	●					36
RS40-1B36TQ-S56□□■											●	●	●	●	
RS40-1B38TQ-S48□□■	153.79	161	68	28	●	●	●	●	●	●					38
RS40-1B38TQ-S56□□■											●	●	●	●	
RS40-1B40TQ-S48□□■	161.87	169	68	28	●	●	●	●	●	●					40
RS40-1B40TQ-S56□□■											●	●	●	●	

Input the bore diameter in the white □ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.
Note: Models with asterisks * indicate that only configuration A is available.

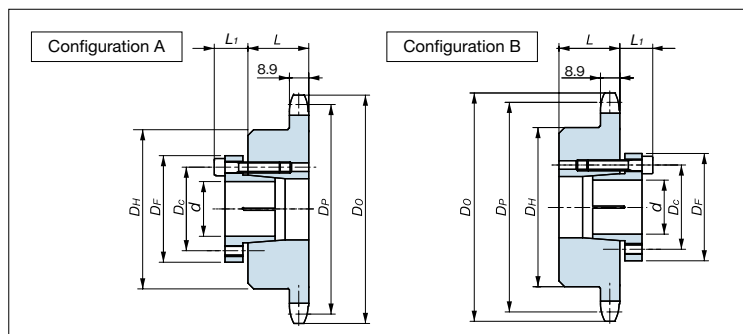
RS40 Lock Sprocket (S Type) maximum allowable torque

(Unit: N·m)

Bore dia. No. of teeth	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45
14T	121																	
15T									167	174	195							
16T																		
17T		139	149	158	167	177	186	205										
18T									223	232	260	279	298	325				
19T																		
20T																		
21T																		
22T		174	186															
23T																		
24T				198	209	221	232	256										
25T									446	465	521	558	595	651	530	558	586	628
26T																		
27T																		
28T																		
30T																		
32T																		
34T to 40T																		

RS50

Applicable chain pitch: 15.875mm Roller dia.: 10.16mm



S Type lock sleeve dimensions

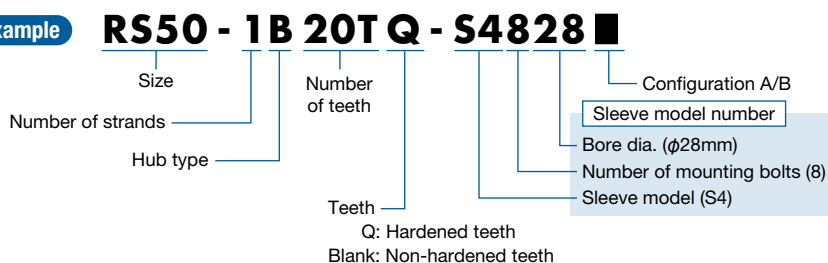
Sleeve model	ϕD_F mm	ϕD_C mm	L_1 mm	Bolt size (M×S)	Tightening torque (N·m)
S1	32.0	24.0	12.0	M4×16	4.2
S2	42.0	32.0	14.0	M5×18	8.3
S3	48.5	38.5	15.5	M5×20	8.3
S4	56.0	46.0	15.5	M5×20	8.3
S5	66.0	56.0	17.5	M5×22	8.3
S6	80.0	68.0	21.0	M6×25	16.8
S7	101.0	86.0	24.5	M8×30	40.5

Teeth hardened up to 35T.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd										No. of teeth	
					15	16	17	18	19	20	22	24	25	28		30
RS50-1B14TQ-S25□□■	71.34	79	52	25	●	●										14
RS50-1B14TQ-S26□□■							●	●	●	●	●					
RS50-1B15TQ-S25□□■	76.35	84	57	25	●	●										15
RS50-1B15TQ-S26□□■							●	●	●	●	●					
RS50-1B15TQ-S44□□■													●	●	●	
RS50-1B16TQ-S25□□■	81.37	89	62	25	●	●										16
RS50-1B16TQ-S26□□■							●	●	●	●	●					
RS50-1B16TQ-S44□□■													●	●	●	
RS50-1B17TQ-S26□□■	86.39	94	67	25						●	●					17
RS50-1B17TQ-S48□□■													●	●	●	
RS50-1B18TQ-S26□□■	91.42	100	72	28							●					18
RS50-1B18TQ-S48□□■													●	●	●	
RS50-1B19TQ-S26□□■	96.45	105	73	28							●					19
RS50-1B19TQ-S48□□■													●	●	●	
RS50-1B20TQ-S48□□■	101.48	110	73	28								●	●	●	●	20
RS50-1B21TQ-S48□□■	106.51	115	73	28								●	●	●	●	21
RS50-1B22TQ-S48□□■	111.55	120	73	28								●	●	●	●	22
RS50-1B23TQ-S48□□■	116.59	125	73	28								●	●	●	●	23
RS50-1B24TQ-S48□□■	121.62	130	73	28								●	●	●	●	24
RS50-1B25TQ-S48□□■	126.66	135	73	28								●	●	●	●	25
RS50-1B26TQ-S48□□■	131.70	140	73	28								●	●	●	●	26
RS50-1B27TQ-S48□□■	136.74	145	73	28								●	●	●	●	27
RS50-1B28TQ-S48□□■	141.79	150	73	28									●	●	●	28
RS50-1B30TQ-S48□□■	151.87	161	73	28										●	●	30
RS50-1B32TQ-S48□□■	161.96	171	73	28										●	●	32
RS50-1B34TQ-S48□□■	172.05	181	73	28											●	34

Input the bore diameter in the white □□ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.

Model numbering example



Sprockets Lock Sprocket S Type

RS50

Teeth hardened up to 35T.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd									No. of teeth
					32	35	38	40	42	45	48	50	55	
RS50-1B15TQ-S44 ☐ ☐ ☒	76.35	84	57	25	●	●								15
RS50-1B16TQ-S44 ☐ ☐ ☒	81.37	89	62	25	●	●								16
RS50-1B17TQ-S48 ☐ ☐ ☒	86.39	94	67	25	●	●								17
RS50-1B17TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B18TQ-S48 ☐ ☐ ☒	91.42	100	72	28	●	●								18
RS50-1B18TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B19TQ-S48 ☐ ☐ ☒	96.45	105	73	28	●	●								19
RS50-1B19TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B20TQ-S48 ☐ ☐ ☒	101.48	110	73	28	●	●								20
RS50-1B20TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B21TQ-S48 ☐ ☐ ☒	106.51	115	73	28	●	●								21
RS50-1B21TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B22TQ-S48 ☐ ☐ ☒	111.55	120	73	28	●	●								22
RS50-1B22TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B23TQ-S48 ☐ ☐ ☒	116.59	125	73	28	●	●								23
RS50-1B23TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B24TQ-S48 ☐ ☐ ☒	121.62	130	73	28	●	●								24
RS50-1B24TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B25TQ-S48 ☐ ☐ ☒	126.66	135	73	28	●	●								25
RS50-1B25TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B26TQ-S48 ☐ ☐ ☒	131.70	140	73	28	●	●								26
RS50-1B26TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B27TQ-S48 ☐ ☐ ☒	136.74	145	73	28	●	●								27
RS50-1B27TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B28TQ-S48 ☐ ☐ ☒	141.79	150	73	28	●	●								28
RS50-1B28TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B30TQ-S48 ☐ ☐ ☒	151.87	161	73	28	●	●								30
RS50-1B30TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B32TQ-S48 ☐ ☐ ☒	161.96	171	73	28	●	●								32
RS50-1B32TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B34TQ-S48 ☐ ☐ ☒	172.05	181	73	28	●	●								34
RS50-1B34TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B35TQ-S48 ☐ ☐ ☒	177.10	186	73	28	●	●								35
RS50-1B35TQ-S56 ☐ ☐ ☒							●	●	●	●				
RS50-1B36T-S510 ☐ ☐ ☒	182.15	191	83	35			●	●	●	●				36
RS50-1B36T-S66 ☐ ☐ ☒											●	●	●	
RS50-1B38T-S510 ☐ ☐ ☒	192.24	201	83	35			●	●	●	●		●	●	38
RS50-1B38T-S66 ☐ ☐ ☒											●	●	●	
RS50-1B40T-S510 ☐ ☐ ☒	202.33	211	83	35			●	●	●	●				40
RS50-1B40T-S66 ☐ ☐ ☒											●	●	●	

Input the bore diameter in the white ☐ ☐ boxes after the model number, and configuration A or B in the black ☒ box. ● circles indicate applicable bore diameters.

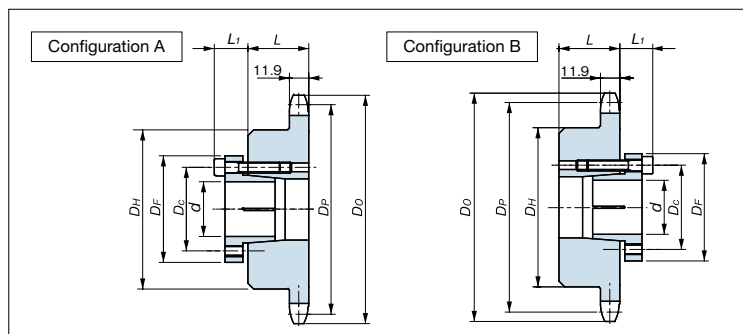
RS50 Lock Sprocket (S Type) maximum allowable torque

(Unit: N·m)

Bore dia. No. of teeth	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55
14T																				
15T	174	186	237	251	265	279	307	223	232	260	279	298	325							
16T																				
17T																				
18T																				
19T																				
20T																				
21T																				
22T								446												
23T																				
24T									465	521	558	595	651	530	558	586	628			
25T																				
26T																				
27T																				
28T																				
30T																				
32T																				
34T																				
35T																				
36T to 40T														883	930	976	1046	1116	1162	1279

RS60

Applicable chain pitch: 19.05mm Roller dia.: 11.91mm



S Type lock sleeve dimensions

Sleeve model	ϕD_F mm	ϕD_C mm	L_1 mm	Bolt size (M×S)	Tightening torque (N·m)
S1	32.0	24.0	12.0	M4×16	4.2
S2	42.0	32.0	14.0	M5×18	8.3
S3	48.5	38.5	15.5	M5×20	8.3
S4	56.0	46.0	15.5	M5×20	8.3
S5	66.0	56.0	17.5	M5×22	8.3
S6	80.0	68.0	21.0	M6×25	16.8
S7	101.0	86.0	24.5	M8×30	40.5

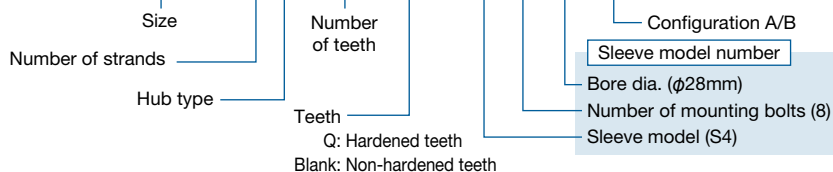
Teeth hardened up to 30T.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd										No. of teeth
					18	19	20	22	24	25	28	30	32	35	
RS60-1B12TQ-S26□□■	73.60	83	51	32	●	●	●	●							12
RS60-1B13TQ-S26□□■	79.60	89	57	32	●	●	●	●							13
RS60-1B13TQ-S46□□■									●	●	●	●	●	●	
RS60-1B14TQ-S26□□■	85.61	95	62	32	●	●	●	●							14
RS60-1B14TQ-S46□□■									●	●	●	●	●	●	
RS60-1B15TQ-S48□□■	91.63	101	68	32					●	●	●	●	●	●	15
RS60-1B16TQ-S48□□■	97.65	107	73	32					●	●	●	●	●	●	16
RS60-1B17TQ-S48□□■	103.67	113	73	32						●	●	●	●	●	17
RS60-1B18TQ-S48□□■	109.70	119	83	40							●	●	●	●	18
RS60-1B19TQ-S48□□■	115.74	126	83	40							●	●	●	●	19
RS60-1B20TQ-S48□□■	121.78	132	83	40								●	●	●	20
RS60-1B21TQ-S48□□■	127.82	138	83	40									●	●	21
RS60-1B22TQ-S48□□■	133.86	144	83	40										●	22
RS60-1B23TQ-S48□□■	139.90	150	83	40											23
RS60-1B24TQ-S48□□■	145.95	156	83	40											24
RS60-1B25TQ-S48□□■	151.99	162	83	40											25

Input the bore diameter in the white □ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.

Model numbering example

RS60 - 1B 16T Q - S4828 ■



Sprockets Lock Sprocket S Type

RS60

Teeth hardened up to 30T.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd							No. of teeth
					38	40	42	45	48	50	55	
RS60-1B15TQ-S56□□■	91.63	101	68	32	●	●	●	●				15
RS60-1B16TQ-S56□□■	97.65	107	73	32	●	●	●	●				16
RS60-1B17TQ-S56□□■	103.67	113	73	32	●	●	●	●				17
RS60-1B18TQ-S510□□■	109.70	119	83	40	●	●	●	●				18
RS60-1B18TQ-S66□□■									●	●	●	
RS60-1B19TQ-S510□□■	115.74	126	83	40	●	●	●	●				19
RS60-1B19TQ-S66□□■									●	●	●	
RS60-1B20TQ-S510□□■	121.78	132	83	40	●	●	●	●				20
RS60-1B20TQ-S66□□■									●	●	●	
RS60-1B21TQ-S510□□■	127.82	138	83	40	●	●	●	●				21
RS60-1B21TQ-S66□□■									●	●	●	
RS60-1B22TQ-S510□□■	133.86	144	83	40	●	●	●	●				22
RS60-1B22TQ-S66□□■									●	●	●	
RS60-1B23TQ-S510□□■	139.90	150	83	40	●	●	●	●				23
RS60-1B23TQ-S66□□■									●	●	●	
RS60-1B24TQ-S510□□■	145.95	156	83	40	●	●	●	●				24
RS60-1B24TQ-S66□□■									●	●	●	
RS60-1B25TQ-S510□□■	151.99	162	83	40	●	●	●	●				25
RS60-1B25TQ-S66□□■									●	●	●	
RS60-1B26TQ-S510□□■	158.04	168	83	40	●	●	●	●				26
RS60-1B26TQ-S66□□■									●	●	●	
RS60-1B27TQ-S510□□■	164.09	174	83	40	●	●	●	●				27
RS60-1B27TQ-S66□□■									●	●	●	
RS60-1B28TQ-S510□□■	170.14	180	83	40	●	●	●	●				28
RS60-1B28TQ-S66□□■									●	●	●	
RS60-1B30TQ-S510□□■	182.25	193	83	40	●	●	●	●				30
RS60-1B30TQ-S66□□■									●	●	●	
RS60-1B32T-S510□□■	194.35	205	83	40	●	●	●	●				32
RS60-1B32T-S66□□■									●	●	●	
RS60-1B34T-S510□□■	206.46	217	83	40		●	●	●				34
RS60-1B34T-S66□□■									●	●	●	
RS60-1B35T-S510□□■	212.52	223	83	40				●				35
RS60-1B35T-S66□□■									●	●	●	
RS60-1B36T-S510□□■	218.57	229	83	40				●				36
RS60-1B36T-S66□□■									●	●	●	
RS60-1B38T-S510□□■	230.69	241	83	40				●				38
RS60-1B38T-S66□□■								●	●	●	●	
RS60-1B40T-S66□□■	242.80	253	83	40					●	●	●	40

Input the bore diameter in the white □ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.

RS60 Lock Sprocket (S Type) maximum allowable torque

(Unit: N·m)

Bore dia. No. of teeth	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55
12T																	
13T	251	265	279	307	335	349	391	418	446	488							
14T																	
15T																	
16T					446	465	521	558			530	558	586	628			
17T																	
18T																	
19T																	
20T																	
21T																	
22T																	
23T																	
24T											883						
25T												930	976				
26T														1046			
27T															1116	1162	1279
28T																	
30T																	
32T																	
34T																	
35T																	
36T																	
38T																	
40T																	

Sprockets Lock Sprocket S Type

RS80

Teeth hardened up to 21T.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd						No. of teeth
					48	50	55	60	65	70	
RS80-1B15QT-S66□□■	122.17	135	93	40	●	●	●				15
RS80-1B16QT-S66□□■	130.20	143	93	40	●	●	●				16
RS80-1B17QT-S66□□■	138.23	151	93	40	●	●	●				17
RS80-1B18QT-S66□□■	146.27	159	93	40	●	●	●				18
RS80-1B19QT-S66□□■	154.32	167	93	40	●	●	●				19
RS80-1B20QT-S68□□■	162.37	176	93	40	●	●	●				20
RS80-1B21QT-S68□□■	170.42	184	93	40	●	●	●				21
RS80-1B22T-S612□□■	178.48	192	107	45	●	●	●				22
RS80-1B22T-S75□□■								●	●	●	
RS80-1B23T-S612□□■	186.54	200	107	45	●	●	●				23
RS80-1B23T-S75□□■								●	●	●	
RS80-1B24T-S612□□■	194.60	208	107	45	●	●	●				24
RS80-1B24T-S75□□■								●	●	●	
RS80-1B25T-S612□□■	202.66	216	107	45	●	●	●				25
RS80-1B25T-S75□□■								●	●	●	
RS80-1B26T-S612□□■	210.72	224	107	45	●	●	●				26
RS80-1B26T-S75□□■								●	●	●	
RS80-1B27T-S612□□■	218.79	233	107	45	●	●	●				27
RS80-1B27T-S75□□■								●	●	●	
RS80-1B28T-S612□□■	226.86	241	107	45	●	●	●				28
RS80-1B28T-S75□□■								●	●	●	
RS80-1B30T-S612□□■	243.00	257	107	45	●	●	●				30
RS80-1B30T-S75□□■								●	●	●	
RS80-1B32T-S612□□■	259.14	273	107	45	●	●	●				32
RS80-1B32T-S75□□■								●	●	●	
RS80-1B34T-S612□□■	275.28	289	107	45	●	●	●				34
RS80-1B34T-S75□□■								●	●	●	
RS80-1B35T-S612□□■	283.36	297	107	45	●	●	●				35
RS80-1B35T-S75□□■								●	●	●	

Input the bore diameter in the white □ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.

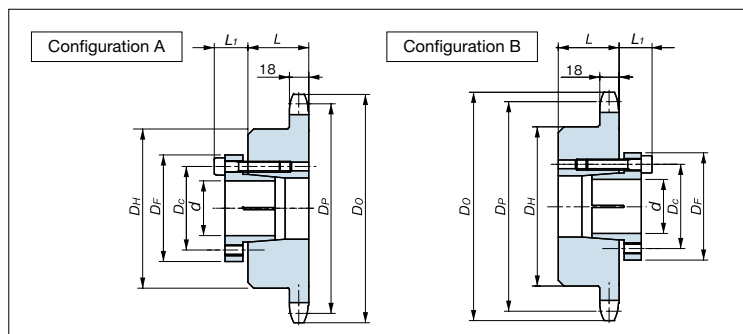
■ RS80 Lock Sprocket (S Type) maximum allowable torque

(Unit: N·m)

Bore dia. No. of teeth	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70
12T																
13T	446	465	521	558	595	651										
14T																
15T																
16T																
17T							883	930	976	1046	1116	1162	1279			
18T																
19T																
20T																
21T											1275	1329	1461			
22T to 35T											2232	2325	2557	2140	2319	2497

RS100

Applicable chain pitch: 31.75mm Roller dia.: 19.05mm



S Type lock sleeve dimensions

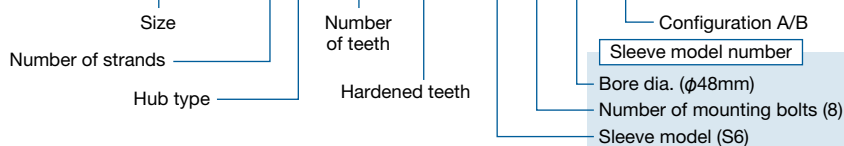
Sleeve model	ϕD_f mm	ϕD_c mm	L_1 mm	Bolt size (M×S)	Tightening torque (N·m)
S1	32.0	24.0	12.0	M4×16	4.2
S2	42.0	32.0	14.0	M5×18	8.3
S3	48.5	38.5	15.5	M5×20	8.3
S4	56.0	46.0	15.5	M5×20	8.3
S5	66.0	56.0	17.5	M5×22	8.3
S6	80.0	68.0	21.0	M6×25	16.8
S7	101.0	86.0	24.5	M8×30	40.5

All models feature hardened teeth.

Model number	Pitch circle dia. D_p	(Outer dia.) (D_o)	Hub dia. D_H	Hub length L	Applicable bore dia. ϕd						No. of teeth
					48	50	55	60	65	70	
RS100-1B13TQ-S68□□■	132.67	148	88	50	●	●	●				13
RS100-1B14TQ-S68□□■	142.68	158	88	50	●	●	●				14
RS100-1B15TQ-S68□□■	152.71	168	98	50	●	●	●				15
RS100-1B16TQ-S68□□■	162.75	179	98	50	●	●	●				16
RS100-1B17TQ-S612□□■	172.79	189	107	50	●	●	●				17
RS100-1B17TQ-S75□□■								●	●	●	17
RS100-1B18TQ-S612□□■	182.84	199	107	50	●	●	●				18
RS100-1B18TQ-S75□□■								●	●	●	18
RS100-1B19TQ-S612□□■	192.90	209	107	50	●	●	●				19
RS100-1B19TQ-S75□□■								●	●	●	19
RS100-1B20TQ-S612□□■	202.96	220	107	50	●	●	●				20
RS100-1B20TQ-S75□□■								●	●	●	20
RS100-1B21TQ-S612□□■	213.03	230	107	50	●	●	●				21
RS100-1B21TQ-S75□□■								●	●	●	21

Input the bore diameter in the white □□ boxes after the model number, and configuration A or B in the black ■ box. ● circles indicate applicable bore diameters.

Model numbering example

RS100 - 1B 16T Q - S6848 ■

RS100 Lock Sprocket (S Type) maximum allowable torque

(Unit: N·m)

Bore dia. No. of teeth	48	50	55	60	65	70
13T						
14T	1488	1550	1705			
15T						
16T						
17T						
18T						
19T	2232	2325	2257	2140	2319	2497
20T						
21T						

Sprockets **Lock Sprocket (with keyless locking device) N Type**

Lock Sprockets are sprockets with integrated keyless friction type integrated couplings.

Available models: RS35 to RS60 1B type RS sprockets

Note: All models are made-to-order.

Features



1. Greatly increases work efficiency

Unlike conventional products that require a number of tightening bolts, this type can be simply tightened with a nut and coupled to a shaft with ease. Furthermore, it can be easily dismantled for fine adjustment and mounted again.

2. Suitable for small shaft diameters

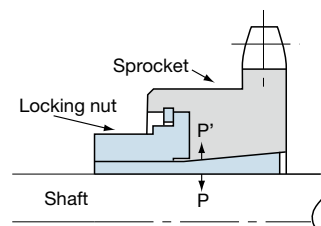
Tsubaki offers standard models with diameters ranging from 7 to 28mm to match a wide variety of customer needs.

3. Compact design

Features a compact design with strength calculations that take the maximum allowable load of the chain in mind while eliminating any waste.

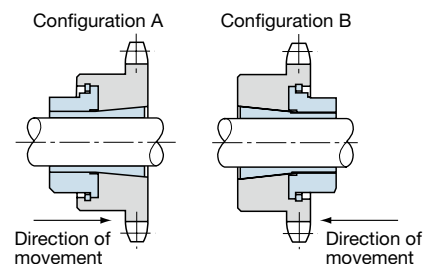
Tightening Principle

The inner diameter of the sprocket and the outer diameter of the lock sleeve are tapered. When the mounting bolts are tightened, the sprocket will slide and move up on the tapered surface. A wedge action will generate force P and force P' in the radial direction to press on the shaft and tapered inner side, and frictional force will tightly secure the sprocket and shaft.



Direction of Sprocket Movement when Tightening Nut

When mounting an N Type Lock Sprocket, the sprocket will move 0.2mm to 2.0mm in the direction of the shaft between the time the sprocket is initially secured and the time the sprocket is tightened. Therefore, take this movement into consideration when centering the sprocket. The amount of sprocket movement varies with type. (See the illustration on the right.)

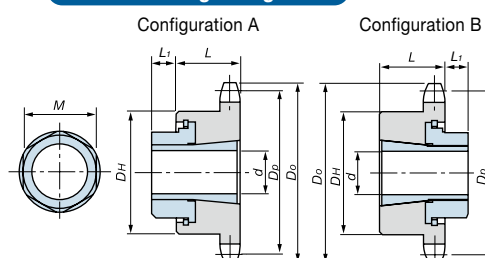


General Precautions

See the General Precautions for S Type on page 139.

Ordering N Type Lock Sprockets

Sleeve mounting configuration



Model numbering example

RS40 - 1B 21T Q - N417 A

Size: RS40
Number of strands: 1B
Hub type: 21T
Number of teeth: Q
Hardened teeth: N
Configuration: 4
Sleeve model number: 17
Bore dia. ($\phi 17$ mm): A
Sleeve model (N4)

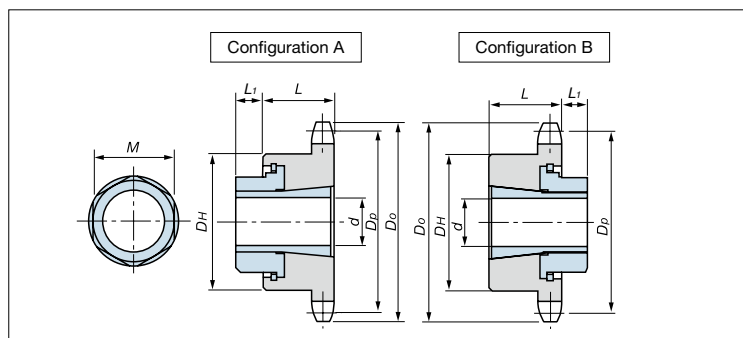
■ **RS35** Applicable chain pitch: 9.525mm Roller dia.: 5.08mm

All models feature hardened teeth.

No. of teeth	Basic dimensions	Hub	Bore dia. d	7	8	9	10	11	12	14	15	16	17	18	19
	Pitch circle dia. D_p	Outer dia. D_o	Inner dia. D_i	Length L	Max. allowable transmission torque (N·m)										
12	36.80	41	31	20		23	26	29	42	46	50	104	111	119	161
13	39.80	44	32	20		23	26	29	42	46	50	104	111	119	161
14	42.80	47	30	20		23	26	29	42	46	50	104	111	119	161
15	45.81	51	35	20		23	26	29	42	46	50	104	111	119	161
16	48.82	54	37	20		23	26	29	42	46	50	104	111	119	161
17	51.84	57	41	20		23	26	29	42	46	50	104	111	119	161
18	54.85	60	44	20		23	26	29	42	46	50	104	111	119	161
19	57.87	63	47	20		23	26	29	42	46	50	104	111	119	161
20	60.89	66	50	20		23	26	29	42	46	50	104	111	119	161
21	63.91	69	53	20		23	26	29	42	46	50	104	111	119	161
22	66.93	72	53	20		23	26	29	42	46	50	104	111	119	161
23	69.95	75	53	20		23	26	29	42	46	50	104	111	119	161
24	72.97	78	53	22		23	26	29	42	46	50	104	111	119	161
25	76.00	81	53	22		23	26	29	42	46	50	104	111	119	161
26	79.02	84	53	22		23	26	29	42	46	50	104	111	119	161
27	82.05	87	53	22		23	26	29	42	46	50	104	111	119	161
28	85.07	90	53	22		23	26	29	42	46	50	104	111	119	161
30	91.12	96	53	22		23	26	29	42	46	50	104	111	119	161
32	97.18	102	53	22		23	26	29	42	46	50	104	111	119	161
34	103.23	109	53	22		23	26	29	42	46	50	104	111	119	161
35	106.26	112	53	22		23	26	29	42	46	50	104	111	119	161
36	109.29	115	53	22		23	26	29	42	46	50	104	111	119	161
38	115.34	121	63	25		23	26	29	42	46	50	104	111	119	161
40	121.40	127	63	25		23	26	29	42	46	50	104	111	119	161

Models with 12T and asterisks * indicate that only configuration A is available.

■ Understanding the table **Example** RS35 chain with 15 teeth and bore diameter of 11 mm: Use an N211 sleeve.
"XX" in the table refers to bore diameter. Maximum transmission torque will be 46N·m.



■ N Type lock sleeve dimensions

Sleeve model	Sleeve protrusion L_1	Nut width across flats M	Nut tightening torque (N·m)
N1	5	18	18
N2	6	22	28
N3	8	30	65
N4	10	36	100
N5	11	41	130
N6	11	46	200

■ RS40 Applicable chain pitch: 12.7mm Roller dia.: 7.92mm

All models feature hardened teeth.

No. of teeth	Basic dimensions		Hub		Bore dia. d Max. allowable transmission torque (N·m)	10	11	12	14	15	16	17	18	19	20	22	24
	Pitch circle dia. D_p	Outer dia. D_o	Dia. D_H	Length L		42	46	50	104	111	119	161	171	180	214	236	257
11	45.08	51	37	22	Suitable sleeve model and dimensions	※	※	※									
12	49.07	55	40	22		※	※	※									
13	53.07	59	37	22		N2XX											
14	57.07	63	42	22													
15	61.08	67	46	22													
16	65.10	71	50	22													
17	69.12	76	54	22													
18	73.14	80	57	22													
19	77.16	84	62	22													
20	81.18	88	67	25													
21	85.21	92	71	25													
22	89.24	96	75	25													
23	93.27	100	77	25													
24	97.30	104	63	25													
25	101.33	108	63	25													
26	105.36	112	63	25													
27	109.40	116	63	25													
28	113.43	120	63	25													
30	121.50	128	63	25													
32	129.57	137	68	28													
34	137.64	145	68	28													
35	141.68	149	68	28													
36	145.72	153	68	28													
38	153.79	161	68	28													
40	161.87	169	68	28													

Models with 11T and 12T and asterisks ※ indicate that only configuration A is available.

■ RS50 Applicable chain pitch: 15.875mm Roller dia.: 10.16mm

All models feature hardened teeth.

No. of teeth	Basic dimensions		Hub		Bore dia. d Max. allowable transmission torque (N·m)	14	15	16	17	18	19	20	22	24
	Pitch circle dia. D_p	Outer dia. D_o	Dia. D_H	Length L		42	46	50	104	111	119	161	171	257
11	56.35	64	46	25	Suitable sleeve model and dimensions	※	※	※						
12	61.34	69	51	25		※	※	※						
13	66.33	74	51	25		N3XX								
14	71.34	79	52	25										
15	76.35	84	57	25										
16	81.37	89	62	25										
17	86.39	94	67	25										
18	91.42	100	72	28										
19	96.45	105	73	28										
20	101.48	110	73	28										
21	106.51	115	73	28										
22	111.55	120	73	28										
23	116.59	125	73	28										
24	121.62	130	73	28										
25	126.66	135	73	28										

Models with 11T, 12T, and 13T and asterisks ※ indicate that only configuration A is available.

■ RS60 Applicable chain pitch: 19.05mm Roller dia.: 11.91mm

All models feature hardened teeth.

No. of teeth	Basic dimensions		Hub		Bore dia. d Max. allowable transmission torque (N·m)	14	15	16	17	18	19	20	22	24	25	26	28
	Pitch circle dia. D_p	Outer dia. D_o	Dia. D_H	Length L		105	111	119	161	171	180	214	236	257	370	385	415
9	55.70	64	43	32	Suitable sleeve model and dimensions	※	※	※									
10	61.65	70	49	32		※	※	※									
11	67.62	76	51	32		N3XX											
12	73.60	83	51	32													
13	79.60	89	57	32													
14	85.61	95	62	32													
15	91.63	101	68	32													
16	97.65	107	73	32													
17	103.67	113	73	32													
18	109.70	119	83	40													
19	115.74	126	83	40													
20	121.78	132	83	40													
21	127.82	138	83	40													
22	133.86	144	83	40													
23	139.90	150	83	40													
24	145.95	156	83	40													
25	151.99	162	83	40													

Models with 9T, 10T, and 11T and asterisks ※ indicate that only configuration A is available.



PT. MASA JAYA PERKASA

M info@masajayaperkasa.com

**Jl. Hayam Wuruk No. 76,
Jakarta Barat, DKI Jakarta 11160**

(+62)21-649-6496

(+62)852-1116-7713