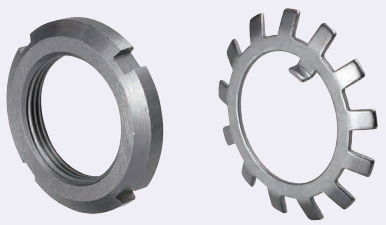


Bearing Nuts / Toothed Lock Washers for Bearings

Hard Locking Bearing Nuts / Fine U Nuts®

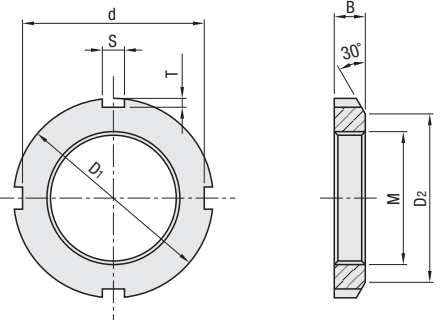
■Features: A set of a nut and a special washer, the standard components to secure bearings.



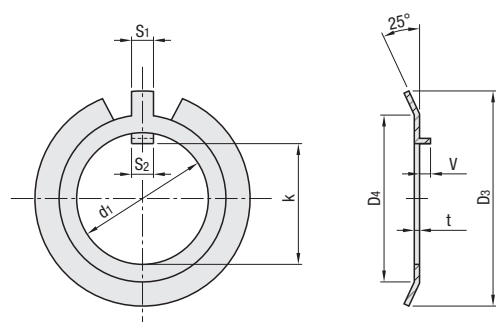
RoHS 10

Type	①+②Set	①Only	①Bearing Nut	②Tooth Lock Washer for Bearing
Steel	JLNK	JLN	EN 1.0038 Equiv.	EN 1.0330 Equiv.
Stainless Steel	JLNSK	JLNS	No.10~20 EN 1.4305 Equiv. No.25~50 EN 1.4301 Equiv.	EN 1.4301 Equiv.

①Bearing Nut



②Tooth Lock Washer for Bearing



Screw Accuracy: JIS B 0211 6H (Class 2)

Part Number		①Bearing Nut							Reference Mass (g)				JLNK	JLNSK	JLN	JLNS
Type	No.	MxPitch (Fine)	D1	D2	B	d	S	T	per Set (①+②)	per 1 pc. (①Only)			Unit Price			
									JLNK	JLNSK	JLN	JLNS				
①+②Set (Steel)	10	10x0.75	18	13	4	14	3	2	5.0	5.3	3.7	4.1				
	12	12x1.0	22	17	4	18	3		8.3	8.2	6.4	6.6				
JLNK	15	15x1.0	25	21	5	21	4		12.5	12.7	10	10.3				
(Stainless Steel)	17	17x1.0	28	24	5	24	4		15.5	16.3	12.4	13				
JLNSK	20	20x1.0	32	26	6	28	5		21.5	22.8	19	19.5				
	25	25x1.5	38	32	7	34	5	2.5	31.4	36.6	25	31.2				
①Only (Steel)	30	30x1.5	45	38	7	41	5		47.8	48.3	40	41.1				
	35	35x1.5	52	44	8	48	5		63.4	73.7	53	64.3				
JLN	40	40x1.5	58	50	9	53	6		97.3	97.7	85	86.5				
(Stainless Steel)	45	45x1.5	65	56	10	60	6		134.2	135	119	121				
JLNS	50	50x1.5	70	61	11	65	6		162.5	161.5	146.5	147				

No.	②Tooth Lock Washer for Bearing									Dim. of Tooth Lock Washer Mounting Groove (Reference)	
	d ₁	k	S ₁	S ₂	t	V	D ₃	D ₄	Number of Teeth	Slot Width a	Slot Depth b
10	10	8.5	3	3	1.0	2	21	13	9	4	2
12	12	10.5					25	17			
15	15	13.5	4	4		2.5	28	21	13	5	
17	17	15.5					32	24			
20	20	18.5	5	5	1.2		36	26		15	2.5
25	25	23					42	32			
30	30	27.5	6	6		3	49	38	7		
35	35	32.5					57	44			
40	40	37.5	6	6	62		50	17			
45	45	42.5			69		56				
50	50	47.5			74	61					



Ordering Example

Part Number

①+②Set
JLNK10

①Only
JLN25

■Bearing Nuts and Toothed Lock Washers
•These 2 items are common parts for securing bearings.
•Nut loosening can be prevented by machining a vertical groove (Keyway) on the thread of a rotary shaft, and by tightening the nut and the shaft with the tooth lock washer.

[Mounting Procedure]

- Assemble a bearing onto a rotary shaft.
- Fit the tooth lock washer tab (S₂) in the groove of the rotary shaft (a).
- Tighten the bearing nut.
- Fold the tooth lock washer tab (S₁) to fit the groove of the bearing nut (S).



RoHS 10

Type	①No. 1 Nut (Lower Nut)	②No. 2 Nut (Upper Nut)	Common to No. 1 and 2	Setting Height ℓ	Mass per Set (g)
Standard	Standard	Standard	Standard	Standard	Standard
Thin Type	Thin	Thin	Thin	Thin	Thin
HLB	-	-	-	-	-
HLBM	EN 1.0038 Equiv.	-	-	-	-
HLBC	EN 1.1191 Equiv. Thermal Relief (22~28HRC)	22~28HRC	-	-	-
HLBS	EN 1.4301 Equiv.	-	-	-	-

*Designed Offset (a) is provided between No. 2 Nut boss.

⚙️ For Thin Type (HLBU), mount the second nut (upper nut) first, followed by the first one.

Screw Accuracy: JIS B 0211 6H (Class 2)

Part Number		MxPitch (Fine)		①No. 1 Nut (Lower Nut)		②No. 2 Nut (Upper Nut)		Common to No. 1 and 2		Setting Height ℓ		Mass per Set (g)	
Type	M	D1	D2	Standard	Thin	Standard	Thin	Standard	Thin	Standard	Thin	Standard	Thin
<Standard>	10	10x0.75	18	13	6	18	6	2.5	3.5	3	2.0	15	17
HLB	12	12x1.0	22	17	7	22	7	4.5	5.5	4	2.0	23	29
HLBM (M10~50)	15	15x1.0	25	21	7	25	7	5.5	6.5	5	2.0	33	43
HLBC (M10~50)	17	17x1.0	28	24	8	28	8	6.5	7.5	6	2.0	43	53
HLBS (M12~50)	20	20x1.0	32	26	8	32	8	7.5	8.5	7	2.0	53	63
	25	25x1.5	38	32	10	38	10	8.5	9.5	8	2.0	63	73
	30	30x1.5	45	38	10	45	10	9.5	10.5	9	2.0	73	83
	35	35x1.5	52	44	11	52	11	10.5	11.5	10	2.0	83	93
	40	40x1.5	58	50	12	58	12	11.5	12.5	11	2.0	93	103
HLBU (M25~50)	45	45x1.5	65	56	13	65	13	12.5	13.5	12	2.0	103	113
	50	50x1.5	70	61	14	70	14	13.5	14.5	13	2.0	113	123



Ordering Example

Part Number

HLB35

■Precautions for Use
Machine chamfering (C=1 pitch equivalent) on the tip of male thread, whose precision grade is JIS 6g (Class 2).

■Structure and Function of Hard Locking Bearing Nut

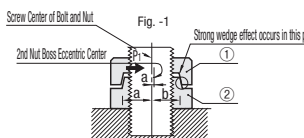


Fig. -1 When upper nut is tightened, stress is automatically applied in P₁ arrow direction. Horizontal stress continues to increase with tightening until upper nut closely contacts lower nut as shown in Fig. -2. The nuts are fully locked by the wedge effect.

Fig. -2 After nuts are tightened, internal stress remains distributed as composite stress of P₁ + P₂ + P₃ to resist external impact.

■Comparison with Conventional Products

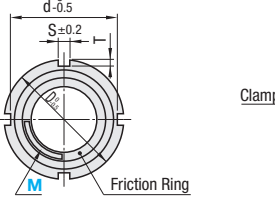


Unlike standard bearing nut sets, no keyway machining is required for toothed washers and shafts.



RoHS 10

Type	Material
FUNT	EN 1.0038 Equiv.
FUNTC	EN 1.1191 Equiv. Thermal Relief (22~28HRC)
FUNTS	EN 1.4301 Equiv.



Screw Accuracy: JIS 6H (Class 2)

Part Number		MxPitch (Fine)		D	D1	d	T	S	H	h	Perpendicularity of End Face (Max.)	Unit Price		
Type	M											FUNT	FUNTC	FUNTS
	8	8x0.75	16	12	13	1.5	3	5.3	±0.3	4.3	0.05			
	10	10x0.75	18	13.5	14.4	1.8	4	5.2	±0.3	4				
	12	12x1.0	22	17	18.4	1.8	5	5.4	±0.3	5				
	15	15x1.0	25	21	21.4	1.8	6	5.5	±0.3	6				
	17	17x1.0	28	24	24.2	1.9	7	5.6	±0.3	7				
	20	20x1.0	32	26	28.4	1.8	8	5.7	±0.3	8				
	25	25x1.5	38	32	34	2	9	5.8	±0.3	9				
	30	30x1.5	45	38	41	2	10	5.9	±0.3	10				
	35	35x1.5	52	44	48	2	11	6.0	±0.3	11				
	40	40x1.5	58	50	53	2.5	12	6.1	±0.3	12				
	45	45x1.5	65	56	60	2.5	13	6.2	±0.3	13				
	50	50x1.5	70	61	65	2.5	14	6.3	±0.3	14				



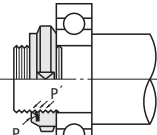
Ordering Example

Part Number

FUNT10

■Hard Lock Structure

As shown in the figure above, stress P is caused by the spring effect when Friction Ring contacts the thread. The reaction force P' together with P presses hard upon the threads, which creates friction torque (prevailing torque) to prevent any free motion.



■Precautions for Use

- Machine chamfering (C=1 pitch equivalent) on the tip of male thread, whose precision grade is JIS 6g (Class 2).
- Use lubricant when threading in and out. (Use extra high performance lubricant when shaft hardness is low.)
- For optimal performance, ensure that the complete thread portion is to extrude by 2 pitches or more from friction ring side.
- The perpendicularity of the plane end in the above table is effective only when tightened with twice or more than prevailing torque.
- Not usable with high speed impact wrenches.
- Not usable on machined thread portion of shafts (keyway, etc.).
- Screwing in from the friction ring side is impossible.
- Do not use when the deflection of friction rings or clamp part occurs.

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