Nuts for Lead Screws

Flanged / Compact, Flanged / Pilot / Tapped Holes / Slotted Holes

Easy Assembly Design

Selectable from Round Flanged, 2-Hole Compact Flanged, 4-Hole Compact Flanged, or Square Flanged Type.

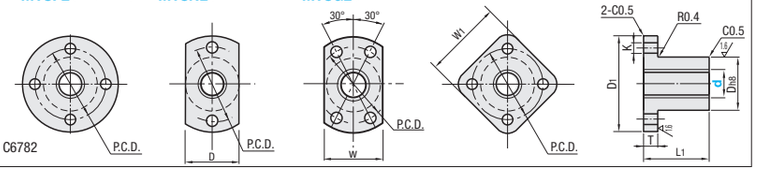
■Flanged

Round Flanged
MTSFR (Right-Hand Thread)
MTSFL (Left-Hand Thread)

Compact Flanged, 2-Hole
MTSNR (Right-Hand Thread)
MTSNL (Left-Hand Thread)

Compact Flanged, 4-Hole
MTSGR (Right-Hand Thread)
MTSGL (Left-Hand Thread)

Square Flanged
MTSCR (Right-Hand Thread)



Material: C6782

Part Number Type	d	Pitch P	D	L1	D1	T	P.C.D.	K	W	W1	Allowable Dynamic Thrust (kN)	Mass (g) MTSFR MTSFL	MTSNR MTSNL	MTSGR MTSGL	MTSCR	Unit Price MTSFR MTSFL	MTSNR MTSNL	MTSGR MTSGL	MTSCR
Round Flanged	(8)	1.5	15	20	30	5	22	4.3	-	-	1.47	41	33	-	-			-	-
MTSFR MTSFL	10	2	20	24	36		26		22	-	2.55	80	66	67	-				-
Compact Flanged, 2-Hole	12		22	30	44		31	5.4	24	-	3.92	120	95	96	-				-
MTSNR MTSNL	*14	3								33	4.90	110	85	86	91				
Compact Flanged, 4-Hole	*16		28	35	51	6	38	6.6	30	38	6.67	200	169	172	169				
MTSGR MTSGL	18	4	32	40	56		42		34	-	8.72	260	219	220	-				-
Square Flanged	*20									42	9.81	260	219	220	224				
MTSCR	*22	5	36	50	61	7	47		40	47	12.36	410	357	364	366				
	*25										14.22	350	290	297	306				
	*28		44	56	76	8	58	9	48	58	17.95	630	538	546	548				
	*32										21.08	580	490	498	498				
	36	6	52	60	84		66		56	-	25.78	820	719	728	-				-
	40		58	70	98	10	76	11	62	-	33.83	1250	1034	1044	-				-
	50	8	68	80	109		85		72	-	40.31	1631	1350	1362	-				-

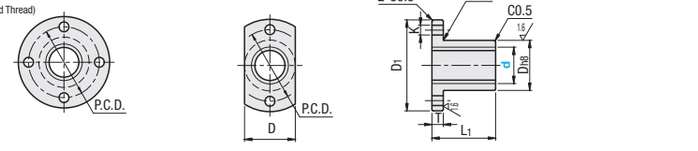
*Only * marked sizes are available for Square Flanged Type.*
d8 is applicable to MTSFR and MTSNR only.

Compact in both length and diameter. Short mounting hole pitch contributes to space savings.

■Compact, Flanged

Compact, Round Flanged
MTSPFR (Right-Hand Thread)
MTSPFL (Left-Hand Thread)

Compact, Compact Flanged, 2-Hole
MTSPNR (Right-Hand Thread)



Material: C6782

Part Number Type	d	Pitch P	D	L1	D1	T	P.C.D.	K	Allowable Dynamic Thrust (kN) MTSPFR(L) MTSPNR	Mass (g) MTSPFR MTSPFL	MTSPNR	Unit Price MTSPFR MTSPFL	MTSPNR
Round Flanged	*10	2	16	19	32	4	24	3.3	2.02	39	-		-
MTSPFR MTSPFL	*12		18	24	36	5	27	4.3	3.14	59	-		-
Compact Flanged, 2-Hole	14	3	20		38		29		3.92	73	57		
MTSPNR	16		22	28	40		31		5.34	89	73		
	20	4	26	32	44		35		7.85	112	94		
	22	5	28	40	50	6	39	5.4	9.89	174	143		
	25		31		53		42		11.38	174	143		
	28		34	45	58	7	46	6.6	14.42	213	170		
	32	6	38		62		50		16.94	272	227		

** marked sizes are available for MTSPFR only.*

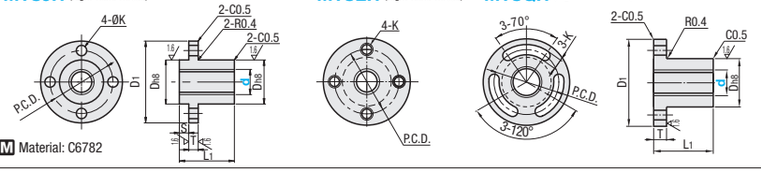
Pilot Type and Tapped Type are effective when used vertically on plates. The Slotted Hole Type can be used to perform fine adjustments during installation.

■Pilot / Tapped Holes / Slotted Holes

Round Flanged, Pilot
MTSJR (Right-Hand Thread)

Round Flanged, Tapped Holes
MTSER (Right-Hand Thread)

Round Flanged, Slotted Holes
MTSQR (Right-Hand Thread)



Material: C6782

Part Number Type	d	Pitch P	D	L1	D1 MTSJR	D1 MTSER MTSQR	T	S	P.C.D. MTSJR	P.C.D. MTSER MTSQR	K MTSJR MTSQR	K MTSER	Allowable Dynamic Thrust (kN)	Mass (g) MTSJR	MTSER	MTSQR	Unit Price MTSJR	MTSER	MTSQR
Pilot	*14	3	22	30	44	44	5	5	33	31	5.4	M4	4.90	110	112	98			
MTSJR	*16		28	35	52	51	6	6	40	38	6.6	M5	6.67	204	204	178			
(Only * marked sizes are available.)	*20	4	32	40	56	56			44	42			9.81	260	264	236			
Tapped Holes	*22	5	36	50	60	61	7		48	47			12.36	404	414	378			
MTSER	*25												14.22	344	354	318			
Slotted Holes	28												17.95	-	645	570	-		
MTSQR	32	6	44	56	-	76	8	-	-	58	9	M6	21.08	-	595	520	-		

Ordering Example: Part Number **MTSGR16** **MTSPFL25**

Nuts for Lead Screws - RoHS Compliant

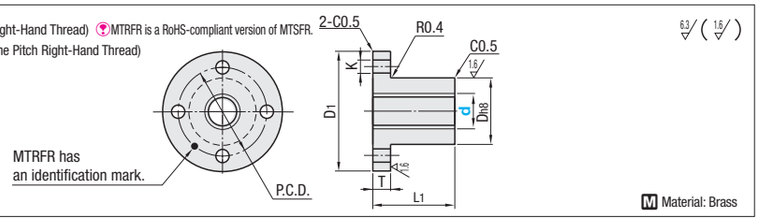
Flanged / Fine Pitch / Anti-Backlash

RoHS compliant Flanged Lead Screw Nut. Delivered in the shortest lead-time.

■Flanged

RoHS10

MTRFR (Right-Hand Thread) MTRFR is a RoHS-compliant version of MTSFR.
MTXFR (Fine Pitch Right-Hand Thread)



Material: Brass

Part Number Type	d	Pitch P	D	L1	D1	T	P.C.D.	K	Allowable Dynamic Thrust (kN)	Mass (g)	Unit Price 1 ~ 4 pc(s).
MTRFR	10	2	20	24	36	5	26	4.3	2.55	80	
	12		22	30	44		31	5.4	3.92	120	
	14	3							4.90	110	
	16		28	35	51	6	38	6.6	6.67	200	
	20	4	32	40	56		42		9.81	260	
	25	5	36	50	61	7	47		14.22	350	
	28		44	56	76	8	58	9	17.95	630	
	32	6							21.08	580	
MTXFR	16	2	28	35	51	6	38	6.6	6.78	190	
	20		32	40	56		42		10.1	250	

For Fine Pitch Right-Hand Thread, p,lease see MTX□□ (**P.801, 805~808**).

For orders larger than indicated quantity, please request a quotation.

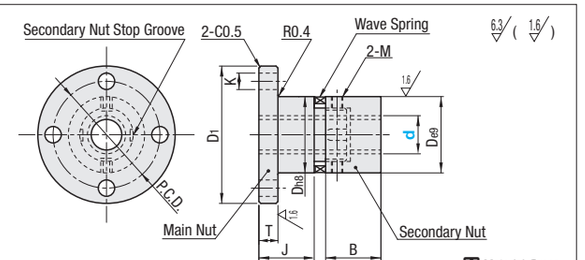
Ordering Example: Part Number **MTRFR20**

■Anti-Backlash

RoHS10

MTBLR (Right-Hand Thread)

Main nut has 4 marks for confirmation of groove positioning.



Material: Brass

■Components

Part Name	Material	Quantity
Main Nut	Brass	1
Secondary Nut	Brass	1
Wave Spring	SWRH72B	1
Set Screw	SCM435	2

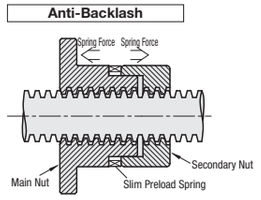
Part Number Type	d	Pitch P	D	D1	T	(L1)	J	B	P.C.D.	K	M	Allowable Dynamic Thrust (kN)	Mass (g)	Unit Price 1 ~ 4 pc(s).
Round Flanged MTBLR	10	2	20	36	5	33	13	15	26	4.3	3	2.60	100	
	12		22	44		36.5	16.5	16	31	5.4		3.39	130	
	16	3	28	51	6	45	21	20	38	6.6	4	6.29	230	
	20	4	32	56		52	24	25	42			9.32	310	

For orders larger than indicated quantity, please request a quotation.

Ordering Example: Part Number **MTBLR20**

■Features of Anti-Backlash

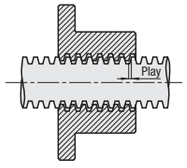
Anti-Backlash



Anti-Backlash can eliminate play between shaft and nut by spring force of slim preload spring installed between main nut and secondary nut. Even if there is abrasion, spring force controls backlash.

(Notes)The effects will vary depending on applied conditions (Load and Direction).

Regular Type



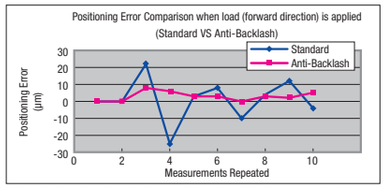
Regular Type has axial play of shaft and nut, and this causes backlash on reverse driving direction.

■Installation of Anti-Backlash

①Remove the tape that is temporarily holding the main and secondary nuts.
In this condition, the main and secondary nuts are fixed by 2 set screws.
②While the set screw is fixed, turn the shaft of lead screw as it is inserted.
③After insertion of secondary nut, set screw is rotated approximately 45° to 90° to loosen.
Clamping force between the main and secondary nuts is released and spring force works.

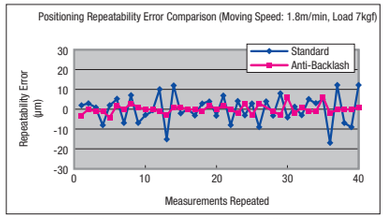
The mounted set screw must not protrude out from external diameter of secondary nut. In order to prevent dropout of set screw due to vibration and the like, insert to secondary nut part of housing.

①Positioning Error Comparison (Reference Value)



・Controls the deterioration in precision of positioning caused by Moment of Inertia during shut-down of motion and driving fluctuation effect.

②Positioning Repeatability Error Comparison (Reference Value)



・Anti-backlash design improves the system repeatability.

Test Conditions: Sample Nut: MTBLR16 Axis: MTSRG16-270 Travel Distance: 75mm