

鎖定螺帽篇

Locknut

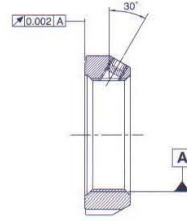
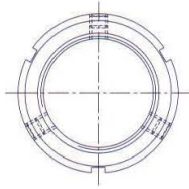


KINDS OF PRODUCTS AND SPECIFICATIONS 產品種類及說明

MF Series Precision Locknuts MF系列精密螺帽



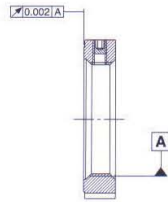
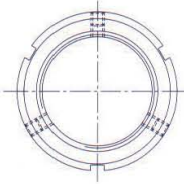
- The lock screws intersect a 30° angle with axis accompany with special threading design which makes the braking copper perfectly attached to threading surface to secure high stability and precision.
- 其制動螺絲之固鎖方向為30° 配合螺紋角的设计，使制動銅完全貼合於螺紋面，更能達成安定精準的功能。



MR Series Precision Locknuts MR系列精密螺帽



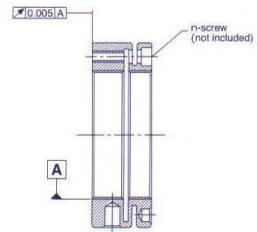
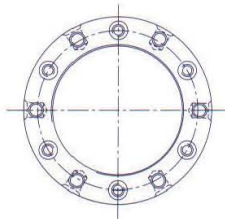
- The lock screws intersect a right angle with axis, which are designed for restricted space. They could be replaced by MF series if possible.
- 其制動螺絲之固鎖方向為徑向鎖定，適用於設計或裝配上的限制，用以取代MF系列螺帽。



MKR Series Precision Locknuts MKR系列精密螺帽



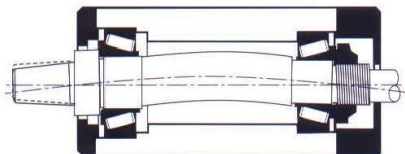
- The series is specially designed to generate powerful braking capacity due to deformation of lock nut itself, which makes the male and female threads contact tightly together.
- 在設計的功能上著重於制動能力，利用螺帽本身的變形，使螺紋面輪廓緊密的貼合於公螺紋，進而產生強大的制動能力。



PROFIT BY USE PRECISION LOCKNUT 使用精密螺帽的優點

Without Precision Locknuts

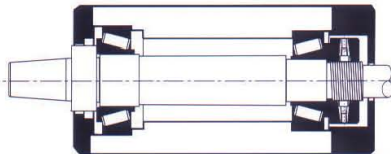
使用一般太陽螺帽(梅花螺帽)



- Distortion(vibration) due to misalignment
- 造成轉軸之曲撓變形且容易鬆脫。

With Precision Locknuts

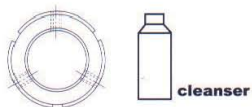
使用祥開之精密螺帽



- It will effectively prevent the spindle from distortion
- 避免轉軸之曲撓,防止鬆脫。

ASSEMBLY PROCEDURE

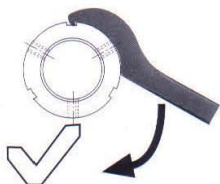
精密螺帽裝配程序示意圖



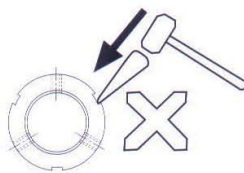
Use cleanser,Wash
使用去漬油清洗油漬



**Spread little lubricating oil onto
inside threading**
少量潤滑油滴入內孔部位



**Use adequate tool and wrench to
set up expect loading.**
使用適當工具與板手完成預定負荷



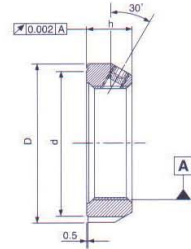
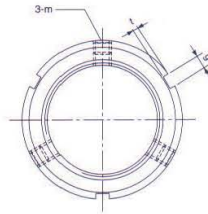
Do not hit at just one point
切勿單點施力

MF SERIES-30° LOCKING

30° 鎖定

- Material — SCM440
- Hardness — HRC 28-32
- Precision — ISO 4H

- 材質 SCM440
- 硬度 HRC28-32
- 精度 ISO 4H



TYPE & Pitch	Dimensions					Axial Load Static kN	Loosening Torque kg-cm	Screw	Torque
	D	h	g	t	d			DIN	Max kg-cm
MF12 x 1.0P	30	14	4	2	25	40	200	M5	48
MF15 x 1.0P	34	16			26	60	250		
MF17 x 1.0P	36		28	70	300				
MF20 x 1.0P	38	18	5	2	32	90	400	M6	80
MF20 x 1.5P					90	400			
MF25 x 1.5P	42	36	120	800					
MF30 x 1.5P	48	43	145	1400					
MF35 x 1.5P	53	48	170	1800					
MF40 x 1.5P	58	20	6	2.5	52	190	2200	M8	190
MF45 x 1.5P	65				59	220	2500		
MF50 x 1.5P	70	64	250	2700					
MF55 x 2.0P	75	22	7	3	68	310	2900	M8	190
MF60 x 2.0P	80				73	350	3100		
MF65 x 2.0P	85	78	400	3200					
MF70 x 2.0P	92	24	8	3.5	84	450	3400	M8	190
MF75 x 2.0P	98				90	480	3600		
MF80 x 2.0P	105	96	580	3800					
MF85 x 2.0P	112	104	620	4000					
MF90 x 2.0P	118	26	10	4	108	680	4500	M8	190
MF100 x 2.0P	128				118	740	5000		
MF110 x 2.0P	145	30	12	5	132	800	5500		
MF120 x 2.0P	155				142	860	6000		
MF130 x 2.0P	165				152	920	6500		
MF140 x 2.0P	180	32	12	5	165	980	7000	M10	360
MF150 x 2.0P	195				180	1050	7500		
MF160 x 3.0P	210	34	12	5	190	1200	8000		
MF170 x 3.0P	220				200	1260	8500		
MF180 x 3.0P	230	36	12	5	205	1370	9000	M10	360
MF190 x 3.0P	240				220	1430	9500		
MF200 x 3.0P	250	230	1500	9900					

When ordering above products, please refer to the TYPE NO.

- If left hand threading required, please notify "L" after the TYPE NO. For example: MF25-L
- If inch threading required, please notify "U20" (20 threads per inch). For example: MF25-U20
- MR, MKR series work in the same way.

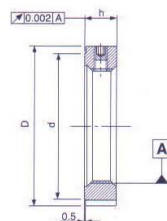
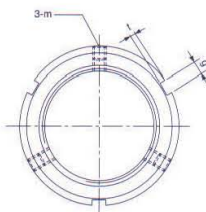
No stocks of above series available, please send your order in advance.

MR SERIES-RADIAL LOCKING

徑向鎖定

- Material — SCM440
- Hardness — HRC 28-32
- Precision — ISO 4H

- 材質 SCM440
- 硬度 HRC28-32
- 精度 ISO 4H



TYPE & Pitch	Dimensions					Axial Load Static kN	Loosening Torque kg-cm	Screw		Torque	
	D	h	g	t	d			DIN	Max kg-cm		
MR6 x 0.5P	16	8	3	2	11	7.8	110	M4	22		
MR8 x 0.75P					13	10.2	150				
MR10 x 0.75P					19	11	180				
MR12 x 1.0P					23	20	190				
MR15 x 1.0P	28	10	4	2	27	30	220	M5	48		
MR17 x 1.0P	30				40	280					
MR20 x 1.0P	50				50	300					
MR20 x 1.5P	50				50	300					
MR25 x 1.5P	42	12	5	2	36	75	550	M6	80		
MR30 x 1.5P	43				90	750					
MR35 x 1.5P	48				110	900					
MR40 x 1.5P	52				130	1200					
MR45 x 1.5P	65	14	6	2.5	59	150	1300	M6	80		
MR50 x 1.5P	64				175	1500					
MR55 x 2.0P	68				225	1700					
MR60 x 2.0P	73				250	2000					
MR65 x 2.0P	85	16	7	3	78	290	2200	M8	190		
MR70 x 2.0P	84				340	2400					
MR75 x 2.0P	90				360	2600					
MR80 x 2.0P	96				430	2800					
MR85 x 2.0P	105	18	8	3.5	104	460	3000	M8	190		
MR90 x 2.0P	108				520	3200					
MR100 x 2.0P	118				570	3600					
MR110 x 2.0P	132				640	4000					
MR120 x 2.0P	155	20	10	4	142	680	4500	M10	360		
MR130 x 2.0P	152				730	5000					
MR140 x 2.0P	165				800	5500					
MR150 x 2.0P	180				850	6000					
MR160 x 3.0P	210	24	12	5	190	980	6500	M10	360		
MR170 x 3.0P	200				1030	7000					
MR180 x 3.0P	210				1140	7500					
MR190 x 3.0P	220				1200	8000					
MR200 x 3.0P	250	28	12	5	220	1200	8000	M10	360		
MR190 x 3.0P	240				1200	8000					
MR200 x 3.0P	250	30	12	5	230	1250	8500	M10	360		
MR200 x 3.0P	250				1250	8500					

當您訂購以上產品時，請告知型號

■如果您欲訂購特殊件左牙之精密螺帽，請加註-L 例如：MF25-L

■如果您欲訂購特殊件英製螺紋之精密螺帽，請加註-U20 (每英吋20牙) 例如：MF25-U20

■MR, MKR系列亦同

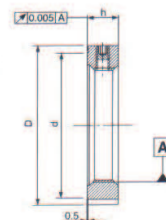
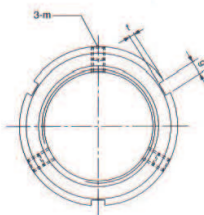
以上註明之特殊件均不備庫存，訂購時請提前下訂單，以方便您的使用。

MRZ SERIES-RADIAL LOCKING

徑向鎖定

- Material — SCM440
- Hardness — HRC 28-32
- Precision — ISO 4H

- 材質 SCM440
- 硬度 HRC28-32
- 精度 ISO 4H



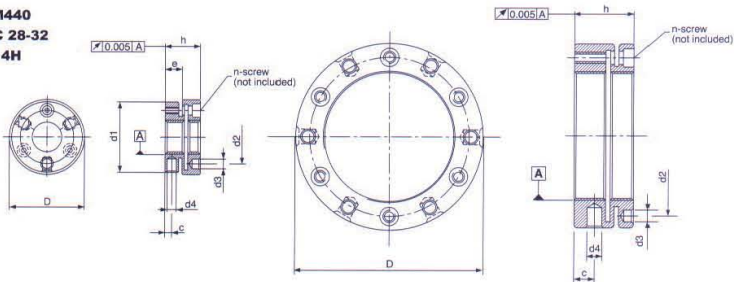
TYPE & Pitch	Dimensions					Axial Load Static kN	Loosening Torque kg-cm	Screw DIN	Torque Max kg-cm
	D	h	g	t	d				
MRZ6 x 0.5P	16	8	3	2	11	7.8	110	M4	22
MRZ8 x 0.75P					13	10.2	150		
MRZ10 x 0.75P	18	10	4	2	18	11	180	M5	48
MRZ12 x 1.0P	20				20	190			
MRZ15 x 1.0P	25	12	5	2	21	30	220	M6	80
MRZ17 x 1.0P	28				40	280			
MRZ20 x 1.0P	32	14	6	2.5	23	50	300	M8	190
MRZ20 x 1.5P					27	50	300		
MRZ25 x 1.5P	38	16	7	3	33	75	550	M10	360
MRZ30 x 1.5P	40				90	750			
MRZ35 x 1.5P	45	18	8	3.5	47	110	900	M10	360
MRZ40 x 1.5P	52				130	1200			
MRZ45 x 1.5P	58	20	10	4	59	150	1300	M10	360
MRZ50 x 1.5P	65				175	1500			
MRZ55 x 2.0P	70	24	12	5	68	225	1700	M10	360
MRZ60 x 2.0P	75				250	2000			
MRZ65 x 2.0P	80	26	14	6	78	290	2200	M10	360
MRZ70 x 2.0P	85				340	2400			
MRZ75 x 2.0P	92	28	16	8	84	360	2600	M10	360
MRZ80 x 2.0P	98				430	2800			
MRZ85 x 2.0P	105	30	18	10	90	460	3000	M10	360
MRZ85 x 2.0P	105				460	3000			
MRZ90 x 2.0P	112	32	20	12	104	520	3200	M10	360
MRZ90 x 2.0P	112				570	3600			
MRZ100 x 2.0P	118	34	22	14	108	640	4000	M10	360
MRZ100 x 2.0P	118				680	4500			
MRZ110 x 2.0P	128	36	24	16	118	730	5000	M10	360
MRZ110 x 2.0P	128				730	5000			
MRZ120 x 2.0P	145	38	26	18	132	800	5500	M10	360
MRZ120 x 2.0P	145				850	6000			
MRZ130 x 2.0P	155	40	28	20	152	980	6500	M10	360
MRZ130 x 2.0P	155				1030	7000			
MRZ140 x 2.0P	165	42	30	22	165	1140	7500	M10	360
MRZ140 x 2.0P	165				1200	8000			
MRZ150 x 2.0P	180	44	32	24	180	1250	8500	M10	360
MRZ150 x 2.0P	180				1250	8500			
MRZ160 x 3.0P	195	46	34	26	190	1200	8000	M10	360
MRZ160 x 3.0P	195				1200	8000			
MRZ170 x 3.0P	210	48	36	28	200	1100	7500	M10	360
MRZ170 x 3.0P	210				1100	7500			
MRZ180 x 3.0P	220	50	38	30	210	1200	8000	M10	360
MRZ180 x 3.0P	220				1200	8000			
MRZ190 x 3.0P	230	52	40	32	220	1250	8500	M10	360
MRZ190 x 3.0P	230				1250	8500			
MRZ200 x 3.0P	240	54	42	34	230	1250	8500	M10	360
MRZ200 x 3.0P	240				1250	8500			

MKR SERIES-AXIAL LOCKING

軸向鎖定

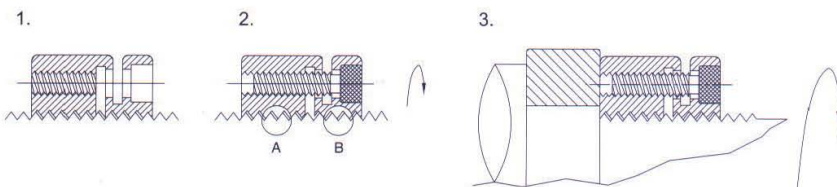
- Material — SCM440
- Hardness — HRC 28-32
- Precision — ISO 4H

- 材質 SCM440
- 硬度 HRC28-32
- 精度 ISO 4H



註：本產品不包含螺絲

TYPE & Pitch	Dimensions								Helical Angle	Screw		Torque
	D	h	e	d1	d2	d3	d4	c		DIN	n	
MKR 10 x 0.75P	24	14	6.5	22	17	3.2	2.5	3	1.44	M3 x10	3	20
MKR 10 x 1.0P		15										
MKR 12 x 1.0P	26	14		25	19		3	1.61				
MKR 12 x 1.5P		15						2.48				
MKR 14 x 1.5P	32	16	7	30	22.5	4.3	4	3	2.10	M4 x10	3	30
MKR 15 x 1.0P	33			31	23.5				5			
MKR 16 x 1.5P	34	18	-	-	24.5			1.82				
MKR 17 x 1.0P	35				25.5			1.21				
MKR 18 x 1.5P	36				26.5			1.61				
MKR 20 x 1.0P		18	-	-		4.3	4	5	0.94			
MKR 20 x 1.5P	40				30.5			1.44				
MKR 22 x 1.5P								1.30				
MKR 24 x 1.5P	42	18			32.5		4	5	1.19			
MKR 25 x 1.5P						4.3			1.14			
MKR 26 x 1.5P	45	20	-	-	36.5		5	6.5	1.09			
MKR 28 x 1.5P	46				38.5				1.01			
MKR 30 x 1.5P	48	20			40.5	4.3	5	6.5	0.94			
MKR 32 x 1.5P	50				42.5					0.88		
MKR 35 x 1.5P	53	22	-	-	45.5			7	0.80			
MKR 38 x 1.5P	58				48.5				0.74			
MKR 40 x 1.5P	58				50.5	4.3	5	7	0.70			
MKR 42 x 1.5P	60	22	-	-	52.5					7	0.67	
MKR 45 x 1.5P					58				0.62			
MKR 48 x 1.5P	68	25			59.5		6	6.5	0.58			
MKR 50 x 1.5P	70	25	-	-	61.5	4.3	6	9	0.56			
										M4 x16	6	

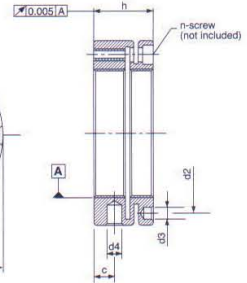
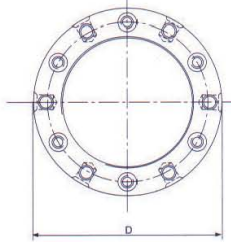


MKR SERIES-AXIAL LOCKING

軸向鎖定

- Material — SCM440
- Hardness — HRC 28-32
- Precision — ISO 4H

- 材質 SCM440
- 硬度 HRC28-32
- 精度 ISO 4H



註：本產品不包含螺絲

TYPE & Pitch	Dimensions								Helical Angle	Screw		Torque
	D	h	e	d1	d2	d3	d4	c		DIN	n	
MKR 52 x 1.5P	72	25			63.5	4.3	6	9	0.54	M4 x 16		30
MKR 55 x 1.5P	75				66.5				0.51			
MKR 55 x 2.0P	75	26	-	-	72.5	5.3	6	9	0.68	M5 x 16		61
MKR 58 x 1.5P	82				74.5				0.48			
MKR 60 x 1.5P	84	28	-	-	76.5	5.3	6	10.5	0.46	M5 x 20		61
MKR 60 x 2.0P	84				78.5				0.62			
MKR 62 x 1.5P	86	28	-	-	78.5	5.3	8	9.5	0.45	M5 x 20		61
MKR 65 x 1.5P	88				83				0.43			
MKR 65 x 2.0P	88	28	-	-	85	5.3	8	9.5	0.57	M6 x 20		102
MKR 68 x 1.5P	95				86				0.41			
MKR 70 x 1.5P	95	32	-	-	86	6.4	8	8.5	0.40	M6 x 20		102
MKR 70 x 2.0P	95				88				0.53			
MKR 72 x 1.5P	98	32	-	-	88	6.4	8	11	0.39	M6 x 20		102
MKR 75 x 1.5P	100				95				0.44			
MKR 75 x 2.0P	100	32	-	-	95	6.4	8	11	0.37	M6 x 20		102
MKR 80 x 2.0P	110				100				0.46			
MKR 85 x 2.0P	115	36	-	-	100	6.4	8	11	0.41	M6 x 25		255
MKR 90 x 2.0P	120				108				0.37			
MKR 95 x 2.0P	125	36	-	-	113	6.4	8	13	0.39	M6 x 25		255
MKR 100 x 2.0P	130				118				0.31			
MKR 105 x 2.0P	135	40	-	-	123	6.4	10	12	0.35	M8 x 30		255
MKR 110 x 2.0P	140				128				0.37			
MKR 115 x 2.0P	145	40	-	-	133	6.4	10	14	0.34	M8 x 30		255
MKR 120 x 2.0P	155				140				0.40			
MKR 125 x 2.0P	160	40	-	-	148	6.4	10	14	0.29	M8 x 30		255
MKR 130 x 3.0P	165				153				0.37			
MKR 140 x 3.0P	180	40	-	-	165	6.4	10	14	0.43	M8 x 30		255
MKR 150 x 3.0P	190				175				0.40			
MKR 160 x 3.0P	205	40	-	-	185	6.4	10	14	0.37	M8 x 30		255
MKR 170 x 3.0P	215				195				0.35			
MKR 180 x 3.0P	230	40	-	-	210	6.4	10	14	0.33	M8 x 30		255
MKR 190 x 3.0P	240				224				0.31			
MKR 200 x 3.0P	245	40	-	-	224	6.4	10	14	0.29	M8 x 30		255
MKR 200 x 3.0P	245				229				0.28			