

**NIKKI**  
PRECISION LOCKNUTS

# NIKKI

HSIANG KAI FU CO., LTD. is a professional manufacturer of precision locknuts for bearings and precision machine components. It was founded in 1994 and is located in The Taichung Precision Machinery Technological Park in Taiwan. We insist on the highest quality and take pride in our technical skills. Our excellent brand NIKKI locknuts have a reputation that is spread by all who know them .

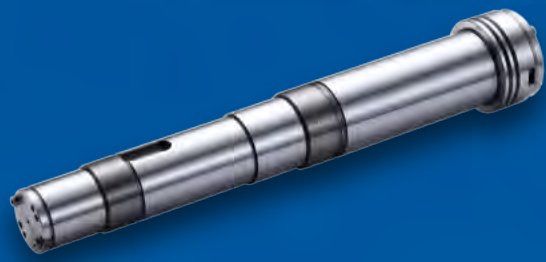
## **Innovation & Service**

As we continue to accumulate experience we strive to develop and innovate based on our customers' requirements. We provide the best products at competitive prices to help customers improve their production quality and volume. We serve customers with a friendly, professional attitude and deliver on time. NIKKI achieves maximum customer satisfaction through its quality products, high value purchase options and outstanding services. Our goal is to be the best partner for customer .

## **Environment Friendly**

- Analysis Report (SGS) :  
The Certificate of RoHS & SVHC free. (E.U.)





### **Production & Service**

- ◆ Precision Locknuts for Bearings
- ◆ Firm Fastening Locknuts
- ◆ Custom Locknuts
- ◆ Product Design and Development
- ◆ Outer thread grinding processing

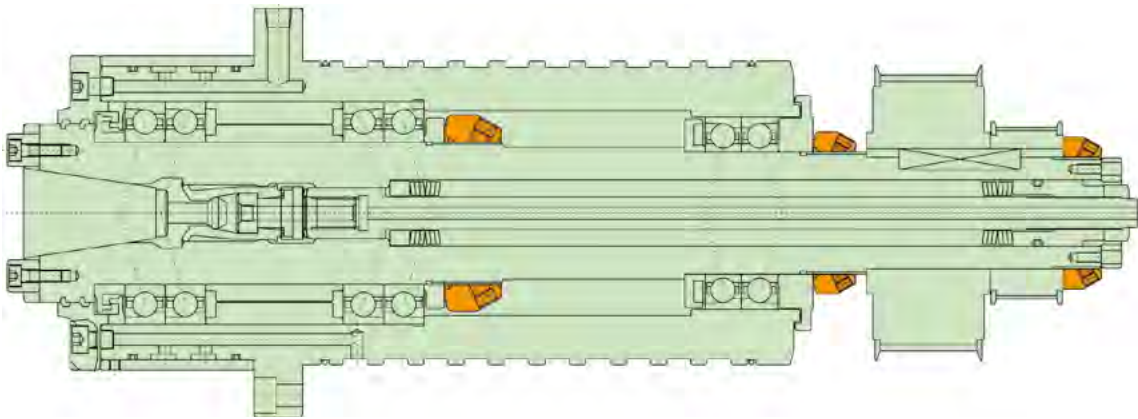
Please let us know if you a special production request .



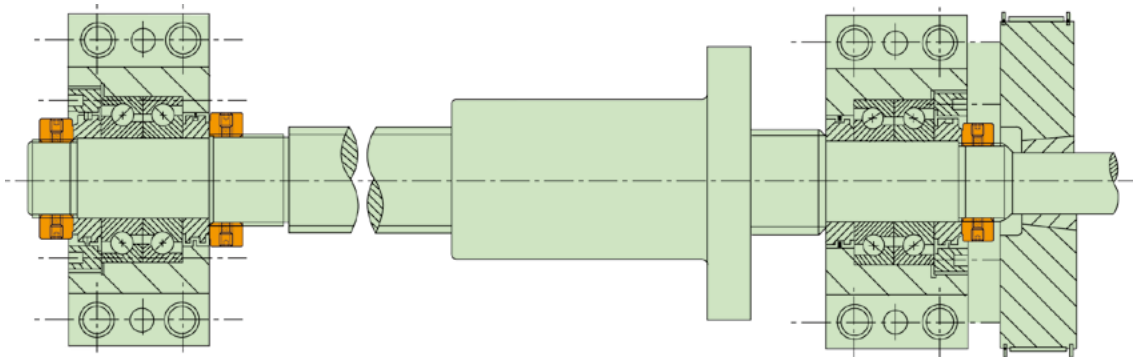
## EXAMPLES OF TYPICAL APPLICATION

- When applied to a rotating spindle / ball screw of a machine, it will effectively prevent it from deflection and improve precision of assembly.
- Our Locknuts give you simple set up, and prolong the life of your machine.
- When applied to other areas, the problems of measuring, adjusting and the deformation after the bolt is locked etc, can all be improved significantly.

### Spindle Structure

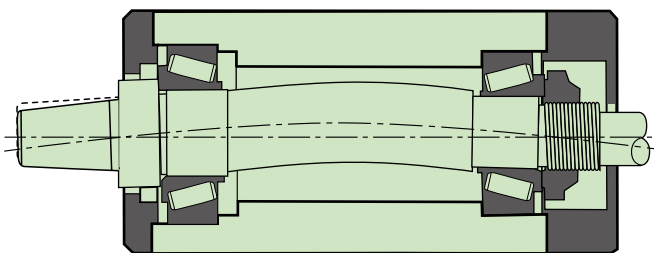


### Ballscrews Structure



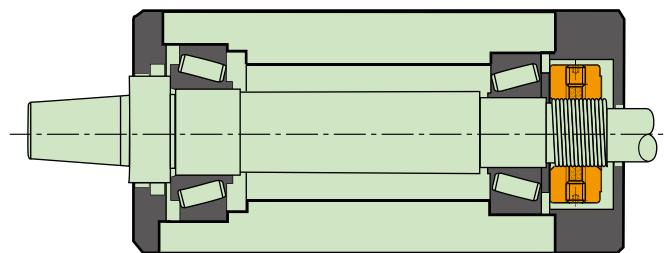
## ADVANTAGE BY USING PRECISION LOCKNUTS

### Without Precision Locknuts



- Distortion (vibration) due to misalignment.

### With Precision Locknuts



- They are effective at preventing spindle distortion.

# QUALITY ASSURANCE

"High Locking", "High Precision", "High Stability"

## NIKKI Precision Locknuts advantage :

- The thread precision is ISO 4H.
- High load carrying capacity.
- Easy correction to a right angle against axis.
- Lock without a washer or keyway.
- Save assembly time with increased precision and save cost.
- Effectively prevent spindles and ball screws from distortion.
- Prolong the life of bearings and machines.
- Easy to assemble and disassemble.
- Can be reused if handled properly.



## 1. Material Information

- (1). Materials Used: We choose JIS SCM440 / DIN 42CrMo4 / AISI 4140
- (2). Analysis Report (SGS): The Certificate of RoHS & SVHC free. (E.U.)

## 2. Measuring Process



We measure the thickness of the locknut. (refer to photo)



We measure the inner diameter of the locknut. (refer to photo)



We check the thread precision by a gauge to insure ISO 4H. (refer to photo)



We measure the locknut thread run-out. (refer to photo)

## 3. Measuring Instrument



■ Universal length measuring instrument

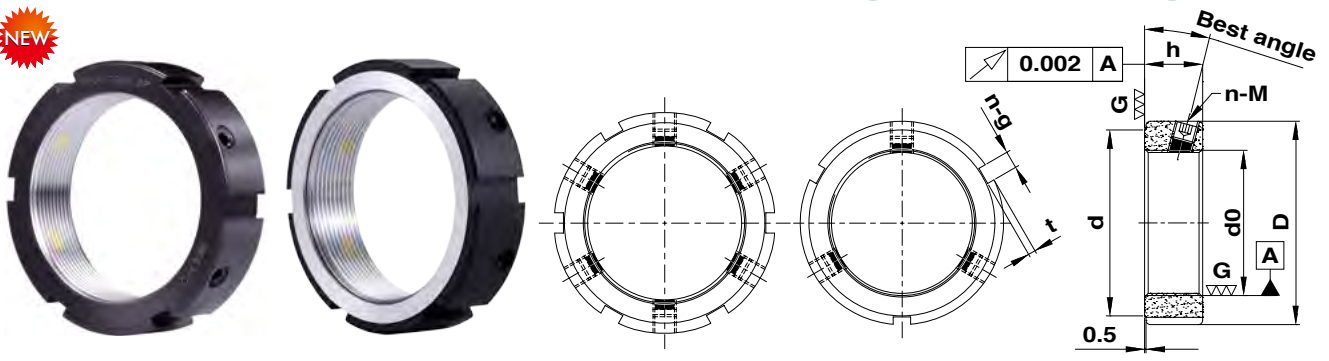


■ Universal measuring microscope



■ Roughness and contour instrument

# HKF Series - Best Flank Angle Locking



Improved the 30° frank looking nut.

M70 and above

M65 and under

- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

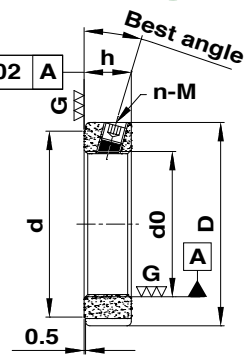
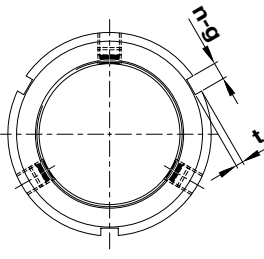
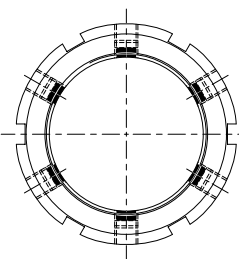
Order No.	Dimensions in mm							Set Screw Data	
Name	d0_ ISO 4H	D	h	d	n	g	t	n-M	Max. Torque_Nm
HKF15X1.0P	M15X1	30	14	25	3	4	2	3-M6	8
HKF17X1.0P	M17X1	32	16	27	3	4	2	3-M6	8
HKF20X1.0P	M20X1	38	16	33	3	4	2	3-M6	8
HKF20X1.5P	M20X1.5	38	16	33	3	4	2	3-M6	8
HKF25X1.5P	M25X1.5	38	18	33	3	5	2	3-M6	8
HKF30X1.5P	M30X1.5	45	18	40	3	5	2	3-M6	8
HKF35X1.5P	M35X1.5	52	18	47	3	5	2	3-M8	19
HKF40X1.5P	M40X1.5	58	20	52	3	6	2.5	3-M8	19
HKF45X1.5P	M45X1.5	65	20	59	3	6	2.5	3-M8	19
HKF50X1.5P	M50X1.5	70	20	64	3	6	2.5	3-M8	19
HKF55X1.5P	M55X1.5	75	22	68	3	7	3	3-M8	19
HKF55X2.0P	M55X2	75	22	68	3	7	3	3-M8	19
HKF60X1.5P	M60X1.5	80	22	73	3	7	3	3-M8	19
HKF60X2.0P	M60X2	80	22	73	3	7	3	3-M8	19
HKF65X1.5P	M65X1.5	85	22	78	3	7	3	3-M8	19
HKF65X2.0P	M65X2	85	22	78	3	7	3	3-M8	19
HKF70X1.5P	M70X1.5	92	24	84	6	8	3.5	6-M8	19
HKF70X2.0P	M70X2	92	24	84	6	8	3.5	6-M8	19
HKF75X1.5P	M75X1.5	98	24	90	6	8	3.5	6-M8	19
HKF75X2.0P	M75X2	98	24	90	6	8	3.5	6-M8	19
HKF80X2.0P	M80X2	105	24	96	6	8	3.5	6-M8	19
HKF85X2.0P	M85X2	110	24	102	6	8	3.5	6-M8	19
HKF90X2.0P	M90X2	120	26	108	6	10	4	6-M8	19
HKF95X2.0P	M95X2	125	26	113	6	10	4	6-M8	19
HKF100X2.0P	M100X2	130	26	118	6	10	4	6-M8	19
HKF105X2.0P	M105X2	140	28	125	6	10	4	6-M10	36
HKF110X2.0P	M110X2	145	28	132	6	10	4	6-M10	36
HKF115X2.0P	M115X2	150	28	137	6	10	4	6-M10	36
HKF120X2.0P	M120X2	155	30	142	6	12	5	6-M10	36
HKF125X2.0P	M125X2	160	30	147	6	12	5	6-M10	36
HKF130X2.0P	M130X2	165	30	152	6	12	5	6-M10	36
HKF135X2.0P	M135X2	175	32	160	6	12	5	6-M10	36
HKF140X2.0P	M140X2	180	32	165	6	12	5	6-M10	36
HKF145X2.0P	M145X2	190	32	175	6	12	5	6-M10	36
HKF150X2.0P	M150X2	195	32	180	6	12	5	6-M10	36
HKF155X3.0P	M155X3	200	34	180	6	14	6	6-M10	36
HKF160X3.0P	M160X3	210	34	190	6	14	6	6-M10	36
HKF165X3.0P	M165X3	210	34	190	6	14	6	6-M10	36
HKF170X3.0P	M170X3	220	34	200	6	14	6	6-M10	36
HKF180X3.0P	M180X3	230	36	205	6	16	7	6-M12	60
HKF190X3.0P	M190X3	240	36	215	6	16	7	6-M12	60
HKF200X3.0P	M200X3	250	38	225	6	16	7	6-M12	60

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: HKF30x1.5P  
 For example: HKF30x1.5P-L  
 For example: HKF30-U18

# HKR Series - Best Flank Angle Locking

NEW



Improved the radial locking nut.

M70 and above

M65 and under

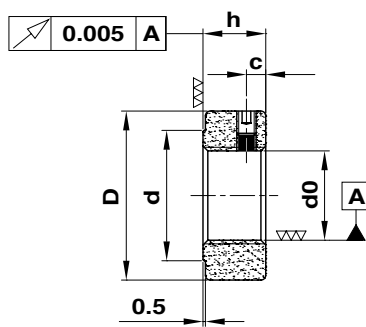
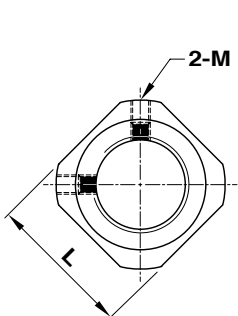
- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

Order No.	Dimensions in mm							Set Screw Data	
Name	d0_ISO 4H	D	h	d	n	g	t	n-M	Max.Torque_ Nm
HKR15X1.0P	M15X1	25	8	21	3	3	2	3-M4	2.2
HKR17X1.0P	M17X1	28	10	23	3	4	2	3-M5	4.8
HKR20X1.0P	M20X1	32	10	27	3	4	2	3-M5	4.8
HKR20X1.5P	M20X1.5	32	10	27	3	4	2	3-M5	4.8
HKR25X1.5P	M25X1.5	38	12	33	3	5	2	3-M6	8
HKR30X1.5P	M30X1.5	45	12	40	3	5	2	3-M6	8
HKR35X1.5P	M35X1.5	52	12	47	3	5	2	3-M6	8
HKR40X1.5P	M40X1.5	58	14	52	3	6	2.5	3-M6	8
HKR45X1.5P	M45X1.5	65	14	59	3	6	2.5	3-M6	8
HKR50X1.5P	M50X1.5	70	14	64	3	6	2.5	3-M6	8
HKR55X1.5P	M55X1.5	75	16	68	3	7	3	3-M8	19
HKR55X2.0P	M55X2	75	16	68	3	7	3	3-M8	19
HKR60X1.5P	M60X1.5	80	16	73	3	7	3	3-M8	19
HKR60X2.0P	M60X2	80	16	73	3	7	3	3-M8	19
HKR65X1.5P	M65X1.5	85	16	78	3	7	3	3-M8	19
HKR65X2.0P	M65X2	85	16	78	3	7	3	3-M8	19
HKR70X1.5P	M70X1.5	92	18	84	6	8	3.5	6-M8	19
HKR70X2.0P	M70X2	92	18	84	6	8	3.5	6-M8	19
HKR75X1.5P	M75X1.5	98	18	90	6	8	3.5	6-M8	19
HKR75X2.0P	M75X2	98	18	90	6	8	3.5	6-M8	19
HKR80X2.0P	M80X2	105	18	96	6	8	3.5	6-M8	19
HKR85X2.0P	M85X2	110	18	102	6	8	3.5	6-M8	19
HKR90X2.0P	M90X2	120	20	108	6	10	4	6-M8	19
HKR95X2.0P	M95X2	125	20	113	6	10	4	6-M8	19
HKR100X2.0P	M100X2	130	20	118	6	10	4	6-M8	19
HKR105X2.0P	M105X2	140	22	125	6	10	4	6-M10	36
HKR110X2.0P	M110X2	145	22	132	6	10	4	6-M10	36
HKR115X2.0P	M115X2	150	22	137	6	10	4	6-M10	36
HKR120X2.0P	M120X2	155	24	142	6	12	5	6-M10	36
HKR125X2.0P	M125X2	160	24	147	6	12	5	6-M10	36
HKR130X2.0P	M130X2	165	24	152	6	12	5	6-M10	36
HKR135X2.0P	M135X2	175	26	160	6	12	5	6-M10	36
HKR140X2.0P	M140X2	180	26	165	6	12	5	6-M10	36
HKR145X2.0P	M145X2	190	26	175	6	12	5	6-M10	36
HKR150X2.0P	M150X2	195	26	180	6	12	5	6-M10	36
HKR155X3.0P	M155X3	200	28	180	6	14	6	6-M10	36
HKR160X3.0P	M160X3	210	28	190	6	14	6	6-M10	36
HKR165X3.0P	M165X3	210	28	190	6	14	6	6-M10	36
HKR170X3.0P	M170X3	220	28	200	6	14	6	6-M10	36
HKR180X3.0P	M180X3	230	30	205	6	16	7	6-M12	60
HKR190X3.0P	M190X3	240	30	215	6	16	7	6-M12	60
HKR200X3.0P	M200X3	250	32	225	6	16	7	6-M12	60

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: HKR30x1.5P  
 For example: HKR30x1.5P-L  
 For example: HKR30-U18

# MRN Series - For light load transmission

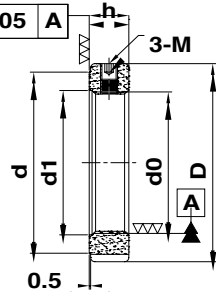
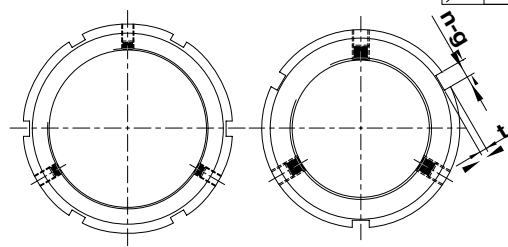


For light load transmission.

- Material : JIS SCM440 / DIN42CrMo4
- Threads with axial run-out : 0.005mm
- The connecting face and thread area are all produced by a high precision turning process.

Order No.	Dimensions in mm						Set Screw Data	
Name	d0_ISO 5H	D	h	d	c	L	2 - M	Max. Torque_Nm
MRN 05X0.5P	M5X0.5	12.5	5	8	2.3	11	M3	0.9
MRN 06X0.75P	M6X0.75	13.5	5	9	2.3	12	M3	0.9
MRN 08X1.0P	M8X1	16	6.5	11	2.5	14	M3	0.9
MRN 10X1.0P	M10X1	19	8	13	2.5	16	M3	0.9
MRN 12X1.0P	M12X1	22	8	16	2.5	19	M4	2.2
MRN 15X1.0P	M15X1	25	8	19	3.25	22	M4	2.2
MRN 17X1.0P	M17X1	29	13	21	4	24	M4	2.2
MRN 20X1.0P	M20X1	35	11	27	4	30	M4	2.2
MRN 25X1.5P	M25X1.5	43	15	32	5	35	M6	8
MRN 30X1.5P	M30X1.5	48	20	37	6	40	M6	8
MRN 35X1.5P	M35X1.5	60	21	47	7	50	M6	8
MRN 40X1.5P	M40X1.5	62	25	47	7	50	M6	8

# MRS Series - For food, pharmaceutical, chemical and semiconductors machinery



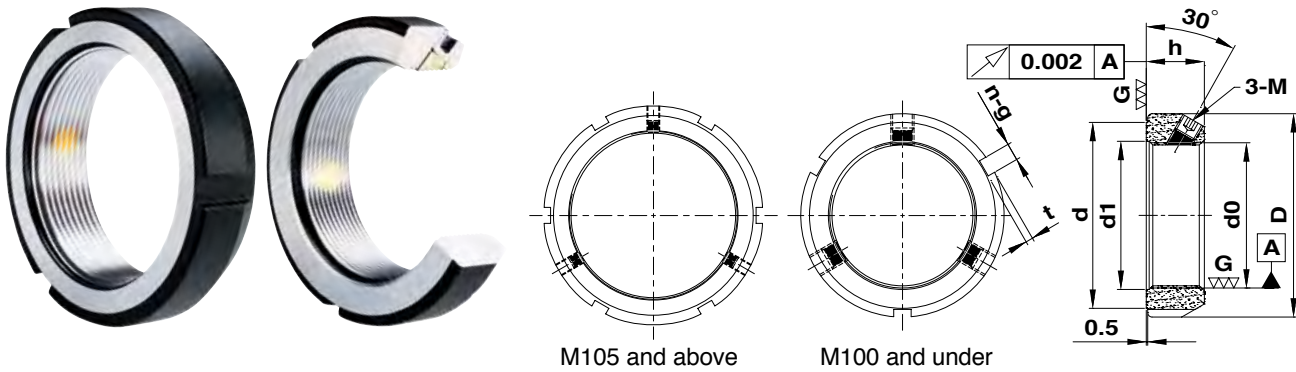
M105 and above      M100 and under

- Material : JIS SUS304\_Fully stainless steel (stainless pin and setscrew included)
- Threads with axial run-out : 0.005mm

Order No.	Dimensions in mm								Set Screw Data	
Name	d0_ISO 4H	D	h	d	d1	n	g	t	3 - M	Max. Torque_Nm
MRS 06X0.5P	M6X0.5	16	8	11	-	3	3	2	M4	2.2
MRS 08X0.75P	M8X0.75	16	8	11	-	3	3	2	M4	2.2
MRS 08X1.0P	M8X1	16	8	11	-	3	3	2	M4	2.2
MRS 10X0.75P	M10X0.75	18	8	13	-	3	3	2	M4	2.2
MRS 10X1.0P	M10X1	18	8	13	-	3	3	2	M4	2.2
MRS 12X1.0P	M12X1	20	8	18	-	3	3	2	M4	2.2
MRS 15X1.0P	M15X1	25	8	21	-	3	3	2	M4	2.2
MRS 17X1.0P	M17X1	28	10	23	-	3	4	2	M5	4.8
MRS 20X1.0P	M20X1	32	10	27	-	3	4	2	M5	4.8
MRS 20X1.5P	M20X1.5	32	10	27	-	3	4	2	M5	4.8
MRS 25X1.5P	M25X1.5	38	12	33	26	3	5	2	M6	8
MRS 30X1.5P	M30X1.5	45	12	40	31	3	5	2	M6	8
MRS 35X1.5P	M35X1.5	52	12	47	36	3	5	2	M6	8
MRS 40X1.5P	M40X1.5	58	14	52	41	3	6	2.5	M6	8
MRS 45X1.5P	M45X1.5	65	14	59	46	3	6	2.5	M6	8
MRS 50X1.5P	M50X1.5	70	14	64	51	3	6	2.5	M6	8



# MF Series - 30° Flank Locking



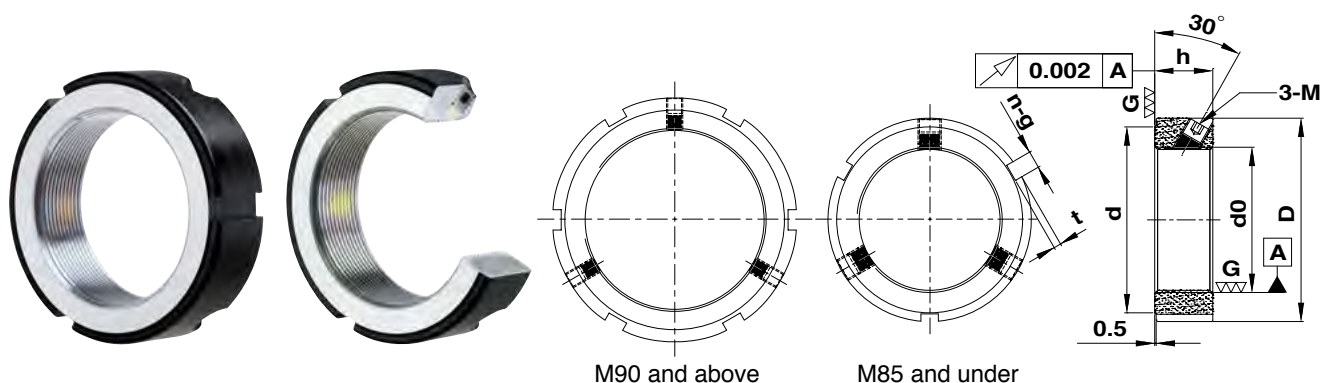
- Material : JIS SCM440 / DIN42CrMo4    ■ Hardness : HRC28-32    ■ Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

Order No.	Dimensions in mm								Set Screw Data	
	Name	d0_ISO 4H	D	h	d	d1	n	g	t	3-M
MF12X1.0P	M12X1	30	14	25	-	3	4	2	M5	4.8
MF15X1.0P	M15X1	34	16	26	16	3	4	2	M6	8
MF17X1.0P	M17X1	36	16	28	18	3	5	2	M6	8
MF20X1.0P	M20X1	38	18	32	21	3	5	2	M6	8
MF20X1.5P	M20X1.5	38	18	32	21	3	5	2	M6	8
MF25X1.5P	M25X1.5	42	18	36	26	3	5	2	M6	8
MF30X1.5P	M30X1.5	48	18	43	31	3	5	2	M6	8
MF35X1.5P	M35X1.5	53	18	48	36	3	5	2	M8	19
MF40X1.5P	M40X1.5	58	20	52	41	3	6	2.5	M8	19
MF45X1.5P	M45X1.5	65	20	59	46	3	6	2.5	M8	19
MF50X1.5P	M50X1.5	70	20	64	51	3	6	2.5	M8	19
MF55X2.0P	M55X2	75	22	68	56	3	7	3	M8	19
MF60X2.0P	M60X2	80	22	73	61	3	7	3	M8	19
MF65X2.0P	M65X2	85	22	78	66	3	7	3	M8	19
MF70X2.0P	M70X2	92	24	84	71	3	8	3.5	M8	19
MF75X2.0P	M75X2	98	24	90	76	3	8	3.5	M8	19
MF80X2.0P	M80X2	105	24	96	81	3	8	3.5	M8	19
MF85X2.0P	M85X2	112	24	104	86	3	8	3.5	M8	19
MF90X2.0P	M90X2	118	26	108	91	3	10	4	M8	19
MF95X2.0P	M95X2	123	26	113	96	3	10	4	M8	19
MF100X2.0P	M100X2	128	26	118	101	3	10	4	M8	19
MF105X2.0P	M105X2	137	26	125	106	6	10	4	M8	19
MF110X2.0P	M110X2	145	30	132	111	6	12	5	M8	19
MF115X2.0P	M115X2	150	30	137	116	6	12	5	M8	19
MF120X2.0P	M120X2	155	30	142	121	6	12	5	M8	19
MF125X2.0P	M125X2	160	30	146	126	6	12	5	M8	19
MF130X2.0P	M130X2	165	30	152	131	6	12	5	M8	19
MF135X2.0P	M135X2	175	30	160	136	6	12	5	M8	19
MF140X2.0P	M140X2	180	32	165	141	6	12	5	M10	36
MF145X2.0P	M145X2	190	32	175	146	6	12	5	M10	36
MF150X2.0P	M150X2	195	32	180	151	6	12	5	M10	36
MF155X3.0P	M155X3	200	34	180	156	6	12	5	M10	36
MF160X3.0P	M160X3	210	34	190	161	6	12	5	M10	36
MF170X3.0P	M170X3	220	34	200	171	6	12	5	M10	36
MF180X3.0P	M180X3	230	36	205	181	6	12	5	M10	36
MF190X3.0P	M190X3	240	36	220	191	6	12	5	M10	36
MF200X3.0P	M200X3	250	36	230	201	6	12	5	M10	36
MF210X4.0P	M210X4	270	36	250	211	6	12	5	M10	36
MF220X4.0P	M220X4	280	36	260	221	6	12	5	M10	36
MF230X4.0P	M230X4	290	36	270	231	6	12	5	M10	36
MF240X4.0P	M240X4	300	36	280	241	6	12	5	M10	36
MF250X4.0P	M250X4	310	36	290	251	6	12	5	M10	36
MF260X4.0P	M260X4	320	36	300	261	6	12	5	M10	36

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: MF30x1.5P  
 For example: MF30x1.5P-L  
 For example: MF30-U18

## BF Series - 30° Flank Locking



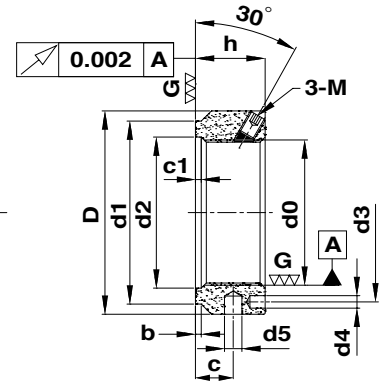
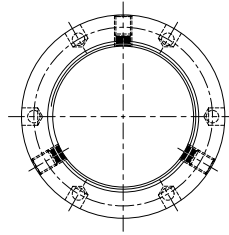
- Material : JIS SCM440 / DIN42CrMo4    ■ Hardness : HRC28-32    ■ Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

Order No.	Dimensions in mm							Set Screw Data	
Name	d0 ISO 4H	D	h	d	n	g	t	3-M	Max Torque Nm
BF15X1.0P	M15X1	30	14	25	3	4	2	M5	4.8
BF17X1.0P	M17X1	32	16	27	3	4	2	M5	4.8
BF20X1.0P	M20X1	38	16	33	3	4	2	M6	8
BF20X1.5P	M20X1.5	38	16	33	3	4	2	M6	8
BF25X1.5P	M25X1.5	38	18	33	3	5	2	M6	8
BF30X1.5P	M30X1.5	45	18	40	3	5	2	M6	8
BF35X1.5P	M35X1.5	52	18	47	3	5	2	M8	19
BF40X1.5P	M40X1.5	58	20	52	3	6	2.5	M8	19
BF45X1.5P	M45X1.5	65	20	59	3	6	2.5	M8	19
BF50X1.5P	M50X1.5	70	20	64	3	6	2.5	M8	19
BF55X2.0P	M55X2	75	22	68	3	7	3	M8	19
BF60X2.0P	M60X2	80	22	73	3	7	3	M8	19
BF65X2.0P	M65X2	85	22	78	3	7	3	M8	19
BF70X2.0P	M70X2	92	24	84	3	8	3.5	M8	19
BF75X2.0P	M75X2	98	24	90	3	8	3.5	M8	19
BF80X2.0P	M80X2	105	24	96	3	8	3.5	M8	19
BF85X2.0P	M85X2	110	24	102	3	8	3.5	M8	19
BF90X2.0P	M90X2	120	26	108	6	10	4	M8	19
BF95X2.0P	M95X2	125	26	113	6	10	4	M8	19
BF100X2.0P	M100X2	130	26	118	6	10	4	M8	19
BF105X2.0P	M105X2	140	28	125	6	10	4	M10	36
BF110X2.0P	M110X2	145	28	132	6	10	4	M10	36
BF115X2.0P	M115X2	150	28	137	6	10	4	M10	36
BF120X2.0P	M120X2	155	30	142	6	12	5	M10	36
BF125X2.0P	M125X2	160	30	147	6	12	5	M10	36
BF130X2.0P	M130X2	165	30	152	6	12	5	M10	36
BF135X2.0P	M135X2	175	32	160	6	12	5	M10	36
BF140X2.0P	M140X2	180	32	165	6	12	5	M10	36
BF145X2.0P	M145X2	190	32	175	6	12	5	M10	36
BF150X2.0P	M150X2	195	32	180	6	12	5	M10	36
BF155X3.0P	M155X3	200	34	180	6	14	6	M10	36
BF160X3.0P	M160X3	210	34	190	6	14	6	M10	36
BF165X3.0P	M165X3	210	34	190	6	14	6	M10	36
BF170X3.0P	M170X3	220	34	200	6	14	6	M10	36
BF180X3.0P	M180X3	230	36	205	6	16	7	M12	60
BF190X3.0P	M190X3	240	36	215	6	16	7	M12	60
BF200X3.0P	M200X3	250	38	225	6	16	7	M12	60
BF210X3.0P	M210X3	260	38	245	6	16	7	M12	60
BF220X3.0P	M220X3	270	38	255	6	16	7	M12	60
BF230X3.0P	M230X3	280	40	258	6	16	9	M12	60
BF240X3.0P	M240X3	290	40	268	6	16	9	M12	60
BF250X3.0P	M250X3	300	40	278	6	16	9	M12	60
BF260X4.0P	M260X4	310	40	288	6	20	10	M14	100

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: BF30x1.5P  
 For example: BF30x1.5P-L  
 For example: BF30-U18

# TMF Series - 30° Flank Locking



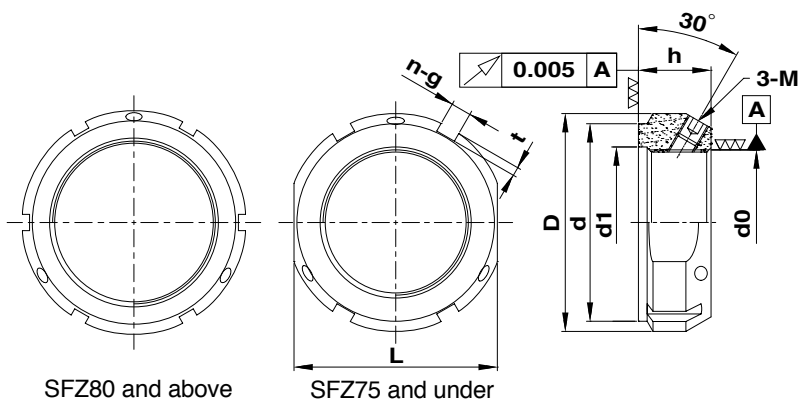
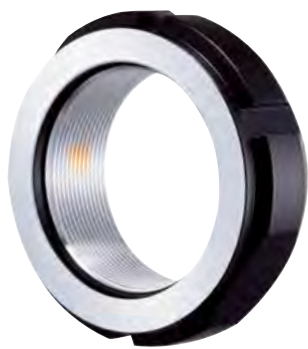
- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

Order No.	Dimensions in mm											Set Screw Data	
Name	d0_ISO 4H	D	h	d1	d2	d3	d4	d5	c	b	c1	3-M	Max Torque_Nm
TMF20X1.0P	M20X1	38	18	30	21	29	4.3	4	10	2	1	M6	8
TMF25X1.5P	M25X1.5	42	20	35	26	32.5	4.3	4	11	2	2	M6	8
TMF30X1.5P	M30X1.5	48	20	40	32	40.5	4.3	5	11	2	2	M6	8
TMF35X1.5P	M35X1.5	53	20	47	38	45.5	4.3	5	11	2	2	M6	8
TMF40X1.5P	M40X1.5	58	22	52	42	50.5	4.3	5	12	2	2	M6	8
TMF45X1.5P	M45X1.5	68	22	58	48	58	4.3	6	12	2	2	M6	8
TMF50X1.5P	M50X1.5	70	24	63	52	61.5	4.3	6	13	2	2	M6	8
TMF55X1.5P	M55X1.5	75	24	70	58	66.5	4.3	6	13	3	3	M6	8
TMF60X1.5P	M60X1.5	84	24	75	62	74.5	5.3	6	13	3	3	M6	8
TMF65X1.5P	M65X1.5	88	25	80	68	78.5	5.3	6	13	3	3	M6	8
TMF70X1.5P	M70X1.5	95	26	86	72	85	5.3	8	14	3	3	M8	19
TMF75X1.5P	M75X1.5	100	26	91	77	88	6.4	8	13	3	3	M8	19
TMF80X2.0P	M80X2	110	30	97	83	95	6.4	8	16	3	3	M8	19
TMF85X2.0P	M85X2	115	32	102	88	100	6.4	8	17	3	3	M10	36
TMF90X2.0P	M90X2	120	32	110	93	108	6.4	8	17	3	3	M10	36
TMF95X2.0P	M95X2	125	32	114	98	113	6.4	8	17	3	3	M10	36
TMF100X2.0P	M100X2	130	32	120	103	118	6.4	8	17	3	3	M10	36
TMF110X2.0P	M110X2	140	32	132	112	128	6.4	8	17	3	3	M10	36
TMF120X2.0P	M120X2	155	32	142	122	140	6.4	8	17	3	3	M10	36
TMF130X3.0P	M130X3	165	32	156	132	153	6.4	8	17	3	3	M10	36
TMF140X3.0P	M140X3	180	32	166	142	165	6.4	10	17	3	3	M10	36
TMF150X3.0P	M150X3	190	32	180	152	175	6.4	10	17	5	5	M10	36
TMF160X3.0P	M160X3	205	32	190	162	185	8.4	10	17	5	5	M10	36
TMF170X3.0P	M170X3	215	32	205	172	195	8.4	10	17	5	5	M10	36
TMF180X3.0P	M180X3	230	32	215	182	210	8.4	10	17	5	5	M10	36
TMF190X3.0P	M190X3	240	32	225	192	224	8.4	10	17	5	5	M10	36
TMF200X3.0P	M200X3	245	32	237	202	229	8.4	10	17	5	5	M10	36

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: TMF30x1.5P  
 For example: TMF30x1.5P-L  
 For example: TMF30-U18

## SFZ Series - 30° Flank Locking



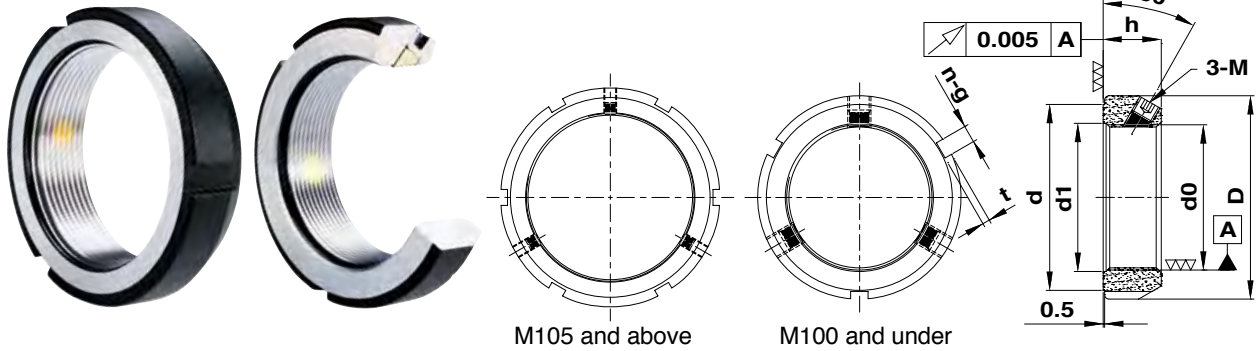
- Material : JIS SCM440 / DIN42CrMo4    ■ Threads with axial run-out : 0.005mm
- The connecting face and thread area are all produced by a high precision turning process.

Order No.	Dimensions in mm									Set Screw Data	
Name	d0_ISO 4H	D	h	d	d1	n	g	t	L	3-M	Max Torque_Nm
SFZ10X0.75P	M10X0.75	28	14	23	11	4	4	2	24	M5	4.8
SFZ12X1.0P	M12X1	30	14	25	13	4	4	2	27	M5	4.8
SFZ15X1.0P	M15X1	33	16	28	16	4	4	2	30	M5	4.8
SFZ17X1.0P	M17X1	37	18	33	18	4	5	2	34	M6	8
SFZ20X1.0P	M20X1	40	18	35	21	4	5	2	36	M6	8
SFZ20X1.5P	M20X1.5	40	18	35	21	4	5	2	36	M6	8
SFZ25X1.5P	M25X1.5	44	20	39	26	4	5	2	41	M6	8
SFZ30X1.5P	M30X1.5	49	20	44	32	4	5	2	46	M6	8
SFZ35X1.5P	M35X1.5	54	22	49	38	4	5	2	50	M6	8
SFZ40X1.5P	M40X1.5	65	22	59	42	4	6	2.5	60	M8	19
SFZ45X1.5P	M45X1.5	70	22	64	48	4	6	2.5	65	M8	19
SFZ50X1.5P	M50X1.5	75	25	68	52	4	7	3	70	M8	19
SFZ55X2.0P	M55X2	85	25	78	58	4	7	3	80	M8	19
SFZ60X2.0P	M60X2	90	26	82	62	4	8	3.5	85	M8	19
SFZ65X2.0P	M65X2	95	28	87	68	4	8	3.5	90	M8	19
SFZ70X2.0P	M70X2	100	28	92	72	4	8	3.5	95	M8	19
SFZ75X2.0P	M75X2	105	28	97	77	4	8	3.5	100	M8	19
SFZ80X2.0P	M80X2	110	32	100	83	6	8	3.5	-	M8	19
SFZ85X2.0P	M85X2	120	32	110	88	6	10	4	-	M10	36
SFZ90X2.0P	M90X2	125	32	115	93	6	10	4	-	M10	36
SFZ95X2.0P	M95X2	130	32	120	98	6	10	4	-	M10	36
SFZ100X2.0P	M100X2	135	32	125	103	6	10	4	-	M10	36
SFZ110X2.0P	M110X2	145	32	134	112	6	10	4	-	M10	36
SFZ120X2.0P	M120X2	155	32	144	122	6	10	4	-	M10	36
SFZ130X2.0P	M130X2	165	32	154	132	6	12	5	-	M10	36
SFZ140X2.0P	M140X2	175	32	164	142	6	14	6	-	M10	36
SFZ150X2.0P	M150X2	185	32	174	152	6	14	6	-	M10	36
SFZ160X3.0P	M160X3	195	32	184	162	6	14	6	-	M10	36
SFZ170X3.0P	M170X3	205	32	194	172	6	14	6	-	M10	36
SFZ180X3.0P	M180X3	215	32	204	182	6	16	7	-	M10	36
SFZ190X3.0P	M190X3	225	32	214	192	6	16	7	-	M10	36
SFZ200X3.0P	M200X3	235	32	224	202	6	18	8	-	M10	36

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: SFZ30x1.5P  
 For example: SFZ30x1.5P-L  
 For example: SFZ30-U18

# MFZ Series - 30° Flank Locking



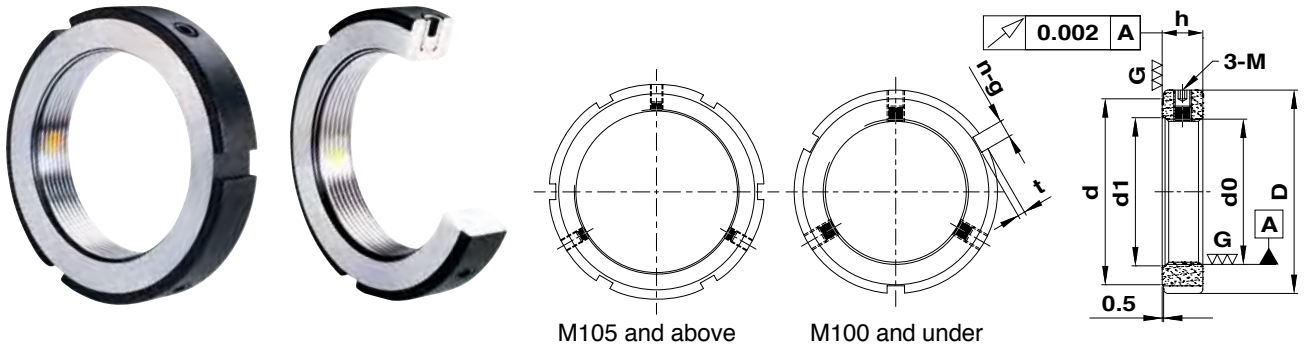
- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.005mm
- The connecting face and thread area are all produced by a high precision turning process.

Order No.	Dimensions in mm								Set Screw Data	
	Name	d0_ISO 4H	D	h	d	d1	n	g	t	3-M
MFZ12X1.0P	M12X1	30	14	25	-	3	4	2	M5	4.8
MFZ15X1.0P	M15X1	34	16	26	16	3	4	2	M6	8
MFZ17X1.0P	M17X1	36	16	28	18	3	5	2	M6	8
MFZ20X1.0P	M20X1	38	18	32	21	3	5	2	M6	8
MFZ20X1.5P	M20X1.5	38	18	32	21	3	5	2	M6	8
MFZ25X1.5P	M25X1.5	42	18	36	26	3	5	2	M6	8
MFZ30X1.5P	M30X1.5	48	18	43	31	3	5	2	M6	8
MFZ35X1.5P	M35X1.5	53	18	48	36	3	5	2	M8	19
MFZ40X1.5P	M40X1.5	58	20	52	41	3	6	2.5	M8	19
MFZ45X1.5P	M45X1.5	65	20	59	46	3	6	2.5	M8	19
MFZ50X1.5P	M50X1.5	70	20	64	51	3	6	2.5	M8	19
MFZ55X2.0P	M55X2	75	22	68	56	3	7	3	M8	19
MFZ60X2.0P	M60X2	80	22	73	61	3	7	3	M8	19
MFZ65X2.0P	M65X2	85	22	78	66	3	7	3	M8	19
MFZ70X2.0P	M70X2	92	24	84	71	3	8	3.5	M8	19
MFZ75X2.0P	M75X2	98	24	90	76	3	8	3.5	M8	19
MFZ80X2.0P	M80X2	105	24	96	81	3	8	3.5	M8	19
MFZ85X2.0P	M85X2	112	24	104	86	3	8	3.5	M8	19
MFZ90X2.0P	M90X2	118	26	108	91	3	10	4	M8	19
MFZ95X2.0P	M95X2	123	26	113	96	3	10	4	M8	19
MFZ100X2.0P	M100X2	128	26	118	101	3	10	4	M8	19
MFZ105X2.0P	M105X2	137	26	125	106	6	10	4	M8	19
MFZ110X2.0P	M110X2	145	30	132	111	6	12	5	M8	19
MFZ115X2.0P	M115X2	150	30	137	116	6	12	5	M8	19
MFZ120X2.0P	M120X2	155	30	142	121	6	12	5	M8	19
MFZ125X2.0P	M125X2	160	30	146	126	6	12	5	M8	19
MFZ130X2.0P	M130X2	165	30	152	131	6	12	5	M8	19
MFZ135X2.0P	M135X2	175	30	160	136	6	12	5	M8	19
MFZ140X2.0P	M140X2	180	32	165	141	6	12	5	M10	36
MFZ145X2.0P	M145X2	190	32	175	146	6	12	5	M10	36
MFZ150X2.0P	M150X2	195	32	180	151	6	12	5	M10	36
MFZ155X3.0P	M155X3	200	34	180	156	6	12	5	M10	36
MFZ160X3.0P	M160X3	210	34	190	161	6	12	5	M10	36
MFZ170X3.0P	M170X3	220	34	200	171	6	12	5	M10	36
MFZ180X3.0P	M180X3	230	36	205	181	6	12	5	M10	36
MFZ190X3.0P	M190X3	240	36	220	191	6	12	5	M10	36
MFZ200X3.0P	M200X3	250	36	230	201	6	12	5	M10	36
MFZ210X4.0P	M210X4	270	36	250	211	6	12	5	M10	36
MFZ220X4.0P	M220X4	280	36	260	221	6	12	5	M10	36
MFZ230X4.0P	M230X4	290	36	270	231	6	12	5	M10	36
MFZ240X4.0P	M240X4	300	36	280	241	6	12	5	M10	36
MFZ250X4.0P	M250X4	310	36	290	251	6	12	5	M10	36
MFZ260X4.0P	M260X4	320	36	300	261	6	12	5	M10	36

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: MFZ30x1.5P  
 For example: MFZ30x1.5P-L  
 For example: MFZ30-U18

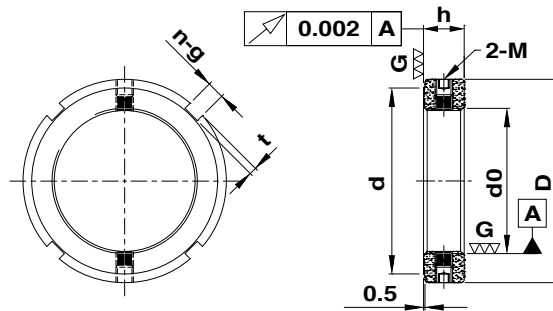
# MR Series - Radial Locking



- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

Order No.	Dimensions in mm								Set Screw Data	
Name	d0_ISO4H	D	h	d	d1	n	g	t	3-M	Max. Torque_Nm
MR6X0.5P	M6X0.5	16	8	11	-	3	3	2	M4	2.2
MR8X0.75P	M8X0.75	16	8	11	-	3	3	2	M4	2.2
MR8X1.0P	M8X1	16	8	11	-	3	3	2	M4	2.2
MR10X0.75P	M10X0.75	18	8	13	-	3	3	2	M4	2.2
MR10X1.0P	M10X1	18	8	13	-	3	3	2	M4	2.2
MR12X1.0P	M12X1	24	8	19	-	3	3	2	M4	2.2
MR15X1.0P	M15X1	28	8	23	-	3	3	2	M4	2.2
MR17X1.0P	M17X1	32	10	27	-	3	4	2	M5	4.8
MR20X1.0P	M20X1	35	10	30	-	3	4	2	M5	4.8
MR20X1.5P	M20X1.5	35	10	30	-	3	4	2	M5	4.8
MR25X1.5P	M25X1.5	42	12	36	26	3	5	2	M6	8
MR30X1.5P	M30X1.5	48	12	43	31	3	5	2	M6	8
MR35X1.5P	M35X1.5	53	12	48	36	3	5	2	M6	8
MR40X1.5P	M40X1.5	58	14	52	41	3	6	2.5	M6	8
MR45X1.5P	M45X1.5	65	14	59	46	3	6	2.5	M6	8
MR50X1.5P	M50X1.5	70	14	64	51	3	6	2.5	M6	8
MR55X2.0P	M55X2	75	16	68	56	3	7	3	M8	19
MR60X2.0P	M60X2	80	16	73	61	3	7	3	M8	19
MR65X2.0P	M65X2	85	16	78	66	3	7	3	M8	19
MR70X2.0P	M70X2	92	18	84	71	3	8	3.5	M8	19
MR75X2.0P	M75X2	98	18	90	76	3	8	3.5	M8	19
MR80X2.0P	M80X2	105	18	96	81	3	8	3.5	M8	19
MR85X2.0P	M85X2	112	18	104	86	3	8	3.5	M8	19
MR90X2.0P	M90X2	118	20	108	91	3	10	4	M8	19
MR95X2.0P	M95X2	123	20	113	96	3	10	4	M8	19
MR100X2.0P	M100X2	128	20	118	101	3	10	4	M8	19
MR105X2.0P	M105X2	137	20	125	106	6	10	4	M8	19
MR110X2.0P	M110X2	145	24	132	111	6	12	5	M8	19
MR115X2.0P	M115X2	150	24	137	116	6	12	5	M8	19
MR120X2.0P	M120X2	155	24	142	121	6	12	5	M8	19
MR125X2.0P	M125X2	160	24	147	126	6	12	5	M8	19
MR130X2.0P	M130X2	165	24	152	131	6	12	5	M8	19
MR135X2.0P	M135X2	175	24	160	136	6	12	5	M8	19
MR140X2.0P	M140X2	180	26	165	141	6	12	5	M10	36
MR145X2.0P	M145X2	190	26	175	146	6	12	5	M10	36
MR150X2.0P	M150X2	195	26	180	151	6	12	5	M10	36
MR155X3.0P	M155X3	200	28	180	156	6	12	5	M10	36
MR160X3.0P	M160X3	210	28	190	161	6	12	5	M10	36
MR165X3.0P	M165X3	210	28	190	166	6	12	5	M10	36
MR170X3.0P	M170X3	220	28	200	171	6	12	5	M10	36
MR180X3.0P	M180X3	230	30	210	181	6	12	5	M10	36
MR190X3.0P	M190X3	240	30	220	191	6	12	5	M10	36
MR200X3.0P	M200X3	250	30	230	201	6	12	5	M10	36
MR210X4.0P	M210X4	270	30	250	211	6	12	5	M10	36
MR220X4.0P	M220X4	280	30	260	221	6	12	5	M10	36
MR230X4.0P	M230X4	290	30	270	231	6	12	5	M10	36
MR240X4.0P	M240X4	300	30	280	241	6	12	5	M10	36
MR250X4.0P	M250X4	310	30	290	251	6	12	5	M10	36
MR260X4.0P	M260X4	320	30	300	261	6	12	5	M10	36

# SR Series - Radial Locking



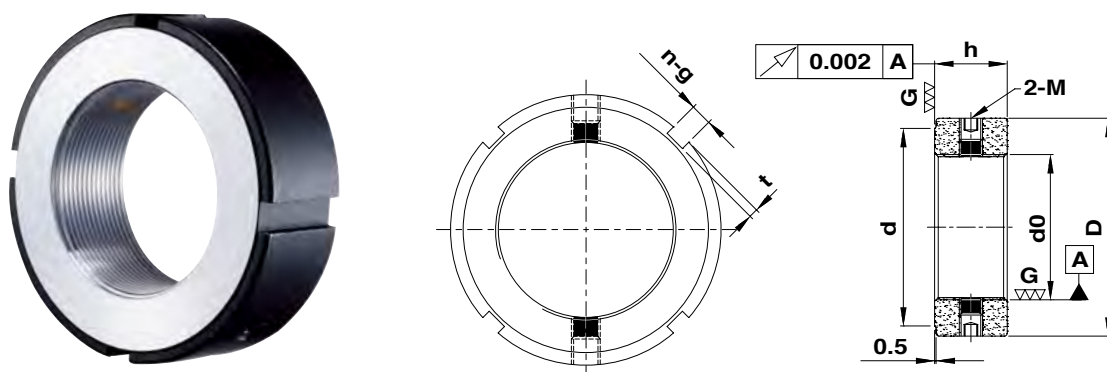
- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

Order No.	Dimensions in mm							Set Screw Data	
Name	d0 ISO 4H	D	h	d	n	g	t	2-M	Max .Torque_Nm
SR6X0.5P	M6X0.5	16	8	11	4	3	2	M4	2.2
SR8X0.75P	M8X0.75	16	8	11	4	3	2	M4	2.2
SR8X1.0P	M8X1	16	8	11	4	3	2	M4	2.2
SR10X0.75P	M10X0.75	18	8	13	4	3	2	M4	2.2
SR10X1.0P	M10X1	18	8	13	4	3	2	M4	2.2
SR12X1.0P	M12X1	22	8	18	4	3	2	M4	2.2
SR15X1.0P	M15X1	25	8	21	4	3	2	M4	2.2
SR17X1.0P	M17X1	28	10	23	4	4	2	M5	4.8
SR20X1.0P	M20X1	32	10	27	4	4	2	M5	4.8
SR20X1.5P	M20X1.5	32	10	27	4	4	2	M5	4.8
SR25X1.5P	M25X1.5	38	12	33	4	5	2	M6	8
SR30X1.5P	M30X1.5	45	12	40	4	5	2	M6	8
SR35X1.5P	M35X1.5	52	12	47	4	5	2	M6	8
SR40X1.5P	M40X1.5	58	14	52	4	6	2.5	M6	8
SR45X1.5P	M45X1.5	65	14	59	4	6	2.5	M6	8
SR50X1.5P	M50X1.5	70	14	64	4	6	2.5	M6	8
SR55X2.0P	M55X2	75	16	68	4	7	3	M6	8
SR60X2.0P	M60X2	80	16	73	4	7	3	M6	8
SR65X2.0P	M65X2	85	16	78	4	7	3	M6	8
SR70X2.0P	M70X2	92	18	85	4	8	3.5	M8	19
SR75X2.0P	M75X2	98	18	90	4	8	3.5	M8	19
SR80X2.0P	M80X2	105	18	95	4	8	3.5	M8	19
SR85X2.0P	M85X2	110	18	102	4	8	3.5	M8	19
SR90X2.0P	M90X2	120	20	108	4	10	4	M8	19
SR95X2.0P	M95X2	125	20	113	4	10	4	M8	19
SR100X2.0P	M100X2	130	20	120	4	10	4	M8	19
SR105X2.0P	M105X2	140	22	126	4	12	5	M10	36
SR110X2.0P	M110X2	145	22	133	4	12	5	M10	36
SR115X2.0P	M115X2	150	22	137	4	12	5	M10	36
SR120X2.0P	M120X2	155	24	138	4	12	5	M10	36
SR125X2.0P	M125X2	160	24	148	4	12	5	M10	36
SR130X2.0P	M130X2	165	24	149	4	12	5	M10	36
SR135X2.0P	M135X2	175	26	160	4	14	6	M12	60
SR140X2.0P	M140X2	180	26	160	4	14	6	M12	60
SR145X2.0P	M145X2	190	26	172	4	14	6	M12	60
SR150X2.0P	M150X2	195	26	171	4	14	6	M12	60
SR155X3.0P	M155X3	200	28	182	4	16	7	M12	60
SR160X3.0P	M160X3	210	28	182	4	16	7	M12	60
SR165X3.0P	M165X3	210	28	193	4	16	7	M12	60
SR170X3.0P	M170X3	220	28	193	4	16	7	M12	60
SR180X3.0P	M180X3	230	30	203	4	18	8	M12	60
SR190X3.0P	M190X3	240	30	214	4	18	8	M12	60
SR200X3.0P	M200X3	250	32	226	4	18	8	M12	60

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: SR30x1.5P  
 For example: SR30x1.5P-L  
 For example: SR30-U18

# MRRA Series - Radial Locking



- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

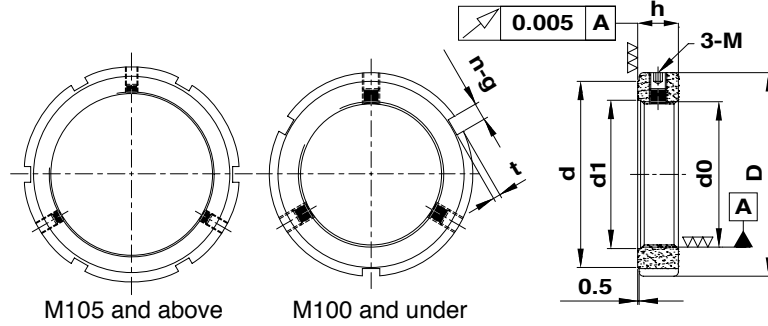
Order No.	Dimensions in mm							Set Screw Data	
Name	d0_ISO 4H	D	h	d	n	g	t	2-M	Max .Torque_Nm
MRRA15/32	M15X1	32	20	27	4	4	2	M5	4.8
MRRA17/38	M17X1	38	20	33	4	5	2	M5	4.8
MRRA20/38	M20X1	38	20	33	4	5	2	M5	4.8
MRRA20/38	M20X1.5	38	20	33	4	5	2	M5	4.8
MRRA20/52	M20X1	52	25	47	4	5	2	M5	4.8
MRRA20/52	M20X1.5	52	25	47	4	5	2	M5	4.8
MRRA25/45	M25X1.5	45	20	40	4	5	2	M6	8
MRRA25/58	M25X1.5	58	24	52	4	6	2.5	M6	8
MRRA30/52	M30X1.5	52	22	47	4	5	2	M6	8
MRRA30/65	M30X1.5	65	30	59	4	6	2.5	M6	8
MRRA35/58	M35X1.5	58	22	52	4	6	2.5	M6	8
MRRA35/70	M35X1.5	70	30	64	4	6	2.5	M6	8
MRRA40/62	M40X1.5	62	22	56	4	6	2.5	M8	19
MRRA40/75	M40X1.5	75	30	69	4	6	2.5	M8	19
MRRA45/68	M45X1.5	68	24	62	4	6	2.5	M8	19
MRRA45/85	M45X1.5	85	32	78	4	7	3	M8	19
MRRA50/75	M50X1.5	75	25	68	4	6	2.5	M8	19
MRRA50/92	M50X1.5	92	32	84	4	8	3.5	M8	19
MRRA55/98	M55X2	98	32	90	4	8	3.5	M8	19
MRRA60/98	M60X2	98	32	90	4	8	3.5	M8	19
MRRA65/105	M65X2	105	32	97	4	8	3.5	M8	19
MRRA70/110	M70X2	110	35	102	4	8	3.5	M8	19
MRRA75/125	M75X2	125	38	117	4	8	3.5	M8	19
MRRA80/120	M80X2	120	35	105	4	10	4	M8	19
MRRA90/130	M90X2	130	38	120	4	10	4	M8	19
MRRA90/155	M90X2	155	38	146	4	10	4	M8	19
MRRA100/140	M100X2	140	38	128	4	12	5	M10	36
MRRA110/180	M110X2	180	40	167	4	14	6	M10	36
MRRA130/210	M130X2	210	40	205	4	16	7	M10	36
MRRA150/230	M150X2	230	42	215	4	18	8	M12	56

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: MRRA50/75  
 For example: MRRA50/75-L  
 For example: MRRA50/75-U18



# MRZ Series - Radial Locking



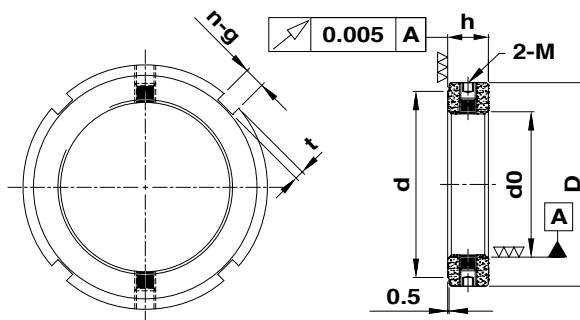
M105 and above

M100 and under

- Material : JIS SCM440 / DIN42CrMo4    ■ Hardness : HRC28-32    ■ Threads with axial run-out : 0.005mm
- The connecting face and thread area are all produced by a high precision turning process.

Order No.	Dimensions in mm								Set Screw Data	
Name	d0_ISO4H	D	h	d	d1	n	g	t	3-M	Max .Torque_Nm
MRZ6X0.5P	M6X0.5	16	8	11	-	3	3	2	M4	2.2
MRZ8X0.75P	M8X0.75	16	8	11	-	3	3	2	M4	2.2
MRZ8X1.0P	M8X1	16	8	11	-	3	3	2	M4	2.2
MRZ10X0.75P	M10X0.75	18	8	13	-	3	3	2	M4	2.2
MRZ10X1.0P	M10X1	18	8	13	-	3	3	2	M4	2.2
MRZ12X1.0P	M12X1	20	8	18	-	3	3	2	M4	2.2
MRZ15X1.0P	M15X1	25	8	21	-	3	3	2	M4	2.2
MRZ17X1.0P	M17X1	28	10	23	-	3	4	2	M5	4.8
MRZ20X1.0P	M20X1	32	10	27	-	3	4	2	M5	4.8
MRZ20X1.5P	M20X1.5	32	10	27	-	3	4	2	M5	4.8
MRZ25X1.5P	M25X1.5	38	12	33	26	3	5	2	M6	8
MRZ30X1.5P	M30X1.5	45	12	40	31	3	5	2	M6	8
MRZ35X1.5P	M35X1.5	52	12	47	36	3	5	2	M6	8
MRZ40X1.5P	M40X1.5	58	14	52	41	3	6	2.5	M6	8
MRZ45X1.5P	M45X1.5	65	14	59	46	3	6	2.5	M6	8
MRZ50X1.5P	M50X1.5	70	14	64	51	3	6	2.5	M6	8
MRZ55X1.5P	M55X1.5	75	16	68	56	3	7	3	M8	19
MRZ55X2.0P	M55X2	75	16	68	56	3	7	3	M8	19
MRZ60X1.5P	M60X1.5	80	16	73	61	3	7	3	M8	19
MRZ60X2.0P	M60X2	80	16	73	61	3	7	3	M8	19
MRZ65X1.5P	M65X1.5	85	16	78	66	3	7	3	M8	19
MRZ65X2.0P	M65X2	85	16	78	66	3	7	3	M8	19
MRZ70X1.5P	M70X1.5	92	18	84	71	3	8	3.5	M8	19
MRZ70X2.0P	M70X2	92	18	84	71	3	8	3.5	M8	19
MRZ75X1.5P	M75X1.5	98	18	90	76	3	8	3.5	M8	19
MRZ75X2.0P	M75X2	98	18	90	76	3	8	3.5	M8	19
MRZ80X2.0P	M80X2	105	18	96	81	3	8	3.5	M8	19
MRZ85X2.0P	M85X2	112	18	104	86	3	8	3.5	M8	19
MRZ90X2.0P	M90X2	118	20	108	91	3	10	4	M8	19
MRZ95X2.0P	M95X2	123	20	113	96	3	10	4	M8	19
MRZ100X2.0P	M100X2	128	20	118	101	3	10	4	M8	19
MRZ105X2.0P	M105X2	137	20	125	106	6	10	4	M8	19
MRZ110X2.0P	M110X2	145	24	132	111	6	12	5	M8	19
MRZ115X2.0P	M115X2	150	24	137	116	6	12	5	M8	19
MRZ120X2.0P	M120X2	155	24	142	121	6	12	5	M8	19
MRZ125X2.0P	M125X2	160	24	147	126	6	12	5	M8	19
MRZ130X2.0P	M130X2	165	24	152	131	6	12	5	M8	19
MRZ135X2.0P	M135X2	175	24	160	136	6	12	5	M8	19
MRZ140X2.0P	M140X2	180	26	165	141	6	12	5	M10	36
MRZ145X2.0P	M145X2	190	26	175	146	6	12	5	M10	36
MRZ150X2.0P	M150X2	195	26	180	151	6	12	5	M10	36
MRZ155X3.0P	M155X3	200	28	180	156	6	12	5	M10	36
MRZ160X3.0P	M160X3	210	28	190	161	6	12	5	M10	36
MRZ165X3.0P	M165X3	215	28	195	166	6	12	5	M10	36
MRZ170X3.0P	M170X3	220	28	200	171	6	12	5	M10	36
MRZ180X3.0P	M180X3	230	30	210	181	6	12	5	M10	36
MRZ190X3.0P	M190X3	240	30	220	191	6	12	5	M10	36
MRZ200X3.0P	M200X3	250	30	230	201	6	12	5	M10	36

## SRZ Series - Radial Locking



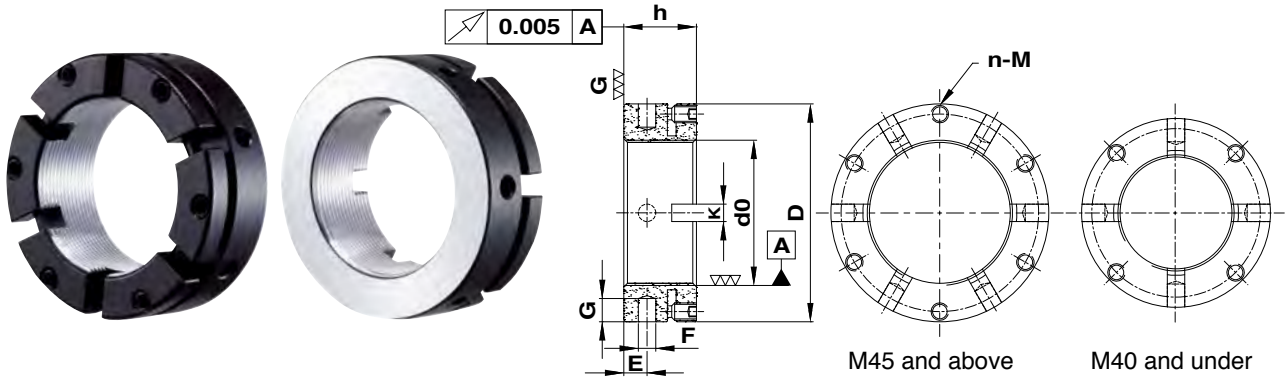
- Material : JIS SCM440 / DIN42CrMo4    ■ Hardness : HRC28-32    ■ Threads with axial run-out : 0.005mm
- The connecting face and thread area are all produced by a high precision turning process.

Order No.	Dimensions in mm							Set Screw Data	
Name	d0_ISO 4H	D	h	d	n	g	t	2-M	Max. Torque_Nm
SRZ6X0.5P	M6X0.5	16	8	11	4	3	2	M4	2.2
SRZ8X0.75P	M8X0.75	16	8	11	4	3	2	M4	2.2
SRZ8X1.0P	M8X1	16	8	11	4	3	2	M4	2.2
SRZ10X0.75P	M10X0.75	18	8	13	4	3	2	M4	2.2
SRZ10X1.0P	M10X1	18	8	13	4	3	2	M4	2.2
SRZ12X1.0P	M12X1	22	8	18	4	3	2	M4	2.2
SRZ15X1.0P	M15X1	25	8	21	4	3	2	M4	2.2
SRZ17X1.0P	M17X1	28	10	23	4	4	2	M5	4.8
SRZ20X1.0P	M20X1	32	10	27	4	4	2	M5	4.8
SRZ20X1.5P	M20X1.5	32	10	27	4	4	2	M5	4.8
SRZ25X1.5P	M25X1.5	38	12	33	4	5	2	M6	8
SRZ30X1.5P	M30X1.5	45	12	40	4	5	2	M6	8
SRZ35X1.5P	M35X1.5	52	12	47	4	5	2	M6	8
SRZ40X1.5P	M40X1.5	58	14	52	4	6	2.5	M6	8
SRZ45X1.5P	M45X1.5	65	14	59	4	6	2.5	M6	8
SRZ50X1.5P	M50X1.5	70	14	64	4	6	2.5	M6	8
SRZ55X2.0P	M55X2	75	16	68	4	7	3	M6	8
SRZ60X2.0P	M60X2	80	16	73	4	7	3	M6	8
SRZ65X2.0P	M65X2	85	16	78	4	7	3	M6	8
SRZ70X2.0P	M70X2	92	18	85	4	8	3.5	M8	19
SRZ75X2.0P	M75X2	98	18	90	4	8	3.5	M8	19
SRZ80X2.0P	M80X2	105	18	95	4	8	3.5	M8	19
SRZ85X2.0P	M85X2	110	18	102	4	8	3.5	M8	19
SRZ90X2.0P	M90X2	120	20	108	4	10	4	M8	19
SRZ95X2.0P	M95X2	125	20	113	4	10	4	M8	19
SRZ100X2.0P	M100X2	130	20	120	4	10	4	M8	19
SRZ105X2.0P	M105X2	140	22	126	4	12	5	M10	36
SRZ110X2.0P	M110X2	145	22	133	4	12	5	M10	36
SRZ115X2.0P	M115X2	150	22	137	4	12	5	M10	36
SRZ120X2.0P	M120X2	155	24	138	4	12	5	M10	36
SRZ125X2.0P	M125X2	160	24	148	4	12	5	M10	36
SRZ130X2.0P	M130X2	165	24	149	4	12	5	M10	36
SRZ135X2.0P	M135X2	175	26	160	4	14	6	M12	60
SRZ140X2.0P	M140X2	180	26	160	4	14	6	M12	60
SRZ145X2.0P	M145X2	190	26	172	4	14	6	M12	60
SRZ150X2.0P	M150X2	195	26	171	4	14	6	M12	60
SRZ155X3.0P	M155X3	200	28	182	4	16	7	M12	60
SRZ160X3.0P	M160X3	210	28	182	4	16	7	M12	60
SRZ165X3.0P	M165X3	210	28	193	4	16	7	M12	60
SRZ170X3.0P	M170X3	220	28	193	4	16	7	M12	60
SRZ180X3.0P	M180X3	230	30	203	4	18	8	M12	60
SRZ190X3.0P	M190X3	240	30	214	4	18	8	M12	60
SRZ200X3.0P	M200X3	250	32	226	4	18	8	M12	60

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: SRZ30x1.5P  
 For example: SRZ30x1.5P-L  
 For example: SRZ30-U18

# MKK Series - Axial Locking



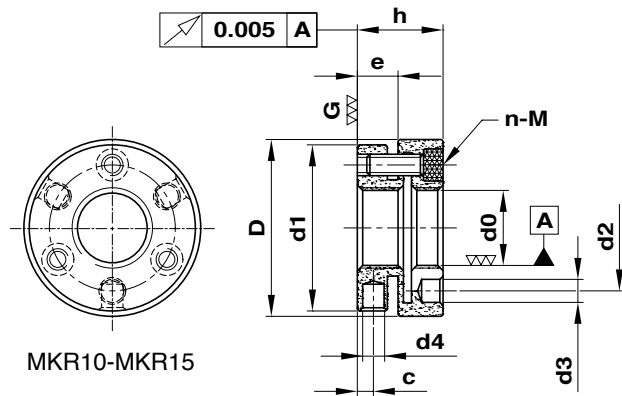
- Material : JIS SCM440 / DIN42CrMo4    ■ Hardness : HRC28-32    ■ Threads with axial run-out : 0.005mm
- The connecting face is produced by a high precision grinding process.

Order No.	Dimensions in mm							Clamping Screw Data	
Name	d0_ISO 4H	D	h	K	E	F	G	n-M	Max Torque _Nm
MKK15X1.0P	M15X1	30	18	4	5	4	5	4-M5	4.8
MKK17X1.0P	M17X1	32	18	4	5	4	5	4-M5	4.8
MKK20X1.0P	M20X1	38	18	4	5	4	6	4-M6	8
MKK25X1.5P	M25X1.5	45	20	5	6	5	6	4-M6	8
MKK30X1.5P	M30X1.5	52	20	5	6	5	7	4-M6	8
MKK30/65	M30X1.5	65	30	6	6	6	8	4-M6	8
MKK35/58	M35X1.5	58	20	5	6	5	7	4-M6	8
MKK35X1.5P	M35X1.5	65	22	6	6	6	8	4-M6	8
MKK40X1.5P	M40X1.5	65	22	6	6	6	8	4-M6	8
MKK40/85	M40X1.5	85	32	6	6	6	8	4-M6	8
MKK45X1.5P	M45X1.5	70	22	6	6	6	8	6-M6	8
MKK50X1.5P	M50X1.5	75	25	6	8	6	8	6-M6	8
MKK55X2.0P	M55X2	85	26	6	8	6	8	6-M8	19
MKK60X2.0P	M60X2	90	26	6	8	6	8	6-M8	19
MKK65X2.0P	M65X2	100	26	8	8	8	10	6-M8	19
MKK70X2.0P	M70X2	100	28	8	9	8	10	6-M8	19
MKK75X2.0P	M75X2	115	30	8	10	8	10	6-M10	36
MKK80X2.0P	M80X2	110	30	8	10	8	10	6-M10	36
MKK85X2.0P	M85X2	115	30	8	10	8	10	6-M10	36
MKK90X2.0P	M90X2	130	32	8	13	8	10	6-M10	36
MKK95X2.0P	M95X2	130	30	8	10	8	10	8-M10	36
MKK100X2.0P	M100X2	130	30	8	10	8	10	8-M10	36
MKK110X2.0P	M110X2	140	30	8	10	8	10	8-M10	36
MKK120X2.0P	M120X2	155	30	8	10	8	10	8-M10	36
MKK130X2.0P	M130X2	165	30	8	10	8	10	8-M10	36

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: AM30x1.5P  
 For example: AM30x1.5P-L  
 For example: AM30-U18

# MKR Series - Axial Locking

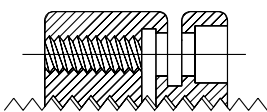


MKR10-MKR15

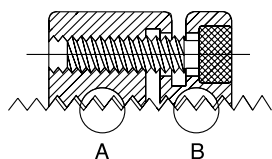
- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.005mm
- The connecting face is produced by a high precision grinding process.

Order No.	Dimensions in mm									Helical Angle	Clamping Screw Data	
Name	d0_ISO 4H	D	h	e	d1	d2	d3	d4	c		n-M	Max. Torque_Nm
MKR10X0.75P	M10X0.75	24	14	6.6	22	17	3.2	2.5	3	1.44	3-M3X10	3
MKR10X1.0P	M10X1	24	15	6.6	22	17	3.2	2.5	3	1.95	3-M3X10	3
MKR12X1.0P	M12X1	26	14	6.6	25	19	3.2	3	3	1.61	3-M3X10	3
MKR12X1.5P	M12X1.5	26	15	6.6	25	19	3.2	3	3	2.48	3-M3X10	3
MKR14X1.5P	M14X1.5	32	16	7.6	30	22.5	4.3	4	3	2.10	3-M4X10	5.5
MKR15X1.0P	M15X1	33	16	7.6	31	23.5	4.3	4	3	1.27	3-M4X10	5.5
MKR16X1.5P	M16X1.5	34	18	-	-	24.5	4.3	4	5	1.82	4-M4X12	5.5
MKR17X1.0P	M17X1	35	18	-	-	25.5	4.3	4	5	1.21	4-M4X12	5.5
MKR18X1.5P	M18X1.5	36	18	-	-	26.5	4.3	4	5	1.61	4-M4X12	5.5
MKR20X1.0P	M20X1	40	18	-	-	30.5	4.3	4	5	0.94	4-M4X12	5.5
MKR20X1.5P	M20X1.5	40	18	-	-	30.5	4.3	4	5	1.44	4-M4X12	5.5
MKR22X1.5P	M22X1.5	40	18	-	-	30.5	4.3	4	5	1.30	4-M4X12	5.5
MKR24X1.5P	M24X1.5	42	18	-	-	32.5	4.3	4	5	1.19	4-M4X12	5.5
MKR25X1.5P	M25X1.5	45	20	-	-	36.5	4.3	5	6.5	1.14	4-M4X14	5.5
MKR26X1.5P	M26X1.5	45	20	-	-	36.5	4.3	5	6.5	1.09	4-M4X14	5.5
MKR28X1.5P	M28X1.5	46	20	-	-	38.5	4.3	5	6.5	1.01	4-M4X14	5.5
MKR30X1.5P	M30X1.5	48	20	-	-	40.5	4.3	5	6.5	0.94	4-M4X14	5.5
MKR32X1.5P	M32X1.5	50	22	-	-	42.5	4.3	5	7	0.88	4-M4X16	5.5
MKR35X1.5P	M35X1.5	53	22	-	-	45.5	4.3	5	7	0.80	4-M4X16	5.5
MKR38X1.5P	M38X1.5	58	22	-	-	48.5	4.3	5	7	0.74	4-M4X16	5.5
MKR40X1.5P	M40X1.5	58	22	-	-	50.5	4.3	5	7	0.70	4-M4X16	5.5
MKR42X1.5P	M42X1.5	60	22	-	-	52.5	4.3	5	7	0.67	4-M4X16	5.5
MKR45X1.5P	M45X1.5	68	22	-	-	58	4.3	6	6.5	0.62	6-M4X16	5.5
MKR48X1.5P	M48X1.5	68	25	-	-	59.5	4.3	6	9	0.58	6-M4X18	5.5
MKR50X1.5P	M50X1.5	70	25	-	-	61.5	4.3	6	9	0.56	6-M4X18	5.5
MKR52X1.5P	M52X1.5	72	25	-	-	63.5	4.3	6	9	0.54	6-M4X18	5.5
MKR55X1.5P	M55X1.5	75	25	-	-	66.5	4.3	6	9	0.51	6-M4X18	5.5
MKR55X2.0P	M55X2	75	25	-	-	66.5	4.3	6	9	0.68	6-M4X18	5.5

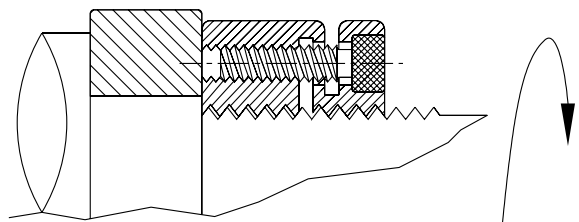
1.



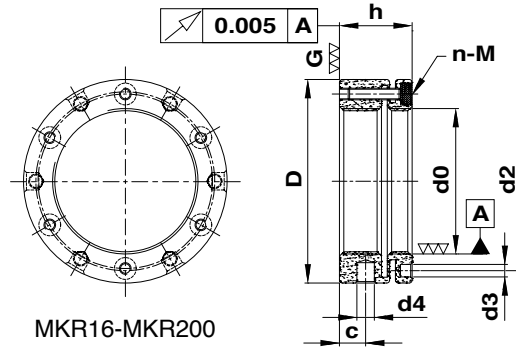
2.



3.



# MKR Series - Axial Locking



MKR16-MKR200

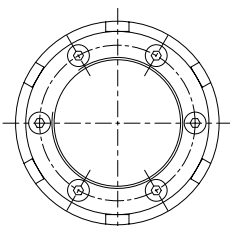
- Material : JIS SCM440 / DIN42CrMo4    ■ Hardness : HRC28-32    ■ Threads with axial run-out : 0.005mm
- The connecting face is produced by a high precision grinding process.

Order No.	Dimensions in mm									Helical Angle	Clamping Screw Data	
	Name	d0_ISO 4H	D	h	e	d1	d2	d3	d4		c	n-M
MKR58X1.5P	M58X1.5	82	26	-	-	72.5	5.3	6	9	0.48	6-M5X18	9
MKR60X1.5P	M60X1.5	84	26	-	-	74.5	5.3	6	9	0.46	6-M5X18	9
MKR60X2.0P	M60X2	84	26	-	-	74.5	5.3	6	9	0.62	6-M5X18	9
MKR62X1.5P	M62X1.5	86	28	-	-	76.5	5.3	6	10.5	0.45	6-M5X20	9
MKR65X1.5P	M65X1.5	88	28	-	-	78.5	5.3	6	10.5	0.43	6-M5X20	9
MKR65X2.0P	M65X2	88	28	-	-	78.5	5.3	6	10.5	0.57	6-M5X20	9
MKR68X1.5P	M68X1.5	95	28	-	-	83	5.3	8	9.5	0.41	6-M5X20	9
MKR70X1.5P	M70X1.5	95	28	-	-	85	5.3	8	9.5	0.40	6-M5X20	9
MKR70X2.0P	M70X2	95	28	-	-	85	5.3	8	9.5	0.53	6-M5X20	9
MKR72X1.5P	M72X1.5	98	28	-	-	86	6.4	8	8.5	0.39	6-M6X20	12
MKR75X1.5P	M75X1.5	100	28	-	-	88	6.4	8	8.5	0.37	6-M6X20	12
MKR75X2.0P	M75X2	100	28	-	-	88	6.4	8	8.5	0.50	6-M6X20	12
MKR80X2.0P	M80X2	110	32	-	-	95	6.4	8	11	0.46	6-M6X20	12
MKR85X2.0P	M85X2	115	32	-	-	100	6.4	8	11	0.44	6-M6X20	12
MKR90X2.0P	M90X2	120	32	-	-	108	6.4	8	11	0.41	6-M6X20	12
MKR95X2.0P	M95X2	125	32	-	-	113	6.4	8	11	0.39	6-M6X20	12
MKR100X2.0P	M100X2	130	32	-	-	118	6.4	8	11	0.37	6-M6X20	12
MKR105X2.0P	M105X2	135	32	-	-	123	6.4	8	11	0.35	6-M6X20	12
MKR110X2.0P	M110X2	140	32	-	-	128	6.4	8	11	0.34	6-M6X20	12
MKR115X2.0P	M115X2	145	36	-	-	133	6.4	8	13	0.32	6-M6X25	12
MKR120X2.0P	M120X2	155	36	-	-	140	6.4	8	13	0.31	6-M6X25	12
MKR125X2.0P	M125X2	160	36	-	-	148	6.4	8	13	0.29	6-M6X25	12
MKR130X3.0P	M130X3	165	36	-	-	153	6.4	8	13	0.43	6-M6X25	12
MKR140X3.0P	M140X3	180	36	-	-	165	6.4	10	12	0.40	8-M6X25	12
MKR150X3.0P	M150X3	190	36	-	-	175	6.4	10	12	0.37	8-M6X25	12
MKR160X3.0P	M160X3	205	40	-	-	185	8.4	10	14	0.35	8-M8X30	25.5
MKR170X3.0P	M170X3	215	40	-	-	195	8.4	10	14	0.33	8-M8X30	25.5
MKR180X3.0P	M180X3	230	40	-	-	210	8.4	10	14	0.31	8-M8X30	25.5
MKR190X3.0P	M190X3	240	40	-	-	224	8.4	10	14	0.29	8-M8X30	25.5
MKR200X3.0P	M200X3	245	40	-	-	229	8.4	10	14	0.28	8-M8X30	25.5

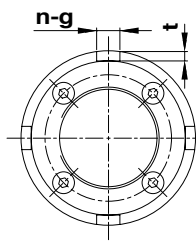
- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: MKR30x1.5P  
 For example: MKR30x1.5P-L  
 For example: MKR30-U18

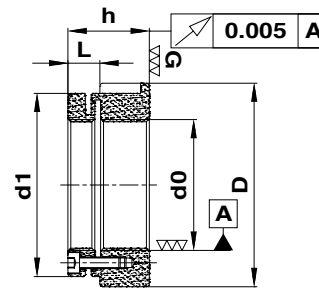
# MKW Series - Axial Locking



M40 and above



M35 and under



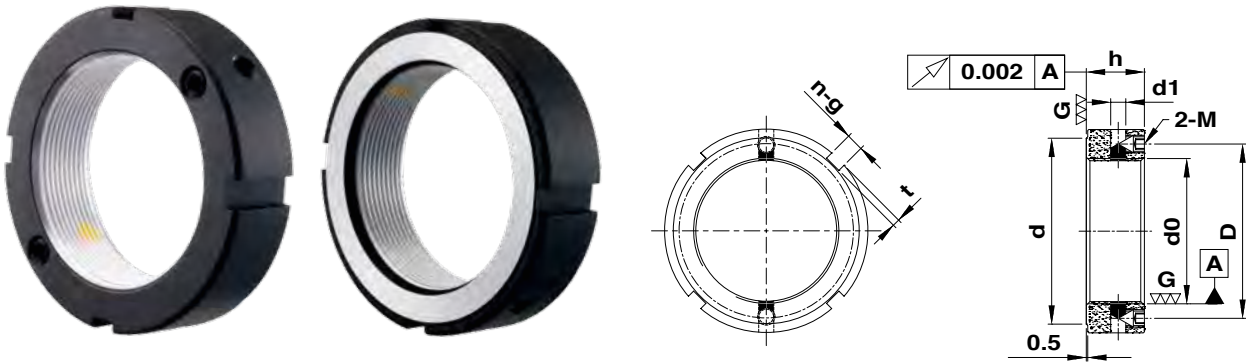
- Material : JIS SCM440 / DIN42CrMo4    ■ Hardness : HRC25-28    ■ Threads with axial run-out : 0.005mm
- The connecting face is produced by a high precision grinding process.

Order No.	Dimensions in mm								Clamping Screw Data	
Name	d0_ISO 4H	D	h	d1	n	g	t	L	n-M	Max .Torque_Nm
MKW20-28	M20X1.5	42	28	38	4	6	2.5	11	4-M4X14	5.5
MKW25-28	M25X1.5	47	28	43	4	7	3	11	4-M4X14	5.5
MKW30-28	M30X1.5	52	28	48	4	7	3	11	4-M4X14	5.5
MKW35-28	M35X1.5	60	28	53	4	8	3.5	11	4-M4X14	5.5
MKW40-28	M40X1.5	65	28	58	6	8	3.5	11	6-M4X14	5.5
MKW45-28	M45X1.5	70	28	63	6	8	3.5	11	6-M4X14	5.5
MKW50-32	M50X1.5	75	32	68	6	8	3.5	11	6-M4X14	5.5
MKW20-40	M20X1.5	52	40	42	4	7	3	11	4-M4X14	5.5
MKW25-40	M25X1.5	62	40	47	4	8	3.5	11	4-M4X14	5.5
MKW30-44	M30X1.5	68	44	52	4	8	3.5	11	4-M4X14	5.5
MKW35-44	M35X1.5	73	44	60	4	8	3.5	11	4-M4X14	5.5
MKW40-44	M40X1.5	75	44	62	6	8	3.5	11	6-M4X14	5.5
MKW45-44	M45X1.5	90	44	70	6	10	4	11	6-M4X14	5.5
MKW50-46	M50X1.5	95	46	75	6	10	4	11	6-M4X14	5.5
MKW55-46	M55X1.5	100	46	80	6	10	4	12	6-M5X16	9
MKW60-46	M60X1.5	100	46	85	6	10	4	12	6-M5X16	9
MKW65-46	M65X1.5	110	46	90	6	10	4	12	6-M5X16	9
MKW70-46	M70X1.5	115	46	95	6	10	4	12	6-M5X16	9

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: MKW40-28  
 For example: MKW40-28-L  
 For example: MKW40-28-U18

# MA Series - Axial Locking



- Material : JIS SCM440 / DIN42CrMo4
- Hardness : HRC28-32
- Threads with axial run-out : 0.002mm
- The connecting face and thread area are all produced by a high precision grinding process.

Order No.	Dimensions in mm								Set Screw Data	
Name	d0_ISO 4H	D	h	d	n	g	t	d1	2-M	Max .Torque_Nm
MA17X1.0P	M17X1	28	15	23	4	4	2	3.5	M4	2.2
MA20X1.0P	M20X1	32	15	27	4	4	2	3.5	M4	2.2
MA25X1.5P	M25X1.5	38	17	33	4	5	2	4.5	M5	4.8
MA30X1.5P	M30X1.5	45	17	40	4	5	2	4.5	M5	4.8
MA35X1.5P	M35X1.5	52	17	47	4	5	2	4.5	M5	4.8
MA40X1.5P	M40X1.5	58	19	52	4	6	2.5	5.2	M6	8
MA45X1.5P	M45X1.5	65	19	59	4	6	2.5	5.2	M6	8
MA50X1.5P	M50X1.5	70	19	64	4	6	2.5	5.2	M6	8
MA55X2.0P	M55X2	75	21	68	4	7	3	5.2	M6	8
MA60X2.0P	M60X2	80	21	73	4	7	3	5.2	M6	8
MA65X2.0P	M65X2	85	21	78	4	7	3	5.2	M6	8
MA70X2.0P	M70X2	92	23	85	4	8	3.5	7	M8	19
MA75X2.0P	M75X2	98	23	90	4	8	3.5	7	M8	19
MA80X2.0P	M80X2	105	23	95	4	8	3.5	7	M8	19
MA85X2.0P	M85X2	110	23	102	4	8	3.5	7	M8	19
MA90X2.0P	M90X2	120	25	108	4	10	4	7	M8	19
MA95X2.0P	M95X2	125	25	113	4	10	4	7	M8	19
MA100X2.0P	M100X2	130	25	120	4	10	4	7	M8	19
MA105X2.0P	M105X2	140	27	126	4	12	5	8.7	M10	36
MA110X2.0P	M110X2	145	27	133	4	12	5	8.7	M10	36
MA115X2.0P	M115X2	150	27	137	4	12	5	8.7	M10	36
MA120X2.0P	M120X2	155	29	138	4	12	5	8.7	M10	36
MA125X2.0P	M125X2	160	29	148	4	12	5	8.7	M10	36
MA130X2.0P	M130X2	165	29	149	4	12	5	8.7	M10	36
MA135X2.0P	M135X2	175	31	160	4	14	6	10.7	M12	56
MA140X2.0P	M140X2	180	31	160	4	14	6	10.7	M12	56
MA145X2.0P	M145X2	190	31	172	4	14	6	10.7	M12	56
MA150X2.0P	M150X2	195	31	171	4	14	6	10.7	M12	56
MA160X3.0P	M160X3	210	33	182	4	16	7	10.7	M12	56
MA170X3.0P	M170X3	220	33	193	4	16	7	10.7	M12	56
MA180X3.0P	M180X3	230	35	203	4	18	8	10.7	M12	56
MA190X3.0P	M190X3	240	35	214	4	18	8	10.7	M12	56
MA200X3.0P	M200X3	250	37	226	4	18	8	10.7	M12	56

- When ordering above products, please refer to the Name.
- If a left hand thread is required, please notify "L" after the Name.
- If an inch thread is required, please notify "U" after the Name.

For example: MA30x1.5P  
 For example: MA30x1.5P-L  
 For example: MA30-U18

# TECHNICAL INFORMATION

## Torque and Force Calculation Formula

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$$T = F \cdot K \quad (\text{N}\cdot\text{M})$$

$$K = \frac{1}{2} \{ dp \cdot \tan ( P^* + \beta ) + dw \cdot uw \} \times 10^{-3} \quad (\text{m})$$

T : Nut locking torque

F : Nut tightening force

dp = Nut effective diameter (mm)

P\* : Thread friction angle,  $P^* = \tan^{-1} \mu_s$

$\beta$  : Nut lead angle,  $\beta = \tan^{-1} ( \text{pitch} / 3.142 \cdot dp )$

$\mu_s$  : Coefficient of friction for nut connecting face ;  $uw = us \approx 0.15$

dw : The average diameter of friction torque for nut connecting face.

$$(\text{mm}) ; dw = \frac{D+d}{2}$$

## Static Axial Load Calculation Formula :

$$F = A \cdot Sh \cdot n$$

F : Axial Load

A : The area of each thread

Sh : Allowed shearing stress ( Safety factor = 4 )

n : Number of effective thread

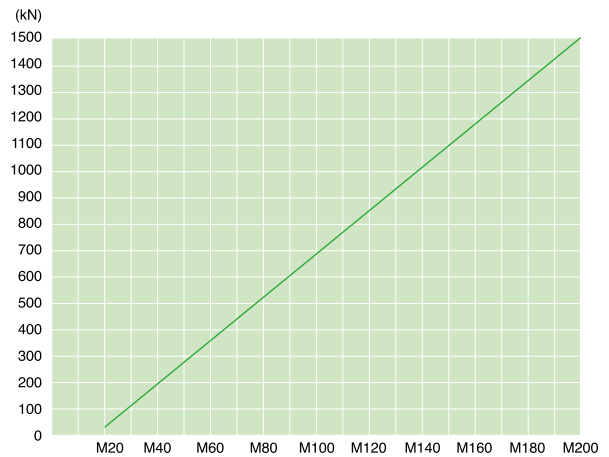
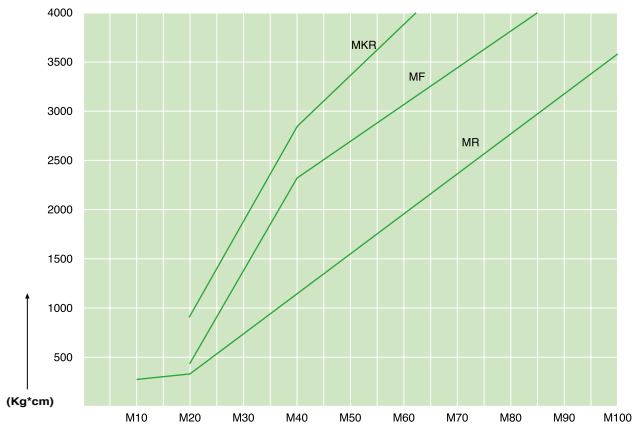
## Angular Displacement Loosening Torque

Remarks:

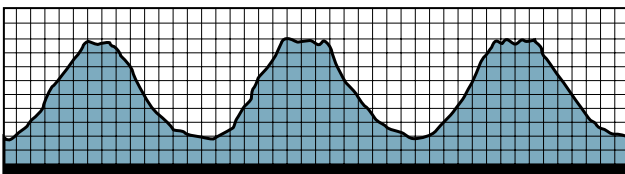
(a) The data are for reference only

(b)  $1\text{N}\cdot\text{M} = 10.2\text{ kgf}\cdot\text{cm} = 0.73\text{ lb}\cdot\text{ft}$

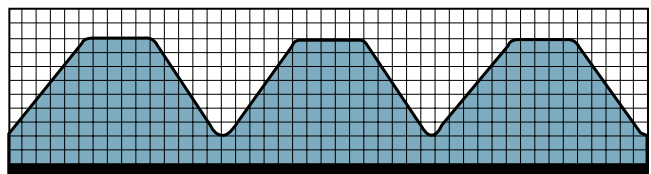
## Axial Load Static



## Threading Profile



Traditional threading surface profile



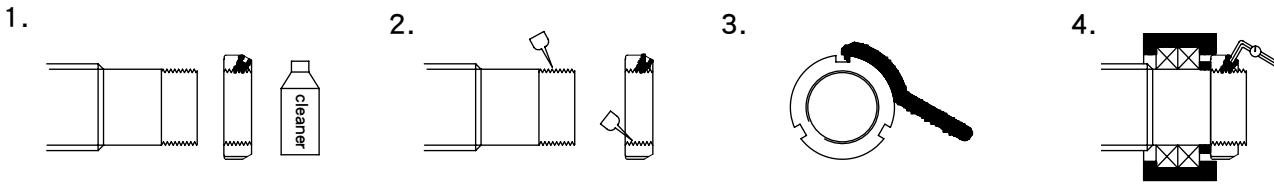
MF, MR series threading surface profile by precision grinding





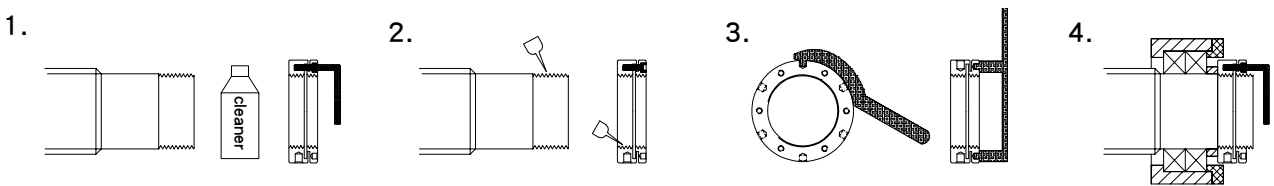
# CORRECT ASSEMBLY METHOD

## e.g. MF, MR SERIES



- Step 1: Wash by cleaner and air dry the spindle/ballscrew and locknut.
- Step 2: Add lubricating oil onto the thread of spindle/ballscrew and locknut.
- Step 3: Use appropriate tool and torque wrench to do the fixation.
- Step 4: Drive the setscrews tightly.

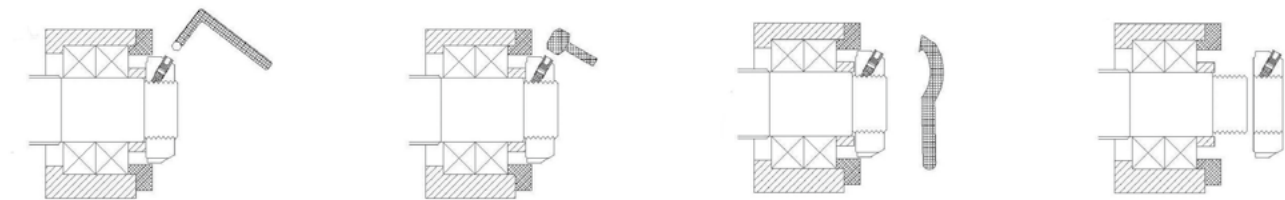
## e.g. MKR SERIES



- Step 1: Wash by cleaner and air dry the spindle/ballscrew and locknut, loose up the socket head screws of the locknut.
- Step 2: Add lubricant onto the thread of spindle/ballscrew and locknut.
- Step 3: Use appropriate tool and torque wrench to do the fixation.
- Step 4: Drive the socket head screws tightly.

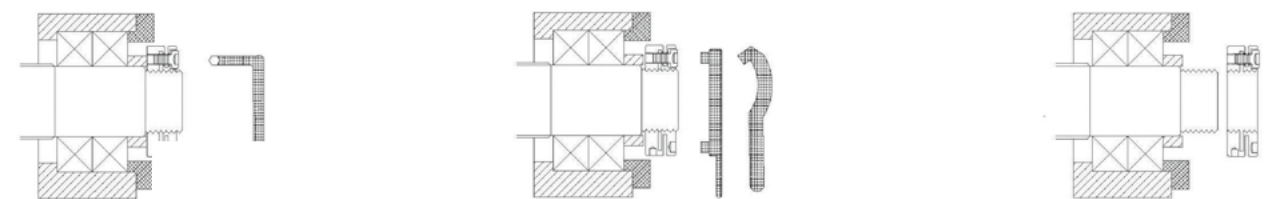
# CORRECT DISASSEMBLY METHOD

## e.g. MF,MR SERIES



- Step 1: Loosen the setscrews and clean the spindle/ballscrew.
- Step 2: Lightly tapped the setscrews head by rubber mallet.
- Step 3: Loosen the locknut by an appropriate tool.
- Step 4: Take off the locknut.

## e.g. MKR SERIES



- Step 1: Loosen the socket head screws.
- Step 2: Loosen the locknut by an appropriate tool.
- Step 3: Take off the locknut.



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# **NIKKI**

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E-mail:service@nikki.com.tw

