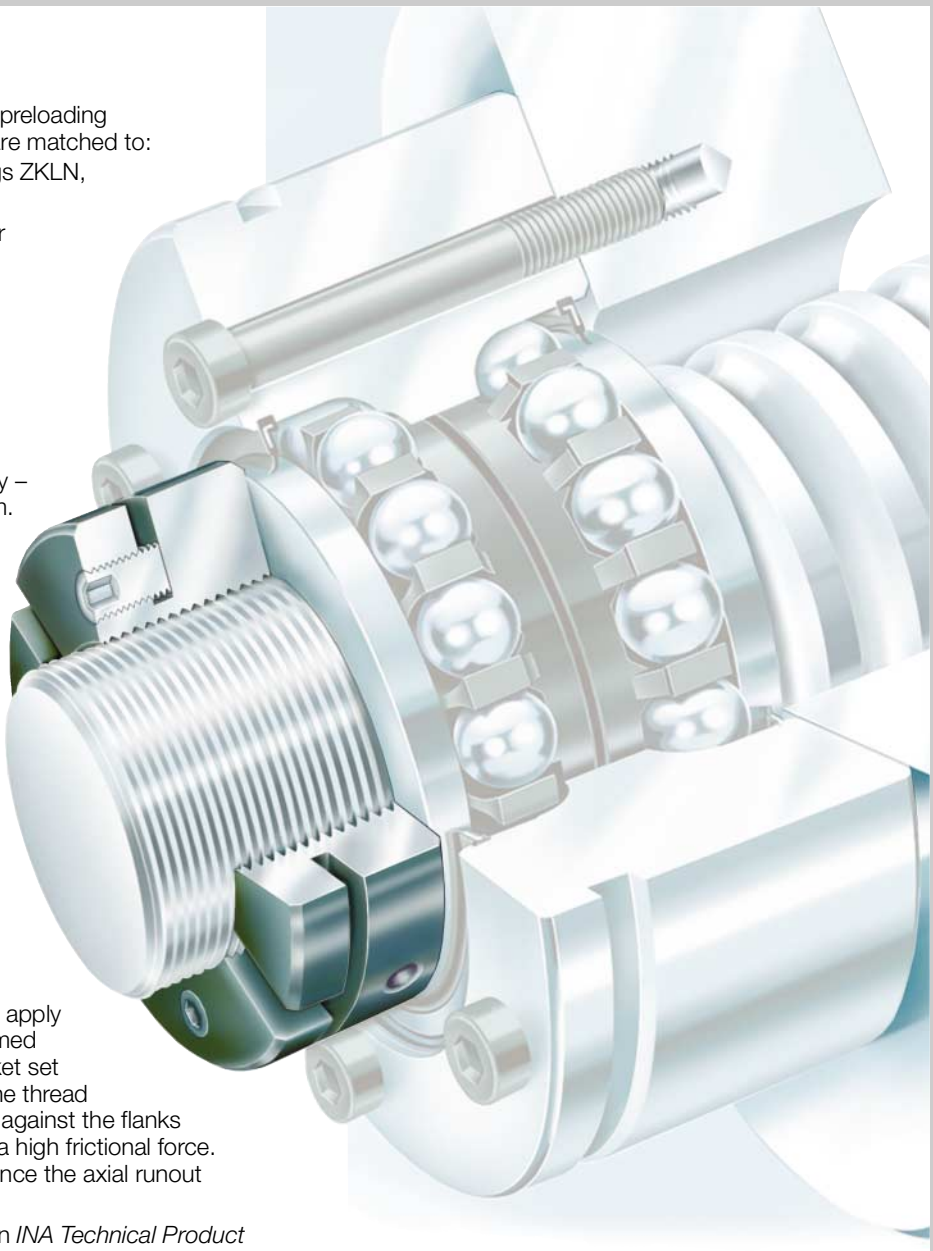
Precision locknuts

Series AM

New Sizes



Features

Precision locknuts AM are used for preloading INA bearings for screw drives and are matched to:

- axial angular contact ball bearings ZKLN, ZKLF, DKLFA
- needle roller/axial cylindrical roller bearings ZARN, ZARF.

They can also be used to locate rolling bearings of other types.

Precision locknuts AM:

- support axial forces
- ensure a high axial rigidity of the bearing arrangement
- have a high axial runout accuracy – the axial runout is max. 0,005 mm. This accuracy is achieved by machining the thread and the axial surface abutting the rolling bearing in a single operation
- have a “fine” metric ISO thread in accordance with 5H to DIN 13 Parts 21-24
- are fixed in position by tightening the hexagonal socket set screws
- can be reused several times if they are fitted and dismantled correctly.

Locking method

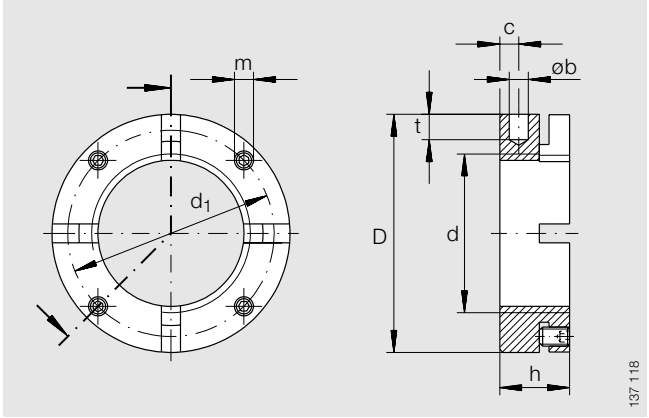
The nuts have segments in order to apply the locking forces. These are deformed elastically when the hexagonal socket set screws are tightened. As a result, the thread flanks of the segments are pressed against the flanks of the thread on the spindle, giving a high frictional force. This locking method does not influence the axial runout of the nut.

The fitting of locknuts is described in *INA Technical Product Information “TPI 100”*.

107 455a

Precision locknuts

Series AM



AM 15 to AM 40 with 4 segments
AM 45 to AM 90 with 6 segments
AM 100 to AM 130 with 8 segments

Dimension table · Dimensions in mm

Threaded nut	Designation	Mass	Dimensions							Set screw	Locknut				Designation
	Nut									Tightening torque	Ultimate axial load	Breakaway torque	Reference tightening torque	Mass moment of inertia	Adapter
d			D	h	b	t	d_1	c	m	M_m	F_{aB} [1]	M_L [1]	M_{AL} [2]	M_M	
5H		≈kg			H11					Nm	kN	Nm	Nm	kg · cm²	
M 15×1	**AM 15**	0,06	30	18	4	5	24	5	M 5	3	100	20	10	0,09	AMS 20
M 17×1	**AM 17**	0,07	32	18	4	5	26	5	M 5	3	120	25	15	0,11	AMS 20
M 20×1	**AM 20**	0,13	38	18	4	6	31	5	M 6	5	145	45	18	0,23	AMS 20
M 25×1,5	**AM 25**	0,16	45	20	5	6	38	6	M 6	5	205	60	25	0,49	AMS 30
M 30×1,5	**AM 30**	0,20	52	20	5	7	45	6	M 6	5	250	70	32	0,86	AMS 30
	AM 30/65	0,50	65	30	6	8	45	6	M 6	5	400	70	32	2,8	AMS 30
M 35×1,5	**AM 35/58**	0,23	58	20	5	7	51	6	M 6	5	280	90	40	1,3	AMS 30
	AM 35	0,33	65	22	6	8	58	6	M 6	5	330	100	40	2,4	AMS 40
M 40×1,5	**AM 40**	0,30	65	22	6	8	58	6	M 6	5	350	120	55	2,3	AMS 40
	AM 40/85	0,75	85	32	6	8	58	6	M 6	5	570	120	55	7,6	AMS 40
M 45×1,5	**AM 45**	0,34	70	22	6	8	63	6	M 6	5	360	220	65	2,9	AMS 50
M 50×1,5	**AM 50**	0,43	75	25	6	8	68	8	M 6	5	450	280	85	4,3	AMS 50
M 55×2	**AM 55**	0,60	85	26	6	8	75	8	M 8	15	520	320	95	7,7	AMS 60
M 60×2	**AM 60**	0,65	90	26	6	8	80	8	M 8	15	550	365	100	9,4	AMS 60
M 65×2	**AM 65**	0,83	100	26	8	10	88	8	M 8	15	560	400	120	14,6	AMS 70
M 70×2	**AM 70**	0,79	100	28	8	10	90	9	M 8	15	650	450	130	14,7	AMS 70
M 75×2	**AM 75**	1,23	115	30	8	10	102	10	M10	20	750	610	150	29	AMS 80
M 80×2	**AM 80**	0,93	110	30	8	10	98	10	M10	20	670	770	160	21,3	AMS 80
M 85×2	**AM 85**	0,97	115	30	8	10	102	10	M10	20	690	930	180	24,8	AMS 80
M 90×2	**AM 90**	1,53	130	32	8	10	118	13	M10	20	900	1100	200	48	AMS 90
M100×2	**AM 100**	1,12	130	30	8	10	118	10	M10	20	740	1200	250	38	AMS 110
M110×2	**AM 110**	1,22	140	30	8	10	128	10	M10	20	770	1300	250	48	AMS 110
M120×2	**AM 120**	1,56	155	30	8	10	142	10	M10	20	880	1450	250	75	AMS 130
M130×2	**AM 130**	1,67	165	30	8	10	152	10	M10	20	900	1600	250	92	AMS 130

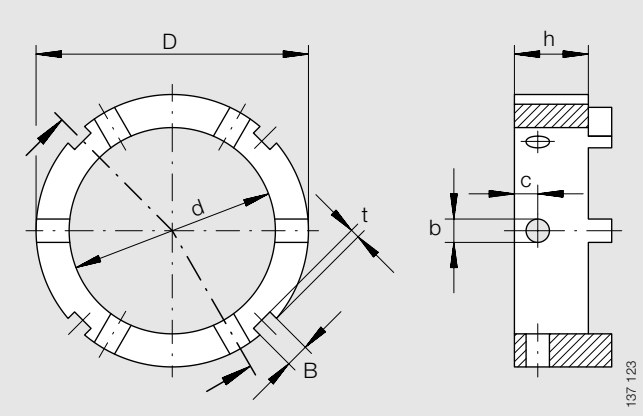
New sizes available from 1st quarter of 2002.

[1] The breakaway torques M_L and ultimate axial loads F_{aB} stated are based on a locknut tightened to the tightening torque M_{AL} against a fixed shaft shoulder.
The ultimate axial loads F_{aB} are valid for a stud thread with a tolerance of 6g or better as well as a minimum strength of 700 N/mm².
For dynamic loading, 75% of the ultimate axial load F_{aB} is permissible.

[2] Tightening torques for preloading of bearings are given in the bearing dimension tables in *INA publication "ZAE"*.
If precision locknuts AM are fitted using the adapter AMS,
a maximum tightening torque of twice the value stated for the bearing is permissible!
If rolling bearings of other types are to be preloaded, INA must be consulted first.

Adapters

Series AMS



AMS

Dimension table · Dimensions in mm

Designation [1]	Mass	Dimensions						
		D	h	d	b	c	B	t
	≈kg				H11			
AMS 20	0,047	32	14	22	4	5	4	2
AMS 30	0,093	45	15	35	5	5	5	2
AMS 40	0,217	65	16	45	6	6	6	2,5
AMS 50	0,245	70	19	53	6	6	6	2,5
AMS 60	0,37	85	20	65	6	6	7	3
AMS 70	0,615	98	25	75	8	10	8	3,5
AMS 80	0,755	110	25	85	8	10	8	3,5
AMS 90	1,215	130	25	95	8	10	10	4
AMS 110	0,74	130	25	110	8	10	10	4
AMS 130	1,485	155	25	120	8	10	12	5

[1] ⚠ If precision locknuts AM are fitted using an adapter AMS, a maximum tightening torque of twice the value given in the dimension table for the bearing is permissible!

INA Wälzlager Schaeffler oHG

91072 Herzogenaurach · Germany
www.ina.com
In Germany:
Phone 0180 / 5 00 38 72
Fax 0180 / 5 00 38 73
E-Mail info@ina.com
From Other Countries:
Phone +49 / 91 32 / 82-0
Fax +49 / 91 32 / 82-49 50

Sach-Nr. 010-690-760/MAI 76 US-D 09011 ○ · Printed in Germany