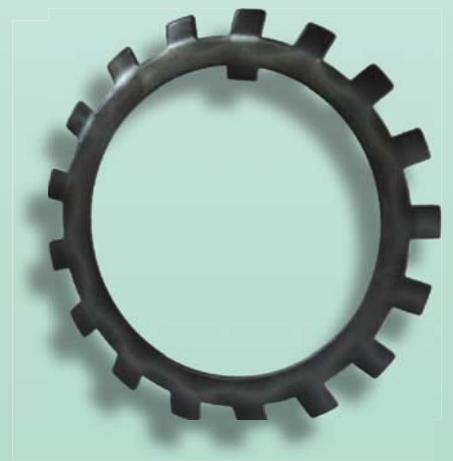




**Manguitos y accesorios**

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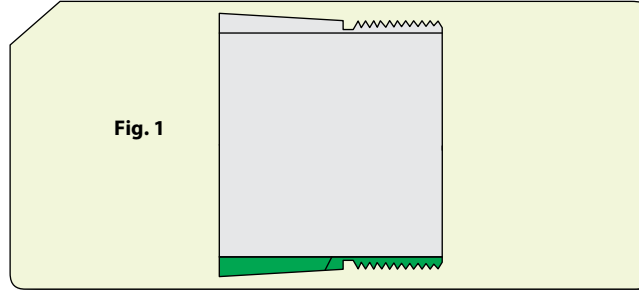
***Sleeves and accessories***



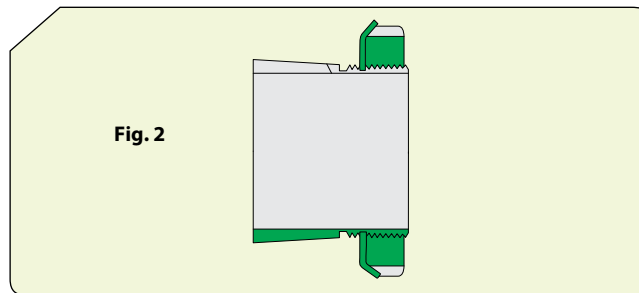
## MANGUITOS Y ACCESORIOS

### MANGUITOS DE FIJACIÓN

Utilizados para el bloqueo de los rodamientos con agujero cónico en los ejes cilíndricos (**Fig. 1**), tienen forma cónica y están cortados longitudinalmente para adaptarse mejor a las dimensiones del agujero de los rodamientos (conicidad 1:12).



Se suministran con tuercas y arandelas (**Fig. 2**), son los más comunes y utilizados; simplifican el montaje y el desmontaje de los rodamientos y el diseño de las máquinas. Permiten tolerancias más holgadas entre eje y rodamiento.



## SLEEVES AND ACCESSORIES

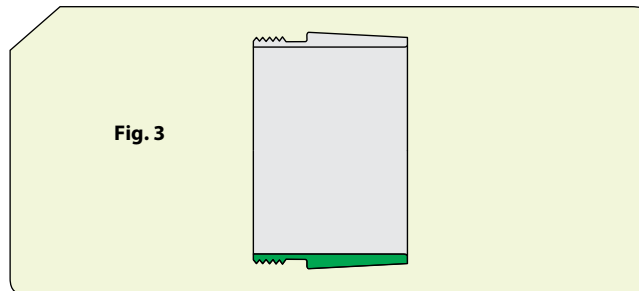
### ADAPTER SLEEVES

Adapter sleeves are used to lock bearings with tapered bore on cylindrical shafts (**Fig. 1**), they have a tapered stem shape and are cut lengthwise to adapt to the dimensions of the bearing's bore (taper 1:12).

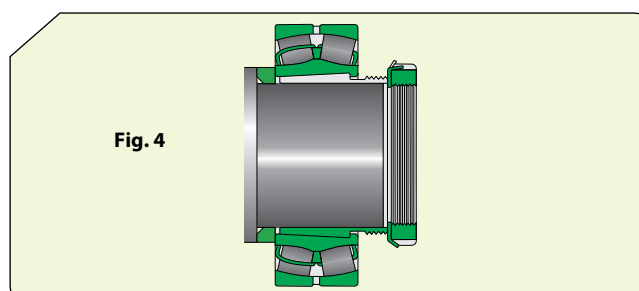
They are supplied complete with lock nuts and washers (**Fig. 2**) are the most common type used and simplify the assembly and disassembly of the bearings and the design of the machines. They allow for greater tolerances between shaft and bearing.

### MANGUITOS DE DESMONTAJE

Utilizados para el bloqueo de los rodamientos con agujero cónico en los ejes cilíndricos (**Fig. 3**), tienen forma cónica y están cortados longitudinalmente para adaptarse mejor a las dimensiones del agujero de los rodamientos (conicidad 1:12).



Son menos comunes porque son más difíciles de montar, no se suministran con tuercas de desmontaje (**Fig. 4**).



### WITHDRAWAL SLEEVES

They are used to lock bearings with tapered bore on cylindrical shafts (**Fig. 3**), they have a tapered stem shape and are cut lengthwise to adapt to the dimensions of the bearings' bore (taper 1:12).

They are less popular because they are more difficult to assemble, are not supplied complete with disassembly lock nuts (**Fig. 4**).

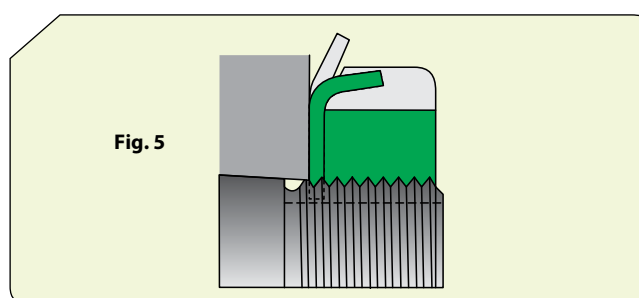
Los rodamientos montados en manguitos de desmontaje se deberán apoyar en un apoyo fijo en el eje, el manguito se inserta luego y se prensa dentro del agujero cónico del rodamiento.

### TUERCAS

ISB® suministra diversos tipos de tuercas: de bloqueo o de extracción, en base a su utilización. Dos son los empleos que pueden tener estos accesorios para rodamientos: uno el bloqueo en el eje, que puede verificarse en diferentes modos, el otro, es facilitar el montaje/desmontaje del rodamiento del eje. Las tuercas ISB® ofrecen tres modos de bloqueo en el eje, como se expone aquí abajo.

### ARANDELA DE SEGURIDAD

Se utilizan con las series de tuercas KM y KML. Son elementos de bloqueo simples, estables y fiables (Fig. 5).



*Bearings fitted on withdrawal sleeves must rest against a fixed shoulder on the shaft and the sleeve is fitted subsequently and pressed into the tapered bore of the bearing.*

### LOCK NUTS

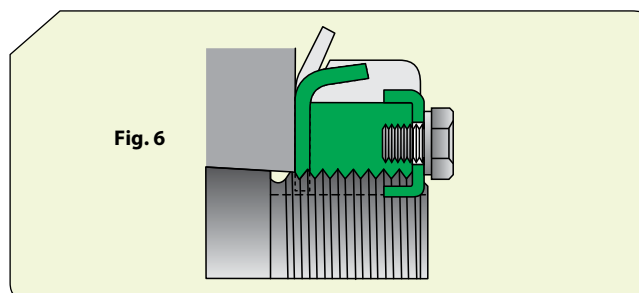
ISB® supplies different types of locking or extraction lock nuts based on what they are to be used for. These accessories for bearings may have two uses: one for locking on the shaft, which may be done differently and one for facilitating assembly/disassembly of the bearing on/from the shaft. ISB® lock nuts offer three different ways of locking on the shaft, as follows.

### LOCKING SAFETY WASHER

They are used with lock nut series KM and KML. They are simple, stable and reliable locking elements (Fig. 5).

### GRAPA DE BLOQUEO O PLACA

Se ensambla en la tuerca, tipo HM, gracias a un tornillo que fija la placa insertada en una ranura de la arandela y un ranurado en el eje. Designación MS (Fig. 6).

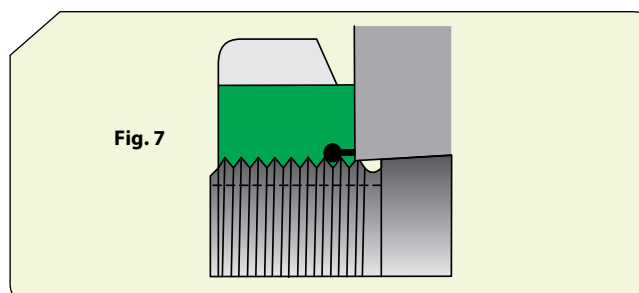


### LOCKING CLIP OR PLATE

Are assembled into the lock nuts, HM type, by a screw that fix a plate in a slot in the nut and into a groove on the shaft. Designation MS (Fig. 6).

### TUERCA AUTOBLOQUEANTE

La tuerca cuenta con un anillo interior de nylon que en el enroscado genera fricción, a contacto con el roscado macho, generando una fuerza bloqueante. Las tuercas autobloqueantes tienen como prefijo la designación GTN y GTP (Fig. 7).



### SELF-LOCKING NUT

The lock nut has an internal Nylon ring that generates friction whilst screwing it, in contact with the male thread, generating a locking force. The self-locking nuts have GTN and GTP designation suffix (Fig. 7).

### TUERCAS DE PRECISIÓN

El montaje de tornillos de bolas o rodamientos generalmente con tuercas tradicionales, a causa de la perpendicularidad entre roscados y superficies de tope, genera problemas de precisión. **ISB®** ha desarrollado series de tuercas con características de tolerancia de precisión, de perpendicularidad entre roscados y plano frontal y de tolerancias de los roscados, que resuelven estos problemas en modo definitivo.

### TUERCAS YSF BLOQUEO LATERAL

El sistema de bloqueo está dado por 3 pasadores de fijación equidistantes e inclinados 30° (**Fig. 8**).

- Perpendicularidad entre roscado y plano frontal: 0,002 mm
- Material: SCM4
- Dureza: HRC 28 – 32
- Tolerancia del roscado: ISO 4H

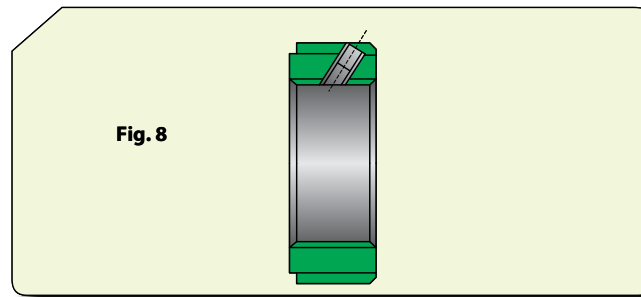
### PRECISION LOCK NUTS

The assembly of ball screws or bearings usually with conventional locknuts, due to the perpendicularity between the threads and the contact surfaces, generates precision problems. **ISB®** has developed some series of locknuts with characteristics of precision tolerance, perpendicularity between threads and front surface and tolerance of the threads that resolve these problems once and for all.

### YSF LOCK NUTS FOR SIDE LOCKING

The locking system has 3 equally distant locking grub screws, set at an angle of 30° (**Fig. 8**).

- Perpendicularity between thread and front surface: 0.002 mm
- Material: SCM4
- Hardness: HRC 28 – 32
- Thread tolerance: ISO 4H



### TUERCAS YSA BLOQUEO AXIAL

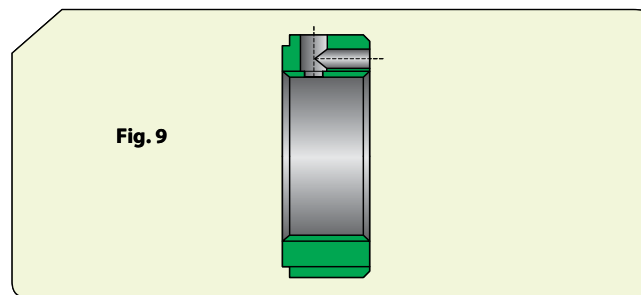
El sistema de bloqueo está dado por 3 pasadores de fijación equidistantes. La utilización de este tipo de tuercas está indicada para espacios reducidos de montaje (**Fig. 9**).

- Perpendicularidad entre roscado y plano frontal: 0,002 mm
- Material: SCM4
- Dureza: HRC 28 – 32
- Tolerancia del roscado: ISO 4H

### YSA LOCK NUTS FOR AXIAL LOCKING

The locking system has three equally distant locking grub screws. This type of lock nut is suitable for tight assembly spaces (**Fig. 9**).

- Perpendicularity between thread and front surface: 0.002 mm
- Material: SCM4
- Hardness: HRC 28 – 32
- Thread tolerance: ISO 4H



### TUERCAS YSR BLOQUEO RADIAL

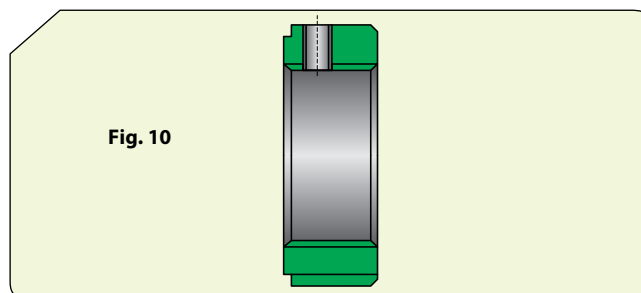
El sistema de bloqueo radial está dado por 3 pasadores de fijación equidistantes. Este tipo de tuerca tiene un ancho reducido y está indicada para montajes con reducidas anchuras de roscado (**Fig. 10**).

- Perpendicularidad entre roscado y plano frontal: 0.002 mm
- Material: SCM4
- Dureza: HRC 28 – 32
- Tolerancia del roscado: ISO 4H

### YSR LOCK NUTS FOR RADIAL LOCKING

*This radial locking system has three equally distant locking grub screws. This type of lock nut is not as wide and it suitable for assembly on restricted thread width (**Fig. 10**).*

- *Perpendicularity between thread and front surface: 0.002 mm*
- *Material: SCM4*
- *Hardness: HRC 28 – 32*
- *Thread tolerance: ISO 4H*



### TUERCAS YSK BLOQUEO CON RANURADO ELÁSTICO

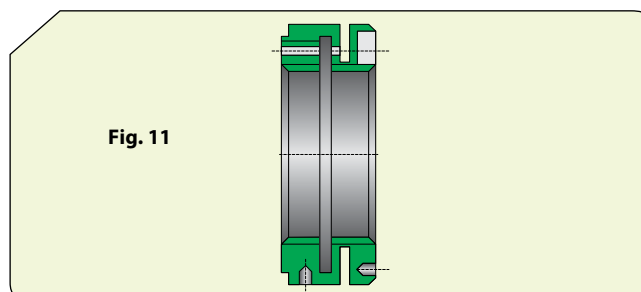
El sistema de bloqueo está dado por el ranurado y por la elasticidad del acero; ajustando los tornillos de fijación, el rozamiento generado permite el bloqueo. Indicada para empleos pesados, gracias a su capacidad de bloqueo, tolerancias menos precisas y facilidad de montaje (**Fig. 11**).

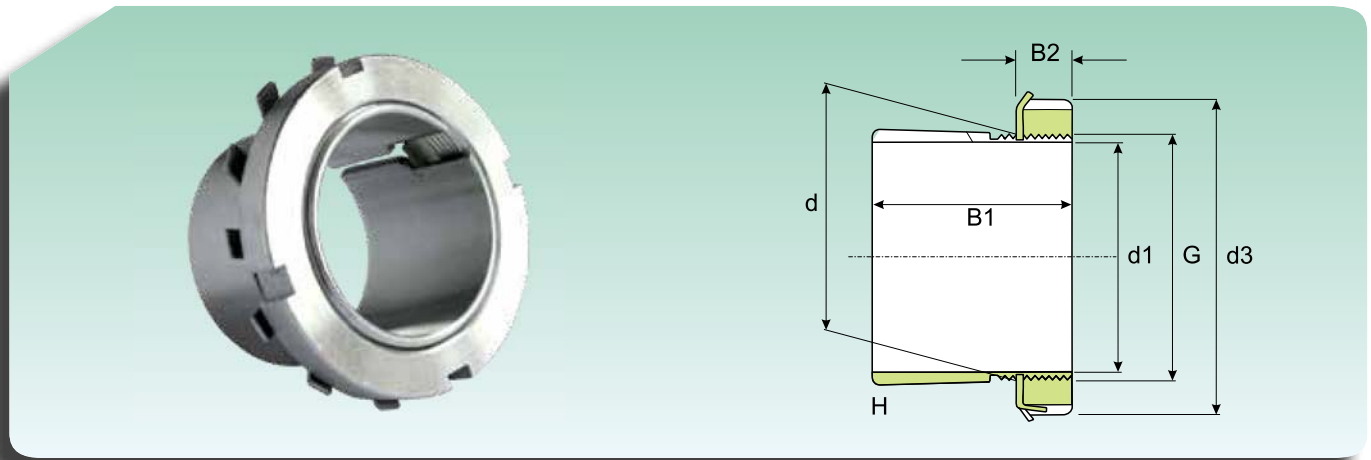
- Perpendicularidad entre roscado y plano frontal: 0,01 mm
- Material: SCM4
- Dureza: HRC 26 – 30
- Tolerancia del roscado: ISO 6H

### YSK LOCK NUTS WITH ELASTIC SLOT

*The locking system is obtained by the slot and the elasticity of the steel material; when you tighten the locking screws, they are locked by the friction generated. They are suitable for heavy-duty usage thanks to the locking capacity, less precise tolerances and ease of assembly (**Fig. 11**).*

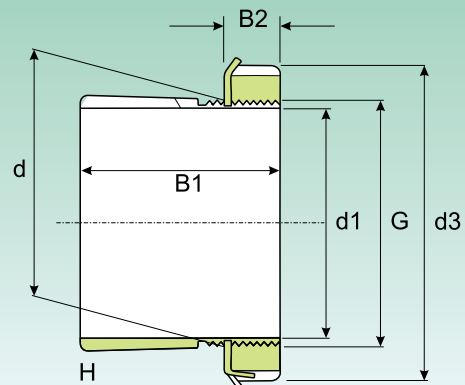
- *Perpendicularity between thread and front surface: 0.01 mm*
- *Material: SCM4*
- *Hardness: HRC 26 – 30*
- *Thread tolerance: ISO 6H*



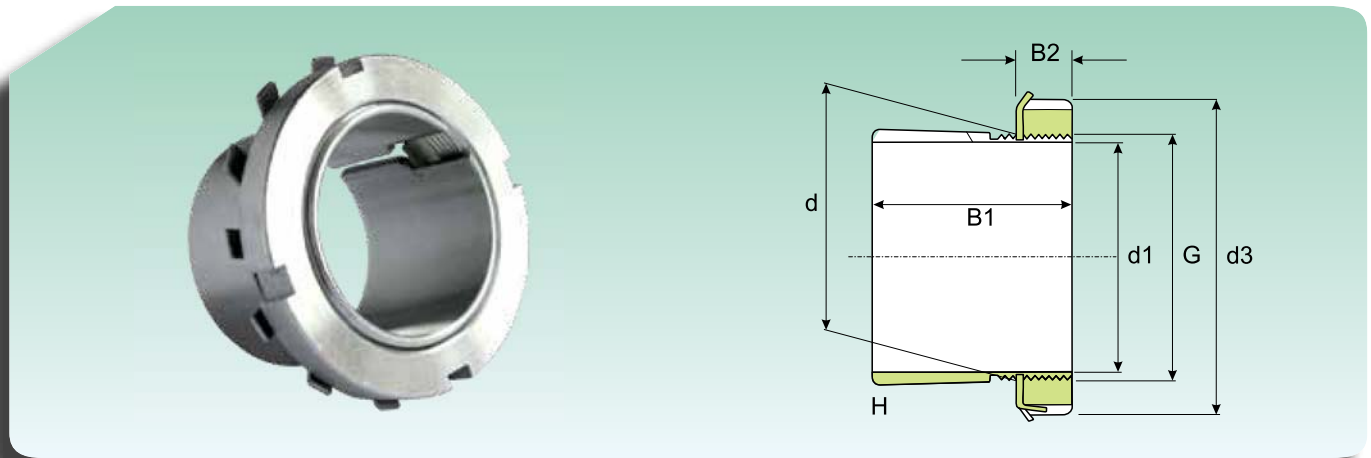
**MANGUITOS DE FIJACIÓN  
ADAPTER SLEEVES**


Dimensión Dimension						Peso (kg) Weight (Kg)	Sigla Designation			
d1 (mm)	d (mm)	d3 (mm)	B1 (mm)	B2 (mm)	G (mm)		Manguitos de fijación con tuerca y dispositivo de seguridad Adapter sleeves with lock nut and washer	Tuerca de bloqueo Lock nut	Dispositivo de seguridad Washer	Tuerca hidráulica Hydraulic Lock nut
17	20	32	24	7	M20x1	0.036	<b>H 204</b>	KM 4	MB 4	-
	20	32	28	7	M20x1	0.04	<b>H 304</b>	KM 4	MB 4	-
20	25	38	26	8	M 25x1.5	0.064	<b>H 205</b>	KM 5	MB 5	-
	25	38	35	8	M 25x1.5	0.085	<b>H 2305</b>	KM 5	MB 5	-
	25	38	29	9	M 25x1.5	0.071	<b>H 305</b>	KM 5	MB 5	-
25	30	45	27	8	M 30x1.5	0.086	<b>H 206</b>	KM 6	MB 6	-
	30	45	38	8	M 30x1.5	0.11	<b>H 2306</b>	KM 6	MB 6	-
	30	45	31	9	M 30x1.5	0.095	<b>H 306</b>	KM 6	MB 6	-
30	35	52	29	9	M 35x1.5	0.12	<b>H 207</b>	KM 7	MB 7	-
	35	52	43	9	M 35x1.5	0.16	<b>H 2307</b>	KM 7	MB 7	-
	35	52	35	10	M 35x1.5	0.14	<b>H 307</b>	KM 7	MB 7	-
35	40	58	31	10	M 40x1.5	0.16	<b>H 208</b>	KM 8	MB 8	-
	40	58	46	10	M 40x1.5	0.22	<b>H 2308</b>	KM 8	MB 8	-
	40	58	36	11	M 40x1.5	0.17	<b>H 308</b>	KM 8	MB 8	-
40	45	65	33	11	M 45x1.5	0.21	<b>H 209</b>	KM 9	MB 9	-
	45	65	50	11	M 45x1.5	0.27	<b>H 2309</b>	KM 9	MB 9	-
	45	65	39	12	M 45x1.5	0.23	<b>H 309</b>	KM 9	MB 9	-
45	50	70	35	12	M 50x1.5	0.24	<b>H 210</b>	KM 10	MB 10	HMV 10 E
	50	70	55	12	M 50x1.5	0.34	<b>H 2310</b>	KM 10	MB 10	HMV 10 E
	50	70	42	13	M 50x1.5	0.27	<b>H 310</b>	KM 10	MB 10	HMV 10 E
50	55	75	37	12.5	M 55x2	0.28	<b>H 211</b>	KM 11	MB 11	HMV 11 E
	55	75	59	12.5	M 55x2	0.39	<b>H 2311</b>	KM 11	MB 11	HMV 11 E
	55	75	45	13	M 55x2	0.34	<b>H 311</b>	KM 11	MB 11	HMV 11 E
55	60	80	38	12.5	M 60x2	0.31	<b>H 212</b>	KM 12	MB 12	HMV 12 E
	60	80	62	12.5	M 60x2	0.45	<b>H 2312</b>	KM 12	MB 12	HMV 12 E
	60	80	47	14	M 60x2	0.36	<b>H 312</b>	KM 12	MB 12	HMV 12 E
60	65	85	40	13.5	M 65x2	0.36	<b>H 213</b>	KM 13	MB 13	HMV 13 E
	65	85	65	13.5	M 65x2	0.52	<b>H 2313</b>	KM 13	MB 13	HMV 13 E
	65	85	50	13.5	M 65x2	0.42	<b>H 313</b>	KM 13	MB 13	HMV 13 E
	70	92	68	13.5	M 70x2	0.88	<b>H 2314</b>	KM 14	MB 14	HMV 14 E
	70	92	52	13.5	M 70x2	0.67	<b>H 314</b>	KM 14	MB 14	HMV 14 E
65	75	98	43	14.5	M 75x2	0.66	<b>H 215</b>	KM 15	MB 15	HMV 15 E
	75	98	73	14.5	M 75x2	1.1	<b>H 2315</b>	KM 15	MB 15	HMV 15 E
	75	98	55	14.5	M 75x2	0.78	<b>H 315</b>	KM 15	MB 15	HMV 15 E
70	80	105	46	17	M 80x2	0.81	<b>H 216</b>	KM 16	MB 16	HMV 16 E
	80	105	78	17	M 80x2	1.2	<b>H 2316</b>	KM 16	MB 16	HMV 16 E
	80	105	59	17	M 80x2	0.95	<b>H 316</b>	KM 16	MB 16	HMV 16 E

**MANGUITOS DE FIJACIÓN**  
**ADAPTER SLEEVES**



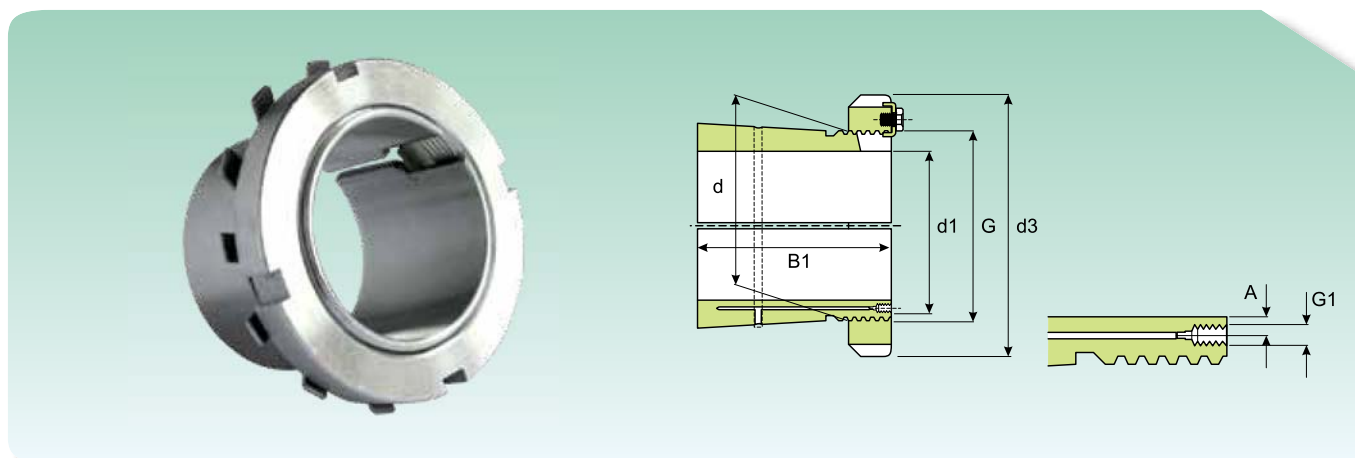
Dimensión Dimension						Peso (kg) Weight (Kg)	Sigla Designation			
d1 (mm)	d (mm)	d3 (mm)	B1 (mm)	B2 (mm)	G (mm)		Manguitos de fijación con tuerca y dispositivo de seguridad Adapter sleeves with lock nut and washer	Tuerca de bloqueo Lock nut	Dispositivo de seguridad Washer	Tuerca hidráulica Hydraulic Lock nut
75	85	110	50	18	M 85x2	0.94	<b>H 217</b>	KM 17	MB 17	HMV 17 E
	85	110	82	18	M 85x2	1.35	<b>H 2317</b>	KM 17	MB 17	HMV 17 E
	85	110	63	18	M 85x2	1.1	<b>H 317</b>	KM 17	MB 17	HMV 17 E
80	90	120	52	18	M 90x2	1.1	<b>H 218</b>	KM 18	MB 18	HMV 18 E
	90	120	86	18	M 90x2	1.6	<b>H 2318</b>	KM 18	MB 18	HMV 18 E
	90	120	65	18	M 90x2	1.3	<b>H 318</b>	KM 18	MB 18	HMV 18 E
85	95	125	55	19	M 95x2	1.25	<b>H 219</b>	KM 19	MB 19	HMV 19 E
	95	125	90	19	M 95x2	1.8	<b>H 2319</b>	KM 19	MB 19	HMV 19 E
	95	125	68	19	M 95x2	1.4	<b>H 319</b>	KM 19	MB 19	HMV 19 E
90	100	130	58	20	M 100x2	1.4	<b>H 220</b>	KM 20	MB 20	HMV 20 E
	100	130	97	20	M 100x2	2	<b>H 2320</b>	KM 20	MB 20	HMV 20 E
	100	130	76	20	M 100x2	1.8	<b>H 3120</b>	KM 20	MB 20	HMV 20 E
	100	130	71	20	M 100x2	1.6	<b>H 320</b>	KM 20	MB 20	HMV 20 E
100	110	145	63	21	M 110x2	1.8	<b>H 222</b>	KM 22	MB 22	HMV 22 E
	110	145	105	21	M 110x2	2.75	<b>H 2322</b>	KM 22	MB 22	HMV 22 E
	110	145	81	21	M 110x2	2.1	<b>H 3122</b>	KM 22	MB 22	HMV 22 E
	110	145	77	21	M 110x2	2.04	<b>H 322</b>	KM 22	MB 22	HMV 22 E
110	120	145	72	22	M 120x2	1.8	<b>H 3024</b>	KML 24	MBL 24	HMV 24 E
	120	155	112	22	M 120x2	3	<b>H 2324</b>	KM 24	MB 24	HMV 24 E
	120	155	88	22	M 120x2	2.5	<b>H 3124</b>	KM 24	MB 24	HMV 24 E
115	130	155	80	23	M 130x2	2.8	<b>H 3026</b>	KML 26	MBL 26	HMV 26 E
	130	165	121	23	M 130x2	4.45	<b>H 2326</b>	KM 26	MB 26	HMV 26 E
	130	165	92	23	M 130x2	3.45	<b>H 3126</b>	KM 26	MB 26	HMV 26 E
125	140	165	82	24	M 140x2	3.05	<b>H 3028</b>	KML 28	MBL 28	HMV 28 E
	140	180	131	24	M 140x2	5.4	<b>H 2328</b>	KM 28	MB 28	HMV 28 E
	140	180	97	24	M 140x2	4.1	<b>H 3128</b>	KM 28	MB 28	HMV 28 E
135	150	180	87	26	M 150x2	3.75	<b>H 3030</b>	KML 30	MBL 30	HMV 30 E
	150	195	139	26	M 150x2	6.4	<b>H 2330</b>	KM 30	MB 30	HMV 30 E
	150	195	111	26	M 150x2	5.25	<b>H 3130</b>	KM 30	MB 30	HMV 30 E
140	160	190	93	27.5	M 160x3	5.1	<b>H 3032</b>	KML 32	MBL 32	HMV 32 E
	160	210	147	27.5	M 160x3	8.8	<b>H 2332</b>	KM 32	MB 32	HMV 32 E
	160	210	119	27.5	M 160x3	7.25	<b>H 3132</b>	KM 32	MB 32	HMV 32 E
150	170	200	101	28.5	M 170x3	5.8	<b>H 3034</b>	KML 34	MBL 34	HMV 34 E
	170	220	154	28.5	M 170x3	9.9	<b>H 2334</b>	KM 34	MB 34	HMV 34 E
	170	220	122	28.5	M 170x3	8.1	<b>H 3134</b>	KM 34	MB 34	HMV 34 E
160	180	210	109	29.5	M 180x3	6.7	<b>H 3036</b>	KML 36	MBL 36	HMV 36 E
	180	210	87	29.5	M 180x3	5.7	<b>H 3936</b>	KML 36	MBL 36	HMV 36 E
	180	230	161	30	M 180x3	11	<b>H 2336</b>	KM 36	MB 36	HMV 36 E
	180	230	131	29.5	M 180x3	9.15	<b>H 3136</b>	KM 36	MB 36	HMV 36 E

**MANGUITOS DE FIJACIÓN  
ADAPTER SLEEVES**


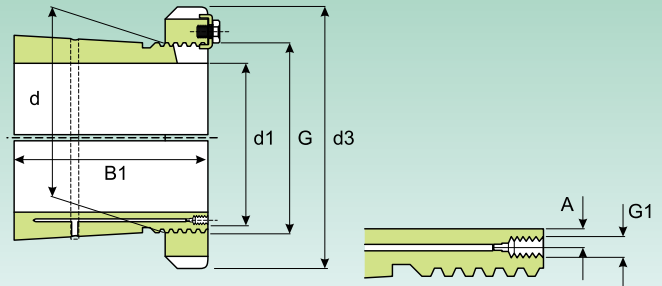
Dimensión Dimension						Peso (kg) Weight (Kg)	Sigla Designation			
d1 (mm)	d (mm)	d3 (mm)	B1 (mm)	B2 (mm)	G (mm)		Manguitos de fijación con tuerca y dispositivo de seguridad Adapter sleeves with lock nut and washer	Tuerca de bloqueo Lock nut	Dispositivo de seguridad Washer	Tuerca hidráulica Hydraulic Lock nut
<b>170</b>	190	220	112	30.5	M 190x3	7.25	<b>H 3038</b>	KML 38	MBL 38	HMV 38 E
	190	220	89	30.5	M 190x3	6.2	<b>H 3938</b>	KML 38	MBL 38	HMV 38 E
	190	240	169	30.5	M 190x3	12	<b>H 2338</b>	KM 38	MB 38	HMV 38 E
	190	240	141	30.5	M 190x3	10.5	<b>H 3138</b>	KM 38	MB 38	HMV 38 E
<b>180</b>	200	240	120	31.5	M 200x3	8.9	<b>H 3040</b>	KML 40	MBL 40	HMV 40 E
	200	240	98	31.5	M 200x3	7.9	<b>H 3940</b>	KML 40	MBL 40	HMV 40 E
	200	250	176	31.5	M 200x3	13.5	<b>H 2340</b>	KM 40	MB 40	HMV 40 E
	200	250	150	31.5	M 200x3	12	<b>H 3140</b>	KM 40	MB 40	HMV 40 E
<b>200</b>	220	260	126	35	Tr 220x4	9.9	<b>H 3044</b>	KM 44	MB 44	HMV 44 E
	220	260	96	35	Tr 220x4	7.95	<b>H 3944</b>	KM 44	MB 44	HMV 44 E
	220	280	186	35	Tr 220x4	17	<b>H 2344</b>	KM 44	MB 44	HMV 44 E
	220	280	161	35	Tr 220x4	15	<b>H 3144</b>	KM 44	MB 44	HMV 44 E
<b>220</b>	240	290	133	34	Tr 240x4	12	<b>H 3048</b>	KM 48	MB 48	HMV 48 E
	240	290	101	34	Tr 240x4	11	<b>H 3948</b>	KM 48	MB 48	HMV 48 E
	240	300	199	34	Tr 240x4	19	<b>H 2348</b>	KM 48	MB 48	HMV 48 E
	240	300	172	34	Tr 240x4	16.5	<b>H 3148</b>	KM 48	MB 48	HMV 48 E



## MANGUITOS DE FIJACIÓN ADAPTER SLEEVES

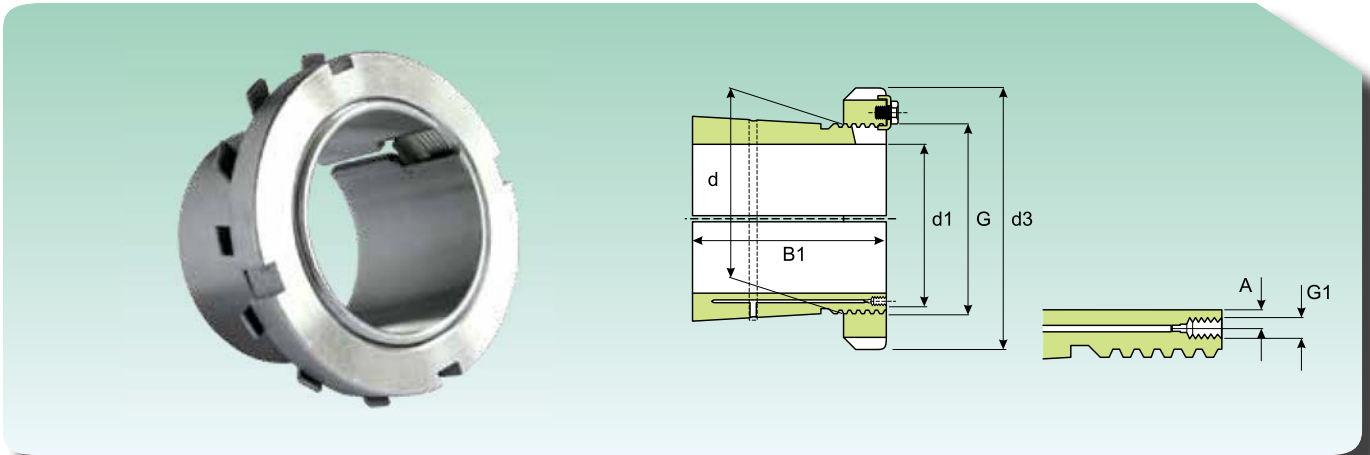


Dimensión Dimension							Peso (kg) Weight (Kg)	Sigla Designation			
d1 (mm)	d (mm)	d3 (mm)	B1 (mm)	A (mm)	G1 (mm)	G (mm)		Manguitos de fijación con tuerca y dispositivo de seguridad Adapter sleeves with lock nut and washer	Tuerca de bloqueo Lock nut	Dispositivo de seguridad Washer	Tuerca hidraulica Hydraulic Lock nut
200	220	260	96	4.2	M6	Tr 220x4	7.95	OH 3944 H	HM 3044	MS 3044	HMV 44 E
	220	260	126	4.2	M6	Tr 220x4	9.9	OH 3044 H	HM 3044	MS 3044	HMV 44 E
	220	280	161	4.2	M6	Tr 220x4	15	OH 3144 H	HM 3044	MB 44	HMV 44 E
	220	280	186	4.2	M6	Tr 220x4	17	OH 2344 H	HM 3044	MB 44	HMV 44 E
220	240	290	101	4.2	M6	Tr 240x4	11	OH 3948 H	HM 3048	MS 3052-48	HMV 48 E
	240	290	133	4.2	M6	Tr 240x4	12	OH 3048 H	HM 3048	MS 3052-48	HMV 48 E
	240	300	172	4.2	M6	Tr 240x4	16,5	OH 3148 H	HM 3048	MB 48	HMV 48 E
	240	300	199	4.2	M6	Tr 240x4	19	OH 2348 H	HM 3048	MB 48	HMV 48 E
240	260	310	145	4.2	M6	Tr 260x4	13.5	OH 3052 H	HM 3052	MS 3052-48	HMV 52 E
	260	310	116	4.2	M6	Tr 260x4	11.7	OH 3952 H	HM 3052	MS 3052-48	HMV 52 E
	260	330	190	4.2	M6	Tr 260x4	21	OH 3152 H	HM 3052	MB 52	HMV 52 E
260	280	330	152	4.2	M6	Tr 280x4	16	OH 3056 H	HM 3056	MS 3056	HMV 56 E
	280	330	121	4.2	M6	Tr 280x4	15.3	OH 3956 H	HM 3056	MS 3056	HMV 56 E
	280	350	195	4.2	M6	Tr 280x4	23	OH 3156 H	HM 3056	MB 56	HMV 56 E
280	300	360	168	4.2	M6	Tr 300x4	20.5	OH 3060 H	HM 3060	MS 3060	HMV 60 E
	300	360	140	4.2	M6	Tr 300x4	20	OH 3960 H	HM 3060	MS 3060	HMV 60 E
	300	380	208	4.2	M6	Tr 300x4	29	OH 3160 H	HM 3160	MS 3160	HMV 60 E
	300	380	240	4.2	M6	Tr 300x4	32	OH 3260 H	HM 3160	MS 3160	HMV 60 E
300	320	380	171	4	M6	Tr 320x5	22	OH 3064 H	HM 3064	MS 3068-64	HMV 64 E
	320	380	140	4	M6	Tr 320x5	21.5	OH 3964 H	HM 3064	MS 3068-64	HMV 64 E
	320	400	226	4	M6	Tr 320x5	32	OH 3164 H	HM 3164	MS 3164	HMV 64 E
	320	400	258	4	M6	Tr 320x5	35	OH 3264 H	HM 3164	MS 3164	HMV 64 E
320	340	400	187	4	M6	Tr 340x5	27	OH 3068 H	HM 3068	MS 3068-64	HMV 68 E
	340	400	144	4	M6	Tr 340x5	24.5	OH 3968 H	HM 3068	MS 3068-64	HMV 68 E
	340	440	254	4	M6	Tr 340x5	50	OH 3168 H	HM 3168	MS 3172-68	HMV 68 E
	340	440	288	4	M6	Tr 340x5	51.5	OH 3268 H	HM 3168	MS 3172-68	HMV 68 E
340	360	420	188	4	M6	Tr 360x5	29	OH 3072 H	HM 3072	MS 3072	HMV 72 E
	360	420	144	4	M6	Tr 360x5	25.2	OH 3972 H	HM 3072	MS 3072	HMV 72 E
	360	460	259	4	M6	Tr 360x5	56	OH 3172 H	HM 3172	MS 3172-68	HMV 72 E
	360	460	299	4	M6	Tr 360x5	60.5	OH 3272 H	HM 3172	MS 3172-68	HMV 72 E
360	380	450	193	4	M6	Tr 380x5	35.5	OH 3076 H	HM 3076	MS 3080-76	HMV 76 E
	380	490	264	4	M6	Tr 380x5	61.5	OH 3176 H	HM 3176	MS 3176	HMV 76 E
	380	490	310	4	M6	Tr 380x5	69.5	OH 3276 H	HM 3176	MS 3176	HMV 76 E
380	400	470	210	4	M6	Tr 400x5	40	OH 3080 H	HM 3080	MS 3080-76	HMV 80 E
	400	470	168	4	M6	Tr 400x5	35	OH 3980 H	HM 3080	MS 3080-76	HMV 80 E
	400	520	272	4	M6	Tr 400x5	73	OH 3180 H	HM 3180	MS 3184-80	HMV 80 E
	400	520	328	4	M6	Tr 400x5	87	OH 3280 H	HM 3180	MS 3184-80	HMV 80 E
400	420	490	212	4	M6	Tr 420x5	47	OH 3084 H	HM 3084	MS 3084	HMV 84 E
	420	490	168	4	M6	Tr 420x5	36	OH 3984 H	HM 3084	MS 3084	HMV 84 E
	420	540	304	4	M6	Tr 420x5	80	OH 3184 H	HM 3184	MS 3184-80	HMV 84 E
	420	540	352	4	M6	Tr 420x5	96	OH 3284 H	HM 3184	MS 3184-80	HMV 84 E

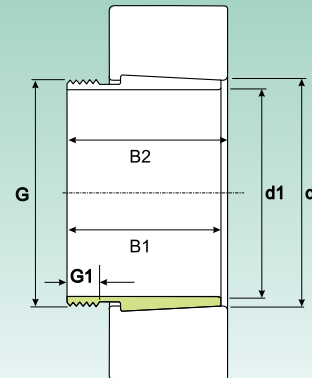
**MANGUITOS DE FIJACIÓN  
ADAPTER SLEEVES**


Dimensión Dimension							Peso (kg) Weight (Kg)	Sigla Designation			
d1 (mm)	d (mm)	d3 (mm)	B1 (mm)	A (mm)	G1 (mm)	G (mm)		Manguitos de fijación con tuerca y dispositivo de seguridad Adapter sleeves with lock nut and washer	Tuerca de bloqueo Lock nut	Dispositivo de seguridad Washer	Tuerca hidraulica Hydraulic Lock nut
<b>410</b>	440	520	228	6.5	M8	Tr 440x5	65	<b>OH 3088 H</b>	HM 3088	<b>MS 3092-88</b>	<b>HMV 88 E</b>
	440	520	189	6.5	M8	Tr 440x5	58	<b>OH 3988 H</b>	HM 3088	<b>MS 3092-88</b>	<b>HMV 88 E</b>
	440	560	307	6.5	M8	Tr 440x5	95	<b>OH 3188 H</b>	HM 3188	<b>MS 3192-88</b>	<b>HMV 88 E</b>
	440	560	361	6.5	M8	Tr 440x5	117	<b>OH 3288 H</b>	HM 3188	<b>MS 3192-88</b>	<b>HMV 88 E</b>
<b>430</b>	460	540	234	6.5	M8	Tr 460x5	71	<b>OH 3092 H</b>	HM 3092	<b>MS 3092-88</b>	<b>HMV 92 E</b>
	460	540	189	6.5	M8	Tr 460x5	60	<b>OH 3992 H</b>	HM 3092	<b>MS 3092-88</b>	<b>HMV 92 E</b>
	460	580	326	6.5	M8	Tr 460x5	119	<b>OH 3192 H</b>	HM 3192	<b>MS 3192-88</b>	<b>HMV 92 E</b>
	460	580	382	6.5	M8	Tr 460x5	134	<b>OH 3292 H</b>	HM 3192	<b>MS 3192-88</b>	<b>HMV 92 E</b>
<b>450</b>	480	560	237	6.5	M8	Tr 480x5	75	<b>OH 3096 H</b>	HM 3096	<b>MS 30/500-96</b>	<b>HMV 96 E</b>
	480	560	200	6.5	M8	Tr 480x5	66	<b>OH 3996 H</b>	HM 3096	<b>MS 30/500-96</b>	<b>HMV 96 E</b>
	480	620	335	6.5	M8	Tr 480x5	135	<b>OH 3196 H</b>	HM 3196	<b>MS 3196</b>	<b>HMV 96 E</b>
	480	620	397	6.5	M8	Tr 480x5	153	<b>OH 3296 H</b>	HM 3196	<b>MS 3196</b>	<b>HMV 96 E</b>
<b>470</b>	500	580	247	6.5	M8	Tr 500x5	82	<b>OH 30/500 H</b>	HM 30/500	<b>MS 30/500-96</b>	<b>HMV 100 E</b>
	500	580	208	6.5	M8	Tr 500x5	74.3	<b>OH 39/500 H</b>	HM 30/500	<b>MS 30/500-96</b>	<b>HMV 100 E</b>
	500	630	356	6.5	M8	Tr 500x5	145	<b>OH 31/500 H</b>	HM 31/500	<b>MS 31/500</b>	<b>HMV 100 E</b>
	500	630	428	6	M8	Tr 500x5	170	<b>OH 32/500 H</b>	HM 31/500	<b>MS 31/500</b>	<b>HMV 100 E</b>
<b>500</b>	530	630	265	6	M8	Tr 530x6	105	<b>OH 30/530 H</b>	HM 30/530	<b>MS 30/600-530</b>	<b>HMV 106 E</b>
	530	630	216	6	M8	Tr 530x6	87.9	<b>OH 39/530 H</b>	HM 30/530	<b>MS 30/600-530</b>	<b>HMV 106 E</b>
	530	670	364	6	M8	Tr 530x6	161	<b>OH 31/530 H</b>	HM 31/530	<b>MS 31/530</b>	<b>HMV 106 E</b>
	530	670	447	6	M8	Tr 530x6	192	<b>OH 32/530 H</b>	HM 31/530	<b>MS 31/530</b>	<b>HMV 106 E</b>
<b>530</b>	560	650	282	6	M8	Tr 560x6	112	<b>OH 30/560 H</b>	HM 30/560	<b>MS 30/560</b>	<b>HMV 112 E</b>
	560	650	227	6	M8	Tr 560x6	95	<b>OH 39/560 H</b>	HM 30/560	<b>MS 30/560</b>	<b>HMV 112 E</b>
	560	710	377	6	M8	Tr 560x6	185	<b>OH 31/560 H</b>	HM 31/560	<b>MS 31/600-560</b>	<b>HMV 112 E</b>
	560	710	462	6	M8	Tr 560x6	219	<b>OH 32/560 H</b>	HM 31/560	<b>MS 31/600-560</b>	<b>HMV 112 E</b>
<b>560</b>	600	700	289	8	G 1/8	Tr 300x4	147	<b>OH 30/600 H</b>	HM 30/600	<b>MS 30/600-530</b>	<b>HMV 120 E</b>
	600	700	239	8	G 1/8	Tr 300x4	127	<b>OH 39/600 H</b>	HM 30/600	<b>MS 30/600-530</b>	<b>HMV 120 E</b>
	600	750	399	8	G 1/8	Tr 300x4	234	<b>OH 31/600 H</b>	HM 31/600	<b>MS 31/600-560</b>	<b>HMV 120 E</b>
	600	750	487	8	G 1/8	Tr 300x4	278	<b>OH 32/600 H</b>	HM 31/600	<b>MS 31/600-560</b>	<b>HMV 120 E</b>
<b>600</b>	630	730	301	6	M8	Tr 630x6	138	<b>OH 30/630 H</b>	HM 30/630	<b>MS 30/630</b>	<b>HMV 126 E</b>
	630	730	254	6	M8	Tr 630x6	124	<b>OH 39/630 H</b>	HM 30/630	<b>MS 30/630</b>	<b>HMV 126 E</b>
	630	800	424	6	M8	Tr 630x6	254	<b>OH 31/630 H</b>	HM 31/630	<b>MS 31/630</b>	<b>HMV 126 E</b>
<b>630</b>	670	780	324	8	G 1/8	Tr 670x6	190	<b>OH 30/670 H</b>	HM 30/670	<b>MS 30/670</b>	<b>HMV 134 E</b>
	670	780	264	8	G 1/8	Tr 670x6	162	<b>OH 39/670 H</b>	HM 30/670	<b>MS 30/670</b>	<b>HMV 134 E</b>
	670	850	456	8	G 1/8	Tr 670x6	340	<b>OH 31/670 H</b>	HM 31/670	<b>MS 31/670</b>	<b>HMV 134 E</b>
	670	850	558	8	G 1/8	Tr 670x6	401	<b>OH 32/670 H</b>	HM 31/670	<b>MS 31/670</b>	<b>HMV 134 E</b>
<b>670</b>	710	830	342	8	G 1/8	Tr 710x7	228	<b>OH 30/710 H</b>	HM 30/710	<b>MS 30/710</b>	<b>HMV 142 E</b>
	710	830	286	8	G 1/8	Tr 710x7	183	<b>OH 39/710 H</b>	HM 30/710	<b>MS 30/710</b>	<b>HMV 142 E</b>
	710	900	467	8	G 1/8	Tr 710x7	392	<b>OH 31/710 H</b>	HM 31/710	<b>MS 31/710</b>	<b>HMV 142 E</b>
	710	900	572	8	G 1/8	Tr 710x7	459	<b>OH 32/710 H</b>	HM 31/710	<b>MS 31/710</b>	<b>HMV 142 E</b>
<b>710</b>	750	870	356	8	G 1/8	Tr 750x7	246	<b>OH 30/750 H</b>	HM 30/750	<b>MS 30/800-750</b>	<b>HMV 150 E</b>
	750	870	291	8	G 1/8	Tr 750x7	211	<b>OH 39/750 H</b>	HM 30/750	<b>MS 30/800-750</b>	<b>HMV 150 E</b>
	750	950	493	8	G 1/8	Tr 750x7	451	<b>OH 31/750 H</b>	HM 31/750	<b>MS 31/800-750</b>	<b>HMV 150 E</b>
	750	950	603	8	G 1/8	Tr 750x7	526	<b>OH 32/750 H</b>	HM 31/750	<b>MS 31/800-750</b>	<b>HMV 150 E</b>

**MANGUITOS DE FIJACIÓN**  
**ADAPTER SLEEVES**

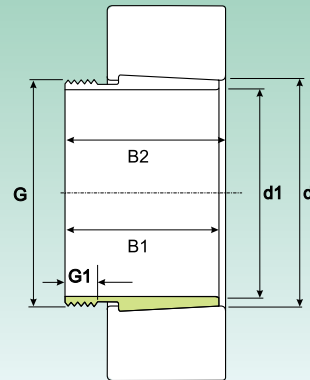


Dimensión Dimension							Peso (kg) Weight (Kg)	Sigla Designation			
d1 (mm)	d (mm)	d3 (mm)	B1 (mm)	A (mm)	G1 (mm)	G (mm)		Manguitos de fijación con tuerca y dispositivo de seguridad Adapter sleeves with lock nut and washer	Tuerca de bloqueo Lock nut	Dispositivo de seguridad Washer	Tuerca hidraulica Hydraulic Lock nut
<b>750</b>	800	920	366	10	G 1/8	Tr 800x7	302	<b>OH 30/800 H</b>	HM 30/800	<b>MS 30/800-750</b>	<b>HMV 160 E</b>
	800	920	303	10	G 1/8	Tr 800x7	259	<b>OH 39/800 H</b>	HM 30/800	<b>MS 30/800-750</b>	<b>HMV 160 E</b>
	800	1000	505	10	G 1/8	Tr 800x7	535	<b>OH 31/800 H</b>	HM 31/800	<b>MS 31/800-750</b>	<b>HMV 160 E</b>
	800	1000	618	10	G 1/8	Tr 800x7	629	<b>OH 32/800 H</b>	HM 31/800	<b>MS 31/800-750</b>	<b>HMV 160 E</b>
<b>800</b>	850	980	380	10	G 1/8	Tr 850x7	341	<b>OH 30/850 H</b>	HM 30/850	<b>MS 30/900-850</b>	<b>HMV 170 E</b>
	850	980	308	10	G 1/8	Tr 850x7	288	<b>OH 39/850 H</b>	HM 30/850	<b>MS 30/900-850</b>	<b>HMV 170 E</b>
	850	1060	536	10	G 1/8	Tr 850x7	616	<b>OH 31/850 H</b>	HM 31/850	<b>MS 31/850</b>	<b>HMV 170 E</b>
	850	1060	651	10	G 1/8	Tr 850x7	722	<b>OH 32/850 H</b>	HM 31/850	<b>MS 31/850</b>	<b>HMV 170 E</b>
<b>850</b>	900	1030	400	10	G 1/8	Tr 900x7	387	<b>OH 30/900 H</b>	HM 30/900	<b>MS 30/900-850</b>	<b>HMV 180 E</b>
	900	1030	326	10	G 1/8	Tr 900x7	330	<b>OH 39/900 H</b>	HM 30/900	<b>MS 30/900-850</b>	<b>HMV 180 E</b>
	900	1120	557	10	G 1/8	Tr 900x7	677	<b>OH 31/900 H</b>	HM 31/900	<b>MS 31/900</b>	<b>HMV 180 E</b>
	900	1120	660	10	G 1/8	Tr 900x7	776	<b>OH 32/900 H</b>	HM 31/900	<b>MS 31/900</b>	<b>HMV 180 E</b>
<b>900</b>	950	1080	420	10	G 1/8	Tr 950x8	424	<b>OH 30/950 H</b>	HM 30/950	<b>MS 30/950</b>	<b>HMV 190 E</b>
	950	1080	344	10	G 1/8	Tr 950x8	362	<b>OH 39/950 H</b>	HM 30/950	<b>MS 30/950</b>	<b>HMV 190 E</b>
	950	1170	583	10	G 1/8	Tr 950x8	738	<b>OH 31/950 H</b>	HM 31/950	<b>MS 31/950</b>	<b>HMV 190 E</b>
	950	1170	675	10	G 1/8	Tr 950x8	834	<b>OH 32/950 H</b>	HM 31/950	<b>MS 31/950</b>	<b>HMV 190 E</b>
<b>950</b>	1000	1140	430	12	G 1/8	Tr 1000x8	470	<b>OH 30/1000 H</b>	HM 30/1000	<b>MS 30/1000</b>	<b>HMV 200 E</b>
	1000	1140	358	12	G 1/8	Tr 1000x8	407	<b>OH 39/1000 H</b>	HM 30/1000	<b>MS 30/1000</b>	<b>HMV 200 E</b>
	1000	1240	609	12	G 1/8	Tr 1000x8	842	<b>OH 31/1000 H</b>	HM 31/1000	<b>MS 31/1000</b>	<b>HMV 200 E</b>
	1000	1240	707	12	G 1/8	Tr 1000x8	952	<b>OH 32/1000 H</b>	HM 31/1000	<b>MS 31/1000</b>	<b>HMV 200 E</b>
<b>1000</b>	1060	1200	447	12	G 1/8	Tr 1060x8	571	<b>OH 30/1060 H</b>	HM 30/1060	<b>MS 30/1000</b>	<b>HMV 212 E</b>
	1060	1200	372	12	G 1/8	Tr 1060x8	490	<b>OH 39/1060 H</b>	HM 30/1060	<b>MS 30/1000</b>	<b>HMV 212 E</b>
	1060	1300	622	12	G 1/8	Tr 1060x8	984	<b>OH 31/1060 H</b>	HM 31/1060	<b>MS 31/1000</b>	<b>HMV 212 E</b>

**MANGUITOS DE DESMONTAJE  
WITHDRAWAL SLEEVES**


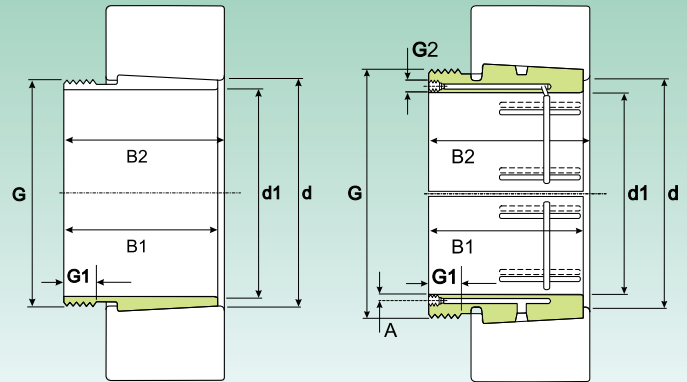
Dimensión Dimension								Peso (kg) Weight (Kg)	Sigla Designation		
d1 (mm)	d (mm)	B1 <sup>1)</sup> (mm)	B2 (mm)	G (mm)	G1 (mm)	G2 (mm)	A (mm)		Manguitos dedesmontaje Withdrawal sleeves	Tuerca para el desmontaje Dismounting nut	Tuerca hidráulica Hydraulic lock nut
35	40	29	32	M 45 x 1.5	6	-	-	0.09	AH 308	KM 9	-
	40	40	43	M 45 x 1.5	7	-	-	0.13	AH 2308	KM 9	-
40	45	31	34	M 50 x 1.5	6	-	-	0.12	AH 309	KM 10	HMV 10 E
	45	44	47	M 50 x 1.5	7	-	-	0.16	AH 2309	KM 10	HMV 10 E
45	50	35	38	M 55 x 2	7	-	-	0.13	AHX 310	KM 11	HMV 11 E
	50	50	53	M 55 x 2	9	-	-	0.19	AHX 2310	KM 11	HMV 11 E
50	55	37	40	M 60 x 2	7	-	-	0.16	AHX 311	KM 12	HMV 12 E
	55	54	57	M 60 x 2	10	-	-	0.26	AHX 2311	KM 12	HMV 12 E
55	60	40	43	M 65 x 2	8	-	-	0.19	AHX 312	KM 13	HMV 13 E
	60	58	61	M 65 x 2	11	-	-	0.3	AHX 2312	KM 13	HMV 13 E
60	65	42	45	M 75 x 2	8	-	-	0.35	AH 313	KM 15	HMV 15 E
	65	61	64	M 75 x 2	12	-	-	0.39	AH 2313	KM 15	HMV 15 E
65	70	43	47	M 80 x 2	8	-	-	0.24	AH 314	KM 16	HMV 16 E
	70	64	68	M 80 x 2	12	-	-	0.42	AHX 2314	KM 16	HMV 16 E
70	75	45	49	M 85 x 2	8	-	-	0.29	AH 315	KM 17	HMV 17 E
	75	68	72	M 85 x 2	12	-	-	0.48	AHX 2315	KM 17	HMV 17 E
75	80	48	52	M 90 x 2	8	-	-	0.37	AH 316	KM 18	HMV 18 E
	80	71	75	M 90 x 2	12	-	-	0.57	AHX 2316	KM 18	HMV 18 E
80	85	52	56	M 95 x 2	9	-	-	0.43	AHX 317	KM 19	HMV 19 E
	85	74	78	M 95 x 2	13	-	-	0.65	AHX 2317	KM 19	HMV 19 E
85	90	53	57	M 100 x 2	9	-	-	0.46	AHX 318	KM 20	HMV 20 E
	90	63	67	M 100 x 2	10	-	-	0.57	AHX 3218	KM 20	HMV 20 E
	90	79	83	M 100 x 2	14	-	-	0.76	AHX 2318	KM 20	HMV 20 E
90	95	57	61	M 105 x 2	10	-	-	0.54	AHX 319	KM 21	HMV 21 E
	95	85	89	M 105 x 2	16	-	-	0.9	AHX 2319	KM 21	HMV 21 E
95	100	59	63	M 110 x 2	10	-	-	0.58	AHX 320	KM 22	HMV 22 E
	100	64	68	M 110 x 2	11	-	-	0.66	AHX 3120	KM 22	HMV 22 E
	100	73	77	M 110 x 2	11	-	-	0.76	AHX 3220	KM 22	HMV 22 E
	100	90	94	M 110 x 2	16	-	-	1	AHX 2320	KM 22	HMV 22 E
105	110	63	67	M 120 x 2	12	-	-	0.77	AHX 322	KM 24	HMV 24 E
	110	68	72	M 120 x 2	11	-	-	0.76	AHX 3122	KM 24	HMV 24 E
	110	82	91	M 125 x 2	11	-	-	0.71	AH 24122	KM 23	HMV 23 E
	110	82	86	M 125 x 2	16	-	-	1	AHX 3222	KM 25	HMV 25 E
	110	98	102	M 125 x 2	13	-	-	1.3	AHX 2322	KM 25	HMV 25 E
115	120	60	64	M 130 x 2	13	-	-	0.73	AHX 3024	KM 26	HMV 26 E
	120	73	82	M 125 x 2	12	-	-	0.7	AH 24024	KM 25	HMV 25 E
	120	75	79	M 130 x 2	13	-	-	0.94	AHX 3124	KM 26	HMV 26 E
	120	90	94	M 135 x 2	17	-	-	1.7	AHX 3224	KM 27	HMV 27 E
	120	93	102	M 130 x 2	13	-	-	1	AH 24124	KM 26	HMV 26 E
	120	105	109	M 135 x 2	13	-	-	1.55	AHX 2324	KM 27	HMV 27 E

**MANGUITOS DE DESMONTAJE**  
**WITHDRAWAL SLEEVES**



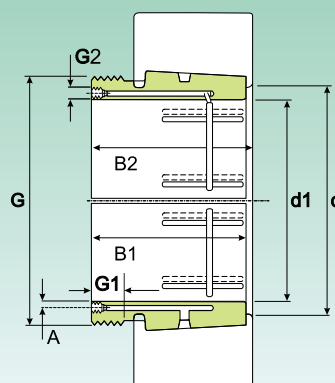
Dimensión Dimension								Peso (kg) Weight (Kg)	Sigla Designation		
d1 (mm)	d (mm)	B1 <sup>1)</sup> (mm)	B2 (mm)	G (mm)	G1 (mm)	G2 (mm)	A (mm)		Manguitos dedesmontaje Withdrawal sleeves	Tuerca para el desmontaje Dismounting nut	Tuerca hidráulica Hydraulic lock nut
125	130	67	71	M 140 x 2	14	-	-	0.91	AHX 3026	KM 28	HMV 28 E
	130	78	82	M 140 x 2	12	-	-	1.1	AHX 3126	KM 28	HMV 28 E
	130	83	93	M 135 x 2	15	-	-	0.88	AH 24026	KM 27	HMV 27 E
	130	94	104	M 140 x 2	19	-	-	1.15	AH 24126	KM 28	HMV 28 E
	130	98	102	M 145 x 2	14	-	-	1.5	AHX 3226	KM 29	HMV 29 E
	130	115	119	M 145 x 2	14	-	-	1.85	AHX 2326	KM 29	HMV 29 E
135	140	68	73	M 150 x 2	14	-	-	1	AHX 3028	KM 30	HMV 30 E
	140	83	93	M 145 x 2	14	-	-	0.95	AH 24028	KM 29	HMV 29 E
	140	83	88	M 150 x 2	15	-	-	1.3	AHX 3128	KM 30	HMV 30 E
	140	99	109	M 150 x 2	20	-	-	1.3	AH 24128	KM 30	HMV 30 E
	140	104	109	M 155 x 3	14	-	-	1.75	AHX 3228	KM 31	HMV 31 E
	140	125	130	M 155 x 3	14	-	-	2.55	AHX 2328	KM 31	HMV 31 E
145	150	72	77	M 160 x 3	15	-	-	1.15	AHX 3030	KM 32	HMV 32 E
	150	90	101	M 155 x 3	15	-	-	1.5	AH 24030	KM 31	HMV 31 E
	150	96	101	M 165 x 3	17	-	-	1.7	AHX 3130	KM 33	HMV 33 E
	150	114	119	M 165 x 3	24	-	-	2.1	AHX 3230	KM 33	HMV 33 E
	150	115	126	M 160 x 3	15	-	-	1.55	AH 24130	KM 32	HMV 32 E
	150	135	140	M 165 x 3	15	-	-	2.75	AHX 2330	KM 33	HMV 33 E
150	160	77	82	M 170 x 3	16	-	-	2	AH 3032	KM 34	HMV 34 E
	160	95	106	M 170 x 3	16	-	-	2.3	AH 24032	KM 34	HMV 34 E
	160	103	108	M 180 x 3	20	-	-	3	AH 3132	KM 36	HMV 36 E
	160	124	135	M 170 x 3	24	-	-	3	AH 24132	KM 36	HMV 34 E
	160	124	130	M 180 x 3	15	-	-	3.7	AH 3232	KM 34	HMV 36 E
	160	140	146	M 180 x 3	15	-	-	4.35	AH 2332	KM 36	HMV 36 E
160	170	85	90	M 180 x 3	17	-	-	2.45	AH 3034	KM 36	HMV 36 E
	170	104	109	M 190 x 3	16	-	-	3.2	AH 3134	KM 38	HMV 38 E
	170	106	117	M 180 x 3	24	-	-	2.7	AH 24034	KM 36	HMV 36 E
	170	125	136	M 180 x 3	24	-	-	3.25	AH 24134	KM 36	HMV 36 E
	170	134	140	M 190 x 3	16	-	-	4.35	AH 3234	KM 38	HMV 38 E
	170	146	152	M 190 x 3	16	-	-	4.85	AH 2334	KM 38	HMV 38 E
170	180	92	98	M 190 x 3	17	-	-	2.8	AH 3036	KM 38	HMV 38 E
	180	105	110	M 200 x 3	17	-	-	3.4	AH 2236	KM 40	HMV 40 E
	180	116	127	M 190 x 3	19	-	-	3.3	AH 24036	KM 38	HMV 38 E
	180	116	122	M 200 x 3	24	-	-	3.9	AH 3136	KM 40	HMV 40 E
	180	134	145	M 190 x 3	26	-	-	3.75	AH 24136	KM 38	HMV 38 E
	180	140	146	M 200 x 3	16	-	-	4.85	AH 3236	KM 40	HMV 40 E
180	154	160	M 200 x 3	16	-	-	5.5	AH 2336	KM 40	HMV 40 E	
180	190	96	102	M 205 x 4	18	-	-	3.3	AH 3038	HM 42	HMV 41 E
	190	112	117	M 210 x 4	18	-	-	3.9	AH 2238	HM 42	HMV 42 E
	190	118	131	M 200 x 3	20	-	-	3.55	AH 24038	HM 40	HMV 41 E
	190	125	131	M 210 x 4	25	-	-	4.5	AH 3138	HM 42	HMV 42 E
	190	145	152	M 210 x 4	26	-	-	5.9	AH 3238	HM 42	HMV 42 E
	190	146	159	M 200 x 3	18	-	-	4.45	AH 24138	HM 40	HMV 40 E
	190	160	167	M 210 x 4	18	-	-	6.1	AH 2338	HM 42	HMV 42 E

1) Anchura manguito antes del prensado en el agujero interior del rodamiento.  
1) Width of taper adapter, before being pressed inside inner bore of bearing.

**MANGUITOS DE DESMONTAJE  
WITHDRAWAL SLEEVES**


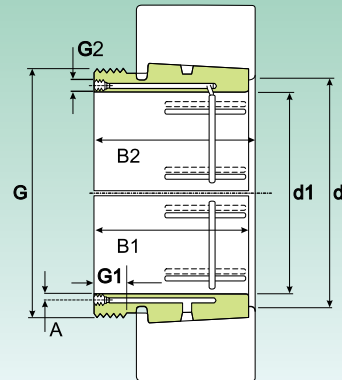
Dimensión Dimension								Peso (kg) Weight (Kg)	Sigla Designation		
d1 (mm)	d (mm)	B1 <sup>1)</sup> (mm)	B2 (mm)	G (mm)	G1 (mm)	G2 (mm)	A (mm)		Manguitos dedesmontaje Withdrawal sleeves	Tuerca para el desmontaje Dismounting nut	Tuerca hidráulica Hydraulic lock nut
190	200	102	108	Tr 215 x 4	19	-	-	3.7	AH 3040	HM 43	HMV 43 E
	200	118	123	Tr 220 x 4	21	-	-	4.7	AH 2240	HM 44	HMV 44 E
	200	127	140	Tr 210 x 4	25	-	-	4	AH 24040	HM 42	HMV 42 E
	200	134	140	Tr 210 x 4	30	-	-	5.65	AH 3140	HM 44	HMV 44 E
	200	153	160	Tr 210 x 4	18	-	-	6.6	AH 3240	HM 44	HMV 44 E
	200	158	171	Tr 210 x 4	18	-	-	5.05	AH 24140	HM 42	HMV 42 E
	200	170	177	Tr 220 x 4	30	-	-	7.6	AH 2340	HM 44	HMV 44 E
200	220	111	117	Tr 235 x 4	20	-	-	7.47	AH 3044	HM 47	HMV 47 E
	220	111	117	Tr 235 x 4	20	G 1/8	7.5	7.3	AOH 3044	HM 47	HMV 47 E
	220	130	136	Tr 240 x 4	23	G 1/4	9	9.4	AOH 2244	HM 48	HMV 48 E
	220	138	152	Tr 230 x 4	30	G 1/8	6.5	8.2	AOH 24044	HM 46	HMV 46 E
	220	145	151	Tr 240 x 4	20	G 1/4	9	9.3	AOH 3144	HM 48	HMV 48 E
	220	170	184	Tr 230 x 4	20	G 1/8	6.5	10	AOH 24144	HM 46	HMV 46 E
	220	181	189	Tr 240 x 4	30	G 1/4	9	13.5	AOH 2344	HM 48	HMV 48 E
220	240	116	123	Tr 260 x 4	21	G 1/4	9	7.95	AOH 3048	HM 52	HMV 52 E
	240	138	153	Tr 250 x 4	20	G 1/8	6.5	8.05	AOH 24048	HM 50	HMV 50 E
	240	144	150	Tr 260 x 4	30	G 1/4	9	11.5	AOH 2248	HM 52	HMV 52 E
	240	154	161	Tr 260 x 4	25	G 1/4	9	12	AOH 3148	HM 52	HMV 52 E
	240	180	195	Tr 260 x 4	20	G 1/4	9	11.5	AOH 24148	HM 52	HMV 52 E
	240	189	197	Tr 260 x 4	30	G 1/4	9	14	AOH 2348	HM 52	HMV 52 E
240	260	128	135	Tr 280 x 4	23	G 1/4	9	9.6	AOH 3052	HM 56	HMV 56 E
	260	155	161	Tr 290 x 4	23	G 1/4	9.5	12.5	AOH 2252	HM 58	HMV 58 E
	260	162	178	Tr 270 x 4	22	G 1/8	6.5	10.5	AOH 24052	HM 54	HMV 54 E
	260	172	179	Tr 290 x 4	26	G 1/4	9.5	16	AOH 3152	HM 56	HMV 56 E
	260	202	218	Tr 280 x 4	22	G 1/4	9	14	AOH 24152	HM 56	HMV 56 E
	260	205	213	Tr 290 x 4	30	G 1/4	10.5	17.5	AOH 2352	HM 58	HMV 58 E
260	280	131	139	Tr 300 x 4	24	G 1/4	9	11	AOH 3056	HM 60	HMV 60 E
	280	155	163	Tr 310 x 5	21	G 1/4	9.5	15	AOH 2256	HM 62	HMV 62 E
	280	162	179	Tr 290 x 4	22	G 1/8	6.5	11.5	AOH 24056	HM 58	HMV 58 E
	280	175	183	Tr 310 x 5	28	G 1/4	9.5	15.5	AOH 3156	HM 62	HMV 62 E
	280	202	219	Tr 300 x 4	22	G 1/8	9	15	AOH 24156	HM 60	HMV 60 E
	280	212	220	Tr 310 x 5	30	G 1/4	11	19.5	AOH 2356	HM 62	HMV 62 E
280	300	145	153	Tr 320 x 5	26	G 1/4	9	13	AOH 3060	HM 3064	HMV 64 E
	300	170	178	Tr 330 x 5	26	G 1/4	10	18	AOH 2260	HM 66	HMV 62 E
	300	184	202	Tr 310 x 5	24	G 1/8	6.5	14	AOH 24060	HM 62	HMV 58 E
	300	192	200	Tr 330 x 5	30	G 1/4	10.5	19	AOH 3160	HM 66	HMV 62 E
	300	224	242	Tr 320 x 5	24	G 1/4	9	18.5	AOH 24160	HM 3164	HMV 64 E
	300	228	236	Tr 330 x 5	34	G 1/4	9	23.5	AOH 3260	HM 66	HMV 66 E
300	320	149	157	Tr 345 x 5	27	G 1/4	9.5	17.5	AOH 3064	HM 69	HMV 69 E
	320	180	190	Tr 350 x 5	27	G 1/4	10	20	AOH 2264	HM 70	HMV 70 E
	320	184	202	Tr 330 x 5	24	G 1/8	6.5	15	AOH 24064	HM 66	HMV 66 E
	320	209	217	Tr 350 x 5	31	G 1/4	10.5	22.5	AOH 3164	HM 70	HMV 70 E
	320	242	260	Tr 340 x 5	24	G 1/4	9.5	20.5	AOH 24164	HM 3168	HMV 68 E
	320	246	254	Tr 350 x 5	24	G 1/4	12	27.5	AOH 3264	HM 70	HMV 70 E

## MANGUITOS DE DESMONTAJE WITHDRAWAL SLEEVES



Dimensión Dimension								Peso (kg) Weight (Kg)	Sigla Designation		
d1 (mm)	d (mm)	B1 <sup>1)</sup> (mm)	B2 (mm)	G (mm)	G1 (mm)	G2 (mm)	A (mm)		Manguitos dedesmontaje Withdrawal sleeves	Tuerca para el desmontaje Dismounting nut	Tuerca hidráulica Hydraulic lock nut
320	340	162	171	Tr 365 x 5	28	G 1/4	9.5	17.5	AOH 3068	HM 73	HMV 73 E
	340	206	225	Tr 350 x 5	26	G 1/4	9	18	AOH 24068	HM 3072	HMV 72 E
	340	225	234	Tr 370 x 5	26.5	G 1/4	9	28.5	AOH 3168	HM 74	HMV 74 E
	340	264	273	Tr 370 x 5	38	G 1/4	9	32	AOH 3268	HM 74	HMV 74 E
	340	269	288	Tr 360 x 5	26	G 1/4	9	25.5	AOH 24168	HM 3172	HMV 72 E
340	360	167	176	Tr 385 x 5	30	G 1/4	9.5	19	AOH 3072	HM 77	HMV 77 E
	360	206	226	Tr 380 x 5	26	G 1/4	9	20	AOH 24072	HM 3076	HMV 80 E
	360	229	238	Tr 400 x 5	35	G 1/4	11	30	AOH 3172	HM 3180	HMV 76 E
	360	269	289	Tr 380 x 5	26	G 1/4	9	26	AOH 24172	HM 3176	HMV 76 E
	360	274	283	Tr 400 x 5	40	G 1/4	13	33	AOH 3272	HM 3180	HMV 80 E
360	380	170	180	Tr 410 x 5	31	G 1/4	9.5	23.5	AOH 3076	HM 82	HMV 82 E
	380	208	228	Tr 400 x 5	28	G 1/4	9	23.5	AOH 24076	HM 3080	HMV 80 E
	380	232	242	Tr 420 x 5	36	G 1/4	11	38	AOH 3176	HM 3180	HMV 80 E
	380	271	291	Tr 400 x 5	28	G 1/4	9	31	AOH 24176	HM 3180	HMV 80 E
	380	284	294	Tr 420 x 5	42	G 1/4	13	45.5	AOH 3276	HM 3184	HMV 84 E
380	400	183	193	Tr 430 x 5	33	G 1/4	10	27	AOH 3080	HM 86	HMV 86 E
	400	228	248	Tr 420 x 5	28	G 1/4	9	27	AOH 24080	HM 3084	HMV 84 E
	400	240	250	Tr 440 x 5	38	G 1/4	11.5	39.5	AOH 3180	HM 3198	HMV 86 E
	400	278	298	Tr 420 x 5	28	G 1/4	9	35	AOH 24180	HM 3188	HMV 88 E
	400	302	312	Tr 440 x 5	44	G 1/4	14	51.4	AOH 3280	HM 3184	HMV 84 E
400	420	186	196	Tr 450 x 5	34	G 1/4	10	29	AOH 3084	HM 90	HMV 90 E
	420	230	252	Tr 440 x 5	30	G 1/4	9	29	AOH 24084	HM 3088	HMV 88 E
	420	266	276	Tr 460 x 5	40	G 1/4	12.5	46	AOH 3184	HM 3192	HMV 92 E
	420	310	332	Tr 440 x 5	30	G 1/4	9	39	AOH 24184	HM 3188	HMV 88 E
	420	321	331	Tr 460 x 5	46	G 1/4	14	59	AOH 3284	HM 3192	HMV 92 E
420	440	194	205	Tr 470 x 5	35	G 1/4	10.5	31.5	AOHX 3088	HM 94	HMV 94 E
	440	242	264	Tr 460 x 5	30	G 1/4	9	32	AOH 24088	HM 92	HMV 92 E
	440	270	281	Tr 480 x 5	42	G 1/4	12.5	50	AOHX 3188	HM 3196	HMV 96 E
	440	310	332	Tr 460 x 5	30	G 1/4	9	45.5	AOH 24188	HM 3192	HMV 92 E
	440	330	341	Tr 480 x 5	48	G 1/4	14.5	64.5	AOHX 3288	HM 3196	HMV 96 E
440	460	202	213	Tr 490 x 5	37	G 1/4	11	35	AOHX 3092	HM 98	HMV 98 E
	460	250	273	Tr 480 x 5	32	G 1/4	9	34.7	AOH 24092	HM 96	HMV 96 E
	460	285	296	Tr 510 x 6	43	G 1/4	13	58	AOHX 3192	HM 102	HMV 102 E
	460	332	355	Tr 480 x 5	32	G 1/4	9	50	AOH 24192	HM 3196	HMV 96 E
	460	349	360	Tr 510 x 6	50	G 1/4	15	75.3	AOHX 3292	HM 102	HMV 102 E
460	480	205	217	Tr 520 x 6	38	G 1/4	11	39.6	AOHX 3096	HM 104	HMV 104 E
	480	250	273	Tr 500 x 5	32	G 1/4	9	36.5	AOH 24096	HM 100	HMV 100 E
	480	295	307	Tr 530 x 6	45	G 1/4	13.5	63	AOHX 3196	HM 31/530	HMV 105 E
	480	340	363	Tr 500 x 5	32	G 1/4	9	51.5	AOH 24196	HM 31/500	HMV 100 E
	480	364	376	Tr 530 x 6	52	G 1/4	15.5	82.5	AOHX 3296	HM 31/530	HMV 106 E
480	500	209	221	Tr 540 x 6	40	G 1/4	11	42.4	AOHX 30/500	HM 108	HMV 108 E
	500	253	276	Tr 530 x 6	35	G 1/4	9	41.7	AOH 240/500	HM 106	HMV 106 E
	500	313	325	Tr 550 x 6	47	G 1/4	14	70.7	AOHX 31/500	HM 110	HMV 110 E
	500	360	383	Tr 530 x 6	35	G 1/4	9	57	AOH 241/500	HM 31/530	HMV 106 E
	500	393	405	Tr 550 x 6	54	G 1/4	9	89.5	AOHX 32/500	HM 110	HMV 110 E

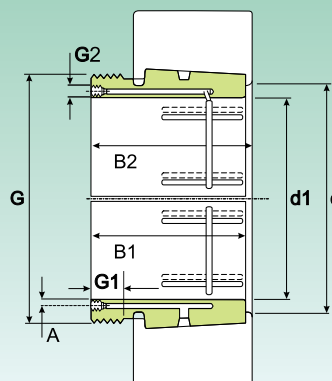
1) Anchura manguito antes del prensado en el agujero interior del rodamiento.  
1) Width of taper adapter, before being pressed inside inner bore of bearing.

**MANGUITOS DE DESMONTAJE  
WITHDRAWAL SLEEVES**


Dimensión Dimension								Peso (kg) Weight (Kg)	Sigla Designation		
d1 (mm)	d (mm)	B1 <sup>1)</sup> (mm)	B2 (mm)	G (mm)	G1 (mm)	G2 (mm)	A (mm)		Manguitos dedesmontaje Withdrawal sleeves	Tuerca para el desmontaje Dismounting nut	Tuerca hidráulica Hydraulic lock nut
<b>500</b>	530	230	242	Tr 560 x 6	45	G 1/4	9	64.5	AOH 30/530	HM 30/560	HMV 112 E
	530	285	309	Tr 550 x 6	35	G 1/4	10	64.5	AOH 240/530	HM 110	HMV 110 E
	530	325	337	Tr 560 x 6	53	G 1/4	10	94.5	AOH 31/530	HM 31/560	HMV 112 E
	530	370	394	Tr 560 x 6	35	G 1/4	9	86	AOH 241/530	HM 110	HMV 110 E
	530	412	424	Tr 560 x 6	35	G 1/4	9	127	AOH 32/530	HM 31/560	HMV 112 E
<b>530</b>	560	240	252	Tr 600 x 6	45	G 1/4	11	73.5	AOHX 30/560	HM 30/600	HMV 120 E
	560	296	320	Tr 600 x 6	55	G 1/4	11	70	AOH 240/560 G	HM 31/600	HMV 120 E
	560	335	347	Tr 600 x 6	57	G 1/4	11	107	AOH 31/560	HM 31/600	HMV 120 E
	560	393	417	Tr 600 x 6	38	G 1/4	9	107	AOH 241/560 G	HM 31/600	HMV 120 E
	560	422	434	Tr 600 x 6	38	G 1/4	9	143	AOHX 32/560	HM 31/600	HMV 120 E
<b>560</b>	600	245	259	Tr 630 x 6	45	G 1/4	11	77	AOH 30/600	HM 30/630	HMV 126 E
	600	310	336	Tr 630 x 6	55	G 1/4	11	86.5	AOH 240/600	HM 31/630	HMV 126 E
	600	355	369	Tr 630 x 6	57	G 1/4	9	120	AOH 31/600	HM 31/630	HMV 126 E
	600	445	459	Tr 630 x 6	38	G 1/4	9	159	AOH 32/600 G	HM 31/630	HMV 126 E
<b>570</b>	600	413	439	Tr 630 x 6	38	G 1/4	11	120	AOHX 241/600	HM 31/630	HMV 126 E
	630	258	272	Tr 670 x 6	46	G 1/4	11	88.5	AOH 30/630	HM 30/670	HMV 134 E
	630	330	356	Tr 670 x 6	60	G 1/4	11	101	AOH 240/630 G	HM 31/670	HMV 134 E
	630	375	389	Tr 670 x 6	63	G 1/4	9	139	AOH 31/630	HM 31/670	HMV 134 E
	630	440	466	Tr 670 x 6	40	G 1/4	9	139	AOH 241/630 G	HM 31/670	HMV 134 E
	630	475	489	Tr 670 x 6	40	G 1/4	9	188	AOH 32/630 G	HM 31/670	HMV 134 E
<b>630</b>	670	280	294	Tr 710 x 7	50	G 1/4	12	125	AOH 30/670	HM 30/710	HMV 142 E
	670	348	374	Tr 710 x 7	59	G 1/4	12	140	AOH 240/670 G	HM 31/710	HMV 142 E
	670	395	409	Tr 710 x 7	62	G 1/4	12	189	AOHX 31/670	HM 31/710	HMV 142 E
	670	452	478	Tr 710 x 7	40	G 1/4	12	180	AOH 241/670	HM 31/710	HMV 142 E
	670	500	514	Tr 710 x 7	40	G 1/4	12	252	AOH 32/670 G	HM 31/710	HMV 142 E
<b>670</b>	710	286	302	Tr 750 x 7	50	G 1/4	15	138	AOHX 30/710	HM 30/750	HMV 150 E
	710	360	386	Tr 750 x 7	60	G 1/4	15	155	AOH 240/710 G	HM 31/750	HMV 150 E
	710	405	421	Tr 750 x 7	65	G 1/4	15	207	AOHX 31/710	HM 31/750	HMV 150 E
	710	483	509	Tr 750 x 7	45	G 1/4	12	205	AOH 241/710	HM 31/750	HMV 150 E
	710	515	531	Tr 750 x 7	45	G 1/4	12	278	AOH 32/710 G	HM 31/750	HMV 150 E
<b>710</b>	750	300	316	Tr 800 x 7	50	G 1/4	15	145	AOH 30/750	HM 30/800	HMV 160 E
	750	380	408	Tr 800 x 7	60	G 1/4	15	178	AOH 240/750 G	HM 31/800	HMV 160 E
	750	425	441	Tr 800 x 7	65	G 1/4	15	238	AOH 31/750	HM 31/800	HMV 160 E
	750	520	548	Tr 800 x 7	45	G 1/4	12	240	AOH 241/750 G	HM 31/800	HMV 160 E
	750	540	556	Tr 800 x 7	45	G 1/4	12	320	AOH 32/750	HM 31/800	HMV 160 E
<b>750</b>	800	308	326	Tr 850 x 7	50	G 1/4	15	204	AOH 30/800	HM 30/850	HMV 170 E
	800	395	423	Tr 850 x 7	63	G 1/4	15	237	AOH 240/800 G	HM 31/850	HMV 170 E
	800	438	456	Tr 850 x 7	67	G 1/4	15	305	AOH 31/800	HM 31/850	HMV 170 E
	800	525	553	Tr 850 x 7	50	G 1/4	15	310	AOH 241/800 G	HM 31/850	HMV 170 E
	800	550	568	Tr 850 x 7	50	G 1/4	15	401	AOH 32/800 G	HM 31/850	HMV 170 E
<b>800</b>	850	325	343	Tr 900 x 7	53	G 1/4	15	230	AOH 30/850	HM 30/900	HMV 180 E
	850	415	445	Tr 900 x 7	62	G 1/4	15	265	AOH 240/850 G	HM 31/900	HMV 180 E
	850	462	480	Tr 900 x 7	70	G 1/4	15	345	AOH 31/850	HM 31/900	HMV 180 E
	850	560	600	Tr 900 x 7	55	G 1/4	15	368	AOH 241/850	HM 31/900	HMV 180 E
	850	585	603	Tr 900 x 7	60	G 1/4	15	461	AOH 32/850	HM 31/900	HMV 180 E

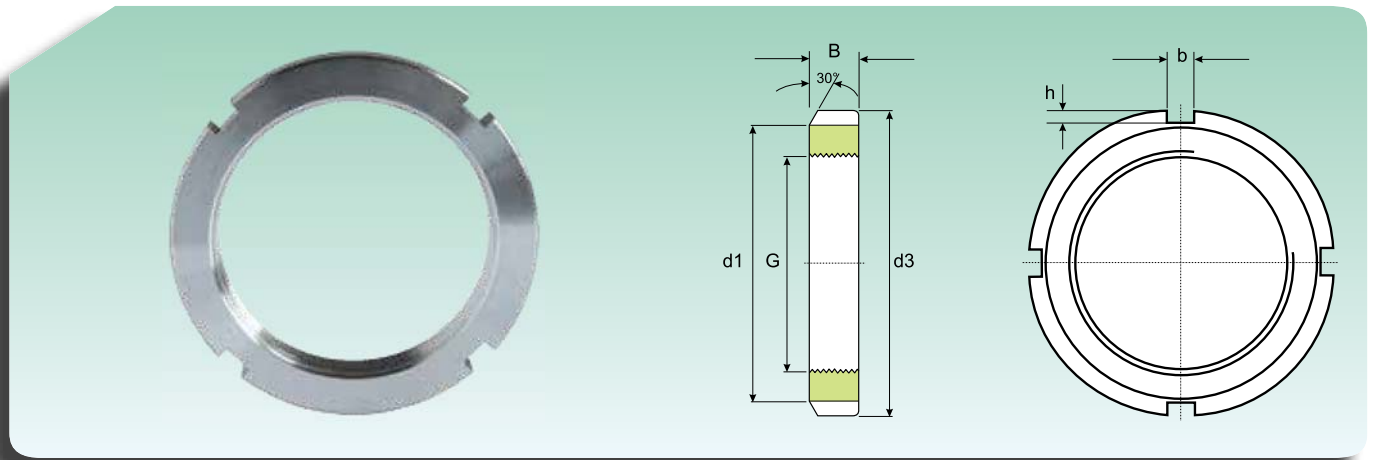


## MANGUITOS DE DESMONTAJE WITHDRAWAL SLEEVES



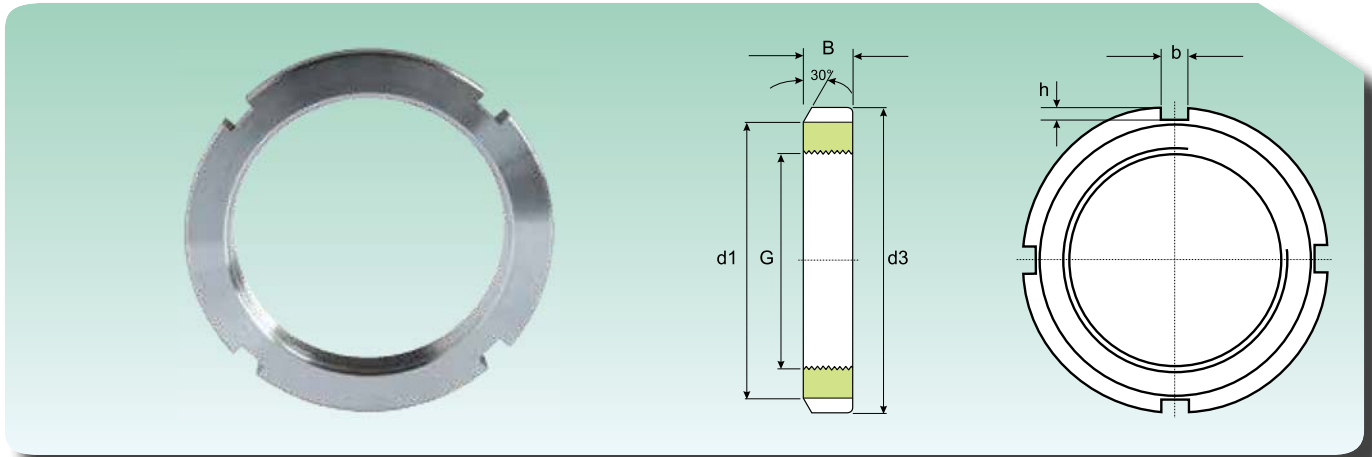
Dimensión Dimension								Peso (kg) Weight (Kg)	Sigla Designation		
d1 (mm)	d (mm)	B1 <sup>1)</sup> (mm)	B2 (mm)	G (mm)	G1 (mm)	G2 (mm)	A (mm)		Manguitos dedesmontaje Withdrawal sleeves	Tuerca para el desmontaje Dismounting nut	Tuerca hidráulica Hydraulic lock nut
<b>850</b>	900	335	355	Tr 950 x 8	55	G 1/4	15	250	AOH 30/900	HM 30/950	HMV 190 E
	900	430	475	Tr 950 x 8	63	G 1/4	15	296	AOH 240/900	HM 31/950	HMV 190 E
	900	475	495	Tr 950 x 8	70	G 1/4	15	379	AOH 31/900	HM 31/950	HMV 190 E
	900	575	620	Tr 950 x 8	55	G 1/4	15	402	AOH 241/900	HM 31/950	HMV 190 E
	900	585	605	Tr 950 x 8	60	G 1/4	15	489	AOH 32/900	HM 31/950	HMV 190 E
<b>900</b>	950	355	375	Tr 1000 x 8	55	G 1/4	15	285	AOH 30/950	HM 30/1000	HMV 200 E
	950	467	512	Tr 1000 x 8	62	G 1/4	15	340	AOH 240/950	HM 31/1000	HMV 200 E
	950	500	520	Tr 1000 x 8	70	G 1/4	15	426	AOH 31/950	HM 31/1000	HMV 200 E
	950	600	620	Tr 1000 x 8	55	G 1/4	15	533	AOH 32/950	HM 31/1000	HMV 200 E
	950	605	650	Tr 1000 x 8	60	G 1/4	15	449	AOH 241/950	HM 31/1000	HMV 200 E
<b>950</b>	1000	365	387	Tr 1060 x 8	57	G 1/4	15	318	AOH 30/1000	HM 30/1060	HMV 212 E
	1000	469	519	Tr 1060 x 8	63	G 1/4	15	369	AOH 240/1000	HM 31/1060	HMV 212 E
	1000	525	547	Tr 1060 x 8	70	G 1/4	15	485	AOH 31/1000	HM 31/1060	HMV 212 E
	1000	630	652	Tr 1060 x 8	57	G 1/4	15	608	AOH 32/1000	HM 31/1060	HMV 212 E
	1000	645	695	Tr 1060 x 8	65	G 1/4	15	519	AOH 241/1000	HM 31/1060	HMV 212 E
<b>1000</b>	1060	385	407	Tr 1120 x 8	60	G 1/4	15	406	AOH 30/1060	HM 30/1120	HMV 224 E
	1060	498	548	Tr 1120 x 8	65	G 1/4	15	479	AOH 240/1060	HM 31/1120	HMV 224 E
	1060	540	562	Tr 1120 x 8	60	G 1/4	15	599	AOH 31/1060	HM 31/1120	HMV 224 E
	1060	665	715	Tr 1120 x 8	65	G 1/4	15	652	AOH 241/1060	HM 31/1120	HMV 224 E

1) Anchura manguito antes del prensado en el agujero interior del rodamiento.  
1) Width of taper adapter, before being pressed inside inner bore of bearing.

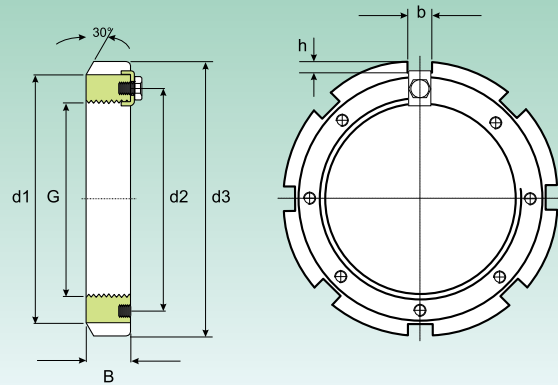
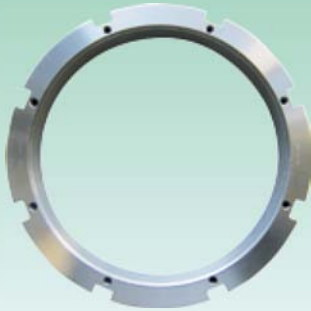
**TUERCAS DE BLOQUEO CON ARANDELA DE SEGURIDAD  
LOCK NUTS WITH LOCKING WASHER**


Dimensiones Dimension						Peso (kg) Weight (Kg)	Sigla Designation	
G (mm)	d1 (mm)	d3 (mm)	B (mm)	b (mm)	h (mm)		Tuerca de bloqueo Designation locknut	Arandeleta de seguridad Locking Washer
M 10x0.75	13.5	18	4	3	2	0.004	<b>KM 0</b>	MB 0
M 12x1	17	22	4	3	2	0.006	<b>KM 1</b>	MB 1
M 15x1	21	25	5	4	2	0.009	<b>KM 2</b>	MB 2
M 17x1	24	28	5	4	2	0.015	<b>KM 3</b>	MB 3
M 20x1	26	32	6	4	2	0.025	<b>KM 4</b>	MB 4
M 25x1.5	32	38	7	5	2	0.028	<b>KM 5</b>	MB 5
M 30x1.5	38	45	7	5	2	0.039	<b>KM 6</b>	MB 6
M 35x1.5	44	52	8	5	2	0.059	<b>KM 7</b>	MB 7
M 40x1.5	50	58	9	6	2.5	0.078	<b>KM 8</b>	MB 8
M 45x1.5	56	65	10	6	2.5	0.11	<b>KM 9</b>	MB 9
M 50x1.5	61	70	11	6	2.5	0.14	<b>KM 10</b>	MB 10
M 55x2	67	75	11	7	3	0.15	<b>KM 11</b>	MB 11
M 60x2	73	80	11	7	3	0.16	<b>KM 12</b>	MB 12
M 65x2	79	85	12	7	3	0.19	<b>KM 13</b>	MB 13
M 70x2	85	92	12	8	3.5	0.23	<b>KM 14</b>	MB 14
M 75x2	90	98	13	8	3.5	0.27	<b>KM 15</b>	MB 15
M 80x2	95	105	15	8	3.5	0.36	<b>KM 16</b>	MB 16
M 85x2	102	110	16	8	3.5	0.41	<b>KM 17</b>	MB 17
M 90x2	108	120	16	10	4	0.51	<b>KM 18</b>	MB 18
M 95x2	113	125	17	10	4	0.55	<b>KM 19</b>	MB 19
M 100x2	120	130	18	10	4	0.64	<b>KM 20</b>	MB 20
M 105x2	126	140	18	12	4	0.79	<b>KM 21</b>	MB 21
M 110x2	133	145	19	12	5	0.87	<b>KM 22</b>	MB 22
M 115x2	137	150	19	12	5	0.91	<b>KM 23</b>	MB 23
M 120x2	135	145	20	12	5	0.69	<b>KML 24</b>	MBL 24
M 120x2	138	155	20	12	5	0.97	<b>KM 24</b>	MB 24
M 125x2	148	160	21	12	5	1.09	<b>KM 25</b>	MB 25
M 130x2	145	155	21	12	5	0.8	<b>KML 26</b>	MBL 26
M 130x2	149	165	21	12	5	1.09	<b>KM 26</b>	MB 26
M 135x2	160	175	22	14	6	1.39	<b>KM 27</b>	MB 27
M 140x2	155	165	22	12	5	0.92	<b>KML 28</b>	MBL 28

**TUERCAS DE BLOQUEO CON ARANDELA DE SEGURIDAD**  
**LOCK NUTS WITH LOCKING WASHER**

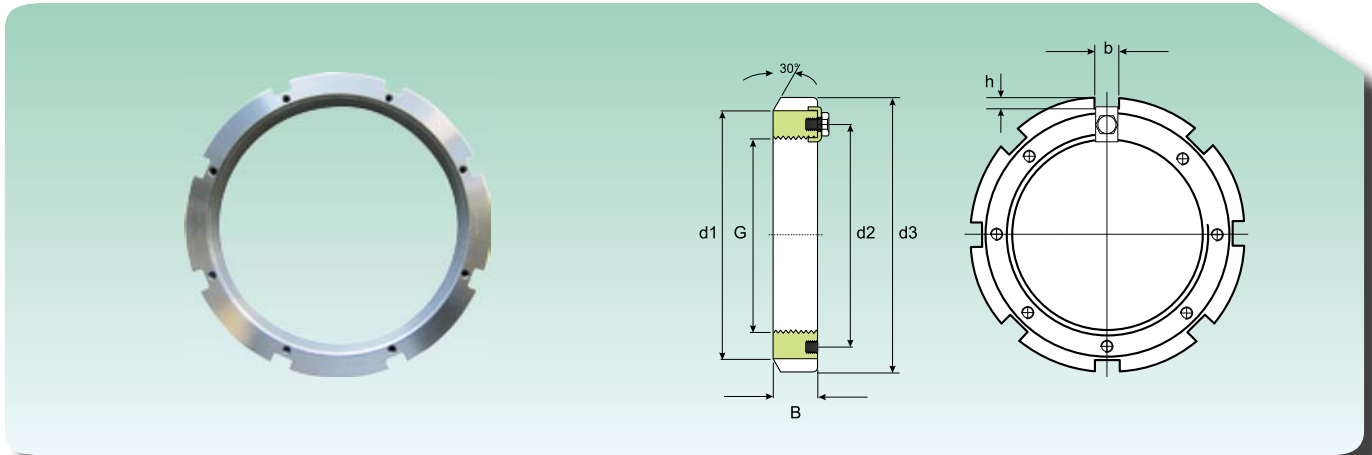


Dimensiones Dimension						Peso (kg) Weight (Kg)	Sigla Designation	
G (mm)	d1 (mm)	d3 (mm)	B (mm)	b (mm)	h (mm)		Tuerca de bloqueo Designation locknut	Arandeleta de seguridad Locking Washer
M 140x2	160	180	22	14	6	1.4	<b>KM 28</b>	MB 28
M 145x2	171	190	24	14	6	1.8	<b>KM 29</b>	MB 29
M 150x2	170	180	24	14	5	1.25	<b>KML 30</b>	MBL 30
M 150x2	171	195	24	14	6	1.88	<b>KM 30</b>	MB 30
M 155x3	182	200	25	16	7	2.09	<b>KM 31</b>	MB 31
M 160x3	180	190	25	14	5	1.39	<b>KML 32</b>	MBL 32
M 160x3	182	210	25	16	7	2.29	<b>KM 32</b>	MB 32
M 165x3	193	210	26	16	7	2.31	<b>KM 33</b>	MB 33
M 170x3	190	200	26	16	5	1.56	<b>KML 34</b>	MBL 34
M 170x3	193	220	26	16	7	2.54	<b>KM 34</b>	MB 34
M 180x3	200	210	27	16	5	1.78	<b>KML 36</b>	MBL 36
M 180x3	203	230	27	18	8	2.78	<b>KM 36</b>	MB 36
M 190x3	210	220	28	16	5	1.84	<b>KML 38</b>	MBL 38
M 190x3	214	240	28	18	8	3.05	<b>KM 38</b>	MB 38
M 200x3	222	240	29	18	8	2.61	<b>KML 40</b>	MBL 40
M 200x3	226	250	29	18	8	3.37	<b>KM 40</b>	MB 40
M 220x4	250	280	32	20	10	5,4	<b>KM 44</b>	MB 44
M 240x4	270	300	34	20	10	6,2	<b>KM 48</b>	MB 48

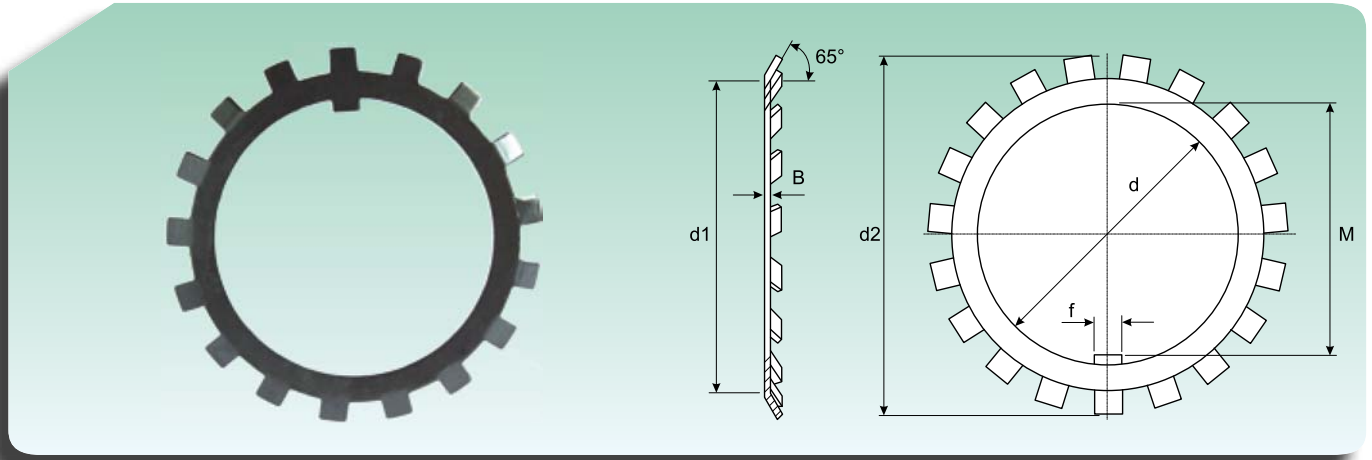
**TUERCAS DE BLOQUEO CON GRAPA DE BLOQUEO**  
**LOCK NUTS WITH LOCKING CLIPS**


Dimensión Dimension							Peso (Kg) Weight (Kg)	Sigla Designation	
G (mm)	d1 (mm)	d2 (mm)	b (mm)	h (mm)	d3 (mm)	B (mm)		Tuerca Lock nut	Grapa de bloqueo Locking clip
Tr 220x4	242	229	20	9	260	30	2.75	HM 3044	MS 3044
Tr 240x4	270	253	20	10	290	34	4.5	HM 3048	MS 3052-48
	270	253	20	10	290	34	4.5	HME 3048	MS 3052-48
Tr 260x4	290	273	20	10	310	34	4.8	HM 3052	MS 3052-48
Tr 280x4	310	293	24	10	330	38	5.75	HM 3056	MS 3056
Tr 300x4	336	316	24	12	360	42	8.35	HM 3060	MS 3060
	340	326	24	12	380	40	11.5	HM 3160	MS 3160
Tr 320x5	356	336	24	12	380	42	9	HM 3064	MS 3068-64
	360	346	24	12	400	42	13	HM 3164	MS 3164
Tr 340x5	376	356	24	12	400	45	11	HM 3068	MS 3068-64
	400	373	28	15	440	55	24	HM 3168	MS 3172-68
Tr 360x5	394	375	28	13	420	45	11.5	HM 3072	MS 3072
	420	393	28	15	460	58	26.5	HM 3172	MS 3172-68
Tr 380x5	422	399	28	14	450	48	15	HM 3076	MS 3080-76
	440	415	32	18	490	60	32	HM 3176	MS 3176
Tr 400x5	442	419	28	14	470	52	17	HM 3080	MS 3080-76
	460	440	32	18	520	62	38	HM 3180	MS 3184-80
Tr 420x5	462	439	32	14	490	52	18.5	HM 3084	MS 3084
	462	439	32	14	490	52	18.5	HME 3084	MS 3084
	490	460	32	18	540	70	45	HM 3184	MS 3184-80
Tr 440x5	490	463	32	15	520	60	26	HM 3088	MS 3092-88
	510	478	36	20	560	70	46.5	HM 3188	MS 3192-88
Tr 460x5	510	483	32	15	540	60	27	HM 3092	MS 3092-88
	540	498	36	20	580	75	50.5	HM 3192	MS 3192-88
Tr 480x5	530	503	36	15	560	60	28	HM 3096	MS 30/500-96
	560	528	36	20	620	75	62	HM 3196	MS 3196
Tr 500x5	550	523	36	15	580	68	33.5	HM 30/500	MS 30/500-96
	550	523	36	15	580	68	33.5	HME 30/500	MS 30/500-96
	580	540	40	23	630	80	63.5	HM 31/500	MS 31/500
Tr 530x6	590	558	40	20	630	68	42.5	HM 30/530	MS 30/530
	610	575	40	23	670	80	71.5	HM 31/530	MS 31/600-530
Tr 560x6	610	583	40	20	650	75	44.5	HM 30/560	MS 30/560
	610	583	40	20	650	75	44.5	HME 30/560	MS 30/560
	650	608	45	25	710	85	86.5	HM 31/560	MS 31/600-560
Tr 300x4	660	628	45	20	700	75	52.5	HM 30/600	MS 30/600-530
	660	628	45	20	700	75	52.5	HME 30/600	MS 30/600-530
	690	648	50	25	750	85	91.5	HM 31/600	MS 31/600-560
Tr 630x6	690	658	45	20	730	75	55	HM 30/630	MS 30/630
	730	685	50	28	800	95	125	HM 31/630	MS 31/630

**TUERCAS DE BLOQUEO CON GRAPA DE BLOQUEO**  
**LOCK NUTS WITH LOCKING CLIPS**

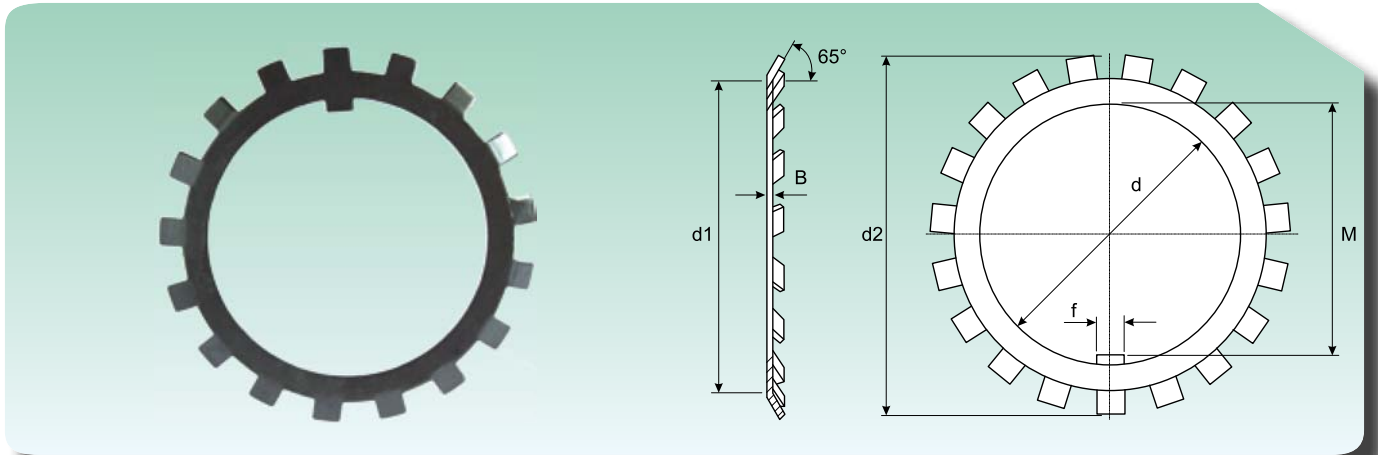


G (mm)	Dimensión Dimension						Peso (Kg) Weight (Kg)	Sigla Designation	
	d1 (mm)	d2 (mm)	b (mm)	h (mm)	d3 (mm)	B (mm)		Tuerca Lock nut	Grapa de bloqueo Locking clip
Tr 670x6	740	703	50	20	780	80	68.5	HM 30/670	MS 30/670
	775	730	45	28	850	106	155	HM 31/670	MS 31/670
Tr 710x7	780	742	50	25	830	90	91.5	HM 30/710	MS 30/710
	780	742	50	25	830	90	91.5	HME 30/710	MS 30/710
	825	772	55	30	900	106	162	HM 31/710	MS 31/710
Tr 750x7	820	782	55	25	870	90	94	HM 30/750	MS 30/800-750
	820	782	55	25	870	90	94	HME 30/750	MS 30/800-750
	875	813	60	34	950	112	190	HM 31/750	MS 31/800-750
Tr 800x7	870	832	55	25	920	90	99.5	HM 30/800	MS 30/800-750
	925	863	60	34	1000	112	202	HM 31/800	MS 31/800-750
Tr 850x7	925	887	60	25	980	90	115	HM 30/850	MS 30/900-850
	925	887	60	25	980	90	110	HME 30/850	MS 30/900-850
	975	914	70	38	1060	118	234	HM 31/850	MS 31/850
Tr 900x7	975	937	60	25	1030	100	131	HM 30/900	MS 30/900-850
	1030	969	70	38	1120	125	279	HM 31/900	MS 31/900
Tr 950x8	1025	985	60	25	1080	100	139	HM 30/950	MS 30/950
	1080	1017	70	38	1170	125	293	HM 31/950	MS 31/950
Tr 1000x8	1085	1040	60	25	1140	100	157	HM 30/1000	MS 30/1000
	1140	1077	70	38	1240	125	336	HM 31/1000	MS 31/1000
Tr 1060x8	1145	1100	60	25	1200	100	166	HM 30/1060	MS 30/1000
	1210	1137	70	38	1300	125	354	HM 31/1060	MS 31/1000
Tr 1120x8	1205	1160	60	25	1260	100	175	HM 30/1120	MS 30/1000

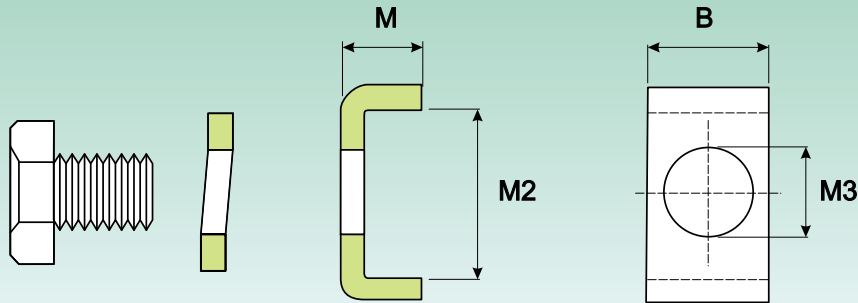
**ARANDELA DE SEGURIDAD  
LOCKING WASHER**


Dimensiones Dimension						Peso (Kg) Weight (Kg)	Sigla Designation
d (mm)	d1 (mm)	d2 (mm)	B (mm)	f (mm)	M (mm)		
10	13.5	21	1	3	8.5	0.001	<b>MB 0</b>
12	17	25	1	3	10.5	0.002	<b>MB 1</b>
15	21	28	1	4	13.5	0.003	<b>MB 2</b>
17	24	32	1	4	15.5	0.003	<b>MB 3</b>
20	26	36	1	4	18.5	0.004	<b>MB 4</b>
25	32	42	1.25	5	23	0.006	<b>MB 5</b>
30	38	49	1.25	5	27.5	0.008	<b>MB 6</b>
35	44	57	1.25	6	32.5	0.011	<b>MB 7</b>
40	50	62	1.25	6	37.5	0.013	<b>MB 8</b>
45	56	69	1.25	6	42.5	0.015	<b>MB 9</b>
50	61	74	1.25	6	47.5	0.016	<b>MB 10</b>
55	67	81	1.5	8	52.5	0.022	<b>MB 11</b>
60	73	86	1.5	8	57.5	0.024	<b>MB 12</b>
65	79	92	1.5	8	62.5	0.03	<b>MB 13</b>
70	85	98	1.5	8	66.5	0.032	<b>MB 14</b>
75	90	104	1.5	8	71.5	0.035	<b>MB 15</b>
80	95	112	1.75	10	76.5	0.046	<b>MB 16</b>
85	102	119	1.75	10	81.5	0.053	<b>MB 17</b>
90	108	126	1.75	10	86.5	0.061	<b>MB 18</b>
95	113	133	1.75	10	91.5	0.066	<b>MB 19</b>
100	120	142	1.75	12	96.5	0.077	<b>MB 20</b>
105	126	145	1.75	12	100.5	0.083	<b>MB 21</b>
110	133	154	1.75	12	105.5	0.091	<b>MB 22</b>
115	137	159	2	12	110.5	0.11	<b>MB 23</b>
120	138	164	2	14	115	0.11	<b>MB 24</b>
125	148	170	2	14	120	0.12	<b>MB 25</b>
130	149	175	2	14	125	0.12	<b>MB 26</b>
135	160	185	2	14	130	0.14	<b>MB 27</b>
140	160	192	2	16	135	0.14	<b>MB 28</b>
145	172	202	2	16	140	0.17	<b>MB 29</b>
150	170	205	2	16	145	0.18	<b>MB 30</b>

## ARANDELA DE SEGURIDAD LOCKING WASHER



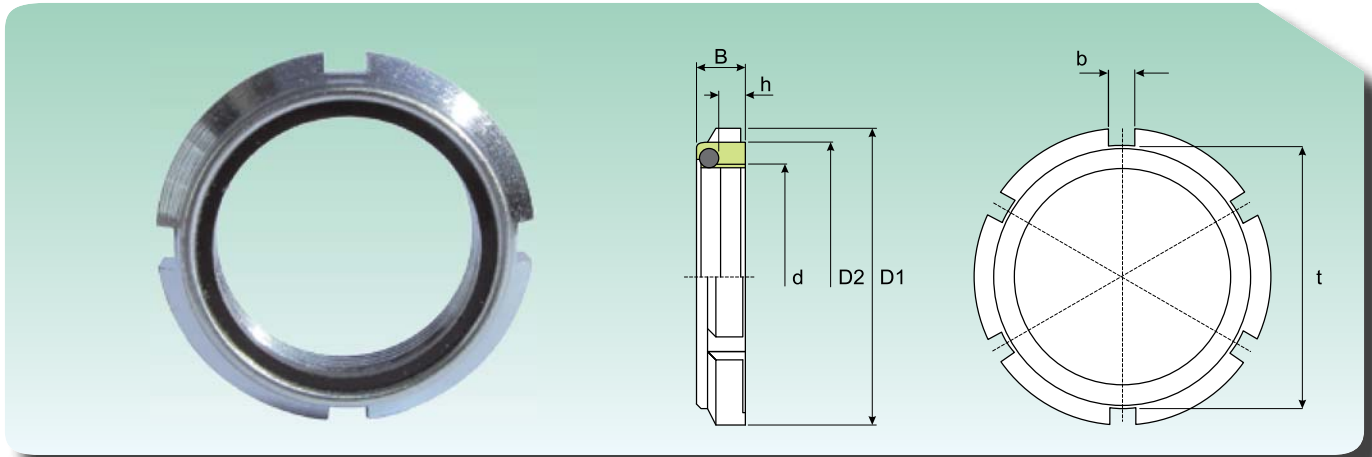
Dimensiones Dimension						Peso (Kg) Weight (Kg)	Sigla Designation
d (mm)	d1 (mm)	d2 (mm)	B (mm)	f (mm)	M (mm)		
155	182	212	2.5	16	147.5	0.20	<b>MB 31</b>
160	182	217	2.5	18	154	0.22	<b>MB 32</b>
165	193	222	2.5	18	157.5	0.24	<b>MB 33</b>
170	193	232	2.5	18	164	0.24	<b>MB 34</b>
180	203	242	2.5	20	174	0.26	<b>MB 36</b>
190	214	252	2,5	20	184	0,26	<b>MB 38</b>
200	226	262	2,5	20	194	0,28	<b>MB 40</b>
220	250	292	3	24	213	0,35	<b>MB 44</b>
240	270	312	3	24	233	0,45	<b>MB 48</b>
260	300	342	3	28	253	0,65	<b>MB 52</b>
280	320	362	3	28	273	0,74	<b>MB 56</b>

**GRAPAS DE BLOQUEO  
LOCKING CLIPS**


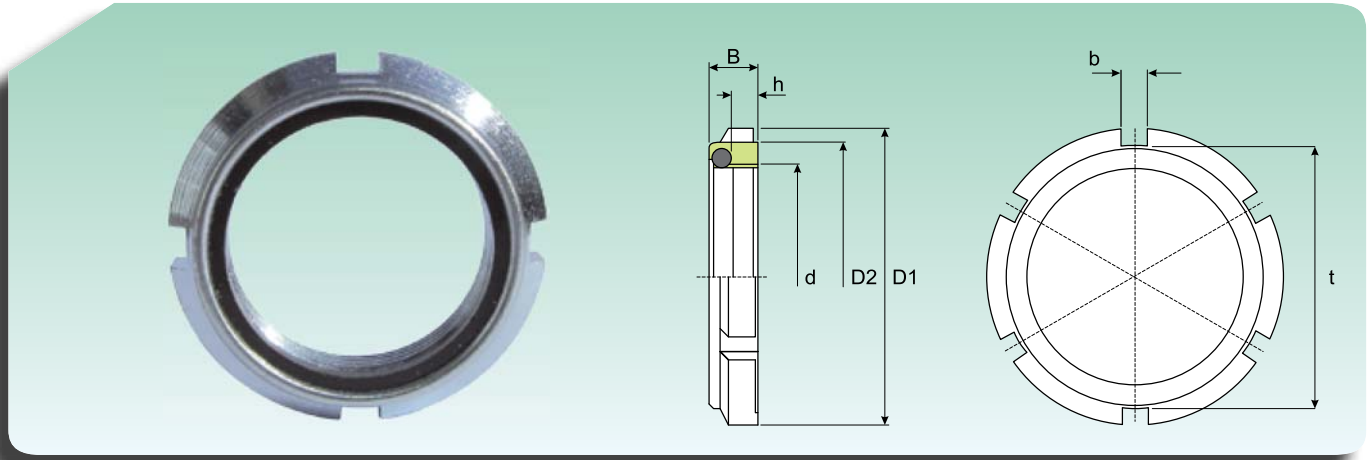
Dimensiones Dimension				Peso (Kg) Weight (Kg)	Sigla Designation			
B (mm)	M (mm)	M2 (mm)	M3 (mm)		Grapa de bloqueo Locking clips	Tornillo Screw	Arandela Washer	Tuerca idónea Adapt lock nuts
20	12	13.5	0.022	7	<b>MS 3044</b>	M 6x12	A 6	HM 3044
	12	17.5	0.024	9	<b>MS 3052-48</b>	M 8x16	A 8	HM 3048
24	12	17.5	0.03	9	<b>MS 3056</b>	M 8x16	A 8	HM 3056
	12	20.5	0.033	9	<b>MS 3060</b>	M 8x16	A 8	HM 3060
	12	30.5	0.04	12	<b>MS 3160</b>	M 10x20	A 10	HM 3160
	15	21	0.046	9	<b>MS 3068-64</b>	M 8x16	A 8	HM 3064
	15	31	0.055	12	<b>MS 3164</b>	M 10x20	A 10	HM 3164
28	15	20	0.051	9	<b>MS 3072</b>	M 8x16	A 8	HM 3072
	15	24	0.055	12	<b>MS 3080-76</b>	M 10x20	A 10	HM 3076
	15	38	0.069	14	<b>MS 3172-68</b>	M 12x25	A 12	HM 3168
32	15	24	0.063	12	<b>MS 3084</b>	M 10x20	A 10	HM 3084
	15	28	0.067	14	<b>MS 3092-88</b>	M 12x25	A 12	HM 3088
	15	40	0.083	14	<b>MS 3176</b>	M 12x25	A 12	HM 3176
	15	45	0.089	18	<b>MS 3184-80</b>	M 16x30	A 16	HM 3180
36	15	28	0.076	14	<b>MS 30/500-96</b>	M 12x25	A 12	HM 3096
	15	43	0.097	18	<b>MS 3192-88</b>	M 16x30	A 16	HM 3188
	15	53	0.11	18	<b>MS 3196</b>	M 16x30	A 16	HM 3196
40	15	45	0.11	18	<b>MS 31/500</b>	M 16x30	A 16	HM 31/500
	21	29	0.15	18	<b>MS 30/560</b>	M 16x30	A 16	HM 30/560
	21	34	0.14	18	<b>MS 30/600-530</b>	M 16x30	A 16	HM 30/530
	21	51	0.19	22	<b>MS 31/530</b>	M 20x40	A 20	HM 31/530
45	21	34	0.17	18	<b>MS 30/630</b>	M 16x30	A 16	HM 30/630
	21	39	0.19	18	<b>MS 30/670</b>	M 16x30	A 16	HM 30/670
	21	54	0.22	22	<b>MS 31/600-560</b>	M 20x40	A 20	HM 31/560
50	21	39	0.21	18	<b>MS 30/710</b>	M 16x30	A 16	HM 30/710
	21	61	0.27	22	<b>MS 31/630</b>	M 20x40	A 20	HM 31/630
	21	66	0.28	22	<b>MS 31/670</b>	M 20x40	A 20	HM 31/670
55	21	39	0.23	18	<b>MS 30/800-750</b>	M 16x30	A 16	HM 30/750
	21	69	0.32	26	<b>MS 31/710</b>	M 24x50	A 24	HM 31/710
60	21	44	0.26	22	<b>MS 30/900-850</b>	M 20x40	A 20	HM 30/850
	21	46	0.28	22	<b>MS 30/950</b>	M 20x40	A 20	HM 30/950
	21	51	0.3	22	<b>MS 30/1000</b>	M 20x40	A 20	HM 30/1000
	21	70	0.35	26	<b>MS 31/800-750</b>	M 24x50	A 24	HM 31/750
70	21	71	0.41	26	<b>MS 31/850</b>	M 24x50	A 24	HM 31/850
	21	78	0.43	26	<b>MS 31/950</b>	M 24x50	A 24	HM 31/950
	21	88	0.45	26	<b>MS 31/1000</b>	M 24x50	A 24	HM 31/1000



**TUERCAS AUTOBLOQUEANTES, TIPO NORMAL**  
**SELF-LOCK NUTS, NORMAL TYPE**

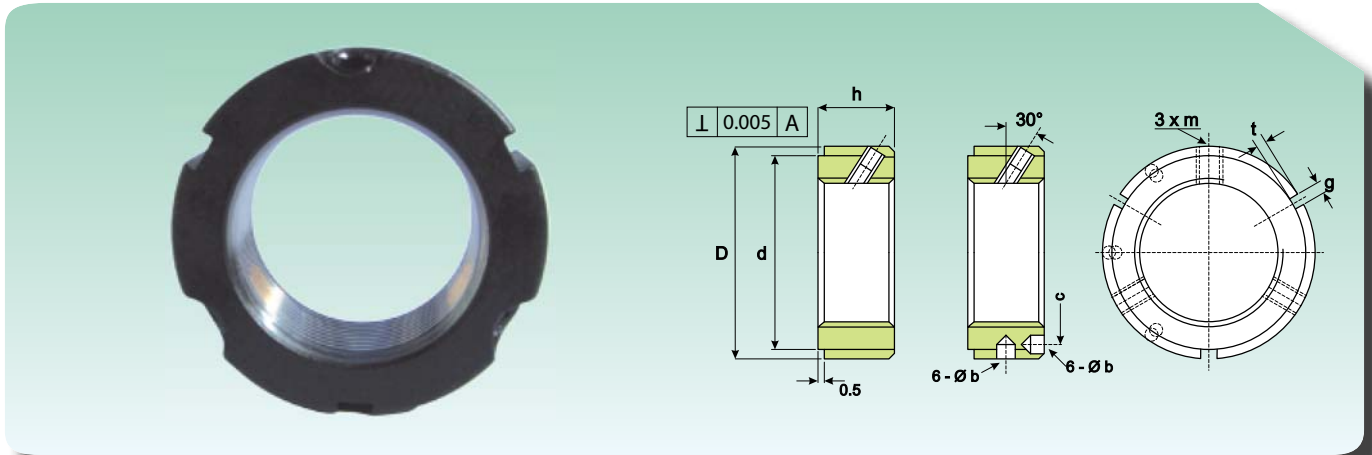


Dimensión Dimension						Roscado Screw	Sigla Designation
B (mm)	h (mm)	D1 (mm)	D2 (mm)	b (mm)	t (mm)		
7.6	4.4	18	14	3	14	M10x0.75	GTN010
7.6	4.4	21	18	3	18	M 12 x 1	GTN012
8.6	5.2	24	21	4	21	M 15 x 1	GTN015
8.6	5.2	28	24	4	24	M17x1	GTN017
9.6	6	32	27	4	27	M 20 x 1	GTN020
10.5	6	38	33	5	33	M 25 x 1.5	GTN025
10.7	6.6	44	38	5	38	M 30 x 1.5	GTN030
11.3	6.6	50	44	5	44	M 35 x 1.5	GTN035
12.3	7.5	56	50	6	50	M 40 x 1.5	GTN040
12.3	7.5	62	55	6	55	M 45 x 1.5	GTN045
12.9	7.6	68	61	6	61	M 50 x 1.5	GTN050
13.4	7.6	75	68	7	68	M 55 x 2	GTN055
13.4	7.6	80	73	7	73	M 60 x 2	GTN060
14.5	8.7	85	78	7	78	M 65 x 2	GTN065
14.5	8.7	92	84	8	84	M 70 x 2	GTN070
15.5	9.7	98	90	8	90	M 75 x 2	GTN075
16.5	10.7	105	97	8	97	M 80 x 2	GTN080
17.5	11.7	110	102	8	102	M 85 x 2	GTN085
17.7	11.9	120	110	10	110	M 90 x 2	GTN090
18.7	12.9	125	116	10	116	M 95 x 2	GTN095
19.7	13.9	130	120	10	120	M 100 x 2	GTN100

**TUERCAS AUTOBLOQUEANTES, TIPO PESADA**  
**SELF-LOCK NUTS, HEAVY TYPE**


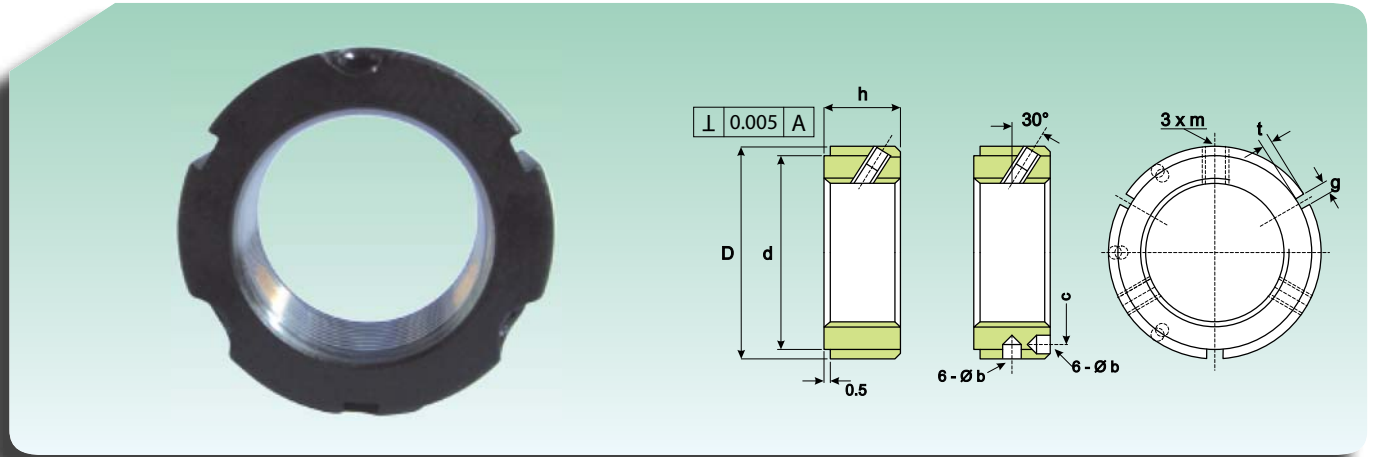
B (mm)	h (mm)	Dimensión Dimension		b (mm)	t (mm)	Roscado Screw	Sigla Designation
		D1 (mm)	D2 (mm)				
13.2	9.6	32	27	4	27	M 20 x 1	<b>GTP020</b>
14.2	10	38	33	5	33	M 25 x 1.5	<b>GTP025</b>
14.2	10	44	38	5	38	M 30 x 1.5	<b>GTP030</b>
15.5	10.6	50	44	5	44	M 35 x 1.5	<b>GTP035</b>
16.7	11.9	56	50	6	50	M 40 x 1.5	<b>GTP040</b>
16.7	11.9	62	55	6	55	M 45 x 1.5	<b>GTP045</b>
18.7	12.9	68	61	6	61	M 50 x 1.5	<b>GTP050</b>
18.7	12.9	75	68	7	68	M55x2	<b>GTP055</b>
18.7	12.9	80	73	7	73	M 60 x 2	<b>GTP060</b>
19.7	13.9	85	78	7	78	M 65 x 2	<b>GTP065</b>
19.7	13.9	92	84	8	84	M 70 x 2	<b>GTP070</b>
20.7	14.9	98	90	8	90	M 75 x 2	<b>GTP075</b>
20.7	14.9	105	97	8	97	M80x2	<b>GTP080</b>
21.7	15.9	110	102	8	102	M85x2	<b>GTP085</b>
21.7	15.9	120	110	10	110	M 90 x 2	<b>GTP090</b>
22.2	17.1	125	116	10	116	M 95 x 2	<b>GTP095</b>
24.2	18.4	130	120	10	120	M 100 x 2	<b>GTP100</b>

**TUERCA YSF BLOQUEO LATERAL**  
**LOCK NUT YSF SIDE LOCKING**



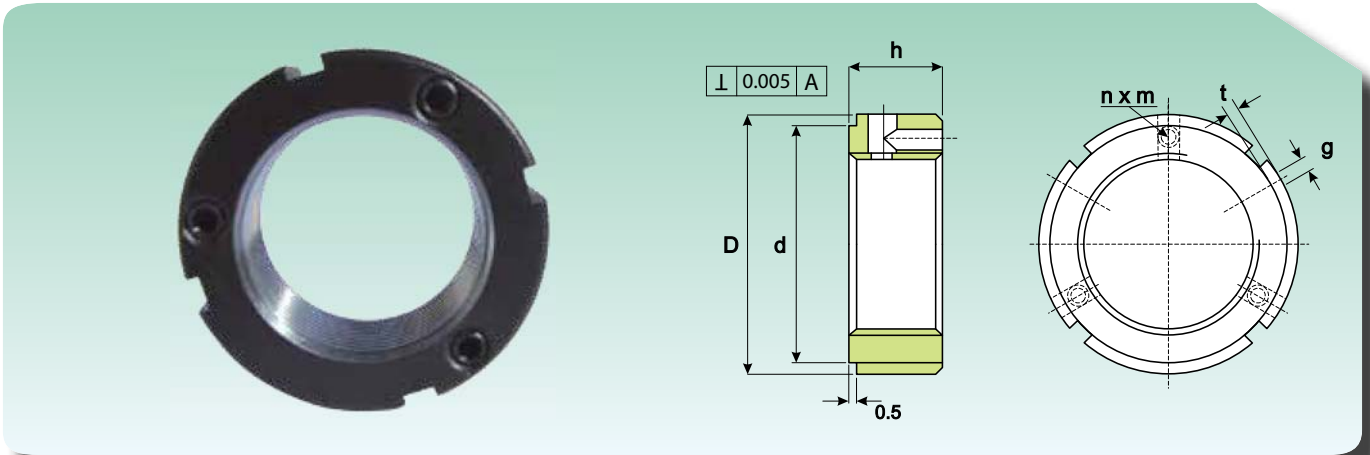
D (mm)	h (mm)	Dimensiones Dimension				m	Par máximo (Nm) Max Torque (Nm)	Peso (Kg) Weight (Kg)	Sigla Designation
		d (mm)	g/b	t/c					
32	16	27	4/-	2	-	M5	4.5	0.07	YSF M 17X1
38	16	33	4/-	2	-	M5	4.5	0.1	YSF M 20X1
	16	33	4/-	2	-	M6	8	0.1	YSF M 20X1.5
	18	33	5/-	2	-	M6	8	0.09*	YSF M 25X1.5
45	18	40	5/-	2	-	M6	8	0.13	YSF M 30X1.5
52	18	47	5/-	2	-	M8	18	0.17	YSF M 35X1.5
58	20	52	6/-	2.5	-	M8	18	0.22	YSF M 40X 1.5
65	20	59	6/-	2.5	-	M8	18	0.27	YSF M 45X1.5
70	20	64	6/	2.5	-	M8	18	0.31	YSF M 50X1.5
75	22	68	7/Ø6	2.5	65	M8	18	0.36	YSF M 55X2
80	22	73	7/Ø6	2.5	70	M8	18	0.39	YSF M 60X2
85	22	78	7/Ø6	2.5	75	M8	18	0.43	YSF M 65X2
92	24	84	8/Ø7	3	81	M8	18	0.55	YSF M 70X2
98	24	90	8/Ø7	3	87	M8	18	0.62	YSF M 75X2
105	24	96	8/Ø7	3	93	M8	18	0.71	YSF M 80X2
110	24	102	8/Ø7	3	98	M8	18	0.74	YSF M 85X2
120	26	108	10/Ø7	3	105	M8	18	1.02	YSF M 90X2
125	26	113	10/Ø7	3	110	M8	18	1.08	YSF M 95X2
130	26	118	10/Ø7	3	115	M8	18	1.1	YSF M 100X2
140	28	125	10/Ø7	3	123	M 10	35	1.48	YSF M 105X2
145	28	132	10/Ø7	3	128	M 10	35	1.57	YSF M 110X2
150	28	137	10/Ø7	3	133	M 10	35	1.6	YSF M 115X2
155	30	142	12/Ø7	3	138	M 10	35	1.76	YSF M 120X2
160	30	147	12/Ø7	3	143	M10	35	1.82	YSF M 125X2
165	30	152	12/ Ø 7	3	148	M 10	35	1.89	YSF M 130X2
175	32	160	12/Ø7	3.5	155	M10	35	2.46	YSF M 135X2
180	32	165	12/ Ø 7	3.5	160	M 10	35	2.47	YSF M 140X2
190	32	175	12/Ø7	3.5	168	M10	35	2.96	YSF M 145X2
195	32	180	12/Ø7	3.5	173	M 10	35	3.02	YSF M 150X2
200	34	180	14/ Ø 8	3.5	178	M 10	35	3.32	YSF M 155X3
210	34	190	14/ Ø 8	3.5	185	M10	35	3.88	YSF M 160X3
	34	190	14/ Ø 8	3.5	188	M 10	35	3.96	YSF M 165X3

\* El peso es correcto  
\* The weight is correct

**TUERCA YSF BLOQUEO LATERAL**  
**LOCK NUT YSF SIDE LOCKING**


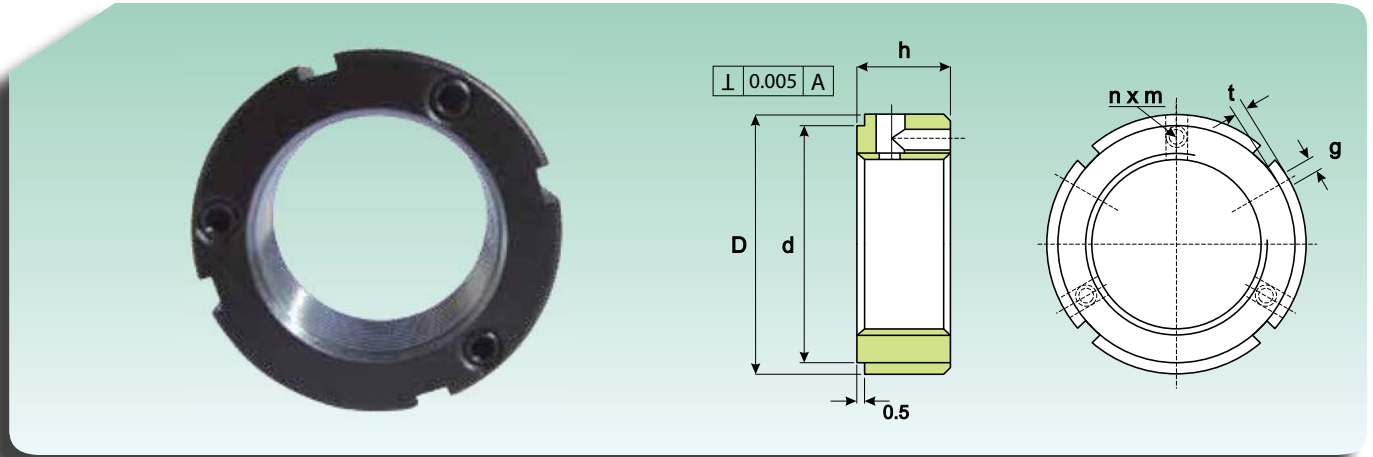
D (mm)	h (mm)	d (mm)	Dimensiones Dimension			m	Par máximo (Nm) Max Torque (Nm)	Peso (Kg) Weight (Kg)	Sigla Designation
			g/b	t/c					
220	34	200	14/Ø 8	3.5	195	M 10	35	4.04	YSF M 170X3
230	36	205	16/Ø 8	3.5	205	M 12	60	4.4	YSF M 180X3
240	36	215	16/Ø 8	3.5	215	M 12	60	4.77	YSF M 190X3
250	38	225	16/Ø 8	3.5	225	M 12	60	5.26	YSF M 200X3

**TUERCA YSA BLOQUEO AXIAL**  
**LOCK NUT YSA AXIAL LOCKING**



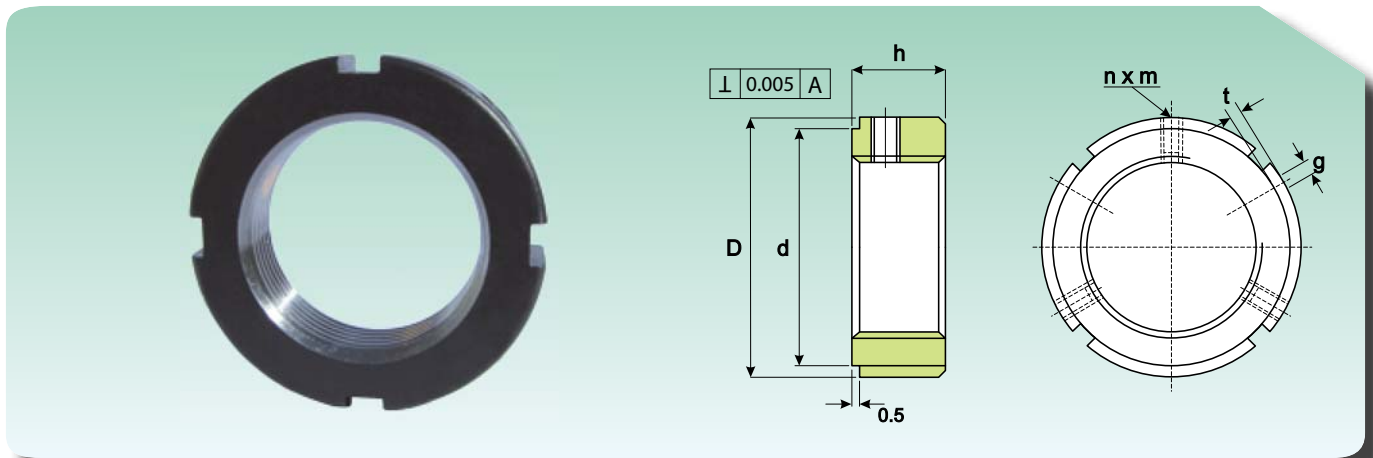
Dimensiones Dimension						Par máximo (Nm) Max Torque (Nm)	Peso (Kg) Weight (Kg)	Sigla Designation
D (mm)	h (mm)	g (mm)	t (mm)	d (mm)	n X m			
32	16	4	2	27	2XM4	3.5	0.07	YSA M 17X1
38	16	4	2	33	3XM4	4.5	0.1	YSAM 20X1
	16	4	2	33	3XM4	4.5	0.1	YSA M 20X1.5
	18	5	2	33	3XM4	4.5	0.09*	YSA M 25X1.5
45	18	5	2	40	3 XM4	4.5	0.13	YSA M 30X1.5
52	18	5	2	47	3XM6	8	0.17	YSA M 35X1.5
58	20	6	2.5	52	3XM6	8	0.22	YSA M 40X1.5
65	20	6	2.5	59	3XM6	8	0.27	YSA M 45X1.5
70	20	6	2.5	64	3XM6	8	0.31	YSA M 50X1.5
75	22	7	3	68	3XM6	8	0.36	YSA M 55X2
80	22	7	3	73	3XM6	8	0.39	YSA M 60X2
85	22	7	3	78	3 XM6	8	0.43	YSAM 65X2
92	24	8	3.5	84	3 XM8	18	0.55	YSA M 70X2
98	24	8	3.5	90	3 XM8	18	0.62	YSAM 75X2
105	24	8	3.5	96	3XM8	18	0.71	YSA M 80X2
110	24	8	3.5	102	3XM 8	18	0.74	YSA M 85X2
120	26	10	4	108	3XM8	18	1.02	YSAM 90X2
125	26	10	4	113	3XM8	18	1.08	YSA M 95X2
130	26	10	4	118	3 XM8	18	1.1	YSA M 100X2
140	28	12	5	125	3XM 10	35	1.48	YSA M 105X2
145	28	12	5	132	3 XM 10	35	1.57	YSA M 110X2
150	28	12	5	137	3XM 10	35	1.6	YSA M 115X2
155	30	12	5	142	3XM 10	35	1.76	YSA M 120X2
160	30	12	5	147	3 XM 10	35	1.82	YSA M 125X2
165	30	12	5	152	3 XM 10	35	1.89	YSA M 130X2
175	32	14	6	160	3XM 12	35	2.46	YSA M 135X2
180	32	14	6	165	3XM 12	35	2.47	YSA M 140X2
190	32	14	6	175	3XM 12	35	2.96	YSA M 145X2
195	32	14	6	180	3 XM 12	35	3.02	YSA M 150X2
200	34	16	7	180	3 XM 12	35	3.32	YSA M 155X3
	34	16	7	190	3XM 12	35	3.88	YSA M 160X3
210	34	16	7	190	3XM 12	35	3.96	YSA M 165X3
	34	16	7	190	3XM 12	35	3.96	YSA M 165X3

\* El peso es correcto  
\* The weight is correct

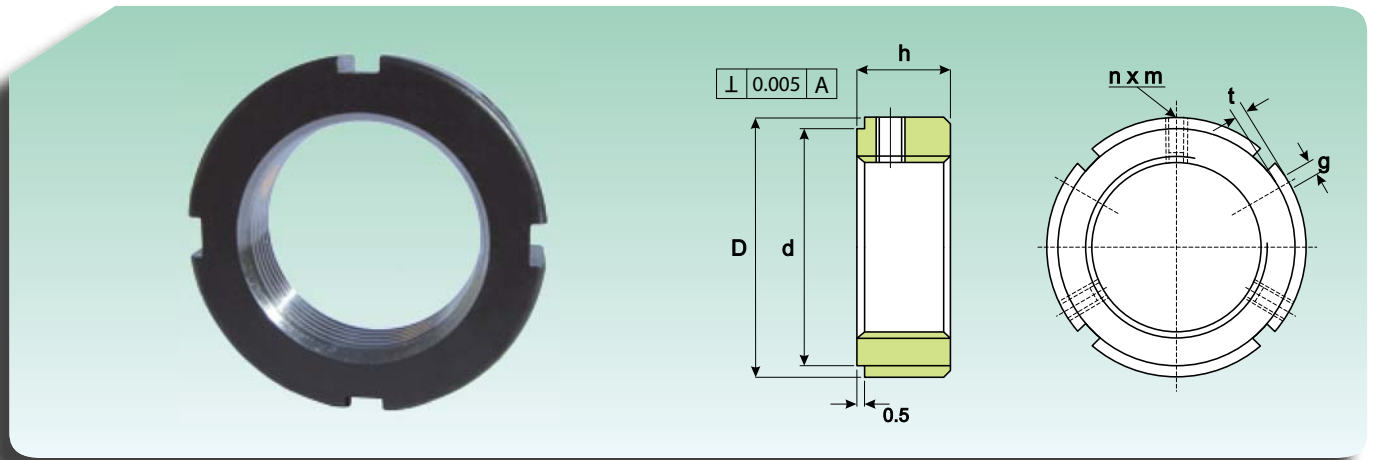
**TUERCA YSA BLOQUEO AXIAL**  
**LOCK NUT YSA AXIAL LOCKING**


Dimensiones Dimension						Par máximo (Nm) Max Torque (Nm)	Peso (Kg) Weight (Kg)	Sigla Designation
D (mm)	h (mm)	g (mm)	t (mm)	d (mm)	n X m			
220	34	16	7	200	3XM 12	35	4.04	YSA M 170X3
230	36	18	8	205	3XM 12	60	4.4	YSA M 180X3
240	36	18	8	215	3XM 12	60	4.77	YSA M 190X3
250	38	18	8	225	3XM 12	60	5.26	YSAM 200X3

**TUERCA YSR BLOQUEO RADIAL**  
**LOCK NUT YSR RADIAL LOCKING**



Dimensiones Dimension						Par máximo (Nm) Max Torque (Nm)	Peso (Kg) Weight (Kg)	Sigla Designation
D (mm)	h (mm)	g (mm)	t (mm)	d (mm)	n X m			
16	8	3	2	11	2XM4	4.5	0.015	YSR M 8X0.75
18	8	3	2	13	2XM4	4.5	0.02	YSR M 10X0.75
20	8	3	2	16	2XM4	4.5	0.02	YSR M 12X1
25	8	3	2	21	2XM4	4.5	0.025	YSR M 15X1
28	10	4	2	23	2XM5	8	0.03	YSR M 17X1
32	10	4	2	27	2XM5	8	0.04	YSRM 20X1
	10	4	2	33	2XM5	8	0.04	YSR M 20X1.5
38	12	5	2	33	3XM6	8	0.055	YSR M 25X1.5
45	12	5	2	40	3XM6	8	0.08	YSR M 30X1.5
52	12	5	2	47	3XM6	18	0.12	YSR M 35X1.5
58	14	6	2.5	52	3XM6	18	0.15	YSR M 40X1.5
65	14	6	2.5	59	3XM6	18	0.19	YSRM 45X1.5
70	14	6	2.5	64	3XM6	18	0.22	YSRM 50X1.5
75	16	7	3	68	3XM8	18	0.27	YSRM 55X2
80	16	7	3	73	3XM8	18	0.3	YSR M 60X2
85	16	7	3	78	3XM8	18	0.31	YSRM 65X2
92	18	8	3.5	84	3XM8	18	0.41	YSR M 70X2
98	18	8	3.5	90	3XM8	18	0.47	YSRM 75X2
105	18	8	3.5	96	3XM8	18	0.53	YSRM 80X2
110	18	8	3.5	102	3XM8	18	0.58	YSR M 85X2
120	20	10	4	108	3XM8	18	0.82	YSRM 90X2
125	20	10	4	113	3XM8	18	0.86	YSR M 95X2
130	20	10	4	118	3XM8	18	0.89	YSR M 100X2
140	22	10	5	125	3XM8	35	1.19	YSRM 105X2
145	22	12	5	132	3XM8	35	1.23	YSRM 110X2
150	22	12	5	137	3XM8	35	1.27	YSRM 115X2
155	24	12	5	142	3XM8	35	1.45	YSR M 120X2
160	24	12	5	147	3XM8	35	1.49	YSRM 125X2
165	24	12	5	152	3XM8	35	1.54	YSR M 130X2
175	26	14	6	160	3XM10	35	1.99	YSRM 135X2
180	26	14	6	165	3XM10	35	2.06	YSRM 140X2

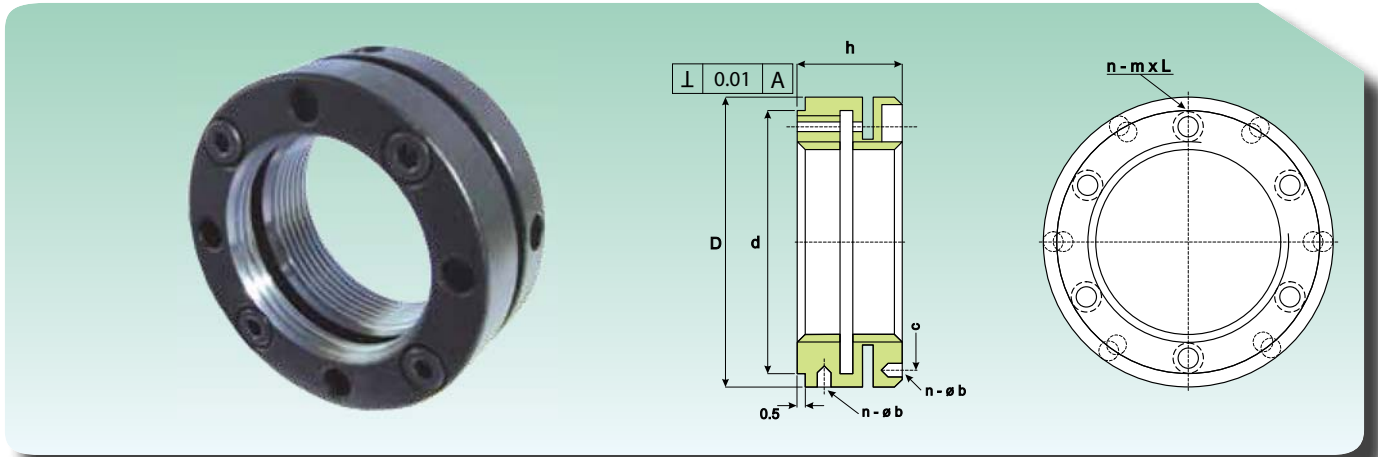
**TUERCA YSR BLOQUEO RADIAL**  
**LOCK NUT YSR RADIAL LOCKING**


D (mm)	Dimensiones Dimension				n X m	Par máximo (Nm) Max Torque (Nm)	Peso (Kg) Weight (Kg)	Sigla Designation
	h (mm)	g (mm)	t (mm)	d (mm)				
190	26	14	6	175	3XM10	35	2.44	YSRM 145X2
195	26	14	6	180	3XM10	35	2.51	YSR M 150X2
200	28	16	7	180	3 XM10	35	2.76	YSRM 155X3
210	28	16	7	190	3XM10	35	3.25	YSR M 160X3
	28	16	7	190	3XM10	35	3.35	YSR M 165X3
220	28	16	7	200	3XM10	35	3.4	YSR M 170X3
230	30	18	8	205	3XM12	60	3.78	YSR M 180X3
240	30	18	8	215	3XM12	60	4	YSR M 190X3
250	32	18	8	225	3XM12	60	4.49	YSR M 200X3



## TUERCA YSK BLOQUEO CON RANURADO ELÁSTICO

### LOCK NUT YSK LOCKING BY ELASTIC INCISION



D (mm)	h (mm)	d (mm)	Dimensión Dimension			Peso (Kg) Weight (Kg)	Sigla Designation
			n X m-l	b	c		
40	18	35	4XM4-12	4XØ14	30	0.1	YSKM 20X1
	18	35	4XM4-12	4XØ14	30	0.1	YSKM 20X1.5
45	20	40	4XM4-14	4XØ15	35	0.13	YSKM 25X1.5
48	20	45	4 X M4-14	4XØ15	39	0.14	YSKM 30X1.5
53	22	50	4XM4-16	4XØ15	44	0.18	YSKM 35X1.5
58	22	55	4XM4-16	4XØ15	49	0.2	YSKM 40X1.5
68	22	63	4 XM4-16	4XØ16	57	0.28	YSKM 45X1.5
70	25	66	6 X M4-18	6XØ16	60	0.31	YSKM 50X1.5
75	25	71	6 XM4-18	6XØ16	65	0.34	YSKM 55X2
84	26	79	6 X M5-20	6XØ16	72	0.45	YSKM 60X2
88	28	84	6 X M5-20	6XØ16	77	0.53	YSKM 65X2
95	28	89	6 X M5-20	6XØ17	82	0.6	YSKM 70X2
100	28	94	6 X M5-20	6XØ17	87	0.66	YSKM 75X2
110	32	103	6 X M6-22	6XØ18	95	0.98	YSKM 80X2
115	32	108	6 X M6-22	6XØ18	100	0.98	YSKM 85X2
120	32	113	6 X M6-22	6XØ18	105	1.07	YSKM 90X2
125	32	118	6 X M6-22	6XØ18	110	1.1	YSKM 95X2
130	32	123	6 X M6-22	6XØ18	115	1.18	YSKM 100X2
140	32	133	6 X M6-22	6XØ18	125	1.24	YSKM 110X2
155	36	146	6 X M4-25	6XØ18	136	1.87	YSKM 120X2