vargal®10

Self-locking nut

Technical Documentation

January 2022

KPO

www.vargal.de

Preamble

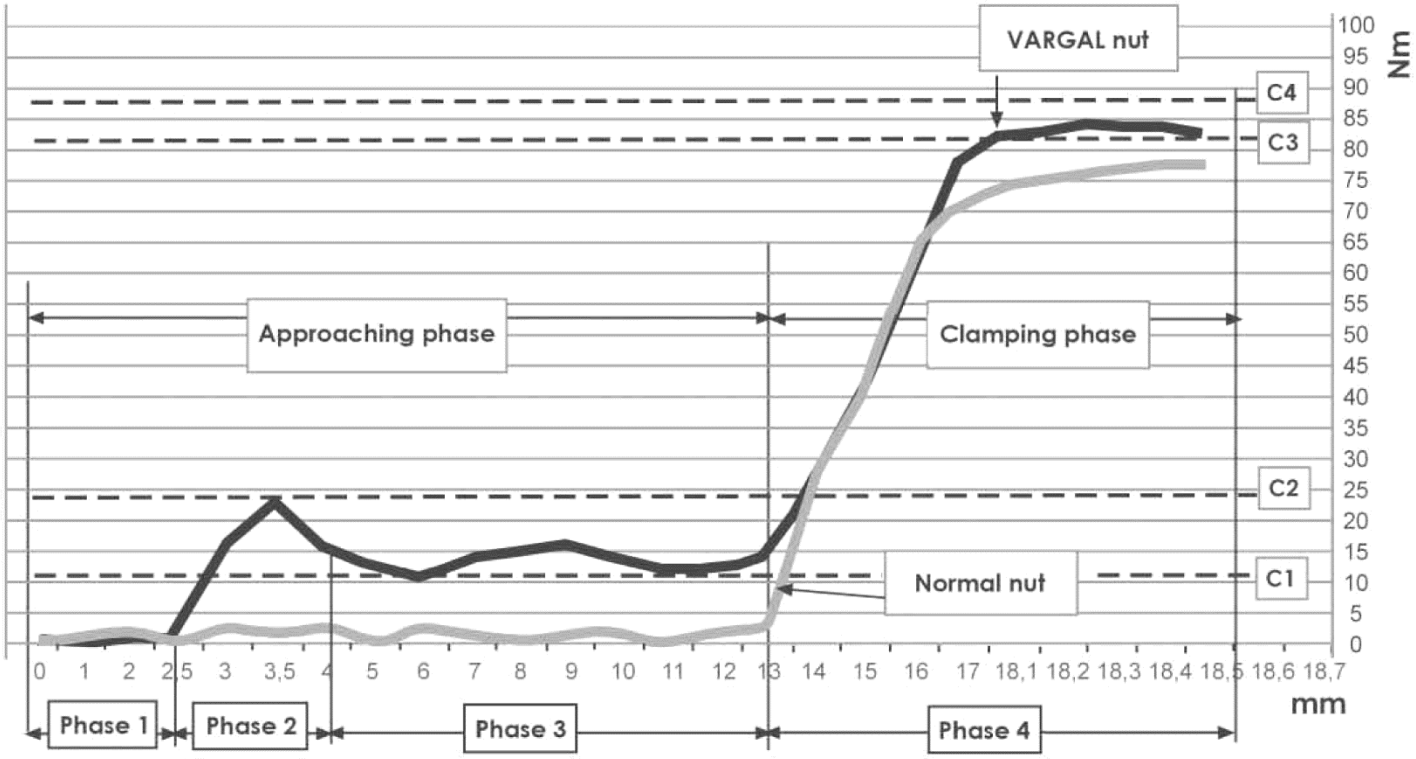
Self-locking nuts are more often used in critical applications, which require good resistance to vibrations and dynamic stress. Due to those needs, constant improvements are made to control the tension during the assembling, by working on the friction coefficient parameter, which affects the clamping force on the screw with the applied torque.

The VARGAL 10 nuts are now provided with **new concept springs**, which are seen as best practice to the above-mentioned needs by reducing the dispersion of the friction coefficient, generated by the braking system.

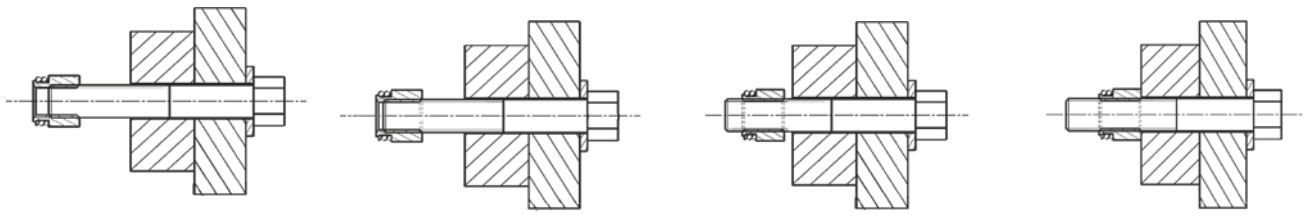
The new spring allows the VARGAL 10 nuts to:

- **Reduce** the tolerance limit of the screwing prevailing torque C1 C2
- **Reduce** the tolerance limit of the tightening torque C3 C4
- **Adjust** the prevailing torque to the requested level of resistance to vibrations
- **Guarantee controlled** tightening with higher clamping forces
- **Carry out** precision tightening with automatic wrenches
- **Keep** excellent resistance to high temperatures.

GRAPHIC 1



Phase 1	Phase 2	Phase 3	Phase 4
Hand screwing	Spring involved	Screwing	Clamping



The new VARGAL 10 allows the final customer, by specifying at the order, to choose locknuts among three different prevailing torques, **Low – Medium – High** (see table n°5, page 5).

IMPORTANT

VARGAL 10 nuts, both STANDARD and LOW ones, easily surpass the proof load required by European standards (especially EN ISO 2320).
However they differ from these same standards as regards resistance to unscrewing under severe vibration conditions, which is much higher in comparison to all the other locknuts known at present, and concerning the height.
All VARGAL 10 nuts are supplied with AISI 631 stainless steel springs.

a) MATERIALS AND MARKING

The VARGAL 10 nuts are produced by turning. This production process allows more accurate tolerances and better finishing. Vargal 10 nuts in class 10 and 05 are machined with not hardened and tempered steel for technical reasons.

TABLE 1

Material	ø	Property Class		Hardness HV30	
		Standard	Low	Min	Max
Free machining steel	M3-M24	8	04	188	302
	M3-M24	10	05	240	353
Carbon Steel	M27-M36	8	04	188	302
	M27-M36	10	05	240	353
Stainless Steel	M5-M36	A2-70	A2-035	-	-
	M27-M36	A2-80	A4-040	-	-

The marking on the nut means it's property class. The fitting has to be carried out with screws belonging to the same corresponding property class:

- Property class 8 or 04 nuts must be screwed on 8.8 screws
- Property class 10 or 05 nuts must be screwed on 10.9 screws
- A2 nuts must be screwed on A2 or A4 70/80 screws or on high strength screws (minimum 10.9)
- A4 nuts must be screwed on A4 70/80 or on high strength screws (minimum 10.9)

b) PROOF LOAD

VARGAL 10 nuts surpass the proof load required by the standard EN ISO 2320, table below.

Table 2 (extract from EN ISO 898-2)

Proof load values (standard pitch)							
ø	Pitch mm	Class 04 (low)	Class 05 (low)	Class 8	Class 10	A2	A2 (Low)
		PROOFLOAD (N)					
M3	0,5	-	-	4.000	-	-	-
M4	0,7	-	-	7.000	-	-	-
M5	0,8	5.400	7.100	12.140	14.800	9.940	-
M6	1	7.640	10.000	17.200	20.900	14.070	7.035
M8	1,25	13.900	18.300	31.800	38.100	25.620	12.810
M10	1,5	22.000	29.000	50.500	60.300	40.600	20.300
M12	1,75	32.000	42.200	74.200	88.500	59.010	29.505
M14	2	43.700	57.500	101.200	120.800	80.500	40.250
M16	2	59.700	78.500	138.200	164.900	109.900	54.950
M18	2,5	73.000	96.000	176.600	203.500	134.400	67.200
M20	2,5	93.100	122.500	225.400	259.700	171.500	85.750
M22	2,5	115.100	151.500	278.800	321.200	212.100	106.050
M24	3	134.100	176.500	324.800	374.200	247.100	123.550
M27	3	174.400	229.500	422.300	486.500	321.300	160.650
M30	3,5	213.200	280.500	516.100	594.700	392.700	196.350
M33	3,5	263.700	347.000	638.500	735.600	485.800	242.900
M36	4	310.500	408.500	751.600	866.000	571.900	285.950

Proof load values (fine pitch)							
ø	Pitch mm	Class 04 (low)	Class 05 (Low)	Class 8	Class 10	A2	A2 (Low)
		PROOFLOAD (N)					
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
M8	1	14.900	19.600	37.400	43.100	27.440	13-720
M10	1,25	23.300	30.600	58.400	67.300	42.840	21.420
M12	1,5	33.500	44.000	84.100	97.800	61.670	30.835
M12	1,25	35.000	46.000	88.000	102.200	64.470	32.235
M14	1,5	47.500	62.500	119.400	138.800	87.500	43.750
M16	1,5	63.500	83.500	159.500	185.400	116.900	58.450
M18	1,5	81.700	107.500	221.500	232.200	150.500	75.250
M20	1,5	103.400	136.000	280.200	293.800	190.400	95.200
M22	1,5	126.500	166.500	343.000	359.600	233.100	116.550
M24	2	145.900	192.000	395.500	414.700	268.800	134.400
M27	2	188.500	248.000	510.900	535.700	347.200	173.600
M30	2	236.000	310.500	639.600	670.700	434.700	217.350
M33	2	289.200	380.500	783.800	821.900	532.700	266.350
M36	3	328.700	432.500	942.800	934.200	605.500	302.750

c) PART NUMBER VARGAL

The VARGAL part numbers are shown on tables 3-4 on next page, and consist of at least six characters with the following meanings:

- **1** **V** = VARAGAL
- **2 + 3** **Thread** diameter
- **4** **M** = metric thread standard pitch
  other letter = metric thread fine pitch
- **5** **Y** = Standard height, **B** = low height (LOW)
- **6** **1** = class 8 and 04 steel
  2 = class 10 and 05 steel
  3 = stainless steel
- **7** **G** = Geomet 500B coating
  W = white zinc plating
  P = passivation
- **8** **A** = high prevailing torque
  L = low prevailing torque

In addition to these six characters, further two characters can be added:

Part number example:

V12MY2GA = Nut VARAGAL M12 STANDARD, class 10
Geomet, high prevailing torque

V16MY1W = Nut VARGAL M16 STANDARD, class 8, Cr3 white zinc plating, medium prevailing torque

V20PB3L = Nut VARGAL M20x1,5, LOW, stainless steel
Low prevailing torque

d) DIMENSIONS

Technical information regarding locknut dimensions is listed on tables 3 and 4

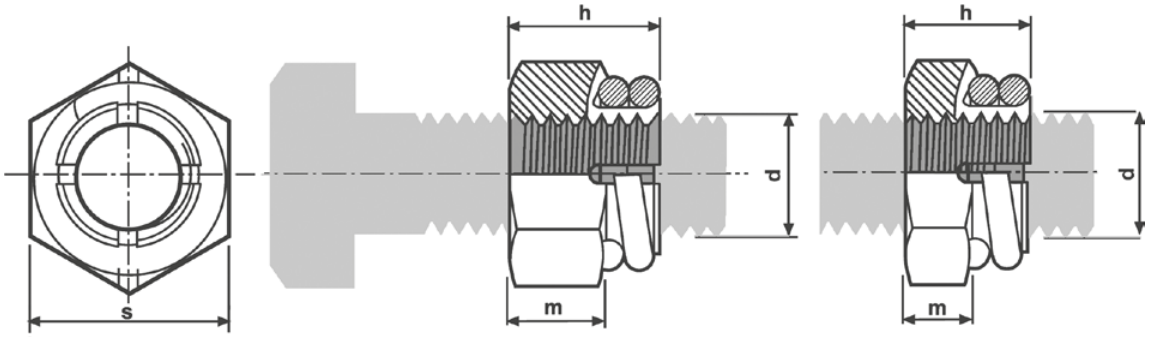


Table 3

VARGAL STANDARD

d	STANDARD PITCH CODES				FINE PITCH CODES				S	H max	M min	Weight (g)
	Class 8	Class 10	Stainless Steel	Pitch	Class 8	Class 10	Stainless Steel	Pitch				
3	V03MY1	-	-	0,5	-	-	-	-	5,5	4,2	2,3	0,4
4	V04MY1	-	-	0,7	-	-	-	-	7	5,5	3,1	1
5	V05MY1	V05MY2	V05MY3	0,8	-	-	-	-	8	6,3	3,9	1,4
6	V06MY1	V06MY2	V06MY3	1	V06RY2	V06RY3	V06RY3	0,75	10	8,2	4,4	2,8
8	V08MY1	V08MY2	V08MY3	1,25	V08SY2	V08SY3	V08SY3	1	13	10,8	6,6	6,6
10	V10MY1	V10MY2	V10MY3	1,5	V10TY2	V10TY3	V10TY3	1,25	17	12,6	7,9	13
12	V12MY1	V12MY2	V12MY3	1,75	V12PY2	V12PY3	V12PY3	1,5	19	16	10,4	20
12	-	-	-	-	V12OY2	V12OY3	V12OY3	1,25	19	16	10,4	20
14	V14MY1	V14MY2	V14MY3	2	V14PY2	V14PY3	V14PY3	1,5	22	18	11,8	30
16	V16MY1	V16MY2	V16MY3	2	V16PY1	V16PY2	V16PY3	1,5	24	20,6	13,3	40
18	V18MY1	V18MY2	V18MY3	2,5	V18PY1	V18PY2	V18PY3	1,5	27	22,5	14,3	57
20	V20MY1	V20MY2	V20MY3	2,5	V20PY1	V20PY2	V20PY3	1,5	30	25,5	16,5	80
22	V22MY1	V22MY2	V22MY3	2,5	V22PY2	V22PY2	V22PY3	1,5	32	29,8	19,5	104
24	V24MY1	V24MY2	V24MY3	3	V24QY2	V24QY2	V24QY3	2	36	29,9	20	132
27	V27MY1	V27MY2	V27MY3	3	V27QY1	V27QY2	V27QY3	2	41	33,7	23,3	204
30	V30MY1	V30MY2	V30MY3	3,5	V30QY1	V30QY2	V30QY3	2	46	37	26,4	284
33	V33MY1	V33MY2	V33MY3	3,5	V33QY1	V33QY2	V33QY3	2	50	40,5	28,5	347
36	V36MY1	V36MY2	V36MY3	4	V36RY1	V36RY2	V36RY3	3	55	44,2	31,2	472

Table 4

VARGAL LOW

d	STANDARD PITCH CODES				FINE PITCH CODES				S	H max	M min	Gewicht (g)
	Klasse 04	Klasse 05	NIRO Stahl	Gewinde	Klasse 04	Klasse 05	NIRO Stahl	Gewinde				
6	V06MV1	V06MB2	V06MB3	1	V06RB1	V06RB2	V06RB3	0,75	10	6,3	2,5	1,9
8	V08MB1	V08MB2	V08MB3V1	1,25	V08SB1	V08SB2	V08SB3	1	13	8,1	3,9	4,4
10	V10MB1	V10MB2	0MB3	1,5	V10TB1	V10TB2	V10TB3	1,25	17	9,6	4,9	8,8
12	V12MB1	V12MB2	V12MB3	1,75	V12PB1	V12PB2	V12PB3	1,5	19	11,4	5,8	13
12	-	-	-	-	V12OB1	V12OB2	V12OPB	1,25	19	11,4	5,8	13
14	V14MB1	V14MB2	V14MB3	2	V14PB1	V14PB2	V14PB3	1,5	22	13	6,8	19
16	V16MB1	V16MB2	V16MB3	2	V16PB1	V16PB2	V16PB3	1,5	24	14,6	7,3	25
18	V18MB1	V18MB2	V18MB3	2,5	V18PB1	V18PB2	V18PB3	1,5	17	16,5	8,3	37
20	V20MB1	V20MB2	V20MB3	2,5	V20PB1	V20PB2	V20PB3	1,5	30	18,1	9,1	50
22	V22MB1	V22MB2	V22MB3	2,5	V22PB1	V22PB2	V22PB3	1,5	32	20,1	10,6	56
24	V24MB1	V24MB2	V24MB3	3	V24QB1	V24QB2	V24QB3	2	36	20,7	10,7	80
27	V27MB1	V27MB2	V27MB3	3	V27QB1	V27QB2	V27QB3	2	41	22,2	11,8	122
30	V30MB1	V30MB2	V30MB3	3,5	V30QB1	V30QB2	V30QB3	2	46	24,7	14,1	167
33	V33MB1	V33MB2	V33MB3	3,5	V33QB1	V33QB2	V33QB3	2	50	27,2	15,3	20
36	V36MB1	V36MB2	V36MB3	4	V36RB1	V36RB2	V36RB3	3	55	30	17,1	279

The final code number identifies the material:
1 = class 8 or 04 steel
2 = class 10 or 05 steel
3 = **stainless** Steel
Diameters higher than M36 and Imperial measurements are available upon request.

e) SCREWING PROCEDURES

The tightening torques listed on tables 6 and 7 are referred to zinc plated or GEOMET 500B coated nuts, and are applied to assembling without addition of lubricant. The VARGAL 10 nuts are supplied with a light film of lubricant necessary and sufficient for the tightening. A light lubrication on the screw is recommended in case of extended screwing (more than two screw's diameters). At least a three screw threads projection is required for the best fit.

For assembling and disassembling with automatic screwdrivers, the recommended rotation speed must not exceed 25 revolutions per minute. The seizure tendency which could occur specially with stainless steel locknuts, due to the higher than recommended rotation speed, could be limited by coating the screw threads with a light film of Molykote "G-NPLUS".

f) TIGHTENING TORQUE

The clamping force values required by **EN ISO 2320** for the corresponding property class are guaranteed.

According to the test conditions defined by **EN ISO 2320** VARGAL 10 nuts display an average friction coefficient of μ **0,09** up to diameter M24 included, **μ 0,12** for higher sizes. The two friction coefficients determine the suggested values of tightening torque shown on the following tables (6 and 7).

The use of a higher tightening torque than the suggested one, could cause an **exceeding axial stress** with consequent reduction of the removal prevailing torque and, on exceptional cases, **failure of the screw and the nut**.

g) ACTUAL TIGHTENING TORQUE

According to his knowledge, **the final customer**, who is he only one who knows the real area applications, **must decide** the actual tightening torque for every single assembling. In any case, the tightening torque have to be calculated considering the total assembled components:

- Screws: surface, coating, possible lubrication
- Washers: material, treatment, surface coating
- Nut: specified coating (possible Torque'n Tension or similar)
- Temperature
- Screwing tools
- Type of assembling

All of these parameters define the **global friction coefficient** and consequently the **effective clamping force on the screw**.

h) PREVAILING TORQUES

The new concept springs allow to adjust the values of prevailing torque in function of the requested resistance to vibration.
VARGAL 10 nuts are available with three different prevailing torque Levels:

- **Medium prevailing torque**, which is supplied, if others are not specified by the final customer
- **Low prevailing torque**
- **High prevailing torque**

On table 5 the values of prevailing torque at the first unscrewing for each diameter are shown, effective for nuts in class 8, 10 and Stainless Steel, in STANDARD and LOW version, as well as the values of the max. screwing prevailing torque for nuts in class 8 steel.

To request High or Low prevailing torque the customer must add at the end of the part number:

A for HIGH PREVAILING TORQUE
B for LOW PREVAILING TORQUE

The prevailing torque of the 5th unscrewing foreseen by EN ISO 2320 has been taken as lower tolerance limit of the **medium prevailing torque.**

Table 5

AVAILABLE PREVAILING TORQUES

METRISCHES GEWINDE REGELGEWINDE - FEINGEWINDE

ø- Nut	PREVAILING TORQUE LOW Code L Nm	PREVAILING TORQUE MEDIUM Nm	PREVAILING TORQE HIGH CODE A Nm	1st Assembling Max Nm EN ISO 2320
M6	0,1 - 0,5	0,3 - 0,8	0,5 - 1	3
M8	0,3 - 1	0,6 - 2	1 - 3	6
M10	0,5 - 1,7	1 - 2,8	2 - 4	10,5
M12	1 - 2,5	1,6 - 4	3 - 6	15,5
M14	1,2 - 3	2,3 - 7	3,5 - 8	24
M16	1,5 - 4	3 - 8	4,5 - 9	32
M18	2 - 5	4,2 - 9	6 - 12	42
M20	3 - 8	5,3 - 11	7 - 14	54
M22	3,5 - 9	6,5 - 13	8,5 - 17	68
M24	4 - 10	8 - 15	10 - 20	80
M27	5 - 12	10 - 18	12 - 24	94
M30	6 - 14	12 - 20	18 - 36	108
M33	7 - 16	14 - 24	21 - 42	122
M36	8 - 19	16 - 28	24 - 48	136

Table 6 and 7

SUGGESTED TIGHTENING TORQUES - VARGAL®10 STANDARD

DIMENSION			CLASS 8				CLASS 10				STAINLESS STEEL A"							
			Tightening Torque (nm)		Clamping Force (kN)		Tightening Torque (nm)		Clamping Force (kN)		High Strength Steel Screws (10.9				A2-70 Stainless Steel Screws			
											Tightening Torque (Nm)		Clamping Force (Kn)		Tightening Torque (Nm)		Clamping Force (Kn)	
D	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch
3	0,5	-	0,9	-	2,2	-	-	-	-	-	-	-	-	-	-	-	-	-
4	0,7	-	2,2	-	3,8	-	-	-	-	-	-	-	-	-	-	-	-	-
5	0,8	-	4,5	-	6,2	-	7,2	-	8,9	-	6,4	-	7,9	-	3,6	-	4,8	-
6	1	0,75	7,5	7,8	8,7	9,5	10	10,7	12,5	13,7	11	11,6	11,3	12,3	6	6,5	6,6	7,4
8	1,25	1	17	18	15,9	17	24	25	22,8	24,4	26	27	20,5	21,8	13	13,6	11	11,9
10	1,5	125	35	37	25,3	26,6	48	52	36,1	38,1	52	55	26	29	28	29	19	20
12	1,75	1,5	59	62	36,7	38,3	84	88	52,5	54,8	89	98	47,8	53,5	47	51	27,4	30,2
12	-	1,25	-	67	-	40,1	-	92	-	57,3	-	-	-	-	-	-	-	-
14	2	1,5	100	105	50	54,4	139	147	71,6	78	141	148	65,4	70,6	80	84	40,2	43,6
16	2	1,5	140	150	68,2	72,7	200	220	97,5	104,3	214	231	89,4	99	112	120	50,8	56
18	2,5	1,5	200	220	86,3	97,5	290	320	119,3	134,3	306	336	112,5	129,3	160	176	63,8	73,8
20	2,5	1,5	290	320	110,3	122,3	400	430	152,3	169,5	431	474	144,4	165,4	230	250	83,6	95,2
22	2,5	1,5	400	420	136,5	150	500	550	189	207	500	550	175	195	300	335	102,5	118
24	3	2	500	530	159	172,5	710	740	219,8	239,3	600	750	208,9	231,5	400	428	121,4	134,9
27	3	2	900	950	206,3	223,5	1200	1300	285,8	309	-	-	-	-	-	-	-	-
30	3,5	2	1200	1300	252,8	279,8	1700	1800	349,5	386,3	-	-	-	-	-	-	-	-
33	3,5	2	1600	1750	312	342,8	2300	2400	432	474	-	-	-	-	-	-	-	-
36	4	3	2100	2200	367,5	389,3	2900	3050	508,5	538,5	-	-	-	-	-	-	-	-

SUGGESTED TIGHTENING TORQUES - VARGAL®10 LOW

DIMENSION			CLASS 8				CLASS 10				STAINLESS STEEL A"							
			Tightening Torque (nm)		Clamping Force (kN)		Tightening Torque (nm)		Clamping Force (kN)		High Strength Steel Screws (10.9				A2-70 Stainless Steel Screws			
											Tightening Torque (Nm)		Clamping Force (Kn)		Tightening Torque (Nm)		Clamping Force (Kn)	
D	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch	Standard pitch	Fine pitch
6	1	0,75	5	5,3	5,7	5,8	5,6	6,1	7,5	7,8	6	6,2	5	5,5	4	4,2	3,3	3,6
8	1,25	1	12	12,6	10,4	11,2	17	17,7	13,7	14,7	18	18,6	14,2	15	9	9,4	7,6	8,2
10	1,5	1,25	25	26	16,5	17,5	33	36	21,8	23	37	39	23,2	24,9	20	20,7	13,6	14,4
12	1,75	1,5	42	44	24	25,1	59	62	31,7	33	63	69	33,9	37,7	33,5	36,3	19,5	21,5
12	-	1,25	-	47	-	26,3	-	64	-	34,5	-	-	-	-	-	-	-	-
14	2	1,5	70	73	32,8	35,6	83	88	43,1	46,9	98	102,8	45,4	49	56	58,8	28	30,5
16	2	1,5	84	90	44,8	47,6	110	115	58,9	62,6	128	138	53,5	59	67	71,6	30,3	33,4
18	2,5	1,5	120	132	54,7	61,3	142	160	72	80,6	183	200	67,3	76,9	96	105,6	38,2	44,2
20	2,5	1,5	174	192	69,8	77,6	196	220	91,9	102	258	283	86,4	98,8	138	150	50,2	57
22	2,5	1,5	218	226	86,3	94,9	270	300	113,6	124,9	310	352	98	103	161	180	55	62,5
24	3	2	258	265	100,6	109,4	355	380	132,3	144	385	412	107,7	119,2	206	220	62,5	69,3
27	3	2	564	607	130,8	141,4	740	780	172,1	186	-	-	-	-	-	-	-	-
30	3,5	2	770	850	159,9	177	1010	1080	210,4	232,9	-	-	-	-	-	-	-	-
33	3,5	2	1030	1135	197,7	216,9	1360	1440	260,3	285,4	-	-	-	-	-	-	-	-
36	4	3	1340	1412	232,9	246,5	1760	1820	306,4	324,4	-	-	-	-	-	-	-	-

The listed tightening torques are referred to zinc plated or GEOMET 500B coated nuts and are applied to assemblies without addition of lubricant necessary and sufficient for the tightening. A light lubrication is recommended in case of extended screwing (more than two screw diameters). The tightening torque must be decided by the final costumer, who is the only one who knows the real area applications. At least a three screw threads projection is required for the best fit. For assembling and disassembling with automatic screw drivers, the recommended rotation speed must not exceed 25 revolutions per minute. The seizure tendency which could occur specially with stainless steel locknuts, due to the higher than recommended rotation speed, could be limited by coating the screw threads with a light film of Molykote (G-N PLUS".

i.) MARKING OF THE NUTS

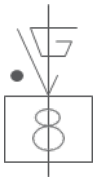


Figure 1
Marking VARGAL
class 8
Low prevailing torque
(Code L)

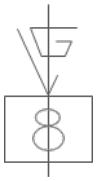


Figure 2
Marking VARGAL
class 8
Medium prevailing torque

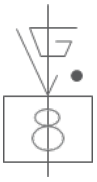


Figure 3
Marking VARGAL
Class 8 8
High prevailing torque
(Coda A)

The different Prevailing torque level is **stamped next to** the **mark** as follows:

- Low torque: **"dot"** on the **left side** of the "V" (figure 1)
- Medium torque: no dots (figure 2)
- High torque: **"dot"** on the **right side** of the "V" (figure 3)

j) RESISTANCE TO VIBRATIONS

VARGAL 10 nuts show a strong resistance to vibrations, 3-4 times higher in omparison to insert or deformed locknuts, as vibrations aid the spring sliding on the collar, improving the prevailing torque action, and avoiding the nut loss. In fact the removal prevailing torque of the nut under vibrations is much higher than the removal prevailing torque in static conditions.

Virbration tests carried out on VARGAL 10 nuts, according to the standard UNI 7323-5:

- **no assembling tension**
- frequency 50Hz
- amplitude 4 mm
- acceleration 20g
- excitation time 30min to 10h depending on the considered diameter

have given positive results without showing any rupture loss ore more than 30° rotation of the locknut. The increasing of **prevailing torque ratio 2**, during the test, kept the VARGAL 10 on the starting position.

In the deprecate case of failure by one or more sectors of the collar, the elastic pressure exerted by the spring allows to keep the locknut on the original position. Security function by the locknut is guaranteed.

k) UTILIZATION

- **no clamping force**

VARGAL 10 locknuts can be used in applications without any tightening torques. VARGAL 10 nuts keep the desired position because the prevailing torque is not in relation with the clamping force.
Such purpose allows the movement of the assembled elements, unrelated to the clamping of the joint, avoiding the loss of the parts.
VARGAL 10 locknuts can be used as adjustable limit stop in different mechanical fields.

- **after the first tightening**

VARGAL 10 locknuts can be used several times before starting the application. After starting the application, they can be re-used after been properly cleaned and having checked the functional characteristics of the locknuts.
VARGAL 10 nuts guarantee a constant prevailing torque, even after several disassembling (see graph 2).

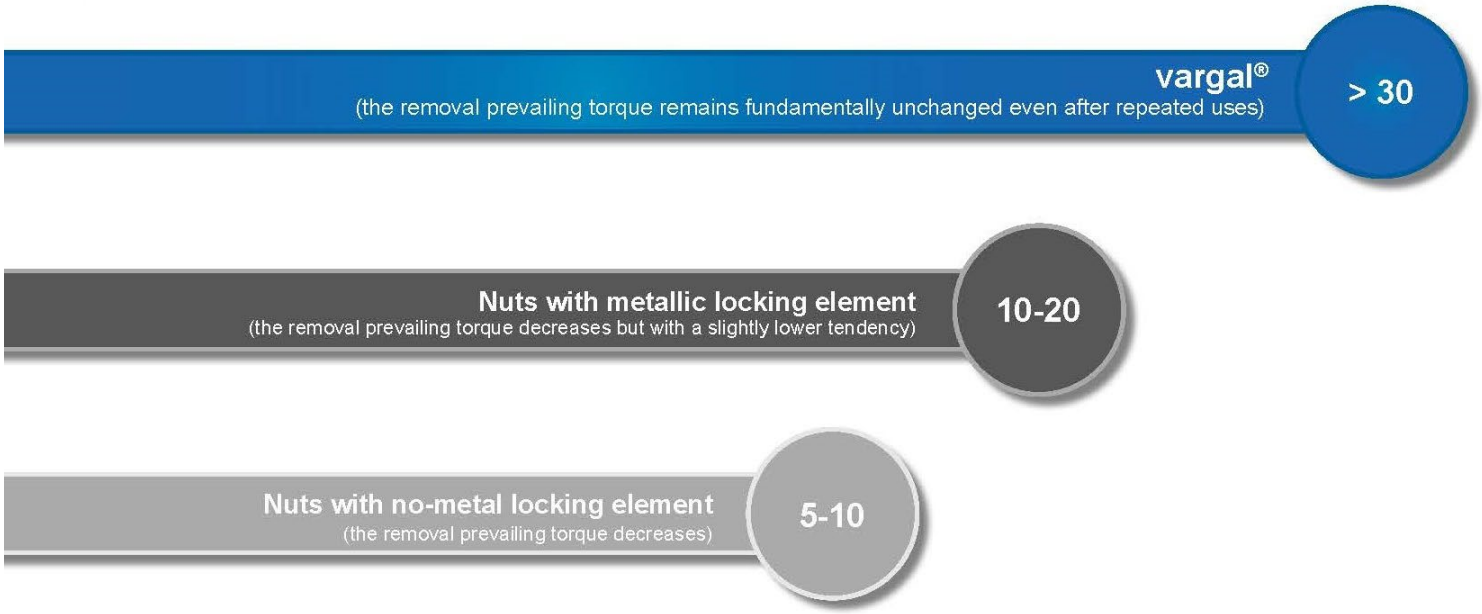
The feature is due to the fact that the elastic locking element does not directly act on the threads and consequently is not subject to wear. The effectiveness of the locking action of the VARGAL 10 nuts is not reduced in the presence of paint or other substances that could wedge themselves, in the collar sectors during the use as the distance between the sectors ensure their mobility anyhow.

NOTE:
KPO will not assume any responsibility in case oft he locknut reuse, without precautionary check of the locknut performances (prevailing torque/clamping force) with satisfactory results.

REUSABILITY

The following illustration shows the reusability of nuts with metallic locking element, with no-metal locking element and the VARGAL nut.

GRAPHIC 2



l) CORROSION PROOF

VARGAL 10 nuts are available in different solutions, resistant to various corrosion levels, according to the uses:

- zinc plating Cr3
- GEOMET 500B
- Steinless steel (nut body and spring)

m) HIGH TEMPERATURE APPLICATIONS

Nuts with a stainless steel spring are available, suitable for temperatures of applications of some hundreds of degrees. The maximum endurable temperatures depend on the specific application and are conditioned by different factors.