

## HEICO-TEC® COMPACT SERIES

### SAFE AND COMPACT

The HEICO-TEC® Compact Series was specially developed for applications where limited space is available in both axial and in radial directions or, in relation to the classic, high-strength tension nut series (strength class 8 or 10), a more moderate preload level must be generated.

The target is to generate the optimum out of the available installation space and the maximum preload force that can be generated.

- The standard dimension range is M20 - M160
- Available in blank (uncoated) and zinc flake coated versions
- Other dimensions, coating systems or materials are available upon request

Basically, the HEICO-TEC® Compact Series consists of two standard series:

#### HTM/FL

#### FLAT VERSION; LIGHT SERIES

Compactness is the focus of the FL series. The FL series is suitable for the tightest applications with the most difficult accessibility. The preload force capacity is lower compared to the FS series.

#### HTM/FS

#### FLAT VERSION; HEAVY SERIES

The FS series offers a significantly higher preload capacity with a very compact design. As a result, relatively high preload forces can be generated even in the tightest spaces.



### DESIGN AND FUNCTION

- In contrast to the HEICO-TEC® Tension Nuts of strength class 8 and 10 the HEICO-TEC® Compact Series uses high-strength set screws with internal drive.
- Inserting the set screws into the nut body allows a significantly more compact design concept, since the overall height of the tension nut is the total height of nut body and washer (set screws do not protrude from nut body).
- For the assembly of the set screws, conventional hex socket bits are used.
- The thread stripping strength of the Compact Series is dramatically improved by the special nut body / washer geometry.

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### APPLICATION

#### Rotating or dynamically loaded components:

The HEICO-TEC® FL and FS series are tailored to the needs of rotating machine assemblies and can optionally be equipped with captive set screws. Due to the centering of the washer on the collar tension nuts of class FL and FS are much easier to balance than, for example tension nuts of series 8/10. Therefore they contribute positively to the overall balancing process at large distances from the axis of rotation.

Further advantages can be seen in the fact that the set screws do not protrude out of the nut body and are not standing in the flow of the surrounding media. With this property, the set screws are also largely protected against the influence of abrasive media. The tension nuts can therefore be equipped with the maximum thread engagement for the available overall heights.

The collar shifts the introduction of the force into the main thread (down) and reduces in combination with the selected pitch circle the local loads on the main thread. Altogether, these properties achieve an improved life time for example with dynamic operating forces and ensure a more homogeneous load distribution in the tension nut. As the nut body dips into the washer the result is the largest possible thread stripping strength of its class.



#### Installation spaces:

HEICO-TEC® Compact Series Tension Nuts can be used in almost any space designed for flat hexagon nuts.

Since there are no key faces, there is no need for tools on the outside diameter. The countersink design of the set screws further guarantees improved accessibility in confined spaces during the assembly.

In contrast to our standard profile tension nuts of series 8 and 10, the Compact Series can also be used on threaded rods, continuous shafts or on hydraulic cylinders (torque wrench fits next to the thread or the piston rod) due to the offset pitch circle diameter.





# HEICO-TEC® COMPACT SERIES (METRIC)

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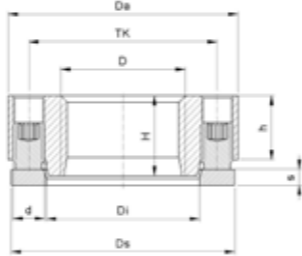
## PRODUCT OVERVIEW

### STRENGTH CLASS FL

Flat version, light series



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Type	Nut body			Pressure bolts		Washer		Tension nut		Torque Nominal* M <sub>Aenom</sub> [Nm]	Preload	
	Thread D	Outer-Ø Da [mm]	Thread height H [mm]	Quantity n	Width across flats	Ø D <sub>W</sub> [mm]	Thickness s [mm]	Total height H [mm]	Tensioning stroke a [mm]		Nominal** F <sub>Vnom</sub> [kN]	Maximum*** F <sub>Vmax</sub> [kN]
HTM-20x2,5/FL	M20	41	12	7	1/8"	41	3	12	3	5,5	70	95
HTM-22x2,5/FL	M22	43	13	8	1/8"	43	3	13	3	5,5	80	110
HTM-24x3/FL	M24	46	14	10	1/8"	46	3	14	3	5,5	105	140
HTM-27x3/FL	M27	54	16	7	3/16"	54	4	16	4	14	135	185
HTM-30x3,5/FL	M30	58	17	8	3/16"	58	4	17	4	15	170	225
HTM-33x3,5/FL	M33	61	18	10	3/16"	61	4	18	4	15	205	275
HTM-36x4/FL	M36	70	20	7	7/32"	70	5	20	5	28	225	305
HTM-39x4/FL	M39	73	21	8	7/32"	73	5	21	5	29	270	360
HTM-42x4,5/FL	M42	77	22	9	7/32"	77	5	22	5	30	315	420
HTM-45x4,5/FL	M45	80	23	10	7/32"	80	5	23	5	30	350	465
HTM-48x5/FL	M48	89	25	8	9/32"	89	6	25	6	52	400	535
HTM-52x5/FL	M52	94	27	9	9/32"	94	6	27	6	52	450	600
HTM-56x5,5/FL	M56	98	29	10	9/32"	98	6	29	6	54	520	695
HTM-60x5,5/FL	M60	103	31	11	9/32"	103	6	31	6	54	575	765
HTM-64x6/FL	M64	113	33	9	5/16"	113	8	33	7	86	650	865
HTM-68x6/FL	M68	117	35	10	5/16"	117	8	35	7	85	715	950
HTM-72x6/FL	M72	123	37	11	5/16"	123	8	37	7	85	785	1045
HTM-76x6/FL	M76	127	39	12	5/16"	127	8	39	7	83	835	1115
HTM-80x6/FL	M80	136	40	9	3/8"	136	8	40	8	135	890	1185
HTM-85x6/FL	M85	143	41	10	3/8"	143	8	41	8	130	950	1270
HTM-90x6/FL	M90	148	42	11	3/8"	148	8	42	8	130	1045	1395
HTM-95x6/FL	M95	153	43	12	3/8"	153	8	43	8	125	1100	1465
HTM-100x6/FL	M100	161	45	13	3/8"	161	8	45	8	125	1190	1585
HTM-105x6/FL	M105	166	46	14	3/8"	166	8	46	8	120	1230	1640
HTM-110x6/FL	M110	183	47	8	12mm	183	10	47	10	275	1310	1750
HTM-115x6/FL	M115	188	48	8	12mm	188	10	48	10	290	1385	1845
HTM-120x6/FL	M120	193	49	8	12mm	193	10	49	10	300	1430	1910
HTM-125x6/FL	M125	198	49	8	12mm	198	10	49	10	310	1480	1975
HTM-130x6/FL	M130	203	50	9	12mm	203	10	50	10	285	1530	2040
HTM-140x6/FL	M140	214	50	9	12mm	214	10	50	10	290	1555	2075
HTM-150x6/FL	M150	224	50	10	12mm	224	10	50	10	265	1580	2110
HTM-160x6/FL	M160	234	50	10	12mm	234	10	50	10	265	1580	2110

\* Tightening torque per pressure bolt. Tightening torque and pretensioning force are proportional, i.e. half the tightening torque results in half the pretensioning force.  
 \*\* Tension nut can be preloaded to nom. preload force.  
 \*\*\* Tension nut can be reactively loaded up to max. preload force.

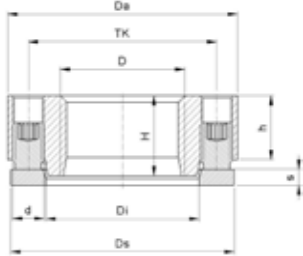
## PRODUCT OVERVIEW

### STRENGTH CLASS FS

Flat version, heavy series



Scan to download the 3D-Data



Type	Nut body			Pressure bolts		Washer		Tension nut		Torque Nominal* M <sub>Aenom</sub> [Nm]	Preload	
	Thread D	Outer-Ø Da [mm]	Thread height H [mm]	Quantity n	Width across flats	Ø D <sub>W</sub> [mm]	Thickness s [mm]	Total height H [mm]	Tensioning stroke a [mm]		Nominal** F <sub>Vnom</sub> [kN]	Maximum*** F <sub>Vmax</sub> [kN]
HTM-20x2,5/FS	M20	46	16	5	3/16"	46	4	16	4	13	90	120
HTM-22x2,5/FS	M22	48	18	5	3/16"	48	4	18	4	15	105	140
HTM-24x3/FS	M24	51	20	7	3/16"	51	4	20	4	14	135	185
HTM-27x3/FS	M27	59	22	5	7/32"	59	5	22	5	29	165	225
HTM-30x3,5/FS	M30	63	24	7	7/32"	63	5	24	5	27	220	290
HTM-33x3,5/FS	M33	66	26	8	7/32"	66	5	26	5	29	270	360
HTM-36x4/FS	M36	75	28	6	9/32"	75	6	28	6	58	335	445
HTM-39x4/FS	M39	78	30	8	9/32"	78	6	30	6	52	400	535
HTM-42x4,5/FS	M42	82	32	9	9/32"	82	6	32	6	56	485	650
HTM-45x4,5/FS	M45	90	34	8	5/16"	90	8	34	7	86	575	770
HTM-48x5/FS	M48	94	36	9	5/16"	94	8	36	7	89	670	895
HTM-52x5/FS	M52	99	38	11	5/16"	99	8	38	7	85	785	1045
HTM-56x5,5/FS	M56	108	41	9	3/8"	108	8	41	8	140	920	1230
HTM-60x5,5/FS	M60	113	44	11	3/8"	113	8	44	8	135	1085	1450
HTM-64x6/FS	M64	118	47	12	3/8"	118	8	47	8	140	1230	1640
HTM-68x6/FS	M68	132	50	8	12mm	132	10	50	10	300	1430	1910
HTM-72x6/FS	M72	138	54	9	12mm	138	10	54	10	295	1585	2110
HTM-76x6/FS	M76	142	58	10	12mm	142	10	58	10	295	1760	2345
HTM-80x6/FS	M80	156	62	8	14mm	156	12	62	12	490	1930	2575
HTM-85x6/FS	M85	163	65	9	14mm	163	12	65	12	480	2125	2835
HTM-90x6/FS	M90	168	68	10	14mm	168	12	68	12	475	2340	3120
HTM-95x6/FS	M95	173	71	11	14mm	173	12	71	12	475	2575	3430
HTM-100x6/FS	M100	181	74	12	14mm	181	12	74	12	470	2780	3705
HTM-105x6/FS	M105	186	76	12	14mm	186	12	76	12	500	2955	3940
HTM-110x6/FS	M110	193	78	13	14mm	193	12	78	12	490	3140	4185
HTM-115x6/FS	M115	198	79	14	14mm	198	12	79	12	480	3310	4415
HTM-120x6/FS	M120	203	81	14	14mm	203	12	81	12	505	3485	4645
HTM-125x6/FS	M125	208	83	16	14mm	208	12	83	12	460	3625	4835
HTM-130x6/FS	M130	213	85	16	14mm	213	12	85	12	475	3745	4995
HTM-140x6/FS	M140	224	86	18	14mm	224	12	86	12	445	3945	5260
HTM-150x6/FS	M150	234	87	18	14mm	234	12	87	12	460	4080	5440
HTM-160x6/FS	M160	244	88	20	14mm	244	12	88	12	415	4090	5455

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