



HeliCoil[®] *plus*

Thread inserts for high strength fastenings
Simple – fast – long lasting

BÖLLHOFF

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Subject to technical modifications without notification. All dimensions in mm.

HELICOIL® plus Thread Technology

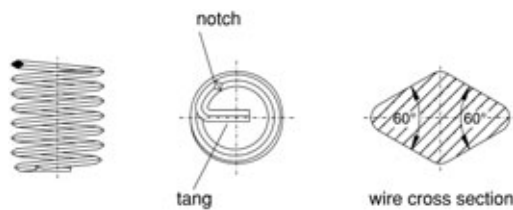
The System

Thread inserts achieve a heavy-duty connection capability in low-strength metal materials and have been proven practice for over fifty years. These thread inserts, made from a well-proven and tested quality stainless steel are formed from rhomboidally profiled wire into a resilient spiral. After installation the tang can be broken off at the notch (pre-set break-off point), if required for through hole applications.



The latest generation for this technology is called HELICOIL® plus.

Due to its optimal fitting structural shape, installation of HELICOIL® plus has been made far more simple. This is guaranteed by the installation area, which facilitates that the HELICOIL® plus can be utilised as a screw and screwed-in. The tool sleeve required until now with its leader cartridge is no longer necessary. Only a fitting mandrel is now required for screwing-in. But the acceptable available structural form tools can still be utilised.



- R_m = Tensile strength minimum 1400 N/mm²
- HV = Vickers hardness minimum 425 HV 0,2
- R_z = Roughness depth approximately 2,5 µm
- µ_s = Reduced and constant thread friction, results in a heightened pre-stressing force F_v
- τ_t = Reduction in the torsion stress in the screw shank

The Technology

HELICOIL® plus thread inserts distinguish themselves through a high wearing tensile strength, low thread friction with tight tolerances, a high surface quality as well as corrosive and heat resistance.

The material and nut thread strength pre-determined performance limits are increased through the Internationally tried and tested HELICOIL® plus thread technology.

HELICOIL® plus Thread Technology

The Versions

HELICOIL® plus thread inserts are available in two versions: HELICOIL® plus free running and HELICOIL® plus SCREWLOCK®. Both variations distinguish themselves due to an optimal design. As with a screw the threaded inserts are simply screwed in by means of a fitting mandrel. The fitting time is reduced by up to 20% due to the fact that the program of utilisable tools has been so radically extended compared to previous methods of operations. HELICOIL® plus is available for the sizes G, UNC and UNF less and equal 1/2" inch. All other sizes are produced as HELICOIL® classic.

■ **HELICOIL® plus free running**

The thread insert with its precision-formed rhomboidal profile is coil for coil free running. The result is a true-to-gauge internal thread, double sided utilisable. After the HELICOIL® installation the thread has the tolerance 2B or 3B in accordance to NASM 33537 for 3B, special tapping tool has been used. (Details see page 23)

The HELICOIL® plus free running is coloured green for better identification in its fitted condition and the colour does not come off.

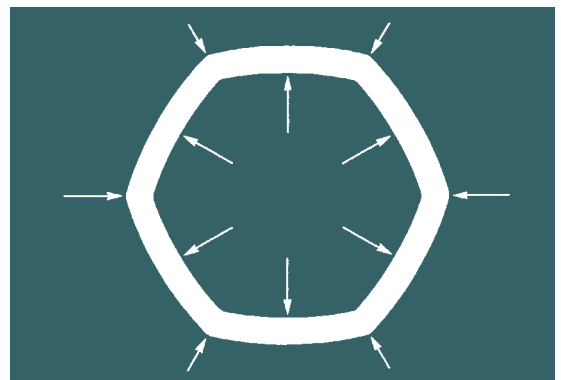
Every Böllhoff original HELICOIL® plus free running thread insert is unmistakably identified by means of a diamond shaped quality embossing at the end of the final coil.



■ **HELICOIL® plus SCREWLOCK®**

HELICOIL® plus SCREWLOCK® offers the same thread technological advantages as HELICOIL® plus free running. In addition, a screw-locking section is worked in, which serves as a screw-locking device. The locking of the screw is achieved by means of one or several polygons formed coils, which grip the threads of the installed screw. In this way an elastically resilient friction lock is created. The locking torque achieved in this way is defined in the standard NASM 8846 for UNC and UNF sizes in accordance to NASM 21209 or can be individually adapted to problem solutions. Standard values for the lock moments can be found in the table on page 7.

The red coloured HELICOIL® plus SCREWLOCK® thread insert, also stamped with the diamond formed embossing, should only be utilised with higher grade screws (starting from 8.8). High grade alloyed screws should be lubricated according to the recommendations of the manufacturer. The same torque should be applied as for the HELICOIL® plus free running.



HELICOIL® plus Thread Technology

The Applications

HELICOIL® plus provides high strength threads, by means of transferring the stress from flank to flank into the holding thread. A system of high reliability, that has been registered for German and International Trade Mark Rights with world-wide coverage. HELICOIL® plus is a guarantee for standardised material and quality requirements for manufactured thread inserts. They are the basis of national standards, aeronautical standards, military standards, and also for in-house standards of leading major users.



Basic design rule: The female thread should be stronger than the screw!

■ Design Element

Anywhere where materials of low shearing strength are utilised (**for example aluminium, alu-magnesium alloys and reinforced plastic**), HELICOIL® plus is indispensable for **thread reinforcement**. Branches that are especially effected by this are machine and plant construction, the automobile industry, electronic and medicine technology as well as aeronautics and the astronautics industries. By use of the thread reinforcement, wear and tear of the nut thread can be ruled out even with regular functions.

HELICOIL® plus makes the development of **miniaturisation** and **lightweight design** for volume parts possible. Stability is guaranteed by the use of threading reinforcement with HELICOIL® plus.

■ Reject Reclamation and Repairing of Threads

HELICOIL® plus thread inserts have been released world-wide for the economical and lasting repairing of damaged or worn out threads.

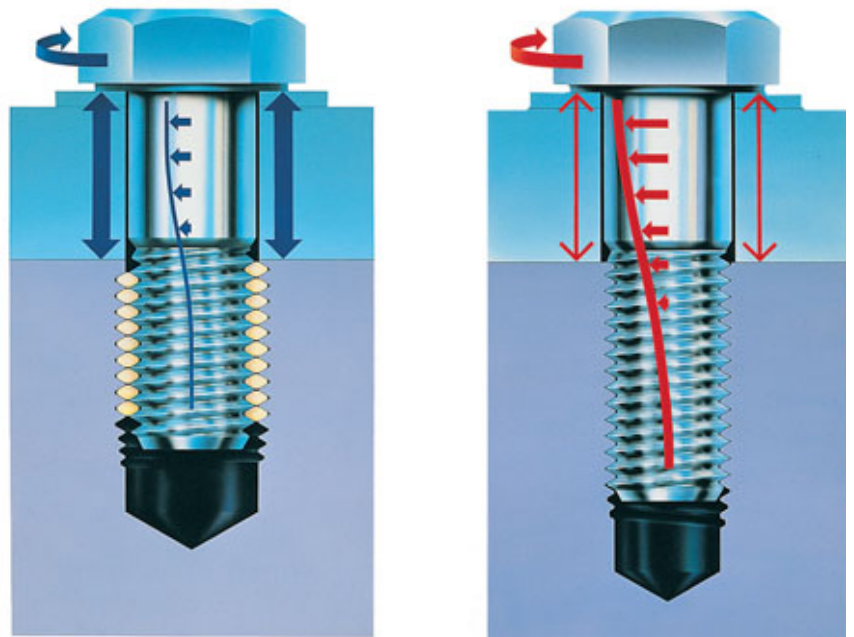
Alongside the repair of valuable individual components, the possibility of recycling damaged threads of rejected large production volume component parts, allowing for the feed back into the production process, is of major importance.

The Advantages

■ Wear and Tear

Stability

HELICOIL® plus thread inserts are manufactured from austenitic chrome-nickel-steel (tensile strength of a minimum 1400 N/mm²). The formed thread provides a high surface quality. This guarantees a heavy-duty, wear and tear resistant thread with an extremely low constant thread friction force. This allows for a constant pre-stressing being achieved with the identical tightening tor-



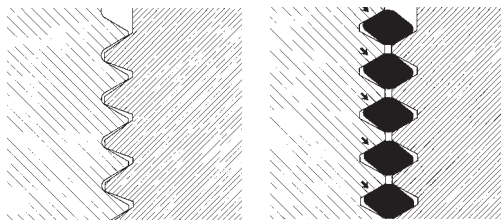
que upon repeated re-screwing. This leads simultaneously to a better utilisation of the yield point for high strength screws. The torsion stress is noticeably reduced hereby: In comparison with cut threads, the surface roughness depth is up to 90% lower with HELICOIL® plus .

HELICOIL® plus Thread Technology

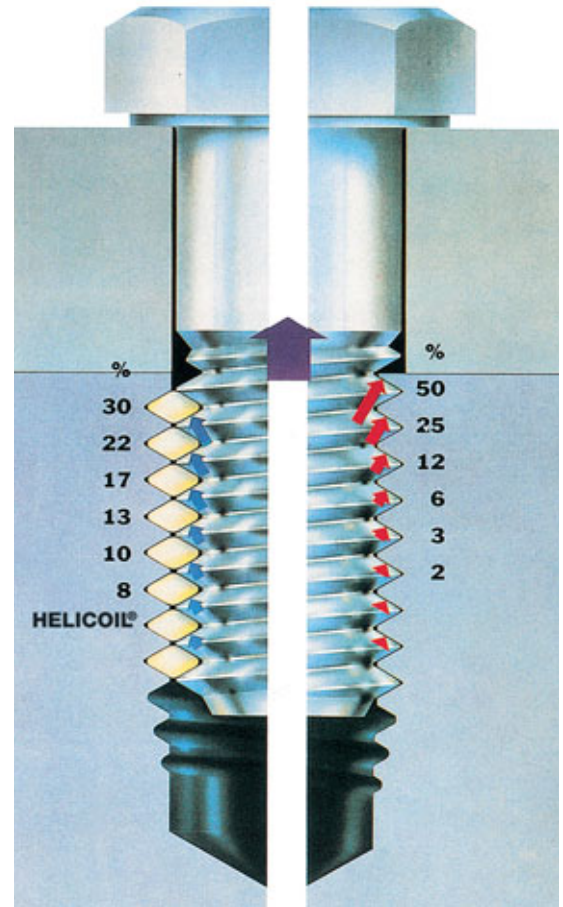
The Advantages

Stronger Assemblies

The flexible characteristics of the HELICOIL® plus thread inserts provide an uniform loading and tension distribution and with that, a perfect thread pitch angle. Pitch and angle defects are balanced out over the entire length of the thread insert. Therefore an ideal force transfer is achieved between the bolt and the nut thread. The durability of the thread connection is significantly increased. This applies to both static and dynamic work loads.



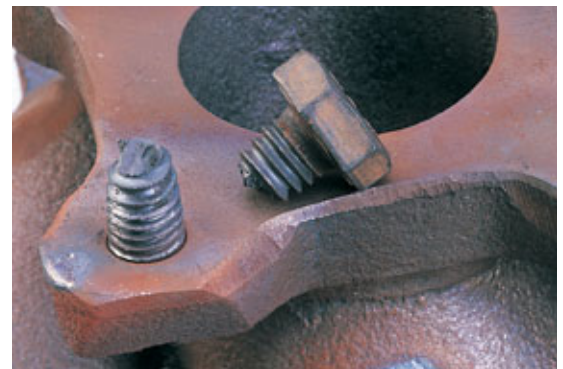
Due to the better repartition of the screw-load, the fatigue strength of a screw will be increased. This is an argument for to use HELICOIL® even in high strength parent material, for example steel or casted iron.



Corrosion Resistance, wide Temperature Range

The material properties of the HELICOIL® plus ensure that locking and tight gripping of screws under normal environmental conditions does not occur. HELICOIL® plus thread inserts made from nickel based materials (INCONEL and NIMONIC 90) are available for thermal high stressed thread connections, with or without any coating. Elasticity and springiness is preserved even under high temperatures.

HELICOIL® plus from high-strength hard coated aluminium has been specially developed for utilisation with materials liable to high corrosion such as magnesium. Contact corrosion is hereby ruled out.



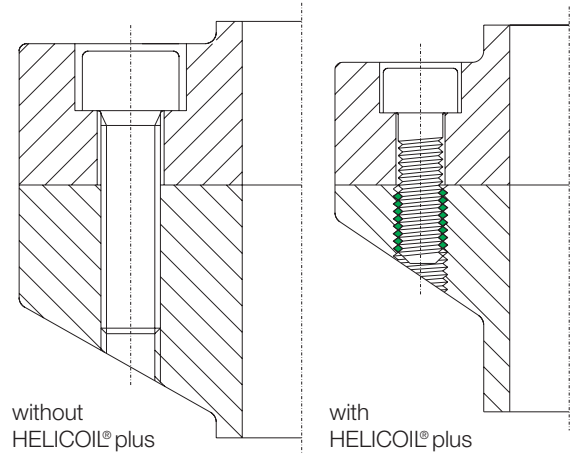
HELICOIL® plus Thread Technology

The Advantages

Freedom of design

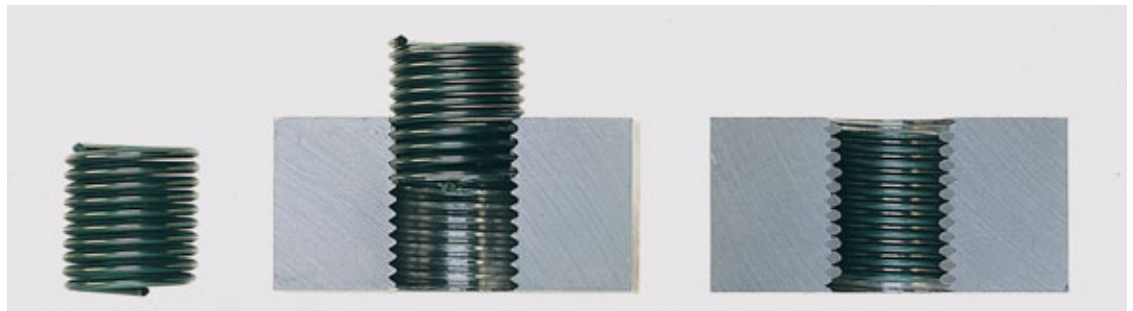
HELICOIL® plus thread inserts allow a wide range for the designer in the choice of materials and material thickness. The actual trend towards lightweight design (for example from magnesium) is fulfilled by HELICOIL® plus with highest loading capacity by means of thread reinforcement with its simultaneous low area requirement. Due to fewer connection points and a reduction in screw sizes, the saving of materials, size and weight with the same or higher requirements HELICOIL® plus leads to a substantial reduction in costs.

- shorter female threads
- smaller screw with higher strength class

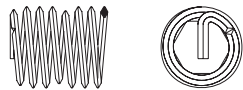


Fitting Stability

The outer diameter of the HELICOIL® plus thread insert is larger than that of the tapped thread by a precisely calculated value in the non-fitted condition. This difference ensures, in addition to the inherent spring action of the HELICOIL® plus thread insert material radial expansion, a stable, play-free positioning in the nut thread. Additional fixing elements adhesives – such as required for fixed bushes – are no longer necessary. For utilisation of hammer driven screws please consult our technical consultant.



Enhanced Screw locking by using of HELICOIL® plus SCREWLOCK®



Thread technology and the polygonal coils of the HELICOIL® plus SCREWLOCK ensure a high enhanced screw gripping and with that a counteraction of the self-loosening of the screws. An additional fixing connector such as of a splint, wire or washer is not necessary. This reduces costs and ensures easier assembly.

Reference values for clamping torque to DIN 267 Part 15 or ISO 2320
Applicable to standard and fine threads
Values in Nm for screws class 8.8

Thread	M 3	M 4	M 5	M 6	M 8	M 10	M 12	M 14	M 16	M 18	M 20
1th tightening, max	0.43	0.90	1.60	3.00	6.00	10.5	15.5	24.0	32.0	42.0	54.0
1th loosening, min.	0.12	0.18	0.29	0.45	0.85	1.5	2.3	3.3	4.5	6.0	7.5
5th loosening, min.	0.08	0.12	0.20	0.30	0.60	1.0	1.6	2.3	3.0	4.2	5.3

Locking torques of other sizes on request.

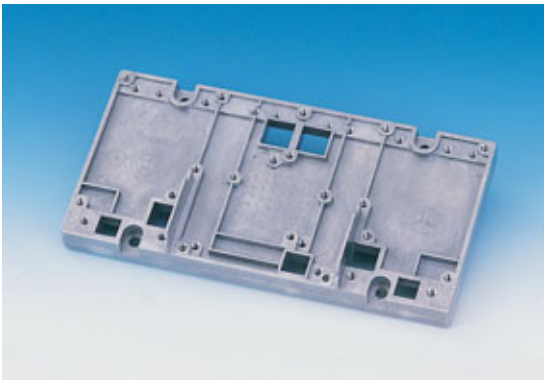
Application examples **HELICOIL® plus Thread Inserts**



Automobile, Aeronautics and Astronautics

Steering gear housing
made from aluminium
HELICOIL® plus
M 14 x 1,5 x 14
free running

- Gear box housings made from magnesium alloys
- Thread reinforcement for oil drainage screws
- Exhaust gas equipment
- Satellite technology
- Aeroplane power units
- Repeated screwing
- Maintenance and repairs



Electrical, Plating, Plastics

Carrier plate for electronic
components made from
aluminium pressure die-casting

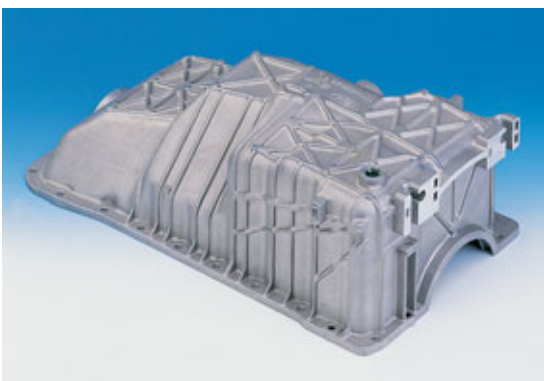
- Light fittings
- Electrical equipment
- Hammer drill



Machines and Plants

Machine construction consoles
Material: G-AISI9 Mg
HELICOIL® plus
M 8 x 12 free running

- Printing machines
- High temperature areas
- Expansion threads (adjustment screws)
- Repeated screwing
- Maintenance and repairs



Further Examples

Oil drainage feature of a car
sump made from aluminium
Screw reinforcement with
HELICOIL® plus
M 14 x 1,5 x 14 free running

Further Examples HELICOIL® plus Thread Inserts



Car gearbox cover made from aluminium die-cast
HELICOIL® plus
M 6 x 6 free running



Car roof railing brace made from aluminium die-cast with
HELICOIL® plus
M 6 x 6 SCREWLOCK®



Housing made from aluminium alloy Flanges with
HELICOIL® plus
M 5 x 10 SCREWLOCK®



Right angle grinder gearbox housing made from aluminium.
HELICOIL® plus
M 10 x 15 SCREWLOCK®
HELICOIL® plus
M 6 x 12 free running



Engine support for garden chopper made from aluminium
Screw loss safety device by means of HELICOIL® plus
SCREWLOCK® M 8 x 12



Housing for electronic components made from aluminium.
HELICOIL® plus SCREWLOCK®



Drive over protection for a lighting fitting mounted into the ground.
Material: aluminium die-cast
HELICOIL® plus
M 8 x 12 free running



Nuts in use high temperature areas with HELICOIL® fittings made from INCONEL – silver plated and nuts with HELICOIL® SCREWLOCK® as a screw loss safety device.

HELICOIL® plus Thread Technology
Materials

Thread insert Materials ^①	Temperature resistance	Minimum tensile strength at room temperature	Available surface treatment ^②	Examples of use
Stainless steel A 2 X5 CrNi 18 10 Material no. 1.4301	425°C short-time 315°C long-time	1400 N/mm ²	– without – waxed – dry lubrica- ting film – cadmium plated – silver plated	standard uses for all strength categories > 8.8 and materials ^③ general light construction, e.g. aluminium or aluminium alloys ^④
Stainless steel A 4 X6 CrNiMoTi 17 12 2 ^③ Material no. 1.4571	425°C short-time 315°C long-time	1400 N/mm ²	– increased corro- sive protection – high grade alloy CrNi steel screws ^③ – low thread friction	general light construction, sea water / chlorinated water
Bronze CuSN 6 Material no. 2.1020.34	300°C short-time 250°C long-time	900 N/mm ²	– without – cadmium plated	– Cu work pieces – expansion threads – CrNi screws
Inconel X 750 NiCr 15 Fe 7 TiAl ^③ Material no. 2.4669 Nimonic 90 NiCr 20 Co 18 Ti Material no.- 2.4632	750°C short-time 550°C long-time 900°C short-time 600°C long-time	1150 N/mm ²	– without – silver plated	– thermal stress in conjunction with corrosive protection – aeronautics – turbo-chargers
Aluminium alloy AlZnMgCu 1.5 ^③ Material no. 3.4365	170°C short-time 150°C long-time	500 N/mm ²	– hard anodized – dry lubrica- ting film	– magnesium work pieces – vehicle technology – lightweight construction

① Other materials or surface upon enquiry
 ② Special anti-corrosive measures must be made when utilising magnesium alloys
 ③ If CrNi screws are utilised, a commercially available lubricant must be used
 ④ Non-stock item, delivery upon enquiry

Thread Types

Thread	HELICOIL® plus free running		HELICOIL® plus SCREWLOCK®		Page
	Nominal diameter	Nominal length	Nominal diameters	Nominal length	
Metric ISO thread standard thread	M 2 to M 68	0.5 d to 3 d	M 2 to M 39	0.75 d to 3 d ⑤	11-17
Metric ISO thread fine thread	M 8 x 1 to M 160 x 6	0.5 d to 3 d	M 8 x 1 to M 64 x 4	0.75 d to 3 d	
Pipe thread ISO 228/1 British Standard Pipe thread = BSP	G ½" to G 1½"	1 d to 2.5 d	–	–	see catalogue 0101
UNIFIED or American National Course thread = UNC/NC	2-56 to 1½"-6	1 d to 2.5 d	2-56 to ¾"-16	1 d to 2.5 d	
UNIFIED or American National fine thread = UNF/NF	3-56 to 1½"-12	1 d to 2.5 d	3-56 to ¾"-16	1 d to 2.5 d	
British Standard Whitworth Thread = BSW	½" to 1½"	1 d to 2.5 d	¾" to ¾"	1 d to 3 d	
British Standard Fine Thread = BSF	¾" to 1½"	1 d to 2.5 d	¾" to ¾"	1 d to 2.5 d	
Britisches Association Standard Thread = BA	OBA to 6BA	1 d to 2.5 d	OBA 2BA 4BA 6BA	1 d to 2.5 d	

⑤ Not possible for M 2 and M 2.5.

HELICOIL® plus thread inserts complying with multiple requirements and standards from general industry, aerospace industry like DIN 8140, DIN 65536, LN 9039, LN 9499.
 Further standards (p.e. MS or EN-standards) upon inquiry.

HELICOIL® plus Thread Technology Design Guidelines

Determination of the Nominal Lengths

Guideline values for determining the length of the HELICOIL® plus thread insert relative to the parent material and the screw yield point, valid for temperatures of 20°C ①

Strength of the parent material Tensile strength R _m (N/mm²)	Screw quality category								
	3.6 4.6	4.8 5.6	5.8 6.6	6.8 6.9	8.8	9.8	10.9	12.9	14.9
up to 100	1.5 d	1.5 d	2 d	2.5 d	3 d	3 d	-	-	-
> 100 – 150	1.5 d	1.5 d	2 d	2 d	2.5 d	2.5 d	2.5 d	2.5 d	3 d
> 150 – 200	1 d	1.5 d	1.5 d	1.5 d	2 d	2 d	2 d	2.5 d	2.5 d
> 200 – 250	1 d	1 d	1.5 d	1.5 d	1.5 d	1.5 d	2 d	2.5 d	2.5 d
> 250 – 300	1 d	1 d	1 d	1 d	1.5 d	1.5 d	1.5 d	2 d	2 d
> 300 – 350	1 d	1 d	1 d	1 d	1 d	1.5 d	1.5 d	1.5 d	2 d
> 350 – 400	1 d	1 d	1 d	1 d	1 d	1 d	1.5 d	1.5 d	1.5 d
> 400	1 d	1 d	1 d	1 d	1 d	1 d	1.5 d	1.5 d	1.5 d

① The figures are valid for materials with a tensile to shear strength ratio of $\frac{\text{shear strength}}{\text{tensile strength}} \geq 0.65$; like aluminium and steel alloys.

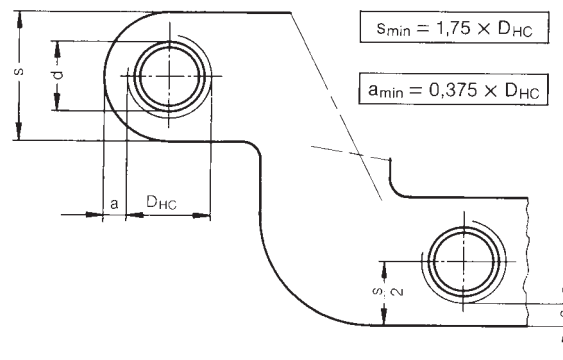
The guideline values must be assessed so that the screw is always the weakest connection member. Falling short of recommended nominal lengths is acceptable, provided it is proven as acceptable by testing. Intermediate lengths are also available.

The rating of the temperature stressed screw connection must take the change of temperature dependant materials into consideration.

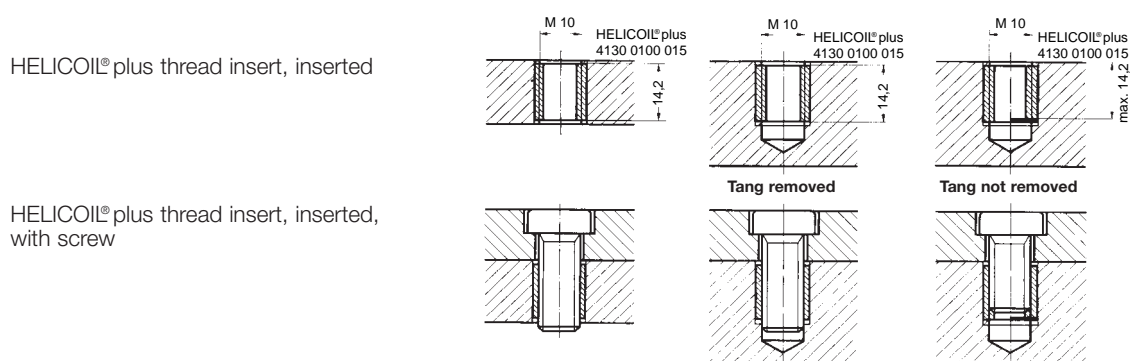
Minimum Wall Thickness

Assessment of the minimum wall thickness is mainly pre-determined by the individual operating data. These in turn determine the strength of the material and the length of the thread. The quoted guideline value formula applies to aluminium, cast and wrought alloys and a HELICOIL® plus screw-in thread length of 1.5 d.

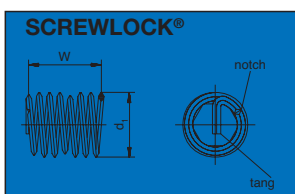
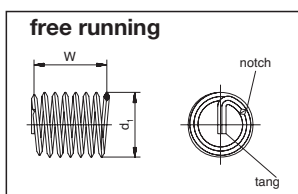
- d = nominal diameter
- D_{HC} = HELICOIL® plus outer diameter
- a = remaining wall thickness



Graphic representation for the example M 10 x 15:



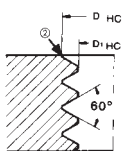
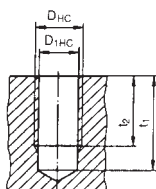
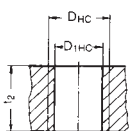
HELICOIL® plus Thread Inserts



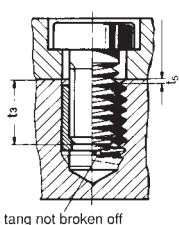
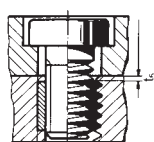
The free running and SCREWLOCK® thread insert control values are W and d_1 , when not inserted.

Its length can only be measured when the insert is in position.

Holding thread



Composition



- d = thread diameter
- P = pitch
- d_1 = outer diameter of thread insert prior to installation
- W = number of coils prior to installation
- D_{HC} = outer thread of tapped hole
- D_{1HC} = thread core diameter
- B = recommended twist drill diameter
- t_1 = minimum depth of core hole according to DIN 76 Part 1
- t_2 = nominal length of thread insert and minimum length of holding thread
- t_3 = maximum screw-in depth if tang has not been broken off
- t_5 = distance of thread insert from separating surface = $0.25 P$, if t_2 complies with the above mentioned minimum value

② 90° countersinking or deburring before tapping:
Countersinking diameter = $D_{HC} + 0,1$.

■ By utilisation of HELICOIL® plus thread inserts in series production it is recommended that the values t_1 and t_2 at a minimum however the size of $1 \times P$ is always added.

① Materials or surfaces are always to be recorded with the 5th digit of the ordering ref. no.:

Example:



4130 002 0005

- 0 = Stainless steel A 2, X 5 CrNi 18 10
 - 1 = Bronze, CuSn 6
 - 2 = Nimonic 90, NiCr 20 Co 18 Ti, silver plated*
 - 3 = Stainless steel A 4, X 6 CrNiMoTi 17 12 2
 - 4 = Inconel X 750, NiCr 15 fe 7 TiAl, silver plated*
 - 5 = Inconel X 750, NiCr 15 fe 7 TiAl, polished
 - 6 = Stainless steel A 2, X 5 CrNi 18 10, cadmium plated
 - 7 = Stainless steel A 2, X 5 CrNi 18 10, magazine loaded**
 - 8 = Bronze, CuSn 6, magazine loaded**
- Other materials upon request

* utilise special tools

** see page 18

All dimensions in mm. Subject to technical modifications.

Thread Inserts HELICOIL® plus

d	P	t ₂ min.*		W	d ₁ min. max.	D _{1HC} min. max.	B	t ₃ max.	D _{HC} min.	B 61 000	B 62 000
		x d	mm							free running Ordering ref. no.®	SCREWLOCK® Ordering ref. no.®
M 2	0.40	1 d	2.0	2.9	2.6 2.8	2.09 2.18	2.1	1.8	2.52	4130 002 0002	upon request
		1.5 d	3.0	4.9				2.8		4130 002 0003	
		2 d	4.0	6.9				3.8		4130 002 0004	
		2.5 d	5.0	8.9				4.8		4130 002 0005	
		3 d	6.0	10.9				5.8		4130 002 0006	
M 2.5	0.45	1 d	2.5	3.5	3.3 3.5	2.60 2.70	2.6	2.3	3.08	4130 025 0025	4132 025 0025
		1.5 d	3.75	5.9				3.5		4130 025 0375	4132 025 0375
		2 d	5.0	8.1				4.8		4130 025 0005	4132 025 0005
		2.5 d	6.25	10.5				6.0		4130 025 0625	4132 025 0625
		3 d	7.5	12.9				7.3		4130 025 0075	4132 025 0075
M 3	0.5	1 d	3.0	3.9	3.8 4.0	3.11 3.22	3.2	2.7	3.65	4130 003 0003	4132 003 0003
		1.5 d	4.5	6.3				4.2		4130 003 0045	4132 003 0045
		2 d	6.0	8.7				5.7		4130 003 0006	4132 003 0006
		2.5 d	7.5	11.1				7.2		4130 003 0075	4132 003 0075
		3 d	9.0	13.5				8.7		4130 003 0009	4132 003 0009
M 3.5	0.6	1 d	3.5	3.7	4.42 4.60	3.63 3.76	3.7	3.2	4.28	4130 035 0035	4132 035 0035
		1.5 d	5.25	6.3				5.0		4130 035 0053	4132 035 0053
		2 d	7.0	8.7				6.7		4130 035 0007	4132 035 0007
		2.5 d	8.75	11.2				8.5		4130 035 0875	4132 035 0875
		3 d	10.5	13.3				10.2		4130 035 0105	4132 035 0105
M 4	0.7	1 d	4.0	3.7	5.05 5.25	4.15 4.29	4.2	3.6	4.91	4130 004 0004	4132 004 0004
		1.5 d	6.0	6.1				5.6		4130 004 0006	4132 004 0006
		2 d	8.0	8.4				7.6		4130 004 0008	4132 004 0008
		2.5 d	10.0	10.9				9.6		4130 004 0010	4132 004 0010
		3 d	12.0	13.2				11.6		4130 004 0012	4132 004 0012
M 5	0.8	1 d	5.0	4.3	6.35 6.6	5.17 5.33	5.2	4.6	6.04	4130 005 0005	4132 005 0005
		1.5 d	7.5	6.9				7.1		4130 005 0075	4132 005 0075
		2 d	10.0	9.7				9.6		4130 005 0010	4132 005 0010
		2.5 d	12.5	12.3				12.1		4130 005 0125	4132 005 0125
		3 d	15.0	14.8				14.6		4130 005 0015	4132 005 0015
M 6	1.0	1 d	6.0	4.2	7.6 7.85	6.22 6.41	6.3	5.5	7.30	4130 006 0006	4132 006 0006
		1.5 d	9.0	6.9				8.5		4130 006 0009	4132 006 0009
		2 d	12.0	9.6				11.5		4130 006 0012	4132 006 0012
		2.5 d	15.0	12.3				14.5		4130 006 0015	4132 006 0015
		3 d	18.0	14.6				17.5		4130 006 0018	4132 006 0018
M 7	1.0	1 d	7.0	5.3	8.65 8.9	7.22 7.41	7.3	6.5	8.30	4130 007 0007	4132 007 0007
		1.5 d	10.5	8.2				10.0		4130 007 0105	4132 007 0105
		2 d	14.0	11.1				13.5		4130 007 0014	4132 007 0014
		2.5 d	17.5	14.3				17.0		4130 007 0175	4132 007 0175
		3 d	21.0	17.4				20.5		4130 007 0021	4132 007 0021
M 8	1.25	1 d	8.0	4.7	9.85 10.1	8.27 8.48	8.4	7.4	9.62	4130 008 0008	4132 008 0008
		1.5 d	12.0	7.4				11.4		4130 008 0012	4132 008 0012
		2 d	16.0	10.6				15.4		4130 008 0016	4132 008 0016
		2.5 d	20.0	13.5				19.4		4130 008 0020	4132 008 0020
		3 d	24.0	16.4				23.4		4130 008 0024	4132 008 0024
M 8 x 1	1.0	1 d	8.0	6.1	9.85 10.1	8.22 8.41	8.3	7.5	9.30	4130 008 3008	4132 008 3008
		1.5 d	12.0	9.5				11.5		4130 008 3012	4132 008 3012
		2 d	16.0	12.9				15.5		4130 008 3016	4132 008 3016
		2.5 d	20.0	16.5				19.5		4130 008 3020	4132 008 3020
		3 d	24.0	19.9				23.5		4130 008 3024	4132 008 3024

*Other lengths upon request.

® see folding page 11b

Further thread inserts on the following pages

Thread Inserts HELICOIL® plus

d	P	t ₂ min.*		W	d ₁ min. max.	D _{1HC} min. max.	B	t ₃ max.	D _{HC} min.	B 61 000	B 62 000
		x d	mm							free running Ordering ref. no.®	SCREWLOCK® Ordering ref. no.®
M 9	1.25	1 d	9.0	5.3	10.85 11.1	9.27 9.48	9.4	8.4	10.62	4130 009 0009	upon request
		1.5 d	13.5	8.6				12.9		4130 009 0135	
		2 d	18.0	11.9				17.4		4130 009 0018	
		2.5 d	22.5	15.3				21.9		4130 009 0225	
		3 d	27.0	18.1				26.4		4130 009 0027	
M 10	1.5	1 d	10.0	5.0	12.1 12.5	10.32 10.56	10.50	9.2	11.95	4130 010 0010	4132 010 0010
		1.5 d	15.0	8.1				14.2		4130 010 0015	4132 010 0015
		2 d	20.0	11.2				19.2		4130 010 0020	4132 010 0020
		2.5 d	25.0	14.2				24.2		4130 010 0025	4132 010 0025
		3 d	30.0	17.2				29.2		4130 010 0030	4132 010 0030
M 10 x 1	1.0	1 d	10.0	7.6	12.1 12.5	10.22 10.41	10.25	9.5	11.30	4130 010 3010	4132 010 3010
		1.5 d	15.0	12.1				14.5		4130 010 3015	4132 010 3015
		2 d	20.0	16.3				19.5		4130 010 3020	4132 010 3020
		2.5 d	25.0	20.7				24.5		4130 010 3025	4132 010 3025
		3 d	30.0	25.0				29.5		4130 010 3030	4132 010 3030
M 10 x 1.25	1.25	1 d	10.0	6.0	12.1 12.5	10.27 10.48	10.40	9.4	11.62	4130 010 9010	4132 010 9010
		1.5 d	15.0	9.7				14.4		4130 010 9015	4132 010 9015
		2 d	20.0	13.1				19.4		4130 010 9020	4132 010 9020
		2.5 d	25.0	16.9				24.4		4130 010 9025	4132 010 9025
		3 d	30.0	20.1				29.4		4130 010 9030	4132 010 9030
M 11	1.5	1 d	11.0	5.6	13.1 13.5	11.33 11.56	11.50	10.2	12.95	4130 011 0011	upon request
		1.5 d	16.5	9.0				15.7		4130 011 0165	
		2 d	22.0	12.3				21.2		4130 011 0022	
		2.5 d	27.5	15.7				26.7		4130 011 0275	
		3 d	33.0	19.1				32.2		4130 011 0033	
M 12	1.75	1 d	12.0	5.2	14.4 14.8	12.38 12.64	12.50	11.1	14.27	4130 012 0012	4132 012 0012
		1.5 d	18.0	8.4				17.1		4130 012 0018	4132 012 0018
		2 d	24.0	11.7				23.1		4130 012 0024	4132 012 0024
		2.5 d	30.0	14.7				29.1		4130 012 0030	4132 012 0030
		3 d	36.0	18.0				35.1		4130 012 0036	4132 012 0036
M 12 x 1	1.0	1 d	12.0	9.3	14.4 14.8	12.22 12.41	12.25	11.5	13.30	4130 012 3012	upon request
		1.5 d	18.0	14.5				17.5		4130 012 3018	
		2 d	24.0	19.5				23.5		4130 012 3024	
		2.5 d	30.0	24.8				29.5		4130 012 3030	
		3 d	36.0	30.0				35.5		4130 012 3036	
M 12 x 1.25	1.25	1 d	12.0	7.4	14.4 14.8	12.27 12.48	12.25	11.4	13.62	4130 012 9012	4132 012 9012
		1.5 d	18.0	11.6				17.4		4130 012 9018	4132 012 9018
		2 d	24.0	15.9				23.4		4130 012 9024	4132 012 9024
		2.5 d	30.0	20.0				29.4		4130 012 9030	4132 012 9030
		3 d	36.0	24.3				35.4		4130 012 9036	4132 012 9036
M 12 x 1.5	1.5	1 d	12.0	6.2	14.4 14.8	12.32 12.56	12.50	11.2	13.95	4130 012 4012	4132 012 4012
		1.5 d	18.0	9.8				17.2		4130 012 4018	4132 012 4018
		2 d	24.0	13.5				23.2		4130 012 4024	4132 012 4024
		2.5 d	30.0	17.1				29.2		4130 012 4030	4132 012 4030
		3 d	36.0	20.8				35.2		4130 012 4036	4132 012 4036

*Other lengths upon request.

® see folding page 11b

Further thread inserts on the following pages

Thread Inserts HELICOIL® plus

d	P	t ₂ min.*		W	d ₁ min. max.	D _{1HC} min. max.	B	t ₃ max.	D _{HC} min.	B 61 000	B 62 000
		x d	mm							free running Ordering ref. no.®	SCREWLOCK® Ordering ref. no.®
M 14	2.0	1 d	14.0	5.6	16.8 17.2	14.43 14.73	14.50	13.0	16.60	4130 014 0014	4132 014 0014
		1.5 d	21.0	8.8				20.0		4130 014 0021	4132 014 0021
		2 d	28.0	12.0				27.0		4130 014 0028	4132 014 0028
		2.5 d	35.0	15.2				34.0		4130 014 0035	4132 014 0035
M 14 x 1	1.0	1 d	14.0	11.2	16.8 17.2	14.22 14.41	14.25	13.5	15.30	4130 014 3014	upon request
		1.5 d	21.0	17.2				20.5		4130 014 3021	
		2 d	28.0	23.2				27.5		4130 014 3028	
		2.5 d	35.0	29.2				34.5		4130 014 3035	
M 14 x 1.25	1.25	spark plug thread	8.4	4.6	16.8 17.2	14.27 14.48	14.25	7.8	15.62	4130 014 9084	upon request
			12.4	7.4				11.8		4130 014 9124	
			14.4	9.1				13.8		4130 014 9144	
			16.4	10.2				15.8		4130 014 9164	
M 14 x 1.5	1.5	1 d	14.0	7.4	16.8 17.2	14.38 14.56	14.50	13.2	15.95	4130 014 4014	4132 014 4014
		1.5 d	21.0	11.6				20.2		4130 014 4021	4132 014 4021
		2 d	28.0	15.7				27.2		4130 014 4028	4132 014 4028
		2.5 d	35.0	19.9				34.2		4130 014 4035	4132 014 4035
M 16	2.0	1 d	16.0	6.5	19.0 19.4	16.43 16.73	16.50	15.0	18.60	4130 016 0016	4132 016 0016
		1.5 d	24.0	10.1				23.0		4130 016 0024	4132 016 0024
		2 d	32.0	13.8				31.0		4130 016 0032	4132 016 0032
		2.5 d	40.0	17.5				39.0		4130 016 0040	4132 016 0040
M 16 x 1.5	1.5	1 d	16.0	8.7	19.0 19.4	16.32 16.56	16.50	15.2	17.95	4130 016 4016	4132 016 4016
		1.5 d	24.0	13.4				23.2		4130 016 4024	4132 016 4024
		2 d	32.0	18.1				31.2		4130 016 4032	4132 016 4032
		2.5 d	40.0	22.9				39.2		4130 016 4040	4132 016 4040
M 18	2.5	0.5 d	9.0	2.3	21.5 22.0	18.54 18.90	18.75	7.7	21.25	4130 018 0009	4132 018 0009
		0.75d	13.5	3.8				12.2		4130 018 0135	4132 018 0135
		1 d	18.0	5.6				16.7		4130 018 0018	4132 018 0018
		1.5 d	27.0	9.0				25.7		4130 018 0027	4132 018 0027
		2 d	36.0	12.3				34.7		4130 018 0036	4132 018 0036
M 18 x 1.5	1.5	0.5 d	9.0	4.2	21.5 22.0	18.32 18.56	18.50	8.2	19.95	4130 018 4009	4132 018 4009
		0.75d	13.5	7.0				12.7		4130 018 4135	4132 018 4135
		1 d	18.0	9.5				17.2		4130 018 4018	4132 018 4018
		1.5 d	27.0	14.9				26.2		4130 018 4027	4132 018 4027
		2 d	36.0	20.2				35.2		4130 018 4036	4132 018 4036
M 18 x 2	2.0	0.5 d	9.0	3.1	21.5 22.0	18.43 18.72	18.50	8.0	20.60	4130 018 5009	4132 018 5009
		0.75d	13.5	5.1				12.5		4130 018 5135	4132 018 5135
		1 d	18.0	7.1				17.0		4130 018 5018	4132 018 5018
		1.5 d	27.0	11.2				26.0		4130 018 5027	4132 018 5027
		2 d	36.0	15.1				35.0		4130 018 5036	4132 018 5036

*Other lengths upon request.

® see folding page 11b

Further thread inserts on the following pages

Thread Inserts HELICOIL® plus

d	P	t ₂ min.*		W	d ₁ min. max.	D _{1HC} min. max.	B	t ₃ max.	D _{HC} min.	B 61 000	B 62 000
		x d	mm							free running Ordering ref. no.®	SCREWLOCK® Ordering ref. no.®
M 20	2.5	0.5 d	10.0	2.7	23.7 24.2	20.54 20.90	20.75	8.7	23.25	4130 020 0010	4132 020 0010
		0.75 d	15.0	4.5				13.7		4130 020 0015	4132 020 0015
		1 d	20.0	6.3				18.7		4130 020 0020	4132 020 0020
		1.5 d	30.0	10.0				28.7		4130 020 0030	4132 020 0030
		2 d	40.0	13.7				38.7		4130 020 0040	4132 020 0040
M 20 x 1.5	1.5	0.5 d	10.0	4.9	23.7 24.2	20.32 20.56	20.50	9.2	21.95	4130 020 4010	4132 020 4010
		0.75 d	15.0	7.9				14.2		4130 020 4015	4132 020 4015
		1 d	20.0	10.7				19.2		4130 020 4020	4132 020 4020
		1.5 d	30.0	16.7				29.2		4130 020 4030	4132 020 4030
		2 d	40.0	22.4				39.2		4130 020 4040	4132 020 4040
M 20 x 2	2.0	0.5 d	10.0	3.5	23.7 24.2	20.43 20.73	20.50	9.0	22.60	4130 020 5010	4132 020 5010
		0.75 d	15.0	5.8				14.0		4130 020 5015	4132 020 5015
		1 d	20.0	8.0				19.0		4130 020 5020	4132 020 5020
		1.5 d	30.0	12.5				29.0		4130 020 5030	4132 020 5030
		2 d	40.0	16.8				39.0		4130 020 5040	4132 020 5040
M 22	2.5	0.5 d	11.0	3.0	26.3 26.8	22.54 22.90	22.75	9.7	25.25	4130 022 0011	4132 022 0011
		0.75 d	16.5	5.0				15.2		4130 022 0165	4132 022 0165
		1 d	22.0	6.9				20.7		4130 022 0022	4132 022 0022
		1.5 d	33.0	10.9				31.7		4130 022 0033	4132 022 0033
		2 d	44.0	15.0				42.7		4130 022 0044	4132 022 0044
M 22 x 1.5	1.5	0.5 d	11.0	5.5	26.3 26.8	22.32 22.56	22.50	10.2	23.95	4130 022 4011	upon request
		0.75 d	16.5	8.6				15.7		4130 022 4165	
		1 d	22.0	11.7				21.2		4130 022 4022	
		1.5 d	33.0	18.1				32.2		4130 022 4033	
		2 d	44.0	24.5				43.2		4130 022 4044	
M 22 x 2	2.0	0.5 d	11.0	3.9	26.3 26.8	22.43 22.73	22.50	10.0	24.60	4130 022 5011	4132 022 5011
		0.75 d	16.5	6.4				15.5		4130 022 5165	4132 022 5165
		1 d	22.0	8.7				21.0		4130 022 5022	4132 022 5022
		1.5 d	33.0	13.6				32.0		4130 022 5033	4132 022 5033
		2 d	44.0	18.4				43.0		4130 022 5044	4132 022 5044
M 24	3.0	0.5 d	12.0	2.6	28.6 29.1	24.65 25.05	24.75	10.5	27.90	4130 024 0012	4132 024 0012
		0.75 d	18.0	4.5				16.5		4130 024 0018	4132 024 0018
		1 d	24.0	6.2				22.5		4130 024 0024	4132 024 0024
		1.5 d	36.0	10.0				34.5		4130 024 0036	4132 024 0036
		2 d	48.0	14.0				46.5		4130 024 0048	
M 24 x 1.5	1.5	0.5 d	12.0	6.0	28.6 29.1	24.33 24.56	24.50	11.2	25.95	4130 024 4012	upon request
		0.75 d	18.0	9.5				17.2		4130 024 4018	
		1 d	24.0	12.9				23.2		4130 024 4024	
		1.5 d	36.0	19.8				35.2		4130 024 4036	
		2 d	48.0	26.7				47.2		4130 024 4048	
M 24 x 2	2.0	0.5 d	12.0	4.3	28.6 29.1	24.43 24.73	24.50	11.0	26.60	4130 024 5012	4132 024 5012
		0.75 d	18.0	7.0				17.0		4130 024 5018	4132 024 5018
		1 d	24.0	9.6				23.0		4130 024 5024	4132 024 5024
		1.5 d	36.0	15.0				35.0		4130 024 5036	4132 024 5036
		2 d	48.0	20.2				47.0		4130 024 5048	4132 024 5048

*Other lengths upon request.

® see folding page 11b

Further thread inserts on the following pages

Thread Inserts HELICOIL® plus

d	P	t ₂ min.*		W	d ₁ min. max.	D _{1HC} min. max.	B	t ₃ max.	D _{HC} min.	B 61 000	B 62 000	
		x d	mm							free running Ordering ref. no.®	SCREWLOCK® Ordering ref. no.®	
M 26 x 1.5	1.5	0.5 d	13.0	6.5	31.0 31.5	26.33 26.56	26.50	12.2	27.95	4130 026 4013	upon request	
		0.75 d	19.5	10.3				18.7		4130 026 4195		
		1 d	26.0	14.0				25.2		4130 026 4026		
		1.5 d	39.0	21.6				38.2		4130 026 4039		
		2 d	52.0	29.1				51.2		4130 026 4052		
M 27	3.0	0.5 d	13.5	3.2	32.2 32.7	27.65 28.05	27.75	12.0	30.90	4130 027 0135	4132 027 0135	
		0.75 d	20.3	5.0				18.8		4130 027 0203	4132 027 0203	
		1 d	27.0	7.1				25.5		4130 027 0027	4132 027 0027	
		1.5 d	40.5	11.4				39.0		4130 027 0405	4132 027 0405	
		2 d	54.0	15.4				52.5		4130 027 0054	4132 027 0054	
M 27 x 1.5	1.5	0.5 d	13.5	6.7	32.2 32.7	27.33 27.56	27.50	12.7	28.95	4130 027 4135	upon request	
		0.75 d	20.3	10.7				19.5		4130 027 4203		
		1 d	27.0	14.6				26.2		4130 027 4027		
		1.5 d	40.5	22.6				39.7		4130 027 4405		
		2 d	54.0	30.0				53.2		4130 027 4054		
M 27 x 2	2.0	0.5 d	13.5	5.1	32.2 32.7	27.43 27.73	27.50	12.5	29.60	4130 027 5135	upon request	
		0.75 d	20.3	7.9				19.3		4130 027 5203		
		1 d	27.0	10.8				26.0		4130 027 5027		
		1.5 d	40.5	16.8				39.5		4130 027 5405		
		2 d	54.0	22.6				53.0		4130 027 5054		
M 28 x 1.5	1.5	0.5 d	14.0	7.1	33.1 33.6	28.33 28.56	28.50	13.2	29.95	4130 028 4014	upon request	
		0.75 d	21.0	11.1				20.2		4130 028 4021		
		1 d	28.0	15.2				27.2		4130 028 4028		
		1.5 d	42.0	23.3				41.2		4130 028 4042		
		2 d	56.0	31.4				55.2		4130 028 4056		
M 30	3.5	0.5 d	15.0	3.0	35.2 35.7	30.76 31.21	31.00	13.2	34.55	4130 030 0015	4132 030 0015	
		0.75 d	22.5	4.9				20.7		4130 030 0225	4132 030 0225	
		1 d	30.0	7.0				28.2		4130 030 0030	4132 030 0030	
		1.5 d	45.0	11.0				43.2		4130 030 0045	4132 030 0045	
		2 d	60.0	14.9				58.2		4130 030 0060	4132 030 0060	
M 30 x 1.5	1.5	0.5 d	15.0	7.8	35.2 35.7	30.33 30.56	30.50	14.2	31.95	4130 030 4015	upon request	
		0.75 d	22.5	12.2				21.7		4130 030 4225		
		1 d	30.0	16.5				29.2		4130 030 4030		
		1.5 d	45.0	25.3				44.2		4130 030 4045		
		2 d	60.0	34.0				59.2		4130 030 4060		
M 30 x 2	2.0	0.5 d	15.0	5.7	35.2 35.7	30.43 30.73	30.50	14.0	32.60	4130 030 5015	upon request	
		0.75 d	22.5	9.0				21.5		4130 030 5225		
		1 d	30.0	12.3				29.0		4130 030 5030		
		1.5 d	45.0	19.0				44.0		4130 030 5045		
		2 d	60.0	25.5				59.0		4130 030 5060		
M 33	3.5	0.5 d	16.5	3.4	38.3 38.8	33.76 34.21	34.00	14.7	37.55	4130 033 0165	upon request	
		0.75 d	24.8	5.6				23.0		4130 033 0248		
		1 d	33.0	7.8				31.2		4130 033 0033		4132 033 0033
		1.5 d	49.5	12.2				47.7		4130 033 0495		4132 033 0495
		2 d	66.0	16.5				64.2		4130 033 0066		4132 033 0066

*Other lengths upon request.

® see folding page 11b

Further thread inserts on the following pages

Thread Inserts HELICOIL® plus

d	P	t ₂ min.*		W	d ₁ min. max.	D _{1HC} min. max.	B	t ₃ max.	D _{HC} min.	B 61 000	B 62 000
		x d	mm							free running Ordering ref. no.®	SCREWLOCK® Ordering ref. no.®
M 33 x 2	2.0	0.5 d	16.5	6.4	38.3 38.8	33.43 33.73	33.50	15.5	35.60	4130 033 5165	upon request
		0.75 d	24.8	10.1				23.8		4130 033 5248	
		1 d	33.0	13.7				32.0		4130 033 5033	
		1.5 d	49.5	21.2				48.5		4130 033 5495	
		2 d	66.0	28.4				65.0		4130 033 5066	
M 36	4.0	0.5 d	18.0	3.2	42.1 42.6	36.87 37.34	37.00	16.0	41.20	4130 036 0018	4132 036 0036 4132 036 0054 4132 036 0072
		0.75 d	27.0	5.0				25.0		4130 036 0027	
		1 d	36.0	7.0				34.0		4130 036 0036	
		1.5 d	54.0	11.1				52.0		4130 036 0054	
		2 d	72.0	15.2				70.0		4130 036 0072	
M 36 x 1.5	1.5	0.5 d	18.0	9.5	42.1 42.6	36.33 36.56	36.50	17.2	37.95	4130 036 4018	upon request
		0.75 d	27.0	14.7				26.2		4130 036 4027	
		1 d	36.0	19.9				35.2		4130 036 4036	
		1.5 d	54.0	30.5				53.2		4130 036 4054	
		2 d	72.0	41.0				71.2		4130 036 4072	
M 36 x 2	2.0	0.5 d	18.0	6.8	42.1 42.6	36.43 36.73	36.50	17.0	38.60	4130 036 5018	upon request
		0.75 d	27.0	10.3				26.0		4130 036 5027	
		1 d	36.0	14.1				35.0		4130 036 5036	
		1.5 d	54.0	21.9				53.0		4130 036 5054	
		2 d	72.0	31.1				71.0		4130 036 5072	
M 36 x 3**	3.0	0.5 d	18.0	4.4	42.1 42.6	36.65 37.05	37.00	16.5	39.90	4130 036 6018	4132 036 6018
		0.75 d	27.0	7.2				25.5		4130 036 6027	4132 036 6027
		1 d	36.0	9.9				34.5		4130 036 6036	4132 036 6036
		1.5 d	54.0	15.3				52.5		4130 036 6054	4132 036 6054
		2 d	72.0	20.5				70.5		4130 036 6072	4132 036 6072
M 39	4.0	0.75 d	29.3	5.5	45.1 45.6	39.87 40.34	40.00	23.4	44.20	4130 039 0293	4132 039 0293
		1 d	39.0	7.7				33.1		4130 039 0039	4132 039 0039
		1.25 d	48.8	9.9				42.9		4130 039 0488	4132 039 0488
		1.5 d	58.5	12.3				52.6		4130 039 0585	4132 039 0585
		2 d	78.0	16.6				72.1		4130 039 0078	4132 039 0078
M 39 x 2	2.0	0.5 d	19.5	7.5	45.1 45.6	39.43 39.73	39.50	16.6	41.60	4130 039 5195	4132 039 5195
		0.75 d	29.3	11.9				26.3		4130 039 5293	4132 039 5293
		1 d	39.0	16.3				36.1		4130 039 5039	4132 039 5039
		1.25 d	48.8	20.6				45.8		4130 039 5488	4132 039 5488
		1.5 d	58.5	25.0				55.6		4130 039 5585	4132 039 5585
M 39 x 3	3.0	0.5 d	19.5	4.9	45.1 45.6	39.65 40.05	40.00	15.1	42.90	4130 039 6195	4132 039 6195
		0.75 d	29.3	7.8				24.8		4130 039 6293	4132 039 6293
		1 d	39.0	10.8				34.6		4130 039 6039	4132 039 6039
		1.25 d	48.8	13.7				44.3		4130 039 6488	4132 039 6488
		1.5 d	58.5	16.8				54.1		4130 039 6585	4132 039 6585

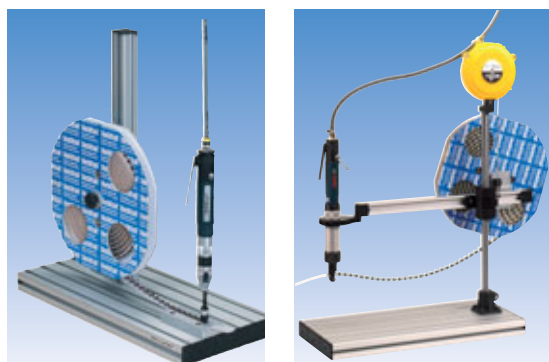
*Other length upon request. HELICOIL® plus > M 24 upon request.

** Other thread nominal diameters are available. See table thread types on page 10.

® see folding page 11b

Magazined HELICOIL® plus Thread Inserts for Optimized Installation

HELICOIL® plus STRIPFEED®



Accessory: see page 41

Magazined HELICOIL® plus thread inserts offer advantages especially when working with smaller thread inserts.

Hand operated and stationary installation devices are available for this.

The working advantages for short and long series are:

- More simple handling
- An improvement to the working conditions in production assembly
- Performance improvement due to reliable feeding
- Reduction in costs

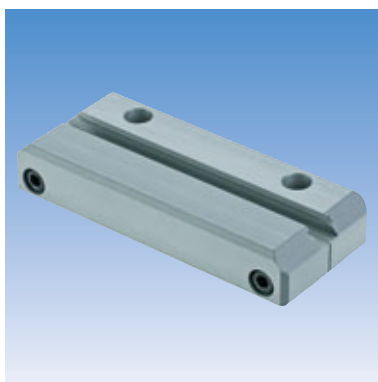
Inch sizes, please refer separate catalogue 0101.

Thread nominal Ø	Nominal length	Magazined on reels Ø = 320 mm			Magazined on reels Ø = 220 mm			Strips for "pick and place"		
		Number of inserts	HELICOIL® plus free running Ordering ref. no.	HELICOIL® plus SCREWLOCK® Ordering ref. no.	Number of inserts	HELICOIL® plus free running Ordering ref. no.	HELICOIL® plus SCREWLOCK® Ordering ref. no.	Number of inserts	HELICOIL® plus free running Ordering ref. no.	HELICOIL® plus SCREWLOCK® Ordering ref. no.
M 2	1.5 x d	5000*	4130 702 0006*	4132 702 0006*	1000*	4130 702 0026*	4132 702 0026*	150	4130 702 0016	4132 702 0016
	2 x d	5000*	4130 702 0008*	4132 702 0008*	1000*	4130 702 0028*	4132 702 0028*	150	4130 702 0018	4132 702 0018
M 2.5	1 x d	5000	4130 725 0004	4132 725 0004	1000	4130 725 0024	4132 725 0024	150	4130 725 0014	4132 725 0014
	1.5 x d	4000	4130 725 0006	4132 725 0006	1000	4130 725 0026	4132 725 0026	150	4130 725 0016	4132 725 0016
	2 x d	3000	4130 725 0008	4132 725 0008	1000	4130 725 0028	4132 725 0028	150	4130 725 0018	4132 725 0018
M 3	1 x d	4000	4130 703 0004	4132 703 0004	1000	4130 703 0024	4132 703 0024	100	4130 703 0014	4132 703 0014
	1.5 x d	2800	4130 703 0006	4132 703 0006	1000	4130 703 0026	4132 703 0026	100	4130 703 0016	4132 703 0016
	2 x d	2000	4130 703 0008	4132 703 0008	1000	4130 703 0028	4132 703 0028	100	4130 703 0018	4132 703 0018
M 3.5	1 x d	5000*	4130 735 0004*	4132 735 0004*	1000*	4130 735 0024*	4132 735 0024*	100	4130 735 0014	4132 735 0014
	1.5 x d	5000*	4130 735 0006*	4132 735 0006*	1000*	4130 735 0026*	4132 735 0026*	100	4130 735 0016	4132 735 0016
	2 x d	5000*	4130 735 0008*	4132 735 0008*	1000*	4130 735 0028*	4132 735 0028*	100	4130 735 0018	4132 735 0018
M 4	1 x d	2200	4130 704 0004	4132 704 0004	1000	4130 704 0024	4132 704 0024	100	4130 704 0014	4132 704 0014
	1.5 x d	1500	4130 704 0006	4132 704 0006	1000	4130 704 0026	4132 704 0026	100	4130 704 0016	4132 704 0016
	2 x d	1300	4130 704 0008	4132 704 0008				100	4130 704 0018	4132 704 0018
M 5	1 x d	1500	4130 705 0004	4132 705 0004	1000	4130 705 0024	4132 705 0024	100	4130 705 0014	4132 705 0014
	1.5 x d	1000	4130 705 0006	4132 705 0006				100	4130 705 0016	4132 705 0016
	2 x d	800	4130 705 0008	4132 705 0008				100	4130 705 0018	4132 705 0018
M 6	1 x d	1100	4130 706 0004	4132 706 0004				100	4130 706 0014	4132 706 0014
	1.5 x d	750	4130 706 0006	4132 706 0006				100	4130 706 0016	4132 706 0016
	2 x d	550	4130 706 0008	4132 706 0008				100	4130 706 0018	4132 706 0018
M 8	1 x d	650	4130 708 0004	4132 708 0004				100	4130 708 0014	4132 708 0014
	1.5 x d	400	4130 708 0006	4132 708 0006				100	4130 708 0016	4132 708 0016
	2 x d	300	4130 708 0008	4132 708 0008				100	4130 708 0018	4132 708 0018
M 10	1 x d	400	4130 710 0004	4132 710 0004						
	1.5 x d	270	4130 710 0006	4132 710 0006						
	2 x d	200	4130 710 0008	4132 710 0008						

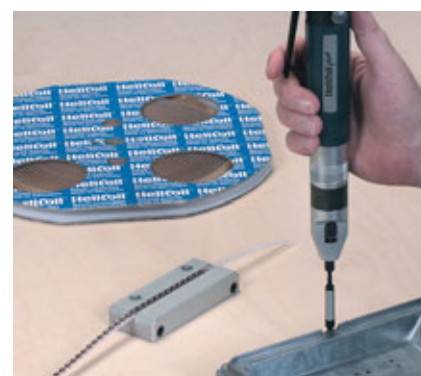
* Upon request

HELICOIL® plus Withdrawal Equipment pick-and-place

Thread nom. Ø	Ordering ref. no.
M 2	4148 002 0000
M 2.5	4148 002 0000
M 3	4148 002 0000
M 3.5	4148 002 0000
M 4	4148 004 0000
M 5	4148 004 0000
M 6	4148 006 0000
M 8	4148 008 0000



Withdrawal equipment "pick-and-place"



Installation of HELICOIL® plus

Installation of HELICOIL® plus Thread Inserts

HELICOIL® plus STRIPFEED®

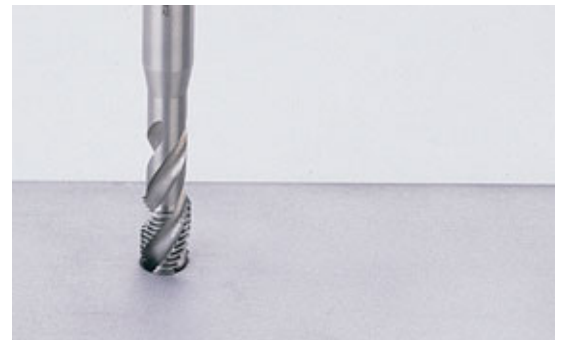
■ Drilling of the core hole

Standard commercial twist drills are used.
Reference points for diameters and core hole depths are found on pages 11 to 17.
90° countersinking or deburring before tapping:
countersinking diameter = $D_{HC} + 0,1 \text{ mm}$



■ Tapping

System adapted original HELICOIL® plus taps must be used for tapping the thread. Recommendations for the selection of suitable manual and machine taps are listed on pages 21 to 31. HELICOIL® plus internal thread limit gauges must be used for checking that the thread is true to gauge. (Refer to page 32).



■ Thread forming

Non-tapping production of female threads by the use of thread formers is the rational method of production for many materials today; this also applies to HELICOIL® plus (refer to pages 30/31).

Installation process

■ Fitting the thread insert

Installation is possible either from hand or by the use of a mechanical installation tool or an automatic installation machine. The HELICOIL® plus thread insert is screwed onto the installation mandrel with its tang pointing downwards (3A), fitted into the pre-stressing cartridge (3B) or placed onto the fly-over tool (3C) and the equipment is then placed over the tapped hole.



3A



3B



3C

■ Installation

By means of revolving the thread tang (4A), the mandrel (4B) or the fly-over tool (4C) by hand or starting the driver the thread insert is screwed in. It must be installed with a minimum of 0.25 P underneath the surface (refer to page 11 t₅).



4A



4B



4C

■ Breaking the tang off

For creation of a through-hole thread the tang is broken off at the notch. This is completed by the use of a tang break-off tool (5A and 5B). For threads of M 14 fine and normal gradients, a pair of pointed pliers' (5C) can break off the tang. The tang must not be removed for blind hole threads if the maximum screw-in depth t₃ of the screw is adhered to.



5A



5B



5C

Advisory Service for Threaded Inserts HELICOIL® plus**Customer data**

Information request date: _____

Company: _____ Address: _____

Tel.: _____ Fax: _____ Telex: _____

Contact person (name and responsibilities): _____

Applicable department: _____

Customer registration guidelines: _____

Requested date for visit from technical marketing advisor: _____

ApplicationTechnical description
(Function, sizes, tolerances, as well as requirements made on HELICOIL® plus)Can Böllhoff – be supplied with a sample (according to application)? yes no– be supplied with a drawing (of the application)? yes no

Processing and working principle: _____

Appendix: _____

InformationNew applications: yes no

Annual requirement: _____

Delivery amount: _____

Duration of application: _____

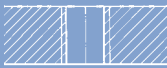
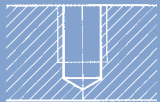
Series start (date): _____

Sample required: yes noif yes, then date and number: _____
_____Pre-series required: yes noif yes, then date and number: _____

Present solution (this or a similar application):

System Components for Installation

Standard range from HELICOIL® plus Manual and Machine taps

Materials	Range of types			Recommended standard values ^a	
	Manual tap all drilling forms	Machine tap		Cutting speed [m/min]	Cooling lubrication
		Through hole tapping 	Blind hole tapping 		
Aluminium and cast aluminium alloys (brittle, short chips)	0140.0 0140.1-2* 0140.3-5**	0141.1	0141.5	10...20	Emulsion
Aluminium and cast aluminium alloys (malleable, long chips)	0140.0 0140.1-2* 0140.3-5**	0141.1	0141.4	15...20	Emulsion
Magnesium alloys	0140.0 0140.1-2* 0140.3-5**	0141.1	0141.4	25	Dry
Steel to 700 N/mm ²	0140.0			16	Oil/Emulsion
Cast iron soft $R_m \leq 250$ N/mm ²	0140.1-2*	0141.1	0141.5	15	Petroleum/Emulsion
Cast iron hard $R_m > 250$ N/mm ²	0140.3-5**			10	Emulsion
Malleable cast iron				10	Oil/Emulsion
Copper	0140.0			16	Oil/Emulsion
Bronze/gunmetal	0140.1-2*	0141.1	0141.5	5...12	Oil/Emulsion
Brass – tough	0140.3-5*			16	Oil/Emulsion
Zinc alloys				20	Oil/Emulsion
Brass – Brittle	0140.0 0140.1-2* 0140.3-5**	0141.1	0141.5	25	Oil Dry

⊙ In individual cases a test should be made.

* Set manual taps (two parts)

** Set manual taps (three parts)

We also supply TiN coated taps.

For materials that are very difficult to machine, not listed, such as:

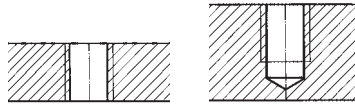
- stainless steel
- heat resistant steel
- other steel alloys
- titan alloys

we also supply special taps!

HELICOIL® machine taps for special applications

Standard HELICOIL® taps fulfil the requirements of most applications.

In special applications where cutting specifications are a critical factor, special versions of machine taps are required.



Material	Through holes	Blind holes	Cutting speed (m/min.)	Coolant / Lubricant
Aluminium alloys with high silicon content SI > 12 %	0141 9 XXX 444	0141 9 XXX 451	10	oil / emulsion
Difficult to machine materials, such as: Stainless and corrosion resistant steel High-temperature steel	0141 9 XXX 444	0141 9 XXX 451	5 4	oil / emulsion
Hard materials Cast iron	0141 9 XXX 418	0141 9 XXX 418	8 – 10	petrol / emulsion
Ductile, jamming materials, such as: Electrolytic copper Hard bronze	0141 9 XXX 445	0141 9 XXX 451	12 5	oil
Brittle brass	0141 9 XXX 424	0141 9 XXX 424	25	oil
Titanium alloys ≤ 700 N/mm ² > 700 N/mm ²	0141 9 XXX 444 0141 9 XXX 447	0141 9 XXX 451 0141 9 XXX 432	8 4	oil
Soft plastics, Thermoplastics	0141 9 XXX 445	0141 9 XXX 451		compressed air / emulsion
Brittle plastics, Duroplast	0141 9 XXX 446	0141 9 XXX 446		compressed air

Example designation: M 4 size: 0141 9**040** 451

Other special taps (e.g. taps with TIN coating or oversize taps) are available on request.

Thread tolerances for thread inserts

Metric threads

■ Standard tolerance for metric threads:

HELICOIL® threads have a tolerance of **6H mod** as per DIN 8140 Part 2 standard.

6H mod has the same precision as the tolerance **5H** (see the marking on the plug gauge for the HELICOIL® threads).

After assembly of the HELICOIL® plus thread inserts, the completed ISO thread has a tolerance of **6H**.

■ Precision tolerances for metric threads:

Aerospace industry standards specify an ISO thread tolerance of **5H**:

HELICOIL® threads must therefore have a tolerance of **5H mod**.

5H mod has the same precision as the tolerance **4H** (see the marking on the plug gauge for the HELICOIL® threads).

After assembly of the HELICOIL® plus thread inserts, the completed ISO thread has a tolerance of **5H**.

■ MJ threads:

Threaded bolts with an MJ profile thread do not require a particular HELICOIL® thread.

■ Ordering ref. no. / Example:

Effect of the HELICOIL® screw tap on the item number

For tolerance classes **6H mod** and **5H**, the ninth number in the item no. is **1**

Example: M 10 65000 0141 410 0**1**52

For tolerance classes **5H mod** and **4H**, the ninth number in the item no. is **2**

Example: M 10 65000 0141 410 0**2**52

Effect of the HELICOIL® thread former on the item number

For tolerance classes **6H mod** and **5H**, the ninth number in the item no. is **0**

Example: M 10 65000 0144 110 0**0**04

For tolerance classes **5H mod** and **4H**, the ninth number in the item no. is **2**

Example: M 10 65000 0144 110 0**2**04

Effect of the HELICOIL® bottom tap plug gauge on the item number

For tolerance classes **6H mod** and **5H**, the ninth number in the item no. is **5**

Example: M 10 65000 0147 310 0**5**00

For tolerance classes **5H mod** and **4H**, the ninth number in the item no. is **4**

Example: M 10 65000 0147 310 0**4**00

Manual taps for HELICOIL® plus
Type 0140.0

HELICOIL® manual taps, cut

For standard threads up to P = 2 mm

For fine threads up to P = 3 mm

 For tapping materials up to 700 N/mm² strength.

For through-holes.

For blind holes only if sufficient tapping space is available. Minimum requirement 1 d deeper than the fully cut thread length.

Type 0140.1-2

HELICOIL® manual taps, set of 2

Two parts set, graded pitch

Pre-tap 4 action cut 0140.1...

Final tap 2 action cut 0140.2...

For pitches up to P = 3.5 mm

 For tapping materials over 700 N/mm² strength.

For through-hole and blind-hole tapping.

Type 0140.3-5 refer to page 26
Combined drill and tapping tools refer to page 26

Nominal-thread Ø	B 65 000 Cutting taps for tolerance class 6 H*		B 65 000 Set taps for tolerance class 6 H*	
	Type 0140.0 Ordering ref. no.	Pre-cutter Type 0140.1 Ordering ref. no.	Final cutter Type 0140.2 Ordering ref. no.	
d				
M 2	0140 002 0104	0140 102 0104	0140 202 0102	
M 2.5	0140 025 0104	0140 125 0104	0140 225 0102	
M 3	0140 003 0104	0140 103 0104	0140 203 0102	
M 3.5	0140 035 0104	0140 135 0104	0140 235 0102	
M 4	0140 004 0104	0140 104 0104	0140 204 0102	
M 5	0140 005 0104	0140 105 0104	0140 205 0102	
M 6	0140 006 0104	0140 106 0104	0140 206 0102	
M 7	0140 007 0104	0140 107 0104	0140 207 0102	
M 8	0140 008 0104	0140 108 0104	0140 208 0102	
M 8 x 1	0140 008 3104	0140 108 3104	0140 208 3102	
M 9	0140 009 0104	0140 109 0104	0140 209 0102	
M 10	0140 010 0104	0140 110 0104	0140 210 0102	
M 10 x 1	0140 010 3104	0140 110 3104	0140 210 3102	
M 10 x 1.25	0140 010 9104	0140 110 9104	0140 210 9102	
M 11	0140 011 0104	0140 111 0104	0140 211 0102	
M 12	0140 012 0104	0140 112 0104	0140 212 0102	
M 12 x 1	0140 012 3104	0140 112 3104	0140 212 3102	
M 12 x 1.25	0140 012 9104	0140 112 9104	0140 212 9102	
M 12 x 1.5	0140 012 4104	0140 112 4104	0140 212 4102	
M 14	0140 014 0104	0140 114 0104	0140 214 0102	
M 14 x 1	0140 014 3104	0140 114 3104	0140 214 3102	
M 14 x 1.25	0140 014 9104	0140 114 9104	0140 214 9102	
M 14 x 1.5	0140 014 4104	0140 114 4104	0140 214 4102	
M 16	0140 016 0104	0140 116 0104	0140 216 0102	
M 16 x 1.5	0140 016 4104	0140 116 4104	0140 216 4102	
M 18		0140 118 0104	0140 218 0102	
M 18 x 1.5	0140 018 4104	0140 118 4104	0140 218 4102	
M 18 x 2	0140 018 5104	0140 118 5104	0140 218 5102	
M 20		0140 120 0104	0140 220 0102	
M 20 x 1.5	0140 020 4104	0140 120 4104	0140 220 4102	
M 20 x 2	0140 020 5104	0140 120 5104	0140 220 5102	
M 22		0140 122 0104	0140 222 0102	
M 22 x 1.5	0140 022 4104	0140 122 4104	0140 222 4102	
M 22 x 2	0140 022 5104	0140 122 5104	0140 222 5102	
M 24		0140 124 0104	0140 224 0102	
M 24 x 1.5	0140 024 4104	0140 124 4104	0140 224 4102	
M 24 x 2	0140 024 5104	0140 124 5104	0140 224 5102	

Further sizes upon request.

* for tolerance class 4H the ninth digit of the ordering ref. no. changes from 1 to 2.

Details refer to page 23.

Types 0140.0 and 0140.2 can be utilised as machine taps.

Shaft diameter tolerance h9. They are especially suitable for brittle materials such as cast iron, brass and magnesium.

Dimensions for Manual taps

	Nominal thread Ø d	Version	Outer Ø min. D _{HC}	Shaft Ø h 9 d 2	First cut Ø d 3	Overall length L 1	Thread length max. L 2	Square length L 3	Square h 12 K	L 4	d 4
Version A	M 2	A	2.5	2.8	2	40	9	5	2.1		
	M 2.5	B	3.1	3.5	2.5	40	10	6	2.7	13.5	2.6
	M 3	B	3.6	4	3	45	10	6	3	13.5	3.1
	M 3.5	B	4.3	4.5	3.5	45	12	6	3.4	15.5	3.6
	M 4	B	4.9	6	4	50	14	8	4.9	17.5	4.2
	M 5	B	6.0	6	5	50	16	8	4.9	19.5	5.2
	M 6	C	7.3	6	6	56	19	8	4.9		
	M 7	C	8.3	7	7	63	19	8	5.5		
Version B	M 8	C	9.6	7	8	70	22	8	5.5		
	M 8 x 1	C	9.3	7	8	63	19	8	5.5		
	M 9	C	10.6	8	9	70	24	9	6.2		
	M 10	C	11.9	9	10	75	27	10	7		
	M 10 x 1	C	11.3	9	10	70	22	10	7		
	M 10 x 1.25	C	11.6	10	9	70	22	10	7		
	M 11	C	12.9	11	11	70	22	12	9		
	M 12	C	14.3	11	12	80	30	12	9		
	M 12 x 1	C	13.3	11	12	70	22	12	9		
	M 12 x 1.25	C	13.6	11	12	70	22	12	9		
Version C	M 12 x 1.5	C	14.0	11	12	70	22	12	9		
	M 14	C	16.6	12	14	80	32	12	9		
	M 14 x 1	C	15.3	12	14	70	22	12	9		
	M 14 x 1.25	C	15.6	12	14	70	22	12	9		
	M 14 x 1.5	C	16.0	12	14	70	22	12	9		
	M 16	C	18.6	14	16	80	22	14	11		
	M 16 x 1.5	C	18.0	14	16	80	22	14	11		
	M 18	C	21.3	16	18	95	40	15	12		
	M 18 x 1.5	C	20.0	16	18	80	22	15	12		
	M 18 x 2	C	20.6	16	18	80	22	15	12		
	M 20	C	23.3	18	20	100	40	17	14.5		
	M 20 x 1.5	C	22.0	18	20	80	22	17	14.5		
	M 20 x 2	C	22.6	18	20	80	22	17	14.5		
	M 22	C	25.3	18	22	110	50	17	14.5		
M 22 x 1.5	C	24.0	18	22	90	22	17	14.5			
M 22 x 2	C	24.6	18	22	90	22	17	14.5			
M 24	C	27.9	20	24	110	50	19	16			
M 24 x 1.5	C	26.0	18	24	90	22	17	14.5			
M 24 x 2	C	26.6	20	24	90	22	19	16			

Manual taps for HELICOIL® plus

Type 0140.0

HELICOIL® manual taps, cut

For standard threads up to P = 2 mm
For fine threads up to P = 3 mm

For tapping materials up to 700 N/mm² strength.

For through-holes.

For blind holes only if sufficient tapping space is available. Minimum requirement 1 d deeper than the fully cut thread length.

Type 0140.1-2

HELICOIL® manual taps, set of 2
Two parts set, graded pitch

Pre-tap 4 action cut 0140.1...
Final tap 2 action cut 0140.2...

For pitches up to P = 3.5 mm

For tapping materials over 700 N/mm² strength.

For through-hole and blind-hole tapping.

Type 0140.3-5

HELICOIL® manual taps, set of 3
as of M 36 with controlled pitch

Pre-tap 0140.3...
Middle tap 0140.4...
Final tap 0140.5...

Combined Drill and Tapping Tools



For tapping HELICOIL® holding threads in damaged metric standard and fine threads.

Pre-drilling of the HELICOIL® holding thread is not necessary. Due to the guiding unit d 3 x L 5 for blind holes only use under certain conditions.

Nominal-thread Ø d	B 65 000 Cutting taps for tolerance class 6 H*	B 65 000 Set taps for tolerance class 6 H*	
	Type 0140.0 Ordering ref. no.	Pre-cutter Type 0140.1 Ordering ref. no.	Final cutter Type 0140.2 Ordering ref. no.
M 26 x 1.5	0140 026 4104	0140 126 4104	0140 226 4102
M 27		0140 127 0104	0140 227 0102
M 27 x 1.5	0140 027 4104	0140 127 4104	0140 227 4102
M 27 x 2	0140 027 5104	0140 127 5104	0140 227 5102
M 28 x 1.5	0140 028 4104	0140 128 4104	0140 228 4102
M 30		0140 130 0104	0140 230 0102
M 30 x 1.5	0140 030 4104	0140 130 4104	0140 230 4102
M 30 x 2	0140 030 5104	0140 130 5104	0140 230 5102
M 33		0140 133 0104	0140 233 0102
M 33 x 2	0140 033 5104	0140 133 5104	0140 233 5102
M 36**			
M 36 x 1.5	0140 036 4104	0140 136 4104	0140 236 4102
M 36 x 2	0140 036 5104	0140 136 5104	0140 236 5102
M 36 x 3	0140 036 6104	0140 136 6104	0140 236 6102

Further sizes upon request.

* for tolerance class 4H the ninth digit of the ordering ref. no. changes from 1 to 2.
Details refer to page 23.

** set of taps (three lipped), in addition middle cutter 0140 436 0104.

Types 0140.0 and 0140.2 can be utilised as machine taps.

Shaft diameter tolerance h9. They are especially suitable for brittle materials such as cast iron, brass and magnesium.

Nominal thread Ø d	B 65 000 Ordering ref. no.
M 6	0142 006 0102
M 8	0142 008 0102
M 10	0142 010 0102
M 10 x 1	0142 910 3450
M 12	0142 912 0450
M 12 x 1.25	0142 912 9450
M 12 x 1.5	0142 912 4450
M 14	0142 914 0450
M 14 x 1.25*	0142 914 9450
M 14 x 1.25**	0142 014 9102
M 14 x 1.5	0142 914 4450
M 16	0142 916 0450
M 16 x 1.5	0142 916 4450
* L 1 = 92	** L 1 = 153

Dimensions for Manual taps

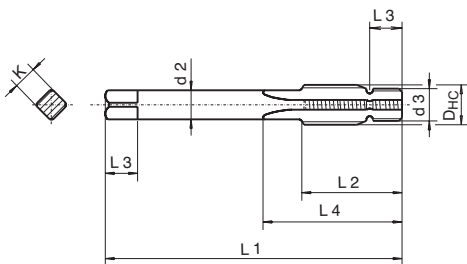
Version A refer to pages 24/25

Version B refer to pages 24/25

Version C refer to pages 24 – 27

Nominal thread Ø d	Version	Outer Ø min. D _{Hc}	Shaft Ø h 9 d 2	First cut Ø d 3	Overall length L 1	Thread length max. L 2	Square length L 3	Square h 12 K	L 4	d 4
M 26 x 1.5	C	28.0	20	26	90	22	19	16		
M 27	C	30.9	22	27	125	56	21	18		
M 27 x 1.5	C	29.0	22	27	90	22	21	18		
M 27 x 2	C	29.6	22	27	90	22	21	18		
M 28 x 1.5	C	30.0	22	28	90	22	21	18		
M 30	C	34.6	28	30	125	40	25	22		
M 30 x 1.5	C	32.0	22	30	90	22	21	18		
M 30 x 2	C	32.6	25	30	100	22	23	20		
M 33	C	37.6	28	33	125	40	25	22		
M 33 x 2	C	35.6	28	33	125	40	25	22		
M 36	C	41.2	32	36	150	63	27	24		
M 36 x 1.5	C	38.0	28	36	100	25	25	22		
M 36 x 2	C	38.6	32	36	125	40	27	24		
M 36 x 3	C	39.9	32	36	125	40	27	24		

Dimensions for combined Drilling and Tapping Tools



Nominal thread Ø d	Outer Ø min. D _{Hc}	Shaft Ø h 9 d 2	First cut Ø d 3	Overall length L 1	Thread length max. L 2	Square length L 3	L 4 min.	Lead Thread Length L 5	Square h 12 K
M 6	7.3	8	M 6	90	26	9	36	6	6.2
M 8	9.7	10	M 8	90	28	11	38	7.5	8
M 10	12.0	12	M 10	100	31	12	42	9	9
M 10 x 1	11.3	9	M 10 x 1	92	31	10	42	9	7
M 12	14.3	11	M 12	92	35	12	43	10	9
M 12 x 1.25	13.7	11	M 12 x 1.25	92	35	12	43	10	9
M 12 x 1.5	13.7	11	M 12 x 1.25	92	35	12	43	10	9
M 14	13.7	11	M 12 x 1.25	92	35	12	43	10	9
M 14 x 1.25	15.7	11	M 14 x 1.25	92	35	12	43	10	9
M 14 x 1.25	15.7	11	M 14 x 1.25	153	35	12	43	10	9
M 14 x 1.5	16.0	11	M 14 x 1.5	92	35	12	43	10	9
M 16	18.7	14	M 16	90	39	14	50	9	11
M 16 x 1.5	18.0	14	M 16 x 1.5	92	39	14	50	10	11

Machine taps for HELICOIL® plus

Type 0141.1

HELICOIL® machine taps, straight grooved, cutting angle 10°, with curling cut, 4 action cut for through holes, for blind holes with deep-drilled thread hole.

For pitches up to $P = 3.5$ mm.

For materials below and above 700 N/mm² strength.

For through-hole tapping.

Type 0141.4

HELICOIL® machine taps, spiral grooves 45° right-hand twist, cutting angle 15°, 2-turn cut for blind holes.

For pitches up to $P = 1.5$ mm.

For materials up to approximately 700 N/mm² strength.

For blind hole tapping.

Type 0141.5

HELICOIL® machine taps, spiral grooves 40° right hand twist, cutting angle 10°, 2-3 turn cut for blind holes, for blind holes with deep-drilled thread hole.

For pitches up to $p = 3$ mm.

For materials over 700 N/mm² strength.

For blind hole tapping.

Nominal thread Ø d	B 65 000 for tolerance class 6 H*	B 65 000 for tolerance class 6 H*	B 65 000 for tolerance class 6 H*
	Type 0141.1 Ordering ref. no.	Type 0141.4 Ordering ref. no.	Type 0141.5 Ordering ref. no.
M 2	0141 102 0104	0141 402 0152	0141 502 0102
M 2.5	0141 125 0104	0141 425 0152	0141 525 0102
M 3	0141 103 0104	0141 403 0152	0141 503 0102
M 3.5	0141 135 0104	0141 435 0152	0141 535 0102
M 4	0141 104 0104	0141 404 0152	0141 504 0102
M 5	0141 105 0104	0141 405 0152	0141 505 0102
M 6	0141 106 0104	0141 406 0152	0141 506 0102
M 7	0141 107 0104	0141 407 0152	0141 507 0102
M 8	0141 108 0104	0141 408 0152	0141 508 0102
M 8 x 1	0141 108 3104	0141 408 3152	0141 508 3102
M 9	0141 109 0104	0141 409 0152	0141 509 0102
M 10	0141 110 0104	0141 410 0152	0141 510 0102
M 10 x 1	0141 110 3104	0141 410 3152	0141 510 3102
M 10 x 1.25	0141 110 9104		0141 510 9102
M 11	0141 111 0104	0141 411 0152	0141 511 0102
M 12	0141 112 0104	0141 412 0152	0141 512 0102
M 12 x 1	0141 112 3104	0141 412 3152	0141 512 3102
M 12 x 1.25	0141 112 9104		0141 512 9102
M 12 x 1.5	0141 112 4104	0141 412 4152	0141 512 4102
M 14	0141 114 0104		0141 514 0102
M 14 x 1	0141 114 3104	0141 414 3152	0141 514 3102
M 14 x 1.25	0141 114 9104		
M 14 x 1.5	0141 114 4104	0141 414 4152	0141 514 4102
M 16	0141 116 0104		0141 516 0102
M 16 x 1.5	0141 116 4104	0141 416 4152	0141 516 4102
M 18	0141 118 0104		0141 518 0102
M 18 x 1.5	0141 118 4104	0141 418 4152	0141 518 4102
M 18 x 2	0141 118 5104		0141 518 5102
M 20	0141 120 0104		0141 520 0102
M 20 x 1.5	0141 120 4104	0141 420 4152	0141 520 4102
M 20 x 2	0141 120 5104		0141 520 5102
M 22	0141 122 0104		0141 522 0102
M 22 x 1.5	0141 122 4104	0141 422 4152	0141 522 4102
M 22 x 2	0141 122 5104		0141 522 5102
M 24	0141 124 0104		0141 524 0102
M 24 x 1.5	0141 124 4104	0141 424 4152	0141 524 4102
M 24 x 2	0141 124 5104		0141 524 5102

Further sizes upon request.

* for tolerance class 4H the ninth digit in the ordering ref. no. changes from 1 to 2.

Details refer to page 23.

Dimensions for Machine taps

Nominal thread Ø d	Version	Outer Ø min. D _{hc}	Shaft Ø h 9 d 2	First cut Ø d 3	Overall length L 1	Types 0141.1 / 0141.4 Thread length max. L2	Type 0141.5 Thread length max. L2	Square length L 3	Square h 12 K	L 4	d 4
Version A											
M 2	A	2.5	2.8	2	50	8	4	5	2.1		
M 2.5	B	3.1	3.5	2.5	56	11	5	6	2.7	18	2.6
M 3	B	3.7	4	3	56	13	6	6	2.7	20	3.1
M 3.5	B	4.3	4.5	3.5	63	13	7	6	3.1	21	3.6
M 4	B	4.9	6	4	70	16	8	8	4.9	25	4.2
M 5	B	6.0	6	5	80	17	10	8	4.7	30	5.2
M 6	B	7.3	8	6	90	20	12	9	6.2	35	6.2
M 7	B	8.3	9	7	90	20	12	10	7	35	7.2
M 8	B	9.6	10	8	100	20	14	11	8	39	8.3
Version B											
M 8 x 1	B	9.3	9	8	90	20	12	10	7	35	8.2
M 9	C	10.6	8	9	100	22	14	9	6.2		
M 10	C	12.0	9	10	110	24/16	16	10	7		
M 10 x 1	C	11.3	9	10	100	22	16	10	7		
M 10 x 1.25	C	11.6	9	10	100	22	16	10	7		
M 11	C	13.0	11	11	100	22/20	20	11	9		
M 12	C	14.3	11	12	110	26/20	20	12	9		
M 12 x 1	C	13.3	11	12	100	22/20	20	12	9		
M 12 x 1.25	C	13.6	11	12	100	22/20	20	12	9		
Version C											
M 12 x 1.5	C	14.0	11	12	100	22/20	20	12	9		
M 14	C	16.6	12	14	110	28/20	20	12	9		
M 14 x 1	C	15.3	12	14	100	22/20	20	12	9		
M 14 x 1.25	C	15.6	12	14	100	22/20	20	12	9		
M 14 x 1.5	C	16.0	12	14	100	22/20	20	12	9		
M 16	C	18.6	14	16	125	34/25	25	14	11		
M 16 x 1.5	C	18.0	14	16	110	25	25	14	11		
M 18	C	21.3	16	18	140	34/25	25	15	12		
M 18 x 1.5	C	20.0	16	18	125	25	25	15	12		
M 18 x 2	C	20.6	16	18	140	34	25	15	12		
M 20	C	23.3	18	20	140	34/25	25	17	14.5		
M 20 x 1.5	C	22.0	18	20	125	25	25	17	14.5		
M 20 x 2	C	22.6	18	20	140	34	25	17	14.5		
M 22	C	25.3	18	22	160	38/30	30	17	14.5		
M 22 x 1.5	C	24.0	18	22	140	28	28	17	14.5		
M 22 x 2	C	24.6	18	22	140	28	28	17	14.5		
M 24	C	27.9	20	24	160	38/30	30	19	16		
M 24 x 1.5	C	26.0	18	24	140	28	28	17	14.5		
M 24 x 2	C	26.6	20	24	140	28	28	19	16		

Machine taps for HELICOIL® plus

Type 0141.1

HELICOIL® machine taps, straight grooved, tapping angle 10°, with curling cut, 4 action cut for through holes, for blind holes with deep-drilled thread hole

For pitches up to P = 3.5 mm.

For materials below and above 700 N/mm² strength.

For through-hole tapping.

Type 0141.4

HELICOIL® machine taps, spiral grooves 45° right-hand twist, tapping angle 15°, 2-turn cut for blind holes

For pitches up to P = 1.5 mm

For materials up to approximately 700 N/mm² strength

For blind hole tapping.

Type 0141.5

HELICOIL® machine taps, spiral grooves 40° right hand twist, cutting angle 10°, 2-3 turn cut for blind holes, for blind holes with deep-drilled thread hole

For pitches up to p = 3 mm

For materials over 700 N/mm² strength

For blind hole tapping.

Nominal thread Ø d	B 65 000 for tolerance class 6 H*	B 65 000 for tolerance class 6 H*	B 65 000 for tolerance class 6 H*
	Type 0141.1 Ordering ref. no.	Type 0141.4 Ordering ref. no.	Type 0141.5 Ordering ref. no.
M 26 x 1.5	0141 126 4104	0141 426 4152	0141 526 4102
M 27	0141 127 0104		0141 527 0102
M 27 x 1.5	0141 127 4104	0141 427 4152	0141 527 4102
M 27 x 2	0141 127 5104		0141 527 5102
M 28 x 1.5	0141 128 4104	0141 428 4152	0141 528 4102
M 30	0141 130 0104		0141 530 0102
M 30 x 1.5	0141 130 4104	0141 430 4152	0141 530 4102
M 30 x 2	0141 130 5104		0141 530 5102
M 33	0141 133 0104		0141 533 0102
M 33 x 2	0141 133 5104		0141 533 5102
M 36	0141 136 0104		0141 536 0102
M 36 x 1.5	0141 136 4104	0141 436 4152	
M 36 x 2	0141 136 5104		0141 536 5102
M 36 x 3	0141 136 6104		0141 536 6102

Further sizes upon request.

* for tolerance class 4H the ninth digit in the ordering ref. no. changes from 1 to 2.

Details refer to page 23.

Machine tap former for HELICOIL® plus



Non-cutting forming of inner threads and through hole threads

With lubrication grooves

Perfect lubrication even at larger depths

Speeds corresponding to thread tap

Lubrication:

Lubricant containing oils or emulsions containing grease

Material range:

Mouldable materials such as aluminium, copper and zinc alloys, steel up to 700 N/mm², stainless steels

Nominal thread Ø d	Standard value formed hole Ø d _F	B 65 000 Ordering ref. no.®
M 3	3.4	0144 103 0004
M 3.5	4.0	0144 135 0004
M 4	4.6	0144 104 0004
M 5	5.6	0144 105 0004
M 6	6.8	0144 106 0004
M 8	9.0	0144 108 0004
M 10	11.2	0144 110 0004
M 12	13.4	0144 112 0004

Other dimensions upon request.

We also supply TiN coated tap formers.

* for tolerance class 4H the ninth digit in the ordering ref. no. changes from 1 to 2. Details refer to page 23.

Dimensions for Machine taps

Version A refer to pages 28/29

Nominal thread Ø d	Version	Outer Ø min. D _{Hc}	Shaft Ø h9 d2	First cut Ø d3	Overall length L1	Types 0141.1 / 0141.4 Thread length max. L2	Type 0141.5 Thread length max. L2	Square length L3	Square h 12 K	L4	d4
M 26 x 1.5	C	28.0	20	26	140	28	28	19	16		
M 27	C	30.9	22	27	180	50	50	21	18		
M 27 x 1.5	C	29.0	22	27	150	28	28	21	18		
M 27 x 2	C	29.6	22	27	150	28	28	21	18		
M 28 x 1.5	C	30.0	22	28	150	28	28	21	18		
M 30	C	34.5	28	30	200	56	56	25	22		
M 30 x 1.5	C	32.0	22	30	150	28	28	21	18		
M 30 x 2	C	32.6	25	30	160	30	28	23	20		
M 33	C	37.5	28	33	200	56	56	25	22		
M 33 x 2	C	35.6	28	33	170	30	30	25	22		
M 36	C	41.2	32	36	200	60	60	27	24		
M 36 x 1.5	C	38.0	28	36	170	30	30	25	22		
M 36 x 2	C	38.6	32	36	170	30	30	27	24		
M 36 x 3	C	39.9	32	36	200	60	60	27	24		

Version B refer to pages 28/29

Version C refer to pages 28 – 31

Dimensions for Machine taps for HELICOIL® plus

Version B

Nominal thread Ø d	Version	Outer Ø min. D _{Hc}	Shaft Ø h9 d2	Overall length L1	Thread length max. L2	Square length L3	Square h 12 K	L4	d4
M 3	B	3.69	4	56	13	6	2.7	20	3.1
M 3.5	B	4.33	4.5	63	13	6	3.1	21	3.6
M 4	B	4.96	6	70	16	8	4.9	25	4.2
M 5	B	6.09	6	80	17	8	4.7	30	5.2
M 6	B	7.37	8	90	20	9	6.2	35	7.2
M 8	B	9.69	10	100	20	11	8	39	8.9
M 10	C	12.02	9	110	24	10	7		
M 12	C	14.37	11	110	26	12	9		

Other dimensions upon request.

We also supply TiN coated tap formers.

° for tolerance class 4H the ninth digit in the ordering ref. no. changes from 0 to 2.

Details refer to page 23.

Version C

Internal Thread Gauges for HELICOIL® plus Holding Thread


Nominal thread Ø		B 65 000		Nominal thread Ø		B 65 000	
d	P	Ordering ref. no.*		d	P	Ordering ref. no.*	
M 2	0.4	0147 302 0500		M 18 x 1.5	1.5	0147 318 4500	
M 2.5	0.45	0147 325 0500		M 18 x 2	2	0147 318 5500	
M 3	0.5	0147 303 0500		M 20	2.5	0147 320 0500	
M 3.5	0.6	0147 335 0500		M 20 x 1.5	1.5	0147 320 4500	
M 4	0.7	0147 304 0500		M 20 x 2	2	0147 320 5500	
M 5	0.8	0147 305 0500		M 22	2.5	0147 322 0500	
M 6	1	0147 306 0500		M 22 x 1.5	1.5	0147 322 4500	
M 7	1	0147 307 0500		M 22 x 2	2	0147 322 5500	
M 8	1.25	0147 308 0500		M 24	3	0147 324 0500	
M 8 x 1	1	0147 308 3500		M 24 x 1.5	1.5	0147 324 4500	
M 9	1.25	0147 309 0500		M 24 x 2	2	0147 324 5500	
M 10	1.5	0147 310 0500		M 26 x 1.5	1.5	0147 326 4500	
M 10 x 1	1	0147 310 3500		M 27	3	0147 327 0500	
M 10 x 1.25	1.25	0147 310 9500		M 27 x 1.5	1.5	0147 327 4500	
M 11	1.5	0147 311 0500		M 27 x 2	2	0147 327 5500	
M 12	1.75	0147 312 0500		M 28 x 1.5	1.5	0147 328 4500	
M 12 x 1	1	0147 312 3500		M 30	3.5	0147 330 0500	
M 12 x 1.25	1.25	0147 312 9500		M 30 x 1.5	1.5	0147 330 4500	
M 12 x 1.5	1.5	0147 312 4500		M 30 x 2	2	0147 330 5500	
M 14	2	0147 314 0500		M 33	3.5	0147 333 0500	
M 14 x 1	1	0147 314 3500		M 33 x 2	2	0147 333 5500	
M 14 x 1.25	1.25	0147 314 9500		M 36	4	0147 336 0500	
M 14 x 1.5	1.5	0147 314 4500		M 36 x 1.5	1.5	0147 336 4500	
M 16	2	0147 316 0500		M 36 x 2	2	0147 336 5500	
M 16 x 1.5	1.5	0147 316 4500		M 36 x 3	3	0147 336 6500	
M 18	2.5	0147 318 0500					

Other dimensions upon request.

* for tolerance class 4H the ninth digit in the ordering ref. no. changes from 5 to 4.
Details refer to page 23.

Manual Installation Tools for HELICOIL® plus

Manual Installation tool, with pre-stressing cartridge for HELICOIL® and HELICOIL® plus only for special utilisation and fine thread pitches. Not necessary for HELICOIL® plus.

Manual installation mandrels you will find on page 34.



Type **H-PSG**:
Threaded mandrel, pitch guided, with bit gauge
Ordering ref. no. 0150 **01**. ...*



Type **H-PMG**:
Flat mandrel, pitch guided, with bit gauge
Ordering ref. no. 0150 **02**. ...*



Type **H-PM**:
Flat mandrel, without pitch guiding, with bit gauge
Ordering ref. no. 0150 **04**. ...*



Fly-over tool for HELICOIL® and HELICOIL® plus
Type **H-M**
with bit gauge
Ordering ref. no. 0150 **07**. ...*

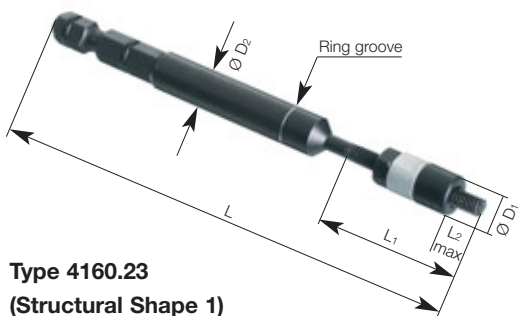
Nominal thread Ø	Type	B 65 000 Installation tools with pre-stressing cartridge Ordering ref. no.	B 65 000 Fly-over tools Type H-M Ordering ref. no.
M 2	H-PMG M 2	0150 020 2000	
M 2.5	H-PMG M 2.5	0150 022 5000	
M 3	H-PMG M 3	0150 020 3000	
M 3.5	H-PMG M 3.5	0150 023 5000	
M 4	H-PMG M 4	0150 020 4000	
M 5	H-PMG M 5	0150 020 5000	
M 6	H-PM M 6	0150 040 6000	
M 7	H-PSG M 7	0150 010 7000	
M 8	H-PM M 8	0150 040 8000	
M 8 x 1	H-PSG M 8 x 1	0150 010 8300	
M 9	H-PM M 9	0150 040 9000	
M 10	H-PM M 10	0150 041 0000	
M 10 x 1	H-PSG M 10 x 1	0150 011 0300	
M 10 x 1.25	H-PSG M 10 x 1.25	0150 011 0900	
M 11	H-PM M 11	0150 041 1000	
M 12	H-PM M 12	0150 041 2000	
M 12 x 1	H-PSG M 12 x 1	0150 011 2300	
M 12 x 1.25	H-PSG M 12 x 1.25	0150 011 2900	
M 12 x 1.5	H-PSG M 12 x 1.5	0150 011 2400	
M 14	H-PM M 14	0150 041 4000	
M 14 x 1	H-PSG M 14 x 1	0150 011 4300	
M 14 x 1.25	H-PSG M 14 x 1.25	0150 011 4900	
M 14 x 1.5	H-PSG M 14 x 1.5	0150 011 4400	
M 16	H-PM M 16	0150 041 6000	
M 16 x 1.5	H-PMG M 16 x 1.5	0150 021 6400	
M 18	H-M M 18		0150 071 8000
M 18 x 1.5	H-PSG M 18 x 1.5	0150 021 8400	
M 18 x 2	H-PSG M 18 x 2	0150 011 8500	
M 20	H-M M 20		0150 072 0000
M 20 x 1.5	H-PSG M 20 x 1.5	0150 012 0400	
M 20 x 2	H-PSG M 20 x 2	0150 012 0500	
M 22	H-M M 22		0150 072 2000
M 22 x 1.5	H-PSG M 22 x 1.5	0150 012 2400	
M 22 x 2	H-PSG M 22 x 2	0150 012 2500	
M 24	H-M M 24		0150 072 4000
M 24 x 1.5	H-PSG M 24 x 1.5	0150 012 4400	
M 24 x 2	H-PSG M 24 x 2	0150 012 4500	
M 26 x 1.5	H-PSG M 26 x 1.5	0150 012 6400	
M 27	H-M M 27		0150 072 7000
M 27 x 1.5	H-PSG M 27 x 1.5	0150 012 7400	
M 27 x 2	H-PSG M 27 x 2	0150 022 7500	
M 28 x 1.5	H-PSG M 28 x 1.5	0150 012 8400	
M 30	H-M M 30		0150 073 0000
M 30 x 1.5	H-PSG M 30 x 1.5	0150 013 0400	
M 30 x 2	H-PSG M 30 x 2	0150 013 0500	
M 33	H-M M 33		0150 073 3000
M 33 x 2	H-PSG M 33 x 2	0150 013 3500	
M 36	H-M M 36		0150 073 6000
M 36 x 1.5	H-PSG M 36 x 1.5	0150 013 6400	
M 36 x 2	H-PSG M 36 x 2	0150 013 6500	
M 36 x 3	H-PSG M 36 x 3	0150 013 6600	

* For thread inserts made from NiCr 15 Fe 7 Ti Al, NiCr 20 Co 18 Ti, AlZn Mg Cu 1.5 adapted tools upon request.

HELICOIL® plus Installation mandrels für Electric Installation Tools Type E-S 206 and E-S 410, Battery Installation Tools Type B-S 206 and B-S 824 and Pneumatic Installation Tools Type P-S 412

Installation mandrel with 1/4" hexagon

Only suitable for installation of HELICOIL® plus free running and SCREWLOCK®. With external 1/4" hexagon (DIN 3126 - E 6.3).

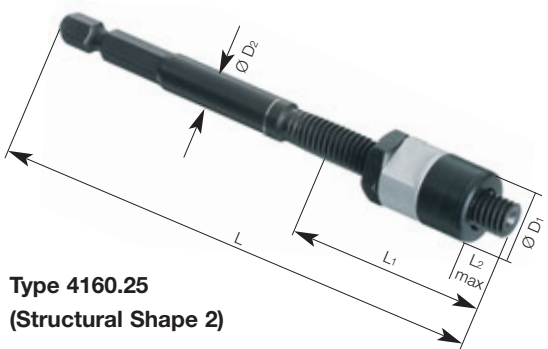


**Type 4160.23
(Structural Shape 1)**

Important:

This installation mandrels can be also used for manually installation.

SCREWLOCK® installation tools are marked with a ring groove on the drive spindle. Free running installation tools have a flat-side drive spindle.



**Type 4160.25
(Structural Shape 2)**

For Installation Tools Type B-S 206, E-S 206, E-S 410, P-S 412

Nominal thread Ø	B 65 000 Mandrel free running Ordering ref. no.	B 65 000 Mandrel SCREWLOCK® Ordering ref. no.	L ₁	L ₂ max	L	D ₁	D ₂ Ø _{H9}	Struct. shape
M 2	4160 2302 020	4160 2302 022	25	9	100	8	8	1
M 2.5	4160 2325 020	4160 2325 022	25	9	100	8	8	1
M 3	4160 2303 020	4160 2303 022	30	14	100	8	8	1
M 3.5	4160 2335 020	4160 2335 022	30	14	100	8	8	1
M 4	4160 2304 020	4160 2304 022	35	16	100	8	8	1
M 5	4160 2305 020	4160 2305 022	40	20	105	10	8	1
M 6	4160 2306 020	4160 2306 022	40	20	105	11	8	1

For Installation Tools Type B-S 824, E-S 410, P-S 412

Nominal thread Ø	B 65 000 Mandrel for free running Ordering ref. no.	B 65 000 Mandrel for SCREWLOCK® Ordering ref. no.	L ₁	L ₂ max	L	D ₁	D ₂ Ø _{H9}	Struct. shape
M 7	4160 2507 020	4160 2507 022	55	30	105	15	8	2
M 8	4160 2508 020	4160 2508 022	55	30	105	15	8	2
M 8 x 1	4160 2508 320	4160 2508 322	55	30	105	15	8	2
M 9	4160 2509 020	4160 2509 022	65	40	110	15	8	2
M 10	4160 2510 020	4160 2510 022	60	40	110	15	8	2
M 10 x 1	4160 2510 320	4160 2510 322	65	40	115	16	8	2
M 10 x 1.25	4160 2510 920	4160 2510 922	65	40	115	16	8	2
M 12	4160 2512 020	4160 2512 022	70	45	115	20	8	2
M 12 x 1.25	4160 2512 920	4160 2512 922	70	45	120	20	8	2
M 12 x 1.5	4160 2512 420	4160 2512 422	65	45	115	20	8	2
M 14	4160 2514 020	4160 2514 022	70	50	120	20	8	2
M 14 x 1.5	4160 2514 420	4160 2514 422	70	50	120	20	8	2
M 16	4160 2516 020	4160 2516 022	80	55	135	22	8	2
M 16 x 1.5	4160 2516 420	4160 2516 422	80	55	135	22	8	2
M 18	4160 2518 020	4160 2518 022	90	65	135	24	8	2
M 20	4160 2520 020	4160 2520 022	100	70	145	25	8	2
M 22	4160 2522 020	4160 2522 022	110	80	155	27	8	2
M 24	4160 2524 020	4160 2524 022	120	90	165	30	8	2

For inserts made from NiCr15Fe7TiAl, NiCr20Co18Ti and AlZnMgCu1,5 adapted tools upon request.

Drill chuck, external hexagonal

DIN 3126 - E 6.3 for Type B-S 206
Ordering ref. no. 65000 4160 000 0100



HELICOIL® plus Installation Mandrels for the rapid installation of HELICOIL® plus M 2 – M 24 with HELICOIL® plus Installation Tools. Also suitable for the pick and place installation method.



Pick-and-place equipment facility see page 18.

The benefits to you:

- Simple installation mandrel
 - for critical installation points
 - rapid conversion
 - lower cost tools
- Size M 2 ... M 24
 - HELICOIL®plus STRIPFEED® (M 2 ... M 10)
 - HELICOIL®plus loose inserts (M 2 ... M 24)
 - flexible
- Pick and Place installation
 - simple handling with HELICOIL®plus
 - shorter assembly time
- Direction of rotation simple to change
 - easy operation

Electric and Battery power pack Installation Tools for HELICOIL® plus

Battery power pack Installation Tool Type B-S 206

For working with HELICOIL®plus M 4 – M 6 with HELICOIL®plus installation mandrel see page 34.

Extent of delivery:

- Accumulator pistol baton installation tool (bendable)
- 2 pcs. Accumulator pack 3.6 V; 1.2 Ah
- Fast battery charger
- Carrying case

Technical details:

Load-free revolutions: 2 stage 200 min⁻¹ and 600 min⁻¹, reversible
 Torque: Adjust. 21 steps 0.3 – 3.0 Nm / max. 4.4 Nm
 Tool holding fixture: 1/4" internal hexagonal
 Weight including accumulator battery: 0.52 kg
 Accumulator battery: 3.6 V / 1.2 Ah / charging time 15 min.

Ordering ref. no.: **65000 4160 330 0000**

Spare parts and equipment:

Spare accumulator battery: Ordering ref. no. 65000 4160 330 0200
 Fast battery charger: Ordering ref. no. 65000 4160 330 0300



Battery power pack Installation Tool Type B-S 824

For working with HELICOIL®plus M 7 – M 24 with HELICOIL®plus installation mandrel see page 34.

Extent of delivery:

- Accumulator pistol screwdriver
- 2 pcs. Accumulator pack 15.6 V; 3 Ah
- Fast battery charger
- Carrying case

Technical details:

Load free revolutions: Step 1 / stage-less 65 – 450 min⁻¹, reversible
 Step 2 / stage-less 200 – 1450 min⁻¹, reversible
 Torque: Adjust. 19 steps 1 – 6.9 Nm / max. 31.9 Nm
 Tool holding fixture: Three parts chuck 1.0 – 13 mm
 Weight including accumulator battery: 2.0 kg
 Accumulator battery: 15.6 V / 3 Ah / charging time 45 min.

Ordering ref. no.: **65000 4160 350 0000**

Spare parts and equipment:

Spare accumulator battery: Ordering ref. no. 65000 4160 350 0200
 Fast battery charger: Ordering ref. no. 65000 4160 350 0300



Electric Installation tool for HELICOIL® plus



Electric Installation tool Type E-S 206

For the speedy working with HELICOIL® plus M 2 – M 6
with HELICOIL® plus installation mandrel

Extent of delivery:

- Baton screw driver with 1/4" hexagonal chuck
- Power supply unit for two screw drivers
- Carrying case

Technical details:

Load-free revolutions:	720 min ⁻¹
Output voltage:	35 V DC
Torque:	M = 0.45 – 0.95 Nm stepless adjustable clutch
Tool holding fixture:	1/4" hexagon socket chuck with radial bearing
Weight:	0.31 kg
Ordering ref. no.:	65000 4160 220 0000

Special size HELICOIL® plus mandrels with 1/4" hexagon should be ordered separately, see page 34.



Electric Installation tool Type E-S 410

For speedy working with HELICOIL® plus M 4 – M 10
with HELICOIL® plus installation mandrel

Extent or delivery:

- Baton screw driver with 1/4" hexagonal chuck
- Revolution adjustment by means of high running ramp control
- Carrying case

Technical details:

Load-free revolutions:	Stage-less adjustable on the adjusting equipment, 720 min ⁻¹ RPM. Automatic reversing switch upon reaching the screw-in depth
Torque:	M = 0.9 – 3.5 Nm stepless adjustable clutch
Tool holding fixture:	1/4" hexagon socket chuck with radial bearing
Weight:	0.66 kg
Ordering ref. no.:	65000 4160 440 0000

Special size HELICOIL® plus mandrels with 1/4" hexagon should be ordered separately, see page 34.

Pneumatic Installation tool for HELICOIL® plus

Pneumatic Installation tool Type P-S 412

For the rapid installation of HELICOIL® plus M 4 – M 12 with HELICOIL® plus installation mandrel

Technical details:

Load-free revolutions: 1500 min⁻¹ at p = 6.3 bar
adjustable by adjusting air pressure

Air consumption: 5.5 L/s at p = 6.3 bar

Torque: M = 1.2 – 4.5 Nm
stepless adjustable clutch

Tool holding fixture: 1/4" hexagon socket chuck
with radial bearing

Weight: 0.8 kg

Ordering ref. no.: **65000 4160 270 0010**

Special size HELICOIL® plus mandrels with 1/4" hexagon should be ordered separately, see page 34.

Pneumatic Installation tool Type P-S 1216

For the rapid installation of HELICOIL® plus M 12 – M 16 with HELICOIL® plus installation mandrel

Technical details:

Load-free revolutions: 950 min⁻¹ at p = 6.3 bar
adjustable by adjusting air pressure

Air consumption: 5.5 L/s at p = 6.3 bar

Torque: M = 1.2 – 5.5 Nm
stepless adjustable clutch

Tool holding fixture: 1/4" hexagon socket chuck
with radial bearing

Weight: 0.8 kg

Ordering ref. no.: **65000 4160 180 0010**

Special size HELICOIL® plus mandrels with 1/4" hexagon should be ordered separately, see page 34.

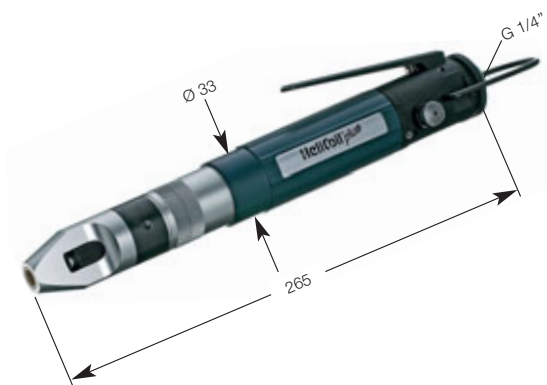
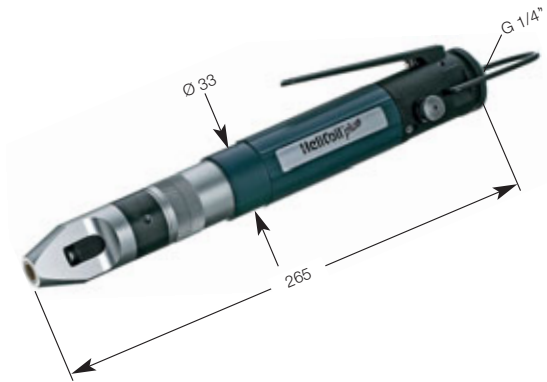
Fittings:

Extra hand grip for P-S 1216

Hand grip for safe positioning during insert torqueing, for sizes ≥ M 12.
Ordering ref. no.: 65000 4160 180 0006

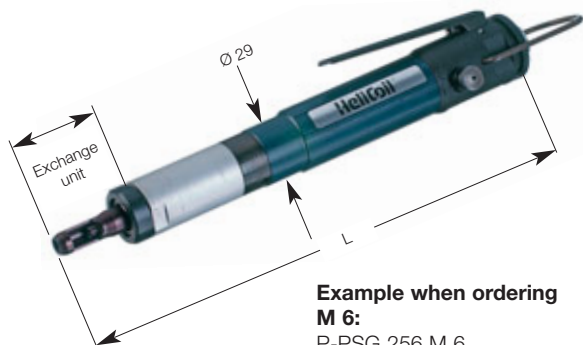
Hanger bracket for P-S 412 and P-S 1216

For hanging power tools horizontally on balance systems.
For details, see page 41.
Ordering ref. no.: 65000 4160 180 0007



Mechanical Installation Tool Type P-PSG for HELICOIL® plus

**For HELICOIL® plus
free running and SCREWLOCK®**



Example when ordering M 6:
P-PSG 256 M 6
Ordering ref. no.
0160 370 6000

Push-start HELICOIL® and HELICOIL®plus installation tool for handling **bulk-fed** inserts.

Power installation tool with reversing compressed air motor and size change part (exchange unit).

The HELICOIL® installation depth is set by changing the compensating discs.

This tool is recommended for medium- to large-series production applications.

Complete tool

Nominal thread Ø d	Type	B 65 000 Complete tool		Construction size		Weight kg	Con-nection bar	**Compressed air consumption l/Min.
		Ordering ref. no.	Ø D	L				
M 2.5	P-PSG 256	0160 372 5000	28	240	0.6	2.5-4.0	204	
M 3		0160 370 3000	28	240	0.6	2.5-4.0	204	
M 4		0160 370 4000	28	240	0.6	2.5-4.0	204	
M 5		0160 370 5000	28	240	0.6	2.5-4.0	204	
M 6		0160 370 6000	28	240	0.6	2.5-4.0	204	
M 7		0160 280 7000	42	360	1.4	4.0-5.0	282	
M 8		0160 280 8000	42	360	1.4	4.0-5.0	282	
M 8 x 1		0160 280 8300	42	360	1.4	4.0-5.0	282	
M 10	0160 281 0000	42	360	1.4	4.0-5.0	282		
M 10 x 1.25	P-PSG 714	0160 281 0900	42	360	1.4	4.0-5.0	282	
M 10 x 1		0160 281 0300	42	360	1.4	4.0-5.0	282	
M 12		0160 281 2000	42	360	1.4	4.0-5.0	282	
M 12 x 1.5		0160 281 2400	42	360	1.4	4.0-5.0	282	
M 12 x 1.25		0160 281 2900	42	360	1.4	4.0-5.0	282	
M 12 x 1		0160 281 2300	42	360	1.4	4.0-5.0	282	
M 14*		0160 281 4000	42	360	1.4	4.0-5.0	282	
M 14 x 1.5		0160 281 4400	42	360	1.4	4.0-5.0	282	
M 14 x 1.25	P-PSG 1626	0160 281 4900	42	360	1.4	4.0-5.0	282	
M 16		0160 191 6000	42	440	2.5	4.0-6.0	282	
M 16 x 1.5		0160 191 6400	42	440	2.5	4.0-6.0	282	
M 18 x 1.5		0160 191 8400	42	440	2.5	4.0-6.0	282	
M 20		0160 192 0000	42	440	2.5	4.0-6.0	282	
M 20 x 1.5		0160 192 0400	42	440	2.5	4.0-6.0	282	
M 22 x 1.5		0160 192 2400	42	440	2.5	4.0-6.0	282	
M 24 x 1.5*		0160 192 4400	42	440	2.5	4.0-6.0	282	
M 26 x 1.5*	0160 192 6400	42	440	2.5	4.0-6.0	282		

Exchange unit



Motor



Basic tool



Components

Nominal thread Ø d	Type	B 65 000 Exchange unit	B 65 000 Basic tool	B 65 000 Motor
		Ordering ref. no.	Ordering ref. no.	Ordering ref. no.
M 2.5	P-PSG 256	0160 272 5050	0160 370 0040	0160 370 0010
M 3		0160 270 3050		
M 4		0160 270 4050		
M 5		0160 270 5050		
M 6		0160 270 6050		
M 7		0160 280 7050		
M 8		0160 280 8050		
M 8 x 1		0160 281 8350		
M 10	0160 281 0050	0160 180 0040	0160 180 0010	
M 10 x 1.25	0160 281 0950			
M 10 x 1	0160 281 0350			
M 12	0160 281 2050			
M 12 x 1.5	0160 281 2450			
M 12 x 1.25	0160 281 2950			
M 12 x 1	0160 281 2350			
M 14*	0160 281 4050			0160 090 0040
M 14 x 1.5	0160 281 4450			
M 14 x 1.25	0160 281 4950			
M 16	0160 191 6050			
M 16 x 1.5	0160 191 6450			
M 18 x 1.5	0160 191 8450			
M 20	0160 192 0050			
M 20 x 1.5	0160 192 0450			
M 22 x 1.5	0160 192 2450	0160 090 0011		
M 24 x 1.5*	0160 192 4450			
M 26 x 1.5*	0160 192 6450			

Mechanical Installation Tools Type P-PSG for HELICOIL® plus

Pre-winder cartridge



Installation mandrel



Clutch for installation mandrel



Compensating disc assortment



**For HELICOIL® plus
free running and SCREWLOCK®**

Wear and spare parts

Nominal thread Ø d	Type	B 65 000 Pre-winder cartridge Ordering ref. no.	B 65 000 Installation mandrel Ordering ref. no.	B 65 000 Clutch for installation mandrel Ordering ref. no.	B 65 000 Compensating disc assortment Ordering ref. no.		
M 2.5	P-PSG 256	0160 172 5032	0160 372 5020	0160 170 0006	0160 170 0060		
M 3		0160 170 3032	0160 270 3020				
M 4		0160 170 4032	0160 270 4020				
M 5		0160 170 5032	0160 270 5020	0160 170 0066			
M 6		0160 170 6032	0160 270 6020				
M 7			0160 280 7032	0160 280 7020	0160 180 0006	0160 280 0060	
M 8		0160 280 8032	0160 280 8020				
M 8 x 1		0160 280 8332	0160 280 8320				
M 10		0160 281 0032	0160 281 0020				
M 10 x 1.25	P-PSG 714	0160 281 0932	0160 281 0920				
M 10 x 1		0160 281 0332	0160 281 0320				
M 12		0160 281 2032	0160 281 2020				
M 12 x 1.5		0160 281 2432	0160 281 2420				
M 12 x 1.25		0160 281 2932	0160 281 2920	0160 180 0006			0160 280 0060
M 12 x 1		0160 281 2332	0160 281 2320				
M 14*		0160 281 4032	0160 281 4020				
M 14 x 1.5		0160 281 4432	0160 281 4420				
M 14 x 1.25		0160 281 4932	0160 281 4920	0160 090 0006	0160 190 0060		
M 16	P-PSG 1626	0160 191 6032	0160 091 6020				
M 16 x 1.5		0160 191 6432	0160 091 6420				
M 18 x 1.5		0160 191 8432	0160 091 8420				
M 20		0160 192 0032	0160 092 0020				
M 20 x 1.5		0160 192 0432	0160 192 0420				
M 22 x 1.5		0160 192 2432	0160 192 2420				
M 24 x 1.5*		0160 192 4432	0160 192 4420				
M 26 x 1.5*		0160 192 6432	0160 192 6420				

Important notes when ordering:

When ordering tools please quote type, dimensions and length of the HELICOIL® plus inserts to be utilized. For fitting HELICOIL® plus thread inserts > 2.5 d, information upon request. The Types P-PSG 714 and P-PSG 1626 are fitted with a sliding sleeve as per the requirements of the Accident Prevention Regulations for finger safety. These protective sleeves must never be removed. The installation tools are fitted with Bosch motors, ** compressed air requirements approximately 6.3 bar. (See page 38).

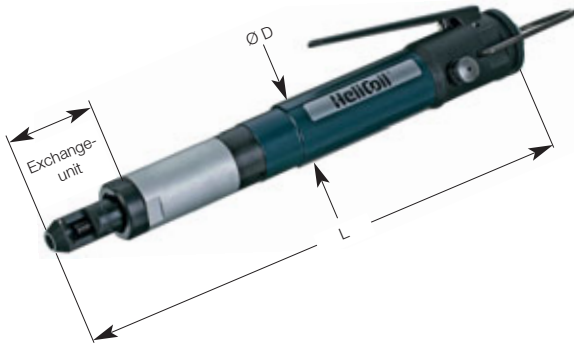
* Basic tool is fitted with a strengthened motor.

For inserts made from NiCr15Fe7TiAl, NiCr20Co18Ti and AlZnMgCu1.5 adapted tools upon request.

Mechanical Installation Tool Type P-PSG for HELICOIL® plus

For HELICOIL® plus STRIPFEED®

Complete tool



Push-start HELICOIL® und HELICOIL®plus installation tool for handling **magazine-fed** threaded inserts. Power installation tool with reversing compressed air motor and size change part (exchange unit). The HELICOIL® installation depth is set by changing the compensating discs. This tool is recommended for medium- to large-series production applications.

Nominal thread Ø d	Type	B 65 000 Complete tool		max. length	Construction size		Weight kg	Con-nection bar	**Compressed air consumption l/Min.
		Ordering ref. no.			Ø D	L			
M 2.5	P-PSG 256 SF	0160 372 5002		≤1.25 d	28	240	0.6	2.5-4.0	204
M 2.5		0160 372 5003		1.5-2.5 d	28	240	0.6	2.5-4.0	204
M 3		0160 370 3002		≤1.25 d	28	240	0.6	2.5-4.0	204
M 3		0160 370 3003		1.5-2.5 d	28	240	0.6	2.5-4.0	204
M 4		0160 370 4002		≤1.25 d	28	240	0.6	2.5-4.0	204
M 4		0160 370 4003		1.5-2.5 d	28	240	0.6	2.5-4.0	204
M 5		0160 370 5002		≤1.25 d	28	240	0.6	2.5-4.0	204
M 5		0160 370 5003		1.5-2.5 d	28	240	0.6	2.5-4.0	204
M 6		0160 370 6002		≤1.25 d	28	240	0.6	2.5-4.0	204
M 6		0160 370 6003		1.5-2.5 d	28	240	0.6	2.5-4.0	204
M 7	P-PSG 714 SF	0160 280 7002		≤1.25 d	42	360	1.4	4.0-5.0	282
M 7		0160 280 7003		1.5-2.5 d	42	360	1.4	4.0-5.0	282
M 8		0160 280 8002		≤1.25 d	42	360	1.4	4.0-5.0	282
M 8		0160 280 8003		1.5-2.5 d	42	360	1.4	4.0-5.0	282
M 10		0160 281 0002		≤1.25 d	42	360	1.4	4.0-5.0	282
M 10		0160 281 0003		1.5-2.5 d	42	360	1.4	4.0-5.0	282

Important notes when ordering:

When ordering a tool please quote type, size and length of the HELICOIL®plus thread inserts to be utilised.

The installation tools are fitted with Bosch motors, **compressed air requirements approximately 6.3 bar.

Installations with SCREWLOCK® are possible for all sizes.

For inserts made from NiCr15Fe7TiAl, NiCr20Co18Ti and AlZnMgCu1.5 adapted tools upon request.

Components

Exchange unit



Motor



Basic tool



Nominal thread Ø d	Type	B 65 000 Exchange unit m1.25 d	B 65 000 Exchange unit 1.5-2 d	B 65 000 Basic tool	B 65 000 Motor
		Ordering ref. no.	Ordering ref. no.	Ordering ref. no.	Ordering ref. no.
M 2.5	P-PSG 256 SF	0160 272 5052	0160 272 5053	0160 370 0040	0160 370 0010
M 3		0160 270 3052	0160 270 3053		
M 4		0160 270 4052	0160 270 4053		
M 5		0160 270 5052	0160 270 5053		
M 6		0160 270 6052	0160 270 6053		
M 7		P-PSG 714 SF	0160 280 7052		
M 8	0160 280 8052		0160 280 8053		
M 10	0160 281 0052		0160 281 0053		

Wear and spare parts

Nominal thread Ø d	Type	B 65 000 Pre-winder cartridge m1.25 d	B 65 000 Pre-winder cartridge 1.5-2.5 d	B 65 000 Installation mandrel	B 65 000 Clutch for installation mandrel	
		Ordering ref. no.	Ordering ref. no.	Ordering ref. no.	Ordering ref. no.	
M 2.5	P-PSG 256 SF	0160 172 5035	0160 172 5033	0160 272 5020	0160 170 0006	
M 3		0160 170 3035	0160 170 3034	0160 270 3020		
M 4		0160 170 4035	0160 170 4033	0160 270 4020		
M 5		0160 170 5035	0160 170 5033	0160 270 5020		
M 6		0160 170 6035	0160 170 6033	0160 270 6020		
M 7		P-PSG 714 SF	0160 180 7035	0160 180 7033		0160 280 7020
M 8			0160 180 8035	0160 180 8033	0160 280 8020	
M 10			0160 181 0035	0160 181 0033	0160 281 0020	

Compensating disc assortment ≤ M 6: Ordering ref. no. 65 000 0160 170 0060, ≥ M 8: 65 000 0160 280 0060.

Parallel system type S for HELICOIL® and HELICOIL®plus installation tools



Type	Product characteristic		B 65000 Ordering Ref. no.
S 600	Working radius	140 mm – 600 mm	0182 080 0003
	Working height	50 mm – 430 mm	
	Weight without tool	8 kg	
	Max. permitted torque	Max. 15 Nm	

Advantages

- Ergonomic
- Quick, accurate positioning
- Precise installation direction
- No reaction torque
- Tool holder
- Light and easy to use
- Flexibility
- Suitable for use with electrical and pneumatic HELICOIL® installation tools
- Rapid tool changeover
- 360° rotation
- Roller bearings for light, smooth movement
- Safe, orderly workstation

Included in delivery

- 3-axis guide system
- Tool holder
- 1 Balancer 1-3 kg
- Base plate made from extruded aluminium profile with slots, dimensions: w x h x l: 240 x 40 x 500 mm

Accessories

Type	Dimensions	B 65 000 Ordering Ref. no.
Maintenance unit	for 6 bar nominal flow G ¼" = 700 L/min	0182 080 1001
Stationary roll holder for HELICOIL® plus STRIPFEED®		0182 080 0004
Hose	LW 6	0196 000 1130
Hose clip	8 – 12 mm	0196 000 1150
Hose liner	G ⅛"-6	0196 000 1151
Hose liner	G ¼"-6	0196 000 1152
Waste air hose	Ø 15 mm	0196 000 1131

Automatic STRIPFEED® unit



For integration into

- Assembly lines
- Robot/handling systems

These units are assembled to customer application-requirements. Please ask concerning any extension systems.

Magazined HELICOIL®plus thread inserts offer many advantages especially when processing smaller thread inserts.



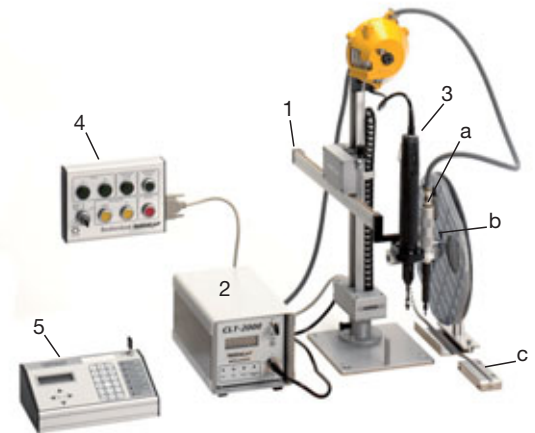
Automatic Installation of HELICOIL® plus M 8 SCREWLOCK®.

**Parallel system type PR-E
for HELICOIL® and HELICOIL® plus installation tools**

3-axis parallel system with positioning control

The type PR-E is a universal, flexible, cost-effective positioning system with programmable, user defined position settings.

- Position detection on the X- Y- and Z-axes
- Monitoring of installation depth, installation position and progress of the HELICOIL® installation process
- 10 programs
- Memory for 25 installation positions per program
- Control outputs, e.g. for controlling magnetic valves (24DC) for pneumatic clamping devices



The type PR-E is suitable for use with the HELICOIL® plus installation tool type E-S 410. (see page 36 / other electrical screwing tools on request)

The large extension length opens up a broader operating range. The tool is always precisely vertically aligned, eliminating tool torque reactions.

Other benefits:

- No quality problems caused by forgetting the operating position of the HELICOIL® plus
- Installation depth assured
- Installation faults are recorded

Type	Max. work angle	Z-axis work height	Max. tool weight
PR-E 400	300°	80 mm – 420 mm	2.0 kg
		Y-axis working radius (extension length)	Stand total weight
		160 mm – 400 mm	6.3 kg

Included in delivery of type PR-E

- (1) Support arm with positioning control
- (2) Regulator unit (can be networked together with others)
- (3) Electrical screwdriver 0.9 – 3.5 Nm 730 U/min 1/4" hex. with start lever (picture with E-S 410 for M4 to M10)
- (4) Operating box
- (5) Control unit
- Maintenance unit

Accessories

- (a) Pneumatic tang break-off tool (see page 43)
- (b) Stationary roll holder for HELICOIL® plus STRIPFEED®
- (c) HELICOIL® plus "pick-and-place" system (see page 18)

Tang break off and extracting tools for HELICOIL® plus

Tang break-off tools for HELICOIL® plus



Tang break-off tool



Semi automatic tang break-off tool with spring loaded tension **Typ TB-M**



Pneumatic tang break-off tool with push start **Typ TB-P**

Nominal thread Ø	B 65 000			
	Tang break-off tool Ordering ref. no.	Type semi-automatic Ordering ref. no.	Type pneumatic* Ordering ref. no.	Striking pin (spare part) Ordering ref. no.
M 2	0158 040 0000	0158 602 0000		
M 2.5	0158 040 1000	0158 625 0000		
M 3	0158 040 1000	0158 603 0000		
M 3.5	0158 040 2000	0158 635 0000		
M 4	0158 040 2000	0158 604 0000	0168 020 2000	0168 020 2020
M 5	0158 040 3000	0158 605 0000	0168 020 3000	0168 020 3020
M 6	0158 040 3000	0158 606 0000	0168 020 4000	0168 020 4020
M 7	0158 040 4000	0158 607 0000	0168 021 4000	0168 021 4020
M 8	0158 040 4000	0158 608 0000	0168 020 5000	0168 020 5020
M 9	0158 040 4000	0158 609 0000		
M 10	0158 040 5000	0158 610 0000	0168 020 6000	0168 020 6020
M 11	0158 040 5000	0158 610 0000		
M 12	0158 040 6000	0158 612 0000	0168 020 7000	0168 020 7020

* Operating pressures 3 – 4 bar, connection G ¼"
As of M 14 the tang must be removed by narrow nose.

Manual extracting tools for HELICOIL® plus



Nominal thread Ø d	B 65 000 Ordering ref. no.	Nominal thread Ø d	B 65 000 Ordering ref. no.
M 2	0180 300 0000	M 18	0180 303 0000
M 2.5		M 18 x 1.5	
M 3		M 18 x 2	
M 3.5		M 20	
M 4	0180 301 0000	M 20 x 1.5	0180 304 0000
M 5		M 20 x 2	
M 6		M 22	
M 7		M 22 x 1.5	
M 8	0180 302 0000	M 22 x 2	0180 305 0000
M 8 x 1		M 24	
M 9		M 24 x 1.5	
M 10		M 24 x 2	
M 10 x 1	0180 302 0000	M 26 x 1.5	0180 305 0000
M 10 x 1.25		M 27	
M 11		M 27 x 1.5	
M 12		M 27 x 2	
M 12 x 1	0180 302 0000	M 28 x 1.5	0180 305 0000
M 12 x 1.25		M 30	
M 12 x 1.5		M 30 x 1.5	
M 14		M 30 x 2	
M 14 x 1	0180 302 0000	M 33	0180 305 0000
M 14 x 1.25		M 33 x 2	
M 14 x 1.5		M 36	
M 16		M 36 x 1.5	
M 16 x 1.5		M 36 x 2	
		M 36 x 3	

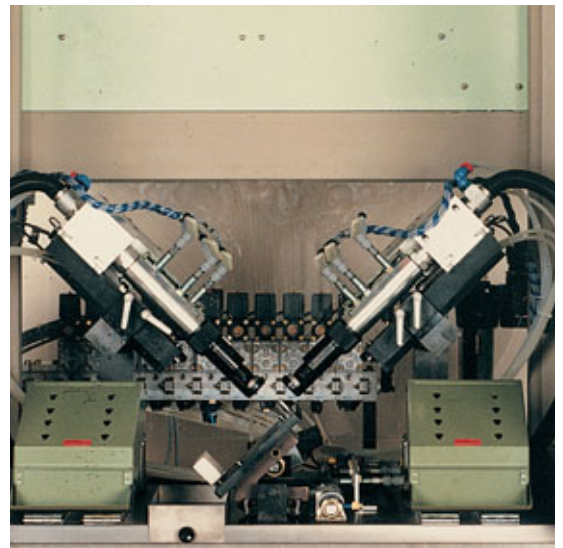
Mechanical extracting tools for HELICOIL® and HELICOIL® plus



With 1/4" hexagon, insert bit as per DIN 3126 – E 6.3 for battery tools B-S 206 und type B-S 824.

Nominal thread Ø	B 65 000 Ordering Ref. no.
M 2 bis M 6	0180 501 0000
M 7 bis M 16	0180 502 0000

Examples of Equipment and Special Machines for the semi-automatic installation of HELICOIL® plus



HELICOIL® plus Packungen, Kästen und HELICOIL® Muttern

Reject Reclamation and Thread Repair

HELICOIL® plus Repair Kits

M 2 to M 16 x 1.5

The repair kits contained:

- HELICOIL® plus thread inserts in three length
- Twist drill (up to M 12)
- Hand tap made of HSS
- Installation mandrel
- Tang break-off tool (up to M 12)

Special repair kits are available for repairing damaged spark plug threads M 10 x 1 to M 14 x 1.25 and damaged oil drain threads M 12 x 1.5 to M 16 x 1.5.



HELICOIL® plus Repair Kits

M 18 to M 36 x 1.5

The repair kits contained:

- HELICOIL® plus thread inserts
- Hand tap
- Installation mandrel (M 18 to M 24 normal pitch)
- Installation tool (M 27 to M 33 normal pitch and M 18 x 1.5 to M 36 x 1.5 threads with fine screw)

Special repair kits are available for repairing damaged lambda probe threads M 18 x 1.5.

HELICOIL® plus Range Kits

M 2.5 to M 6, M 4 to M 10, M 5 to M 12 and M 6 to M 14 x 1.25

The range kits contained:

- HELICOIL® plus thread inserts of different sizes and lengths
- Twist drill up to M 12 (by M 14 x 1.25 with combined drilling and tapping tool)
- Hand tap made of HSS
- Installation mandrel
- Tang break-off tool

Special range kits are available for repairing damaged spark plug threads M 10 x 1 to M 14 x 1.25 and damaged oil drain threads M 12 x 1.5 x 9 to M 16 x 1.5 x 24.

For follow-up requirements HELICOIL® plus thread inserts are available in refill packs (B 63 301).

Please order our catalogue 0180 for a detailed overview of our thread repair range – also for inch sizes.

HELICOIL® plus TWINSERT® thread inserts for metals

Reject Reclamation and Thread Repair

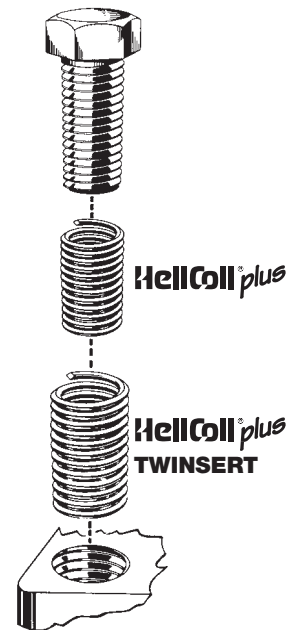
Repair Kits HELICOIL® plus TWINSERT®

Repair Kits HELICOIL® plus TWINSERT®

If tapped holes that are largely stripped, damaged, off-centre or beyond repairing have to be repaired and cannot be replaced with a larger format bolt, then HELICOIL® plus TWINSERT® offers repairs by means of HELICOIL® plus in HELICOIL® plus. Sizes that can be delivered are M 2 to M 16.

Further information concerning TWINSERT® can be given by our customer service department.

Please order our catalogue 0180 for a detailed overview of our thread repair range – also for inch sizes.



HELICOIL® free running nuts and SCREWLOCK®

HELICOIL® plus securing nuts are fitted with vibration resistance by means of the fitted thread insert HELICOIL® plus SCREWLOCK®. The screw locking is achieved by means of one or several polygons formed coils. This achieves a clamp onto the flanks of a screwed-in screw, so that an elastically resilient friction is achieved. The locking moment achieved in this way is comparable with the requirements in DIN 267 Part 15 and ISO 2320. HELICOIL® nuts are available in several different materials.

Apply for our catalogue 0560.



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We maintain a close co-operation with our customers within our development and the range policy. This co-operative dialogue is the strong support for product competence and market closeness. On top of this, a target group orientated service offer clearly according to the business areas guarantees that a competent contact person is available for users from all branches.

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Technical competence due to own manufacturing, application technical consulting and customer close service. On top of that a saturation-covering network of service strong branches with a wide spectrum of over 60.000 articles of certified quality from standard parts to screwing equipment. Over and above that ECOSIT®, the economical delivery systems. A complete service package from a dependable partner for the innovative industry.



Manufacturing of HELICOIL® plus Thread Inserts

We manufacture free running and SCREWLOCK® thread inserts with special wire manufacturing machines. High precision wire profiles with a rhombic cross section serve for the production of all HELICOIL® inserts.

Metric as well as inch sizes are produced. The size range covers M 2 up to M 600 x 6 or the comparative sizes in inches.

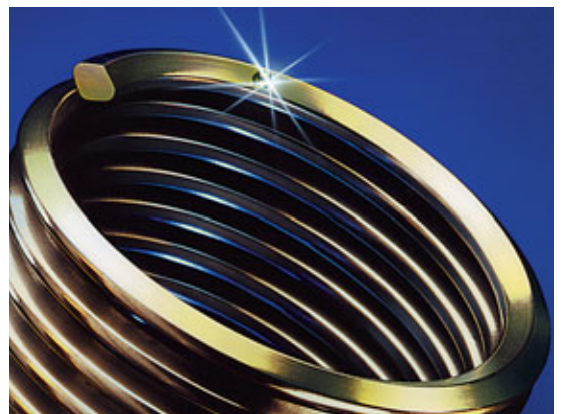


HELICOIL® plus, the Original. Recognized by the diamond shaped embossing. Quality ever since 1956

Billions of inserts over the decades, from a simple problem solution of repairs to threads up to the high stress high-tech-thread in materials of low strength.

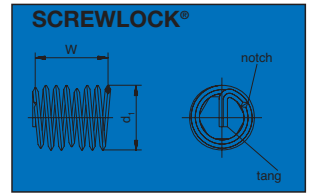
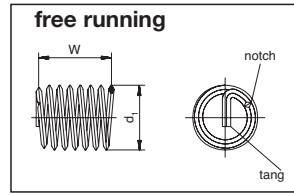
There is no supplement for precision and reliability.

Service and delivery sources are to be found in all industrial nations due to the world-wide licensed HELICOIL® technology.



HELICOIL® plus Thread Inserts
Technical Data

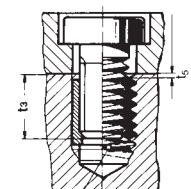
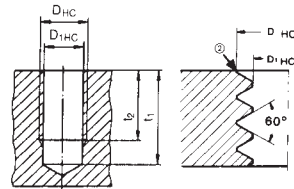
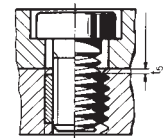
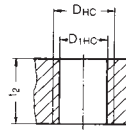
HELICOIL® plus Thread Inserts



The free running and SCREWLOCK® thread insert control values are W and d₁, when not inserted. Its length can only be measured when the insert is in position.

Holding thread

Composition



tang not broken off

- d = thread diameter
- P = pitch
- d₁ = outer diameter of thread insert prior to installation
- W = number of coils prior to installation
- D_{HC} = outer thread of tapped hole
- D_{1HC} = thread core diameter
- B = recommended twist drill diameter
- t₁ = minimum depth of core hole according to DIN 76 Part 1
- t₂ = nominal length of thread insert and minimum length of holding thread
- t₃ = maximum screw-in depth if tang has not been broken off
- t₅ = distance of thread insert from separating surface = 0.25 P, if t₂ complies with the above mentioned minimum value

② 90° countersinking or deburring before tapping:
 Countersinking diameter = D_{HC} + 0,1.

■ By utilisation of HELICOIL® plus thread inserts in series production it is recommended that the values t₁ and t₂ at a minimum however the size of 1 x P is always added.

① Materials or surfaces are always to be recorded with the 5th digit of the ordering ref. no.:

Example:

↓ 4130 002 0005
 ↑

- 0 = Stainless steel A 2, X 5 CrNi 18 10
 - 1 = Bronze, CuSn 6
 - 2 = Nimonic 90, NiCr 20 Co 18 Ti, silver plated*
 - 3 = Stainless steel A 4, X 6 CrNiMoTi 17 12 2
 - 4 = Inconel X 750, NiCr 15 fe 7 TiAl, silver plated*
 - 5 = Inconel X 750, NiCr 15 fe 7 TiAl, polished
 - 6 = Stainless steel A 2, X 5 CrNi 18 10, cadmium plated
 - 7 = Stainless steel A 2, X 5 CrNi 18 10, magazine loaded**
 - 8 = Bronze, CuSn 6, magazine loaded**
- Other materials upon request

* utilise special tools
 ** see page 18

All dimensions in mm. Subject to technical modifications.

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