



## **HeliCoil® locknut**

Special nuts with screw lock

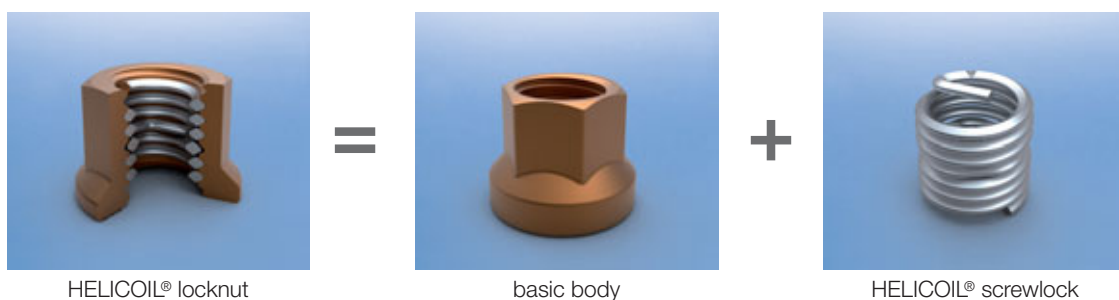
**BÖLLHOFF**

## HELICOIL® locknuts

Surely you are familiar with this situation: When under load, screwings tend to loosen. Load can be e.g. vibration, alternating load or general kinetic energy to be absorbed. In many applications, it is absolutely necessary to take precautions against unintentional loosening. As a specialist in fastening and assembly technology, we offer you HELICOIL® locknuts for these applications. An efficient combination of two fasteners. Rely on it.

### The system

HELICOIL® locknuts are a combination of high-strength nuts and HELICOIL® screwlock coil thread inserts. These fasteners with optimum design and which perfectly match provide you with considerable benefits for screwed connections with high requirements.



### The functional principle

The locknut consists of a nut (basic body) and the HELICOIL® screwlock coil thread insert. Locking of the screw is achieved with a polygonal-shaped thread of the HELICOIL® screwlock. These threads have a locking effect on the flanks of the screw or bolt to be screwed in. The result is an elastically resilient frictional locking and thus a screw or bolt locked against self-unscrewing. Depending on the specific application, increased clamping torques can be achieved with several polygonal-shaped threads. The achieved clamping torques can be compared to the indications in the list of standards DIN 267 Part 15, ISO 2320 or adapted to your individual application.

On page 4, you find some guide values for clamping torques and torques as part of the technical information.

### The versions

As a partner for development and production of fasteners, we would be glad to develop customer-specific solutions for you.



## Customer benefits

HELICOIL® locknuts bear the following advantages:

- Clamping effect directly in the thread engagement – springy
- Even clamping torque in repeated screwings
- Constant thread friction
- Uniform load and stress distribution
- High temperature resistance
- Modular construction
  - Reduced costs
  - Material and surface in higher-quality design only required for the smaller fastener (HELICOIL® screwlock)

## Fields of application

In the following, we show you a few of the many possible fields of application for fastening

- Exhaust manifolds
- Axles and engines
- Stamping and support posts
- Exhaust elbows



**Technical information**

**Selection of material**

Depending on the requirements regarding thermal and mechanical properties as well as media resistance, different materials and surfaces can be realised. See technical information on this page and on page 5.

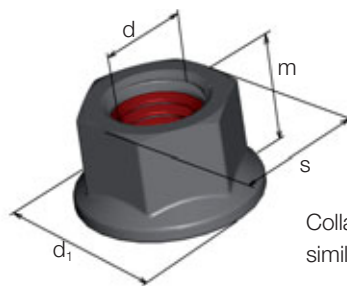
**Guide values for clamping torques according to DIN 267 Part 15 or ISO 2320**

| Number of screwing processes       | M 3  | M 4  | M 5  | M 6  | M 8  | M 10  | M 12  | M 14  | M 16  | M 18  | M 20  |
|------------------------------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 1 <sup>st</sup> screwing-on, max.  | 0.43 | 0.90 | 1.60 | 3.00 | 6.00 | 10.50 | 15.50 | 24.00 | 32.00 | 42.00 | 54.00 |
| 1 <sup>st</sup> screwing-off, min. | 0.12 | 0.18 | 0.29 | 0.45 | 0.85 | 1.50  | 2.30  | 3.30  | 4.50  | 6.00  | 7.50  |
| 5 <sup>th</sup> screwing-off, min. | 0.08 | 0.12 | 0.20 | 0.30 | 0.60 | 1.00  | 1.60  | 2.30  | 3.00  | 4.20  | 5.30  |

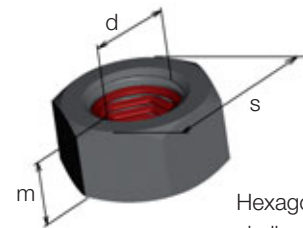
Valid for coarse threads and fine threads

Values in Nm for property class 8

**Standard designs**



Collar nut, similar to DIN 6923



Hexagon nut, similar to DIN 934

**Nut body:** steel

**HELICOIL® screwlock:** stainless steel

| Dimension d [mm] | Article no.   | width across flats s [mm] | Height m [mm] | Collar diameter d <sub>1</sub> [mm] | Property class* | Nut (basic body) |             | HELICOIL® screwlock |         |
|------------------|---------------|---------------------------|---------------|-------------------------------------|-----------------|------------------|-------------|---------------------|---------|
|                  |               |                           |               |                                     |                 | Material         | Surface     | Material            | Surface |
| M4               | 0135 204 0010 | 7                         | 5             | –                                   | 6               | St               | –           | A2                  | red     |
| M5               | 0135 205 0010 | 8                         | 6             | –                                   | 6               | St               | –           | A2                  | red     |
| M6               | 0135 206 0010 | 10                        | 6             | –                                   | 6               | St               | zinc coated | A2                  | red     |
| M6               | 0135 206 0020 | 10                        | 6             | –                                   | 6               | St               | –           | A2                  | red     |
| M8               | 0135 208 0010 | 13                        | 7.5           | –                                   | 6               | St               | –           | A2                  | red     |
| M10              | 0135 210 0010 | 17                        | 11            | –                                   | 6               | St               | –           | A2                  | red     |
| M12              | 0135 212 0010 | 19                        | 11.5          | –                                   | 6               | St               | –           | A2                  | red     |
| M14              | 0135 214 0010 | 22                        | 14            | –                                   | 6               | St               | –           | A2                  | red     |
| M16              | 0135 216 0010 | 24                        | 16            | –                                   | 6               | St               | –           | A2                  | red     |
| M20              | 0135 220 0010 | 30                        | 20            | –                                   | 6               | St               | –           | A2                  | red     |
| M24              | 0135 224 0010 | 36                        | 23            | –                                   | 8               | St               | –           | A2                  | red     |

\*Nuts meet the requirements of the proof load test according to DIN EN ISO 898-2 and DIN EN ISO 898-6 in the corresponding property class. Delivery times and minimum order quantities on request.

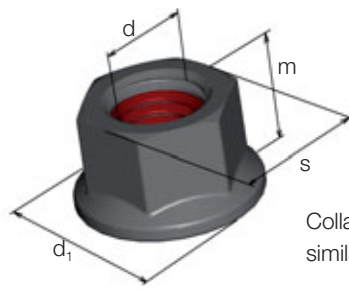
**Nut body:** stainless steel

**HELICOIL® screwlock:** stainless steel

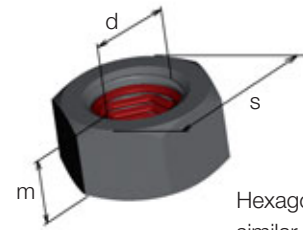
| Dimension d [mm] | Article no.   | width across flats s [mm] | Height m [mm] | Collar diameter d <sub>1</sub> [mm] | Property class* | Nut (basic body) |         | HELICOIL® screwlock |         |
|------------------|---------------|---------------------------|---------------|-------------------------------------|-----------------|------------------|---------|---------------------|---------|
|                  |               |                           |               |                                     |                 | Material         | Surface | Material            | Surface |
| M5               | 0135 205 0060 | 8                         | 5             | –                                   | 70              | A1               | –       | A2                  | red     |
| M6               | 0135 206 0060 | 10                        | 6             | –                                   | 70              | A1               | –       | A2                  | red     |
| M8               | 0135 208 0060 | 13                        | 8             | –                                   | 70              | A1               | –       | A2                  | red     |
| M10              | 0135 210 0060 | 17                        | 10            | –                                   | 70              | A1               | –       | A2                  | red     |
| M12              | 0135 212 0060 | 19                        | 12            | –                                   | 70              | A1               | –       | A2                  | red     |

\*Nuts meet the requirements of the proof load test according to DIN EN ISO 3507 in the corresponding property class. Delivery times and minimum order quantities on request.

## Special designs



Collar nut,  
similar to DIN 6923



Hexagon nut,  
similar to DIN 934

| Dimension<br>d [mm] | Article no.   | Design   | Nut (basic body)                |                  |                                 |                   | Property<br>class | HELICOIL® screwlock |                    |  |
|---------------------|---------------|--|---------------------------------|------------------|---------------------------------|-------------------|-------------------|---------------------|--------------------|--|
|                     |               |  | width<br>across flats<br>s [mm] | Height<br>m [mm] | Collar-Ø<br>d <sub>1</sub> [mm] | Dimension<br>[mm] |                   | Material            | Surface            |  |
| M 4                 | 0135 904 0008 | Hexagon  | 10                              | 5                | –                               | A1-50             | M 4x4.5           | A2                  | bright             |  |
| M 5                 | 0135 905 0004 | Flange nut   | 8                               | 5                | 11.8                            | 8                 | M 5x5             | A2                  | red                |  |
| M 6                 | 0135 906 0004 | Cap nut  | 10                              | 13               | 15                              | 6                 | M 6x6             | A2                  | red                |  |
| M 6                 | 0135 906 0017 | Hexagon  | 10                              | 6                | –                               | 8                 | M 6x5.5           | A2                  | silvered           |  |
| M 8                 | 0135 908 0030 | Square rivet nut   | 14                              | 8.9              | –                               | 10                | M 8x7.4           | A2                  | –                  |  |
| M 8                 | 0135 908 0048 | Collar nut   | 13                              | 10               | 17                              | 8                 | M 8x8             | Inconel             | silvered           |  |
| M 8                 | 0135 908 0053 | Collar nut   | 12                              | 10               | 19.0                            | 10                | M 8x8             | A2                  | silvered           |  |
| M 8                 | 0135 908 0054 | Collar nut   | 13                              | 10               | 17                              | 8                 | M 8x8.3           | A2                  | silvered,<br>green |  |
| M 8                 | 0135 908 0055 | Collar nut<br>with integrated<br>washer                              | 11                              | 14.9             | 17                              | 10                | M 8x9.6           | A2                  | silvered           |  |
| M 8                 | 0135 908 0056 | Collar nut<br>with integrated<br>washer                              | 11                              | 14.9             | 17                              | 10                | M 8x9.6           | Inconel             | silvered           |  |
| M 8                 | 0135 908 0058 | Collar nut<br>with integrated<br>washer                              | 11                              | 14.8             | 18                              | 10                | M 8x9.6           | A2                  | silvered           |  |
| M 8                 | 0135 908 0059 | Collar nut<br>with integrated<br>washer                              | 11                              | 16.8             | 20                              | 10                | M 8x9.6           | A2                  | silvered           |  |
| M 8                 | 0135 908 0060 | Collar nut<br>with integrated<br>washer                              | 11                              | 10.8             | 15                              | 10                | M 8x8             | A2                  | silvered           |  |
| M 8                 | 0135 908 0061 | Collar nut with<br>integrated<br>washer and<br>internal<br>serration | –                               | 22               | 17                              | 10                | M 8x8             | A2                  | silvered           |  |
| M 10                | 0135 910 0001 | Hexagon  | 15                              | 11               | –                               | 8                 | M 10x9.5          | A2                  | red                |  |
| M 10                | 0135 910 0034 | Weld nut<br>with collar  | 19                              | 12               | 25                              | 8                 | M 10x9.3          | A2                  | red                |  |
| M 10                | 0135 910 0040 | Collar nut   | 16                              | 10               | 19                              | 8                 | M 10x8.5          | Inconel             | silvered           |  |
| M 12                | 0135 912 0013 | Collar nut   | 19                              | 14               | 27                              | 8                 | M 12x8.9          | A2                  | bright             |  |
| M 14                | 0135 914 0004 | Square   | 22                              | 16               | –                               | 8                 | M 14x14           | A2                  | bright             |  |
| M 16                | 0135 916 0019 | Square weld nut  | 24                              | 18.4             | –                               | 10                | M 16x16           | A2                  | red                |  |
| M 16                | 0135 916 0021 | Square weld nut  | 28                              | 16               | –                               | 8                 | M 16x14           | A2                  | red                |  |
| M 16x1.5            | 0135 916 4005 | Hexagon  | 27                              | 10               | –                               | 6                 | M 16x1.5x9        | A2                  | red                |  |
| M 16x1.5            | 0135 916 4009 | Cap nut  | 24                              | 28               | –                               | 6                 | M 16x1.5x13.5     | bronze              | bright             |  |
| M 20x1.5            | 0135 920 4007 | Hexagon  | 30                              | 15               | –                               | 6                 | M 20x1.5x13       | bronze              | bright             |  |
| M 24x2              | 0135 924 5003 | Hexagon  | 36                              | 19               | –                               | A-80              | M 24x2x18         | A4                  | silvered           |  |
| M 30x2              | 0135 930 5003 | Hexagon with<br>chamfer  | 46                              | 20               | –                               | 6                 | M 30x2x18.5       | A2                  | red                |  |

Delivery times and minimum order quantities on request.

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