

**bilz**

# ThermoGrip® BIONICS

Shrink chucks with bionic  
structural optimisation

**BIONICS**仿生增强型燒結刀柄



通過形式優化  
提高穩定性

Form optimisation leads to an increase in the life and load capacity of the holder through a uniform structure throughout.

整體外型強化可提高刀柄使用壽命和切削負載能力

The bearing structure of our Thermogrip® Bionic shrink chucks has been designed based on the growth form of trees, meaning that notch stress is avoided and only as much material is used as is required.

Thermogrip® Bionic 仿生強化燒結刀柄的結構源於對樹幹生長形式的模擬，意味著避免了應力集中，並且節省材料而減重。

Perfectly suited for our Thermogrip® shrink machines  
與Bilz的燒結機完美搭配

- Shrinkable with standard coil 1 up to diameter 25 mm  
標準線圈加熱，最大刀具夾持直徑D25mm
- Shrink machine X parameters for shrinking in and out  
燒結機選擇X型輸入加熱參數

Smooth, silent running due to

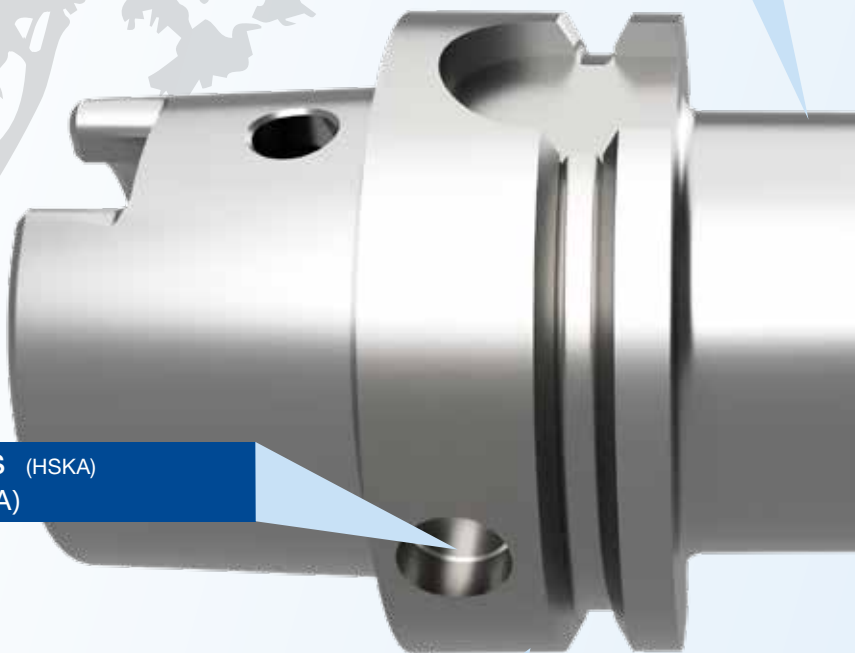
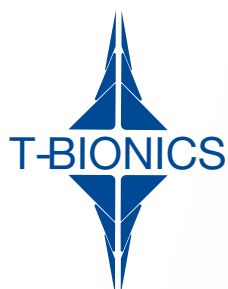
“Balanced by Design” and subsequent fine balancing  
平順安靜的切削歸於設計和製造動平衡原則

- Improved surface quality = longer tool life, improved surface finish and better maintenance of tolerances  
改善加工表面質量 = 長加工壽命+高表面粗糙度+更佳公差控制
- Ideal for HPC/HSC 適合高速高效率加工
- Protection for the machine spindle 保護機床主軸

Data Chip holes (HSKA)  
預置芯片安裝孔(HSKA)

Maximum form stability and life of the shrink chuck due to the use of high temperature resistant special steel  
最高的結構穩定性源自刀柄採用特種耐熱合金鋼

- High radial rigidity 高徑向剛性
- Low deflection 低撓度
- High metal removal rates 高金屬去除率



## Features 特徵

- **Maximum bending strength due to the bionic contour**  
仿生輪廓帶來的最大抗彎強度
- **Increased rigidity** 增加剛性
- **Counterbore – the Thermogrip® trademark** 沉頭孔
- **Improved surface quality due to optimal chip removal**  
通過優化排屑效果提高表面加工質量
- **Run-out quality < 3µm** 跳動 < 3µm

## Benefits 獲益

- **Higher feed rates and greater cutting depth**  
可採用更高進給量和更大切深
- **Increased torque transmission** 增加可傳遞扭矩
- **Lockable Cool Jet holes for peripheral cooling and balance screw holes for fine balancing as standard**  
標配用於外周冷卻的 Cool Jet 孔和用於精密動平衡的平衡螺孔

“ A tree is stabilised on the windward side by means of its root system, and exactly this method has been used by our engineers to develop an exceptional shrink chuck with extremely high bending strength.”  
一棵樹通過其根系固定在迎風面， Bilz 的工程師正是使用這種方法開發了一種具有極高抗彎強度的特殊燒結刀柄。



## Security 安全

- **All cylindrical shanks manufactured to DIN1835 Form A, B and E, DIN 6535 Form HA, HB and HE can be used**  
所有圓柱柄刀具都可安全夾持，如 DIN1835 A,B,E 型或 DIN6535 HA,HB,HE 型側壓柄

## The patented counterbore makes

it possible for the tool to be inserted cold so that the shrinking process can be carried out fully automatically and thereby simplifies handling and improves user safety. 15 – 20 % reduction in heat requirements when heating up the shrink chuck

專利設計使刀具在加熱前可放入刀柄沉頭孔，然後啟動全自動加熱程序，簡化操作同時提高操作安全性。加熱刀柄時還可以減少 15~20% 的熱量輸入。

## Cool-Jet holes (lockable) Cool-Jet 冷卻孔 (不用時可鎖)

## Maximum Concentricity 最大同心度

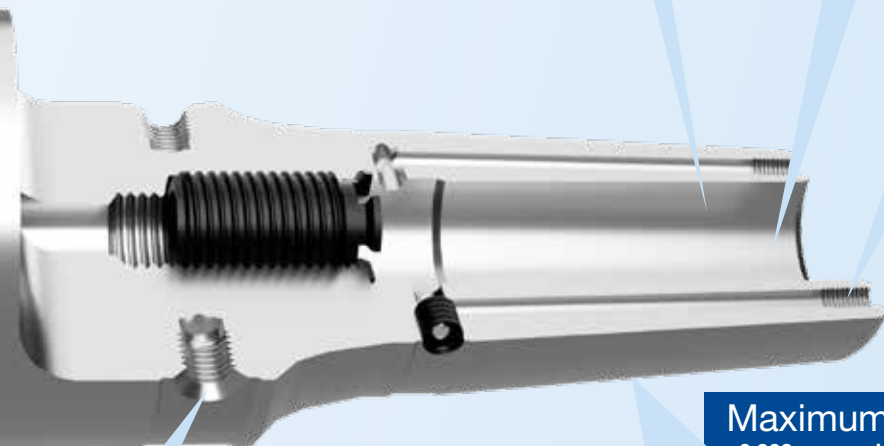
<0,003 mm and exact taper tolerances, manufactured in a climate-controlled environment

同軸度 <0.003 mm 和精確的 7:24 錐度是在恆溫環境下精密加工完成

- **Reduction of production costs due to a smoother cutting process leading to improved tool life.**  
由於更平滑的切削過程可降低生產成本，提高刀具壽命。
- **Reduction of chatter marks** 減少顫動痕
- **Increased tool life** 增加刀具壽命
- **Better surface finish quality** 更佳表面加工質量
- **Maintenance of tolerances for longer** 刀柄精度可保持更長時間

## Tapped holes

For fine balancing with balancing screws  
用於精密動平衡的螺孔



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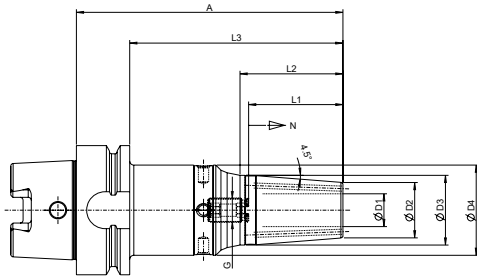


Image 1

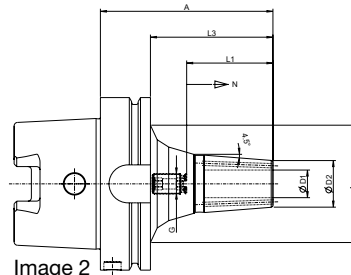


Image 2

## TB.....-C1-HSKA63

Shrink Chucks

| D1 (mm) | D2 (mm) | D3 (mm) | D4 (mm) | A (mm) | L1 (mm) | L2 (mm) | L3 (mm) | N (mm) | G     | Img | Designation          | Ident No. |
|---------|---------|---------|---------|--------|---------|---------|---------|--------|-------|-----|----------------------|-----------|
| 6       | 21      | 27      | 37      | 130    | 36      | 41      | 103     | 10     | M5    | 1   | TB0600-130-C1-HSKA63 | 5177818   |
| 8       | 21      | 27      | 37      | 130    | 36      | 41      | 103     | 10     | M6    | 1   | TB0800-130-C1-HSKA63 | 5177820   |
| 10      | 24      | 32      | 42      | 130    | 42      | 53      | 103     | 10     | M8x1  | 1   | TB1000-130-C1-HSKA63 | 5177823   |
| 12      | 24      | 32      | 42      | 130    | 47      | 53      | 103     | 10     | M10x1 | 1   | TB1200-130-C1-HSKA63 | 5177829   |
| 14      | 27      | 34      | 44      | 130    | 47      | 50      | 103     | 10     | M10x1 | 1   | TB1400-130-C1-HSKA63 | 5177832   |
| 16      | 27      | 34      | 44      | 130    | 50      | 50      | 103     | 10     | M12x1 | 1   | TB1600-130-C1-HSKA63 | 5177835   |
| 18      | 33      | 42      | 52      | 130    | 50      | 60      | 103     | 10     | M12x1 | 1   | TB1800-130-C1-HSKA63 | 5177838   |
| 20      | 33      | 42      | 52      | 130    | 52      | 60      | 103     | 10     | M16x1 | 1   | TB2000-130-C1-HSKA63 | 5177841   |
| 6       | 21      | 27      | 42      | 160    | 36      | 40      | 133     | 10     | M5    | 1   | TB0600-160-C1-HSKA63 | 5177817   |
| 8       | 21      | 27      | 42      | 160    | 36      | 40      | 133     | 10     | M6    | 1   | TB0800-160-C1-HSKA63 | 5177816   |
| 10      | 24      | 32      | 47      | 160    | 42      | 52      | 133     | 10     | M8x1  | 1   | TB1000-160-C1-HSKA63 | 5177826   |
| 12      | 24      | 32      | 47      | 160    | 47      | 52      | 133     | 10     | M10x1 | 1   | TB1200-160-C1-HSKA63 | 5177830   |
| 14      | 27      | 34      | 50      | 160    | 47      | 50      | 133     | 10     | M10x1 | 1   | TB1400-160-C1-HSKA63 | 5177833   |
| 16      | 27      | 34      | 50      | 160    | 50      | 50      | 133     | 10     | M12x1 | 1   | TB1600-160-C1-HSKA63 | 5177836   |
| 18      | 33      | 42      | 52      | 160    | 50      | 60      | 133     | 10     | M12x1 | 1   | TB1800-160-C1-HSKA63 | 5177839   |
| 20      | 33      | 42      | 52      | 160    | 52      | 60      | 133     | 10     | M16x1 | 1   | TB2000-160-C1-HSKA63 | 5177842   |

## TB.....-C1-HSKA100

Shrink Chucks

|    |    |      |    |     |    |    |     |    |       |   |                       |         |
|----|----|------|----|-----|----|----|-----|----|-------|---|-----------------------|---------|
| 6  | 21 |      | 50 | 85  | 36 |    | 56  | 10 | M5    | 2 | TB0600-85-C1-HSKA100  | 5180065 |
| 8  | 21 |      | 50 | 85  | 36 |    | 56  | 10 | M6    | 2 | TB0800-85-C1-HSKA100  | 5180066 |
| 10 | 24 |      | 50 | 90  | 42 |    | 61  | 10 | M8x1  | 2 | TB1000-90-C1-HSKA100  | 5180067 |
| 12 | 24 |      | 50 | 95  | 47 |    | 66  | 10 | M10x1 | 2 | TB1200-95-C1-HSKA100  | 5180068 |
| 14 | 27 |      | 62 | 95  | 47 |    | 66  | 10 | M10x1 | 2 | TB1400-95-C1-HSKA100  | 5180069 |
| 16 | 27 |      | 68 | 100 | 50 |    | 71  | 10 | M12x1 | 2 | TB1600-100-C1-HSKA100 | 5180074 |
| 18 | 33 |      | 68 | 100 | 50 |    | 71  | 10 | M12x1 | 2 | TB1800-100-C1-HSKA100 | 5180075 |
| 20 | 33 |      | 68 | 105 | 52 |    | 76  | 10 | M16x1 | 2 | TB2000-105-C1-HSKA100 | 5180077 |
| 25 | 44 |      | 85 | 115 | 58 |    | 86  | 10 | M16x1 | 2 | TB2500-115-C1-HSKA100 | 5180078 |
| 6  | 21 | 27   | 42 | 160 | 36 | 40 | 131 | 10 | M5    | 1 | TB0600-160-C1-HSKA100 | 5180079 |
| 8  | 21 | 27   | 42 | 160 | 36 | 40 | 131 | 10 | M6    | 1 | TB0800-160-C1-HSKA100 | 5180080 |
| 10 | 24 | 32   | 47 | 160 | 42 | 52 | 131 | 10 | M8x1  | 1 | TB1000-160-C1-HSKA100 | 5180081 |
| 12 | 24 | 32   | 47 | 160 | 47 | 52 | 131 | 10 | M10x1 | 1 | TB1200-160-C1-HSKA100 | 5180082 |
| 14 | 27 | 34   | 50 | 160 | 47 | 50 | 131 | 10 | M10x1 | 1 | TB1400-160-C1-HSKA100 | 5180083 |
| 16 | 27 | 34   | 50 | 160 | 50 | 50 | 131 | 10 | M12x1 | 1 | TB1600-160-C1-HSKA100 | 5180084 |
| 18 | 33 | 42   | 52 | 160 | 50 | 59 | 131 | 10 | M12x1 | 1 | TB1800-160-C1-HSKA100 | 5180085 |
| 20 | 33 | 42   | 52 | 160 | 52 | 59 | 131 | 10 | M16x1 | 1 | TB2000-160-C1-HSKA100 | 5180086 |
| 25 | 44 | 52,5 | 68 | 160 | 58 | 59 | 131 | 10 | M16x1 | 1 | TB2500-160-C1-HSKA100 | 5180087 |

**GOLDEN CARBIDE**

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