

Karl Schüssler History



**Premium Tool Holders
and Shrinkfit Units**

Advantage for your production!

Made in Germany since 1970

History of Karl Schüssler GmbH & Co.KG



- 1963 Foundation of Schüssler & Eberhardt through Karl Schüssler and Werner Eberhardt as Sub-contractor for turning and milling operations.
- 1966 Starting the production of tool holders
- 1970 Foundation of the Karl Schüssler GmbH & Co. KG
- 1974 Karl Schüssler died in a car accident at the age of 36 years during a customer visit and left his wife Helga Schüssler with the 2 kids Elke and Klaus at the age of 7 and 8 years. Helga Schüssler takes over the business at the age of 29 years.
- 1995 Klaus Schüssler joins the company after a mechanical apprenticeship and the mechanical studies with the graduation « industrial engineer.
- 2002 Helga Schüssler resigned from the administration and Klaus Schüssler takes over the operational business as « Managing Partner » of Karl Schüssler GmbH & Co. KG

Une entreprise familiale depuis 1970



Plant Bodelshausen / Deutschland – **Made In Germany!**

Quality Highest Quality Standards (better than DIN)
Most advanced Production Technology and Automatisation

Know-How Experienced workers

Environment Schüssler is using renewable energies in the plant

Production and sales



1 Plant

75 Employees in Bodelshausen

Capacity

1.200 Tool Holders per day

Sales

in more than 40 countries

Sales offices

Spain, China and Hongkong

Certificates

acc. ISO9001-2016

Blue Competence / VDMA



References



AUDI

BMW

Mercedes

Porsche

Continental Teves

Foxconn (i-phone)

SEAT

MAN

Liebherr

Voest Alpine

Buderus

Machines Textiles

Aerospace

Safran, Famat etc

Machine – Outil, Grob, Hermle, Chiron, POS, Fanuc, DMG, Heller etc

Moulistes

OEM fournisseur

Product Range Machine Interfaces

HSK-A / HSK-E / HSK-F Hollow taper shank acc. DIN 69893



Form A



Form E

Product Range

Machine Interfaces

HSK-A 40 / 50 / 63 / 80 / 100

HSK-E 40 / 50

New:

HSK-E 32 HSK-F 63



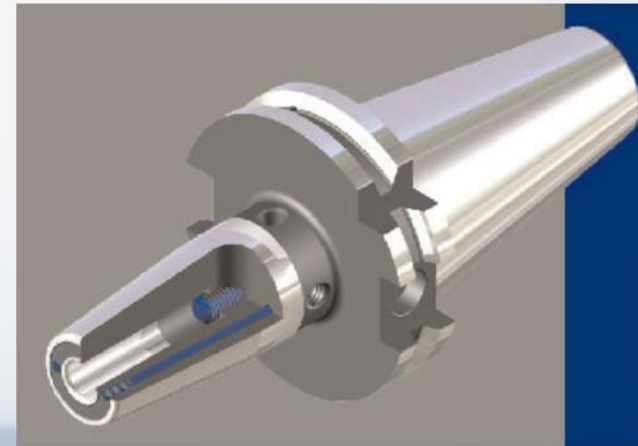
Product Range

Machine Interfaces

ISO / MAS-BT
acc. DIN ISO 7833 1 / 2



ISO



BT

Product Range Machine Interfaces

ISO-40 / 50

BT-30 / 40 / 50

New:

BT double contact



Product Range

Machine Interface



CORUM PSC acc. DIN 26623-1



Product Range

With and without Cool Tool (CT)



Collet Chucks ER / Standard and >>Mini<<

Shrinkfit Holders – 4,5° / 3° / slim / extra long

Weldon Holders / Whistle Notch Holders

Milling Adaptors / Shell Mill Holders

Screw in Holders

Morse Taper Holders acc. DIN228A

Drill Chucks, Coolant tubes, Pull Studs, Extensions

Product Range



Collet extensions



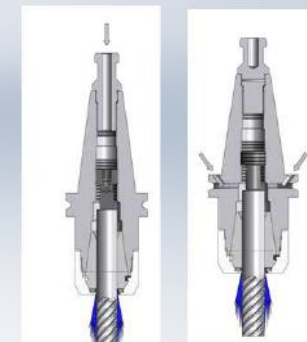
Shrinkfit extensions



Coolant Pipes



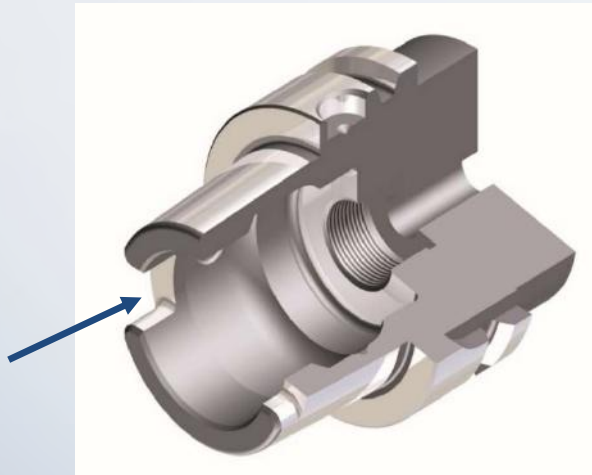
Pull studs



Quality features

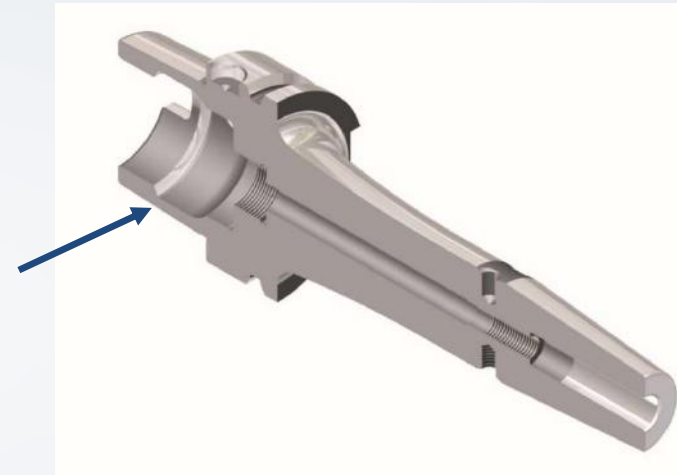


Shown for the HSK Holders
but also valid for all other holders



The drivers are hard reworked and guarantee:

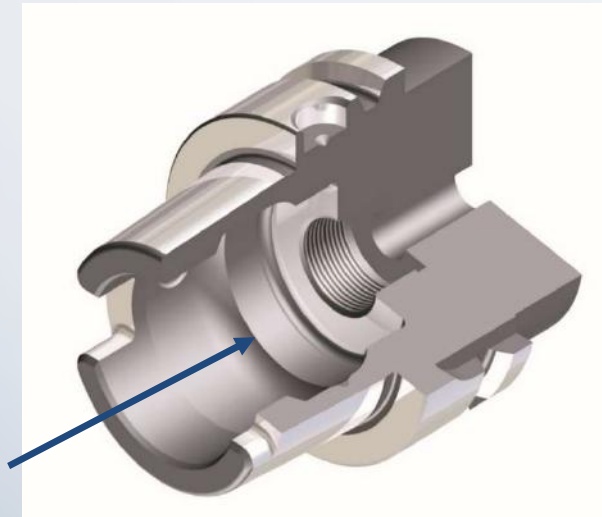
- a position which is 100 % - centred
- perfect seat and power transmission from the machine spindle



Hard reworked HSK shoulder guarantee:

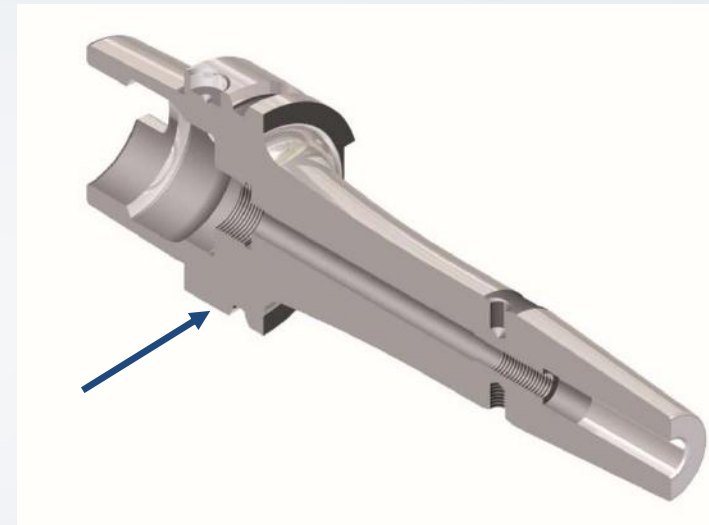
- best runout of the clamping shoulder (max. 0,01 instead of max. 0,05 acc. DIN)
- highest runout accuracy
- maximum clamping forces from the spindle
- maximum radial stiffness

Quality features



Hard reworked HSK-pullout surface guarantee:

- perfect releasing of the HSK during the toolchange



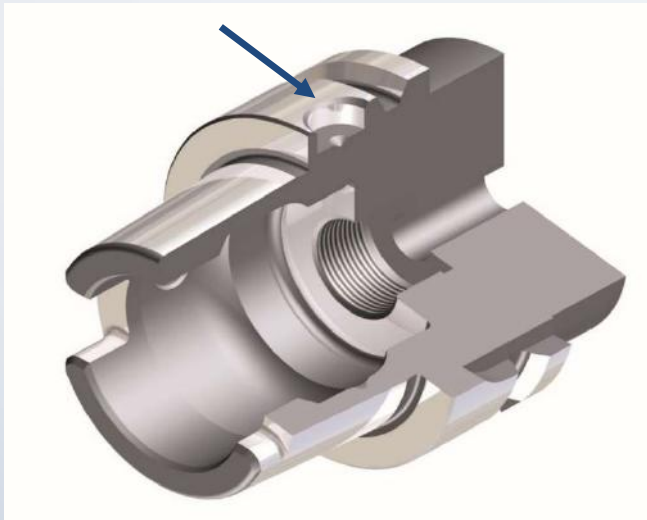
All Holders are fine balanced:

G2,5 @ 25.000 min⁻¹ (max. imbalance <= 1 g/mm).

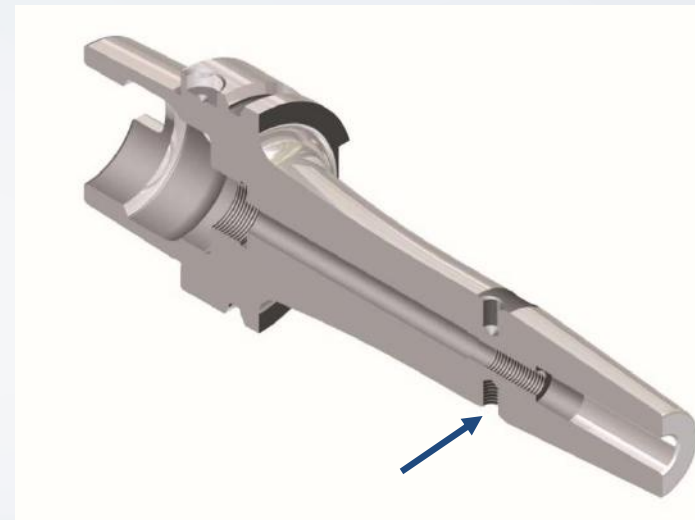
We therefore achieve:

- a perfect Spindle runout and extended spindle life
- optimised tool life
- best surface finish

Quality features

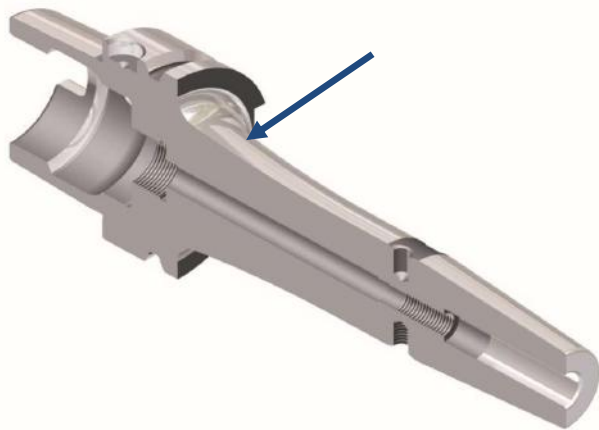


HSK-A, ISO 69871 et CORUM are equipped with chip locations as standard

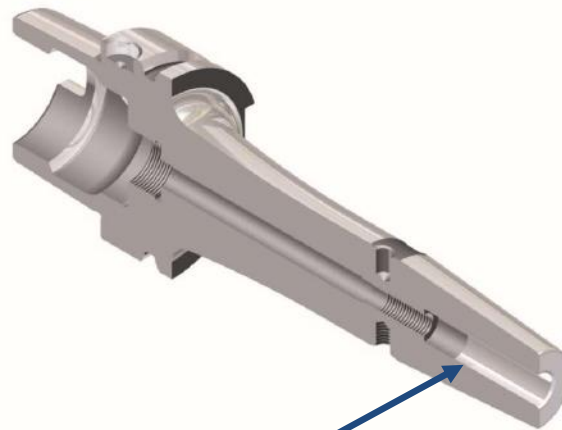


Shrinkfit holders incl. 4 threads for the fine balancing of the complete tool

Quality features



Long Execution with transition radius for better dampening.



Long Shrink Part for maximum Clamping forces (with insertion radius for easy insertion).



Competitor with „Counterbore“ for easy insertion – **no clamping at the front which is most important!**

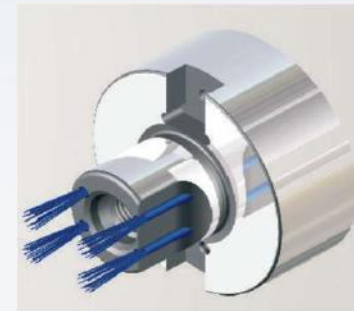
Quality features

Cool Tool Variety <CT>

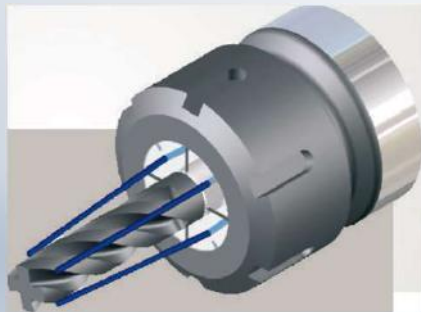
Closeable with M3 screws



Shrinkfit Holders
and Weldon



Milling Arbors



ER Collets with CT



ER Collets with
metallic sealing

Schüssler



Our Priorities in the production process

Quality better than DIN

Reproducible Processes

Permanent Quality Optimisation

Objectifs: Competitivity

Customer Advantages

Hawk-Eye®

HPC ER Collet Chuck



A very precise concentricity, highest holding forces and max. rigidity which allows High efficient HPC machining.

Maximum Performance for your machine and the high costly carbide tools!

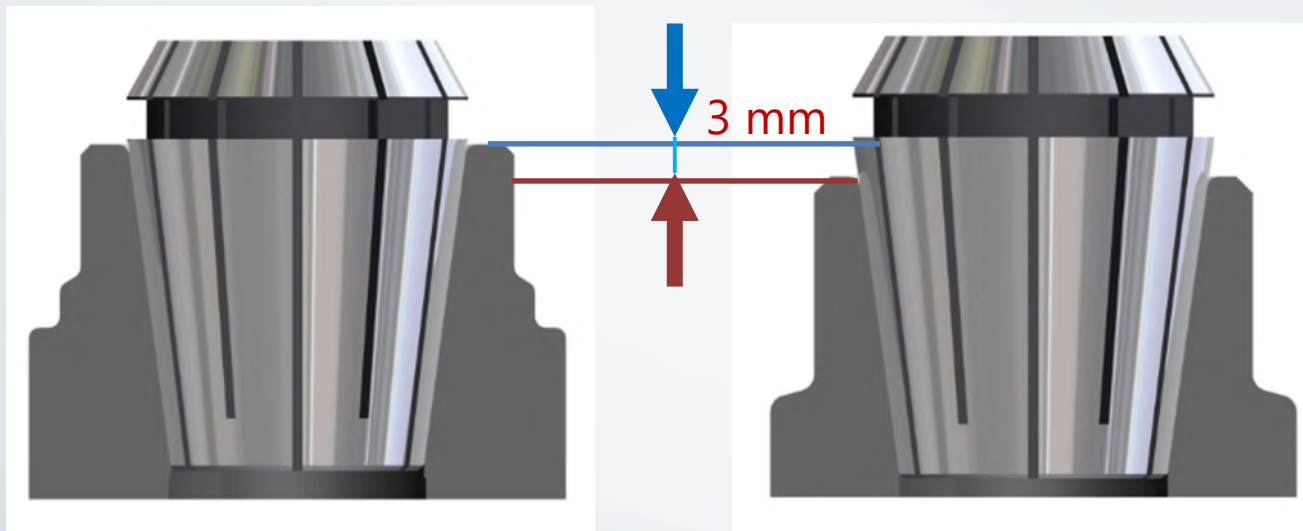
Hawk Eye®

Quality features



Deep-seated collet inside the
Hawk Eye®

In comparison a standard
ER collet chuck



Hawk Eye®

Quality features



Ball bearing clamping nut

Fine pitch thread for
Highest clamping forces



Clamping ring with special
treated surface for max
clamping forces

No torsion of the collet
during clamping possible!

Hawk Eye®

Quality features



Comparison of the Clamping Force



Clamping Forces

Hawk Eye®

Quality features



Schüssler Hawk Eye®

Very universal HPC Collet chuck

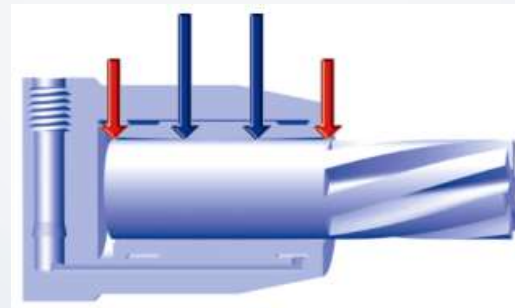
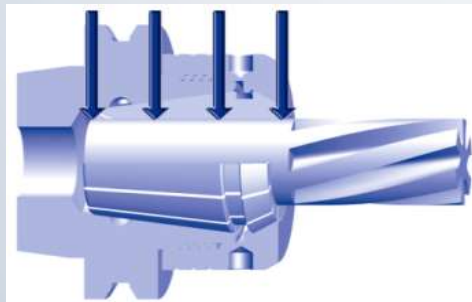
Perfect Holding Forces

Ideal for HPC and HSC applications
and even fullslot milling

Hydraulic Chuck

Reduced Holding Forces.

Not really suitable for milling (radial forces), More
suitable for drilling and reaming (axial Forces!).



Hawk Eye®

Quality features



Lubrication

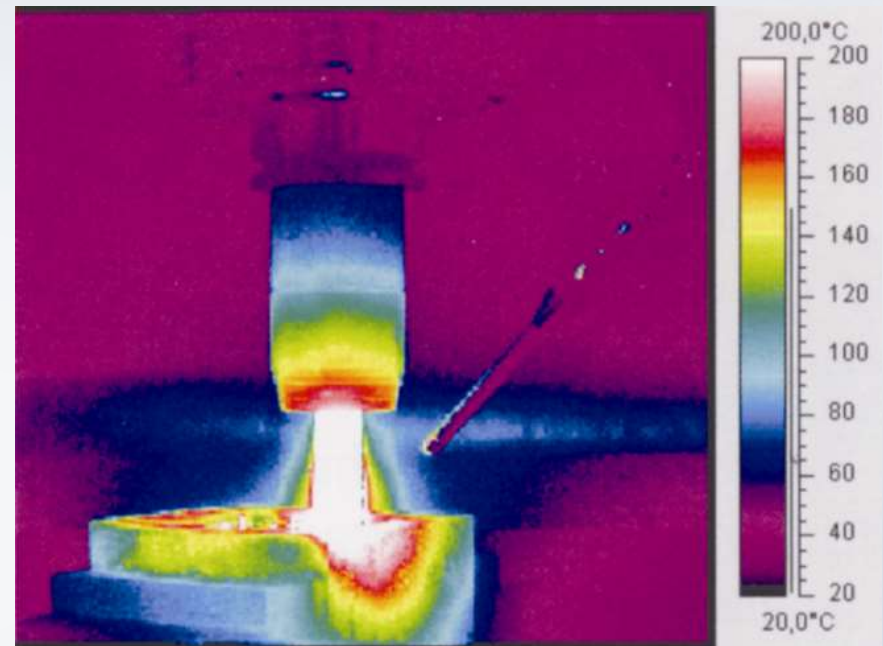
All kind of Lubrication is possible

Hydraulic Chucks can be used upto max. 50 °C

Shrinkfit Holders can be used upto max. 80 – 100 °C

Collet Chucks can be used upto 200 °C ou plus

Collet Chucks are unsensible onto temperature



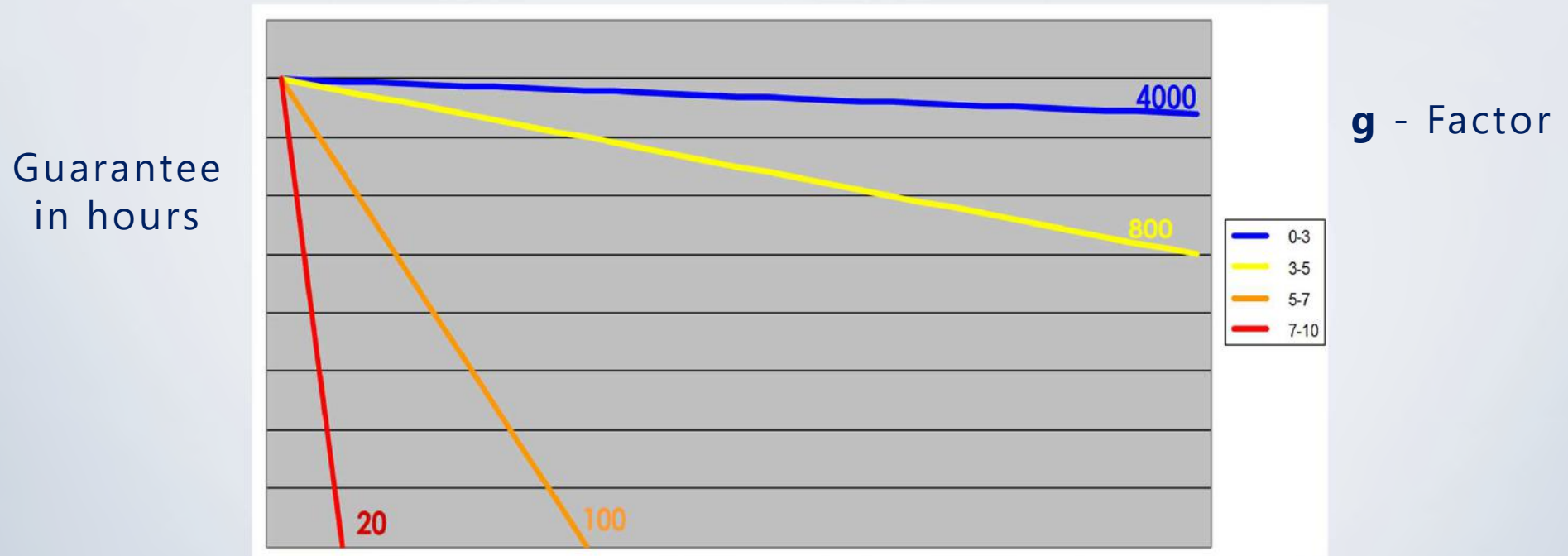
Hawk Eye®

Quality features



Dampening and Balancing Quality G2.5 @ 25.000^{-1min} or U ≤ 1gmm)

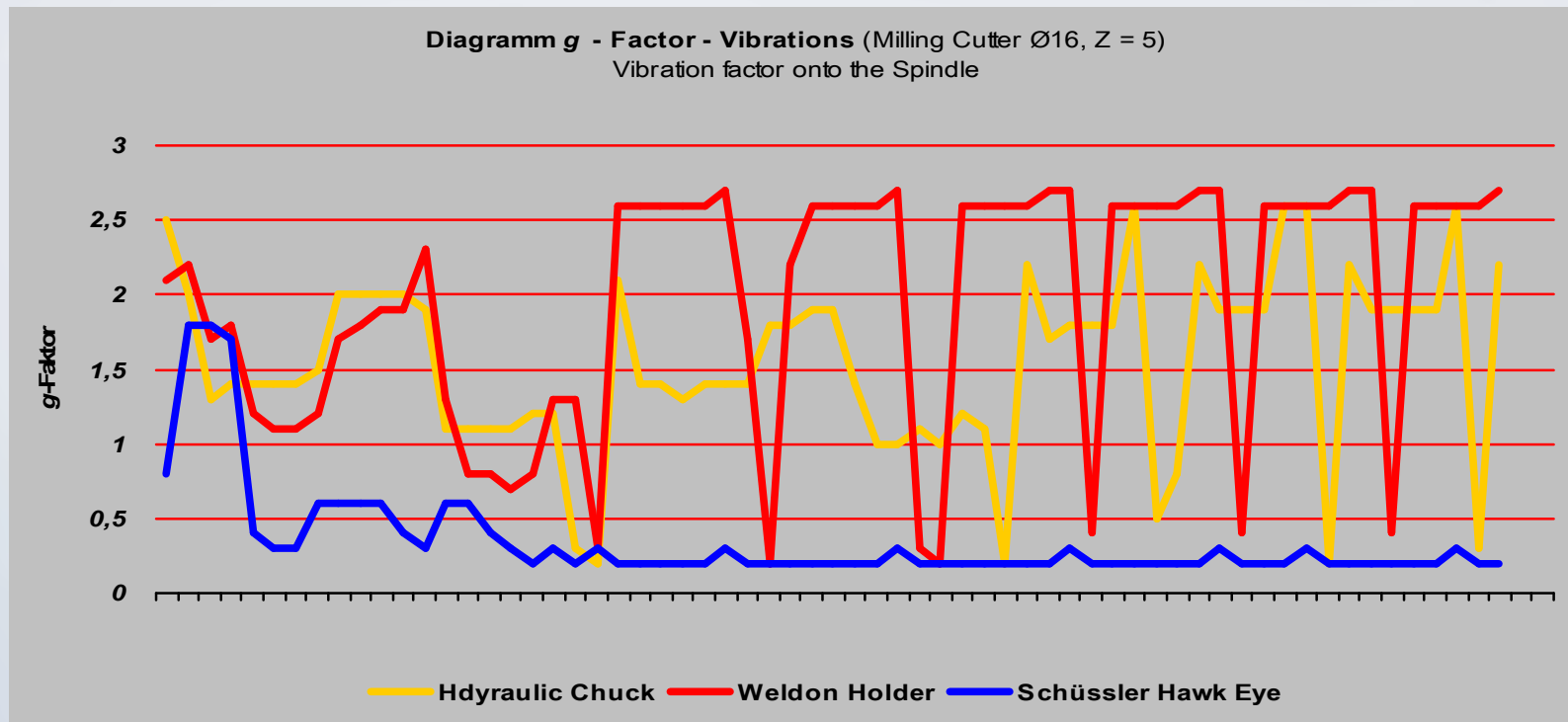
Influence of Vibrations and Balancing grade onto the guarantee of the Spindle and the Machine



Reduced life time depending onto the Spindle Vibrations

Hawk Eye®

Quality features



Hawk Eye®

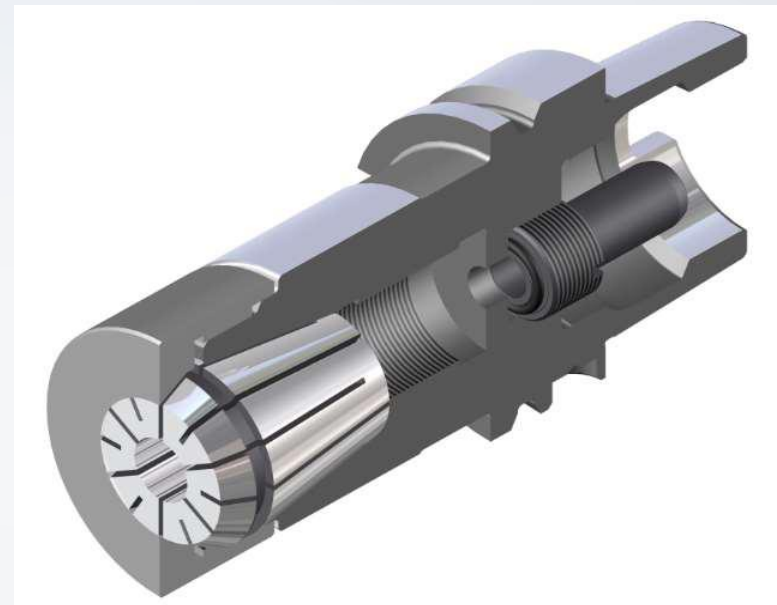
Quality features



Very good dampening through:

- Clamping through different parts
- Tool Body (mass)
- Sliced Collet
- Clamping nut in 2 Pieces

The dampening can be influenced by the clamping force of the nut (reducing the clamping force at 30% for finishing operations!)
Reduces also the spindle vibrations and protects the spindle!



Hawk-Eye®



The universal HPC Collet Chuck for efficient machining

ER Collet „Titanium“

HPC Collet with anti-pullout function



The problem:

During HPC milling, like i-machining even highest holding forces result in micro-vibrations – micro pull-out of the HPC milling cutter.

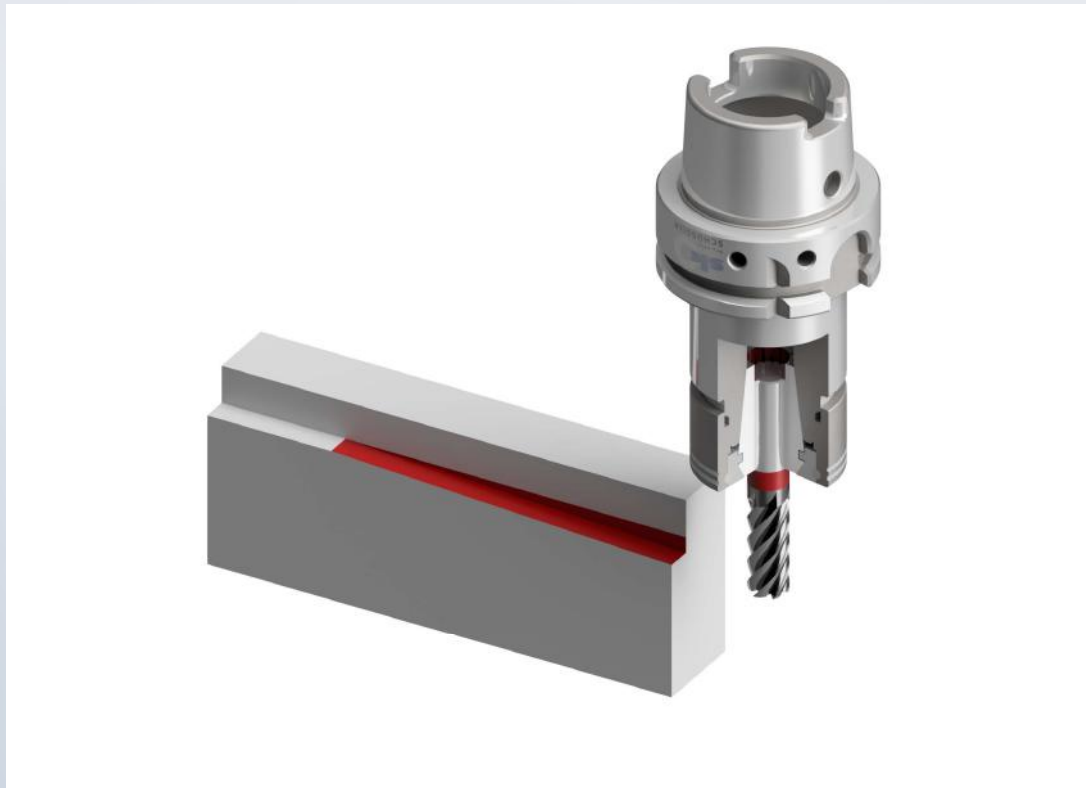
The requirement:

Absolute security during rough machining with high chip volumina and when machining of high alloy materials like Titanium, Inconel etc. and expensive workpieces for Aerospace, Die & Mould, Medical etc.



ER Collet „Titanium“

HPC Collet with anti-pullout function



The problem:

During HPC milling, like i-machining or full-slot machining, even highest holding forces result in pull-out of the HPC milling cutter which means expensive rework or even scrap parts.

This will be expensive!

ER Collet „Titanium“

HPC Collet with anti-pullout function



Weldon holders are a kind of „old style“ holder with all well known disadvantages like:

Tool will be pushed out of centre, is too rigid and therefore tends to vibrate and even tends to releasing of the clamping screw, which sometimes therefore will be secured with Loctite.

A perfect dampening incl. good runout and 100 % anti-pullout is provided with the ER HPC collet **TITANIUM**.

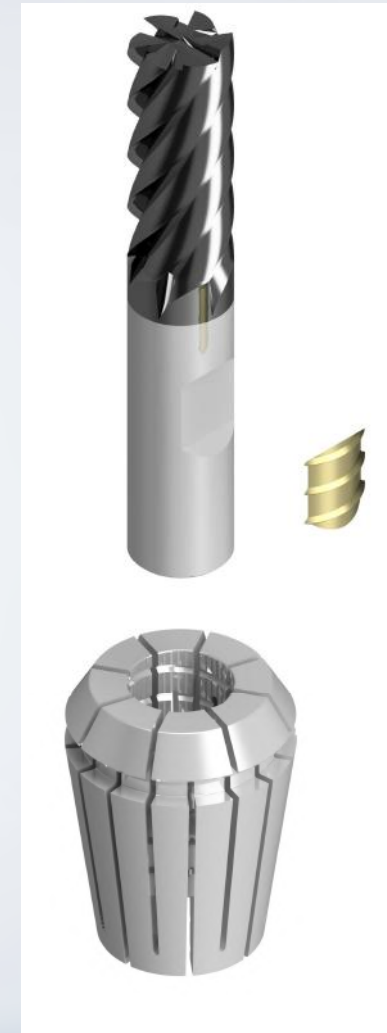


ER Collet „Titanium“

HPC Collet with anti-pullout function



- The ER collet **TITANIUM** is having an internal thread,
- You only need a Milling cutter with Weldon flat and the threaded insert
- The threaded insert will be put into the Weldon flat and then screwed-in into the collet.
- The Milling cutter is adjustable +/- 10 mm. so regrinding is possible – a Weldon holder is fix and there is no adjustment of the milling cutter possible!



ER Collet „Titanium“

HPC Collet with anti-pullout function



The solution:

HPC – ER Collet
Titanium with anti-pullout function!
100% process security during HPC Milling!
Perfect dampening with high runout results in higher tool life up to 30% and a much higher life of the spindle which economises a lot!

**Invest a little bit more
to economise a lot!**

ER Collet „Titanium“

Competitor



Advantage:

- 100% anti-pullout security

Disavantage:

- Need of special tools (license)
- Long delivery time for special tools
- Expensive solution

HAIMER Safe-Lock™

SCHÜSSLER & ZOLLER



Partner for the future!

Zoller TMS Management Solutions

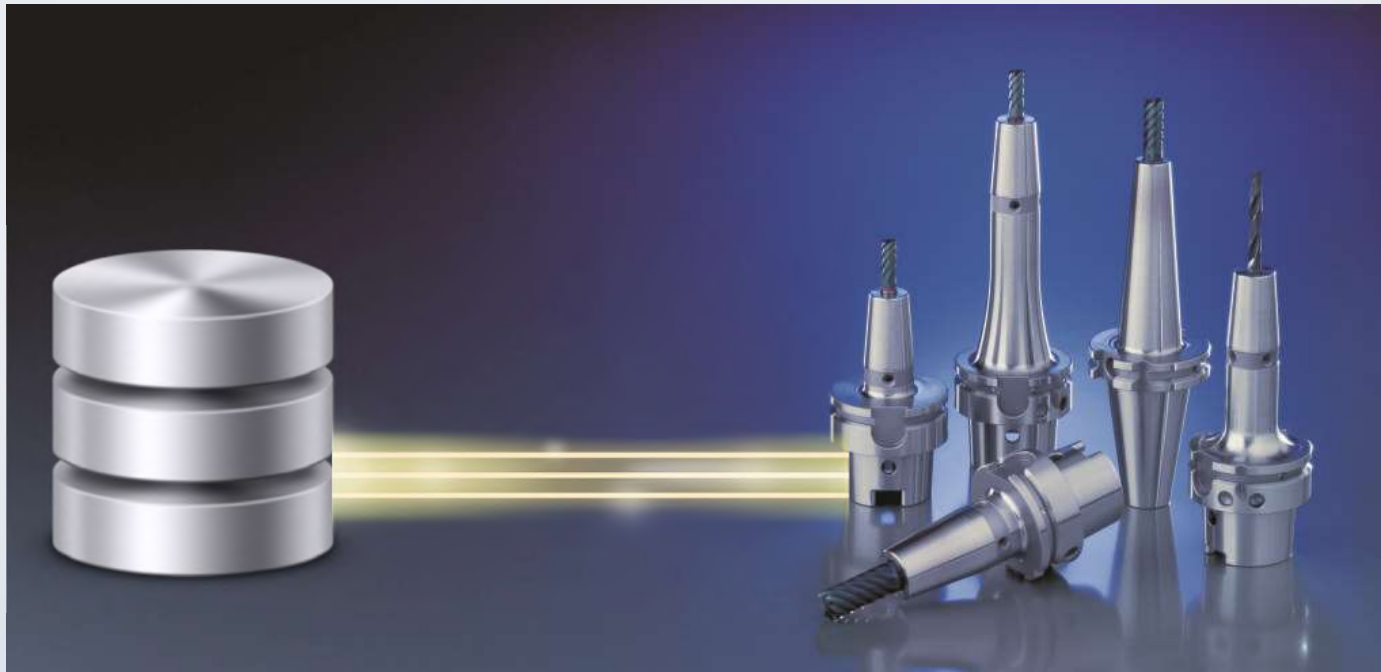


WERKZEUGAUFNAHMEN MADE IN GERMANY

ZOLLER z.ONE



...the complete Schüssler Tool holder range is included!



ZOLLER
Erfolg ist messbar®

Our Service – Your advantage

- Service Level >90% (high stock availability)
- Downloadcenter for drawings
- Online stock information for our customer
- Application engineering (on-site)
- Professional local and international sales partners





Thanks for your interest!