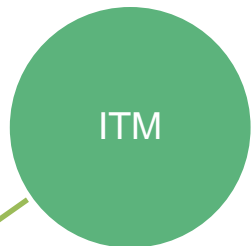




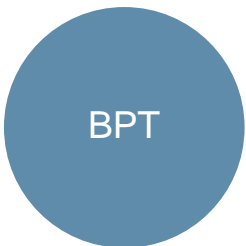
Birla Precision Technologies Ltd.

Leading Tooling Supplier

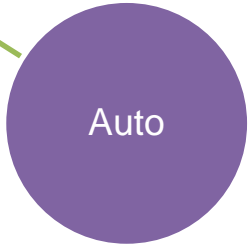
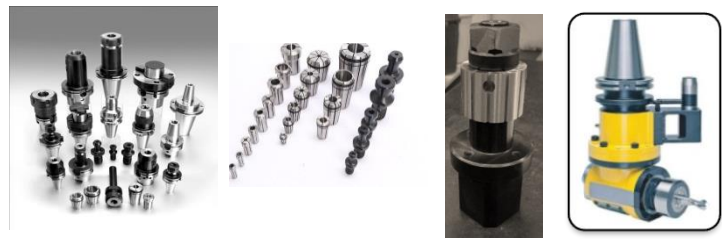




- Cutting Tools



- Tool Holders
- Collets
- Work holdings
- Production boosters



- Castings
- Casting machining
- Precision component Machining



BPTL aim to total customer delight & Service Excellence



***Only Company in INDIA
Manufacturing entire
range of HSS Cutting
Tools & Tool Holders***

- ❑ **Founded 1986** in Tehcnical Collaboration with **Bristol Erickson Tools UK.**
- ❑ Re- named to **Birla Kennametal Ltd in 1990.**
- ❑ Became Birla Precision Technologies Ltd in 2007.
- ❑ **1st Tool Holder** Manufacturing Company in India with state of Art facilities
- ❑ Only company with Product range of HSS Tools & Tool Holders
- ❑ ISO 9001,ISO 14001, ISO/TS16949 Certified
- ❑ 200 Employees, 3 shifts

Why BPTL ..?

Stocking of Tool Holders 18 Places across India excluding Plant

Studer Grinding Machine – Swiss Make

Exporting the product for more than 30 countries Globally

Quicker Delivery

World class Machines

Globally Accepted Quality



Quicker Service

World Class Facility

New Developments

70 Engineers Spread Across India

Plant, Process & Facility
Established by M/s Kennametal,
SAP –ERP used

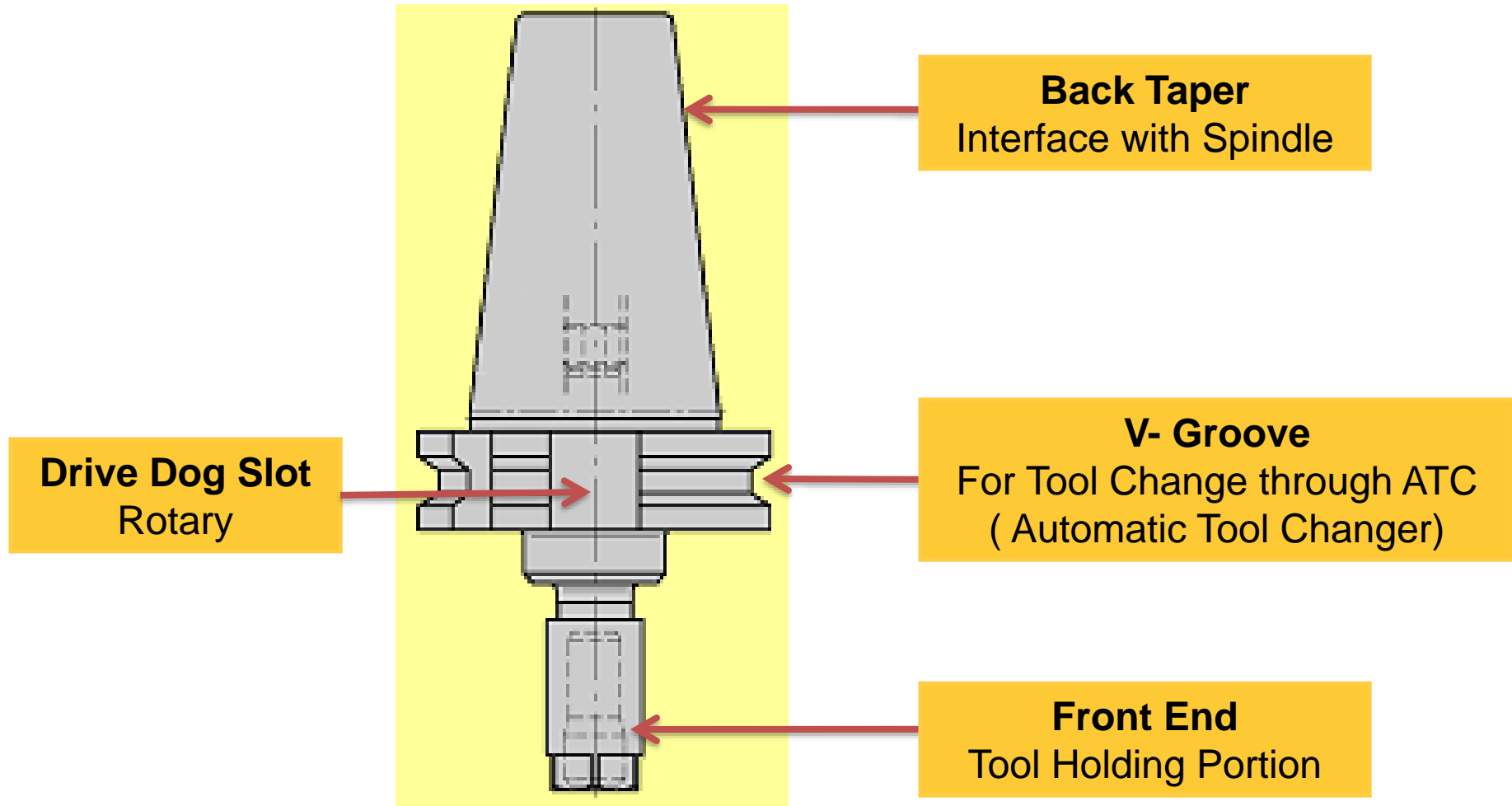
Strong Team of Designers continuously Launching New Technology & Products to Market



Tool Holder Definition :

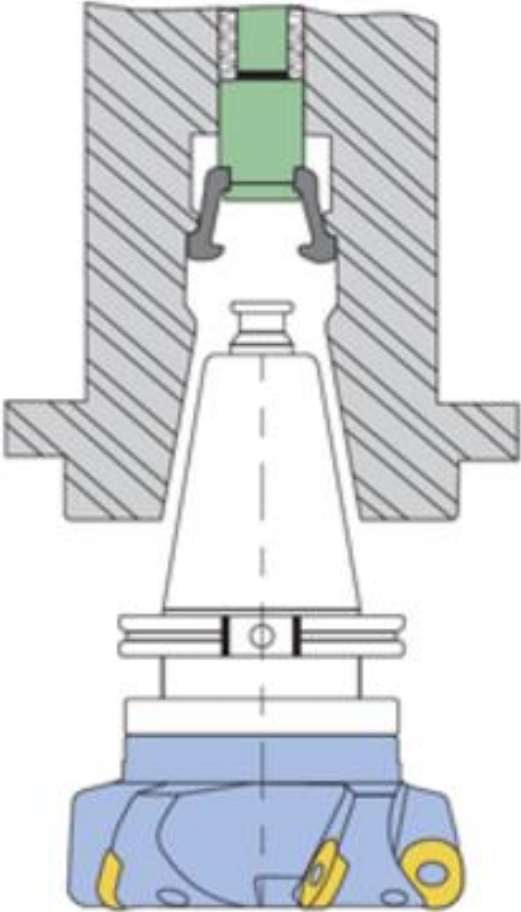
A device that acts as an interchangeable interface between a machine tool spindle and cutting tool.

Important elements of Tool Holder / Adaptor

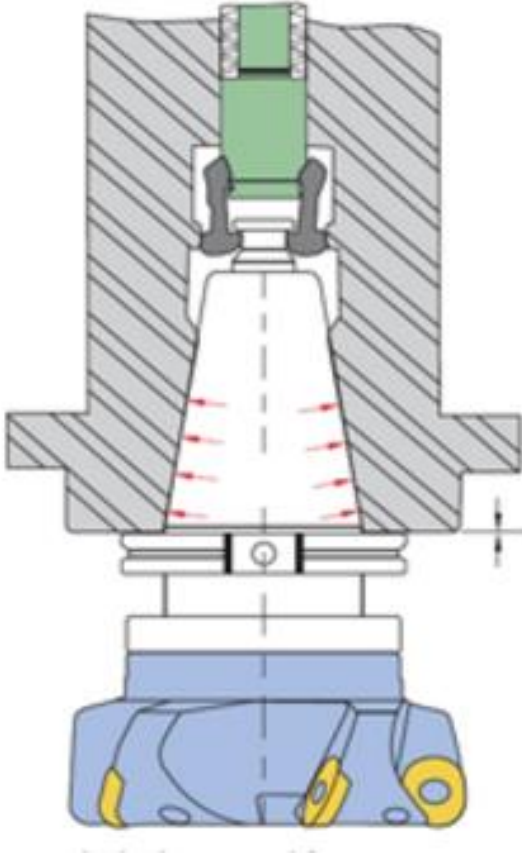


Tool Clamping

toolholder being loaded



totally clamped



Taper Standards – BPTL Manufacturing Range

German

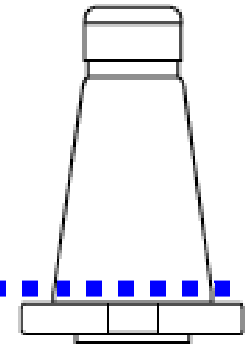
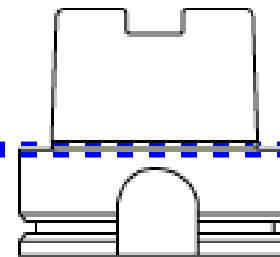
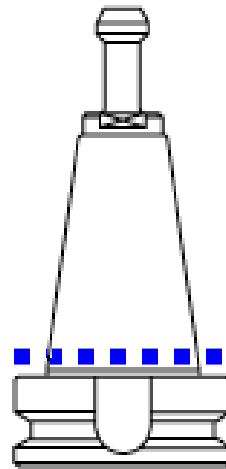
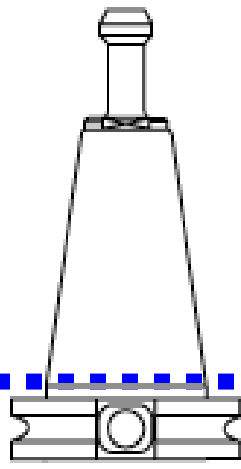
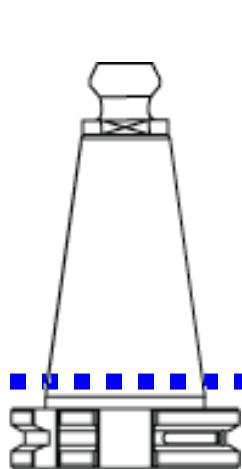
American

Japanese

German

German

Gage
Plane



Gage
Plane

DV

CAT or CV

BT

HSK

QC/DT/DO

DIN 69871

ANSI B5.50/ISO 7388

MAS403/
JIS B 6339

DIN 69893

ISO/DIN2080

BT / CV / DV Taper Holders

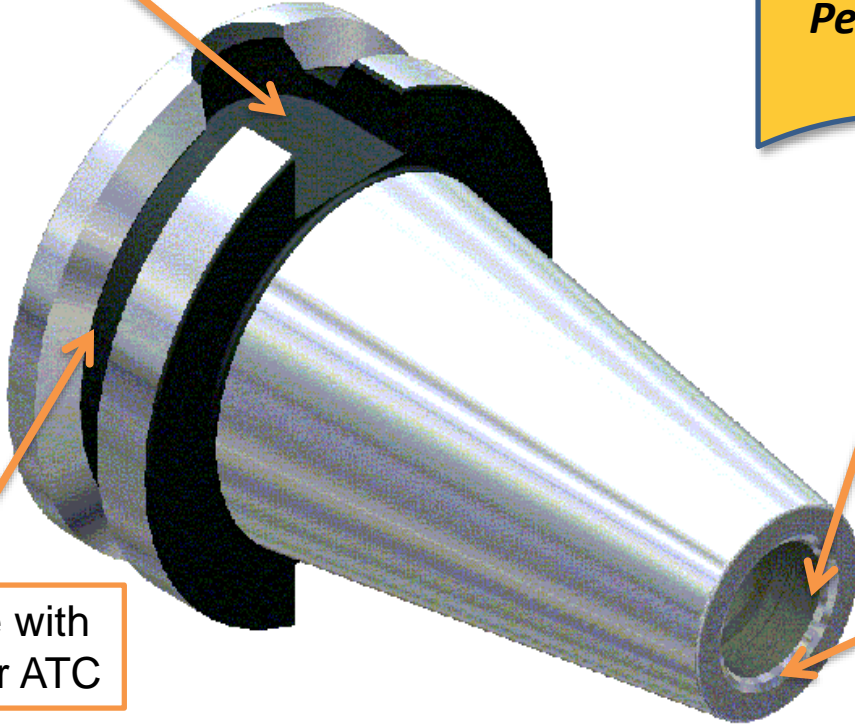
BT Taper Holders

2 Drive slots @ 180 degrees opposed

- Equal width
- Equal depth
- Contained within V-flange

- ❑ Shank Standard As per MAS 403 / JIS 6339 Shank
- ❑ BT = Bonsai Taper

Perfect balance condition due to symmetrical construction



Wide flange with V-groove for ATC

Metric Thread for retention knob with pilot counter bore

Back face ground for accurate location of retention knob

DV Taper Holders

2 Drive slots @ 180 degrees opposed

- Equal width
- Equal depth
- Contained within V-flange

Notch in flange for Orientation

Narrow flange with V-groove for ATC

❑ Shank Standard As per DIN 69871 form A/AD Shank

Inherent out-of-balance condition due to notch and unequal depth of drive slots!

Metric Thread for retention knob with pilot counter bore

Back face ground for accurate location of retention knob

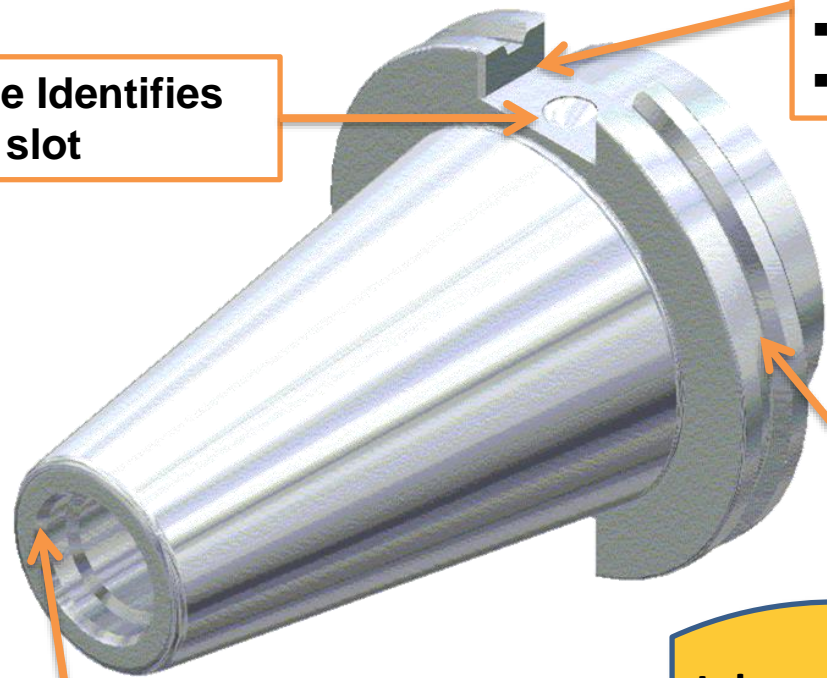


CV Taper Holders

- ❑ Shank Standard As per ANSI B 5.50 Shank (CAT)
- ❑ CV = Caterpillar V

Detention Hole Identifies shallow drive slot

- 2 Drive slots @ 180 degrees opposed
 - Equal width
 - **UN-Equal depth**
 - Contained within V-flange



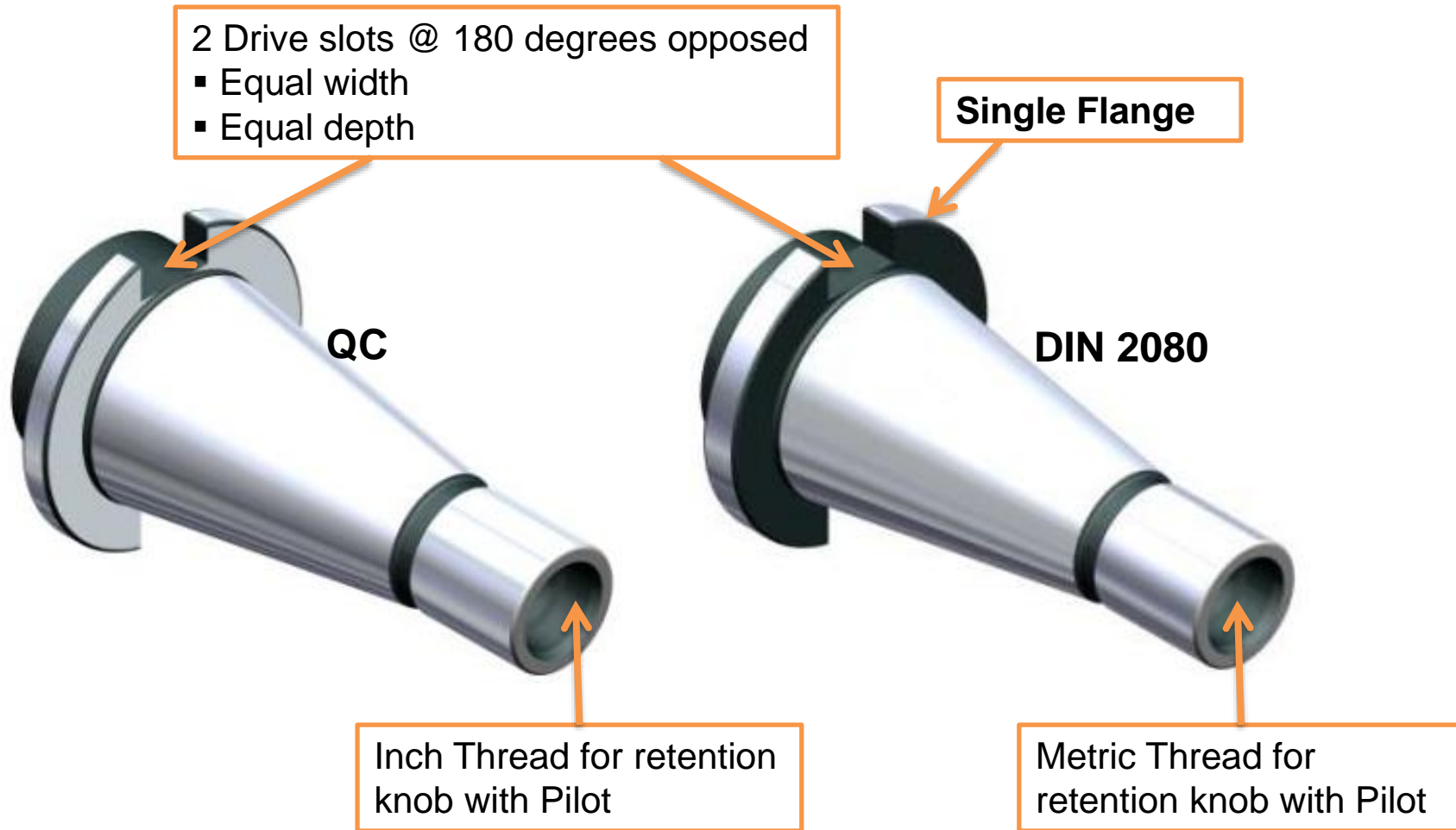
Narrow flange with V-groove for ATC

Unified Thread for retention knob (No Pilot)

Inherent out-of-balance condition due to detent hole and unequal depth of drive slots!

Quick Change Taper Holders

- ❑ QC Quick Change (NMTB) DT/DO DIN 2080 Shank
- ❑ Mainly used by Conventional Milling Machines



ISO Taper Sizes & Usage

- ❑ As per ISO system , the tapered shanks fits in the Machine spindle
- ❑ The standard defines **Four basic taper sizes** as mentioned below;

TAPER # 30

TAPER # 40

TAPER # 50

TAPER # 60

Light Duty VMC
/ HMC

Medium Duty
VMC / HMC

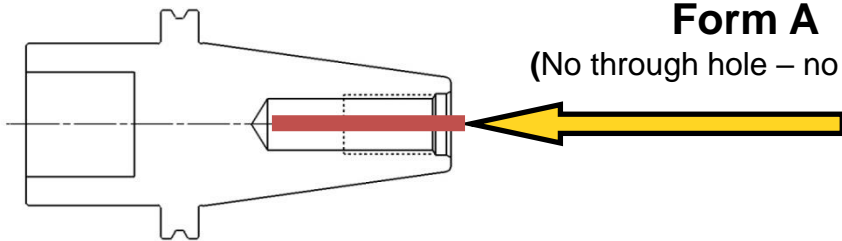
Heavy Duty
VMC / HMC

Extra Heavy
Duty HMC /
Plano Millers /
VMC.

Forms of Tool Holders

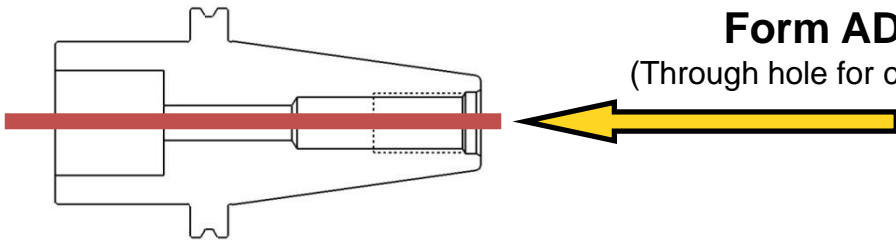
Form A

(No through hole – no coolant)



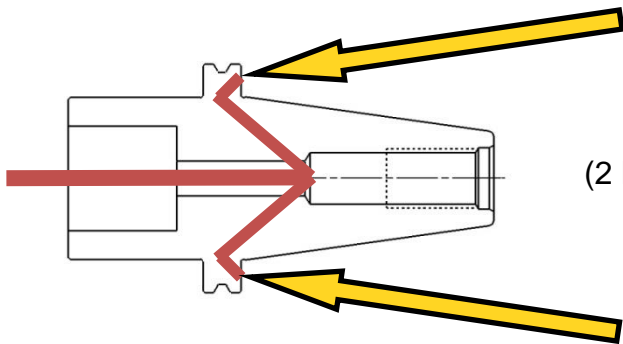
Form AD

(Through hole for coolant)



Form B

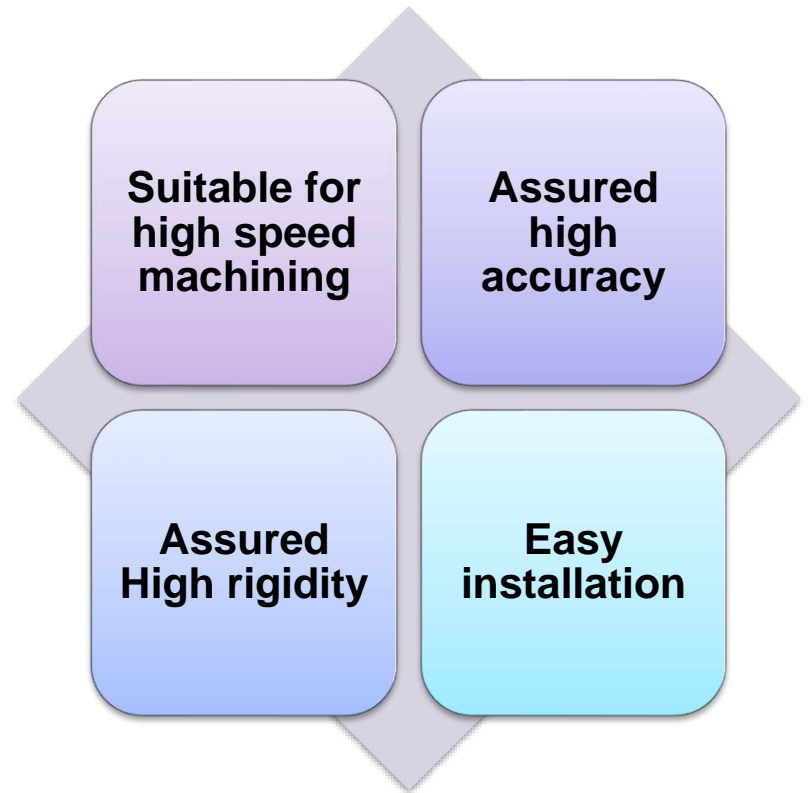
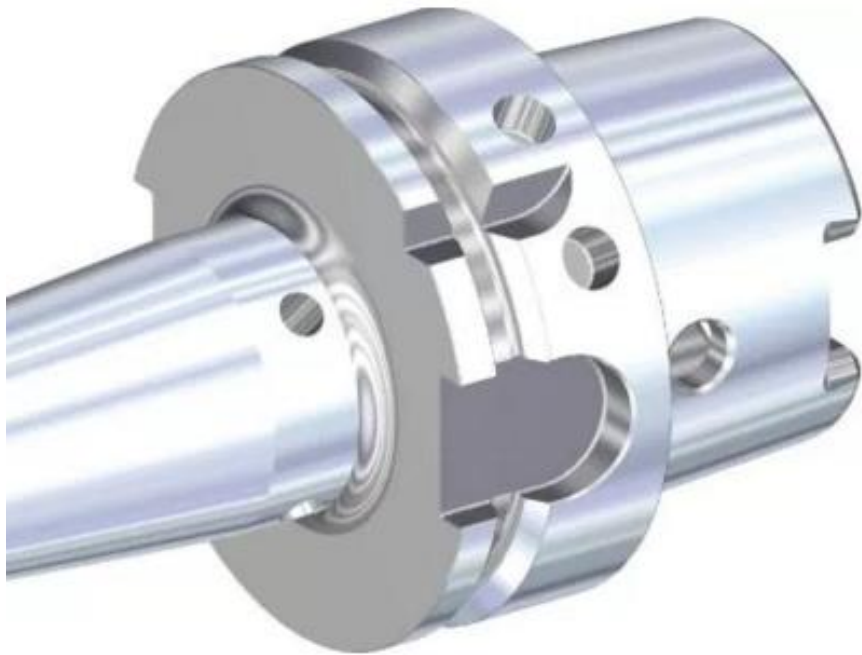
(2 holes through V flange for coolant)



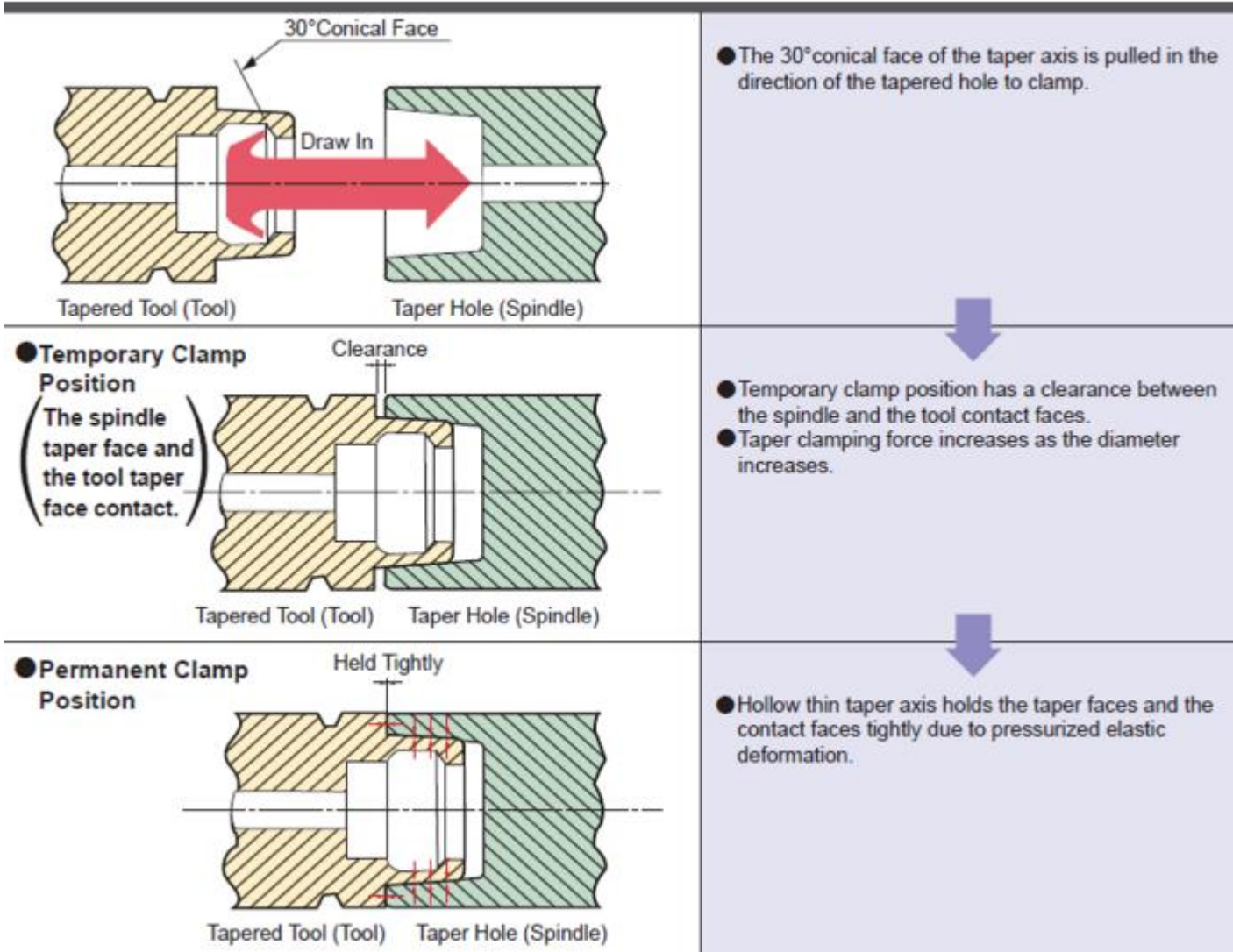
Categorized as Form A
/ Form AD / Form B
based on type of
coolant flow

HSK Holders

HSK Taper



HSK Clamping Method



Tool Holders - Front End



Collet Chuck



Side Lock Holder



Shell Mill






Hydraulic Chuck





Shrink Fit

Tool Holders - Front End

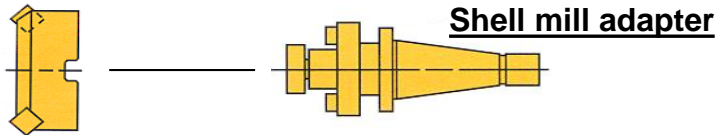
Collet DIN 6388, DIN 6499	Hydraulic Chuck	Shrink Fit
		
<p>A metal collet around the cylindrical shank is tightened with a nut.</p>	<p>A hydraulic tool holder uses a reservoir of oil to equalise clamping pressure around the tool. Turning a screw increases the pressure on this oil, causing an expanding sleeve to grip the tool shank.</p>	<p>A shrink fit tool holder works in conjunction with a specialised heater. The tool holder takes advantage of thermal expansion and contraction to clamp the tool. At normal shop temperature, the bore in which the tool locates is slightly undersize compared to the tool shank. Heating the tool holder opens up this bore, allowing the tool to be inserted. As the tool holder cools, the bore shrinks around the tool to create a concentric and rigid clamp.</p>

Tool Holders - Front End

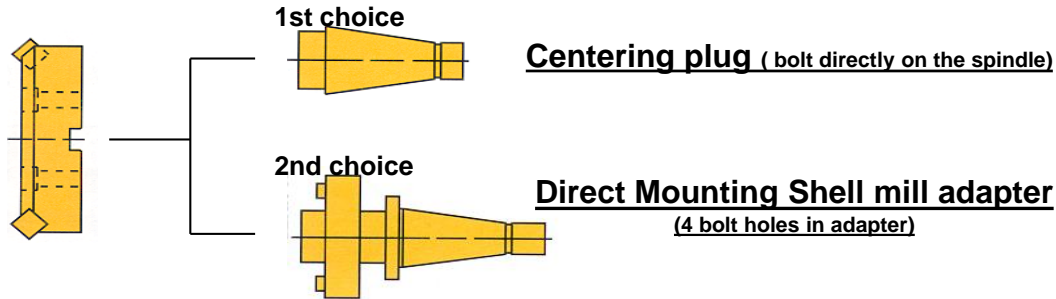
Weldon, DIN 1835 B	Whistle Notch, DIN 1835 E
	
<p>For weldon and whistle notch holders, a radial screw is in contact with the tool and holds it in place. The tool needs to have a flat ground onto the shank.</p>	

Tool Holders - Front End – Shell Mill Holders

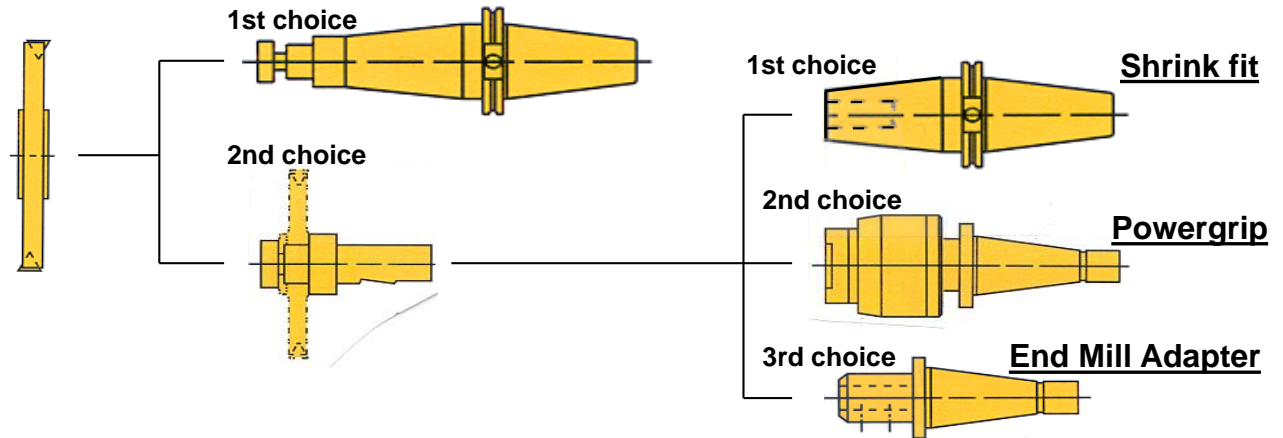
Shell &
Face mills



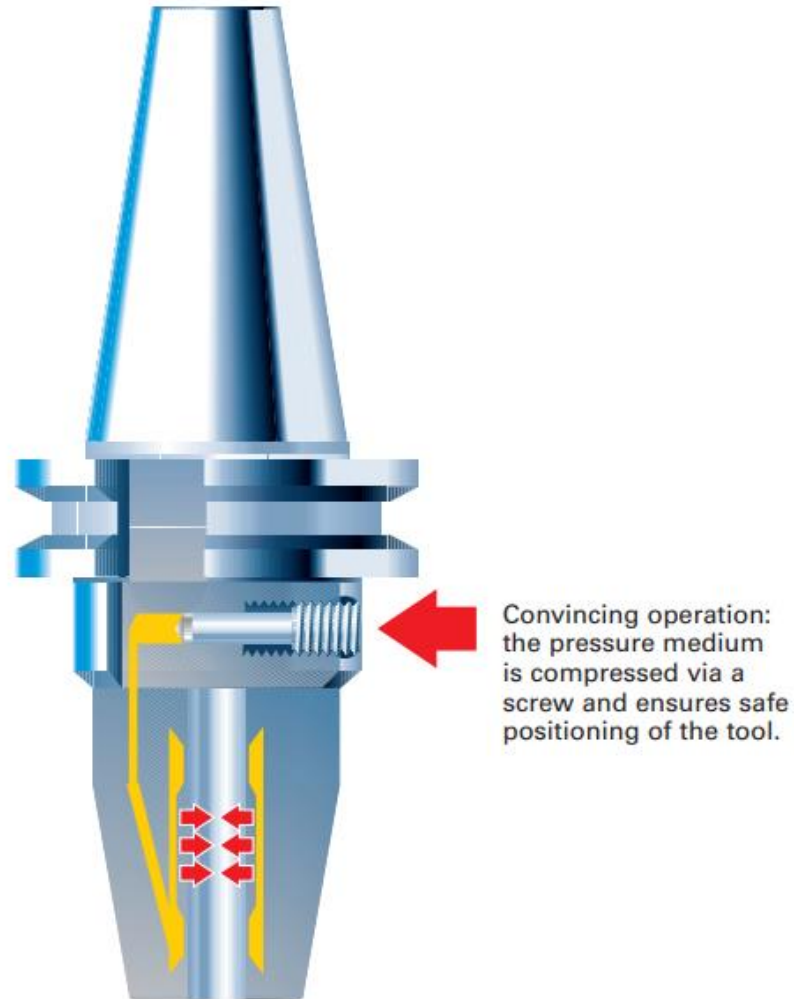
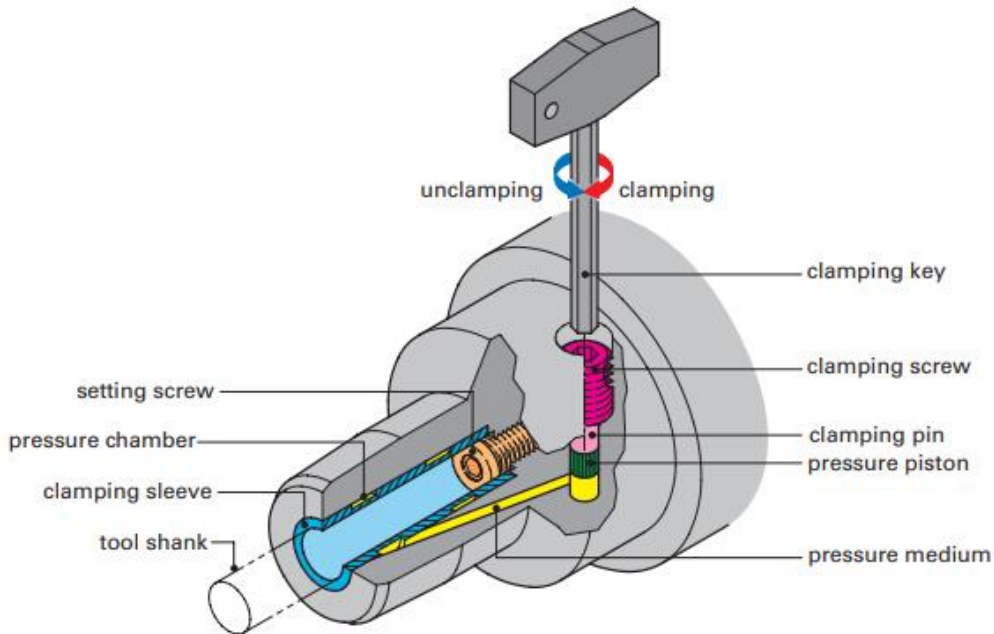
Direct
Mounting mills



Slotting &
half-side mills

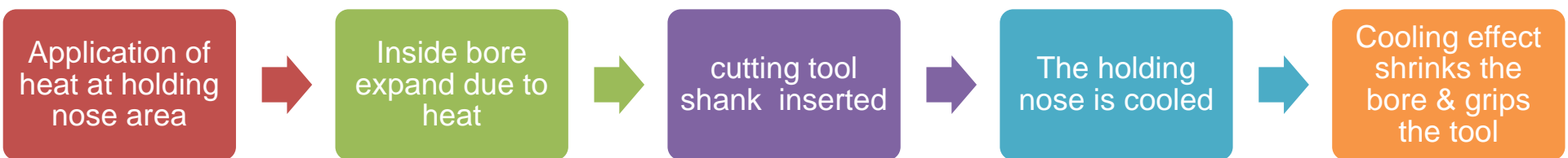
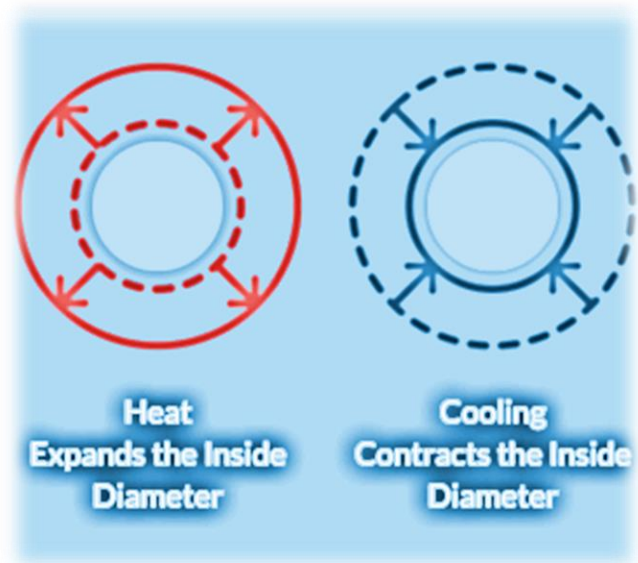
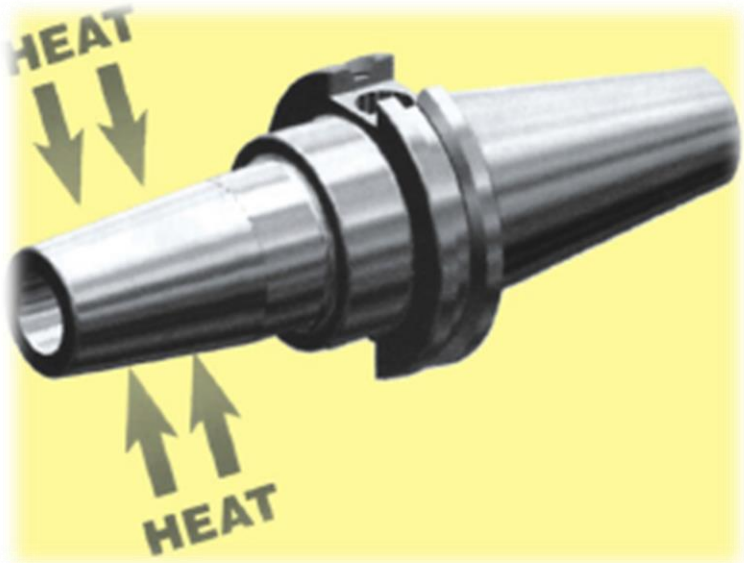


Hydraulic Chuck - Working Principle



Shrink Fit Holder- Working Principle

Internal bore size is slightly manufactured smaller than the cutting tool shank.



Accuracy – Taper Fit

INTERNATIONAL CONE TOLERANCE SYSTEMS (Reference Standard: ISO:1947)

- The ISO 1947/ DIN 69871 Standard specifies AT4 specifications.
- **BPTL manufactures to AT3 Specifications and inspect on 100% basis.**
- Below figures represent *maximum allowable deviation from a perfect taper* over the length of the taper. This deviation can be applied only in the direction which increases the rate of taper.

TOLERANCE ZONES															
Taper		Gauges				Hi - Speed / Hi Accuracy Machining				Normal Machining		Utility Application			
		Master		Working		AT 2		AT 3		AT 4		AT 5		AT 6	
		AT 0	AT 1	AT 2	AT 3	AT 4	AT 5	AT 6							
Size	Length	ATD	AT α	ATD	AT α	ATD	AT α	ATD	AT α	ATD	AT α	ATD	AT α	ATD	AT α
30	47,63	0,0006	0"	0,0010	4"	0,0015	6"	0,0023	10"	0,0038	16"	0,0061	26"	0,0095	41"
40	68,25	0,00069	0"	0,0011	3"	0,0017	5"	0,0028	8"	0,0043	13"	0,0069	21"	0,0109	33"
50	101,60	0,0011	0"	0,0017	2,5"	0,0020	4"	0,0033	6"	0,0051	10"	0,0081	16"	0,0127	26"

BPTL Products

Raw Material for Tool Holders



**Raw Material used – 20MnCr5
Shrink fit – H11/H13**

Case hardening Steel Depth 0.8

Hardened to 56-62 HRc

**Black oxide after heat treatment
and before grinding.**

**Glass beading after H/T in case of
Shrink Fit adaptors.**

Product Range – Machining center Tool holders



Tool holders suitable for all your needs...!!

Tool Holder Back End

BT, DV, CV, DT, QC, with 30, 40, 50 Taper

HSK 50,63,100 Short taper

R8, Straight & VDI Shank

Tool Holder Front End

Collet Chucks – ER, TG & DA

End Mill Adaptors

Whistle Notch Adaptors

Shell Mill & Combi-Shell Mill

Morse Taper

Drill Chucks

Hydraulic Chucks

Shrink Fit Adaptors

Tool Holder Accessories

Collets- ER, TG & DA

Pull Studs

Locknuts

Wrenches

Collet Chucks

0.005 mm Run out Accuracy – For ER Collet
0.008 mm Run out Accuracy – For TG / DA Collet

Available on All Tapers



Dynamically Balanced
supplied in G-6.3 & G-2.5 on request

SPL Surface Treatment for Locknuts
to improve Wear Resistance

End Mill Adaptors

Size range \varnothing 6-50 mm / 1/8" – 2"

Bores are controlled within H6
with Run out Accuracy 0.005 mm

Dynamically Balanced
G-6.3 & G-2.5 on request

Available on All Tapers



Shell Mill Adaptors

16-50 mm
Range of Pilot Diameter



Run out on Pilot Diameter
w.r.t. Taper < 0.008 mm

Available on All Tapers

Drilling Chucks & Morse Taper Holders

Suitable for drill range 1-13 mm



Available on All Tapers

Available in Taper Size MT1-MT4



Shrink Fit Adaptors

Bore size from 6-32 mm



TIR within 3 Microns.



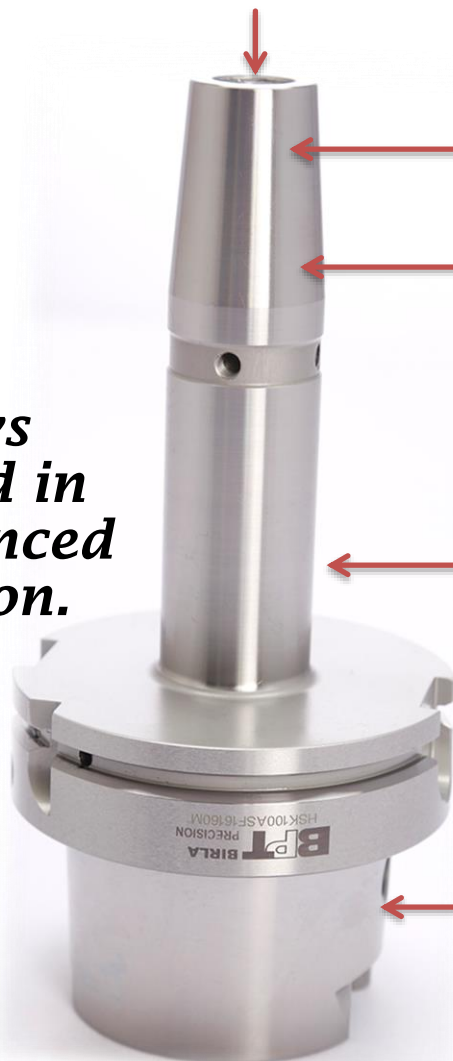
Ensures Gripping at 360 Degrees through out the length of clamping



Balanced G6.3 @15000 rpm



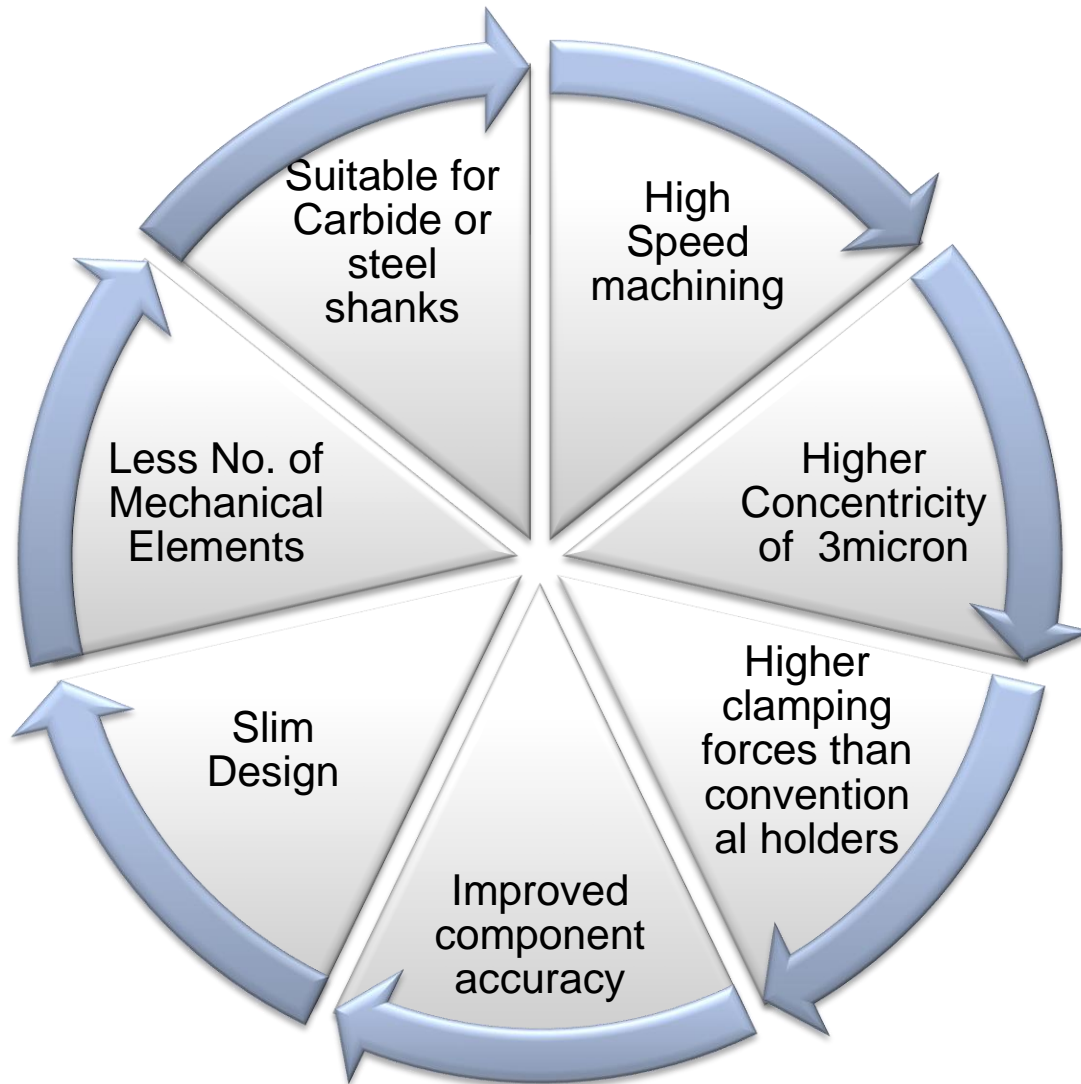
Always supplied in Pre-balanced condition.



Available in all Tapers



BPTL Advantages Shrink Fit



Tapping Systems

Tap size range from M1 ~ M36



- 1. Rigid
- 2. Tension & Compression (T&C)
- 3. Tap collet chuck (ER / TG / DA collet)

With / Without
Overload clutch



BT / DV / HSK Shank (All type)
Straight Shank (T&C only)
Morse taper Shank (T&C only)

Tapping Chuck

Quick Change Adaptors

Boring Bar Blanks



Machinable front end with 20-30HRC

Blank Ø Range from 63-200 mm

Length Range from 150~350mm

Available on All Shanks.

Hydraulic Chucks

**TIR within 5 Microns at 4 times
Cutting Tool Dia.**



6-40 mm Bore size

**100% Tested for Accuracy &
Torque.**

*Repeatability of
3 Microns TIR.*

*Always supplied
in Pre-balanced
condition*

Available on All Shanks

Hydraulic Chucks – BPTL Advantages

*Only Company
INDIA with Jelly
filled Hydraulic
Chucks*

No Leakage

*High Tool clamping
Torque*

*Manufactured with
close run out of 5 μ*

*High Rigidity – Low
vibrations – No
Chatters –
Increased Tool Life*

*Close Run out
Accuracy on the
machined Part*

*50k clamping
Cycles with Jelly
Holders – Gives Low
CPC*

10 years Life

*Suitable for higher
RPM*

BPTL Product Advantage



SI No.	Features	Oil Type (Others)	Jelly Type (BPTL)
1	Type of Fluid	Oil	Jelly
2	Leakage	Yes	No Leakage
3	Clamping Torque	Low	High
4	Rigidity	Low	High
5	Vibration	High	Low
6	Chattering	Present	Low
7	Tool Life (CPC**)	5~6 Years	>10 Years
8	Run Out Accuracy	Low	High
9	No. of clamping cycles**	30k Cycles	50k Cycles
10	Machining Parameters**	Normal	High

**** Proven Lowest CPC in Indian Market**



**Jelly Holder
WINS over Oil
Holder**

“Panther Series” Holders – High Performance Range



Quicker • Sharper • *More* Powerful

“Panther Series” Holders – High Performance Range

Available in All tapers
BT / DV / CV / HSK

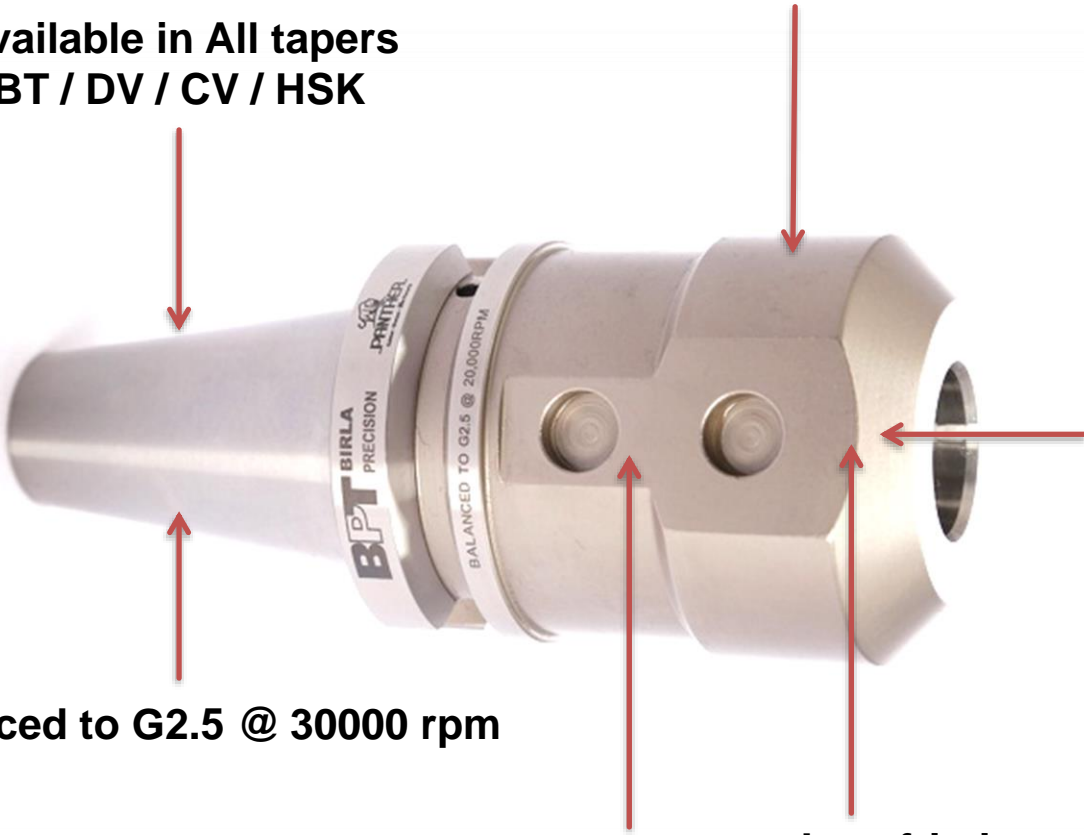
Improved surface
hardness - 58 to 60 HRC

complete silver look
(Electro less Nickel coating)

Balanced to G2.5 @ 30000 rpm

Higher Wear resistance

Low friction co-efficient and
thermal conductivity



“Panther Series” Holders – High Performance Range



AT3 class precision taper as per ISO standard		
<p>Circularity $< 1\mu$</p>	<p>Surface finish $< 0.4 Ra$</p>	<p>Concaveness $< 1\mu$</p>
<p><i>Eliminates Vibration</i></p>	<p><i>Great Surface contact between spindle & tool</i></p>	<p><i>Uniform contact trough out the taper</i></p>
<p><i>Longer Tool Life & No Component Rejection</i></p>	<p><i>Spindle Life is Improved</i></p>	<p><i>Spindle Life is Improved</i></p>

“Panther Series” Holders – High Performance Range



Features	Standard Holders	Panther Holders
Wear Resistance	Normal	30% Higher resistance
Surface Hardness	50~58 HRC	58~60 HRC
Life	5 Years	30% higher life
Thermal Expansion	Higher Thermal expansion	Lower Thermal expansion
Tool Holding performance	Normal	Highest Tool Gripping Effect
Color	Black	Silver Look

BPTL Panther - Advantage



Tool Gripping as Strong as Panther Grip !!!



Quicker • Sharper • *More* Powerful

Balanced to G2.5 @ 30000 rpm

Run out Accuracy < 5 μ

Powerful Tool Grip

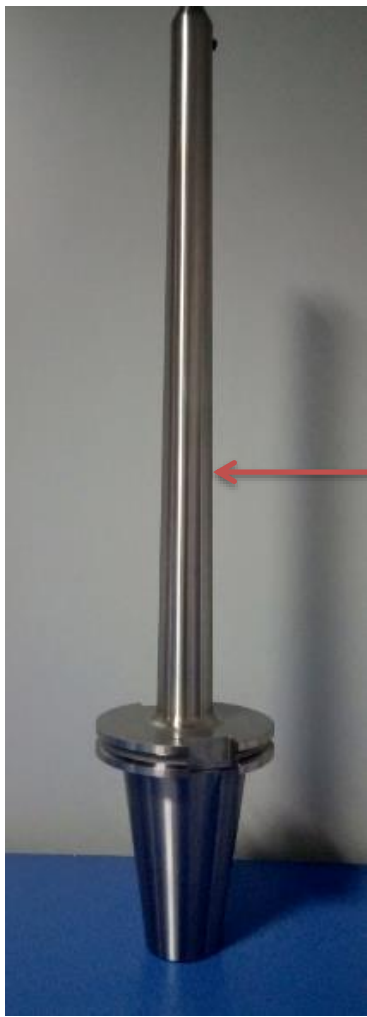
Mirror-finish for greater aesthetic look

Electroless nickel plating - Corrosion resistant

Longer Life

Custom / Special Tool Holders

Example: Side Lock Holder



350 mm Length

Highest Gauge length TH in INDIA

Only Company in INDIA to offer Custom AT3 class Tool Holders

Custom Solutions Made to Order

Any Combination Can be Provided

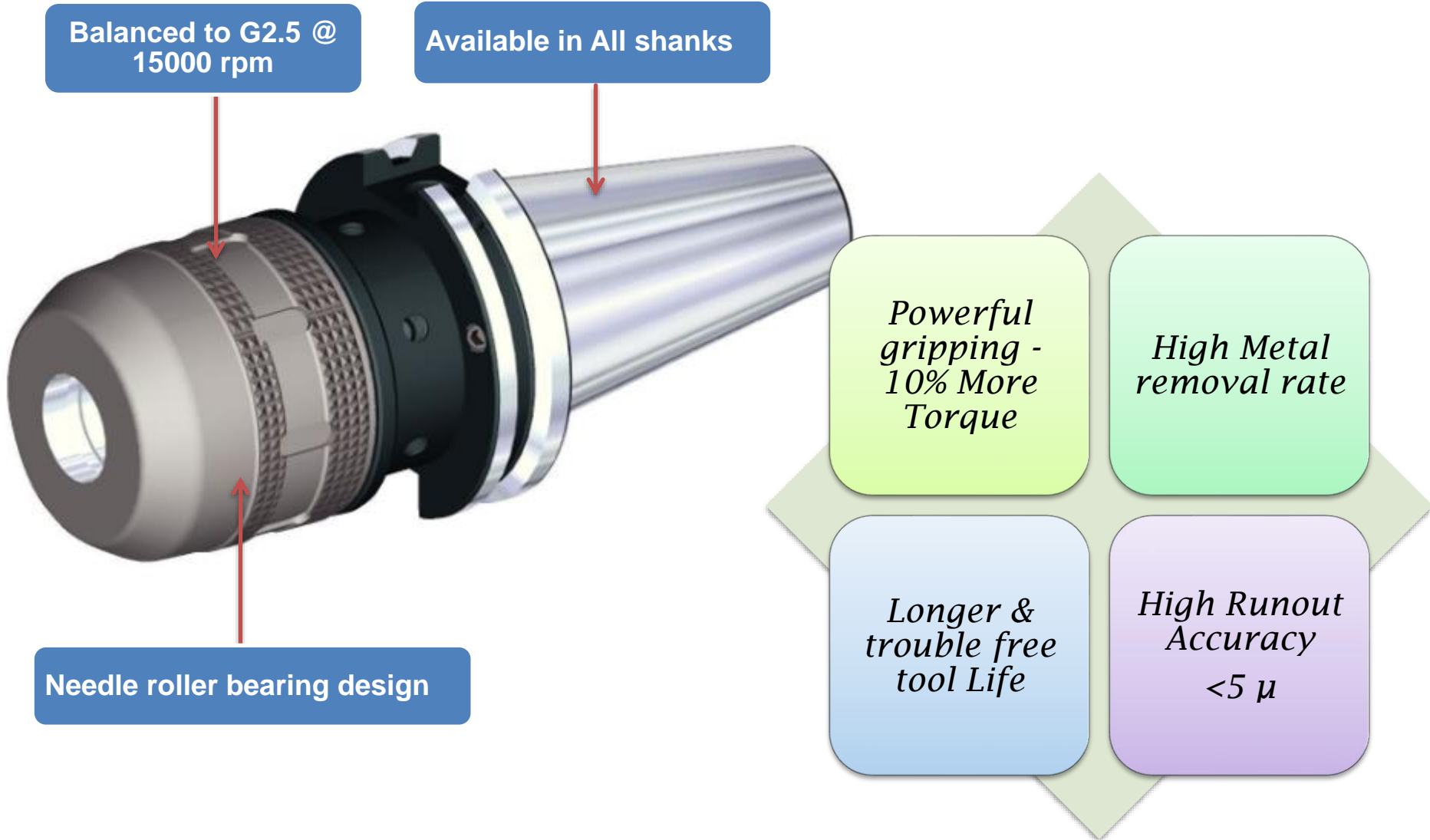
100 % Inspection

Lowest MOQ

> 30 Years Experience of TH

NEW DEVELOPMENTS

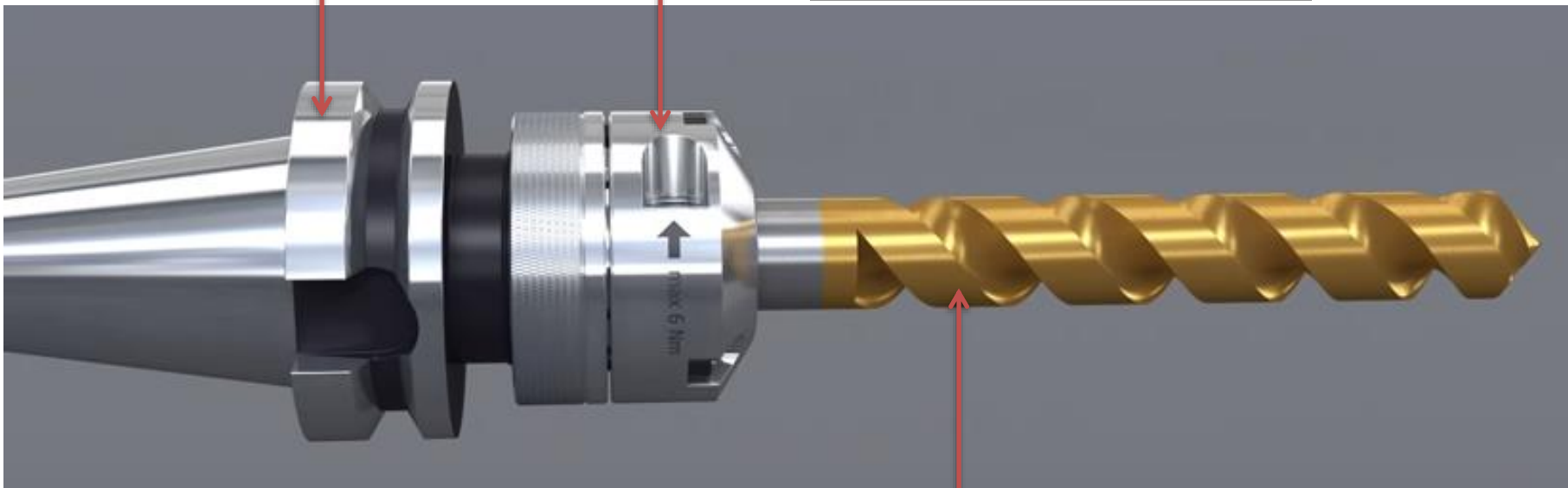
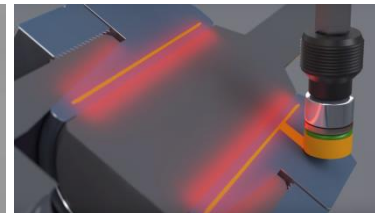
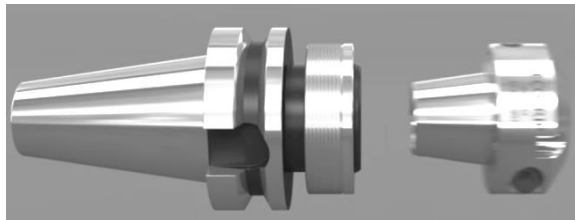
Power Grip Chuck



BPT FlexiGrip

ER Collet Chuck

**BPT FlexiGrip
(Hydraulic
Chuck)**



Increased Tool Life & productivity

Quick & Easy Adjustability of run-out

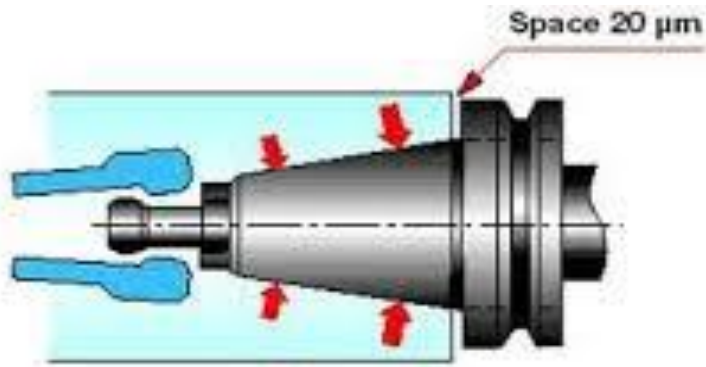
Excellent Repeatability

Easy handling and precision

Run out $< 5 \mu$

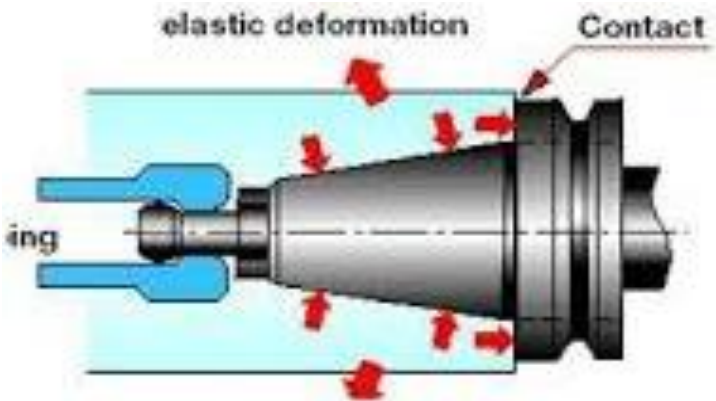
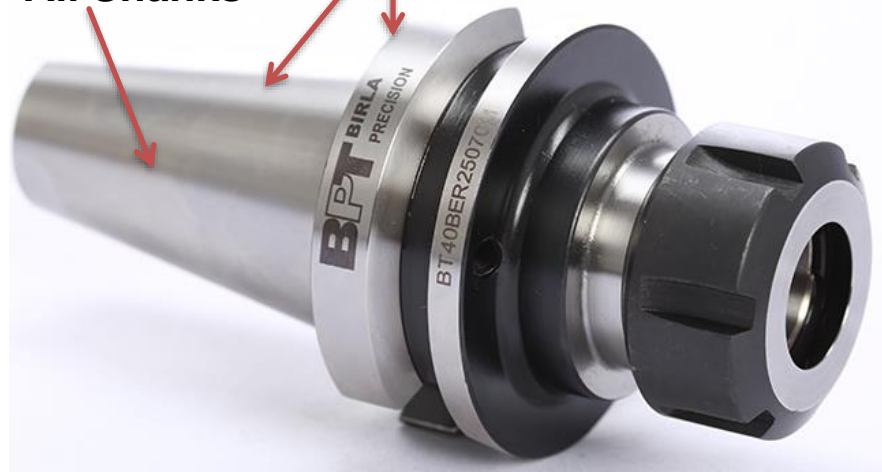
***Make Your ER Collet Chuck
Hydraulic High Precision
Holder***

DCT (Dual Contact Taper) Holder



Available on All Shanks

Face & Taper (Dual) Contact



28% increase in Bending Resistance

Improved surface finish & Accuracy

Improved roundness of bore

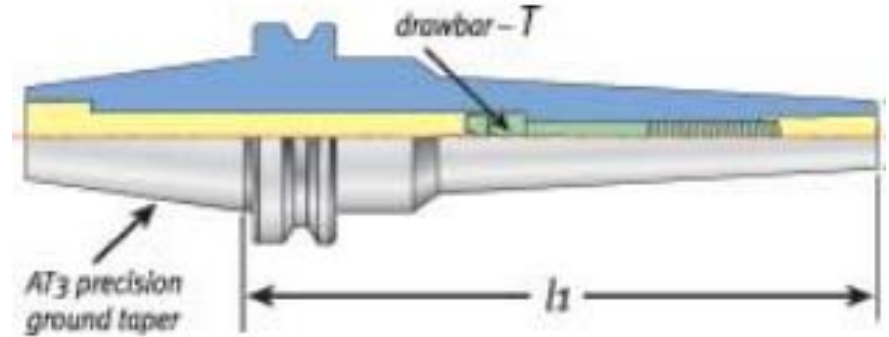
Extended Tool Life

SLIM line "Weightless" Side Lock Adaptor

Available on
All Shanks



Slim front
End

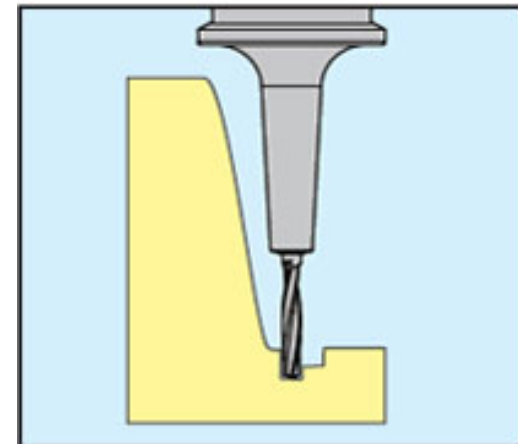


*Great accuracy
at extended
lengths*

*Balanced to
25,000 RPM at
G2.5*

*Higher
Parameters*

*Narrow nose
for excellent
clearance*



**XX % less weight than conventional
holders**

Tool Kit



Tool Holder

*Collet /
Sleeve*

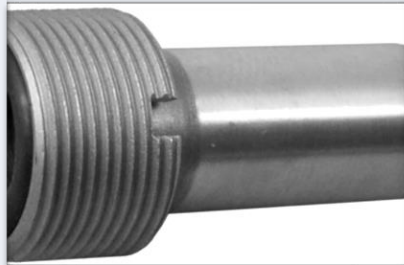
Pull Stud

*Wrench /
Allen Key*

Accessories



Reduction Sleeve



Coolant Tubes



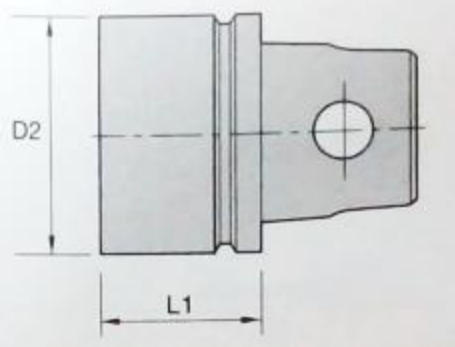
Pull Stud



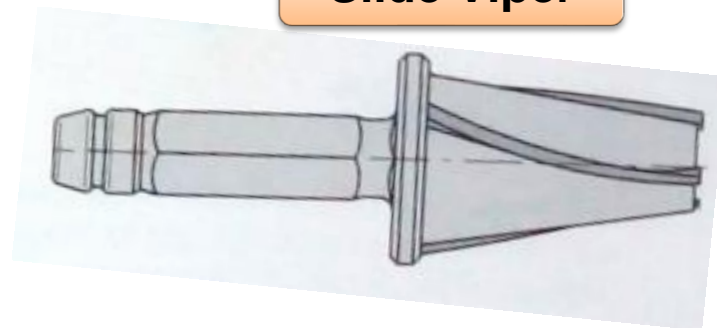
Wrench

*Can be supplied
As spares Based
on the specific
requirements*

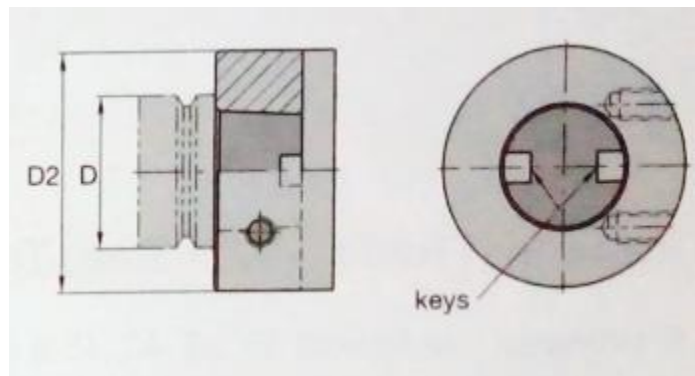
Spindle Plug



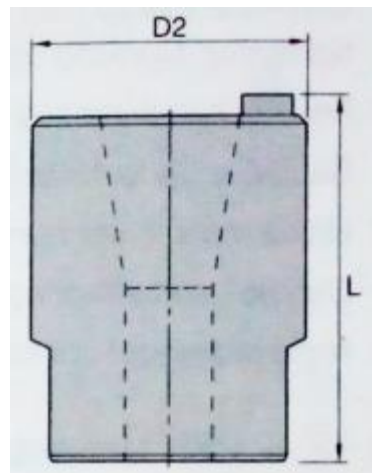
Slide Viper



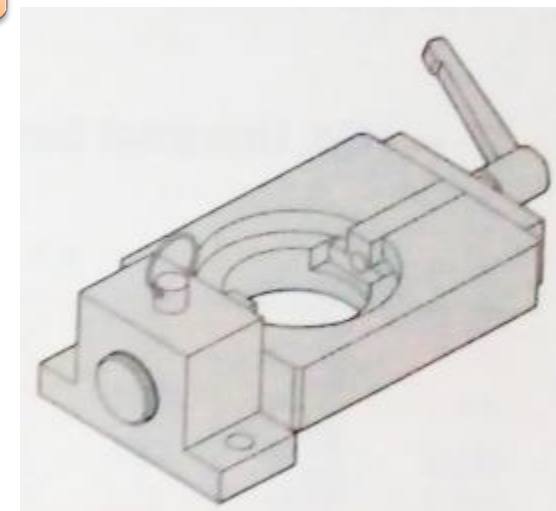
Tightening Fixture



HSK Universal sleeve

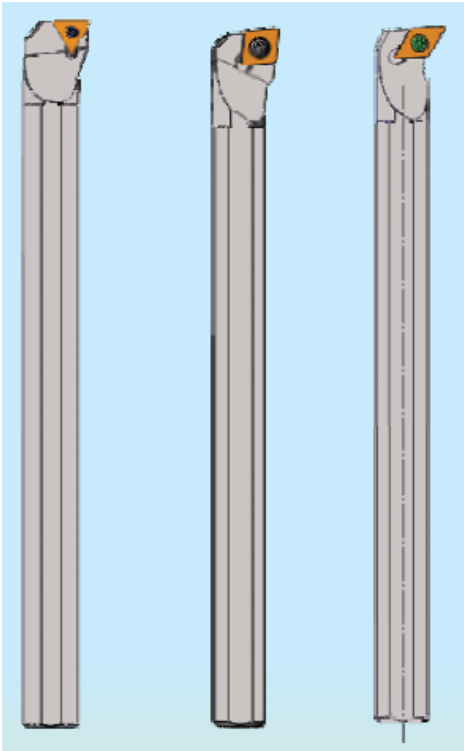


**7/24 Steep Taper
Vise Mount**

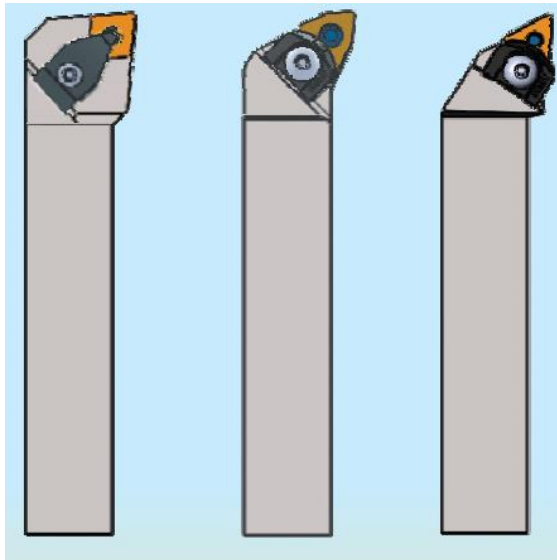


**7/24 Steep Taper
Universal Mount**

BPT Turn - ISO Turning Tool Holder



Internal Screw Lock Type



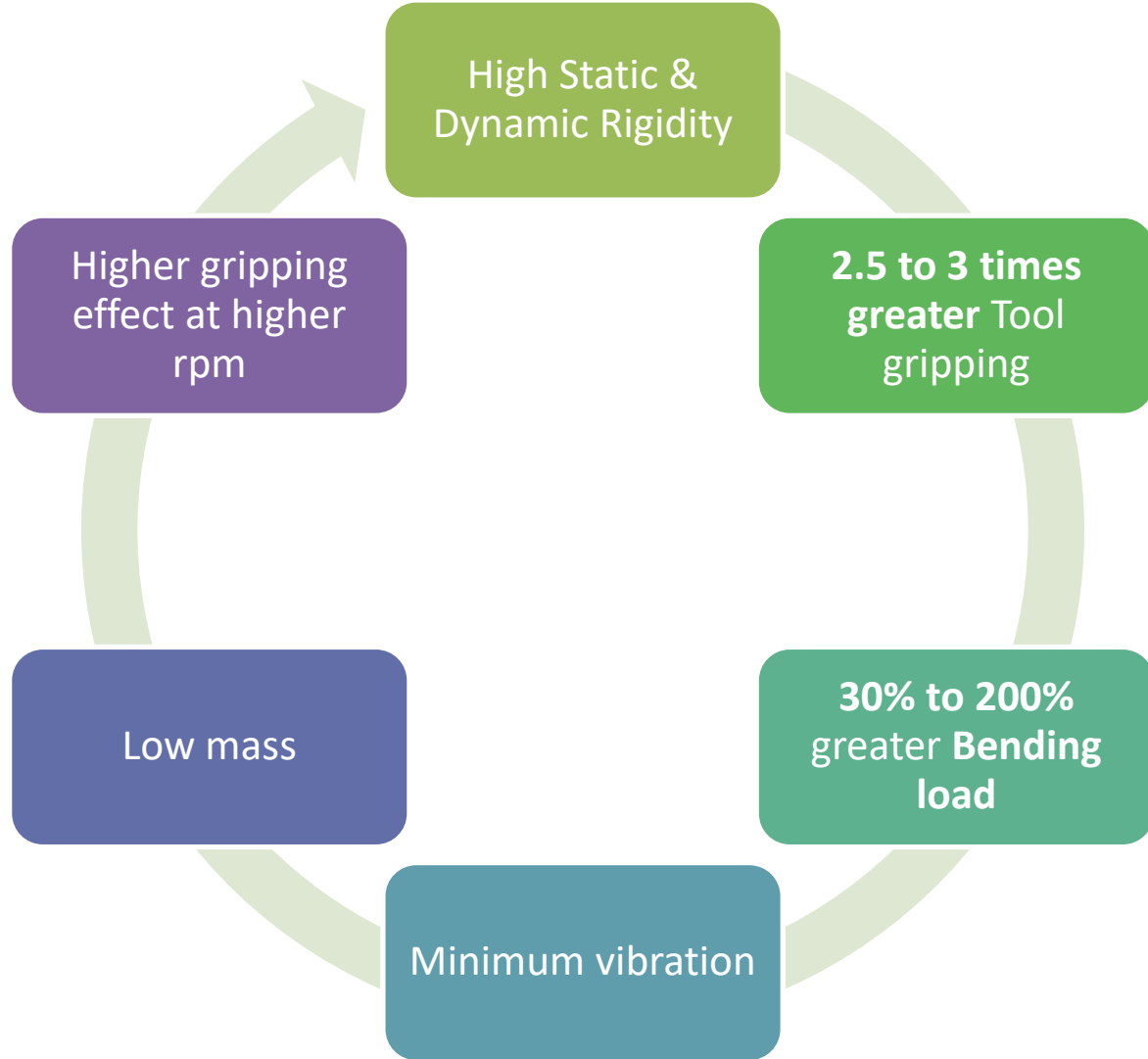
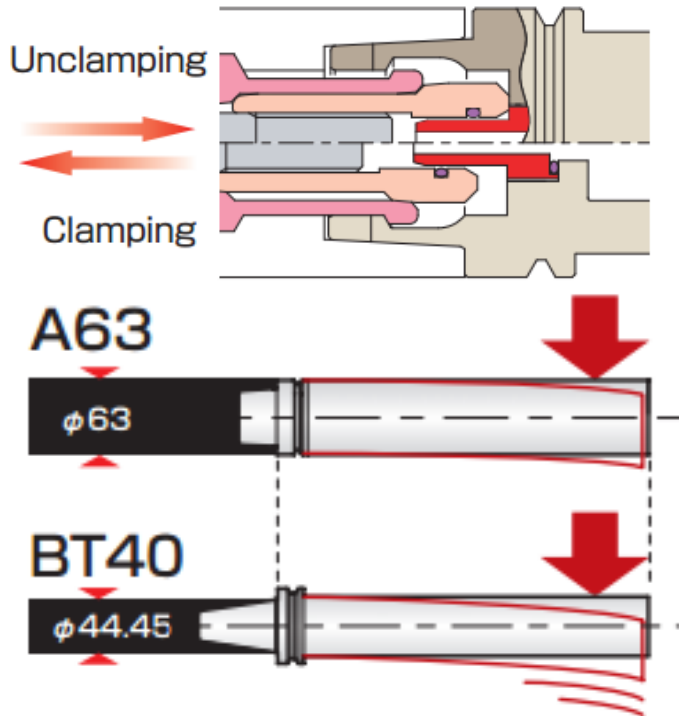
External wedge Lock Type



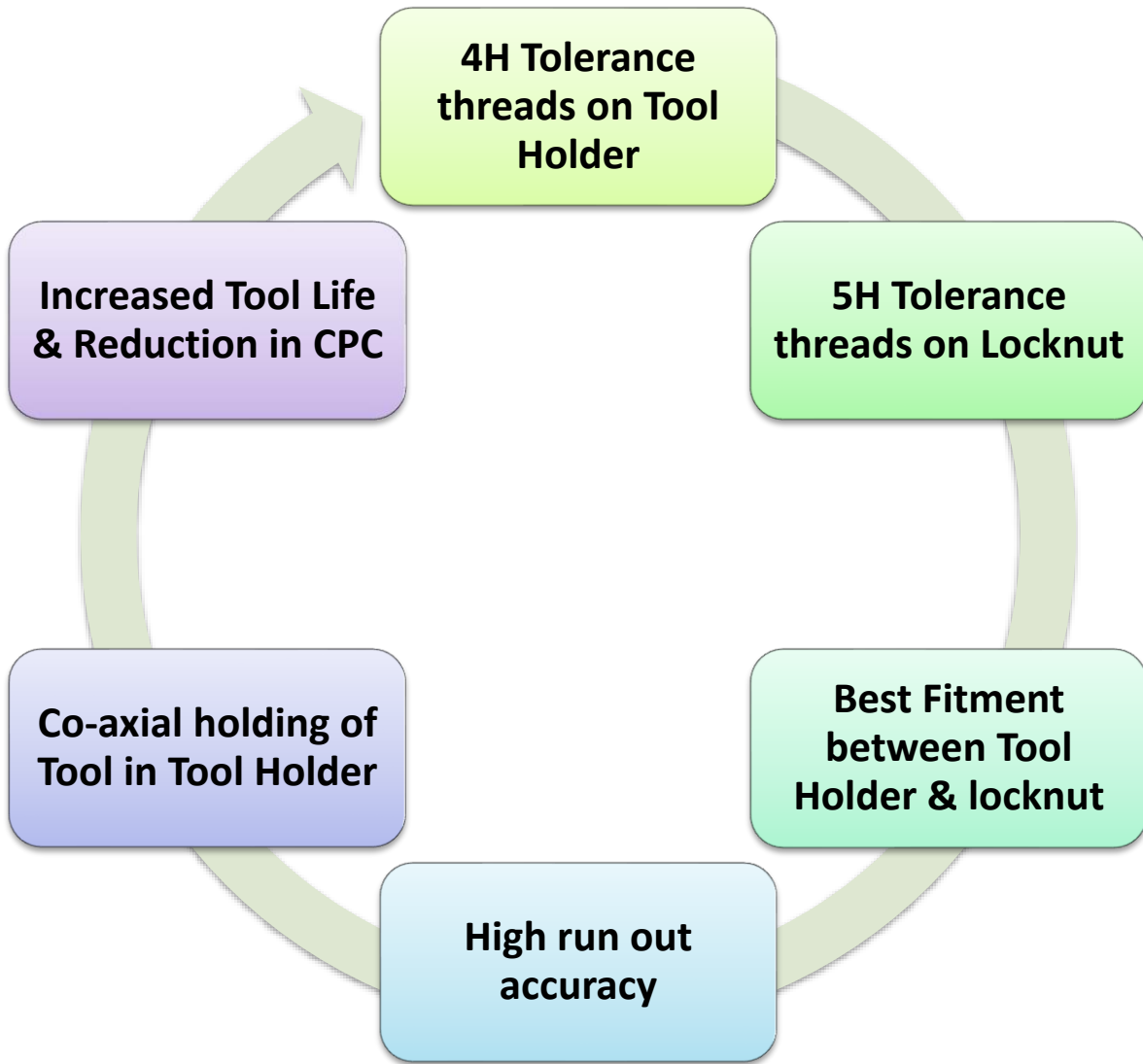
Tools for external turning & internal Turning

BPTL Advantages of HSK Taper

	Tensile strength of draw bar	Tool gripping power
BT40	10~15 kN	10~15 kN
A 63	5.8 kN	18.4 kN
BT50	20~25 kN	20~25 kN
A100	14.5 kN	45.9 kN



BPTL Advantages of Collet Chucks



BPTL Advantages – Why BPTL ..?

Sl. No.	Parameter	BPTL	Competitor
1	Taper Accuracy	AT3 Class	AT4 Class
2	Bore Run out w.r.t Taper	< 5 μ	8 to 10 μ
3	Circularity	< 1 μ	5 to 10 μ
4	concaveness	< 1 μ	5 to 10 μ
5	Convexity	Not Allowed	>5 μ
6	Inspection Method	By German designed & calibrated Stotz air electronic gauging system	Blue match or local analog gauging system

BPTL Advantages – Why BPTL ..?

Sl. No.	Parameter	BPTL	Competitor
7	Taper contact	More than 95%	Between 70~75%
8	High Parameter capability	Can run on high speed at high rpm	Vibrate at high rpm
9	Spindle Life	Increases the machine spindle life more than 3 to 4 times against competitor AT4 / AT5 class Tool holder	Reduced main machine spindle life which is the heart of the machine. Leads the maintenance cost along with down time cost of the company
10	Material	Imported case hardened steel with controlled case depth	local material with uncontrolled case depth

BPTL Advantages – Why BPTL ..?

Sl. No.	Parameter	BPTL	Competitor
11	Finish	<p><u>Standard Range TH:</u></p> <ul style="list-style-type: none"> ➤ All over black oxide finish except ground area. ➤ Increases aesthetic look of the Tool Holder ➤ Resist the corrosion. 	No any specific treatment
12	Finish	<p><u>Premium Range TH:</u></p> <ul style="list-style-type: none"> ➤ All over Electro less nickel finish except ground area. ➤ Increases aesthetic look of the Tool holder ➤ Improves wear resistance ➤ Surface hardness ➤ Lowering the friction co-efficient. 	These features not available

BPTL Advantages – Why BPTL ..?

Sl. No.	Parameter	BPTL	Competitor
13	Balancing Grades available	G6.3 @15000	Competitor claims that G6.3 @15000 , But practically observed that it is more than G8.5
14		G2.5 @20000	
15		G2.5 @30000	

BPTL World class tool holders – Global presence

World Class Holders at Best Value For Money !!

*Exported globally to
over 30 countries*

*Supplied to all world
class distribution
companies*

*Selling at
best-in-class CPC*

*Major customers like
Kennametal, Walter,
Guhring, Hoffman*

CPC Advantages – Why BPTL ..?

Lowest CPC offered by BPTL

*Eliminates 100%
Inspection*

*Avoids Machine Idle
Time*

*Tool Change
Frequency Reduced*

Tool Life Increased

*Parts Per Tool & Tool
Holder Increased*

*Tool Breakage Is
Eliminated*

*Part Rejection Is
Reduced*

*Machine utilization
is increased*

BPTL Product Advantages – Why BPTL ..?

Quicker Delivery : 4~6 weeks after Order for non Stock Items

On time Service : 11 Branch Offices & 350+ dealers Across India

Longer Life resulting in Lower CPC

Exporting Globally to over 30 countries , for customers like Kennametal , Walter, Guhring, Hoffman etc.,

AT2/AT3 Class Tool Holders

Highly Balanced Tool holders as per IS Standards

Closest Run-out Tolerance Tool Holders

High Parameters Capability

100% Inspection

*World Class Manufacturing Standards & Process - Established by Joint venture through **BIRLA KENNAMETAL***



*World Class
Tool Holders at
Economical
Price*

Why BPTL ..?

Entire Range of Tool Holders

Only Company in INDIA with Jelly Type Hydraulic Chuck

Entire Range of Work Holder

World Class Production Boosters

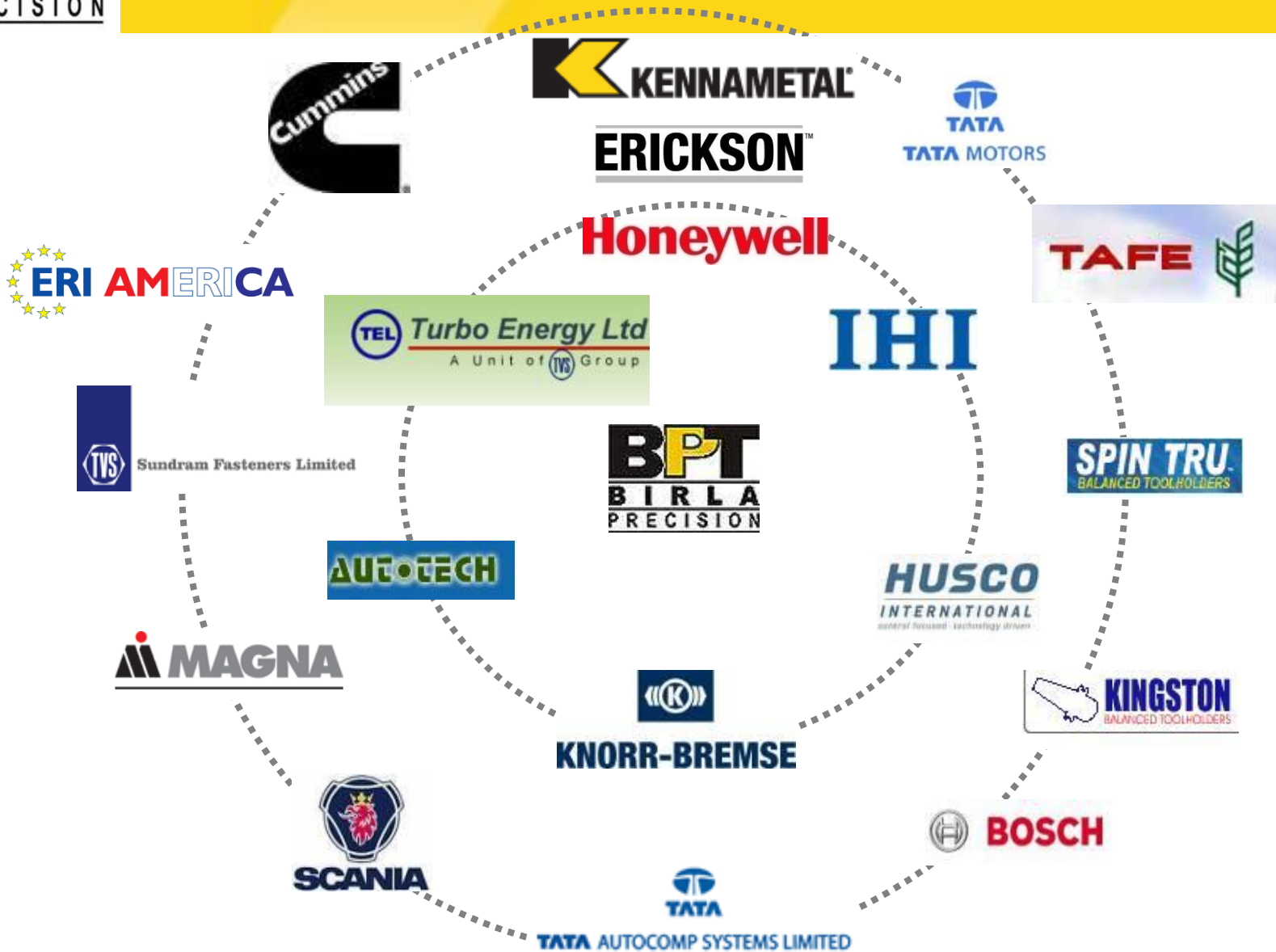
In-house Casting & Machining Solutions

Biggest Custom Solution Provider

State of the Art Facility

Highly Experienced Work Force

Major Key Customers –Tools & Tool Holders



Manufacturing Process & Facility

Manufacturing Process



We follow In-house World class process to make sure we deliver the best

Soft Stage Operations & Heat Treatment



Wide range of CNC Turning, VMC's, HMC's & Turn-mill Centers for blank machining for tooling and Precision components.



- Electrical induction furnace with temperature controlled through thermocouple for carburizing & hardening
- Oxygen probe controls the carbon potential in furnace & helps to achieve uniform case depth.

Post Heat Treatment Operations

Operations carried are

- CNC Cylindrical Grinding
- CNC Internal Grinding
- CNC Hard turning lathe
- Dynamic Balancing

***Temperature
Controlled Zone
for “Consistent
Quality”***

Grinding Operations & Balancing



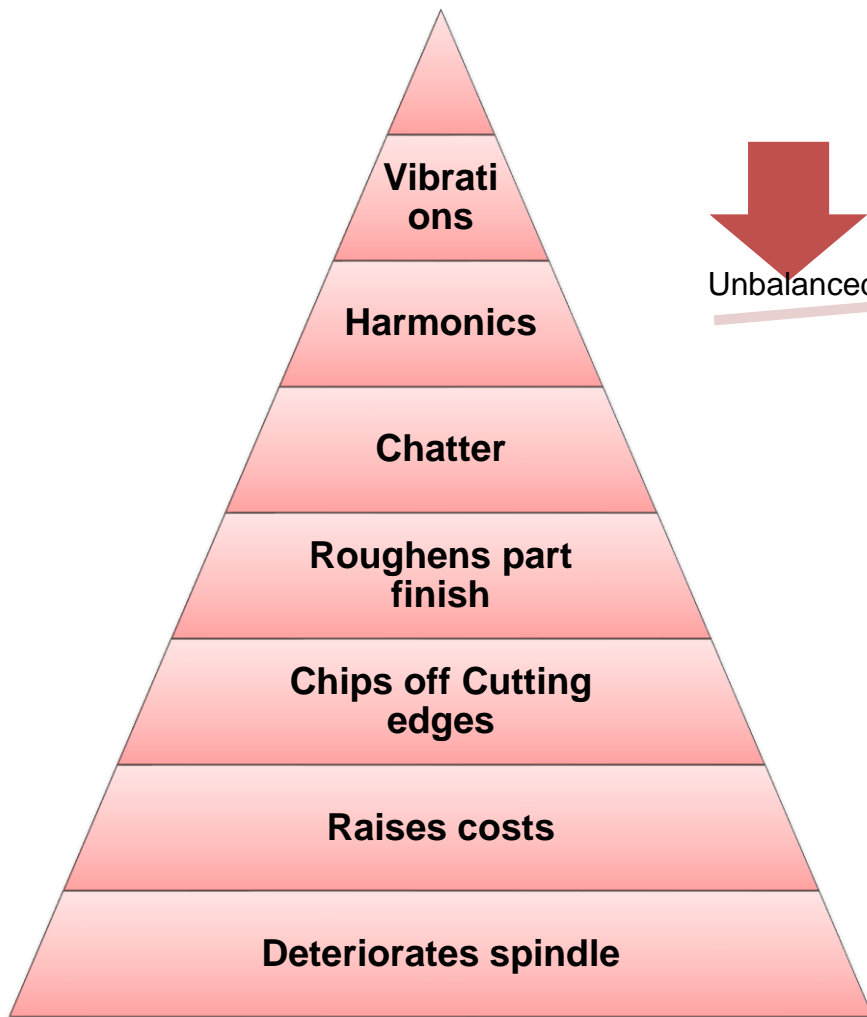
*Latest Grinding
Technology For
Superior Finish &
Concentricity*

Balancing Grades normally
used G6.3 & G2.5.

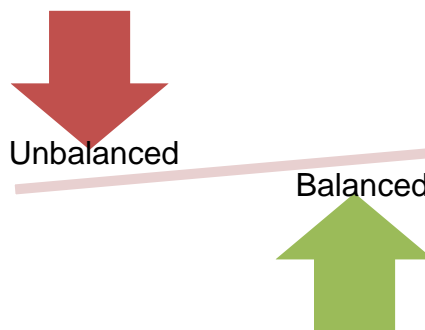
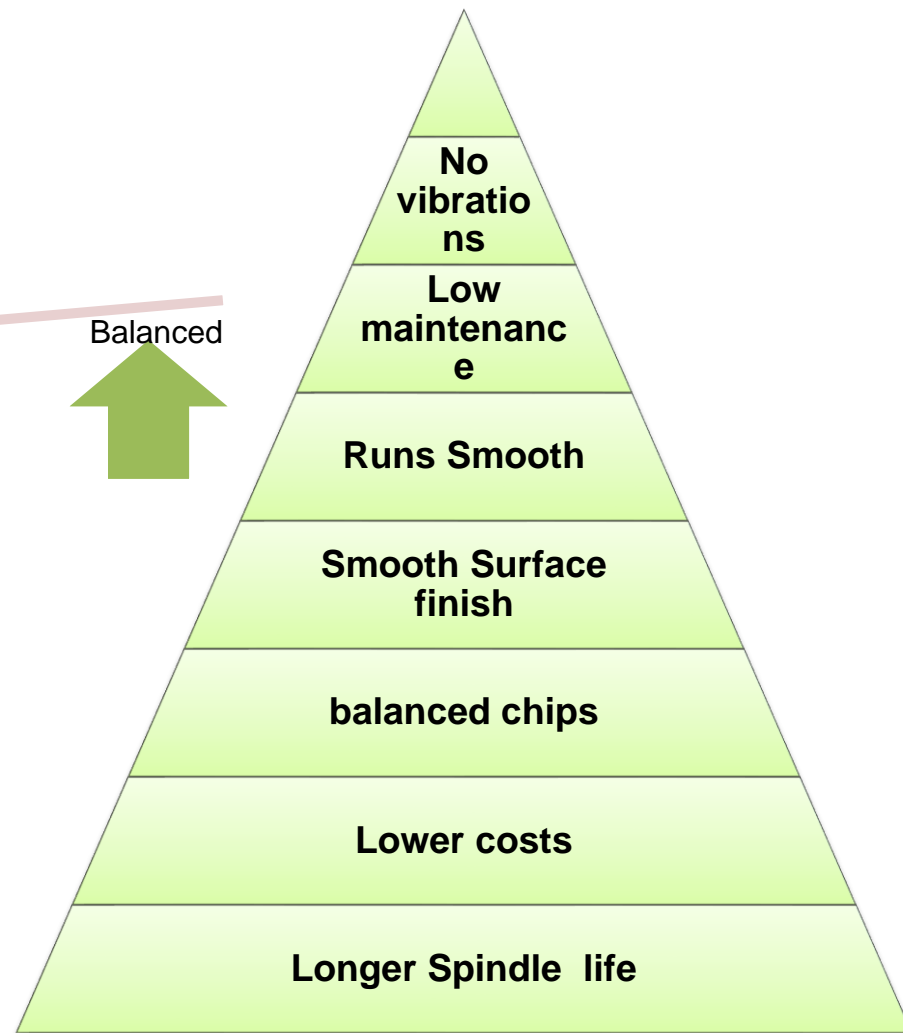


Why Balancing is Important

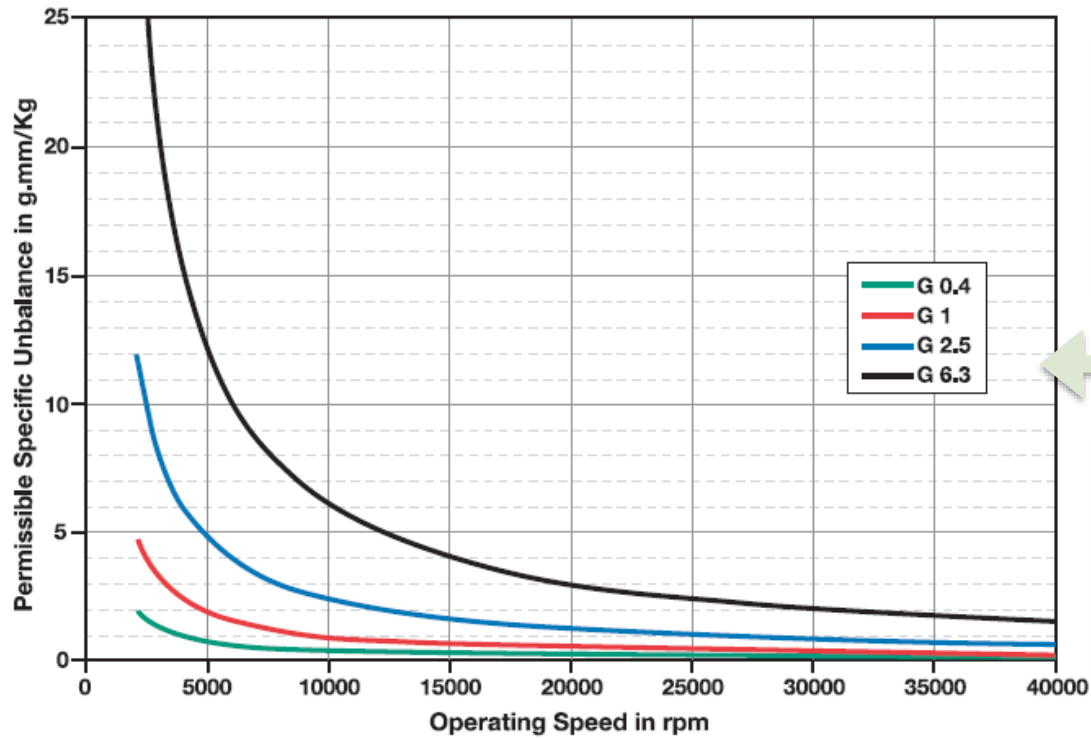
Unbalanced Tool holder



Balanced Tool holder



Why Balancing Is Important For Lower RPM Machines



Spindle Life is extended

Max Spindle speeds can be utilized

Increased Productivity & Component accuracy

Tooling mix-ups can be eliminated (Balanced & unbalanced)

Balance Holder for low RPM Machines

Low RPM machine don't need Balanced tool Holders....!!!!



**Myth
Broken !!**

*Unbalanced holders
will create a
centrifugal force
causing excessive
vibration*

*Too much
balance is better
than not enough.*



*slower-rpm machines can
be used to their fullest
potential*

*20% Average tool life
increase*

Tool Holder Balanced at Higher RPM is Ideal for Machine with Low RPM

Facilities – Cylindrical Grinding



**Japanese make –
'OKOMOTO' CNC
Cylindrical Grinding Machine**

Precision grinding,
vibration free
with high
accuracy



**Swiss make – 'Studer' CNC
Cylindrical Grinding Machine**

Facilities – Cylindrical Grinding



MICRON Center less Grinding Machine

Dimensional Accuracy : 0.1 Micron
Straightness : 0.1 Micron
Circularity : 0.1 Micron
Roundness : 0.1 Micron

Facilities



5-Tank Ultrasonic cleaning system for part cleaning



Japanese make CITIZEN CNC sliding Head Machine for precision components



Laser Marking of Batch Number on Each Holder for Traceability

Facilities – Standard Room



Standard Room



Zeiss 3D CMM



Zeiss Roundness Testing



Zeiss Contour Graph



MITUTOYO Surface Testing

Every Taper is 100 % Inspected



- ❑ Surface finish < 0.4 micron
- ❑ Dim. Accuracy up to 0.0023 micron.
- ❑ Angular Tolerances – 6”
- ❑ Circularity < 1.0 micron.
- ❑ Bore size control in H5.
- ❑ Straightness < 1.0 micron.
- ❑ TIR within 5 microns.

All tool holders ground to taper angle accuracy as per AT3 class.

World class inspection facility to deliver 100% Right Products to CUSTOMER

CMM



Height Gauging



Circular Geometry

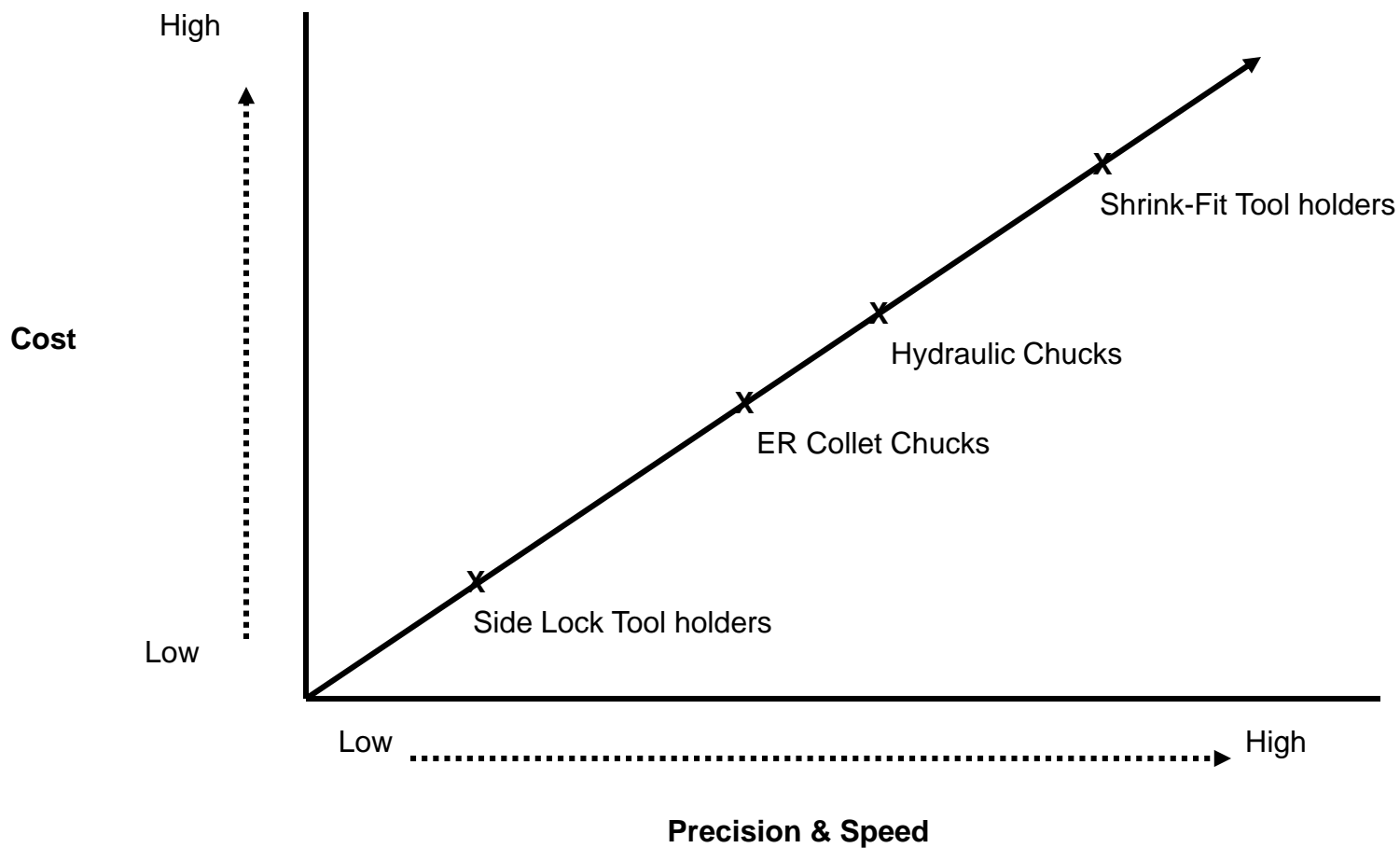


Optical Comparator



Tool Holders – Selection Guide

Cost Vs Precision & Speed

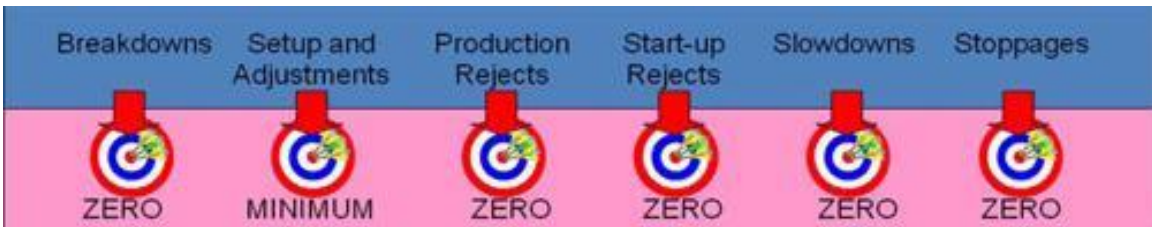
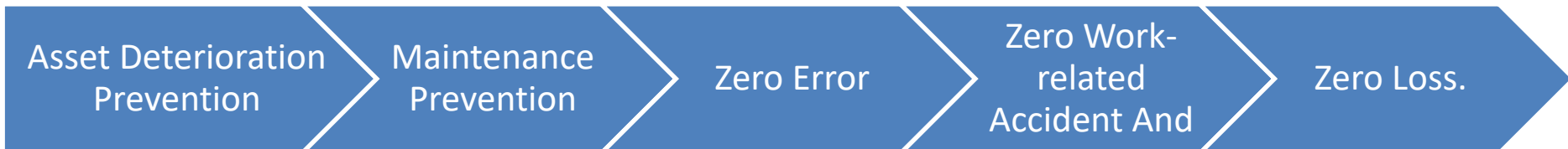


BPTL Tool Holders – Selection Guide

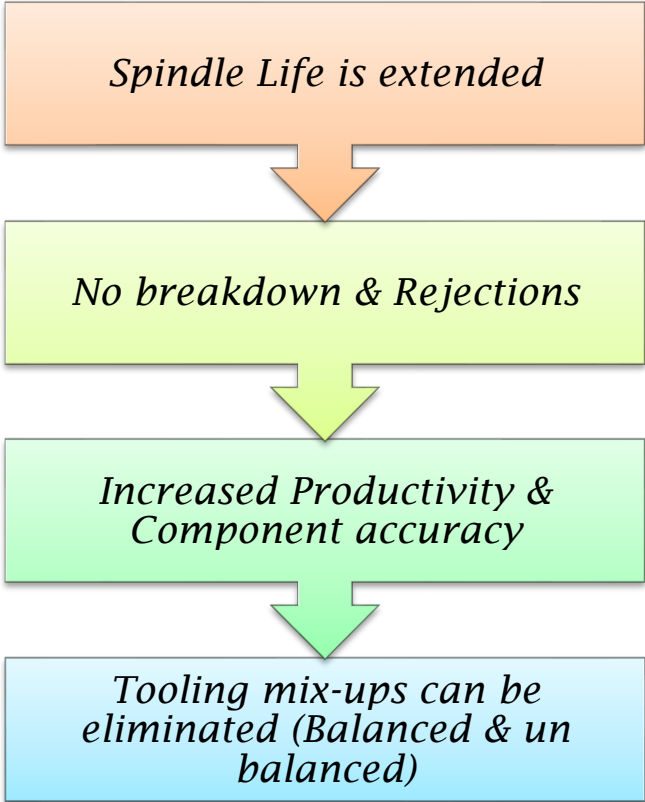
Rank	Excellent	Very Good	Acceptable	Poor
Tool holder Attributes				
High Speed Performance RPM- Up to 25000	Shrink Fit	Hydraulic Chucks	ER Collet Chucks Side Lock Holder	
Balance Grade 6.3 / 2.5	Shrink Fit Hydraulic Chucks	ER Collet Chucks Hydraulic Chucks	Side Lock Holder	
Accuracy/Run out 0.003 -0.008 w.r.t. Taper	Shrink Fit	Hydraulic Chucks	ER Collet Chucks	Side Lock Holder
Repeatability	Shrink Fit	Hydraulic Chucks	ER Collet Chucks Side Lock Holder	
Transferable Torque 12-800 Nm as per Size	Shrink Fit		ER Collet Chucks Hydraulic Chucks Side Lock Holder	
Rigidity for Heavy Cutting	Shrink Fit	Side Lock Holder	ER Collet Chucks Hydraulic Chucks	
Gripping Range 6-40 mm	ER Collet Chucks Hydraulic Chucks		Shrink Fit Side Lock Holder	
Ease of Operation	Side Lock Holder	ER Collet Chucks Hydraulic Chucks	Shrink Fit	

My Man – My Machine

TPM Concept

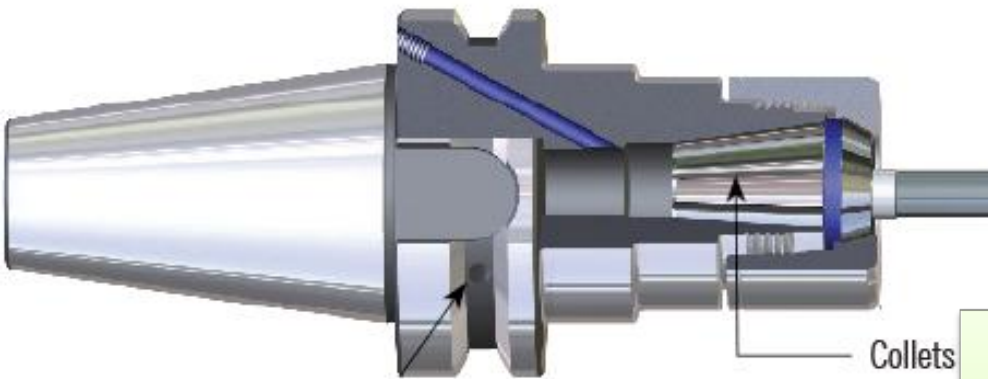


Panther Series Holders are developed keeping in mind above Concept



Collets

Collet Chuck



Collet : Definition

A collet is, put very simply, a device for holding something

Application

Suitable for Drilling, Tapping, End Mill,



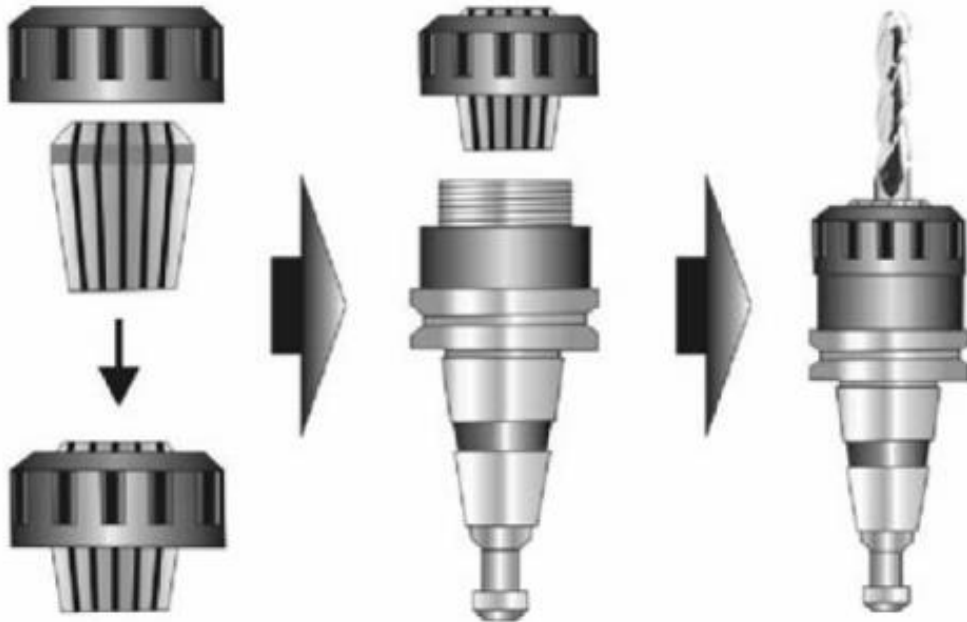
Advantages

Very good self centering / low runout

Very strong force clamping the part

Quick and easy to switch tools

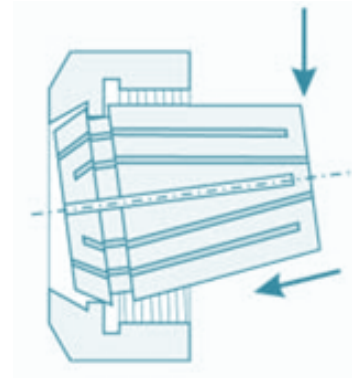
Correct Assembly of Collets & tools



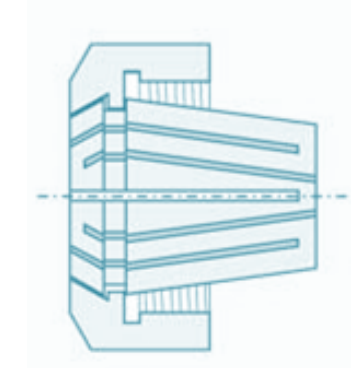
Ensure that you have the correct collet for the tool you intend to use. Choose a collet that requires minimum compression to grip the tool. Insert the collet into the cover nut until it "clicks".

Loosely screw the cover nut onto the tool holder in the case of quick change spindles or, if you have a collet spindle, directly on to the spindle shaft.

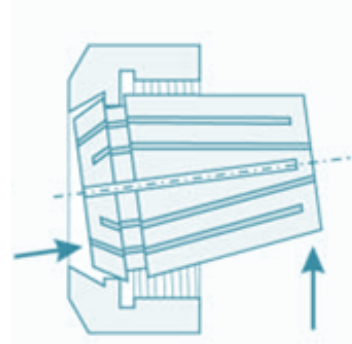
Insert the tool into the collet. The tool should fill at least 80% of the collet bore. Do not allow any of the flute run out to enter the collet. Tighten securely using correct spanner.



Inserting

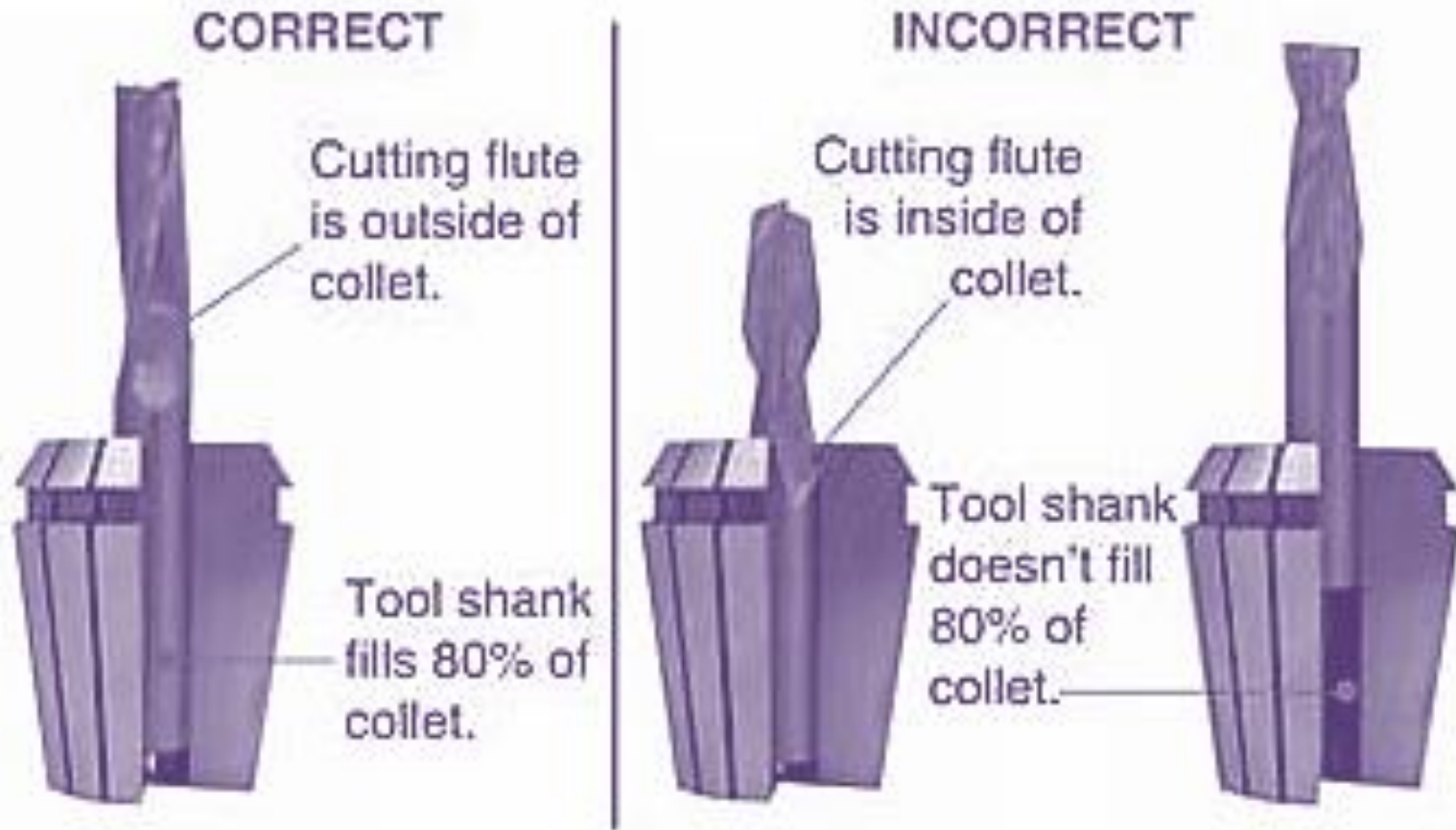


Assembled

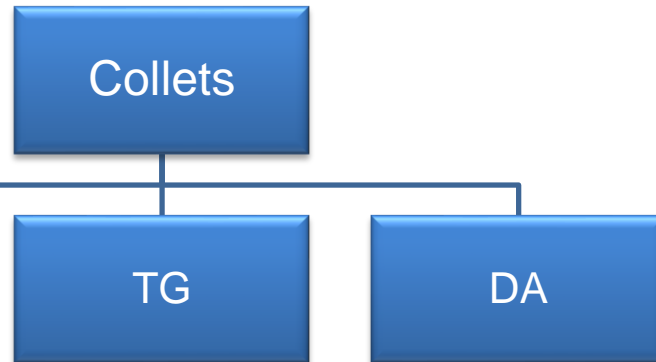


Removal

Right Tool Mounting Method



Types of Collets – BPTL Range



- Collets offered in All Varieties – **ER / TG / DA**
- Collets will be **available in both Metric & Inch Sizes**
- Collets are **also supplied in Sets** as per DIN 6499

ER Collets – Standard



- ❑ Manufactured to DIN 6499 Standards
- ❑ **Max Collapse = 1 mm**
- ❑ Collet **capacity Range 0.5 ~ 26 mm**
- ❑ **Collet Set** also available

Flexibility - Drill, tap and ream with same collet holder.

High Accuracy - all collets are 100% examined for accuracy.

Longer Tool Life - Less runout, greater tool life

Wide Clamping Range

Less Inventory of Collets - Larger clamping

range reduces inventory.

Easy to Use - Self-extracting collet from holder .

Can effectively eliminate the need to dedicated tap holders.

TG Collets – Standard



- ❑ Manufactured to DIN 6499 Class-2 accuracy
- ❑ **Max Collapse = 0.4 mm**
- ❑ Collet **capacity Range 3 ~ 40 mm**
- ❑ **collet Set** also available

Slow 8° inclusive angle taper for best grip (approximately 3:1)

Standard design accuracy to DIN 6499 Class 2 accuracy

HP design accuracy to DIN 6499 Class 1 accuracy.

Non-pullout style

Dedicated versions for tapping — driving off the square of the tap

DA Collets – Standard



- ❑ Manufactured to DIN 6499 Standards
- ❑ **Max Collapse = 0.13 mm**
- ❑ Collet **capacity Range 1~ 20 mm**
- ❑ **collet Set** also available

Original ERICKSON standard

Versatile double-angle design providing 1:1 grip.

Bonded style available for through-coolant

Non-pullout style

Dedicated versions for tapping

Provides positive drive for tapping applications.

Design of slots in back of collet acts as a drive for the tap square.

Can be used in all standard double-angle collet chucks.

Special Collets

ER



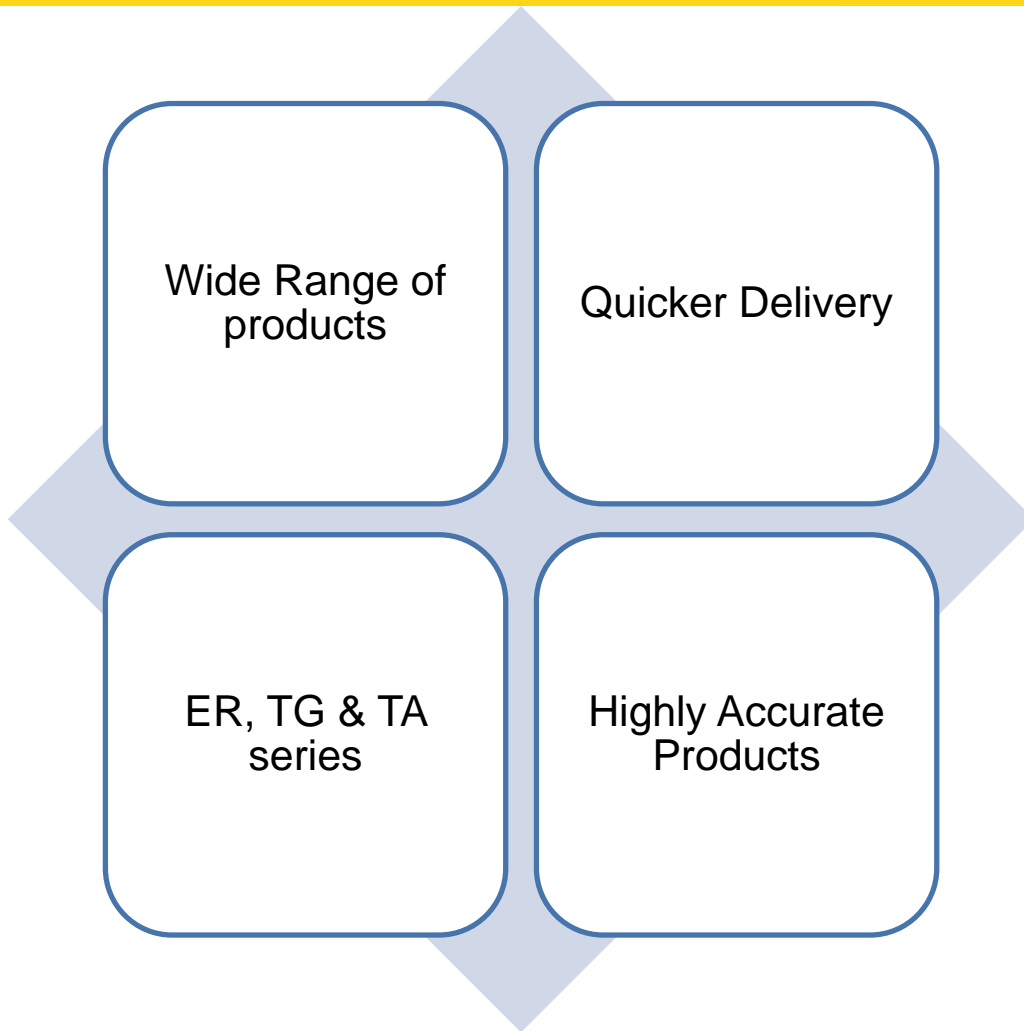
TG



DA



- ❑ Special Coolant **bonded collets**
- ❑ Suitable for coolant pressure up to **70 bar** for ER & DA & **100 bar** for TG

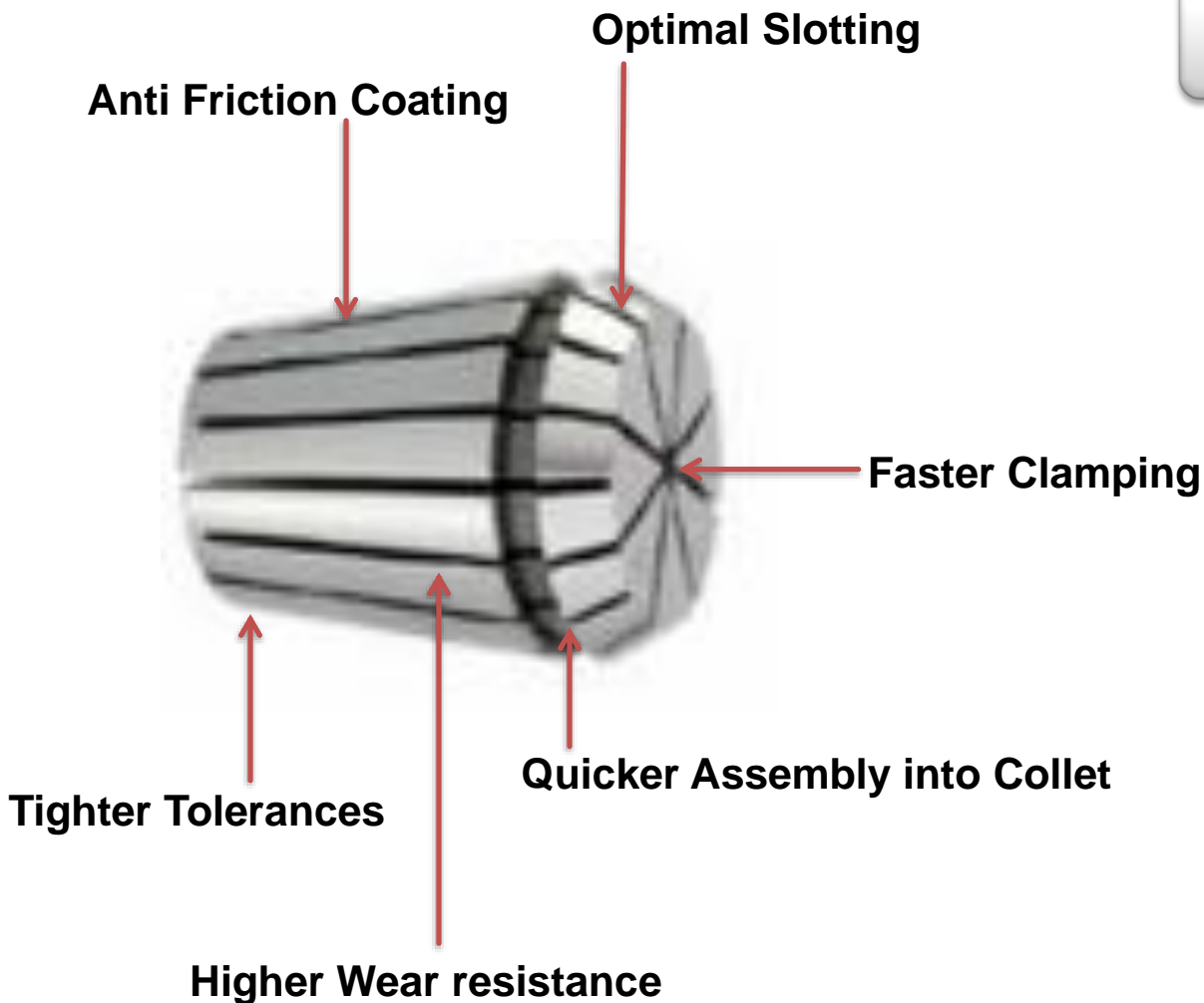


“Panther Series” Collets – High Performance Collets



Quicker • Sharper • *More* Powerful

“Panther Series” Collets – High Performance Collets



complete silver look
(Electro less Nickel coating)

Longer Life

Reduced Spindle Load

Shorter processing Time

Better component accuracy

Tapping Chuck Assembly

Tapping Chuck Assembly & Adaptors

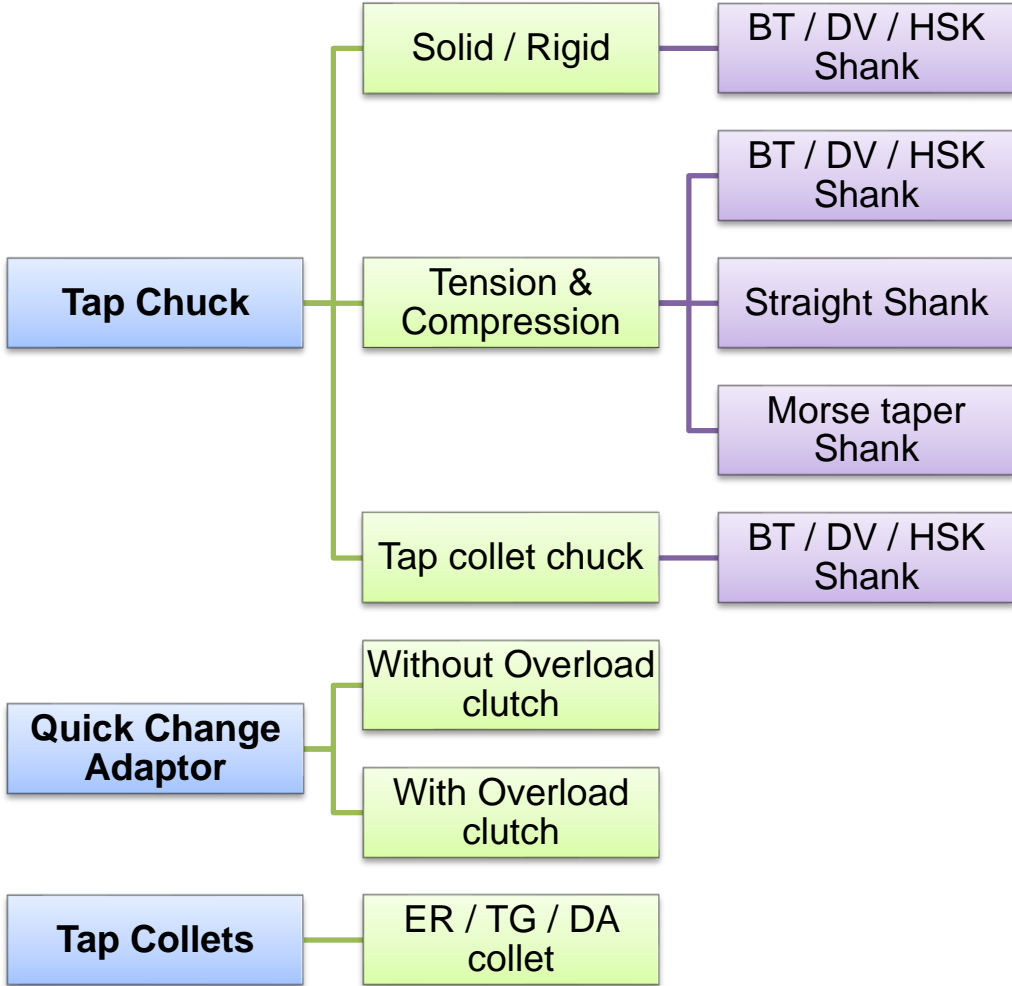


Tapping Systems – BPTL Range



Tap size range
from M1 ~ M36

Quick Change
type Adaptors



Tapping Systems – Application



HSK Range

- Rapid change T & C with coolant through 50 Bar

CV Range

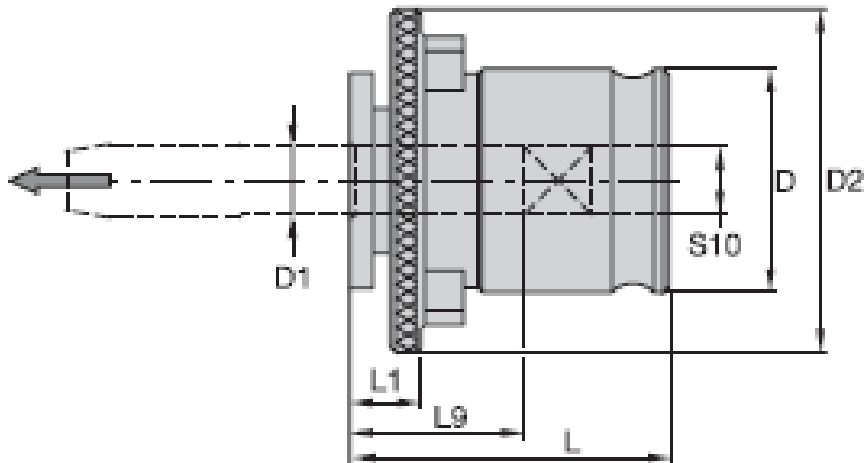
- Rapid change T & C
- Rapid change T & C with coolant through 50 Bar
- Rapid change Solid with coolant through 50 Bar (725psi)

BT Range

- Rapid change T & C (no through coolant)
- Rapid change Solid (no through coolant)

Note: T & C = Tension & Compression

Tapping Chucks



- Rapid-change style.
- Solid positive drive.
- Coolant capability by using cutting tool with coolant feature – maximum 50 bar (725 psi).
- For taps with DIN, ISO, and ANSI specifications.

Quick change tap adapters

Rapid – Change Style

Solid Positive Drive

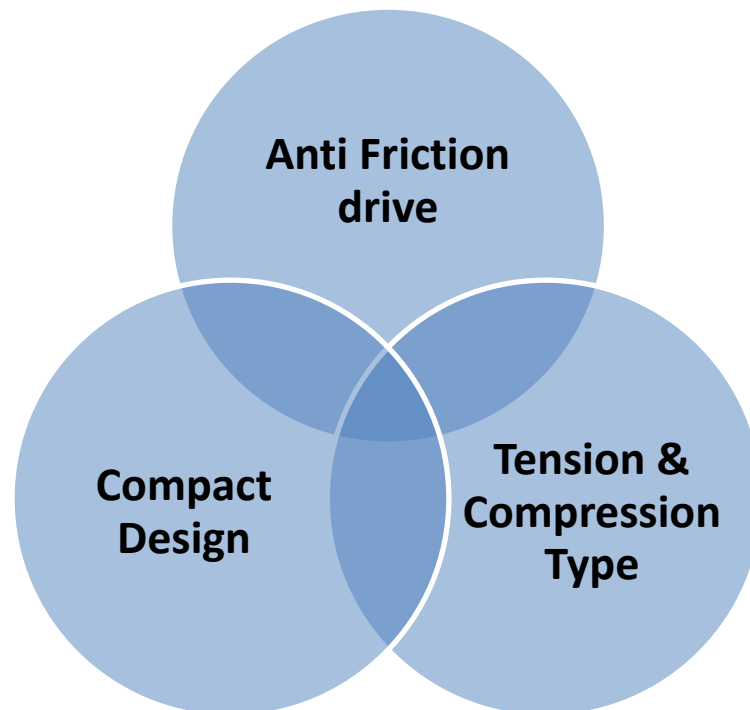
Coolant capability by using cutting tool with coolant feature – maximum 50 bar

For Taps with DIN, ISO & ANSI Specification

Tapping Chucks – TG Collet Chucks



- ❑ TG (Tremendous Grip) Single Angle Tap Collet
- ❑ Designed to grip the tap on the shank & square
- ❑ Fits all standard G-Style Collet Chucks
- ❑ 0.005(0.13 mm) range of collapse



Tapping Chucks – DA Collet Chucks



Features

- ❑ Industry Standard Erickson double angle collet system
- ❑ Small outside dia. clearance is ideal for use
- ❑ Used for through – hole tapping
- ❑ Fits all standard J-Style DA Collet Chucks

**Anti Friction
drive**

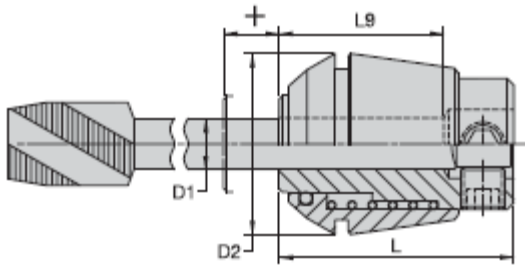
**Both Right &
Left Hand
tapping**

**Tension &
Compression
Type**

**Compact
Design**

**Slots in back of
collet act as
drive for the tap**

Tapping Chucks – ER Collet Chucks



Features

- ❑ Square in back of collet acts as a drive for the tap square
- ❑ Fits all standard ER Collet Chucks
- ❑ Available in metric & inch sizes



*Tension &
Compression Type*

*Adjustable screw in
back of collet act as
drive for the tap*



Testimonials

“Panther Series” Holders



Expanding Mandrels & Sleeves



Diaphragm Chuck



Custom / Special Tool Holders & Tools



Rotary Coolant Adaptor



Right Angle Head



Multi Spindle Head



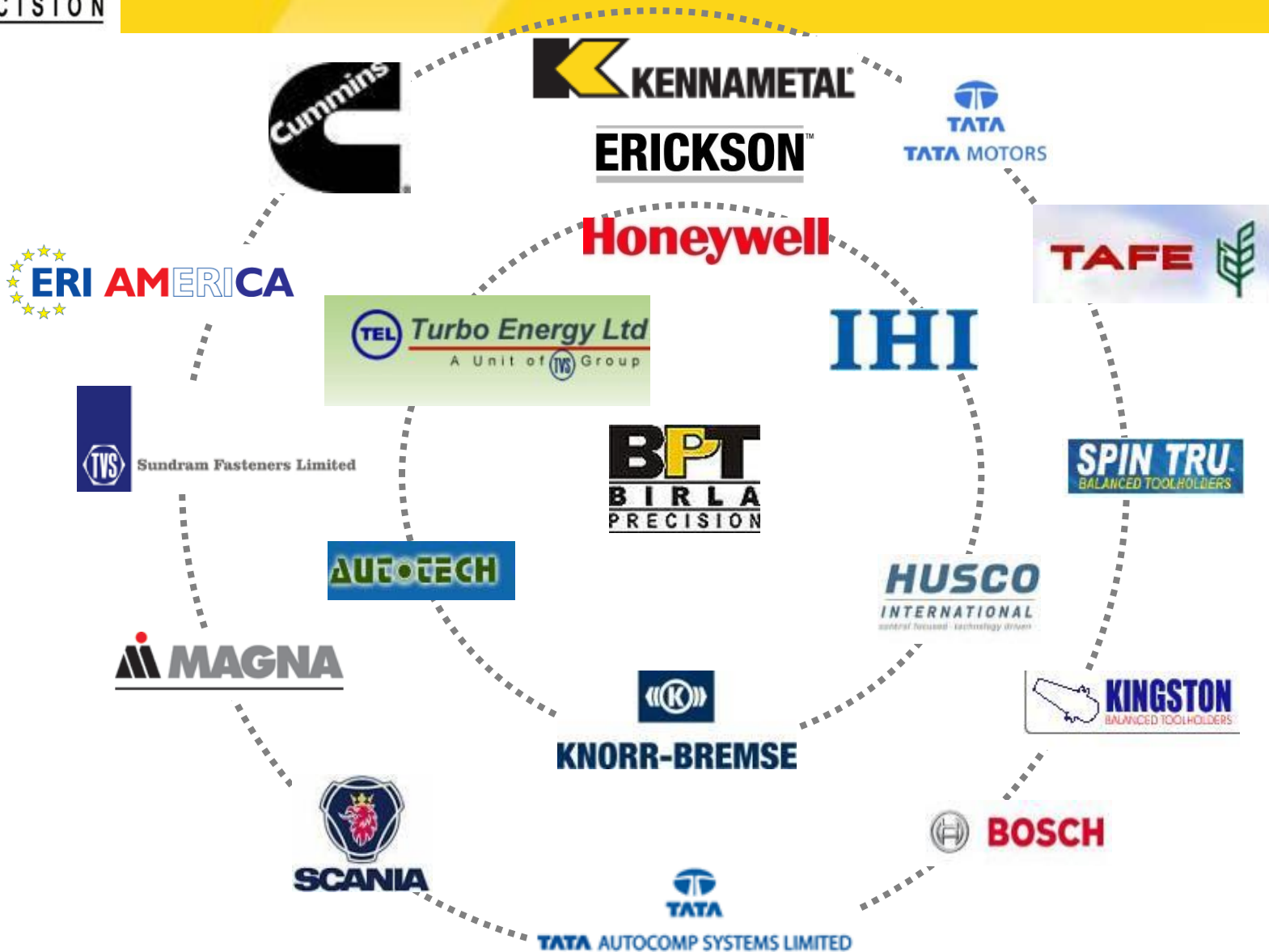
Speeder Unit
(Speed Increator)



Custom Indexable Holders



Major Key Customers –Tools & Tool Holders





Birla Solution for _____

THANK YOU



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