Welcome to Kpack Products Technical Presentation

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Kpack Toolholding Products

1.Hydraulic,2.Shrinking, 3.DMC,4.PMC,5.MLC & QCTC,6.FMH-K-AV
Available in all Leading Machine Tool Spindles

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TOPIC

- HYDRAULIC TOOLHOLDING
- SHRINKING TOOLHOLDING
- DIE AND MOLD CHUCK
- POWER MILLING CHUCK
- MINIMUM LENGTH COMPENSTION(MLC) TOOLHOLDING & QCTC
- ANTI-VIBRATION TOOLHOLDERS

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IDEAL EXPECTION FROM TOOLHOLDER

1. Better TIR (Total Indicator Reading) / Run-out
2. Better Tool Life
3. Vibration Dampening
4. Highest Balancing Grade
5. Highest Clamping Forces
6. Better Repeatability
7. Slim Outer Diameter
8. Rigidity
9. Easy to Handle
10. Competitive Price

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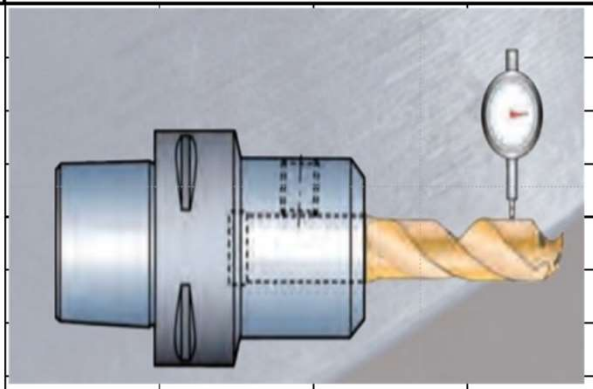
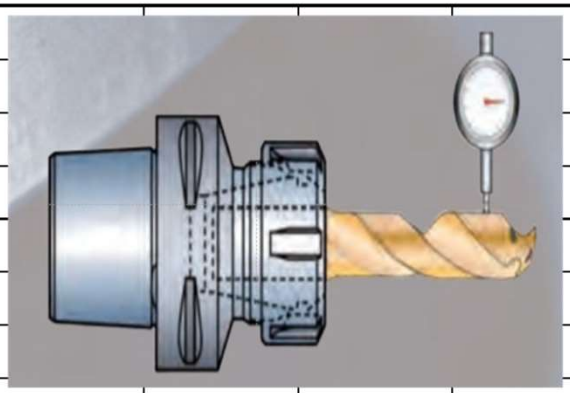
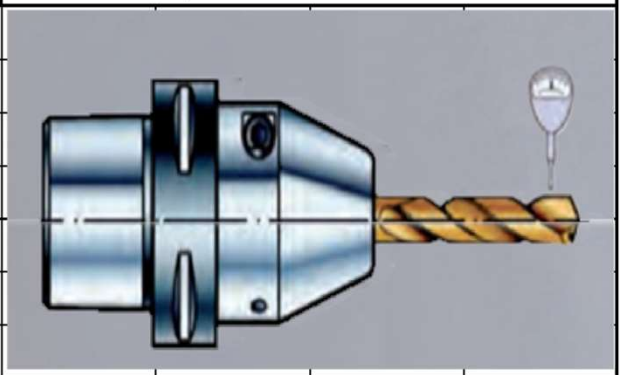
Hydraulic Toolholding

Run-out of DIFF. TOOLHOLDERS

As a General guideline	For every 10 microns better run-out, the tool life increases by approx 50%				
	This is important aspect when you plan to choose Weldon/ Side lock or ER Collet or Hydraulic Toolholder				
Parameters	**Weldon Toolholder**		**ER Toolholder**		**Hydraulic Toolholder**
Image					
Run-out	0.02 to 0.04 mm		0.01 to 0.03 mm		0.005 to 0.01 mm
	Avg. 0.03 mm		Avg. 0.02 mm		Avg. 0.008 mm
Tool Life	30 minutes		45 minutes		65 minutes
		Tool Life Improvement	**50%**	**Tool Life Improvement**	**44%**

RESULTS GUARANTEED

Tool Life Minimum 20% Improvement

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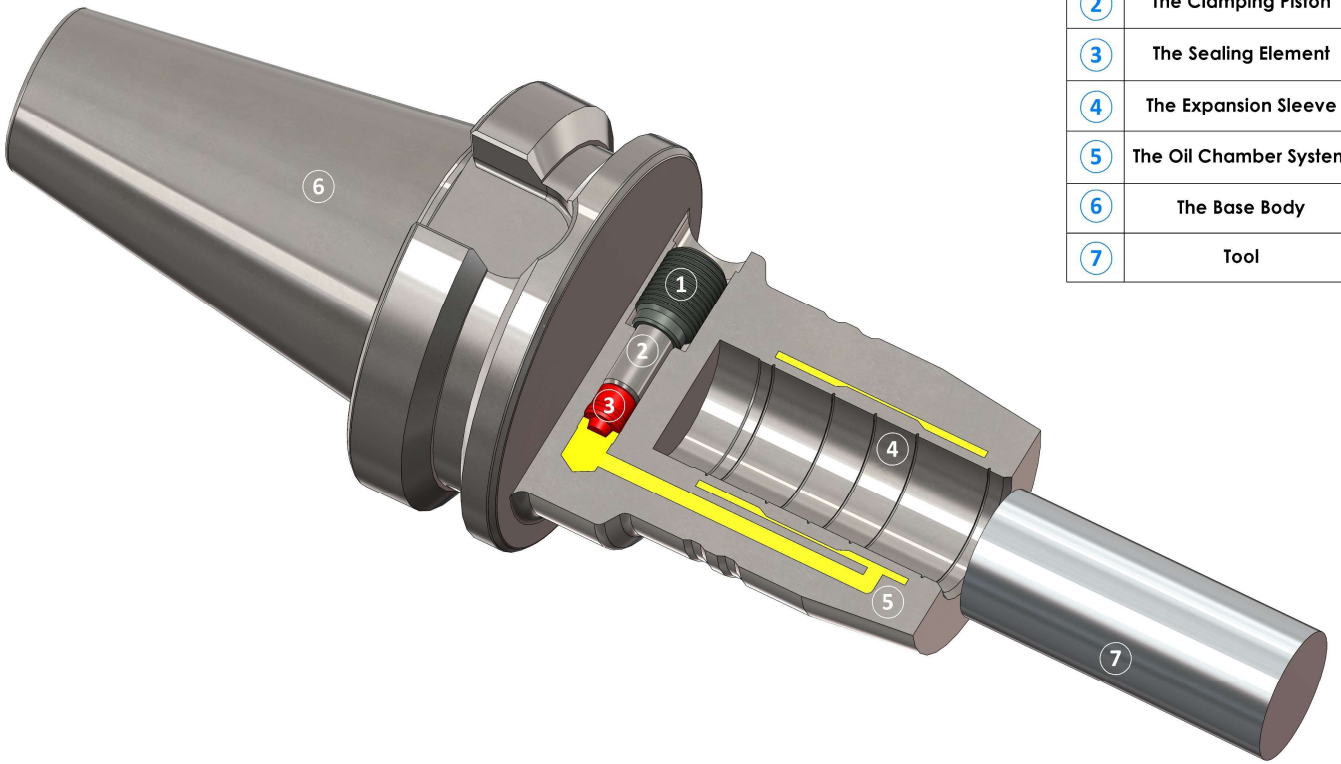
Hydraulic Toolholder – Section view



1	The Clamping Screw
2	The Clamping Piston
3	The Sealing Element
4	The Expansion Sleeve
5	The Oil Chamber System
6	The Base Body
7	Tool

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Hydraulic Toolholders- Features & Benefits

Sr.No	Features	Benefits
1	HD Series Clamping Force Dia 20- 520 Nm & Dia 32-900 Nm.	High clamping forces makes its suitable for all application. i.e Drilling, Reaming & Milling.
2	Runout (TIR ≤ 0.005mm for Direct & ≤ 0.008 mm with Int.Sleeve) at 3 times distance of tool diameter from face of holder or 50 mm max.	Helps improve the tool life and end product quality.
3	Fine Balanced as Standard to G2.5 @ 25000 rpm(All Variants).	Enhances Spindle bearing life and improves surface finish of end product
4	Limit Stop for Clamping screw is available	To prevent holder from Failure.(Incase holder is clamped without tool insertion)
5	Oil & Dust collection grooves available in the clamping area.	Enhances the run-out and clamping force

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Hydraulic Expansion Toolholders

Sr.No	Features	Benefits
6	Std Direct Clamp sizes from 3 mm to 32 mm with Short, Std & Extra Long GPL, Slim 3 Degree	Wide range to suit every application area.
7	Simple clamping with help of Allen Key.	Less fatigue to user.
8	Run-out adjustment feature is available in ER Hydraulic Toolholder variant	Use for Positive driven tools, Old machine with run-out, replace long Hydraulic Toolholders with less expensive combination of ER Hydraulic Toolholder.
9	Hydraulic Extension available from 6 to 20 mm.	Convenient, competitive, flexible for difficult to reach application.
10	Service facility available for toolholder at very competitive prices.	Reliability, faster service and more value for money

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Hydraulic Toolholders- Clamping Forces

Sr.No	Holder Series	**Holder Size**	Minimum Clamping Depth(mm)	Transferable Torque (Nm) (Tool Shank Tolerance h6)
1	Heavy Duty	HC 12 S	38	110
2	Heavy Duty	HC 20 S	43	520
3	Heavy Duty	HC 32 S	53	900

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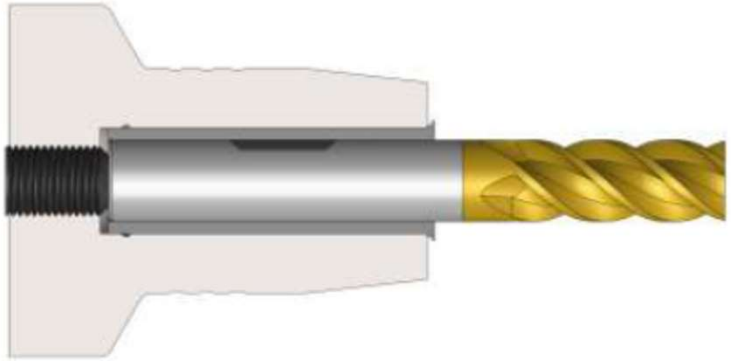
Guideline for Tool Clamping

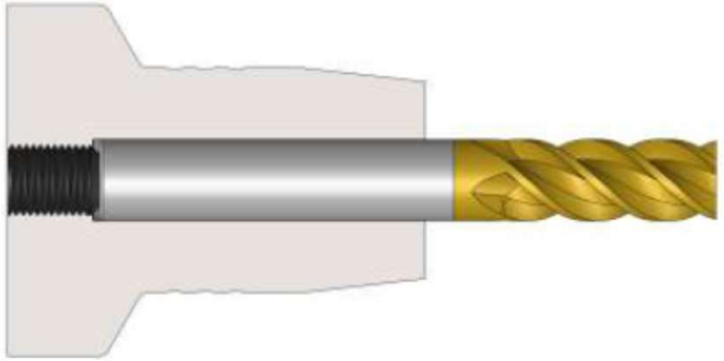
Correct way of Tool Clamping

Recommended Tool Shank Dia. :
in h6 Tolerance with complete
Cylindrical Shank



CLAMPING WITH RS SLEEVE

Recommended Tool Shank Dia. :
in h6 Tolerance with complete
Cylindrical Shank



DIRECT CLAMPING

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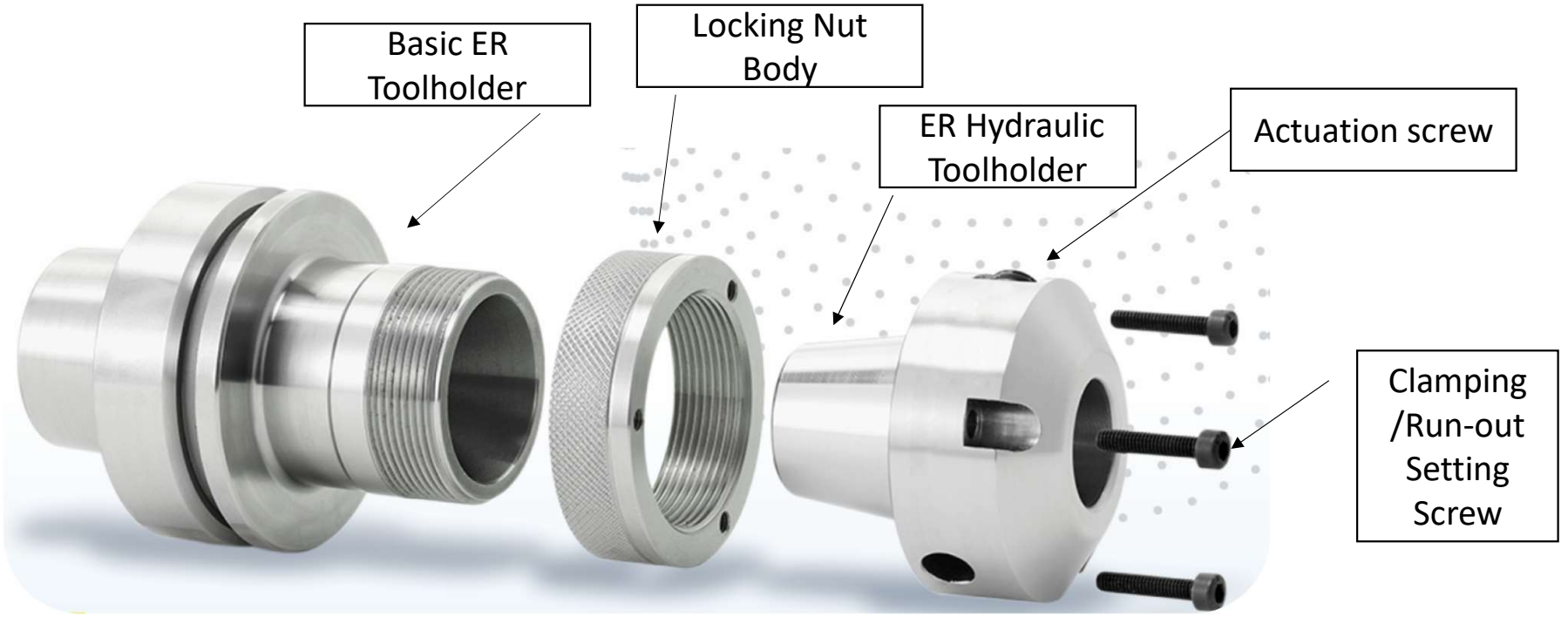
ER Hydraulic Toolholder-Assembly



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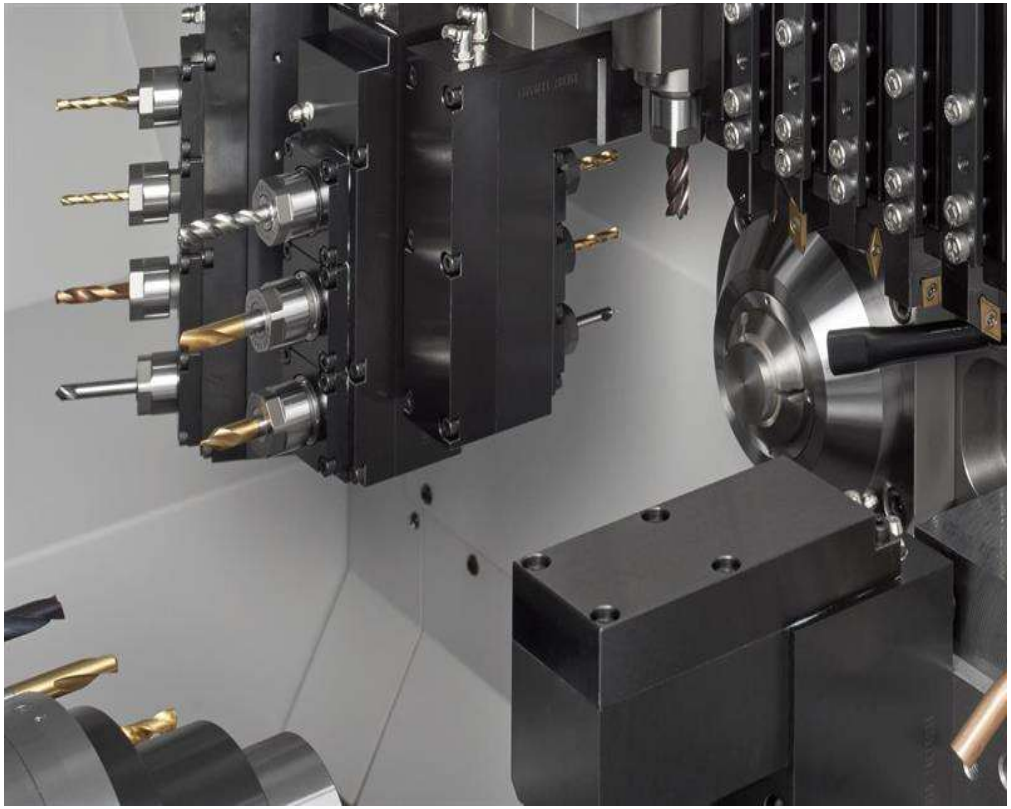
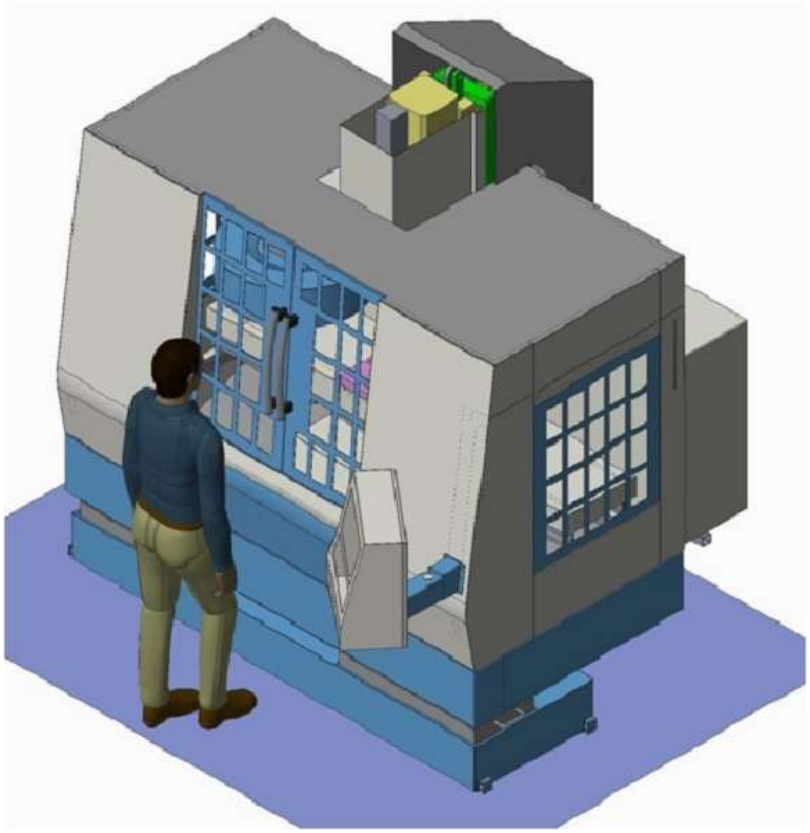
Sliding Head & Runout adjustment



SLIDING HEAD



RUN-OUT ADJUSTMENT

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Shrinking Toolholding

Shrinking Toolholders- Features & Benefits

Sr.No	Features	Benefits
1	Clamping Force Dia 20- 450 Nm & Dia 32-750 Nm.	This ensure transmission of high clamping forces makes its suitable for all application. i.e Milling, Drilling and demanding applications.
2	Runout (TIR ≤ 0.003mm at holder bore)	Helps improve the tool life and end product quality.
3	Fine Balanced as Standard to 2.5G @ 25000 rpm(All Variants).	Enhances Spindle bearing life and improves surface finish of end product
4	Best Clamping force to OD Ratio(**Good ratio between radial rigidity and interfering Contour)**	To prevent holder from interference with fixture/ component wall in case of Die & Mold.(Lesser Special tools or longer tools)
5	Extension Available for longer reach	High flexibility due to the use of extensions

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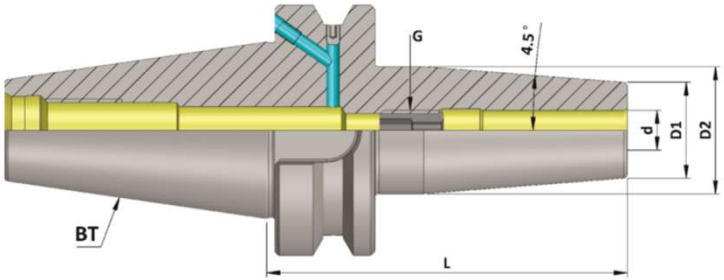
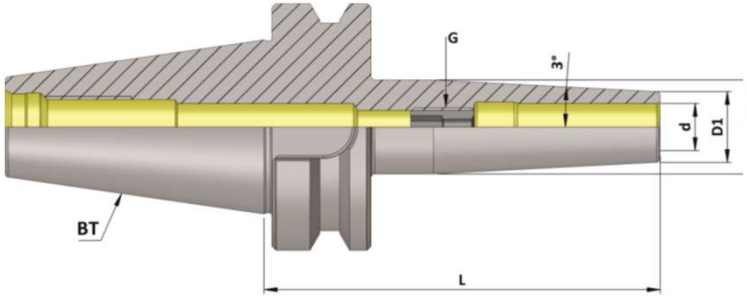
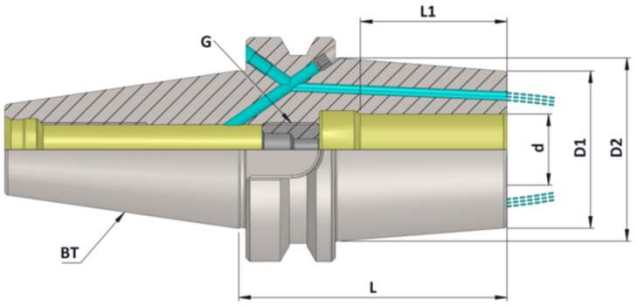
Shrinking Toolholders variant available

- Standard 4.5°
- Slim 3.0°
- Heavy Duty with FCC







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Die & Mold Chuck (DMC)

1. DMC is available in BT /BBT/SK /HSK-A/Cyl. Extension with dia range as below.
2. No Additional device/ machine require for clamping.
3. DMC 06 (2 -6 mm), DMC 08 (3 - 8 mm)
4. DMC 10 (3 - 10 mm),and GPL 60 - 150 mm with fast moving size ex-stock.
5. Max Runout of ID within 0.005 mm w.r.t. external taper.
6. Sub-Zero(-90°c) treated to increase wear resistance for longer life cycle.
7. Suitable difficult to access machining area.
8. Balancing Grade of G2.5 @ 25000 rpm.

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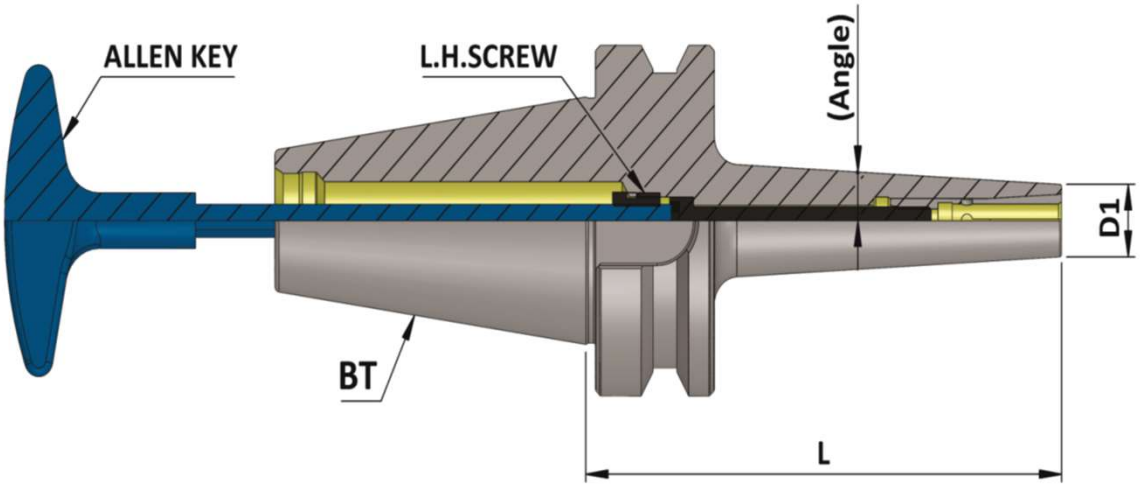
Die & Mold Chuck (DMC)-Construction

1. Smallest outer diameter improves accessibility and increases tool life with surface finish.
2. D1 13 mm–DMC 6 & 28 mm– DMC 10 mm)
3. 3° angle for less interference.
4. Allen Key Supplied free along with holder.
5. Run-out within 0.005 mm on Std. Mandrel.



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Power Milling Chuck (PMC)

1. KTA has PMC in BT /BBT/SK /HSK-A with Direct Clamp dia 20 & 32 mm
2. PMC 20 (3 – 16 mm with Reduction sleeve),
3. PMC 32 (6 – 25 mm with Reduction sleeve),
4. Max Runout of ID within 0.005 mm w.r.t. external taper.
5. Clamping force ø 20 mm-450 N-m.
6. Clamping force ø 32 mm-900 N-m.
7. Balanced at G6.3 @ 15000 rpm.
8. Suitable for Rough Milling, Drilling applications.
9. No Additional device/ machine require for clamping.

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MLC Toolholding

Minimum Length Compensation –Tapping Chuck

1. Compression & Expansion +/- 0.5mm.
2. MLC basic holders are balanced at G2.5 at 25000 rpm or imbalance residual less then 1 gmm/ kg.
3. Max Runout within 0.020mm w.r.t. external taper at Bore.
4. Positive Clamping through ER Tap or QCTC Collets.
5. Available in BT/ BBT/ SK/ HSK-A/ CAT/ Cylindrical Shank

Change Tap Quick Collet (QCTC)

MLC TAPPING TOOLHOLER

Save your Tap Change time by 90%*

* Based on field test with comparison against ER Tap Collets

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MLC- Toolholders- Features & Benefits

Sr.No	Features	Benefits
1	Compression & Expansion + /- 0.5 mm	This helps to compensate the synchronization error of spindle speed & feed, lag during reverse cycle
2	Runout (TIR ≤ 0.020mm) at bore of Toolholder.	Helps improve the tap life and end product quality.
3	Fine Balanced as Standard to 2.5G @ 25000 rpm(Basic Adaptor body).	Enhances Spindle bearing life and improves surface finish of end product.
4	Quick Change Tap Collet- QCTC	Enhances your productivity by saving time for changing tap without unlocking the Tap collet. Less user Fatigue.

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Anti-Vibrations Toolholding

Anti-Vibrations Toolholders

- Maximum Run-out of pilot diameter w.r.t external taper is within 0.005mm.
- Pilot Dia 16/22/27/32 mm
- GPL -200/300/400 mm
- Through Coolant
- Special High Density material and construction.
- Double Acting Nut for Perfect Alignment with cutter

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Anti-Vibration Toolholders

THANK YOU

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