

New clamping systems

Pressure-shrinking-collet

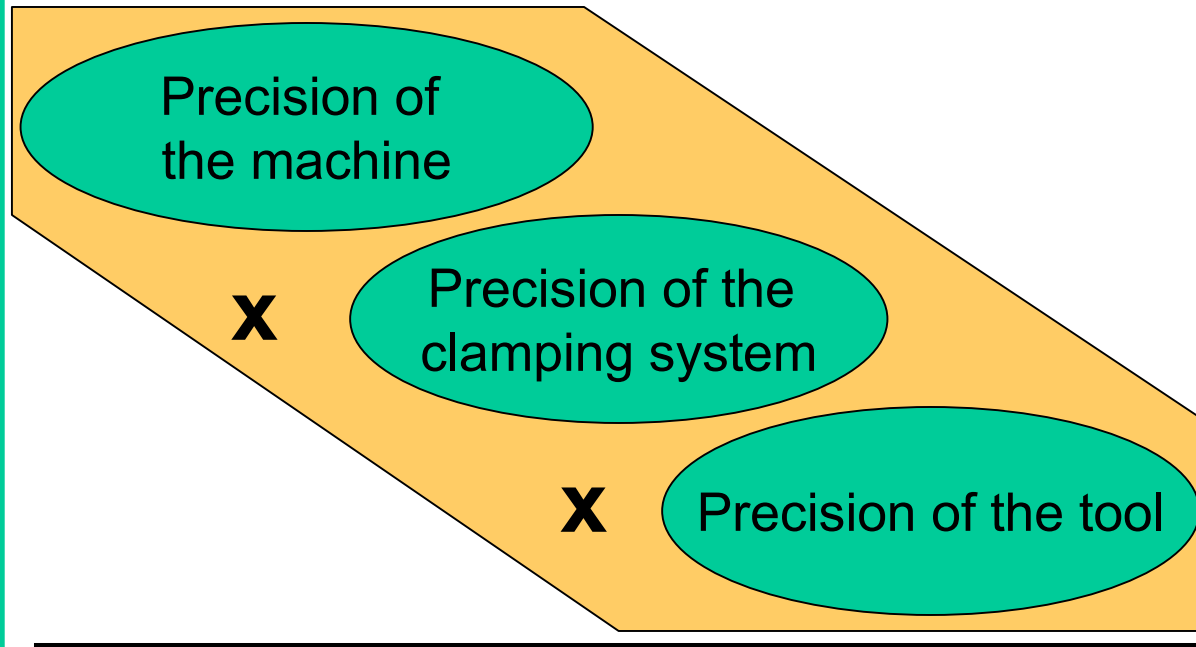
LEUCO TRIBOS



New clamping systems

Importance of the clamping systems

Clamping systems are the interface between the machine's spindle and the tool.



Clamping systems play an important role in the performance of machine and tool.

Clamping systems are an important part of the

whole system

= Best processing quality and edge lifes

New clamping systems

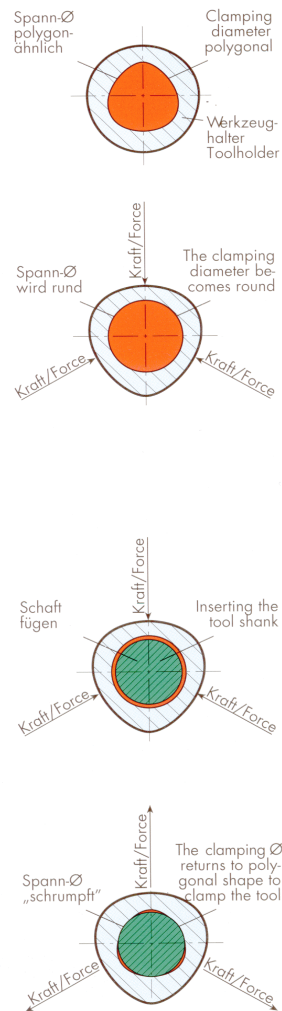
Importance of the clamping systems



A tool can't be never better than the clamping-system and the machine allows it to be

New clamping systems

Function



Core of the pressure-shrinking-technique is the inner contour that is shaped like a spherical triangle.

By putting pressure on the tips of the triangle the latter is transformed into a circle.

- pressure: ca. 300 bar (depending from Ø)
- power: 800.000 N (~ 81 t !!!!)

Into this opening the tool's shank is inserted

After releasing the system the clamping system encloses the shank on three lines with a very high pressure.

New clamping systems

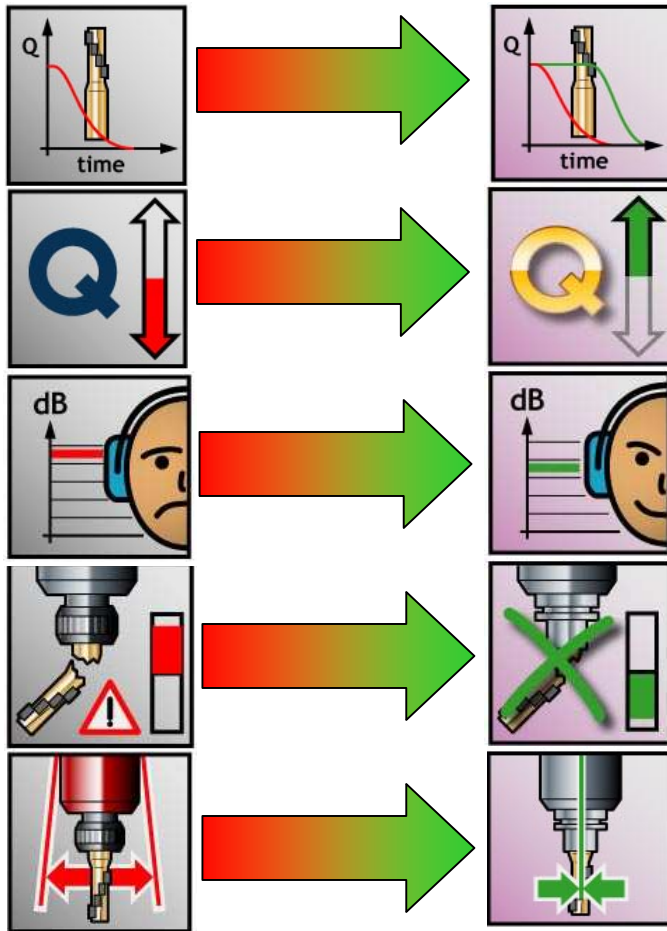
Comperison of different clamping-systems

Komponente	TRIBOS	PS-System	Collet-holder (new)	Collet-holder (old)
DIAMAX-Shank Cutter				
weight	250 gr	250 gr	250 gr	250 gr
Internal imbalance	1 gmm	1 gmm	1 gmm	1 gmm
Clamping-system				
weight	790 gr	1300 gr	1400 gr	1400 gr
Internal imbalance	0,9 gmm	1,3 gmm	10 gmm	10 gmm
Precision of the interface				
Tool - clamping system	0,003 mm	0,006 mm	0,02 mm	0,06 mm
Resulting imbalance (weight x excentricity)	0,75 gmm <small>(0,003 mm x 250 gr)</small>	1,5 gmm <small>(0,006 mm x 250 gr)</small>	5 gmm <small>(0,02 mm x 250 gr.)</small>	15 gmm <small>(0,06 mm x 250 gr.)</small>
Precision of the interface To the spindle (HSK 63 F)	0,004 mm	0,004 mm	0,004 mm	0,004 mm
Resulting imbalance (weight x excentricity)	4,2 gmm <small>(0,004 mm x 1040 gr)</small>	6,2 gmm <small>(0,004 mm x 1550 gr)</small>	6,6 gmm <small>(0,004 mm x 1600 gr)</small>	6,6 gmm <small>(0,004 mm x 1600 gr)</small>
Complete imbalance of the system	6,81 gmm	10 gmm	22,6 gmm	32,6 gmm

New clamping systems

Benefit due to less imbalance

You can profit through:



- higher edgelifetime

- higher cutting-quality

- less noise

- less danger of tool-breakage

- less forces on the spindle and therefore longer life for it