

# EXCLUSIVELINE®

## HR 500 high-performance reamers Technology and advantages

### Dramatic time reduction up to factor 50

With the comprehensive HR 500 range Guhring provides high-performance reamers for virtually any application task. Countless technical innovations give HR 500 high-performance reamers their exceptional properties, from which the user benefits from maximum cutting rates and therefore shortest machining times as well as optimum hole qualities.

### New ways of machining through holes

The specially developed straight-flute geometry is unique with reamers for through holes. It enables extremely high cutting rates also for deep holes. At the same time, the straight-flute geometry combined with the exceptional coolant delivery supports the problem-free chip evacuation ahead of the cutting edge. Subsequently, the excellent reamed surface remains optimally preserved, as chips do not return back within the flutes.



The optimal coolant supply is ensured by patent applied for longitudinal grooves ground in the re-inforced HA shank, their position exactly synchronised to the spacing of the reamer flute. This version of external cooling has more than one advantage over internal cooling via radial coolant ducts: The solid portion is considerably more rigid and a flow restriction is not created through eroded or sintered cooling ducts. In addition, chips cannot become lodged - with this solution non-existent - exit holes of the coolant ducts. Furthermore, the optimal

coolant delivery is unconditionally maintained even with re-ground tools. By the way, the user need not fear a negative influence on the clamping in hydraulic or shrink fit chucks due to the oil grooves. The remaining bearing surface is more than sufficient for a secure clamping.

### Maximum performance in blind holes

HR 500 high-performance reamers for the machining of blind holes are internally cooled with a central coolant duct. Its especially large cross-section ensures the optimal delivery of the coolant to the cutting edge of the tool. The straight-fluted tool geometry combined with the outstanding coolant supply again ensure the safe evacuation of the optimally formed chips.



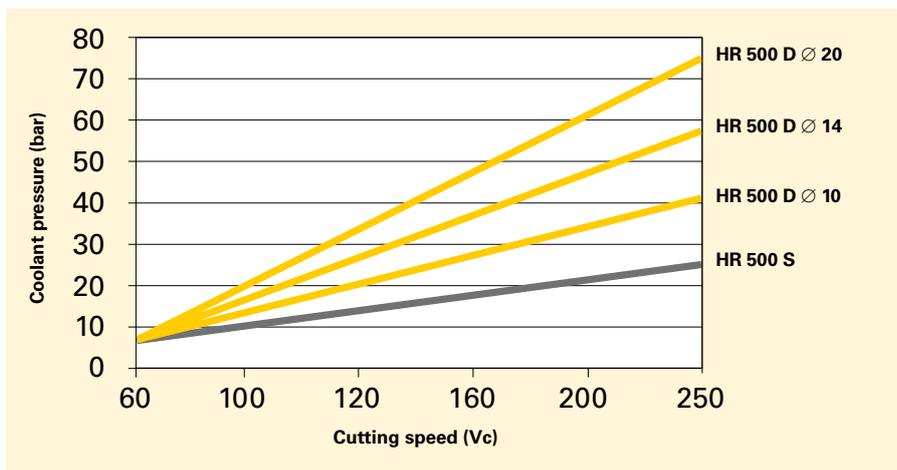
### Better than cermet, but without its disadvantages: HR 500 solid carbide high- performance reamers

The performance level of solid carbide HPC reamers HR 500 could so far only be achieved with cermet tools and had to be acquired with several disadvantages. Cermet reamers are only suitable for the machining of few materials, whilst solid carbide reamers HR 500 can be applied in close to all materials including soft and stainless steels as well as aluminium and AISi-alloys.

Machining with interrupted cut or non-rigid machining conditions are not possible at all with cermet tools but with solid carbide in most cases this is not a problem. In addition, generally cermet reamers are comparatively more expensive.

The user gains multiple benefits with the new Guhring HR 500 reamer:

- extremely high cutting rates,
- considerable time saving and therefore cost saving in the production
- broad range of application
- a standard program with favourable prices as well as excellent stock availability
- intermediate dimensions, that can be produced quickly and cost-effectively at any time.
- HR 500 ACTIVE special range with 4 weeks delivery for intermediate sizes and stepped tools.



Coolant pressure - cutting speed  
valid for standard dimensions