botek®
DEEP HOLE DRILLING SYSTEMS
SOLID CARBIDE TOOLS

High performance solid carbide gundrill

Type 113-HP

Diameter range: 0.700 - 12.000 mm

The **ALTERNATIVE SOLUTION** to carbide twist drills

More process reliability:
- stable chip evacuation process
- higher torque, very good operational performance
- large coolant channel for maximum flow rates

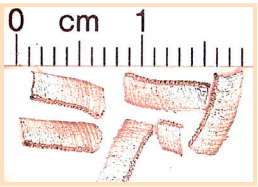
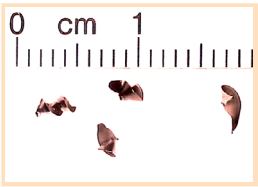
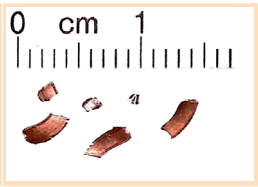
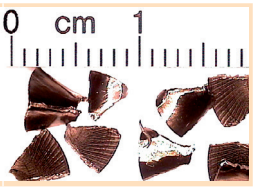
More economic efficiency:
- favourable purchase price
- maximum cutting performance
- also recommended for small drilling depths 5-10 x D

More drill hole quality:
- improved surface quality, roundness and hole straightness
- drilling depths up to 200 x D feasible
- very efficient for long chipping steels

Suitable for drilling with neat cutting oil, MQL and high quality emulsion.

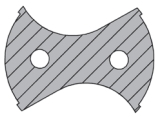
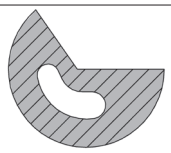
New Dimensions of deep hole drilling

Drilling Examples

				
Material	**AlSi7Mg0,3 T73**	**50CrMo4**	**X46Cr13**	**Forged + tempered steel**
Diameter x drilling depth	7.0 x 210 mm	3.0 x 95 mm	5.0 x 120 mm	9.0 x 300 mm
Coolant/pressure	Emulsion/70 bar	Deep hole oil/140 bar	Oil	Oil
Cutting speed	150 m/min	80 m/min	90 m/min	70 m/min
Feed f Vf	**f = 0.25 mm/rev Vf = 1700 mm/min**	**f = 0.11 mm/rev Vf = 950 mm/min**	**f = 0.115 mm/rev Vf = 660 mm/min**	**f = 0.16 mm/rev Vf = 400 mm/min**

Comparison between carbide twist drill type 158 and solid carbide drill type 113-HP

Work piece: **crank shaft, forged steel**
Diameter: 7.0 mm
Drilling depth: 160 mm
Oil: 80 bar
Vc: 70 m/min (3200 rev/min)
Vf: **640 mm/min (0.22 mm/rev)**

Result	Type 158	Type 113-HP
Hole tolerance	IT9/ IT10	IT8
Surface finish Ra	1.5-3.0	0.8
Centerline deviation (drift)	> 0.15	< 0.1
Tool cross section		

Service:

- → **Regrinding and coating**
  botek offers prompt and cost effective in house regrinding/coating service.
- → **Process layout**
- → **Customer testing and process development in our research and development department.**
- → **Stock program**
  Immediately available
  Fast and simple processing
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