

Handling notes replaceable head drills TTD

Practical notes

PILOTING

- From drilling depths of 8xD a pilot bore is to be recommended
- With the replaceable drill head type 02, a pilot bore is to be recommended from a drilling depth of 5xD
- For a pilot bore with the replaceable drill head type 02 a reduction of the feed stated by 50 % is to be recommended
- For a pilot bore with the replaceable drill heads type 01 and type 03, the recommended machining values can be used
- The movement into the pilot bore is with the same drill head geometry and reduced machining values (recommendation: $v_c = 50 \%$ and approx. $f = 50 \%$) up to 1 mm before the bottom of the bore
- Drilling after piloting is then undertaken using the recommended machining values (see section Technical Appendix in the sub-section Cutting data recommendation for replaceable head drills TTD)

NOTES ON DRILLING USING 12xD HOLDERS

- At a drilling depth of 12xD a pilot bore is necessary
- Coolant pressure must be at least 40 bar
- During the machining of steel materials, chip removal may be necessary
- Usage on a lathe is possible with a powered tool
- Increasing the cutting speed by 30 % over the standard value is to be recommended

Stationary tool

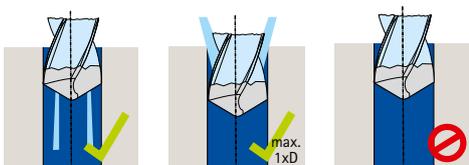
If the tool is stationary, position chip flute runout horizontal so that chip congestion does not occur.

Through bore

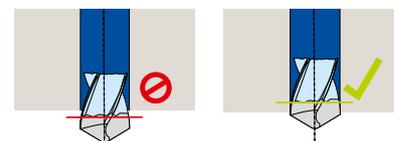
It is recommended not to reduce the cutting values at the bore outlet.

Coolant situation

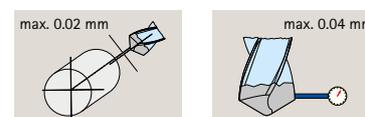
Coolant pressure as a function of the drilling depth:



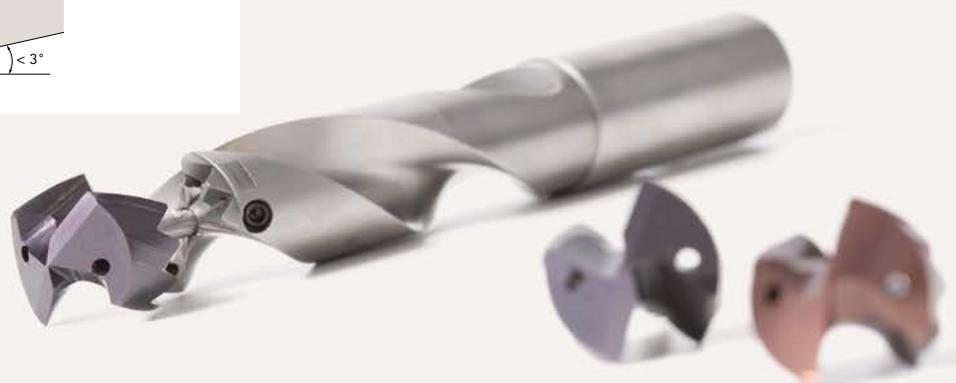
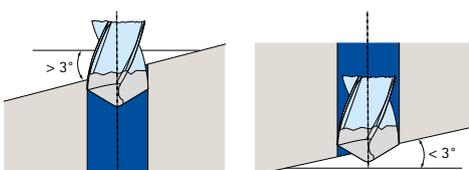
1xD: 8 bar | 3xD: 8 bar | 5xD: 12 bar | 8xD: 25 bar | 12xD: 40 bar



Radial run-out accuracy

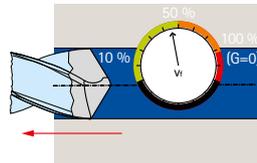


Max. entry and exit angle

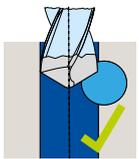


No rapid traverse on withdrawal

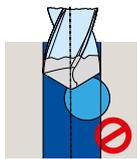
Five times the feed speed is recommended for the withdrawal speed.



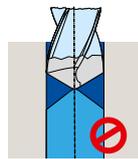
Machining situations



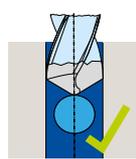
Bore off-centre
chisel edge in contact



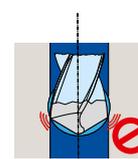
Bore off-centre
chisel edge not in contact



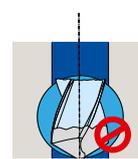
Breakthrough to bore
in opposite direction



Bore centred
and $<< D$



Bore centred
and $= D$



Bore centred
and $>> D$

Assembly

Releasing drill head

1. On each drill head change, check the clamping screw for stiffness. If the clamping screw can be undone easily, the clamping screw must be replaced. Only use the original clamping screws!



2. Undo the clamping screw with the aid of the hex wrench supplied.



3. Pull the drill head out of the serration.

Note:

At the latest on the 8th drill head change the clamping screw must be replaced.

Clamping drill head



1. Clean the TTS connection on the tool holder with a brush.



2. Fit the new drill head to the tool holder.



3. Tighten hand-tight the clamping screw by turning clockwise.

Note:

Ensure the positioning aid on the drill head is engaged in the positioning aid on the tool holder and that the chip flute and serration on the drill head and tool holder are aligned.