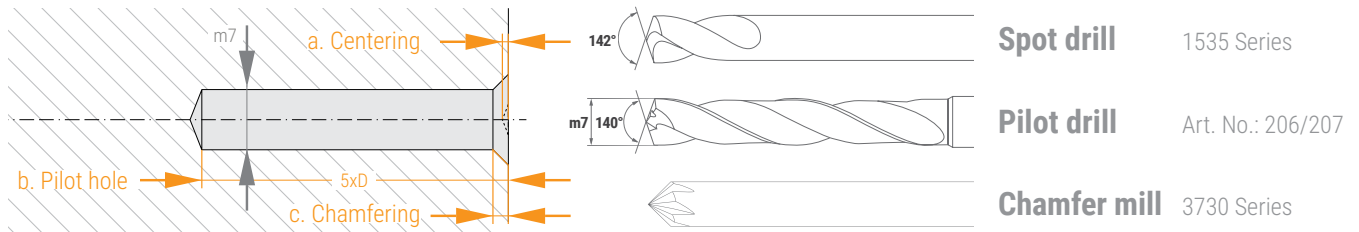# Guidelines for deep hole drilling

When it comes to deep hole drilling, there are certain procedures and factors that are particularly important for ensuring reliable machining. The Deepmax is tailored to our 5xD **207 Series** standard drills, which are the ideal pilot drills.

1. Pilot hole

- **Uneven surfaces must be faced or face milled prior to drilling the pilot hole. We also recommend centering the workpiece.**
- **Use a two flute drilling tool with a 140° point angle and an m7 tolerance range. Should you be using a third-party product as your pilot drill, please make sure pilot drill diameter is M7 tolerance.**
- **The pilot hole should ideally have a depth of 5xD or at least 1.5xD.**
- **Centering and subsequent chamfering is absolutely essential for horizontal machining.**
- **Any chips must be removed from the pilot hole prior to drilling the deep hole.**

Spot drill	1535 Series
Pilot drill	Art. No.: 206/207
Chamfer mill	3730 Series

2. Deep hole

2.1. Entering the deep hole drill into the pilot hole

- The internal coolant must be turned off for this procedure.
- Set a maximum rotation speed of 500 rpm, preferably with anti-clockwise rotation, and a feed rate of around 10 ipm.
- Enter the drill to .050"-.100" short of the bottom of the pilot hole.

2.2. Deep hole drilling

- Please make sure you allow enough dwell time for the spindle to start and the internal coolant to build up pressure.
- We recommend using our INOCUT cutting data without chip evacuation (pecking). It should not be necessary to retract the drill for holes up to 30xD. Should additional chip removal be required, we recommend retracting the drill to 3xD. When reaching intersecting holes or making through holes, reduce the feed rate by 50% prior to breakout.

2.3. Retracting the deep hole drill

- After reaching the maximum depth, retract the deep hole drill by 050"-.100" (depending on the diameter) for chip removal. If the coolant pressure is too low, you might need to program some dwell time.
- Then reduce the rotation speed to a maximum of 500 rpm.
- Retract the drill out of the hole at a programmed feed rate of around 40 ipm max (not in rapid traverse).

DEEPMAX Deep hole drill
Art. No.: 908/909/910/911

The internal coolant must be turned off in the area of the pilot hole.