

**SMALL CAUSE, BIG EFFECT.
WE IMPRESSIVELY PROVE THIS PRINCIPLE
ONCE AGAIN WITH THE SINE-FEED.**

FOR EVEN MORE RELIABLE DRILLING PROCESSES – THROUGH AND THROUGH: SINE-FEED.

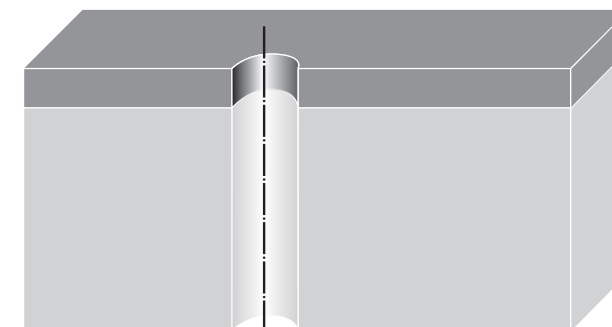
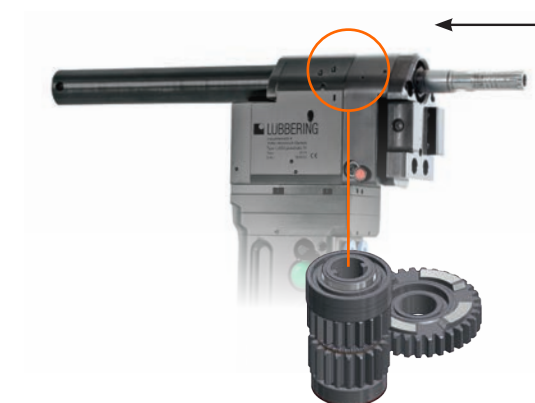
For accurate drilling through different material layers, every L.ADU pneumatic can be equipped with the Sine-Feed pulse drilling option (L.ADU option Sine-Feed).

In drilling processes where it is used, an axial spindle vibration is generated by means of a periodic low frequency which, in combination with a constant spindle advance of an automated drilling unit, provides for outstanding chip removal.

The shearing chips arising in the process can be easily vacuumed, and prevented from damaging the material during the drilling process.

The integrated countersink process also provides for a clean surface, in which case the Sine-Feed is uncoupled in the countersink point.

- + **Sine-Feed even for one-shot drilling and countersinking possible**
- + **Micro chips even on piloted holes**
- + **Durable, low heat evolution**
- + **Not necessary to use MQL System:**
Dry cutting possible (without MQL System)
- + **Amplitude 0.17 – 0.27 mm**
depending on feed
- + **Frequency: 1.5 strokes per rotation**



Example of a material combination in aircraft production. The drilling transition from the CFRP layer to the titanium layer without damage is successful thanks to the pulse drilling.



Left: Result with L.ADU option Sine-Feed.
Right: Result without L.ADU option Sine-Feed.

