



Tool Line Reference Guide

Swiss Precision Since 1961

HEULE tools automate front/back edge finishing (deburring, chamfering, spotfacing, counterboring, countersinking, and combination drilling) in a single pass, without stopping or reversing the spindle. Below is a quick-reference guide organized by product category and tool line.

1. Deburring / Chamfering

COFA — Universal Elliptical/Cross-Hole Deburring

- **What it does:** Deburrs drilled through-holes on even, elliptical, or uneven surfaces in one pass (front & back, or back only).
- **How it works:** Spring-controlled, spring-loaded blade flexes to follow the bore contour, applying constant pressure without reversing the spindle.
- **Sizes:** Ø2 mm – Ø25 mm standard; custom geometries available.
- **Best for:** Aerospace, automotive, energy, precision machining, heavy equipment, medical/micro parts.
- **Key selling point:** Industry standard; handles cross-hole & elliptical geometries other tools can't.
- **Order steps:** 1) Pick tool body for hole diameter → 2) Pick blade geometry for bore shape → 3) Pick spring tension for material hardness.

DL2 — Micro Deburring (Small Bores)

- **What it does:** Deburring for very small diameter bores.
- **Size range:** Ø1.00 mm – Ø2.10 mm (know this range — it's the tool's defining spec).
- **Design:** Simplified 4-part construction; blade integrated into the spring as a single unit — quick blade swap with no tweezers/magnifiers needed.
- **Feature:** Internal coolant delivery straight to the carbide blade edge.
- **Best for:** Aerospace micro-holes, medical/dental devices, watchmaking, automotive/electronics fine geometries.

SNAP — Front & Back Chamfering

- **What it does:** Chamfers front and back edges of through-holes in one pass, no spindle stop/reversal.
- **How it works:** Blade cuts front chamfer → retracts automatically while passing through the bore → extends again to cut the back chamfer → exits.
- **Sizes:** Ø2 mm – Ø25 mm standard; custom for larger.
- **Best for:** Automotive/transmission parts, aerospace housings, hydraulic/pneumatic manifolds, energy/heavy equipment castings.

- **Order note:** Tool bodies and blades sold separately — pick body for bore diameter, then blade for chamfer size/material.

DEFA — Adjustable Chamfering Tool

- **What it does:** Front & back (or back-only) chamfering with infinitely adjustable chamfer thickness set directly on the tool.
 - **Key differentiator:** Adjustability — one tool covers a range of chamfer sizes without changing tools; dual-cutting system handles bores with grooves, cross-bores, or interrupted cuts.
 - **Materials:** Built for hard-to-machine alloys (e.g., Inconel).
 - **Sizes:** 4 mm – 36.2 mm (0.157"–1.425").
 - **Best for:** Aerospace, automotive, heavy equipment; especially tough/exotic alloys.
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2. Cross Hole Deburring

COFA-X — 1:1 Ratio Cross-Hole Deburring

- **What it does:** Deburrs interior edges where two bores of similar/identical diameter intersect (1:1 ratio), including offset-center intersections.
- **Key differentiator:** Only tooling system that consistently removes burrs on 1:1 ratio cross bores.
- **Best for:** Hydraulic fittings/manifolds and similar precision components.
- **Sizes:** Custom, starting at 4 mm.
- **Note:** Fully customized product — order via brochure + local agent consultation.

SNAP-X — Cross-Hole Deburring for Main Bores

- **What it does:** Deburrs a main bore that has multiple smaller cross-holes intersecting it from various angles.
- **Best for:** Automotive, fluid power, drivetrain components with multiple intersecting passages.
- **Feature:** Quick-change blade system.
- **Note:** Fully custom-built tool — no stock sizes; order through brochure + local sales agent.

Note: COFA — see Deburring/Chamfering section above — is also used for cross-hole deburring applications.

3. Spotfacing & Counterboring

BSF — Back Spotfacing Tool

- **What it does:** Single-operation back spotfacing — no need to flip/rotate the workpiece.

Activation methods (know these 3):

- Air — min. 80 psi (for machines without through-coolant)
- Coolant — min. 280 psi recommended (uses through-spindle coolant pressure)

- Manual — for machines without air/coolant systems
- **Sizes:** Standard 6.5 mm – 20.5 mm (0.256"–0.807"); now extended up to Ø45.0 mm.
- **Bore-to-counterbore ratio:** Up to 2.3× at large diameters.
- **Feature:** Double-bladed configuration available for shanks ≥30 mm (further cuts cycle time).
- **Mechanism:** Centrifugal force + air/coolant/manual pressure extends blade; spindle stop or pressure release retracts it automatically.
- **Order note:** Tool and blade sold separately; each has an "OFFSET" dimension — combined they set final counterbore diameter.

SOLO — Front & Back Spotfacing/Counterboring

- **What it does:** Automated front AND back spotfacing/counterboring without rotating the workpiece.
- **Mechanism:** Centrifugal, spring-loaded blade actuation; sealed head prevents coolant contamination.

Three models (know these):

- SOLO 1900 — weights expand at >1900 RPM to extend blade; counterbores up to 2× bore diameter minus 1mm; bores up to 30 mm.
- SOLO 2 — inverse design, activates (retracts blade) at ≥2000 RPM, locks blade at <1500 RPM; optional SOLO S2 for bores ≈22 mm+.
- SOLO-L — for large back counterbores; bores 25 mm – 45 mm; counterbores up to 1.95× bore diameter.
- **Best for:** Aerospace, automotive, energy, heavy equipment.
- **Order note:** Standard tool head (8–30 mm bore range) + custom components (housing/blades) built to spec via Application Data Sheet.

4. Countersinking

GH-K — Chatter-Free Countersinking Tool

- **What it does:** Manual or CNC countersinking with minimized chatter via positive geometry/high shear cutting.

Blade materials:

- Carbide blades — cast iron, aluminum, non-ferrous materials
- HSS-Cobalt coated blades — stainless steel, steel
- **Feature:** Replaceable & re-grindable blades = economical/reusable.
- **Configurations:** 3-bladed (manual/CNC), single-bladed (machining centers).
- **Sizes:** 3 mm – 45 mm (0.118"–1.771"), immediate stock.
- **Operation tip:** Shallow radial clearance reduces chatter but may require controlled feed rates; shims can be added for more aggressive feeds.

COMP — Drill & Countersinking Tool

- **What it does:** Combination drilling + countersinking on uneven surfaces in one operation.
- **Key feature:** Non-rotational "contact foot" — prevents marking the part.

- **Feature:** Threaded quick-change system between drill/countersink operations.
 - **Materials:** Aluminum, titanium, composites.
 - **Best for:** Aircraft components — seat rails, floorboards, structural parts, aluminum wheels/castings.
 - **Note:** Fully customized per customer spec (this tool also appears under Combination Drilling).
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5. Combination Drilling

VEX-S — Drilling & Chamfering (Small Diameter)

- **What it does:** Drills and chamfers a hole in one operation using a solid carbide drill + patented SNAP chamfering system.
- **Sizes:** 5 mm – 12 mm, immediate stock.
- **Feature:** Convex cutting edge for short/manageable chips; self-centering geometry; large chip channel; quick tip/blade replacement without re-presetting.
- **Best for:** Automotive/precision machining — brake discs, tubes, wheel hubs.
- **Order steps:** 1) Determine hole size → 2) Select drill tip + matching tool holder → 3) Select SNAP chamfer blade for chamfer size.

VEX-P — Drilling & Chamfering (Large Diameter)

- **What it does:** Same concept as VEX-S (solid carbide drill + SNAP chamfering), scaled up for larger bores.
- **Sizes:** 11 mm – 17 mm (0.433"–0.669"), immediate stock.
- **Best for:** Same applications as VEX-S (brake discs, tubes, wheel hubs) at bigger diameters.

COMBI — Multi-Operation Drilling/Chamfering (Heavy Equipment)

- **What it does:** Combines drilling, chamfering, countersinking, AND spotfacing into a single compact tool.
- **Mechanism:** Standard spade drill + SNAP chamfer blade; other variations of combination operations also available.
- **Sizes:** 9.5 mm – 35 mm (0.374"–1.378"), immediate stock.
- **Best for:** Heavy Equipment/Large Parts industry; also automotive wheels & brake discs.

SNAP 18 Module — Add-On Chamfering Module

- **What it does:** A compact chamfering module (not a standalone tool) that mounts directly onto an existing drill body, adding chamfering to an existing drilling operation.
- **Sizes:** For drill bodies starting at Ø18.0 mm.
- **Footprint:** 16.0 x 3.5 x 5.0 mm — small enough to mount near the drill head, minimizing traverse distance and allowing longer drilling depths.
- **Key benefit:** Two operations (drill + chamfer front & back) in one pass with fewer tools/steps.

DCC — Solid Carbide Drill with Chamfering

- **What it does:** Solid carbide drilling combined with forward and backward chamfering in a single pass — no workpiece rotation, no tool change.
- **How it works:** Solid carbide drill cuts the bore first; a SNAP-technology chamfering blade (spring-loaded, mechanical) then cuts the forward chamfer, retracts radially into the tool body once the target chamfer size is reached, and a spring-loaded control bolt resets the blade so it can cut the back chamfer on exit.
- **Sizes:** Ø4.0 mm – Ø10.0 mm; drilling depths up to 2.5× drill diameter.
- **Chamfering capacity:** Up to 0.8 mm (larger forward chamfers possible with integrated countersink steps).
- **Blade options:** Forward + backward cutting, or backward cutting only.
- **Construction:** Carbide drill body + coated-carbide SNAP chamfering blade + control bolt, sleeve, pressure spring, clamping screw.
- **Best for:** Aerospace structural components (burr-free titanium bores with tight chamfer tolerances), high-volume tubular/structural steel parts, titanium/high-temp alloy machining, and general precision machining on flat or slightly uneven bore edges.
- **Material compatibility:** Steel (TiAlN coating), aluminum (DLC coating), titanium/high-temp alloys (TiAlN coating), stainless steel (TiAlN coating) — geometry/coating tailored by material family.

Scan for Tool Line Pages

Scan any QR code below to jump straight to that tool line's page on heuletool.com.



COFA



DL2



SNAP



DEFA



COFA-X



SNAP-X



BSF



SOLO



GH-K



COMP



VEX-S



VEX-P



COMBI



SNAP 18 Module



DCC

Quick Comparison Table

Tool Line	Category	Size Range	Defining Feature
COFA	Deburring/Cross-Hole	2–25 mm (custom avail.)	Elliptical/cross-hole capable, spring-loaded blade
DL2	Micro Deburring	Ø1.00–2.10 mm	Smallest bores, integrated blade/spring
SNAP	Chamfering	2–25 mm	Retracting blade, front+back single pass
DEFA	Adjustable Chamfering	4–36.2 mm	Infinitely adjustable chamfer on the tool
COFA-X	Cross-Hole Deburring	From 4 mm (custom)	Only tool for 1:1 ratio cross bores
SNAP-X	Cross-Hole Deburring	Custom	Main bore w/ multiple cross holes
BSF	Back Spotfacing	6.5–45 mm	Air/coolant/manual activation options
SOLO	Front & Back Spotfacing	8–45 mm (3 models)	Centrifugal weight-driven blade
GH-K	Countersinking	3–45 mm	Re-grindable blades, chatter-free
COMP	Drill & Countersink	Custom	Non-marking contact foot, uneven surfaces
VEX-S	Combo Drilling	5–12 mm	Small-diameter drill + SNAP chamfer
VEX-P	Combo Drilling	11–17 mm	Large-diameter version of VEX-S
COMBI	Combo Drilling	9.5–35 mm	Drill+chamfer+countersink+spotface combined
SNAP 18 Module	Add-on Module	For drills ≥Ø18 mm	Bolt-on chamfering module, not standalone
DCC	Combo Drilling	Ø4.0–10.0 mm	Solid carbide drill + SNAP chamfer; strong in aerospace titanium

Universal HEULE Advantages

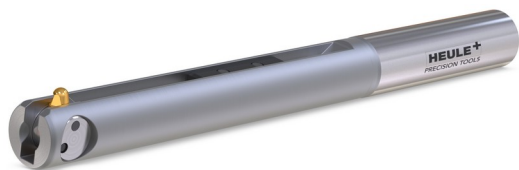
(apply across most lines)

- "One Operation" — single-pass processing, no spindle reversal or workpiece rotation
- Reduced cycle time and elimination of secondary/manual finishing
- Carbide (often coated) blades for long tool life
- Swiss-engineered consistency/repeatability
- Automation-friendly — supports unattended/lights-out CNC production
- Custom configurations available beyond stock sizes for nearly every line

Contact: info@heuletool.com / 513-860-9900; use the online Tool Selector or Locate Agent page for sizing help

Tool Line Gallery

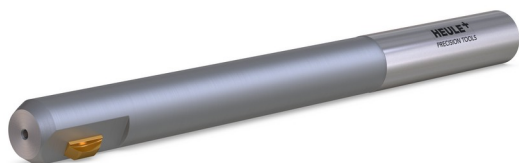
A visual quick-reference of each tool line.



COFA



DL2



SNAP



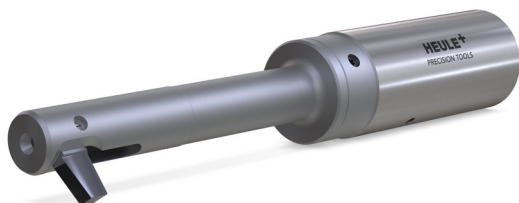
DEFA



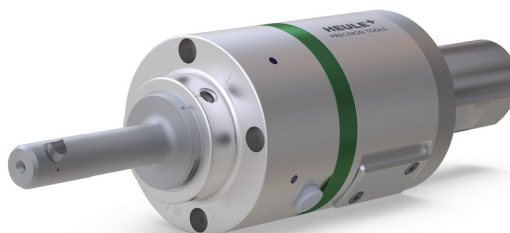
COFA-X



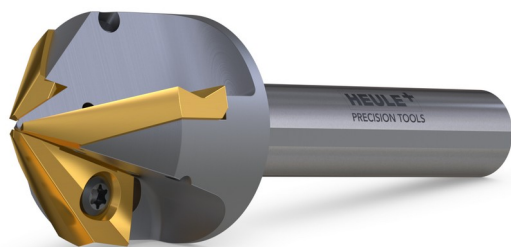
SNAP-X



BSF



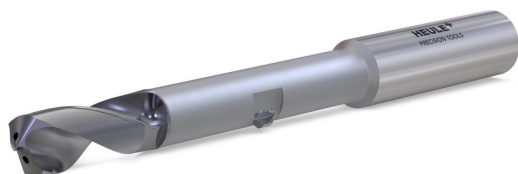
SOLO



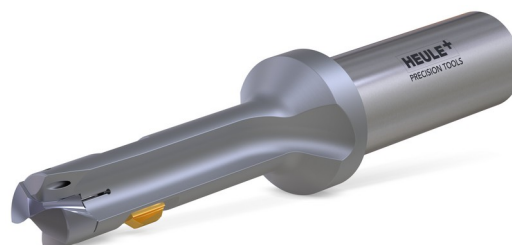
GH-K



COMP



VEX-S



VEX-P



COMBI



SNAP 18 Module



DCC