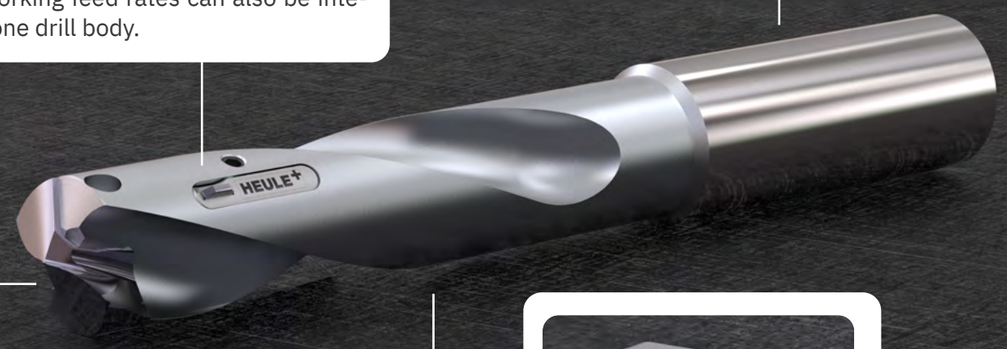
SNAP18 MODULE

Your drill body.
Our chamfering module.
Your time savings.

The advantages – Your benefit

Combine your tried-and-tested drill body with the advantages of the SNAP18 module. Reduce the number of process steps and thus time and costs. For maximum optimisation, two modules for higher working feed rates can also be integrated into one drill body.

Just one operation and the bore is complete, including chamfer on both bore edges, without turning the workpiece and without changing tools.



Clean, reliable and repeatable results. The chamfering capacity is 0.5 to 1.0 mm depending on the blade selected.

The module is designed for drill bodies from a bore diameter of 18.0 mm. It is positioned approx. 25.0 mm behind the drill insert.

THE RANGE

Module

Bore Ø range mm	Max. chamfering capacity	Series	Part no.
18.0-50.0	1.0 mm	SNAP18	SMC18-O-0900

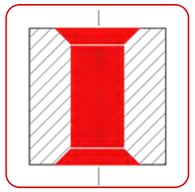
Blade DR geometry 90°

	Part no. forward and backward cutting		Part no. backward cutting only	
Chamfering capacity	Coating A for steel, titanium, Inconel	Coating D for aluminium	Coating A for steel, titanium, Inconel	Coating D for aluminium
0.5 mm	SMC18-M-0200-A	SMC18-M-0300-D	SMC18-M-0250-A	SMC18-M-0350-D
1.0 mm	SMC18-M-0210-A	SMC18-M-0310-D	SMC18-M-0260-A	SMC18-M-0360-D

The SNAP18 Module is designed for integration into standard drills. Please contact us should you have an application to ensure smooth integration.

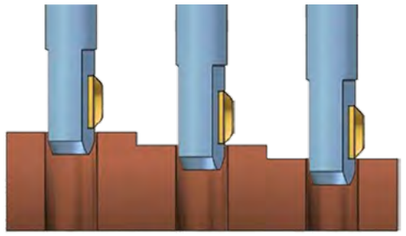
If the required tool is not included in the range above, the **INDIVIDUAL** range can offer you a possible solution. If required, we can also develop custom solutions that are fully tailored to your application.

FIELD OF APPLICATION



OPERATING PRINCIPLE

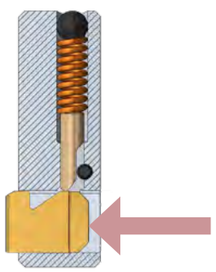
SNAP technology at the core
The guiding section of the blade causes the blade to retract into the tool body once the maximum chamfer size has been achieved. As a result, parts with fluctuating tolerances of surface/edge positions (i.e. with castings), are machined with consistent chamfer results every time. The spherically ground sliding section of the blade enables the tool to pass through the workpiece without damaging the surface of the bore.



Easy installation
A pocket for mounting the SNAP18 Module is machined in the drill body as close as possible to the drill insert. The crucial advantage here is that you can utilise your own tried-and-tested drill technology without having to change drill supplier.

BLADE CHANGE

A single screw holds the module in the drill body. To change the blade, loosen the screw, remove the module and replace the carbide blade in seconds using the assembly aid for blade change.



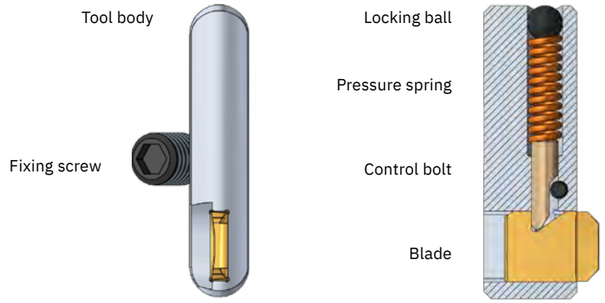
Assembly aid for blade change
PRO version for more frequent blade changes and LIGHT for occasional blade changes.

PRO
Part no. SMC18-V-0006

LIGHT
Part no. SMC18-V-0007

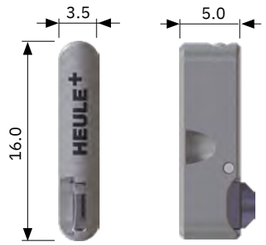
TOOL DESIGN

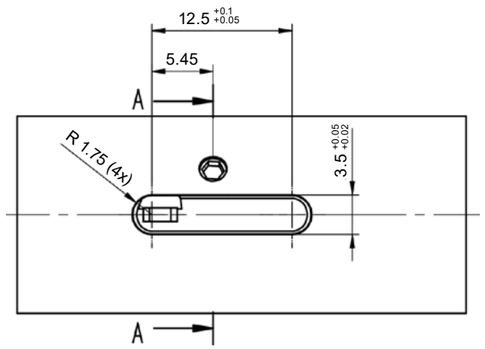
Both the module and the blades were developed for the tough industrial environment and designed for series production. The compact tool concept with few wearing parts delivers impressive performance.

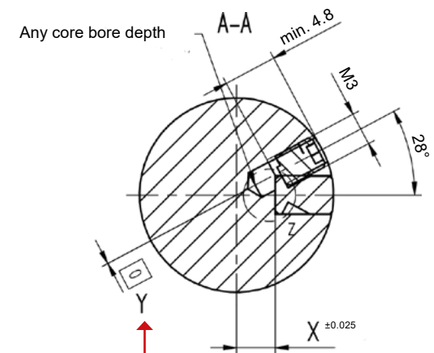


INSTALLATION INSTRUCTIONS

The existing drill body must be machined with a pocket by the customer – in consultation with the drill body manufacturer. A single screw holds the module in the drill body.







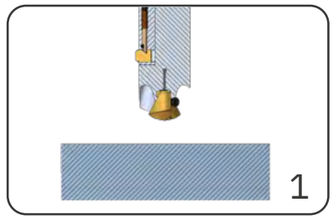
Formula for calculating dimension X:

$$X = \frac{\text{Bore diameter}}{2} - 5.5$$

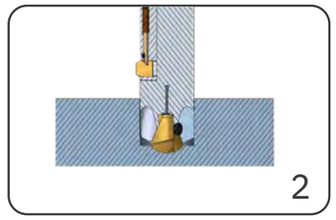
Formula for calculating dimension Y:

$$Y = \frac{(\text{bore diameter} - 18.0)}{2} \times \sin(28°)$$

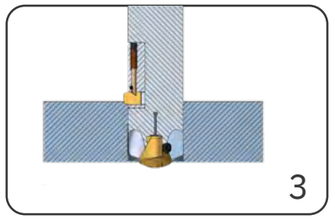
PROCESS STEPS SNAP18 MODULE



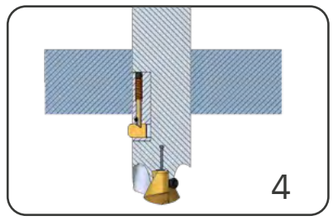
The direction of rotation does not need to be changed and the spindle does not need to be stopped at any point during the machining process. The drill tool is positioned in front of the workpiece in rapid feed.



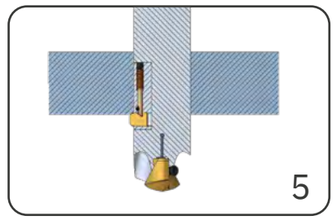
Drill the bore (according to the manufacturer's cutting data) until the module blade is just above the upper edge of the bore.
IMPORTANT:
Drilling and chamfering can be done simultaneously.



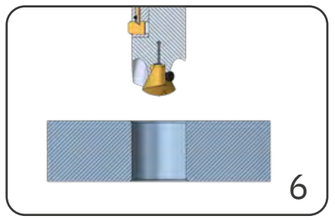
Carry out chamfering (according to the HEULE cutting data) until the blade is fully retracted (chamfer depth +1mm).



Complete the drilling process and move to the starting position for machining the back edge (burr height + 1 mm).



Carry out chamfering until the blade is fully retracted (chamfer depth +1 mm).
IMPORTANT:
To avoid blade breakage, the edge of the bore must always (even after the machine stops!) be traversed through at working speed and working feed.



Move out of the workpiece in rapid feed and move to the next bore.

Operating instructions

> Blade change

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SNAP18 MODULE CUTTING DATA

	Description	Tensile str. RM (MPa)	Hardness (HB)	Hardn. (HRC)	Cutting data[1]		
					VC	FZ	B*
P0	Low-carbon steel, long-chipping, C <0.25%	<530	<125	–	40–60	0.05–0.1	A
P1	Low-carbon steel, short-chipping, C <0.25%	<530	<125	–	40–60	0.05–0.1	A
P2	Steel with carbon content C >0.25%	>530	<220	<25	40-60	0.05–0.1	A
P3	Alloy steel and tool steel, C >0.25%	600–850	<330	<35	30–50	0.05–0.1	A
P4	Alloy steel and tool steel, C >0.25%	850–1400	340–450	35–48	30–50	0.05–0.1	A
P5	Ferritic, martensitic and stainless PH steel	600–900	<330	<35	20–40	0.05–0.08	A
P6	High-strength ferritic, martensitic and PH stainless steel	900–1350	350–450	35–48	20-–40	0.05–0.08	A
M1	Austenitic stainless steel	<600	130–200	–	10–20	0.05–0.08	A
M2	High-strength austenitic stainless steel	600–800	150–230	<25	10–20	0.05–0.08	A
M3	Duplex stainless steel	<800	135–275	<30	10–20	0.05–0.08	A
K1	Cast iron	125–500	120–290	<32	50–90	0.05–0.1	A
K2	Ductile cast iron with up to medium strength	<600	130–260	<28	40–60	0.05–0.1	A
K3	High-strength cast iron and bainitic cast iron	>600	180–350	<43	40–60	0.05–0.1	A
N1	Wrought aluminium alloys	–	–	–	70–120	0.05–0.2	D
N2	Aluminium alloys with low Si content	–	–	–	70–120	0.05–0.2	D
N3	Aluminium alloys with high Si content	–	–	–	70–120	0.05–0.2	D
N4	Copper, brass and zinc base	–	–	–	30–70	0.05–0.15	D
S1	Iron-based heat-resistant alloys	500–1200	160–260	25–48	8–15	0.02–0.06	A
S2	Cobalt-based heat-resistant alloys	1000–1450	250–450	25–48	8–15	0.02–0.06	A
S3	Nickel-based heat-resistant alloys	600–1700	160–450	<48	8–15	0.02–0.06	A
S4	Titanium and titanium alloys	900–1600	300–400	33–48	8–15	0.02–0.06	A

[1] Higher cutting feed rates can be achieved by installing two or more modules.

The cutting values for drilling are generally higher than those for chamfering. With the installation of at least two SNAP 18 Modules, the chamfering performance can be optimised to such an extent that little or no compromise needs to be made in terms of processing speed.