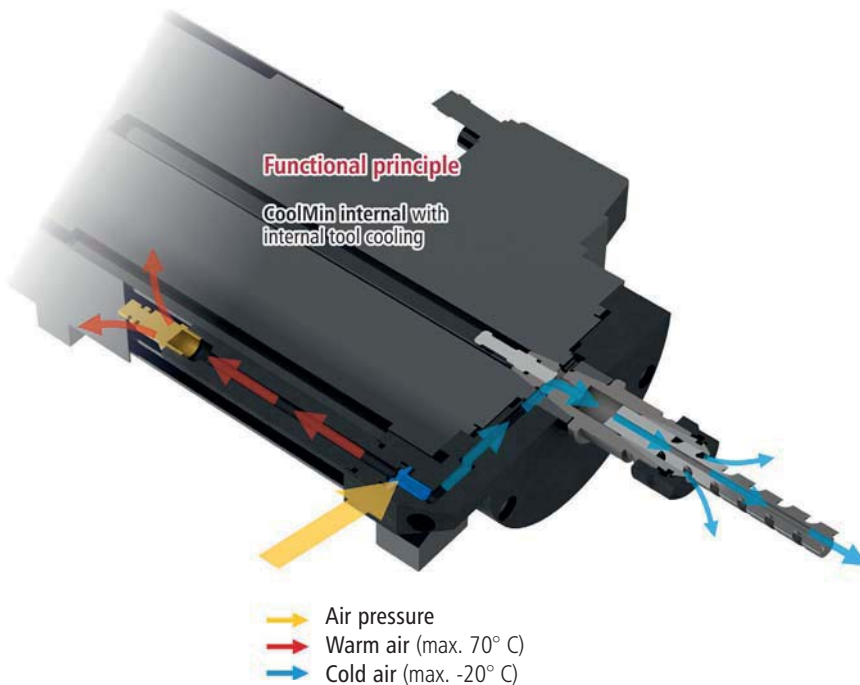


# Tool cooling system

## COOLMin

### Functional principle



- 1** Spindle motor
- 2** Temperature controller
- 3** Hot air exhaust
- 4** Vortex nozzle with cold air exhaust
- 5** Compressed air feed
- 6** Cold air blower in synthetic material
- 7** Tool holder for internal cooling
- 8** Milling cutter for internal cooling



### Tool and material cooling

Dry cutting is today the first choice for many machining tasks.

Hitherto, materials, tool wear and surface finish have often necessitated cooling with appropriate coolants / greases. This always means moisture. Even minimal moisture spray cooling causes unwanted effects such as the build-up of dirt and the adhesion of swarf to the cutting tool or to the working surface and can lead to the deterioration of the material surface structure, depending on the material being machined.

Our patented cooling method ensures adequate tool and surface cooling and reduces such effects to negligible levels. This keeps the swarf dry and, depending on the material, easy to remove by either blowing or vacuuming. Surfaces are therefore protected and, as a result of direct tool cooling, tool life is significantly increased (also suitable for tools with integrated cooling).

The main component of our cooling method is a cold air nozzle, which operates on the eddy current principle and separates warm air from cold.

The system is powered by air pressure alone (6 to 10 bar).



Tool, cooled by CoolMin internal

Technical specifications subject to change.

# Tool cooling system

## COOLMin

### Functional principle

#### CoolMin external

#### CoolMin internal without tool cooling system

- ❶ Compressed air feed
- ❷ Flexible mating hose
- ❸ Spindle motor
- ❹ Temperature controller
- ❺ Hot air exhaust
- ❻ Vortex nozzle with Cold air exhaust
- ❼ Cold air supply in synthetic material
- ❽ Collet



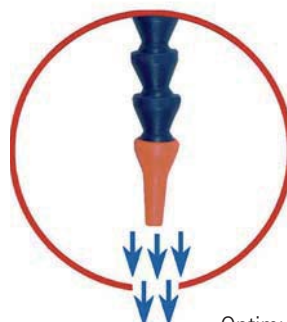
**Diagram:**  
CoolMin external  
with mating hose



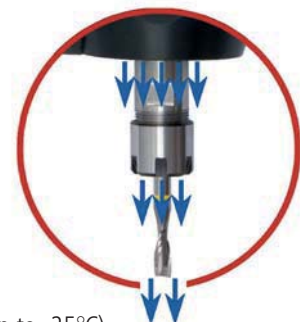
**Diagram:**  
CoolMin internal

### Technical specification

Compressed air feed	6 – 10 bar
Cold air exhaust	up to max. -25° C
Hot air exhaust	up to max. 70° C
Air consumption	approx. 150 l/min.



**Diagram:**  
Optimum cold air flow (up to -25°C)  
for tool cooling and chip evacuation



### Ordering information

Description		Part number
CoolMin external	with mating hose, incl. servicing kit and shut-off tap (manual)	239011 0119
CoolMin external	incl. servicing kit and electrically-powered valve	239011 0117
CoolMin internal		see individual motors