

# OPERATING MANUAL



# CC 3000

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## CC 3000: INTRODUCTION

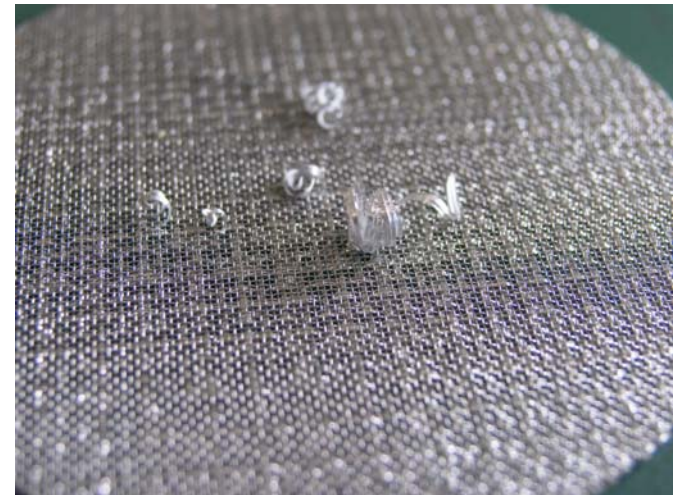
With Guhring's CC 3000 you can quickly and simply check the filtering efficiency of the coolant system

- Breakage?
- Coolant ducts blocked?
- Unreliable process?
- Swarf in the system?

With the new CC 3000 system you can quickly and reliably check the filtering efficiency of your machine.

The inspection is carried out in the machine spindle!

Evaluation is quick and direct, the result is displayed immediately.



Perform a **CC** on your machine tool!

## CC 3000: DESCRIPTION

Tool holder: i.e. HSK 63 A

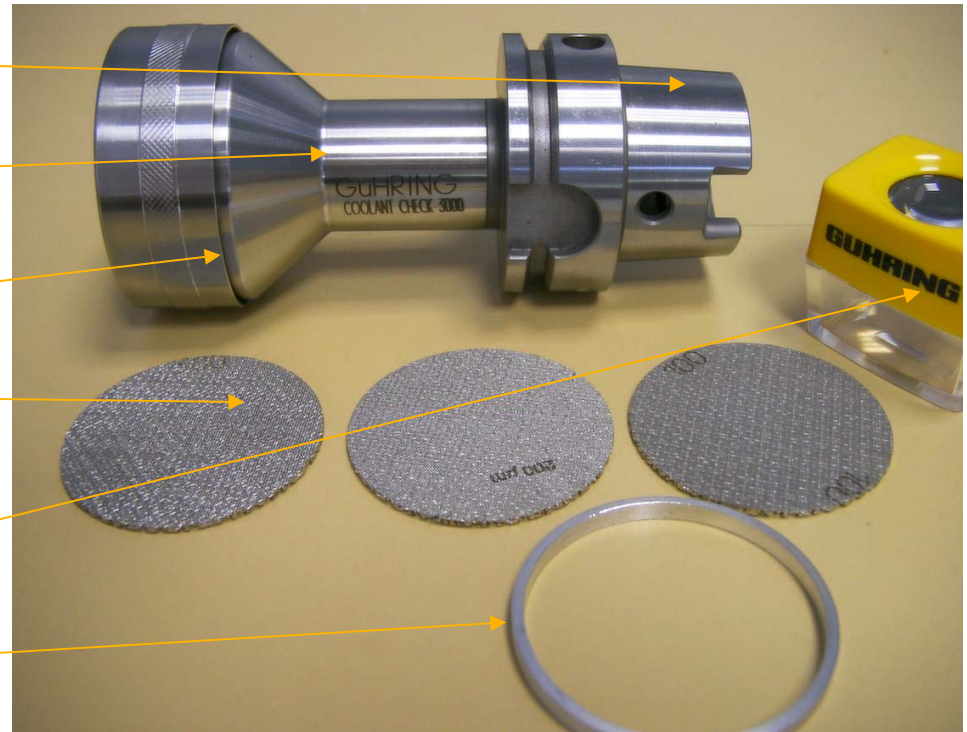
Stainless steel, tapered CC-housing with integral special nozzle

Stainless steel clamping nut with filter holder

3 different stainless steel filters in the sizes : 100  $\mu$ m, 200  $\mu$ m, 300  $\mu$ m

Magnifying glass (8x) to evaluate and analyse

Distance ring for application with only one filter



This equipment allows users, machine manufacturers, service technicians as well as process optimising personnel to simply, quickly and directly check the current filter efficiency or swarf content of internal cooling systems on machine tools.



# CC 3000: SET

## CC 3000 COOLANT CHECK

Set includes

**Aluminium case**  
with insert

**Stainless steel filters**  
available in 100, 200 und 300 µm sizes

**Inspection instrument**  
with HSK 63-A interface

**Refractometer**  
with accessories

**Pipette**

**Magnifying glass**  
with 8x magnification

**Additional accessories**  
stainless steel filter size 60 µm

Documentation including operating manual

# CC 3000: ASSEMBLY



## Preparation

**CC 3000** must first be assembled with the 3 filters in the correct sequence, “coarse” to “fine”. The filters must be inserted with the coarse stabilising grid facing to the front towards the exit. Alternatively, the measuring instrument can also be applied with only one filter, however, this necessitates the insertion of the distance piece together with the filter in the clamping nut. The inspection instrument is then directly applied in the machine spindle to be checked.

## CC 3000: SAMPLING

Following assembly, the inspection instrument **CC 3000** is clamped either manually or via tool changer into the machine spindle. Then, the IC supply is turned on at the machine tool. If necessary, the machine spindle can also rotate. It is recommended to adhere to a speed of between 50 and 500 rpm.

For safety reasons, the maximum speed of 1000 rpm should not be exceeded! The internal cooling should be on for a minimum of 2 minutes at maximum pump output (pressure/volume) in order to achieve a sufficient inspection accuracy. If required longer inspection cycles are permitted.

Depending on conditions, a regular inspection cycle (i.e. every 2 hours, every morning...) may be useful in order to gain an analytical series of inspections.

The user must stipulate inspections as required.

Following application the inspection instrument **CC 3000** is removed from the machine and analysed for evaluation at a clean workstation.

# CC 3000: INSPECTION & EVALUATION

In order to evaluate the **impurities** caught by Guhring's **CC 3000**, the filterpacket with the clamping screw in vertical position must be carefully disassembled (upright, with nut below). The nut is retained and the CC-housing is rotated anti-clockwise (approx. 3 rotations), until the housing can be lifted off.

The filters are then carefully removed from the nut and placed on an absorbent pad.

Filter by filter, in a decreasing grades of coarseness (300  $\mu\text{m}$ , 200  $\mu\text{m}$ , 100  $\mu\text{m}$ ), is then evaluated. Existing impurities (i.e. swarf) are inspected with the magnifying glass.

**The level of impurities and particle size allows conclusions to be drawn on weak points in the filter system. Rectifying these weak points leads to an optimisation of the machining process!**



# CC 3000: APPLICATION CONDITIONS

Guhring's **CC 3000** is a precision inspection instrument and should be maintained and handled accordingly!

The instrument is designed for checking coolants/lubricants (generally hydrous soluble oil) with waterlike viscosity as well as oil-like KSS-materials.

- Filter grade: 300 µm, 200 µm, 100 µm (60 µm optional )
- Application speed: 50 – 500 rpm (safe speed: max. 1000rpm)
- Coolant pressure: up to 120 bar

The refractometer included in the set to determine the soluble oil concentration is designed for 0 - 18 % Brix. Please observe the enclosed measuring and calibration instructions.