

E50 R

Fully Automatic Hand Knife Sharpening Machine



Maximized yield

Robotic technology provides perfect ground hand knives



■ Measuring hand knives



■ Sharpening hand knives

Perfectly ground hand knives enable more accurate cuts. Hand knives, ground with the E 50R robotic technology, increase the yield of meat up to 0,5 % compared to manual grinding. At 10 000 tons meat production, this means a 50 000 kilograms higher rate of yield.

Precisely ground hand knives bring down the risk of accidents and reduce absences due to inflammation in the arm and shoulder (reduced incidence of musculoskeletal disorder (MSD) by up to 80 %; source Anago Ltd).



■ Six-axis robot

The central organ of the sharpening machine is the six-axis robot. It grabs the knife handle, move the knives through the different processing positions and guides them through the sharpening stages, according to its exact shape. The repeat accuracy amounts to 0.03 mm. The robot is completely sealed (IP65) and designed for operating under aggressive work environment conditions.

■ Individual measurement

Before the sharpening program starts, each individual knife is scanned at the measuring station. The detected knife shape is then converted into CNC data. The robot steers the knife, according to this data, through the complete sharpening process. Thus, the original knife shape is retained through every re-sharpening process.

■ 650 Hand knives per 8-hour shift

The E 50R has a performance of up to 650 hand knives per 8-hour shift, depending on the shape and size of the knives. The necessary personnel deployment thereby amounts to 1–2 hours.

Best quality

Precise cuts optimize the product quality



■ Deburring hand knives



■ Polishing hand knives

The E 50R sharpens hand knives of various shapes and sizes fully automatically.

The six-axis robot takes the knife out of the magazine – it is optically detected – next, the knife is sharpened, deburred and polished – the robot returns the knife to the magazine.

The output is up to 650 hand knives per 8 hour shift at 1–2 hours personnel deployment.



■ Knife magazine

The magazine consists of two boxes and has space for 60 knives. It can be loaded outside the machine during the operating process. Since each knife is individually detected before the sharpening process begins, the magazine can be loaded with knives of various shapes and sizes.

■ Sharpness testing device (optional)

After the knife has been polished, the E 50R tests its sharpness fully automatically. The knife penetrates a test medium in the process. The measured sharpness is shown on the display. If the sharpness falls below the minimal value set, the knife is displayed as 'not sharp'. If the set sharpness is also not achieved with the next knife, the grinding machine shuts down. The reason for the shut-down is displayed.

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Health-supporting technology

Completely encapsulated machine with suction unit and water cooling



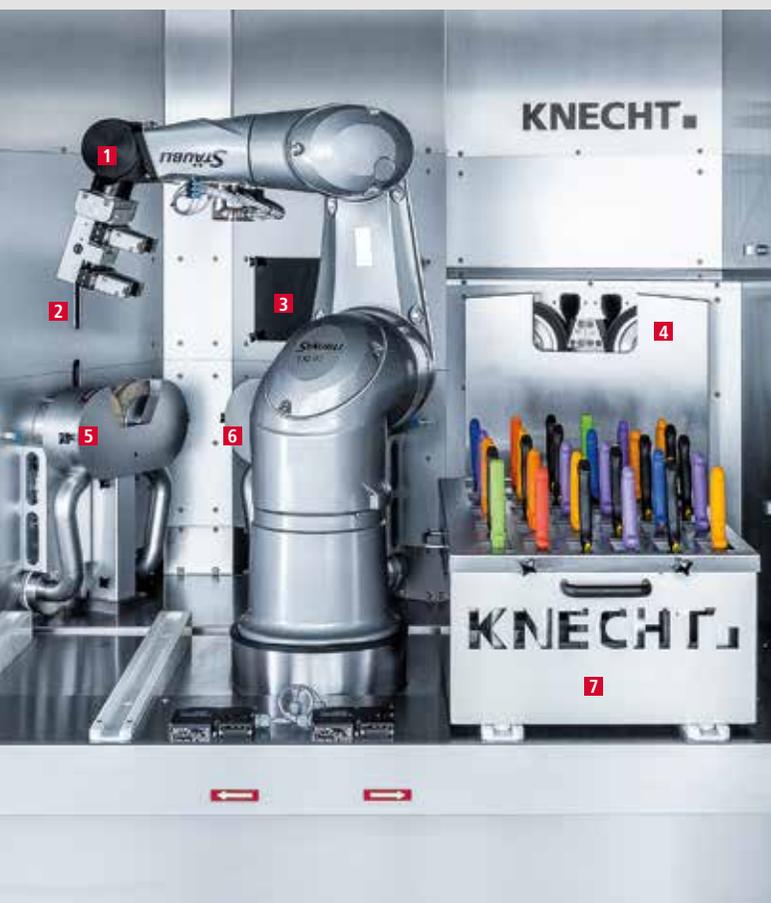
■ Suction unit



■ Coolant monitoring

The serial suction unit and the water cooling considerably reduce all emissions arising from sharpening and polishing. This protects the operator's respiratory system.

The machine room remains nearly clean. This increases the operational safety of the mechanical components. The filtered out grinding and polishing abrasion collects in a tray. There, it can be easily disposed of in an environmentally-friendly way.



- 1 Six-axis robot
- 2 Sharpness testing device (optional)
- 3 Laser measuring device
- 4 Wet-grinding belts
- 5 Deburring wheels
- 6 Polishing wheels
- 7 Knife magazine

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Technical specifications and space requirements*

■ Depth	1857 mm
■ Width	2573 mm
■ Height	2043 mm
■ Weight (incl. knife magazine)	approx. 1135 kg
■ Weight of charging trolley	approx. 48 kg
■ Depth*	4000 mm
■ Width*	4000 mm
■ Height*	2100 mm
■ Electrical supply	8 kW 3x 400 V 50Hz
■ Back-up fuse	25 A
■ Compressed air supply	6.5 bar
■ Compressed air consumption	< 50 l per minute
■ Emission sound pressure level according EN ISO 11201	approx. 72 dB (A)
■ Internet connection	RJ45
■ Knife magazin	60 knives
■ Performance	approx. 650 knives per 8-hour shift

The machine meets the EC safety and health requirements and is provided with the CE-symbol.
As at 2020.03 | Subject to technical modifications.

