ultraTEC
innovation

/////// Ultrasonic deburring //

A20 Compact / A25 S / A100 S

Flexible and resource-saving ultrasonic deburring systems

THE FUTURE OF DEBURRING

You can now experience a revolution in deburring. ultraTEC delivers optimum results with minimum energy consumption and without material removal - redefining precision with ultrasonic deburring! This ground-breaking new process eliminates the disadvantages of previous deburring methods, giving you countless benefits.

ultraTEC has developed a deburring technology based on the use of high-frequency ultrasonic horns. The patented horns are firmly anchored in a process water basin. Stimulated by a generator, oscillations of up to ± 120 μm and a frequency of 20 kHz or optionally 35 kHz are generated. This creates cavitation bubbles at the tip of the ultrasonic horn. These bubbles implode, create a discontinuous flow and cause the burrs on components to vibrate until they break off, leaving you with a sharp edge.

The result is perfectly deburred edges that retain their sharp structure. This system removes burrs without thermal stress, without material removal and without changing the component – all whilst creating energy savings of up to 95% compared to alternative processes.

A20 Compact / A25 S / A100 S
PERFECTLY EQUIPPED
FOR YOUR REQUIREMENTS.

/// SPINDLE
In addition to ultrasonic deburring, various motorised and compressed air spindles can be installed with and without a compensating joint. This allows additional process steps such as the brushing of components to be integrated.
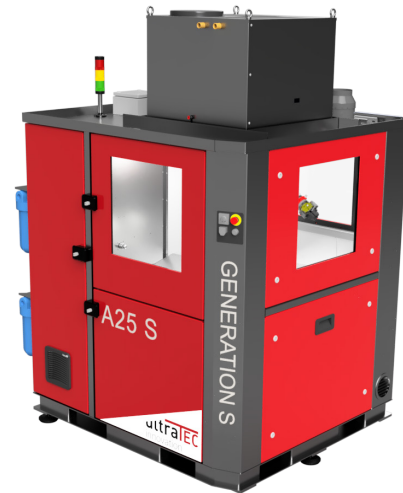(OPTIONAL)

/// SENSOR
The laser sensor ensures precision component orientation of rotationally symmetrical components.

/// DIGITAL TWIN
The digital twin enables offline programming of the system and the deburring process. This is also used for visualisation, simulation and collision avoidance control. If required, our service team can support you with the digital twin features.
(OPTIONAL)

/// PROCESS WATER BLOW-OFF STATION
After the deburring process in the process water tank, the components are transported to a compressed air blow-off station. Here, the process water is blown off the component.

/// REGRIPPING STATION
Components can be processed fully automatically on both sides using a gripping station.
(OPTIONAL)

/// AUTOMATION
Various drawer systems can be configured as required for unmanned processing. Each drawer can be fitted with goods carriers.
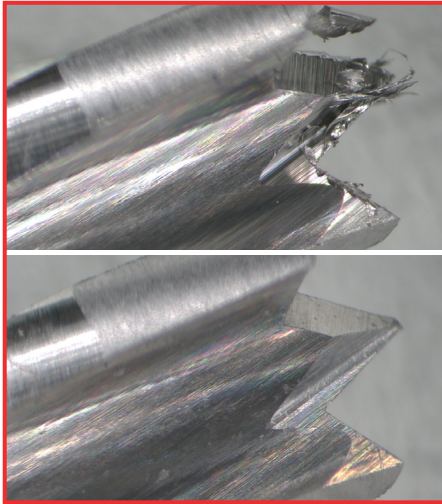(PARTLY OPTIONAL)

/// INDUSTRIAL ROBOT
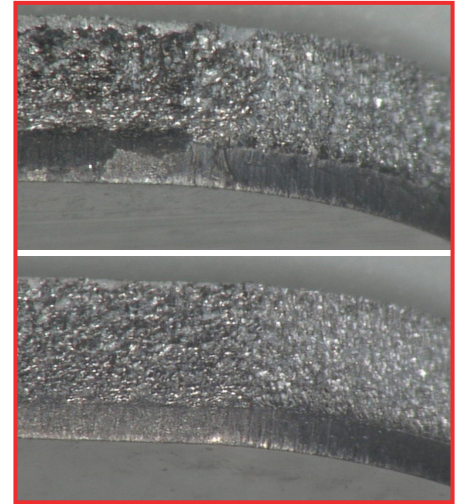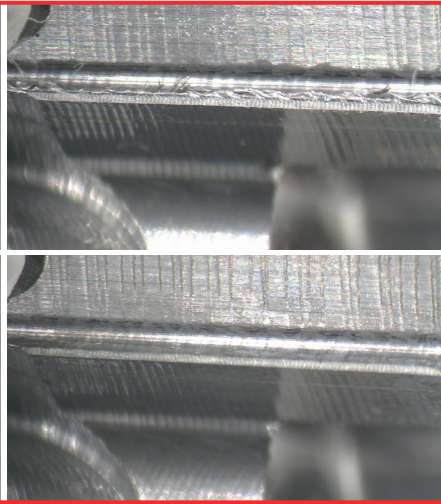High-quality 6-axis industrial robot guides the components.

/// MACHINE BED
The machine bed consists of a welded steel structure, which is partially filled with mineral concrete. This gives the machine maximum stability.

THE APPLICATION

/////// Sharp-edged deburring
Optimum results, without material removal

/////// Selective cleaning of components

THE BENEFITS

/// Sharp-edged but burr-free
/// Precise deburring process
/// No material removal
/// No change to the component or the component surface
/// Hidden burrs and cross holes can be deburred

/// Validatable process
/// Fully automated
/// Selective cleaning of components
/// Sustainable and energy-saving

/////// Automation
With various drawer systems as required

/////// Deburring of different materials
Process-safe, fully automated and selective

SPECIFATIONS

	A20 C	A25 S	A100 S
1 Horn in the process water	✓		
2 Horns in the process water (optional)	(✓)	✓	✓
3 Horns in the process water (optional) (Optional: horn with 35 kHz)		(✓)	(✓)
2 Drawers	✓		
3 Drawers		✓	✓
Multidrawers		✓	✓
Regripping station (optional)	✓	✓	✓
Blow-off station	✓	✓	✓
Motorised spindle (optional)		✓	✓
Compressed air spindles (optional)	✓ (up to 1)	✓ (up to 3)	✓ (up to 3)
Digital twin (optional)	✓	✓	✓
Maximum component size in mm	100x100x100	150x150x150	300x300x350
Maximum component weight in kg	3	7	10/20
Process water tank capacity in litres	30	36	100
Maximum connected load in kVA (without options)	5,6	6,2	6,5
Industrial robots	ABB IRB 1200 Fanuc LR Mate 200	ABB IRB 1200 Fanuc LR Mate 200	ABB IRB 1300/1600 Fanuc LR 10 iA
Welded steel housing	✓	✓	✓

Installation dimension

Width in mm	1250	1350	2000
Length in mm	1500	1800	2500
Height in mm (transport)	2200	2200	2300
Total weight in kg (depending on option)	approx. 800	approx. 1150	approx. 1750