



ingenious – simple – unique

engraflexx

Deburring tools

engraflexx

Automated deburring of cast, pressed or forged parts

The engraflexx deburring tools are used to automatically deburr parts with unclearly defined edges. Use takes place predominantly on a machining centre or CNC lathe or robot. Depending on the respective task, the application is ideally in the version with radial or axial spindle deflection.

Benefits

+ Time saving

- No necessity for additional manual deburring
- Additional part handling is no longer necessary

+ Quality improvement

- Repetition accuracy for all parts
- Evenly deburred edges
- No forgotten edges

+ Process simplification

- Reduction of the number of work processes (manual deburring is no longer necessary)
- Minimisation of logistic and transport costs

+ Employee workload reduction

- Reduced accident risk as opposed to manual deburring
- Reduction of dirt and dust development
- Reduction of noise exposure

Main advantage



Replaces manual deburring



1 Uniform deburring of a cast housing

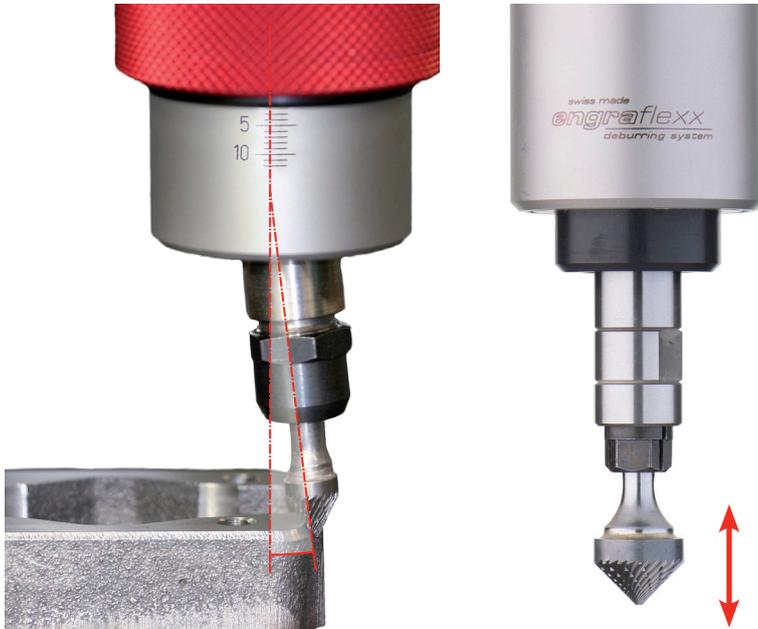
Automatic compensation of dimensional inaccuracy.

2 Countersinking of cast-in bores

Radial compensation of positional differences.

3 Deburring of interior holes

Extension of the milling cutter springs at the drilling edge.



Two deflection principles
Depending on the tool type, the spindle deflection takes place in radial or axial direction.

Adjustable preload force
Infinitely adjustable spindle preload force. In combination with the feed speed, this allows the deburring thickness to be set to the desired level.

Different machining tools
Depending on the application, deburring and grinding pins of various shapes and sizes can be used. For first-time tool applications, these are usually supplied by us (prior clarification/support is provided by telephone or by e-mail by our application technicians)

Functional principle

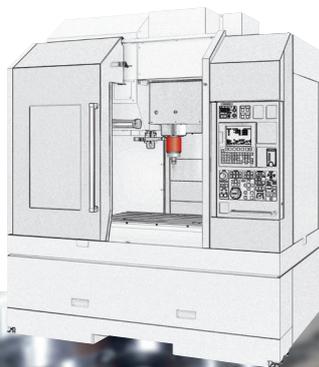
The special feature of the engraflex is the flexible tool spindle, which can be deflected in radial or axial direction depending on the tool design. The integrated spring preload ensures that the spindle is always pressed towards the neutral starting position.

The workpiece area to be deburred is programmed by entering the theoretical workpiece contour with "too small" cutter radius compensation. This means that the cutter is too close to the edge of the workpiece and, together with the spindle, is pushed away to a greater or lesser extent depending on the dimensional deviation. This means that the cutter is always pressed evenly against the edge of the workpiece. This ensures that all contour areas are automatically deburred evenly – regardless of any dimensional or positional deviations.

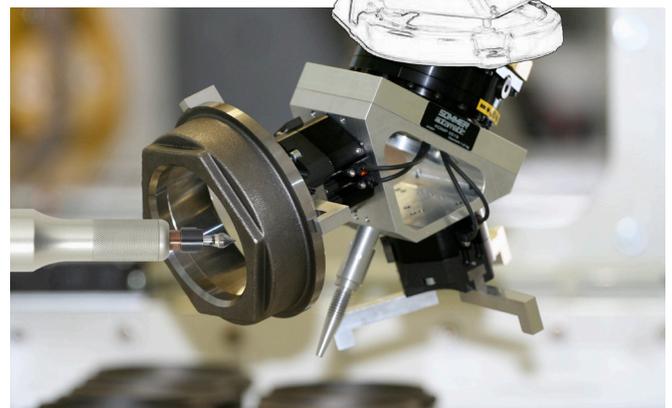
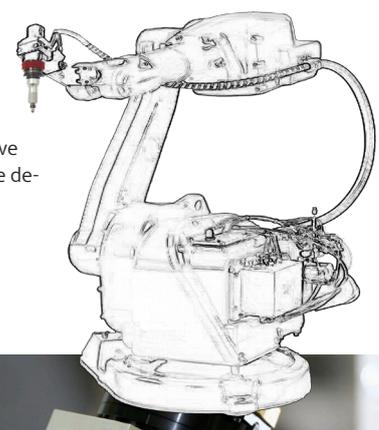
Possible applications

Optimal use in machining centres, CNC lathes or robots

engraflex EC in use in machining centre, with automatic tool change via tool changer



Version with integrated drive spindle in use for workpiece deburring with robot



Great variety of tool designs

The following is a partial overview of the tool versions available as standard. Based on the current market and customer requirements, we are continuously supplementing our product range with corresponding new and further developments.

Versions with radial or axial spindle deflection for CNC machines



Special versions for CNC machines



Versions for robots and special systems



Examples of workpieces deburred on CNC machines

