

# OTEC EF-SERIES IMMACULATE HIGH-GLOSS FOR INDUSTRY APPLICATIONS



**ELECTRO FINISHING TECHNOLOGY – INNOVATIVE SURFACE FINISHING**

OTEC's new generation of machine technology ensures high-gloss surfaces on workpieces with intricate structures or complex geometries, leading the way in all industries. Suitable for parts with varying dimensions and a vast spectrum of materials, our machines take surface sheen to a whole new level. They are the ultimate in reliability, precision and efficiency.

## Industry applications

Sectors: medical engineering, dental, aerospace, additive manufacturing, tooling, automotive, food and textiles  
Materials: tool steel, hard metal, stainless steel, Inconel, titanium, aluminium, cobalt chromium, copper, brass

## Highlights

- High-gloss polishing with maximum gloss and no micro-scratches
- Intricate structures are maintained and are smoothed and polished gently
- Precise processing of hard-to-reach areas and complex geometries
- Achieves roughness values as low as Ra 0.01 µm
- Short process times with reproducible results
- Machine processing replaces time-consuming manual tasks
- Minimal media jamming thanks to tiny, spherical particles
- Safe for users as the particles in the specially developed conductive liquid are free from cyanide and hydrogen fluoride



## Machines to suit your component size

**EF-Smart T:** Compact table-top machine for up to 4 holders, component size max. 60 x 50 x 25 mm.

**EF-Flex:** Modular machine for components with max. size of 380 x 80 x 100 mm or a capacity of up to 40 workpieces per process container; can have up to 3 process containers.

**EF-Performance:** High-performance machine with 3 stations, working space per station Ø 230 x 180 mm (D x H).



EF-Smart T

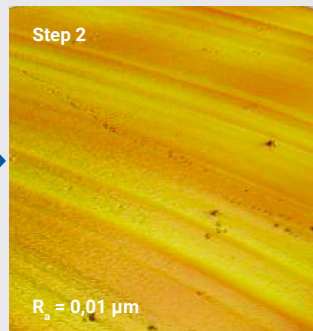
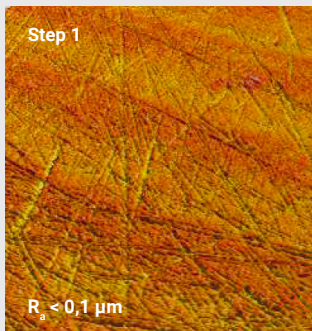


EF-Flex



EF-Performance

## Example of surface roughness reduction on extruder screws



### Particular requirements

- Reducing friction by creating extremely low surface roughness, in addition to deburring and controlled rounding of edges.
- Homogeneous smoothing of surfaces with significant waviness and roughness caused by turning and milling.

### OTEC solution

- **Step 1:** Mass finishing that reduces waviness to  $R_a < 0.1 \mu\text{m}$  without overly affecting the geometry and edges.
- **Step 2:** EF-Process achieves roughness as low as  $R_a = 0.01 \mu\text{m}$  and a high-gloss finish, even on the intricate areas and groove base of extruder screws.

The metal surface of the workpiece is polished to perfection, right down to the tiniest radii.

## High-gloss examples and their processing times

Knee joint (cobalt chromium)



Approx. 30 min./batch

Cutting tool coatings (TiAlN\*)



Approx. 10 min./batch

Turbine blades (titanium\*)



Approx. 60 min./batch

Extruder screw (stainless steel)



Approx. 30 min./batch

Valve balls (stainless steel)



Approx. 60 min./batch

Denture clasps (cobalt chromium)



Approx. 15 min./batch

\* Processing in specially equipped EF-Performance

See the OTEC high-gloss results for yourself!

We develop custom solutions to suit your specific requirements in our Finishing Center.

Your local  
OTEC Partner



As a trusted global partner for perfect surfaces, OTEC builds innovative finishing machines which set high standards and achieve perfect process reliability. Revolutionising manual processing applications results in precise and consistent quality in the shortest possible process time.

Smooth surfaces every time, defined rounding results, the removal of burrs and a perfect sheen are decisive competitive advantages in almost all industrial sectors. In particular that means saving energy as well as extending the service life and increasing the durability of parts.

OTEC machines with the "Made in Germany" seal of quality stand for dependable technology, high-quality workmanship, reliable operation and a long service life.

**OTEC**  
PRECISION FINISHING SOLUTIONS

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