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## SF – new machine for faster smoothing, polishing and edge rounding

The new SF (Stream Finishing) machine from OTEC represents a significant technical innovation for the finishing of clamped workpieces. In comparison with previous technologies such as the DF-Tools series of drag-finishing units, processing times can in some cases be reduced quite drastically.

### Operating principle:

An interchangeable drum (for wet or dry finishing) rotates on its own axis.



SF machine with 3 workpiece holders; the drums are on trolleys to make it easier to change the media.

The workpieces (up to a maximum of five) are clamped in a device such as a three-jaw chuck and processed by being immersed at an angle in the flowing media by means of an electromechanical lift unit. Each workpiece is controlled individually. To facilitate loading and unloading, each finishing station can be moved into the changeover position during the finishing process. This makes it possible to automate loading and unloading during the process. The same media can be used as for the drag finishing process.



Application: polishing of carbide drills

Advantages of this new technology:

- Laminar flow prevents vortex loss at the workpiece.
- Shorter finishing times, e.g. carbide tools polished in only 5-10 min.; edge rounding in only 1-2 min.; joint heads polished in about 2 min.
- Three-jaw chucks enable a variety of diameters to be clamped.
- Selective streaming can be used to significantly influence the way the workpiece is finished, e.g. polishing the flute but not rounding the main cutting edge of carbide drills.
- Can easily be automated.

Typical applications:

- Edge rounding of tools
- Polishing workpieces and tools of all kinds to a mirror finish
- Smoothing and polishing of precision parts in metal, carbide, glass and ceramic materials
- Polishing joint balls