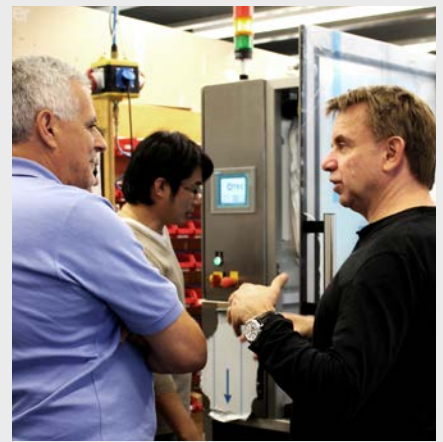


Dealer training. This is also a customer service.

Dealer training for the representatives of our market partners in other countries and on other continents: OTEC holds these sessions at regular intervals at the company's headquarters in Straubenhardt. Topics include the development of new machines and how to get the best out of them as well as OTEC's current market position and a discussion of sales statistics and prospects for the coming year.

This direct contact serves to involve dealers more closely in the company's operations at the same time provid-

ing key background information for customer support in the dealers' own countries. In September 2013 it was once again time for such an event. Representatives from trading partners in Turkey, Russia, Brazil, Taiwan, Thailand, India and the United States were provided with a wealth of information which they were able to make good use of at the subsequent EMO trade fair in Hanover by holding direct discussions with customers from their respective areas.



Contents

- ▶ Dealer training (1)
- ▶ OTEC can also do wine! (2)
- ▶ EMO 2013 (3)
- ▶ Fast finishing of fuel injection plungers (4)
- ▶ More efficient measuring systems (4)
- ▶ Pulse finishing (5)
- ▶ Zero gap system without water flow (5)

OTEC can also do wine!

Once a year OTEC takes a break from the world of high tech engineering and turns to other, more sensual pleasures. In autumn, this means a trip to the family run vineyards of the company's proprietors in Ellmendingen (Keltern/Enzkreis) to pick the grapes grown on the southern slopes of the hillside there. The final product of this is the OTEC wine, well-known to many of OTEC's customers and visitors and often as a much-appreciated gift. Following the grape harvest in mid October, the 2013 vintage amounted to some 1,380 liters. The OTEC Red variety attained a density of 88 degrees on the Oechsle scale and the OTEC Blanc de Noir 85 degrees. We can be very satisfied with these values since the weather conditions this year were not exactly conducive to the health of the vines. In spring there was such a prolonged period of cold that the grapes did not appear until four weeks later than normal. Summer was in part too dry and in September and October there were such violent downpours that many grapes simply burst. But in spite of all that, we can now look forward to enjoying the wine.



EMO 2013. OTEC is very satisfied.

With more than 2,000 exhibitors from 43 countries, the EMO 2013 trade fair in Hanover once again did full justice to its excellent reputation as a world leader among metalworking industry fairs. For OTEC Präzisionsfinish it is one of the most important of the 50 or more fairs which the company attends every year.

Once again, it offered specialists in the field of surface finishing an international platform on which to present new developments and demonstrate the innovative power of this medium-sized enterprise.

One of the technical highlights was the new SF 3/200 stream finishing machine for smoothing, edge rounding and mirror-finish polishing of bathroom fittings, forming tools, and other work-pieces such as implants in extremely short processing cycles. As expected, this attracted a great deal of interest – as did the new CF 18 disc finishing machine with the new zero gap system without continuous water flow, a major advance in terms of technology and cost-effectiveness. In a class of its own in the high-tech area was the SF stream finishing machine with robot, other visitors – depending on their requirements – were drawn to the semi-automatic CF50 disc finishing machine.

Once again, OTEC was able to make many new contacts and strengthen ties to customers on both the domestic and international markets. The principle of including dealers from abroad when manning our exhibition stands has once again paid off. This helps to reinforce direct contact with and provide extra support for customers from the respective counties.



Fast finishing of fuel injection plungers

Injection plungers for the fuel injection systems of automobiles finished in a processing time of only ten seconds – OTEC's SF2 stream finishing machine can do this. With the control edge deburred and rounded to less than 1 µm in a dry finishing process, the plungers receive a perfect surface which ensures optimum functionality.

Fully automatic operation enables large quantities to be finished in a very short time. The machine has a lift system that can hold two workpieces (approx. 2 mm x 15 mm). Rigid guide rails ensure a high degree of repeatability in the loading and unloading of workpieces. These are automatically clamped in collet chucks with the

tension being provided by disc springs and released by means of pneumatic cylinders. Once both parts have been simultaneously finished, they are lifted out of the process container and automatically blasted with air.

Loading and unloading is undertaken by a robot with a double gripper loading to and from the respective pallets. The level of abrasive agent is monitored by means of a sensor which also sends a signal in the event of a workpiece coming out of its holder during the process. All this makes the SF 2 a reliable, fully automatic unit offering a high degree of user-friendliness.

► Technology News – Finishing fuel injector pumps in the SF 2



More efficient measuring systems

With the introduction of an Alicona measuring system for edge measurement, OTEC has set new standards for high-quality precision finishing. The focus variation technique gives higher resolution and greater accuracy and covers a wider range of applications. With these systems it is possible to make high-resolution measurements of roughness, contours and position. This means that they can be used for all surfaces of deburred, ground, burnished or polished workpieces processed in mass finishing machines.

OTEC believes that these versatile measuring systems will open up new opportunities and provide new insights which can be translated into greater benefit for customers in the form of even more innovative machines for precise and economical surface finishing.



Pulse finishing. Fast and accurate deburring

Perfect surfaces for parts from highly sensitive areas of industry such as hydraulics, complex tools, fuel injection systems, bathroom fittings and decorative items – in just one minute: OTEC's addition to its range of stream finishing machines can achieve this feat. The process is called pulse finishing and works by optimizing the relative motion between media and workpieces. The workpieces – up to five at a time – are processed on spindles in hollow cylinders in which they are alternately accelerated to speeds of up to 8,000 rpm and then brought to an absolute standstill several times during the processing cycle. The force resulting from the media's inertia – exerted through the differing speeds of

the two elements – creates an intensive abrasive effect which in turn gives high-precision deburring. OTEC already has a patent application pending the pulse finishing technology.

► [Pulse finishing – press release](#)

before



after



Zero gap system without water flow

One of the main advantages of this new system for the CF 18 disc finishing machine is that it significantly reduces processing costs. Since the system the continuous water flow which was previously necessary, the diamond polishing additive remains in the process drum. This eliminates waste. The diamond polishing additive is absolutely essential for polishing workpieces made of aluminum oxide.

A further component of this new technology for which a patent application is also pending, is the use of compressed air to regulate the contact pressure of the upper drum via the process control system. This was previously achieved by means of springs.

Using compressed air, increased to a maximum for tilting, prevents the gap from opening and thereby prevents any precious polishing additive from being lost. In addition, the machine can be started up again after a prolonged period of down time by minimizing the air pressure. And cleaning can be carried out when the drum is empty without the need for further additives simply by forcing water through the gap at a high pressure. Yet another solution from OTEC – and one that is extremely cost-effective.

► [Zero gap system without water flow](#)