

## Combination meets Performance

**ALMÜ Precision Tools - your far-sighted partner whenever it comes to creating concepts and planning your tools. In this Insider issue, we tell you all about this subject.**



In times of extremely tough competition in the supply industry, it is more important than ever that you use high-performance tool systems.

For years, ALMÜ has worked very closely with customers from the cast business, so we know their tasks and problems.

Quite often, casting houses and secondary producers have to communicate their concepts and their calculations to their customers. In the bidding process, the winner is the one who can offer the most coherent concept that can be realized fastest.

We support our customers from the earliest stages of creating concepts, and try to keep machining time as short as possible. Non-productive time consumed by changing tools, times for pivoting movements and traverse paths, etc. should be minimized.

In the case we explain here, the task was to configure a tool for machining an injection pump barrel, which allows to process the inner diameter ( $\varnothing 31.1$ ) and the adjacent flange surface in a single circular movement.

In this process, a rectangularity of 0.01 is as important as a surface quality of Rz 16. The tolerance of the inner diameter is H7.

Using our ALMÜ Flex system, we were able to observe the depth gauge of  $9.993 \pm 0.003$ .

At the same time, all four milling inserts can be adjusted down to the  $\mu\text{m}$ . The PCD milling inserts, adjusted exactly to cutting position required, ensure a surface quality of Rz 6.4.

>>>

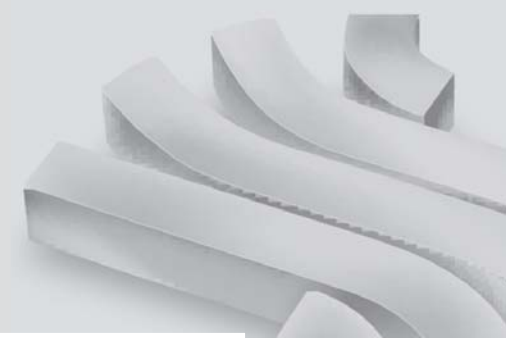
## ALMÜ® IN-HOUSE



Markus Müller

The crisis in the engineering and automobile industry also means a great challenge for the manufacturers of precision tools. We have noticed that there is still a great demand for sophisticated tools, especially when it comes to a reliable partner who offers high quality, short delivery times, and great service at fair prices in line with the market. This was especially the reason why we spent quite some time to optimize processes and train our staff. Last, but not least, we were able to double our production capacity in the field of PCD tools. Thus, we can ensure very short delivery times, and have been able to adjust to the market by more favorable prices. All that makes up our company motto: we want to make you enthusiastic!

By the way, we will be present at the AMB trade fair 2010 again. Make sure you won't miss that event from September 28 through October 2, 2010.



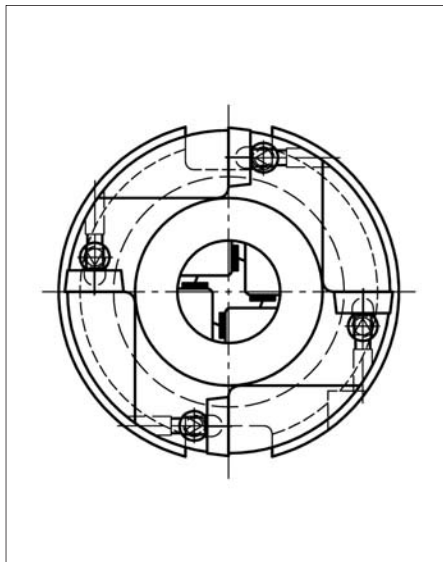
>>> Due to the relatively small circular movement, the PCD milling cutters had to be operated with a broad-finishing tool. This, in return, increases the surface quality of the flange surface. The positive chip angle of the tiny milling head ( $\varnothing 14$ ) makes the cut soft, and ensures that the machining force does not result in vibrations that create brinelling on the surface.

In spite of the interface SK-40, the customer's request could be satisfied. No additional alignment adapter was necessary. An internal cooling agent supply was not available in this case, but we would recommend it.

Thanks to the tool combination, the two functional surfaces could be machined in only 3.6 seconds, eliminating an additional tool change.



Watch this tool in action on our website at [www.almue.de](http://www.almue.de)



#### Facts & Figures:

Vc = 439 m/min

F = 1500 mm/min

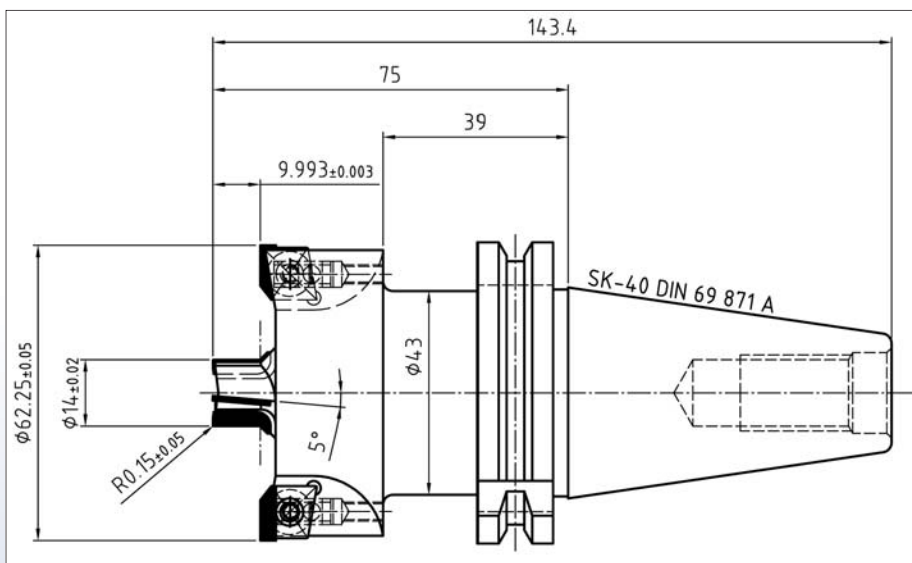
Flange surface Rz 0.44

Flange surface Ra 0.06

Drilling Rz 5

Drilling Ra 0.8

Machining time 3.6 sec.



ALMÜ®  
TRADE FAIR

Visit us at the AMB,  
Neue Messe Stuttgart.

AMB  
2010

September 28 through  
October 2, 2010.

We are looking  
forward to meeting you!

