



DIAMAIL

Newsletter from DIAMETAL AG · www.diametal.com

2/13

TURNDEC RANGE EXPANDED

For the TURNDEC mini program is a new version of the proven cutting geometry for parting available. The positive rake angles allow a reduction of cutting forces and perfect chip formation.

EDITORIAL



Dear Readers,
Diametal is progressing with its finger firmly on the pulse of the business world. More and more new materials are finding

their way from the laboratory to their technical application. With you, our customers, we are developing solutions for an efficient and cost-effective machining of these materials. Some examples can be found in this issue: for instance, the new solutions for flute grinding and indexable inserts that reach the limits of what is technically feasible. To make sure our products are always available, we have expanded our stock range of diamond and CBN grinding wheels. In addition, we have new products on offer in the field of carbide tools, especially for thread milling and parting.

We have once again invested in our Chinese production firm Diametal Nanjing Ltd. Our Chinese customers are the beneficiaries of this development thanks to an enhanced product spectrum and shorter delivery times.

Discover the new possibilities that Diametal can offer you - at this year's EMO, for example, at our presentation on Stand E13 in Hall 6.

Take a look inside – we think you'll find an interesting surprise or two.

Dr. Michael Op de Hipt, CEO Diametal Group



Turndec mini A6 BC-25 (above) and A6 BC-12

The famous high quality of the TURNDEC programme is maintained with the new cutting geometry for parting. The tool is suitable for the reliable processing of difficult-to-machine materials with small diameters up to 12 mm. Thanks to the proven D60 coating, the new blades are particularly ideal for cutting off all corrosion-resistant stainless steels and other low- and high-alloyed steels.

The new blades are available with a positive rake angle of 12° or 25° (versions A6 BC-12 BC-25 and A6 BC-25 as well as A6C BC-12 and A6C BC-25 for the counter-spindle). Thanks to

the positive rake angle, parting with reduced cutting forces and a perfect chip formation can be achieved.

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SO THAT THE GRINDING WHEEL STAYS IN FORM

Efficient grinding calls for wheels with a good cutting capacity coupled with a high dimensional stability of the wheel profile. Diametal has been successfully focussing on individual solutions to meet the different challenges.

Grinding wheels must meet a number of different requirements that are sometimes barely compatible with one another. Manufacturers of grooving inserts, form cutters or screw taps, for example, want as great as possible deformation resistance for the grinding wheel without any significant restriction in the cutting performance of the tool. This applies to all machining operations in which contours are driven along with peripheral wheels or a creep-feed grinding operation is carried out with pointed profile wheels.

For the user, this is a question of efficiency: the better the dimensional stability, the more workpieces can be machined until the grinding wheel has to be re-conditioned. If the shape accuracy is maintained at the expense of cutting performance, however, the feed rate is throttled.

To resolve this dilemma, Diametal has conducted extensive tests and made several improvements. The result is not one new standard tool, but a variety of solutions to meet individual customer requirements. Depending on the application, these solutions include grinding rims on the basis of a hybrid bond – for instance for parting blade manufacturing – or a metal bond, for instance for the grinding of screw taps. Especially where the cutting tool to be produced shows a concave radius of 0.15 mm or less, metal bonds generally have to be drawn upon for the sake of dimensional constancy. Their stability of form is well established, but unfortunately they also suffer under the reputation of insufficient cutting performance. Diametal in the contrary, after having implemented various optimisations, can now offer to its customers grinding tools

with metal bonds that also deliver convincing results in terms of cutting ability.

The intensive efforts invested by Diametal in this area have paid off: optimal solutions are now available for most of the challenges presented by contour grinding and profile grinding.

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*Profile grinding with metal
or hybrid bond*



NEW STOCK PROGRAMME, SHORTER DELIVERY TIMES

More flexibility, shorter delivery times and lower prices: customers will benefit in several ways from the new Diametal warehouse programme and the optimised production planning.

The trend is continuing: time is becoming more and more of a luxury, and everything has to move faster and faster. That particularly applies to production processes, where the motto is «time is money». The availability of equipment and tools therefore turns into one of the key criteria for the success of a company.

For just this reason, Diametal has also applied some leverage to the factors of time and availability. Through various investments and a new production planning, it has now become possible to achieve significant improvements for customers. This has been facilitated by a further increase in flexibility that saves time right down the line. In parallel we succeeded

to shorten processing time. Thus all lead times could be significantly shortened: by up to 30 percent for around 80 percent of all orders.

Diametal has also reworked its range available from stock and has subjected its warehouse programme to a general «fitness shape-up». The new stock programme has become much more extensive as a result. In addition, Diametal can now guarantee that tools are available within one to three days. Finally, it has also been possible to make the available range markedly more attractive in terms of price.

The new stock programme can be ordered now – it's definitely well worth it!

MORE INFO

The stock programme list can be ordered from Tel. +41 (0)32 344 33 33 or downloaded from www.diametal.ch
> Downloads



*Grinding wheels
stock programme*

THREAD-MILLING CUTTERS FOR HIGH-PRECISION SCREWS

New thread-milling cutters for use on Swiss-type CNC automatic lathes guarantee highest quality in the manufacture of high-precision screws. These products are derived from the extensive fund of Diametal know-how.



*Thread-milling cutter according standard
NIHS 06-05 / S0.5*

In the manufacture of carbide cutting tools, Diametal is able to draw upon the know-how gained through over half a century of experience. The company's competence is particularly dominant in the field of hobbing cutters with small modules for the watch industry. Now manufacturers of high-precision small-diameter screws, too, can profit from the Diametal know-how and its renowned quality. These are products that are mainly used in the watch industry, in medical technology and in microtechnology. For such manufacturers, the new carbide thread-milling cutters offer significant advantages for automatic lathes (décolletage machines).

The thread millers are primarily deployed where high-precision screws are to be manufactured in top functional and visual quality in line with the applicable standards and

in as short a time as possible. Thanks to the plunge-cut process, the machining time is short since the complete thread of the screw is processed in one operation. Another plus is the easy setting. And, last but not least, users can benefit from the customer-oriented Diametal service and the high flexibility of the carbide tool manufacturer as regards any special wishes and requests.

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PRODUCT INFO

Thread-milling cutters for automatic lathes with Polygoneur equipment

Profile standard:

- Thread S (NIHS 06-05), pitch 0.08 – 0.3
- Other profiles on request

Thread-milling cutter:

- External diameter \varnothing 40 and 45 mm
- Width 3 – 5 mm
- Bore diameters \varnothing 8 – 10 mm
- Teeth number Z94
- Special dimensions on request



Examples of watch screws \varnothing 0.6

HARD MATERIALS

CERAMIC HABILLAGE SWISS MADE

«For over 10 years now, the EPHJ-EPMT-SMT trade show has been putting the abilities of Swiss suppliers to the watchmaking industry and of microtechnology companies in the limelight,» commented Federal Councilor Johann Schneider-Ammann on the fair's website.

Indeed, we had a strong presence there and acquainted visitors with our in-depth competence in ceramic habillage. Our capability, the production of ceramic watch cases and components, represents a further milestone in the successful history of our company in the luxury watch segment. Thanks to our many years of experience, our know-how, and an ongoing research commitment, we occupy a leadership position in the domain of carbide tools. Our specialty is limited editions, and we are aware of the lofty quality expectations in the luxury timepiece segment. We produce small and exclusive component

lots that are characterized by the utmost in precision and quality, and are tailored to the customers' design specifications. Ceramic watch cases and matching ceramic exterior components have opened up a new chapter in horology. Currently, these premium products are reserved for high-end timepieces, and we are proud to have contributed to this development that is so significant for the watchmaking industry.

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SWISS QUALITY «MADE IN CHINA»

As of immediately, the full spectrum of grinding wheels is now being produced for the Chinese market by the Diametal subsidiary in Nanjing. This makes it possible to respond more quickly and flexibly to local needs.



Production facility of Diametal Precision Tooling

Since its foundation on January 1st, 2009, Diametal Precision Tooling (Nanjing) Ltd. has developed step by step and has doubled its number of employees. After successfully gaining a foothold in China, the next stage of growth is now taking place. Thanks to the expansion of the production facilities, diamond and CBN

grinding wheels for the Chinese market can now be manufactured entirely in Nanjing.

Up until now, Diametal Precision Tooling (Nanjing) Ltd. has been further processing sintered diamond and CBN rings delivered from Europe. In the process, the wheel bodies are pre-turned, glued and finish-turned, the rim surface is ground, and the finished product is then engraved. As a new development, the grinding rim surfaces are also sintered in the Chinese Diametal subsidiary and are therefore fabricated entirely on-site. This has been made possible by investments in high-quality sintering presses and CNC lathes. The state-of-the-art production facilities and the intensive transfer of know-how from the parent company guarantee a standard of quality that is by no means inferior to that in Europe. It is therefore only a matter of course that the Diametal production company in China is ISO-certified (standards 9001, 14001 and 18001).



The settlement of the entire value chain locally («Western technology locally produced») ultimately benefits the customers on the Chinese market. Diametal Precision Tooling (Nanjing) Ltd. is now able to respond to their needs more even more quickly and flexibly.

At Diametal Precision Tooling (Nanjing) Ltd., diamond and CBN grinding wheels are manufactured with resin bonding up to a maximum diameter of 500 mm. This is supplemented by special executions according to customer requests and requirements. The main application areas of the grinding tools lie in the grinding of rotary tools such as end mills and drills, the grinding of indexable inserts made of carbide, CBN and PCD, and applications such as external cylindrical and flat grinding.

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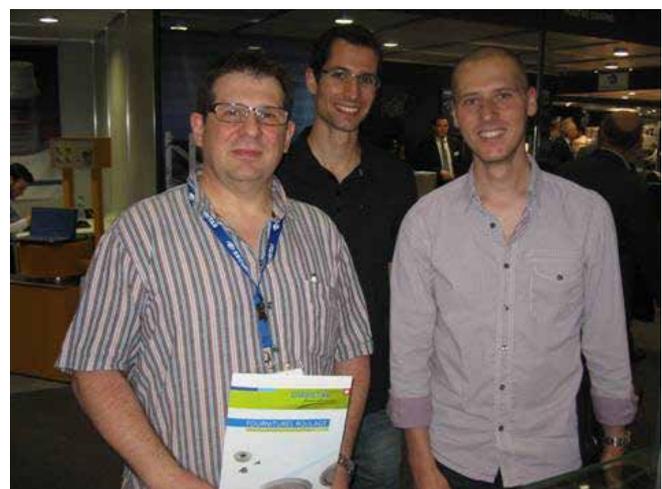
DIAMETAL AT THE EPHJ



Geneva fair EPHJ 2013



Mr. Bruno Montonneau from Blancpain Le Sentier



From left.: Sandro Galdi, Maël Zuccoli, Sylvain Stoller,
from Pignons Affolter SA Malleray

TRADE SHOWS

GrindTec 2014

Augsburg DE
19.-22.03.2014
www.grindtec.de

SIAMS 2014

Moutier CH
6.-9.5.2014
www.siams.ch

AMB 2014

Stuttgart DE
16.-20.9.2014
www.amb-messe.de

Diametal and ARO TECHNOLOGIES are once again exhibiting together at EMO, GrindTec and AMB. Both companies look forward to welcoming you at their stand!



IMPRINT

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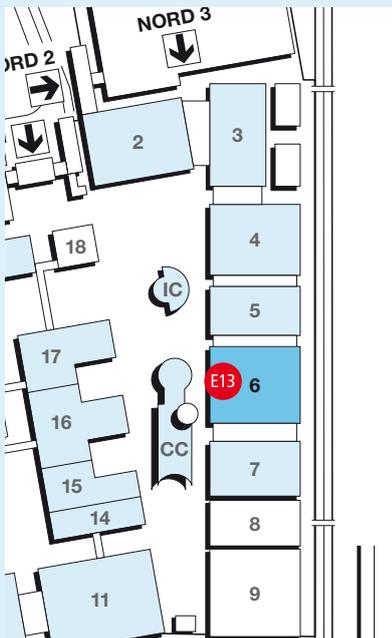
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EMO 2013

From 16th to 21st September 2013, Diametal AG will be represented in Hannover, Germany at EMO 2013 in Hall 6 booth E13. Co-exhibitor will once again be ARO TECHNOLOGIES AG from Langenthal, Switzerland. The show is always worth a visit: as always, the world's leading metalworking fair will be presenting exciting new developments across the entire spectrum of products and services for metalworking technology. Around 2,000 companies from 38 countries will be showcasing their innovations this year.

- DIAMETAL AG / ARO Technologies AG
Halle 6 Stand E13