

BETAtec 90P Feed and DELTAtec 90P Feed: fine-tuning down to the smallest detail

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The BETAtec 90P Feed tools are the ultimate edge milling tools in the Boehlerit milling programme. The BETAtec 90P Feed is a truly multi-functional tooling system, thanks to the fact that the tool holders may also be used with indexable cutting inserts for high-performance cutting. This means a higher level of efficiency and flexibility for users, while reducing not only the costs of the tool holder, but also the associated warehousing costs. The innovative tool system DELTAtec 90P Feed allows for highest feed rates and may be used for both HFC and edge milling. The multi-functional tooling systems are available as face milling, end milling and screw-on cutters and, in combination with the right cutting material grade, may be used across the entire material group.

Innovative cutting grades for a broad range of applications

For the BETAtec 90P Feed tool system, Boehlerit has a wide range of cutting grades available. One highlight is the innovative Goldlox carbide layer (PVD AlTiN layer) for the milling of steel materials, offering a high level of wear resistance at high temperatures and an increased lifespan on a range of steels. This cutting grade is particularly suitable for high cutting speeds during dry or wet machining in stable conditions. For this tool system, the Goldlox layer is available in the grades BCP25M (multi-purpose grade for the milling of unalloyed, low-alloy and high-alloy steel), BCP35M (suitable for dry milling at low to medium cutting speeds in difficult conditions) and BCM40M (ideal for the milling of austenitic stainless steels and materials from the Duplex group with low to medium cutting speeds). These two cutting grades are used both on the indexable inserts for edge milling and on the indexable inserts for high-performance cutting. There is also the option of cutting grade BCK20M for the edge milling of cast iron materials. This grade is also suitable for steel machining and for cold-work steels harder than 54 HRC.

In addition to the Goldlox carbide layer, the DELTAtec 90P Feed tool system also comes with a TERAspeed 2.0 AlTiN layer, deposited by means of HR-CVD technology (HR = High Reactivity). The patented TERAspeed 2.0 AlTiN layer combines opposing properties such as toughness, outstanding layer hardness and wear resistance, thanks to its high aluminium content and novel nano structure. This innovative layer is used for high-performance cutting in the grades BCP20M (for steel processing using higher cutting speeds in stable conditions), BCP30M (universal steel milling grade with a tough carbide substrate for a high level of process reliability across a broad range of steel materials), and BCK15M (for the processing of grey cast iron (GJL), spheroidal graphite cast iron (GJS), tempered cast iron and alloyed cast iron). Alternatively, there is the option

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of the BCK20M grade for cast iron machining using DELTAtec 90P Feed millers. It has a tough K20 substrate and a thick PVD coating and may be used either for high performance milling or edge milling.

Precise edge and EFC milling with 18mm cutting edge length

In 2018, Austrian carbide and tool specialist Boehlerit added a version for 18mm cutting edge lengths to its range of multi-functional milling tools. Thanks to the significantly larger insert size, this version is particularly suitable for long 90-degree edges with high cutting values and an extremely high precision level. It not only makes for a soft cut, but also comes with technical properties that speak for themselves: A maximum cutting depth of up to 18mm, in combination with a helix cutting edge, result in maximised productivity when finishing 90° shoulders with the BETAtec 90P Feed tool. For the high-feed application sector, the Boehlerit DELTAtec 90P Feed SD18 solution also offers the possibility of achieving maximum feed rates and high levels of material removal, with feed depths of 3.5mm with a maximum feed rate of 3.0mm/tooth.

Small diameter range – highly dynamic and efficient

Completely new, logical extensions of the existing BETAtec 90P Feed and DELTAtec 90P Feed portfolio are indexable inserts with small diameter ranges. The BETAtec 90P Feed tool system with an indexable insert size of 06 (LPMX06) is available as a face milling, end milling and screw-on version for a range of 10-50mm. The DELTAtec 90P milling tools are also available with an indexable insert size of 06 (SDMT06) as end milling and screw-on versions for a range of 16-35mm.

The new tools are ideal for die and mould making with materials of up to 62 HRC and extremely dynamic in terms of performance as well as efficiency. For applications with hardened materials, Boehlerit once again relies on a homogeneous HIPIMS layer structure for optimised results in die and mould making. Yet another benefit of this product lies in the low strain placed on the individual indexable inserts thanks to the narrow pitch that makes high machining volumes possible. The need for reworking is also greatly reduced due to the minimal need for residual material. While the BETAtec 90P Feed is designed for HFC and 90° milling, the focus of the DELTAtec 90P Feed lies on material removal, with a focus on dynamic and efficient performance.

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The company

Boehlerit, a family business that is part of the Brucklacher group (Leitz, Bilz and Boehlerit) and headquartered in the Austrian town of Kapfenberg, sets global standards with carbides and tools for the processing of metal, wood, plastics and composites. With cutting materials, semi-finished products, precision tools and tool systems for milling, turning, drilling and forming, Boehlerit ensures process safety and efficiency on a global scale. The company's extensive product portfolio includes highly specialised tools for the machining of crankshafts as well as for the mining industry, for bar peeling, tube and sheet metal processing and heavy-duty machining. The Boehlerit product range also features carbides for construction components and wear protection. When it comes to coating technology, Boehlerit occupies a unique position worldwide, ranging from the first-ever nano-CVD bonding layer to the hardest diamond layer worldwide. With its many years' experience in metallurgy, coating technology and state-of-the-art press technology, Boehlerit is a highly competent development partner for toolmakers.

Editorial queries

Manuel Hofstadler

Mag.

Head of Advertising

Phone: +43 3862 300-586

Fax: +43 3862 300-793

E-Mail: manuel.hofstadler@boehlerit.com

Images:

Fig. 1: BETAtec 90P Feed



Images:

Fig. 2: DELTAtec 90P Feed

