

Press release

KYOCERA launches new industrial cutting tool: MFH mini is a small-diameter, high-feed endmill

Achieves high efficiency and high feed rate with multi-edge design

16 July 2015 – Kyoto, Japan/Neuss, Germany – Kyocera announced the launch of the MFH mini, a small-diameter, high-feed endmill*1 for processing metal parts. The new product achieves highly efficient processing by utilizing the company's proprietary, newly designed insert and is now available.



The MFH-Mini is available in cutting diameters ranging from 0.625" to 1.250"

Development Background

A high-feed endmill is a cutting tool for roughing operations in a wide field of applications. The insert requires high cutting capability which allows for quicker and more stable processing of the workpiece. To meet these needs, Kyocera developed its first high feed cutter in 2014, the MFH. After its introduction, to support

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higher-precision cutting technology required for processing molds, Kyocera developed the small-diameter, high-feed MFH mini endmill.

Overview

The MFH mini is a small-diameter, high-feed endmill for rough processing consisting of a newly developed insert and a dedicated holder. The insert features a unique design which reduces impact on the insert when making initial contact with the workpiece, thus achieving smooth cutting with low resistance. As a result, the product reduces chattering and enables increased feed rates. In addition, the MFH mini exhibits high chip evacuation due to the design of the newly developed chipbreaker.

This product is available with a CVD^{*2} and a PVD^{*3} coated insert. Utilizing an insert with the ideal coating based on work material characteristics enables the endmill to deliver optimal wear and fracture resistance.

Through an enhanced feed rate, excellent chip evacuation performance and an optimal insert lineup, the new MFH mini achieves highly efficient, stable processing and contributes to productivity improvements.

New Product Features

1. Low resistance; designed specifically for small-diameter, high-feed end mills

The insert enables smooth cutting with low resistance by applying a uniquely-shaped edge developed to cushion initial shock at the moment of workpiece contact — the onset of cutting. The new insert

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also improves chip evacuation problems that typically occur when slotting and pocketing and improves stability, contributing to high-efficiency processing.

2. New insert achieves highly efficient processing

The new low-resistance insert reduces cutting resistance and chattering. This enables high-efficiency, high-feed processing for applications including small machines (BT30/BT40) with increased feed rates. The MFH mini also delivers high economic efficiency through its double-sided, four-edge negative insert.

3. Applicable to multiple types of processing and work materials

The newly developed LOGU insert with the GM chipbreaker is ideal for face milling, shouldering, contouring, slotting, pocketing, ramping, and helical milling required for mold processing and other applications. Moreover, the insert material exhibits increased wear- and fracture-resistance when the company's unique CVD / PVD coating is applied to the insert's high-toughness, cemented carbide base material. This enables the processing of various materials ranging from general and mold steels to traditionally difficult-to-cut materials such as Ni-based heat-resistant alloys, thus meeting the diverse needs of customers.

*1 A high-feed end mill is a milling cutter for which feed rates per flute can be set high.

*2 A coating method utilizing chemical vapor deposition, which allows for the formation of multiple layers of film with different materials to increase film thickness.

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*3 A coating method utilizing physical vapor deposition. Because of its lower processing temperature compared with the CVD method, there are fewer layers which deteriorate due to the coating. Thus, its deflecting strength does not decrease easily.

For more information about Kyocera:

www.kyocera.eu

About Kyocera

Headquartered in Kyoto, Japan, Kyocera Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the Kyocera Group, which is comprised of 226 subsidiaries (as of March 31, 2015), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the largest producers of solar energy systems worldwide, with more than 6 gigawatts of solar power having been installed around the world to date.

The company is ranked #552 on Forbes magazine's 2015 "Global 2000" listing of the world's largest publicly traded companies.

With a global workforce of over 68,000 employees, Kyocera posted net sales of approximately €11.74 billion in fiscal year 2014/2015. The products marketed by the company in Europe include printers, digital copying systems, microelectronic components, fine ceramic products and complete solar power systems. The Kyocera Group has two independent companies in the Federal Republic of Germany: Kyocera Fineceramics GmbH in Neuss and Esslingen and Kyocera Document Solutions in Meerbusch.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals and groups worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (converted at present €385,000 per prize category).

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