

Innovate

Video: Drilling for Profit

Brought To You by Iscar | Jun 25, 2018

The global metalworking industry is driven by the relentless progress of high-end technologies that are becoming ever more sophisticated. The challenging requirements of advanced production equipment demands the provision of 'out of the box' advanced machining solutions. Innovative cutting tools release the latent productive capability of modern machine tools and deliver enhanced profits to users.

In order to comply with market demand, ISCAR recently exhibited its next generation, advanced indexable drill and further extended its comprehensive product portfolio with the launch of LOGIQ3CHAM – an advanced three flute indexable drill.

The innovative design of the LOGIQ3CHAM raises users manufacturing productivity to new levels by reducing machining cycle times by up to 50% when compared to the conventional two flute drills. The new product's pocket configuration is constructed on a 'close structure' design with three contact areas based on a dove tail joint. This rigid clamping configuration divides the forces applied to the tools' pocket into 3 segments. This arrangement dramatically reduces harmful influences on the pocket's life and also substantially prolongs tool life.


In a similar way, the cutting forces are equally divided across the 3 cutting edges of the drilling head. The application of less pressure to each of the contact surfaces further extends the life cycle of the drilling head.

"The combination of the self-centering geometry, along with a robust and accurate clamping system results in LOGIQ3CHAM providing ultimate performances relating to hole cylindricity, roundness and enhanced productivity.

The entire machining process becomes much easier as the cutting forces are spread across 3 cutting edges, the drilling process is more stable and the penetration into the part's material is more balanced. Thus, users can work up to twice as fast, as the feed per tooth can be increased significantly. Alternatively, users can maintain the same feed per revolution as with a two flute drill and achieve much longer tool life.



The LOGIQ3CHAM clamping, which relies on 3 points of positioning, provides high levels of repeatability when replacing the drilling head. Three radial and 3 axial stoppers secure the drilling head and ensure a reliable drilling process in high feed machining environments. Furthermore, due to its sharp edges and the low axial force it applies, the LOGIQ3CHAM is very efficient when drilling a through-hole when the drill breaks through a slanted surface, also creating fewer burrs on the hole exit. Since the material work hardening is low, a reamer or a tap which may be used for a subsequent operation will gain from extended tool life and accomplish improved results.

The unique geometry of the LOGIQ3CHAM self-centering head shapes the produced chips optimally to allow smooth evacuation throughout the 3 high helix polished flutes. 

ISCAR maintains its proud tradition of designing user-friendly drilling systems for easy handling. These unique drilling systems eliminate the use of tightening screws to clamp the drilling head in accordance with the company motto "No Set-up Time".

LOGIQ3CHAM is now available for machining alloy steel, carbon steel, soft and gummy low carbon steel as well as cast iron.

ISCAR's vision is to remain the global metalworking market leader by the continuing work of its prolific R&D department and remaining aware of its customers evolving needs. Innovative developments allow the launch of products that bring manufacturers an array of efficient drilling solutions based on uncompromising quality.

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