



VARDEX™ SOLID – A TOOL FOR EVERY OCCASION

The success of VARDEX MilliPro thread milling tooling in the machining of titanium medical components is ‘the tip of the iceberg’ in terms of the production benefits obtainable in every industry sector by using VARDEX™ Solid solid carbide thread milling tools. Indeed, the range has just been extended with new tooling specifically for dental (MilliPro Dental) and other types of medical applications.

VARDEX MilliPro’s ability to avoid the traditional problem of in situ broken tools, and therefore high scrap rates, often associated with machining titanium, has allowed one component to be produced after initial turning in a single set-up “with total confidence”, says the satisfied VARGUS customer.

He continues: “When the part, one of a family of hip replacement femur components of similar design but different sizes, finally reaches the thread milling sequence, the value of turning and milling machining content per part is very high. Coupled with material cost, this means that errors at the thread milling stage would be disastrous.

“Thread milling of titanium is notoriously problematic, especially with tool snapping when producing a series of M1.6 threads to 3.5mm deep, as we wanted to achieve. We’ve traditionally produced such threads via drill and tap

processes, but because of its shape this component (a new contract) was impracticable to fixture on a lathe/turn-mill machine.”

Designed for the creation of internal threads as small as M2x0.4, VARDEX MilliPro EL (Extra Long) features three flutes each having three teeth, and can tackle applications of thread depths up to three times diameter. The overall length of the tool is much longer than the standard tool, therefore enabling access to much deeper holes.

For small threads, the TM Solid range also includes the VARGUS MilliPro HD for threads from 2mm (M2x0.4 – No 2-56 UN) in hard materials up to 62HRc – applications, again, where conventional tooling typically breaks. MilliPro HD is designed with four to six flutes and two teeth – one tooth for roughing and the second for finishing. These features reduce the workload and therefore increase tool life.

MilliPro HD is available from stock in the most popular thread profiles and pitches, and for thread length applications two- and three-times diameter.

The new MilliPro Dental is targeted at threading applications from M1x0.25 (No. 0-80 UNF).

The TM Solid catalogue embraces tools for a myriad of thread milling jobs, including: Helical – helical fluted tools without coolant for the external range M3x0.5 to M14x2.0, and internal range M3x0.5 to M24x3.0; Deep Threading – for the internal range M5x0.5 to M20x2.5 for thread lengths of maximum three times diameter; Straight – straight fluted tools for the external range M3x0.50 to M64x6.0, and internal M4.5x0.75 to M64x6.0.

Then there’s the HeliCool-C. This is designed to thread mill and chamfer in a single operation with the same tool, to therefore reduce both tooling

requirements and tool changes and, as a result, cut tooling costs. HeliCool-C features three or four flutes and 12 to 24 teeth, depending on diameter, as well as through-hole coolant supply.

The HeliCool-R helical fluted thread mill features radial cooling to consistently produce high-quality holes when conventional through-coolant is ineffective. It does this by directing coolant out of the sides of the tool (rather than through the centre) so coolant is directed in a controlled manner straight onto the cutting edge. This is of particular benefit when working with through-hole applications.

Both HeliCool-C and HeliCool-R are available in diameters from 4.8mm to 9.9mm and are able to produce M6 to M12 bores.

The HTC Thriller enables drilling, chamfering and threadmilling to be performed with one tool thus enabling users to reduce both overall machining times and tooling costs! It is available as a two-flute tool for M6 to M12 thread diameters, to produce pitches of 1mm to 1.75mm, and is supplied in two carbide grades (VTN and VTS) for thread length applications up to 2.5 times diameter. Through-tool coolant is another feature for better chip evacuation and cooling the cutting area.

TM Solid is one of a number of world-leading VARDEX threading solutions from VARGUS, the renowned manufacturer and supplier of quality tooling for threading, turning, milling and grooving applications, as well as hand deburring tools.

Issued on behalf of Vargus Ltd.

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