

**SECO NEWS
SUMMARY
2020.1**



**TOOLS AND SERVICES
FOR ALL YOUR
CHALLENGES**

 **Seco**

WELCOME TO SECO NEWS SUMMARY 2020.1

PRODUCT OVERVIEW

Manufacturers in all industries are facing more and more challenges whether it is aerospace, power generation, automotive, medical or general engineering. In many areas from material handling through to meeting challenging delivery lead times and increasing efficiency, plus the challenges from competition grow more aggressive every year.

Seco Tools continues to develop innovative tools and

solutions that help you save time and money and further improve quality, ensuring total customer satisfaction. With this summary we are proud to introduce to you a selection of some of the most exciting new innovations that will help you stay competitive in your business.

Explore our new Double Turbo inserts, with a state of the art roughing geometry. It helps you reduce or even skip your finishing operations while consuming less power and

achieving great cost-per-edge savings. Discover our extended range of Jetstream Tooling® Integrated (JETI) that will let you obtain higher tool life and better chip control for all your turning applications whilst machining steel, stainless steels and super alloy materials.

The super compact design of JETI is combined with the new Seco Modular Quick Change Toolholder to enable you to speed up set-up and indexing

during your small part turning operations.

Read about these and other innovations from Seco Tools and find the solution to your manufacturing challenges. For more information visit us at www.secotools.com.



AEROSPACE
Our team of aerospace industry experts can help you overcome many challenges as you work to create reliable processes and quality products.

POWER GENERATION
Working with the toughest materials and the tightest tolerances won't hold back your efficiency with the expertise of Seco Tools on your side.

AUTOMOTIVE
Control costs and boost output with competitive, cost-effective products that ensure exceptional levels of throughput.

GENERAL ENGINEERING
Regardless what your resources are, Seco Tools has flexible solutions that keep your high-mix/low-volume production running smoothly.

MEDICAL
Whether you need a partner to drive process optimization in your business or help you develop innovations in new methods and materials. Seco Tools can support you all the way.

**MODULAR QC
(QUICK-CHANGE)
TOOLHOLDER FOR SMALL
PART MACHINING**



4

**JETI ISO TOOLHOLDER
RANGE EXTENSION**



6

**SECO CAPTO™ TOOL
HOLDERS & CASSETTES
FOR ADVANCED MATERIAL**



8

**NEW MP MILLING
GRADES MP1501
AND MP2501**



10

DOUBLE TURBO 16



12

**XPO8 ALUMINIUM
ROUTER**



14

**SECO ROUND 10
AND 16 COPY
MILLING INSERTS**



16

**UNIVERSAL DRILLS
8XD AND 12XD**



18

**COMBIMASTER™
M20**



20

**RANGE EXTENSION OF
SHELL MILL HOLDERS**



22

EASYSHRINK EVO



24

**NIAGARA CUTTER™
ENDMILLS FOR
ALUMINUM**



26

**SECO TOOLS FOR
SUSTAINABILITY**



28

**MANUFACTURING
TRANSFORMATION**



30

REDUCE TOOL-CHANGE AND INDEXING TIME IN YOUR SWISS MACHINING OPERATIONS

MODULAR QC (QUICK-CHANGE) TOOLHOLDER FOR SMALL PART MACHINING

WHEN INSERT INDEXING AND CHIP EVACUATION IS A PROBLEM

Insert indexing and chips can bring your high-volume, small-part turning operations on Swiss-style machines to an immediate halt. Constrictive work spaces and multiple tools situated in extremely close proximity to one another make insert indexing difficult, time consuming and inefficient. At the same time, poor chip evacuation leads to reduced tool life for toolholders and cutting inserts.

ELIMINATE INEFFICIENT INDEXING

Tight machine work spaces make accessing and removing screws very difficult. Because of its modular design, the Modular QC Toolholder eliminates the difficulty of indexing small inserts as the system allows you to change the insert outside the machine which reduces the risk of very small screws and inserts dropping down into the machine.

KEEP CHIPS FROM STOPPING YOUR PRODUCTION

Chips can hinder unmanned small-part operations on Swiss-style machines and continuously cause production stoppages. Efficiently evacuate chips with Seco Jetstream Tooling® and Seco Jetstream Tooling® Duo technologies incorporated into the Seco Modular QC Toolholder.

YOUR CHALLENGE

Erratic chip behaviour hinders your unmanned small-part machining operations and causes production stoppages

OUR SOLUTION

For maximum tool life and highly efficient chip control, Seco Jetstream Tooling® and Seco Jetstream Tooling® Duo technologies built into the Modular QC Toolholder offer direct coolant precisely to the cutting zone

YOUR CHALLENGE

Tight spacing between tools and limited access in your Swiss-style machine make insert indexing difficult and time consuming. Assembling coolant hoses proves cumbersome in the limited space

OUR SOLUTION

With the Modular QC Toolholder, you can quickly remove both cutting head and insert as one assembly for fast and easy indexing outside of the machine

TURNING



YOUR BENEFITS

- Repeatability due to tight tolerances on the interface
- Secure single lock system makes it easy to use
- Predictability tool life with Seco Jetstream Tooling®
- Multiple heads fit on a single shank offering versatility
- Precision insert positioning due to patented carbide pin pocket design
- Productivity increased due to less machine down time between tool changes

RANGE OVERVIEW SHANKS

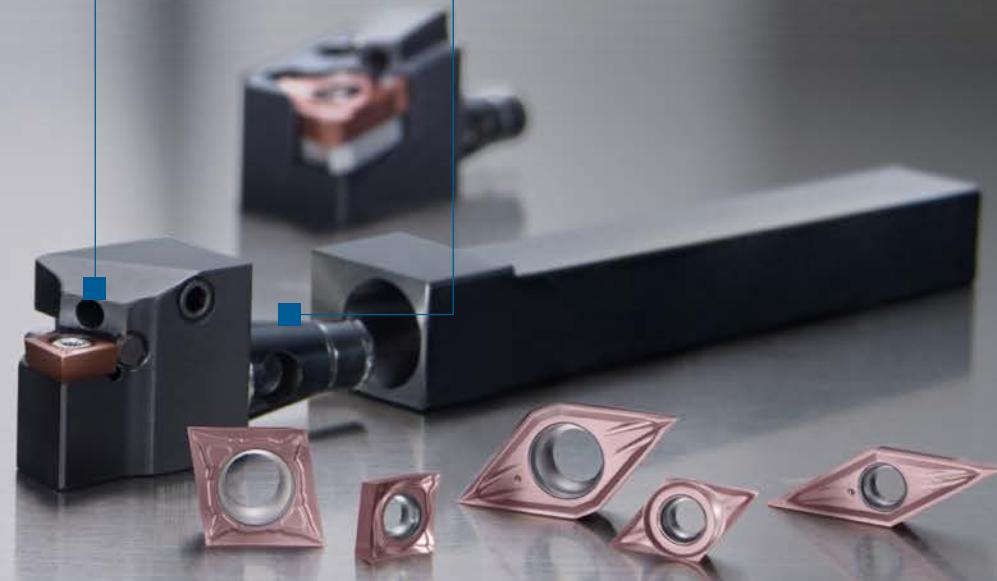
- Metric size 1010 mm, 1212 mm & 1616 mm
- Inch size 0.375", 0.50" & 0.625"

CUTTING HEADS FOR

- ISO turning (CC06, CC09, DC07, DC11, VB11)
- Threading (16ER & 16EL)
- Grooving (LC1902)
- Parting off (150.10 blade size 15)

INSERTS

- TS2050 and CP500 grades with F1, MF2, and AL chipbreaker



Scan the QR code and find out more.

GET RID OF EXTERNAL COOLANT COMPONENTS AND CONNECTORS

JETI ISO TOOLHOLDER RANGE EXTENSION

INTEGRATED COOLANT MEANS NO EXTERNAL HOSES

External flood coolant can easily fail when it comes to evacuating chips and ensuring a stable process. Internal, interference-free and precise coolant makes securing your processes far easier. With Jetstream Tooling® Integrated (JETI) toolholders for the complete range of ISO turning applications, you now have access to the technology you need to optimize your machining performance.

MINIMIZE SET UP TIME AND MAXIMIZE MACHINING TIME

Indexing inserts only requires loosening a single screw to minimize setup and maximize machining time. Now, for every turning, threading, grooving and parting (cut) off applications, you will find a JETI holder and appropriate adapter with HSK, VDI or Seco-Capto™ interface with a newly re-designed holder configuration offering an exclusive plug and play solution.

AIM YOUR COOLANT EXACTLY WHERE YOU WANT IT

Looking for precise coolant placement for outstanding process security, chip evacuation, tool life and part surface finish? Improve your chip control and prevent issues in specialized applications that have unique coolant demands with Jetstream Integrated (JETI) ISO toolholders and coolant clamps, which feature Jetstream Tooling® Duo capabilities for the highest degree of process flexibility.

An interchangeable screw on the underside coolant channel gives the choice to use single or duo coolant as required. The result is coolant exactly where it should be.



YOUR CHALLENGE

External coolant hoses cause interference during machining

OUR SOLUTION

Achieve precise, interference-free coolant delivery with JETI integrated coolant channels

YOUR CHALLENGE

Time-consuming insert indexing slows down processes and setup time

OUR SOLUTION

Fast and easy insert indexing with JETI holders' single-screw coolant clamp design

YOUR CHALLENGE

Poor chip control and process security in turning applications, especially in ISO-S, ISO-M and ISO-P materials

OUR SOLUTION

Jetstream Tooling® and Jetstream Tooling® Duo integrated holders (JETI) deliver high-pressure coolant directly to the cutting zone through the new, unique Coolant Clamp of Seco Tools

TURNING



YOUR BENEFITS

- Increased tool life due to optimized temperature control at the cutting zone
- Superior chip control thanks to high pressure, precision coolant
- No need for external hoses resulting in reduced setup time
- New, quick change coolant clamp offers fast insert indexing
- Higher process security due to improved tool life and superior chip control

RANGE OVERVIEW

- 182 new items for all inch, metric and Seco-Capto™ holders

RANGE COVERS

- Seco-Capto™ all sizes from C4 to C8
- Metric shank size 2020 mm up to 3232 mm
- Inch shank size 0.75", 1.0" & 1.25"
- First introduced for MDT, X4, 150.10 and Snap-Tap® holders, JETI technology has now been extended to include metric and inch shanks as well as Seco-Capto™ holders



Scan the QR code
and find out more.

ELIMINATE HOLDER BREAKAGE WHEN ROUGHING WITH PCBN AND CERAMICS

SECO CAPTO™ TOOL HOLDERS & CASSETTES FOR ADVANCED MATERIAL

AVOID SUDDEN TOOL BREAKAGES

Brittle inserts can sometimes break, often taking expensive tool holders with them. Even though PCBN and ceramic inserts make it possible to achieve the highest material removal rate, breakages can be a problem in the most demanding applications. In rough machining in aerospace and power generation applications with heat-resistant superalloys or other difficult to machine materials like high chromium iron or high manganese steel, sudden tool destruction is often an issue.

GAIN PROCESS RELIABILITY AND SAVE COSTS WITH A CASSETTE SOLUTION

With a quick cassette change, the ability to keep processes on track makes for greater reliability and better insert clamping. Reaching the highest productivity in roughing of tough materials requires aggressive cutting strategies, but PCBN and ceramic insert failure can be expensive if they damage holders and holder pockets. By only replacing the cassette, you will achieve greater cost savings and process security in your heavy machining applications.



YOUR CHALLENGE

Insert breakage reduces the reliability of your heavy roughing operations in heat resistant super alloys, high chrome iron and high manganese steel applications

OUR SOLUTION

For higher reliability and lower costs, the Seco-Capto™ cassette-style toolholder reduces pocket wear and eliminates toolholder breakage

YOUR CHALLENGE

Stocking sufficient holders for machining applications with high levels of tool wear takes up too much space

OUR SOLUTION

For reduced stock volume and costs, Seco-Capto™ Cassette Holders only require stocking extra cassettes

TURNING



YOUR BENEFITS

- Flexibility by using different cassettes/insert types in the same Seco-Capto™ unit
- Reliable process due to hardened stainless steel cassettes reducing the risk of damaged pockets
- Cost savings as only the cassettes need replacing
- Keep processes on track due to quick cassette changes
- Frees up stock space

RANGE OVERVIEW

- 4 Seco-Capto™ holders (Right and Left C5 and C6)
- 5 cassettes (R1203, R1204, R1207, C1204 and C1207)



Scan the QR code
and find out more.

DURATOMIC® WILL MAXIMIZE YOUR PRODUCTIVITY, USED-EDGE DETECTION WILL INCREASE YOUR EFFICIENCY

NEW MP MILLING GRADES MP1501 AND MP2501

MAXIMIZE PRODUCTIVITY WHILE INCREASING EFFICIENCY

Inconsistent and unreliable milling processes can keep you from being profitable and competitive. Increase your process security and cost-effectiveness for savings of up to 20% with the MP1501 and MP2501 milling grades from Seco Tools, which deliver high reliability for steel and cast iron machining. These Duratomic® grades with improved coating offer exceptional toughness and edge strength that prevent comb cracks and unexpected breakage. This offers the highest level of productivity, tool life predictability and process reliability. Used edge detection will make it obvious which insert edges are used and prevent insert waste.

YOUR CHALLENGES

- Difficult to notice unused cutting edge in workshop environment
- Need to reduce waste of unused edges and increase efficiency

OUR SOLUTION

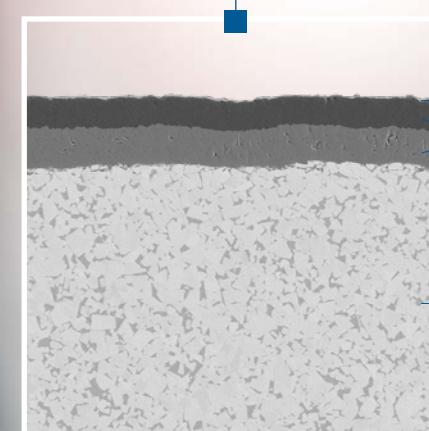
Chrome-colored used-edge detection

YOUR CHALLENGES

- High-mix/low-volume production needs
- Thermal stress cracks causing poor tool life and unpredictability
- Unexpected insert breakage and machine downtime
- Unreliable tool life from edge to edge
- Need to improve efficiency and productivity in steel and cast iron

OUR SOLUTION

Duratomic® MP grades with improved coating for optimal insert toughness and breakage resistance.



MILLING



YOUR BENEFITS

- Improved coating provides improved toughness and strength
- Used edge detection reduces unnecessary waste and subsequently the average cost per edge
- A choice between longer tool life for cost-effectiveness or increased productivity/cutting speeds
- Greater process predictability in steels and cast irons

RANGE OVERVIEW

- MP1501 for medium-rough milling for hardened steel (up to 45HRC) and roughing grey as well as nodular cast iron
- MP2501 for milling steel and easy/medium stainless steel, suitable for machining with or without coolant and provides excellent finishing ability
- All new Duratomic® MP grades feature the newly improved coating and chrome colored used edge detection



Scan the QR code and find out more.

IMPROVE SURFACE FINISH WHEN ROUGHING WITH DOUBLE TURBO

DOUBLE TURBO 16

LESS POWER CONSUMPTION WITH BETTER RESULTS

Using the most positive helix cutting angle geometry on the market today means less power consumption, smoother cutting and longer tool life. Together with the impressive 90-degree angle accuracy and the double-sided inserts, this generates an improved surface finish and optimizes costs.

SIGNIFICANTLY SHORTEN YOUR FINISHING TIMES

The longer your finishing operations take, the more time you spend machining a workpiece and the higher your cost per part. Now you can significantly shorten, or in some instances, completely eliminate your finishing time when you machine with the new Seco Double Turbo inserts.

LESS VIBRATIONS, LESS BREAKAGES

With a high positive geometry, the Seco Double Turbo insert provides efficient chip evacuation and significantly reduces the generation of workpiece burrs, especially in steel, stainless steel and titanium part applications. The insert cuts with less force and so vibrations are minimized leading to extended tool life and smoother surface finish. Plus, the double-sided design gives significant cost-per-edge savings.

YOUR CHALLENGE

Vibration in unstable setups

OUR SOLUTION

Reduce cutting forces with the most positive double sided cutting geometry

YOUR CHALLENGE

Surface mismatches during rough machining

OUR SOLUTION

Eliminate common surface mismatches with the impressive 90-degree angle accuracy and the extremely positive helix angle on the Seco Double Turbo inserts

YOUR CHALLENGE

High machining costs

OUR SOLUTION

Achieve significant cost per edge savings with the 4 cutting edges that the double sided Turbo insert provides

YOUR CHALLENGE

Finish machining adds too much time to part cycle times

OUR SOLUTION

Shorten or, in some instances, completely eliminate finishing time with Double Turbo inserts

MILLING



YOUR BENEFITS

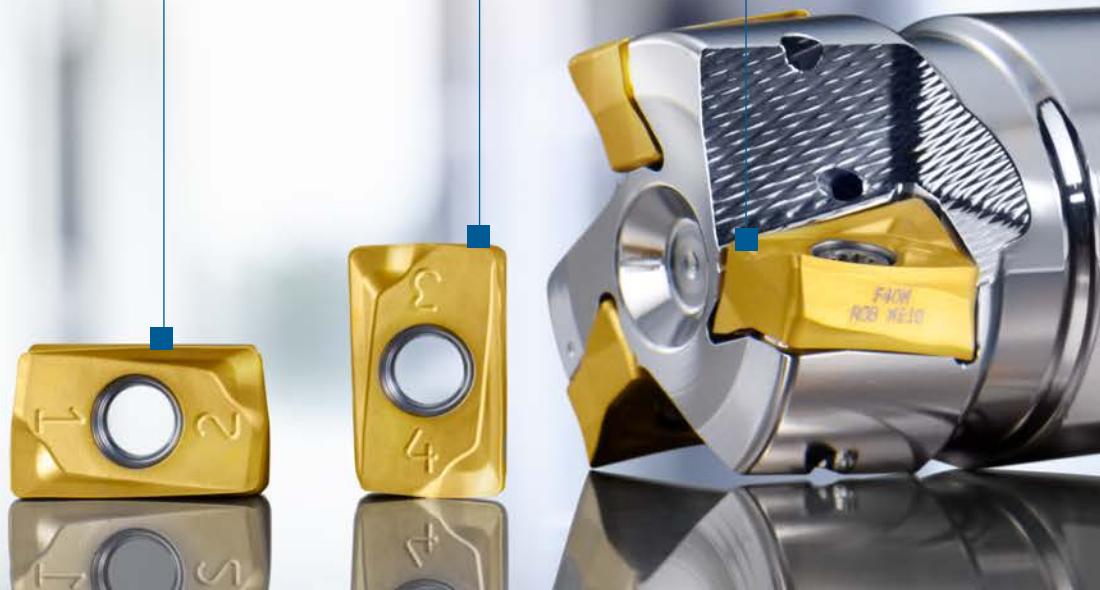
- Possible to eliminate finishing operations
- Lower power consumption because of the high helix angle
- Less vibrations because of smooth cutting geometry
- Reduced downtime boosts your material removal rate with a depth of cut capability up to 15 mm (0.59")
- Good accuracy and high surface quality with 90 degree angle
- Reduced cost because of double sided inserts with 4 cutting edges
- Easy insert indexing

RANGE OVERVIEW CUTTER BODIES

- Metric range ø32 mm – 125 mm (19 variations)
- Inch range ø1.25" – 5.0" (16 variations)
- Shanks with weldon and cylindrical mounting
- Arbor and combimaster heads

INSERTS

- 16 mm (0.63") length, 7 mm (0.275") thickness
- Two available geometries
- Two radii sizes
- PVD & CVD Duratomic® grades



Scan the QR code and find out more.



ACHIEVE MAXIMUM PERFORMANCE IN AGGRESSIVE ALUMINUM MACHINING ENVIRONMENTS

XP08 ALUMINIUM ROUTER

COST-EFFECTIVE SOLUTION FOR MACHINING IN ALUMINUM

Maximize both speed and cost effectiveness with our new XP08 small-diameter indexable router for rough and semi finishing operations in aluminium workpieces. With this solution you will also achieve high metal removal with good wall finishing accuracy. Solid tools are not as cost-efficient as this indexable router, while general purpose tools cannot compete with its extremely high cutting data.

ACHIEVE MAXIMUM PERFORMANCE IN AGGRESSIVE ALUMINUM MACHINING ENVIRONMENTS

General-purpose tools restrict machining speed and the ability to use ramping or helical interpolation machining techniques. With the XP08 indexable router, which is available in diameters as small as 16 mm, you can achieve maximum performance in sticky aluminum machining environments that involve extremely high spindle speeds and feed rates. Conversely, the router not only performs well on high performance machining centers, but is also effective on lower rpm machines.

YOUR CHALLENGE

Lack of versatility and accuracy in aluminium part machining

OUR SOLUTION

Get the flexibility to handle a wider range of workpiece features with XP08 precision-ground inserts. They ensure precise 90-degree side-wall machining and six different available insert corner radii

YOUR CHALLENGE

Limited options on small diameter cutters reduce your choice and performance

OUR SOLUTION

Improve your machining economy with an indexable solution that is more cost effective than solid tooling. Get a specific solution that outperforms general purpose tooling

MILLING



YOUR BENEFITS

- High metal removal
- Cost effectiveness vs solid carbide
- Precision 90 degree ground inserts
- Variety of insert corner radii available
- Process reliability at high rpm

RANGE OVERVIEW CUTTER BODIES

- 16 mm - 25 mm (0.625" - 1")
- 14 cutters (incl. metric & inch)
- Back end connections with combimaster and cylindrical shanks

INSERTS

- 6 insert types 0.4 mm – 3.1 mm (0.0157" – 0.122") corner radii



Scan the QR code
and find out more.

FOR LONG TOOL LIFE AND PROCESS STABILITY, KEEP ROUND INSERTS IN PLACE

SECO ROUND 10 AND 16 COPY MILLING INSERTS

KEEP INSERTS LOCKED IN PLACE

You lose tool life and process security when 'round' inserts rotate in cutter body pockets during milling operations. Keep inserts locked in place, especially in heavy or rough machining operations, with our Round 10 and 16 milling inserts.

USE ALL YOUR INSERT EDGES

Eliminate unused edges with our anti-rotation feature that provides exact indexing and ensures all insert edges are used. Depending on desired depths-of-cut, the inserts index either four or eight times, while others in the series provide three or six edges.

FAST, EASY AND PRECISE INDEXING

Secure inserts in place during machining for fast, easy and precise insert indexing with our comprehensive product line of round milling inserts. This intuitive mounting makes it easy for all operators to use. The Round 10 and 16 inserts incorporate notches that align with those in the cutter body pocket for more efficient machining.

YOUR CHALLENGE

Waste of unused edges undermines your machining economy and productivity

OUR SOLUTION

Seco Round 10 and 16 milling inserts ensure fast, easy and precise indexing

YOUR CHALLENGE

Process security is compromised and tool life is shortened when 'round' inserts rotate in cutter body pockets

OUR SOLUTION

Anti-rotation feature incorporated into Seco Round 10 and 16 milling inserts

MILLING



YOUR BENEFITS

- Process security thanks to indexed inserts
- Cost effectiveness due to optimized design
- Stability due to anti rotation feature

RANGE OVERVIEW

ROUND 10

- 20 mm – 63 mm (1.00" – 2.00")
- 35 insert types
- 34 cutter variations (plus 5 extra cutters and 4 cassettes for disc milling)
- Combimaster™, Arbor, Weldon and Cylindrical Shank style connection types

ROUND 16

- 32 mm – 160 mm (2.00" – 4.00")
- 32 insert types
- 23 cutters variations (plus 4 cassettes for disc milling)
- Combimaster™ and Arbor style connection types



Scan the QR code and find out more.

KEEP YOUR DRILLING COSTS LOW AND VERSATILITY HIGH

UNIVERSAL DRILL 3xD, 5xD, 8xD AND 12xD

IMPROVE YOUR DRILLING ECONOMY

Reduce your inventory and the overall cost per hole. The wide mix of materials being machined in small and medium-batch production and modern high-mix/low-volume manufacturing environments usually require a considerable amount of tools. You will need fewer drills because the Universal solid carbide drills from Seco Tools are designed to cover a wide range of work piece materials, enabling versatile, lean, and cost-effective drilling operations.

GET PREDICTABLE RESULTS

To achieve a high hole quality and a good all-round performance, the excellent centering capabilities and optimal flute design of the Universal drills guarantee you a predictable result every time. With the addition of 8xD and 12xD we can now offer a fully comprehensive range of length-to-diameter ratios.

YOUR CHALLENGE

High-mix/low volume manufacturing typically faces small batches and several different work piece materials, which require to stock a wide, expensive range of tools

OUR SOLUTION

Good drill performance in most workpiece materials thanks to Universal drill geometry with the corresponding cutting data from 3xD to 12xD

YOUR CHALLENGES

- Short tool life impacts tooling costs
- Incorrect length-to-diameter ratio impacts hole quality

OUR SOLUTION

New TiAlN coating across entire range improves tool life and performance

HOLEMAKING



YOUR BENEFITS

- Longer tool life due to new updated PVD coating and higher heat resistance
- Versatile geometry for most work piece materials
- Cost-effective for small to medium-batch production
- Comprehensive range that covers most of your needs
- Easy to regrind

RANGE OVERVIEW

- ø3 – 20 mm (0.118" – 0.787")
- 3xD, 5xD, 8xD and 12xD length to diameter ratio
- Cylindrical shank (R1)



Scan the QR code and find out more.

TOOLING SYSTEMS



EXPAND YOUR CAPABILITIES WITH LESS TOOLHOLDERS IN YOUR MILLING APPLICATIONS

COMBIMASTER™ M20

PUSH YOUR MEDIUM-SIZED MILLS FURTHER

Poorly designed holders can't provide the rigidity, stability or precision needed for optimized milling strategies and, subsequently, superior performance. Maximize these factors for fully secure milling processes with the newly expanded line of Combimaster™ modular M20 holders. To achieve increases in both metal removal rates and depths of cut by as much as 15%, the M20 thread ensures the strongest connection possible between the shank and the cutter body.

SECURE YOUR MILLING PROCESSES WITH A SAFE AND FLEXIBLE MODULAR SYSTEM

Stocking a comprehensive range of toolholders can be difficult, particularly for manufacturers seeking the highest degree of process efficiency. The Combimaster™ modular cutter system from Seco Tools offers the flexibility manufacturers need to tackle any milling challenge.

Including the expanded range of M16 and M20 holders, the Combimaster™ modular line offers a comprehensive choice of solutions that make it easy to change between square shoulder mills, end mills, face mills, copy mills, plunge mills and disc mills and with this flexibility it is easy to reduce stock.



YOUR CHALLENGE

High-mix/low-volume manufacturing requires wide range of toolholders to meet varied job requirements

OUR SOLUTION

Combimaster™ modular holders capable of interfacing with all major machine-side and workpiece-side connections

YOUR CHALLENGE

Poor holder stability, rigidity and precision has a negative impact on tool life and machining performance

OUR SOLUTION

Gain greater process security with the Combimaster™ modular holder solution with M20 connections

YOUR CHALLENGE

A lack of toolholders well-suited for milling applications performed with medium-sized cutters

OUR SOLUTION

An expanded range of Combimaster™ modular holders with connections for applications in M20 workpiece-side connections



YOUR BENEFITS

- Exceptional flexibility due to a large range of exchangeable heads
- Longer tool life with greater precision, rigidity, accuracy and stability
- Decreased costs of tooling inventory as a result of flexibility of the Combimaster™ modular system

RANGE OVERVIEW

38 new products with M16 and M20 workpiece-side connections for BT 40/50, HSKA 63/100, DIN 40/50, CAT 40/50, BT TF 40/50, CAT TF 40/50 and C5/C6/C8 machine-side connections.



Scan the QR code and find out more.

NEW AND IMPROVED RANGE OF HIGH-VALUE SHELL MILL AND SIDE LOCK HOLDERS

RANGE EXTENSION OF SHELL MILL HOLDERS, SMALL FACE & SIDE LOCK HOLDERS IMPROVEMENTS

IMPROVED RIGIDITY GIVES IMPROVED PERFORMANCE

For heavy machining operations, the Seco Tool range of side lock holders uses side-locking screws to secure the tool shank against the bore of the toolholder and offer anti-pull-out protection. The holders for Weldon shanks now feature front-face lubrication for improved performance, especially in hard materials such as Inconel®, and a grinded face designed to improve the front contact between shank & tool holder to allow for better rigidity and run-out.

REACH FURTHER IN SHELL MILLING APPLICATIONS

Based on ISO specifications for spigot and tenon drive features, Seco shell mill holders offer excellent results in rough to fine milling applications. The expanded range includes 70 new lengths for small bearing face holders as well as shot-peened surfaces, providing resistance to fatigue cracking, across the entire range to extend the lifetime of holders. Improvements in rigidity and strength due to advances in shell mill design has also enabled a reduction in the number of coolant channels from six to four.

YOUR CHALLENGE

Covering all applications requires dealing with numerous suppliers

OUR SOLUTION

You only need one supplier for a comprehensive range of optimized and reliable shell mill and side lock holders

YOUR CHALLENGE

Finding cost-effective toolholding solutions

OUR SOLUTION

Tool strength, sturdiness and rigidity resulting in cost effectiveness

TOOLING SYSTEMS



YOUR BENEFITS

- Better side lock holder performance in hard materials because of a front-face lubrication
- Increased range (type B) for shell mill holders

RANGE OVERVIEW

- 112 existing and 70 additional shell mill holders from spigot 22 mm – 60 mm (0.75" – 2.50")
- 133 side lock holders 6 mm – 50 mm (0.375" – 1.5")



Scan the QR code and find out more.

ACCURATE, SAFE AND SIMPLE FOR PRECISION MACHINING

EASYSHRINK EVO

SIMPLE, ERGONOMIC AND EASY TO USE

In addition to convenient storage for stop rods, heat-focusing stoppers and finned support rings, the unit has an intuitive two-button operation pad and simple induction mechanism for ergonomic use. Designed to perform shrinking cycles in two to seven seconds and cooling cycles in as fast as three minutes with the optional water-cooling system, the Easyshrink Evo makes tool setting easy. And for specialized holders or specific heating cycles, operators have the possibility to access a secure web-based interface via WiFi or ethernet connection to create new manual programs.

REDUCE MACHINING COSTS

The rigidity established with Easyshrink allows the use of high cutting data, with drastic increases in productivity (especially when drilling) compared to other toolholder types. Additionally, with its superior holding force, concentricity and balance, the chip load is evenly distributed on the cutting edge. This extends tool, holder and spindle life. The reduced tool-change downtime contributes to considerable reduction in machining costs.



YOUR CHALLENGE

Setup times for high accuracy machining operations is too long for optimal, cost-effective processes

OUR SOLUTION

Reduce tool-change downtime with our energy-efficient clamping, all-in-one shrinkfit unit with induction heating element and automated heating cycles

YOUR CHALLENGE

Overheated tool holder and broken cutting tools adds costs resulting in unnecessary scrapping of tool holders

OUR SOLUTION

Ensure the longest possible tool life for your shrinkfit holders and tools with fully optimized heating and cooling cycles and accessories designed to easily remove broken tools

TOOLING SYSTEMS



YOUR BENEFITS

- Extended toolholder life because of individual optimized heat settings
- Ergonomic tool setting ensures safety due to the machine design
- Fast and easy operation due to simple interface
- Versatility and flexibility with an all-in-one solution

RANGE OVERVIEW

- Easyshrink Evo heating unit (ZFM30IN10)
- Optional refrigeration unit (ZFM30RE1)



Scan the QR code and find out more.

WANT TO MILL ALUMINUM AT HIGH VELOCITY? MAKE SURE YOUR TOOLING CAN KEEP UP

NIAGARA CUTTER™ AN230/AN335

EXCEPTIONAL METAL REMOVAL RATES

For modern machine tools equipped with spindles capable of 16,000 to 33,000 rpm or more, avoiding vibrations is critical to securing processes and preventing damage to the spindle. Achieve exceptional material removal rates for aerospace slotting and profiling applications in aluminum with the high-performance AN230 and AN335 solid carbide end mills from Niagara Cutter™. Designed to minimize deflection and vibrations with its advanced geometry, these end mills can keep up with any high-velocity spindle without sacrificing surface finish or tool life.

SECURE YOUR APPLICATIONS WITH FULLY RELIABLE PROCESSES

Manufacturers can expect frequent unexpected tool breakage if using poor quality end mills. For the highest level of process security, the AN230 and AN335 end mills can spend days in the cut with ease thanks to innovative engineering. Equally well-suited at slotting and profiling, these end mills have been optimized with K-lands for rake angles that enable reduced frictional forces and contact with the chip as well as smoother cutting thanks to the avoidance of material adhesion. Radial coolant holes in the 3-flute configuration further improve performance and chip control.

PUSH YOUR AEROSPACE APPLICATIONS FURTHER WITH ENGINEERED SOLUTIONS

Designed for optimized performance in most advanced aluminum slotting and profiling strategies, the standard range of AN230 and AN335 tools may also be modified to suit manufacturers' unique aerospace and heavy machinery applications. Niagara Cutter™ experts can optimize radii and length for your end milling needs as well as provide coatings such as diamond-like carbon (DLC) and various non-ferrous solutions.

YOUR CHALLENGE

Avoiding unexpected downtime and achieving extended, predictable tool life are crucial in advanced aerospace applications

OUR SOLUTION

Reliable Niagara Cutter™ end mills featuring polished K-lands and radial coolant holes for the greatest process security

YOUR CHALLENGE

High-velocity/high-speed machine tools require specific tools for secure slotting and profiling applications

OUR SOLUTION

2-flute and 3-flute solid carbide end mills made with high-performance geometry optimized for high-speed aluminum machining

SOLID END MILLS



UNIQUE SELLING POINTS

- Push your machine to its limits without compromising surface finish, tool life and process security
- Increase chip evacuation and reduce friction and heat with specific design radial coolant holes
- Avoid deflection and chatter with advanced tool geometry
- Get customized tool design according to your specific needs

YOUR BENEFITS

- High MRR
- Process reliability
- Flexibility
- Long tool life

RANGE OVERVIEW

94 inch uncoated end mills (AN230/AN230R and AN335/AN335R) in 0.5", 0.75" and 1.00" diameter sizes. Standard sharp corner and aerospace radii options.



Scan the QR code and find out more.

THE FUTURE OF MANUFACTURING IS SUSTAINABLE

EVERYONE CAN HELP

At Seco Tools, we believe that everyone can help when it comes to slowing down the detrimental effects we are having on our planet. We try to recycle as much raw material as possible, reduce our carbon footprint wherever we can and increase the efficiency of our manufacturing processes wherever possible. Examples of this can be found in our production facilities and offices around the world.

This mindset ripples out to you, our valued customers, when we analyze your production processes. We look at how to reduce your energy consumption and increase the performance of your systems. Not only do you become more sustainable, your costs are reduced.

#SECOTREES - CLICK, BUY & PLANT A TREE

If you are interested in doing something to contribute towards the wellbeing of our planet, order your products from Seco Tools online.

Not only will it reduce paper waste, for every 5th order placed from February 3rd – April 30th 2020 we will be planting a tree.*

Together, we can make a big difference. In co-operation with



SUSTAINABLE BUSINESS

Sustainability is not only about tackling climate change and trying to preserve the earth's oceans and forests. It is also about improving health, ending poverty and reducing inequality. At Seco Tools, we take advantage of any opportunity to integrate these important aspects into our everyday lives.



RECYCLING

Our carbide products contain raw materials that are both rare and valuable, including tungsten. At the rate we are using tungsten today it is predicted that reserves will be consumed within 40 – 100 years. In an effort to prolong this, we will recycle any carbide product and compensate customers for returning their worn out tools.



GREEN FUND

Our Green Fund pays for projects that deliver increased energy efficiency world-wide and do not include other legal demands including safety or water treatment which are things we need to take care of regardless.

TOGETHER FOR SUSTAINABILITY



*The promotion is only valid to purchases made during the period 3rd February 2020 to 30th April 2020. The promotion has no cash value. Nothing in this promotion shall be deemed legally binding upon Seco Tools. Seco Tools has the right to end or modify the promotion at any time (changes reserved). The promotion is valid only for online purchases, i.e. through web shops, EDI and/or Seco Point. Products are sold subject to Seco Tools' applicable terms and conditions. Seco Tools is not required to disclose any information relating to the promotion.



Scan the QR Code and discover our promo. #SecoTrees

ENHANCE KNOWLEDGE, SKILL AND COMPETENCY

Changing market dynamics are creating new challenges for manufacturers – who need to respond quickly and efficiently. A new extension of the Seco Technical Education Program (STEP) program, the Masterclass format, is especially crafted for business owners, executives and employees on management level.

These comprehensive education programs correlate performance, quality, cost structure, non-productive times, output and other relevant factors that are traced and recorded. STEP Masterclasses focus on the needs of high-mix low-volume manufacturing and will equip you with knowledge of new production concepts and techniques to build a sustainable future for your company.

The Masterclasses are conducted in a peer group setting with free exchange of issues and ideas, following a unique curriculum that brings the concepts of operational and machining excellence for high-mix low-volume production facilities into a classroom setting.



STEP MASTERCLASS - EDUCATION

MANUFACTURING TRANSFORMATION

AVAILABLE MASTERCLASSES

MANUFACTURING EXCELLENCE

This course is a state-of-the-art model where we introduce a new production philosophy that offers a comprehensive approach to process description and optimization.

APPLIED METAL CUTTING PHYSICS

Focused on helping manufacturing companies operating in high-mix low-volume environments improve their profitability and competitiveness.

PRODUCTION ECONOMICS

The art and science of balancing process factors to achieve desired results. This course examines transformation approaches and methods to overcome deep-rooted behaviors and beliefs.

DISCOVER THE FULL POTENTIAL OF YOUR PRODUCTION, PROCESSES AND PERSONNEL

Discovering insights and actionable items will enable you to optimize your manufacturing systems, management structure/procedures and machining processes. The Seco Manufacturing Efficiency Evaluation is the most comprehensive of its kind in the industry and is an in-depth drill-down analysis of your workshop. By evaluating and analyzing your operations, we can deliver facts that quantify your improvement potential, which is typically a 3% to 10% cost reduction.

That adds up to real savings and improved profitability.

HERE'S HOW THE MANUFACTURING EVALUATION WORKS.

Over the course of several weeks, our expert consultants will collect information about every facet of your manufacturing operation. We will work closely with both management and production personnel to observe, measure and interview, to discover pain points and improvement areas. Our in-depth brand-neutral approach allows your customer- and production-focused teams to interact and collaborate during the analysis to gain a better understanding of the other teams' responsibilities.

THE MANUFACTURING EFFICIENCY EVALUATION SOLUTION INCLUDES THREE KEY AREAS:

MACHINING PROCESS – PERFORMANCE OF MACHINING

- Tool Wear Analysis
- Tool Life Cycle Analysis
- Group Technology

MANUFACTURING SYSTEM – PERFORMANCE OF PRODUCTION SYSTEM

- Overall Equipment Effectiveness (OEE)
- Quality Processes
- Value Stream Mapping
- Lead Time Analysis
- On-Time Delivery Analysis

MANUFACTURING ENVIRONMENT – OPERATIONAL PERFORMANCE MANAGEMENT

- Production and Performance Management
- Organization and Span of Control
- People Engagement



MANUFACTURING EFFICIENCY EVALUATION

MANUFACTURING TRANSFORMATION

SMALLER PACKAGES TO SUIT SPECIFIC ISSUES

TOOL WEAR ANALYSIS

A team of consultants analyze a sample of worn tools.

TOOL FLOW MANAGEMENT

We map the purchasing and usage processes from selection to recycling.

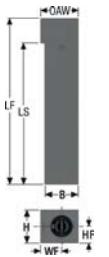
LEADTIME

We map production processes, identify and analyze bottlenecks, machine productivity and flow management.

DELIVERY PRECISION

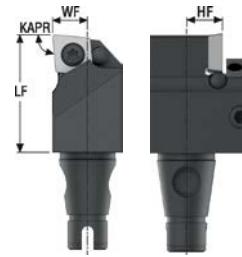
We analyze planning and scheduling methods as well as WIP management and constraints in production.

SECO MODULAR QC TOOLHOLDER

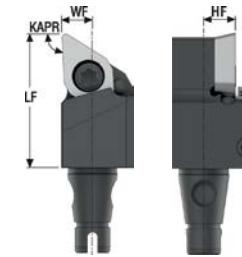


PRODUCT NUMBER	DESIGNATION	DIMENSIONS IN MM						
		H	B	LF	LS	WF	HF	OAW
03280749	N1010F-QC12	10	11	80	68	6,0	5	16
03280750	N1212F-QC12	12	12	80	68	6,0	6	16
03280751	N1616F-QC16	16	16	80	68	8,0	8	18
03280752	N0375F-QC12	9,525	10,76	80	68	6,0	4,76	16
03280753	N050F-QC12	12,700	12,35	80	68	6,0	6,7	16,35

..SCLC..



..SDJC..



..SVJB..

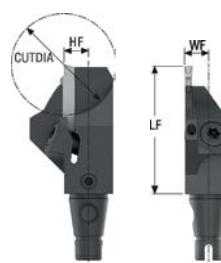


PRODUCT NUMBER	DESIGNATION	DIMENSIONS IN MM				KAPR°	INSERT
		HF	LF	WF			
03280836	QC12-SCLCR-06JET	5,975	20	5,95	95	CC..0602./CC..21.5..	
03280839	QC12-SCLCL-06JET	5,975	20	5,95	95	CC..0602./CC..21.5..	
03280754	QC12-SCLCR-09JET	5,975	22	5,95	95	CC..09T3./CC..32.5..	
03280755	QC12-SCLCL-09JET	5,975	22	5,95	95	CC..09T3./CC..32.5..	
03280756	QC16-SCLCR-09JET	7,900	24	7,95	95	CC..09T3./CC..32.5..	
03280757	QC16-SCLCL-09JET	7,900	24	7,95	95	CC..09T3./CC..32.5..	
03280758	QC12-SDJCR-07JET	5,975	22	5,95	93	DC..0702./DC..21.5..	
03280759	QC12-SDJCL-07JET	5,975	22	5,95	93	DC..0702./DC..21.5..	
03280760	QC12-SDJCR-11JET	5,975	26	5,95	93	DC..11T3./DC..32.5..	
03280761	QC12-SDJCL-11JET	5,975	26	5,95	93	DC..11T3./DC..32.5..	
03280762	QC16-SDJCR-11JET	7,900	26	7,95	93	DC..11T3./DC..32.5..	
03280763	QC16-SDJCL-11JET	7,900	26	7,95	93	DC..11T3./DC..32.5..	
03280764	QC12-SVJBR-11JET	5,975	26	5,95	93	VB..1102./VB..21.5..	
03280765	QC12-SVJBL-11JET	5,975	26	5,95	93	VB..1102./VB..21.5..	
03280766	QC16-SVJBR-11JET	7,900	26	7,95	93	VB..1102./VB..21.5..	
03280767	QC16-SVJBL-11JET	7,900	26	7,95	93	VB..1102./VB..21.5..	

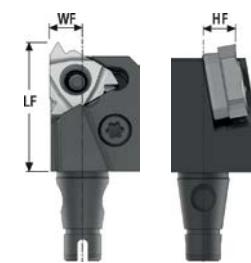
Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

SECO MODULAR QC TOOLHOLDER

..CFO..



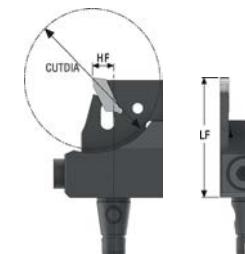
..PE..



PRODUCT NUMBER	DESIGNATION	DIMENSIONS IN MM				INSERT
		HF	LF	WF	CUTDIA	
03280768	QC12-CFOR-1902RBJET	5,975	32	6,0	25,4	LC.1902..
03280769	QC12-CFOL-1902RBJET	5,975	32	6,0	25,4	LC.1902..
03280770	QC16-CFOR-1902RBJET	7,900	32	8,0	25,4	LC.1902..
03280771	QC16-CFOL-1902RBJET	7,900	32	8,0	25,4	LC.1902..

PRODUCT NUMBER	DESIGNATION	DIMENSIONS IN MM			INSERT
		HF	LF	WF	
03280772	QC12-PER-16HDJET	5,975	25	6,0	16ER..
03280773	QC12-PEL-16HDJET	5,975	25	6,0	16EL..
03280774	QC16-PER-16HDJET	7,900	25	8,0	16ER..
03280775	QC16-PEL-16HDJET	7,900	25	8,0	16EL..

..150.10..



PRODUCT NUMBER	DESIGNATION	DIMENSIONS IN MM			BLADE	INSERT
		HF	LF	CUTDIA		
03280776	QC12-R150.10-15JETI	6	34,2	38,0	150.10A-15..	150.10..
03280777	QC12-L150.10-15JETI	6	34,2	38,0	150.10A-15..	150.10..
03280778	QC16-R150.10-15JETI	8	34,2	38,0	150.10A-15..	150.10..
03280779	QC16-L150.10-15JETI	8	34,2	38,0	150.10A-15..	150.10..

Please check availability in current price and stock list.
For more information please visit [My Pages on secotools.com](http://secotools.com).

JETI ISO TOOLHOLDER SECO-CAPTO™

PRODUCT NUMBER	DESIGNATION	INSERT
03282195	C4-DCLCR-27050-09JETI	CC..09T3./CC..32.5..
03282193	C4-DCLCL-27050-09JETI	CC..09T3./CC..32.5..
03282196	C4-DCLCR-27050-12JETI	CC..1204./CC..43..
03282194	C4-DCLCL-27050-12JETI	CC..1204./CC..43..
03282214	C5-DCLCR-35060-12JETI	CC..1204./CC..43..
03282213	C5-DCLCL-35060-12JETI	CC..1204./CC..43..
03282239	C6-DCLCR-45065-12JETI	CC..1204./CC..43..
03282238	C6-DCLCL-45065-12JETI	CC..1204./CC..43..
03282178	C4-DCLNR-27050-12JETI	CN..1204./CN..43..
03282177	C4-DCLNL-27050-12JETI	CN..1204./CN..43..
03282202	C5-DCLNR-35060-12JETI	CN..1204./CN..43..
03282201	C5-DCLNL-35060-12JETI	CN..1204./CN..43..
03289606	C5-DCLNR-35060-16JETI	CN..1606./CN..53..
03289605	C5-DCLNL-35060-16JETI	CN..1606./CN..53..
03282223	C6-DCLNR-45065-12JETI	CN..1204./CN..43..
03282221	C6-DCLNL-45065-12JETI	CN..1204./CN..43..
03282224	C6-DCLNR-45065-16JETI	CN..1606./CN..53..
03282222	C6-DCLNL-45065-16JETI	CN..1606./CN..53..
03289623	C8-DCLNR-55080-12JETI	CN..1204./CN..43..
03289621	C8-DCLNL-55080-12JETI	CN..1204./CN..43..
03289624	C8-DCLNR-55080-16JETI	CN..1606./CN..54..
03289622	C8-DCLNL-55080-16JETI	CN..1606./CN..54..
03289615	C6-DCRNR-35065-16JETI	CN..1606./CN..54..
03289614	C6-DCRNL-35065-16JETI	CN..1606./CN..54..
03282198	C4-DDJCR-27050-11JETI	DC..11T3./DC..32.5..
03282197	C4-DDJCL-27050-11JETI	DC..11T3./DC..32.5..
03282216	C5-DDJCR-35060-11JETI	DC..11T3./DC..32.5..
03282215	C5-DDJCL-35060-11JETI	DC..11T3./DC..32.5..
03282241	C6-DDJCR-45065-11JETI	DC..11T3./DC..32.5..
03282240	C6-DDJCL-45065-11JETI	DC..11T3./DC..32.5..

PRODUCT NUMBER	DESIGNATION	INSERT
03289599	C4-DDJNR-27050-11JETI	DN..1104./DN..33..
03289598	C4-DDJNL-27050-11JETI	DN..1104./DN..33..
03282182	C4-DDJNR-27055-15JETI	DN..1506./DN..44..
03282180	C4-DDJNL-27055-15JETI	DN..1506./DN..44..
03282181	C4-DDJNR-27055-15-04JETI	DN..1504./DN..43..
03282179	C4-DDJNL-27055-15-04JETI	DN..1504./DN..43..
03289608	C5-DDJNR-35060-11JETI	DN..1104./DN..33..
03289607	C5-DDJNL-35060-11JETI	DN..1104./DN..33..
03282206	C5-DDJNR-35060-15JETI	DN..1506./DN..44..
03282204	C5-DDJNL-35060-15JETI	DN..1506./DN..44..
03282205	C5-DDJNR-35060-15-04JETI	DN..1504./DN..43..
03282203	C5-DDJNL-35060-15-04JETI	DN..1504./DN..43..
03282228	C6-DDJNR-45065-15JETI	DN..1506./DN..44..
03282226	C6-DDJNL-45065-15JETI	DN..1506./DN..44..
03282227	C6-DDJNR-45065-15-04JETI	DN..1504./DN..43..
03282225	C6-DDJNL-45065-15-04JETI	DN..1504./DN..43..
03289626	C8-DDJNR-55080-15JETI	DN..1506./DN..44..
03289625	C8-DDJNL-55080-15JETI	DN..1506./DN..44..
03289617	C6-DDUNR-45065-15JETI	DN..1506./DN..44..
03289616	C6-DDUNL-45065-15JETI	DN..1506./DN..44..
03289628	C8-DDUNR-55080-15JETI	DN..1506./DN..44..
03289627	C8-DDUNL-55080-15JETI	DN..1506./DN..44..
03282184	C4-DSSNR-27048-12JETI	SN..1204./SN..43..
03282183	C4-DSSNL-27048-12JETI	SN..1204./SN..43..
03282208	C5-DSSNR-35052-12JETI	SN..1204./SN..43..
03282207	C5-DSSNL-35052-12JETI	SN..1204./SN..43..
03284734	C6-DSSNR-45056-12JETI	SN..1204./SN..43..
03282229	C6-DSSNL-45056-12JETI	SN..1204./SN..43..
03282230	C6-DSSNL-45056-15JETI	SN..1506./SN..54..
03282231	C6-DSSNR-45056-15JETI	SN..1506./SN..54..

PRODUCT NUMBER	DESIGNATION	INSERT
03289630	C8-DSSNR-55080-12JETI	SN..1204./SN..43..
03289629	C8-DSSNL-55080-12JETI	SN..1204./SN..43..
03282186	C4-DTJNR-27050-16JETI	TN..1604./TN..33..
03282185	C4-DTJNL-27050-16JETI	TN..1604./TN..33..
03289610	C5-DTJNR-35060-16JETI	TN..1604./TN..33..
03289609	C5-DTJNL-35060-16JETI	TN..1604./TN..33..
03282233	C6-DTJNR-45065-16JETI	TN..1604./TN..33..
03282232	C6-DTJNL-45065-16JETI	TN..1604./TN..33..
03289601	C4-DVHBR-27050-16JETI	VB./VC..1604./VB./VC..33..
03289600	C4-DVHBL-27050-16JETI	VB./VC..1604./VB./VC..33..
03289612	C5-DVHBR-35060-16JETI	VB./VC..1604./VB./VC..33..
03289611	C5-DVHBL-35060-16JETI	VB./VC..1604./VB./VC..33..
03289619	C6-DVHBR-45065-16JETI	VB./VC..1604./VB./VC..33..
03289618	C6-DVHBL-45065-16JETI	VB./VC..1604./VB./VC..33..
03282200	C4-DVJBR-27055-16JETI	VB./VC..1604./VB./VC..33..
03282199	C4-DVJBL-27055-16JETI	VB./VC..1604./VB./VC..33..
03282220	C5-DVJBR-35060-16JETI	VB./VC..1604./VB./VC..33..
03282219	C5-DVJBL-35060-16JETI	VB./VC..1604./VB./VC..33..
03282245	C6-DVJBR-45065-16JETI	VB./VC..1604./VB./VC..33..
03282244	C6-DVJBL-45065-16JETI	VB./VC..1604./VB./VC..33..
03289632	C8-DVJBR-55080-16JETI	VB./VC..1604./VB./VC..33..
03289631	C8-DVJBL-55080-16JETI	VB./VC..1604./VB./VC..33..
03282188	C4-DVJNR-27060-16JETI	VN..1604./VN..33..
03282187	C4-DVJNL-27060-16JETI	VN..1604./VN..33..
03282210	C5-DVJNR-35060-16JETI	VN..1604./VN..33..
03282209	C5-DVJNL-35060-16JETI	VN..1604./VN..33..
03282235	C6-DVJNR-45065-16JETI	VN..1604./VN..33..
03282234	C6-DVJNL-45065-16JETI	VN..1604./VN..33..
03289604	C4-DVVBN-00055-16JETI	VN..1604./VN..33..
03289613	C5-DVVBN-00060-16JETI	VN..1604./VN..33..

PRODUCT NUMBER	DESIGNATION	INSERT
03289620	C6-DVVB-00065-16JETI	VN..1604./VN..33..
03282191	C4-DWLNR-27050-06JETI	WN..0604./WN..33..
03282189	C4-DWLNL-27050-06JETI	WN..0604./WN..33..
03282192	C4-DWLNL-27050-08JETI	WN..0804.../WN..43..
03282190	C4-DWLNL-27050-08JETI	WN..0804.../WN..43..
03282212	C5-DWLNL-35060-06JETI	WN..0604./WN..33..
03282211	C5-DWLNL-35060-06JETI	WN..0604./WN..33..
03282459	C5-DWLNL-35060-08JETI	WN..0804.../WN..43..
03282458	C5-DWLNL-35060-08JETI	WN..0804.../WN..43..
03282237	C6-DWLNL-45065-08JETI	WN..0804.../WN..43..
03282236	C6-DWLNL-45065-08JETI	WN..0804.../WN..43..

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

JETI ISO TOOLHOLDER SQUARE SHANK (METRIC)

JETI ISO TOOLHOLDER SQUARE SHANK (INCH)

PRODUCT NUMBER	DESIGNATION	INSERT
03282306	DCBNR3232X16JETI	CN..1604..
03282305	DCBNL3232X16JETI	CN..1604..
03282310	DCLCR2020X09JETI	CC..09T3..
03282307	DCLCL2020X09JETI	CC..09T3..
03282311	DCLCR2525X09JETI	CC..09T3..
03282308	DCLCL2525X09JETI	CC..09T3..
03282312	DCLCR2525X12JETI	CC..1204..
03282309	DCLCL2525X12JETI	CC..1204..
03282315	DCLNR3232X12JETI	CN..1204..
03282313	DCLNL3232X12JETI	CN..1204..
03282316	DCLNR3232X16JETI	CN..1606..
03282314	DCLNL3232X16JETI	CN..1606..
03282318	DDJNR3232X15JETI	DN..1506..
03282317	DDJNL3232X15JETI	DN..1506..
03282326	DSSNR2525X12JETI	SN..1204..
03282323	DSSNL2525X12JETI	SN..1204..
03282327	DSSNR3232X15JETI	SN..1506..
03282325	DSSNL3232X15JETI	SN..1506..
03282330	DTJNR2020X16JETI	TN..1603..
03282328	DTJNL2020X16JETI	TN..1603..
03282331	DTJNR2525X16JETI	TN..1603..
03282329	DTJNL2525X16JETI	TN..1603..
03282333	DVJBR3232X16JETI	VB./VC..1604..
03282332	DVJBL3232X16JETI	VB./VC..1604..
03282337	DVJNR2020X16JETI	VN..1604..
03282334	DVJNL2020X16JETI	VN..1604..
03282338	DVJNR2525X16JETI	VN..1604..
03282336	DVJNL2525X16JETI	VN..1604..
03282340	DWLNR3232X08JETI	WN..0804..
03282339	DWLNL3232X08JETI	WN..0804..

PRODUCT NUMBER	DESIGNATION	INSERT
03282256	DCLCR-12-3XJETI	CC..32.5..
03282253	DCLCL-12-3XJETI	CC..32.5..
03282257	DCLCR-16-3XJETI	CC..32.5..
03282255	DCLCL-16-3XJETI	CC..32.5..
03284736	DCLCR-12-4XJETI	CC..43..
03282254	DCLCL-12-4XJETI	CC..43..
03282258	DCLCR-20-4XJETI	CC..43..
03284737	DCLCL-20-4XJETI	CC..43..
03282262	DCLNR-12-4XJETI	CN..43..
03282259	DCLNL-12-4XJETI	CN..43..
03282263	DCLNR-16-4XJETI	CN..43..
03282260	DCLNL-16-4XJETI	CN..54..
03282264	DCLNR-20-4XJETI	CN..43..
03282261	DCLNL-20-4XJETI	CN..43..
03282267	DDJCR-12-3XJETI	DC..32.5..
03282265	DDJCL-12-3XJETI	DC..32.5..
03282268	DDJCR-16-3XJETI	DC..32.5..
03282266	DDJCL-16-3XJETI	DC..32.5..
03282272	DDJNR-12-4XJETI	DN..44..
03282269	DDJNL-12-4XJETI	DN..44..
03282273	DDJNR-16-4XJETI	DN..44..
03282270	DDJNL-16-4XJETI	DN..44..
03282274	DDJNR-20-4XJETI	DN..44..
03282271	DDJNL-20-4XJETI	DN..44..
03282282	DSSNR-16-4XJETI	SN..43..
03282281	DSSNL-16-4XJETI	SN..43..
03282284	DTJNR-16-3XJETI	TN..33..
03282283	DTJNL-16-3XJETI	TN..33..
03282287	DVJBR-12-3XJETI	VB..33..
03282285	DVJBL-12-3XJETI	VB..33..

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

DURATOMIC® MILLING GRADES MP1501 AND MP2501

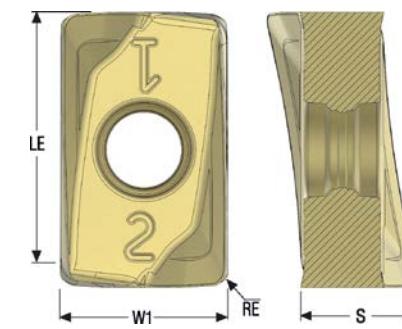
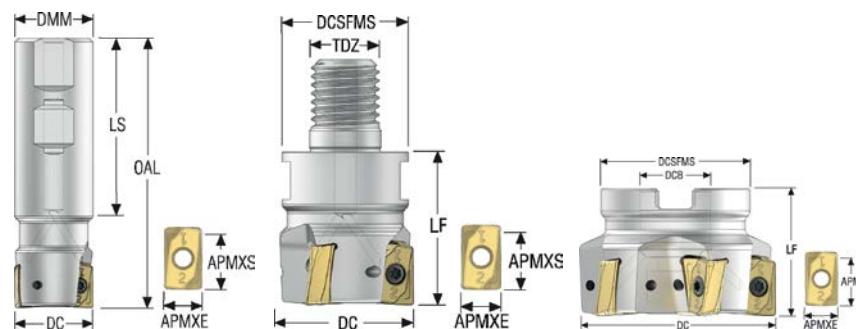
PRODUCT NUMBER	DESIGNATION
03272681	218.19-080T-M04, MP2501
03272677	218.19-100T-M06, MP2501
03272672	218.19-100T-MD08, MP2501
03272678	218.19-125T-T3-M07, MP2501
03272680	218.19-125T-T3-MD10, MP1501
03272673	218.19-125T-T3-MD10, MP2501
03272679	218.19-160T-04-M08, MP2501
03272675	218.19-160T-04-M11, MP1501
03272676	218.19-160T-04-M11, MP2501
03272682	218.19-160T-04-MD11, MP1501
03272674	218.19-160T-04-MD11, MP2501
03273088	218.21-230TR-06-M15, MP2501
03273090	218.21-230TR-06-MD17, MP1501
03273089	218.21-230TR-06-MD17, MP2501
03272706	335.18-100ST-M10, MP1501
03272703	335.18-100ST-M10, MP2501
03272707	335.18-130ST-M11, MP1501
03272704	335.18-130ST-M11, MP2501
03272708	335.18-160ST-M12, MP1501
03272705	335.18-160ST-M12, MP2501
03272766	335.19-120ST-MD09, MP2501
03272457	ABEX2606ZFFR-M15, MP1501
03272456	ABEX2606ZFFR-M15, MP2501
03273155	ACET150612TR-M11, MP1501
03273153	ACET150612TR-M11, MP2501
03273154	ACET150612TR-M14, MP2501
03273156	ACET150612TR-MD15, MP1501
03273157	ACET150630TR-MD15, MP1501
03272477	ACMT150612TR-M14, MP2501

PRODUCT NUMBER	DESIGNATION	PRODUCT NUMBER	DESIGNATION	PRODUCT NUMBER	DESIGNATION
03273320	HPMN1206ZETR-D25, MP1501	03272995	OFEN070405TN-D18, MP1501	03273063	REHR1605MOT-MD15, MP1501
03273321	HPMN1206ZETR-D25, MP2501	03272998	OFEN070405TN-D18, MP2501	03272700	RNNU1204MOT-M10, MP2501
03273289	LNHQ140708TN4-M11, MP2501	03272996	OFER070405TN-M16, MP1501	03272725	RPHT1204MOT-6-M08, MP2501
03273290	LNHQ140731TN4-M11, MP2501	03272988	OFER070405TN-M16, MP2501	03272726	RPHT1204MOT-6-M13, MP2501
03273288	LNHQ140750TN4-M11, MP2501	03272989	OFER070405TN-ME10, MP2501	03273060	RPHT2006MOT-ME12, MP2501
03273291	LNHQ140760TN4-M11, MP2501	03272990	OFER070405TN-ME15, MP2501	03272727	RPKT1204MOT-6-M15, MP1501
03272709	LNKT060504PPTN-M06, MP2501	03272997	OFEW070405TN-D18, MP1501	03272716	RPKT1204MOT-6-M15, MP2501
03272710	LNKT060508PPTN-M06, MP2501	03272987	OFEX05T305TN-D09, MP1501	03273062	RPKT2006MOT-M15, MP2501
03272711	LNKT080504PPTN-M06, MP2501	03272983	OFEX05T305TN-M08, MP2501	03273058	RPKT2006MOT-M20, MP1501
03272712	LNKT080508PPTN-M06, MP2501	03272984	OFEX05T305TN-ME07, MP2501	03273059	RPKT2006MOT-M20, MP2501
03272713	LNKW060508PPN-MD08, MP2501	03272991	OFMR070405TR-M15, MP2501	03272729	RPKW1204MOT-6-MD10, MP1501
03272714	LNKW080508PPN-MD08, MP2501	03272992	OFMR070405TR-ME13, MP2501	03272728	RPKW1204MOT-6-MD10, MP2501
03272883	LOEX080404TR-M08, MP1501	03272985	OFMT050405TR-M14, MP2501	03273061	RPKW2006MOT-MD22, MP1501
03272884	LOEX080404TR-M08, MP2501	03272986	OFMT050405TR-ME12, MP2501	03273263	SCET120612T-M11, MP1501
03272888	LOEX080404TR-MD08, MP2501	03272993	OFMT070405TN-M15, MP2501	03273258	SCET120612T-M11, MP2501
03272885	LOEX080408TR-M08, MP1501	03272994	OFMT070405TN-ME13, MP2501	03273259	SCET120612T-M14, MP2501
03272886	LOEX080408TR-M08, MP2501	03273043	ONEU050410ZZTN4-M10, MP2501	03273264	SCET120612T-MD15, MP1501
03272889	LOEX080408TR-MD08, MP1501	03273047	ONEU090520ZZTN4-M12, MP1501	03273260	SCET120630T-M14, MP2501
03272882	LOEX080408TR-MD08, MP2501	03273048	ONEU090520ZZTN4-M12, MP2501	03273261	SCET120630T-MD16, MP1501
03272887	LOEX080412TR-M08, MP2501	03273046	ONEU090520ZZTN4-M14, MP1501	03273262	SCET120630T-MD16, MP2501
03272890	LOEX080416TR-MD08, MP2501	03273045	ONEU090520ZZTN4-M14, MP2501	03273560	SEAN1203ZZTN-MD15, MP1501
03272900	LOEX120708R-M09, MP2501	03272999	ONMU050410ANTN-M10, MP1501	03272962	SEEX09T3AFTN-D09, MP1501
03272891	LOEX120708TR-M12, MP2501	03273000	ONMU050410ANTN-M10, MP2501	03272959	SEEX09T3AFTN-ME07, MP2501
03272896	LOEX120708TR-MD13, MP1501	03273003	ONMU050410ANTN-ME10, MP2501	03272963	SEEX1204AFN-M10, MP2501
03272892	LOEX120708TR-MD13, MP2501	03273004	ONMU050410ANTN-ME11, MP1501	03272969	SEEX1204AFTN-M14, MP1501
03272897	LOEX120712TR-MD13, MP1501	03273005	ONMU050410ANTN-ME11, MP2501	03272964	SEEX1204AFTN-M14, MP2501
03272893	LOEX120712TR-MD13, MP2501	03273013	ONMU090520ANTN-M12, MP1501	03272970	SEEX1204AFTN-MD18, MP1501
03272898	LOEX120716TR-MD13, MP1501	03273014	ONMU090520ANTN-M12, MP2501	03272965	SEEX1204AFTN-ME11, MP2501
03272899	LOEX120716TR-MD13, MP2501	03273012	ONMU090520ANTN-M13, MP1501	03272971	SEEX1204ZZTN-M14, MP1501
03272894	LOEX120720TR-M12, MP2501	03273009	ONMU090520ANTN-M13, MP2501	03272966	SEEX1204ZZTN-M14, MP2501
03272901	LOEX120724TR-M12, MP2501	03273011	ONMU090520ANTN-M14, MP1501	03272974	SEEX1505AFN-M12, MP2501
03272895	LOEX120731TR-M12, MP2501	03273008	ONMU090520ANTN-M14, MP2501	03272978	SEEX1505AFN-M17, MP1501
03273340	LOHT060310TR-M07, MP2501	03273010	ONMU090520ANTN-M15, MP1501	03272975	SEEX1505AFN-M17, MP2501
03273341	LOHT060310TR-MD07, MP1501	03273007	ONMU090520ANTN-M15, MP2501	03272976	SEEX1505ZZTN-M17, MP2501
03273338	LOHT060310TR-MD07, MP2501	03273019	ONMU090520ANTN-MD16, MP1501	03273562	SEKN1203AFTN-D16, MP1501
03273339	LOHW060310TR-D07, MP1501	03273017	ONMU090520ANTN-MD16, MP2501	03273561	SEKN1203AFTN-M14, MP1501
03273545	LPHT060310TR-M06, MP2501	03273020	ONMU090520ANTN-MD17, MP1501	03273557	SEKN1203AFTN-M14, MP2501
03273544	LPHW060310TR-MD07, MP2501	03273018	ONMU090520ANTN-MD17, MP2501	03273558	SEKN1504AFTN-M18, MP2501
03273547	LPKT05T210TR-M05, MP2501	03273022	ONMU090520ANTN-ME12, MP1501	03273571	SEKN1504AFTN-MD20, MP1501
03273549	LPKT09T420TR-M13, MP2501	03273016	ONMU090520ANTN-ME12, MP2501	03273559	SEKR1203AFTN-ME13, MP2501
03273546	LPKW05T210TR-MD05, MP2501	03273021	ONMU090520ANTN-ME13, MP1501		
03273548	LPKW09T420TR-MD15, MP2501	03273015	ONMU090520ANTN-ME13, MP2501		
		03272719	RDKW0803MOT-MD05, MP2501		

PRODUCT NUMBER	DESIGNATION	PRODUCT NUMBER	DESIGNATION	PRODUCT NUMBER	DESIGNATION	PRODUCT NUMBER	DESIGNATION
03272960	SEMX09T3AFTN-M08, MP2501	03272951	SNMU160610TN-M10, MP2501	03272917	XNEX080608TR-MD15, MP1501	03272831	XOMX120408TR-M12, MP1501
03272961	SEMX09T3AFTN-ME06, MP2501	03272952	SNMU160610TN-MD16, MP1501	03272916	XNEX080608TR-MD15, MP2501	03272826	XOMX120408TR-M12, MP2501
03272972	SEMX1204AFTN-M15, MP1501	03272957	SNMU160610TN-MD16, MP2501	03272920	XNEX080608TR-ME09, MP1501	03272829	XOMX120408TR-MD13, MP1501
03272967	SEMX1204AFTN-M15, MP2501	03272953	SNMU160612TN-M10, MP1501	03272907	XNEX080608TR-ME09, MP2501	03272832	XOMX120408TR-MD13, MP2501
03272973	SEMX1204AFTN-MD19, MP1501	03272954	SNMU160612TN-M10, MP2501	03272914	XNEX080612TR-M13, MP2501	03272827	XOMX120408TR-ME08, MP2501
03272968	SEMX1204AFTN-ME12, MP2501	03272955	SNMU160612TN-MD16, MP1501	03272921	XNEX080612TR-MD15, MP1501	03272858	XOMX120412TR-MD13, MP1501
03272979	SEMX1505AFTN-M18, MP1501	03272956	SNMU160612TN-MD16, MP2501	03272922	XNEX080612TR-MD15, MP2501	03272851	XOMX120412TR-ME08, MP2501
03272977	SEMX1505AFTN-M18, MP2501			03272908	XNEX080612TR-ME09, MP2501	03272859	XOMX120416TR-MD13, MP1501
03272980	SEMX1505AFTN-MD20, MP1501	03272925	SNMX1407ANTR-M10, MP1501	03272924	XNEX080616TL-M13, MP2501	03272852	XOMX120416TR-ME08, MP2501
03272981	SEMX1505AFTN-MD20, MP2501	03272926	SNMX1407ANTR-M10, MP2501	03272912	XNEX080616TR-M13, MP1501	03272853	XOMX120420TR-ME08, MP2501
03272933	SNEX1407AZTR-M10, MP1501	03272927	SNMX1407ANTR-M16, MP1501	03272913	XNEX080616TR-M13, MP2501	03272854	XOMX120424TR-ME08, MP2501
03272934	SNEX1407ZZTR-M10, MP1501	03272928	SNMX1407ANTR-M16, MP2501	03272918	XNEX080616TR-MD15, MP1501	03272855	XOMX120431TR-ME08, MP2501
03272750	SNHQ110204TL4-M07, MP2501	03272929	SNMX1407ZNTR-M10, MP1501	03272919	XNEX080616TR-MD15, MP2501	03272856	XOMX120440TR-ME08, MP2501
03272751	SNHQ110204TR4-M07, MP2501	03272930	SNMX1407ZNTR-M10, MP2501	03272911	XNEX080616TR-ME09, MP2501	03272860	XOMX180604TR-ME13, MP2501
03272752	SNHQ110304TL4-M07, MP2501	03272931	SNMX1407ZNTR-M16, MP1501			03272864	XOMX180608R-M10, MP2501
03272753	SNHQ110304TR4-M07, MP2501	03272932	SNMX1407ZNTR-M16, MP2501	03273103	XNHQ090508TN4-M08, MP2501	03272872	XOMX180608TR-D16, MP1501
03272754	SNHQ120304TL4-M07, MP2501	03272937	SNMX2209ANTR-M12, MP2501	03273104	XNHQ090516TN4-M08, MP2501	03272865	XOMX180608TR-D16, MP2501
03272755	SNHQ120304TR4-M07, MP2501	03272935	SNMX2209ANTR-M18, MP1501	03273105	XNHQ120608TN4-M10, MP2501	03272873	XOMX180608TR-M14, MP1501
03272756	SNHQ120308TL4-M07, MP2501	03272938	SNMX2209ANTR-M18, MP2501	03273106	XNHQ120616TN4-M10, MP2501	03272861	XOMX180608TR-M14, MP2501
03272757	SNHQ120308TR4-M07, MP2501	03272939	SNMX2209ZNTR-M12, MP2501	03273100	XNHQ140708TN4-M11, MP2501	03272874	XOMX180608TR-MD15, MP1501
03272758	SNHQ120408TL4-M07, MP2501	03272936	SNMX2209ZNTR-M18, MP1501	03273099	XNHQ140716TN4-M11, MP2501	03272863	XOMX180608TR-MD15, MP2501
03272759	SNHQ120408TR4-M07, MP2501	03272940	SNMX2209ZNTR-M18, MP2501	03273098	XNHQ140731TN4-M11, MP2501	03272862	XOMX180608TR-ME13, MP2501
03272760	SNHQ1204504TL4-M07, MP2501	03273280	SONX09T308TR-M10, MP2501	03273101	XNHQ170708TN4-M13, MP2501	03272879	XOMX180612TR-M14, MP1501
03272761	SNHQ1204504TR4-M07, MP2501	03273285	SONX120508TR-M12, MP1501	03273102	XNHQ170716TN4-M13, MP2501	03272876	XOMX180612TR-M14, MP2501
03272746	SNHQ1204508TL4-M07, MP2501	03273279	SONX120508TR-M12, MP2501	03272838	XOEX10T304R-M06, MP2501	03272880	XOMX180612TR-MD15, MP1501
03272747	SNHQ1204508TR4-M07, MP2501	03273281	SONX150508TR-M14, MP2501	03272839	XOEX10T308R-M06, MP2501	03272866	XOMX180616TR-M14, MP2501
03272762	SNHQ120504TL4-M07, MP2501	03272656	SPEN1906ZETL-MD20, MP2501	03272849	XOEX120404R-M07, MP2501	03272867	XOMX180616TR-ME13, MP2501
03272763	SNHQ120504TR4-M07, MP2501	03272660	SPEN1906ZETR-D25, MP1501	03272825	XOEX120408R-M07, MP2501	03272868	XOMX180620TR-M14, MP2501
03272748	SNHQ120508TL4-M07, MP2501	03272663	SPEN1906ZETR-D25, MP2501	03272836	XOMX10T304TR-M09, MP1501	03272869	XOMX180620TR-ME13, MP2501
03272749	SNHQ120508TR4-M07, MP2501	03272657	SPEN1906ZETR-MD20, MP2501	03272843	XOMX10T304TR-M09, MP2501	03272877	XOMX180624TR-M14, MP2501
03272765	SNHQ120708TL4-M07, MP2501	03272661	SPEN1906ZZTR-D25, MP1501	03272841	XOMX10T304TR-ME07, MP1501	03272875	XOMX180631TR-D16, MP1501
03272764	SNHQ120708TR4-M07, MP2501	03272662	SPEN1906ZZTR-D25, MP2501	03272834	XOMX10T304TR-ME07, MP2501	03272870	XOMX180631TR-M14, MP2501
		03272658	SPEN1906ZZTR-MD20, MP2501	03272837	XOMX10T308TR-M09, MP1501	03272871	XOMX180631TR-ME13, MP2501
03272730	SNHX1106TN8-M11, MP2501	03272664	SPEN2807ZETR-D35, MP1501	03272844	XOMX10T308TR-M09, MP2501	03272878	XOMX180640TR-ME13, MP2501
03272731	SNHX1406TN8-M12, MP2501	03272659	SPER1906ZZTR-M17, MP2501	03272842	XOMX10T308TR-ME07, MP1501		
03272942	SNMU120408TN-M10, MP1501	03272905	XNEX040304TR-M08, MP1501	03272835	XOMX10T308TR-ME07, MP2501		
03272943	SNMU120408TN-M10, MP2501	03272902	XNEX040304TR-M08, MP2501	03272840	XOMX10T312TR-ME07, MP2501		
03272944	SNMU120408TN-MD13, MP1501	03272904	XNEX040308R-M06, MP2501	03272848	XOMX10T316TR-ME07, MP2501		
03272945	SNMU120408TN-MD13, MP2501	03272906	XNEX040308TR-M08, MP1501	03272845	XOMX10T320TR-ME07, MP2501		
03272946	SNMU120410TN-M10, MP1501	03272903	XNEX040308TR-M08, MP2501	03272847	XOMX10T324TR-ME07, MP2501		
03272947	SNMU120410TN-M10, MP2501	03272915	XNEX080604TR-ME09, MP2501	03272846	XOMX10T331TR-ME07, MP2501		
03272948	SNMU120410TN-MD13, MP1501	03272923	XNEX080608TL-M13, MP2501	03272857	XOMX120404TR-MD13, MP1501		
03272949	SNMU120410TN-MD13, MP2501	03272910	XNEX080608TR-M13, MP1501	03272850	XOMX120404TR-ME08, MP2501		
03272950	SNMU160610TN-M10, MP1501	03272909	XNEX080608TR-M13, MP2501	03272830	XOMX120408TR-D14, MP1501		
				03272828	XOMX120408TR-D14, MP2501		

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

DOUBLE TURBO 16 (METRIC)

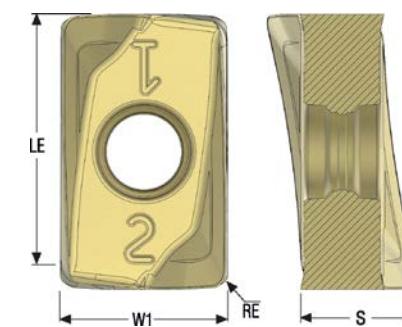
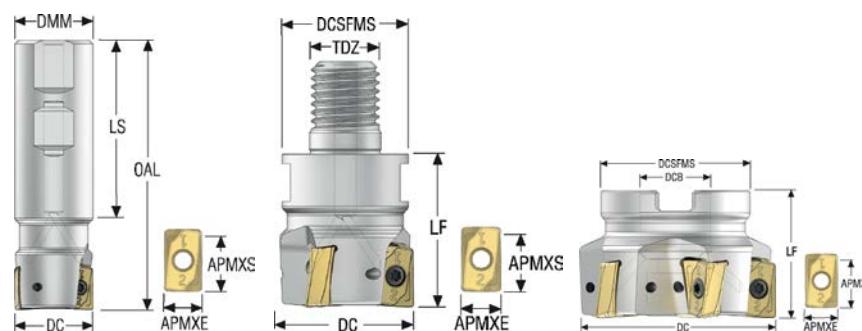


PRODUCT NUMBER	DESCRIPTION	MOUNTING TYPE	DIMENSIONS IN MM									NUMBER OF INSERTS	RPMX	INSERT
			APMXE	APMXS	DC	DCSFMS / DMM	TDZ	DCB	OAL / LF	LS				
03290222	R217.64-3232.3-Z016-2A	WELDON	5	15	32	32	-	-	110	73	2	11400	ZOMX16..	
03290223	R217.64-3240.3-Z016-3A	WELDON	5	15	40	32	-	-	110	73	3	11400	ZOMX16..	
03290224	R217.64-3240.3-Z016-4A	WELDON	5	15	40	32	-	-	110	73	4	11400	ZOMX16..	
03290227	R217.64-3232.0-Z016-2A	CYLINDRICAL	5	15	32	32	-	-	150	113	2	11400	ZOMX16..	
03290228	R217.64-3240.0-Z016-3A	CYLINDRICAL	5	15	40	32	-	-	150	113	3	11400	ZOMX16..	
03290229	R217.64-3240.0-Z016-4A	CYLINDRICAL	5	15	40	32	-	-	150	113	4	11400	ZOMX16..	
03290232	R217.64-1632.RE-Z016-2A	COMBIMASTER	5	15	32	30	M16	-	45	-	2	11400	ZOMX16..	
03290233	R217.64-2040.RE-Z016-3A	COMBIMASTER	5	15	40	37	M20	-	45	-	3	10000	ZOMX16..	
03290234	R217.64-2040.RE-Z016-4A	COMBIMASTER	5	15	40	37	M20	-	45	-	4	10000	ZOMX16..	
03290239	R220.64-0050-Z016-4A	ARBOR	5	15	50	47	-	22	40	-	4	9000	ZOMX16..	
03290240	R220.64-0050-Z016-5A	ARBOR	5	15	50	47	-	22	40	-	5	9000	ZOMX16..	
03290241	R220.64-0063-Z016-5A	ARBOR	5	15	63	47	-	22	40	-	5	8200	ZOMX16..	
03290242	R220.64-0063-Z016-6A	ARBOR	5	15	63	47	-	22	40	-	6	8200	ZOMX16..	
03290243	R220.64-0080-Z016-6A	ARBOR	5	15	80	62	-	27	50	-	6	7200	ZOMX16..	
03290244	R220.64-0080-Z016-8A	ARBOR	5	15	80	62	-	27	50	-	8	7200	ZOMX16..	
03290245	R220.64-0100-Z016-8A	ARBOR	5	15	100	77	-	32	50	-	8	6500	ZOMX16..	
03290246	R220.64-0100-Z016-10A	ARBOR	5	15	100	77	-	32	50	-	10	6500	ZOMX16..	
03290247	R220.64-0125-Z016-10A	ARBOR	5	15	125	90	-	40	50	-	10	5800	ZOMX16..	
03290248	R220.64-0125-Z016-12A	ARBOR	5	15	125	90	-	40	50	-	12	5800	ZOMX16..	

PRODUCT NUMBER	DESCRIPTION	GRADETYPE	DIMENSIONS IN MM			
			LE	RE	S	W1
03290934	ZOMX160708TR-M12, MP1501	CVD	15,5	0,8	7,38	10,76
03290933	ZOMX160708TR-M12, F40M	PVD	15,5	0,8	7,38	10,76
03290938	ZOMX160708TR-M12, MS2500	CVD	15,5	0,8	7,38	10,76
03290935	ZOMX160708TR-M12, MP2501	CVD	15,5	0,8	7,38	10,76
03290936	ZOMX160708TR-M12, MP3000	PVD	15,5	0,8	7,38	10,76
03290937	ZOMX160708TR-M12, MK2050	PVD	15,5	0,8	7,38	10,76
03290927	ZOMX160708TR-ME10, MP2501	CVD	15,5	0,8	7,38	10,76
03290928	ZOMX160708TR-ME10, MS2050	PVD	15,5	0,8	7,38	10,76
03290926	ZOMX160708TR-ME10, F40M	PVD	15,5	0,8	7,38	10,76
03290929	ZOMX160708TR-ME10, MS2500	CVD	15,5	0,8	7,38	10,76
03290941	ZOMX160716TR-M12, MP2501	CVD	15,5	1,6	7,26	10,76
03290940	ZOMX160716TR-M12, MP1501	CVD	15,5	1,6	7,26	10,76
03290942	ZOMX160716TR-M12, MP3000	PVD	15,5	1,6	7,26	10,76
03290943	ZOMX160716TR-M12, MK2050	PVD	15,5	1,6	7,26	10,76
03290939	ZOMX160716TR-M12, F40M	PVD	15,5	1,6	7,26	10,76
03290931	ZOMX160716TR-ME10, MP2501	CVD	15,5	1,6	7,26	10,76
03290932	ZOMX160716TR-ME10, MS2050	PVD	15,5	1,6	7,26	10,76
03290930	ZOMX160716TR-ME10, F40M	PVD	15,5	1,6	7,26	10,76

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

DOUBLE TURBO 16 (INCH)

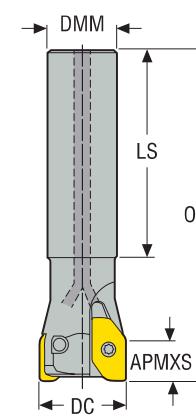
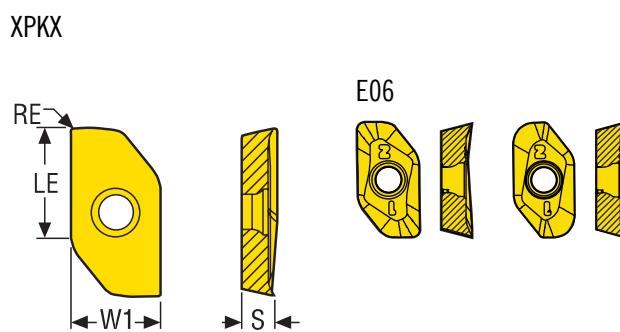


PRODUCT NUMBER	DESCRIPTION	MOUNTING TYPE	DIMENSIONS IN INCH							NUMBER OF INSERTS	RPMX	INSERT	
			APMXE	APMXS	DC	DCCSFMS / DMM	TDZ	DCB	OAL / LF	LS			
03290225	R217.64-01.25-3-Z016-2A	WELDON	0.2	0.59	1.25	1.25	-	-	4.33	2.87	2	11400	ZOMX16..
03290226	R217.64-01.50-3-Z016-3A	WELDON	0.2	0.59	1.50	1.25	-	-	4.33	2.87	3	11400	ZOMX16..
03290230	R217.64-01.25-0-Z016-2A	CYLINDRICAL	0.2	0.59	1.25	1.25	-	-	7.67	4.45	2	11400	ZOMX16..
03290231	R217.64-01.50-0-Z016-3A	CYLINDRICAL	0.2	0.59	1.50	1.25	-	-	7.67	4.45	3	11400	ZOMX16..
03290235	R217.64-01.25-16RE-Z016-2A	COMBIMASTER	0.2	0.59	1.25	1.18	M16	-	1.77	-	2	11400	ZOMX16..
03290236	R217.64-01.50-20RE-Z016-3A	COMBIMASTER	0.2	0.59	1.50	1.45	M20	-	1.77	-	3	10000	ZOMX16..
03290250	R220.64-02.00-Z016-4A	ARBOR	0.2	0.59	2.00	1.85	-	0.75	1.57	-	4	9000	ZOMX16..
03290251	R220.64-02.00-Z016-5A	ARBOR	0.2	0.59	2.00	1.85	-	0.75	1.57	-	5	9000	ZOMX16..
03290252	R220.64-02.50-Z016-5A	ARBOR	0.2	0.59	2.50	1.85	-	0.75	1.57	-	5	8200	ZOMX16..
03290253	R220.64-02.50-Z016-6A	ARBOR	0.2	0.59	2.50	1.85	-	0.75	1.57	-	6	8200	ZOMX16..
03290254	R220.64-03.00-Z016-6A	ARBOR	0.2	0.59	3.00	2.44	-	1	1.97	-	6	7200	ZOMX16..
03290255	R220.64-03.00-Z016-8A	ARBOR	0.2	0.59	3.00	2.44	-	1	1.97	-	8	7200	ZOMX16..
03290256	R220.64-04.00-Z016-8A	ARBOR	0.2	0.59	4.00	3.03	-	1.5	1.97	-	8	6500	ZOMX16..
03290257	R220.64-04.00-Z016-10A	ARBOR	0.2	0.59	4.00	3.03	-	1.5	1.97	-	10	6500	ZOMX16..
03290258	R220.64-05.00-Z016-10A	ARBOR	0.2	0.59	5.00	3.54	-	1.5	1.97	-	10	5800	ZOMX16..
03290259	R220.64-05.00-Z016-12A	ARBOR	0.2	0.59	5.00	3.54	-	1.5	1.97	-	12	5800	ZOMX16..

PRODUCT NUMBER	DESCRIPTION	GRADETYPE	DIMENSIONS IN INCH			
			LE	RE	S	W1
03290934	ZOMX160708TR-M12, MP1501	CVD	0.610	0.031	0.291	0.424
03290933	ZOMX160708TR-M12, F40M	PVD	0.610	0.031	0.291	0.424
03290938	ZOMX160708TR-M12, MS2500	CVD	0.610	0.031	0.291	0.424
03290935	ZOMX160708TR-M12, MP2501	CVD	0.610	0.031	0.291	0.424
03290936	ZOMX160708TR-M12, MP3000	PVD	0.610	0.031	0.291	0.424
03290937	ZOMX160708TR-M12, MK2050	PVD	0.610	0.031	0.291	0.424
03290927	ZOMX160708TR-ME10, MP2501	CVD	0.610	0.031	0.291	0.424
03290928	ZOMX160708TR-ME10, MS2050	PVD	0.610	0.031	0.291	0.424
03290926	ZOMX160708TR-ME10, F40M	PVD	0.610	0.031	0.291	0.424
03290929	ZOMX160708TR-ME10, MS2500	CVD	0.610	0.031	0.291	0.424
03290941	ZOMX160716TR-M12, MP2501	CVD	0.610	0.063	0.286	0.424
03290940	ZOMX160716TR-M12, MP1501	CVD	0.610	0.063	0.286	0.424
03290942	ZOMX160716TR-M12, MP3000	PVD	0.610	0.063	0.286	0.424
03290943	ZOMX160716TR-M12, MK2050	PVD	0.610	0.063	0.286	0.424
03290939	ZOMX160716TR-M12, F40M	PVD	0.610	0.063	0.286	0.424
03290931	ZOMX160716TR-ME10, MP2501	CVD	0.610	0.063	0.286	0.424
03290932	ZOMX160716TR-ME10, MS2050	PVD	0.610	0.063	0.286	0.424
03290930	ZOMX160716TR-ME10, F40M	PVD	0.610	0.063	0.286	0.424

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

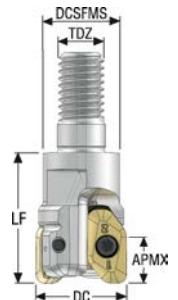
XP08 - COPY MILLING CUTTERS INSERTS



DESIGNATION	W1	LE	BS	RE	Cutting rate	GRADES																	
						Coated										Uncoated							
						MP1501	MP2050	MP2501	MP3000	MH1000	MN4500	MN1500	MN2050	MS2050	MS2500	T25M	T35M	F15M	F25M	F30M	F40M	HX	H15
XPXK080304PDER-E06	7,0	8,0	1,3	0,4	25,0°																		
XPXK080308PDER-E06	7,0	8,0	1,3	0,8	25,0°																		
XPXK080316PDER-E06	7,0	8,0	1,2	1,6	25,0°																		
XPXK080320PDER-E06	7,0	8,0	1,3	2,0	25,0°																		
XPXK080324PDER-E06	7,0	8,0	1,2	2,4	25,0°																		
XPXK080331PDER-E06	7,0	8,0	0,5	3,1	25,0°																		

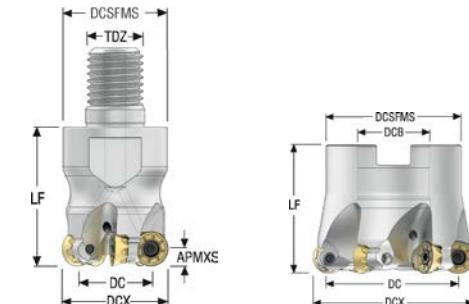
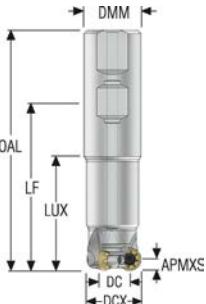
XP08 - COPY MILLING CUTTERS

DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN MM (INCH)					RMPX°	C min	C max		0.2	0.44	40000	XP..08..
		APMXS	DC	DMM	OAL	LS								
R217.97-1616.0-X08.2A	Cylindrical	8,0 0.31	16,0 0.62	16,0 0.62	100 3.94	67 2.64	11,0 11,2	26,4 1,03	30 1,17	2	0,2 0,44	40000	XP..08..	
R217.97-0.62-0-X08.2A	Cylindrical	8,0 0.31	20,0 0.75	20,0 0.75	120 4.72	79 3.11	7,2 7,8	34,4 1,28	38 1,42	2	0,3 0,66	40000	XP..08..	
R217.97-2020.0-X08.2A	Cylindrical	8,0 0.31	25,0 1,00	25,0 1,00	150 5.91	99 3.90	5,0 4,9	44,4 1,78	48 1,92	3	0,6 1,32	40000	XP..08..	
R217.97-0.75-0-X08.2A	Cylindrical	8,0 0.31	25,0 1,00	25,0 1,00	150 5.91	99 3.90	5,0 4,9	44,4 1,78	48 1,92	3	0,6 1,32	40000	XP..08..	
R217.97-2525.0-X08.3A	Cylindrical	8,0 0.31	25,0 1,00	25,0 1,00	150 5.91	99 3.90	5,0 4,9	44,4 1,78	48 1,92	3	0,6 1,32	40000	XP..08..	
R217.97-1.00-0-X08.2A	Cylindrical	8,0 0.31	25,0 1,00	25,0 1,00	150 5.91	99 3.90	5,0 4,9	44,4 1,78	48 1,92	3	0,6 1,32	40000	XP..08..	



DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN MM (INCH)					RMPX°	C min	C max		0.1	0.22	40000	XP..08..
		APMXS	DC	DCSFMS	TDZ	LF								
R217.97-0816.RE-X08.2A	CombiMaster	8,0 0.31	16,0 0.62	13,5 0.53	M8	23,0 0.91	11,0	26,4 1,03	30 1,17	2	0,1 0,22	40000	XP..08..	
R217.97-0.62-08RE-X08.2A	CombiMaster	8,0 0.31	20,0 0.75	18,5 0.73	M10	28,0 1.10	7,2	34,4 1,28	38 1,42	2	0,1 0,22	40000	XP..08..	
R217.97-1020.RE-X08.2A	CombiMaster	8,0 0.31	20,0 0.75	18,5 0.73	M10	28,0 1.10	7,2	34,4 1,28	38 1,42	2	0,1 0,22	40000	XP..08..	
R217.97-1020.RE-X08.3A	CombiMaster	8,0	20,0	18,5	M10	28,0	7,2	34,4	38	3	0,1	40000	XP..08..	
R217.97-1225.RE-X08.3A	CombiMaster	8,0 0.31	25,0 1.00	23,0 0.91	M12	30,0 1.18	5,0	44,4 1,78	48 1,92	3	0,1 0,22	40000	XP..08..	
R217.97-1225.RE-X08.4A	CombiMaster	8,0	25,0	23,0	M12	30,0	5,0	44,4	48	4	0,1	40000	XP..08..	

ROUND COPY MILLING CUTTERS 10



DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN MM									C min	C max				INSERT
		APMXS	DCX	DC	DMM	OAL	LUX	LPR	LF	RMPX°						
R217.29I-2016.0-05.1.100A	Cylindrical	5,0	16,0	5,9	20,0	150,0	60,0	100,0	-	6,9	21,8	30	1	0,3	29900	RD..10T3..
R217.29I-1620.0-05.2.112E	Cylindrical	5,0	20,0	10,0	16,0	160,0	112,0	112,0	-	90,0	30,0	38	2	0,5	27400	RD..10T3..
R217.29I-2520.3-05.2.070A	Weldon	5,0	20,0	10,0	25,0	125,5	70,0	70,0	94,0	90,0	30,0	38	2	0,4	27400	RD..10T3..
R217.29I-2025.0-05.2.120A	Cylindrical	5,0	25,0	15,0	20,0	170,0	120,0	120,0	-	14,5	40,0	48	2	0,4	24400	RD..10T3..
R217.29I-2525.3-05.3.050A	Weldon	5,0	25,0	15,0	25,0	105,5	50,0	50,0	74,0	14,4	40,0	48	3	0,4	24400	RD..10T3..
R217.29I-2525.0-05.3.124A	Cylindrical	5,0	25,0	15,0	25,0	180,0	124,0	124,0	-	13,8	40,0	48	3	0,7	24400	RD..10T3..
R217.29I-2527.0-05.3.124A	Cylindrical	5,0	27,0	17,0	25,0	180,0	124,0	124,0	-	11,6	44,4	52	3	0,7	24400	RD..10T3..
R217.29I-3232.3-05.4.060A	Weldon	5,0	32,0	22,0	32,0	119,5	60,0	60,0	84,0	8,7	54,0	62	4	0,7	21600	RD..10T3..

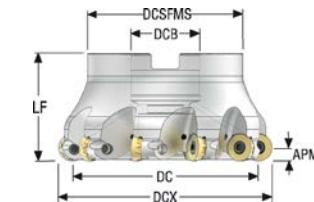
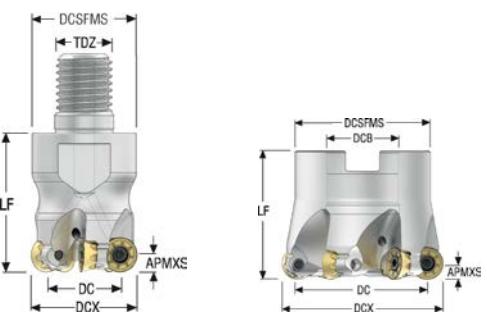
ROUND COPY MILLING CUTTERS 10 (INCH)

DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN INCH										PRODUCT NUMBER	
		APMXS	DCX	DC	DCSFMS	DCB	TDZ	LF					
R217.29I-1.00-12RE-05.3A	Combimaster	0.197	1.00	0.61	0.91	-	M12	1.18	13,3	3	0.22	24400	RD..10T3
R217.29I-1.25-16RE-05.4A	Combimaster	0.197	1.25	0.86	1.18	-	M16	1.57	8,9	4	0.44	21600	RD..10T3
R217.29I-1.50-16RE-05.5A	Combimaster	0.197	1.50	1.11	1.18	-	M16	1.57	6,0	5	0.66	19300	RD..10T3
R220.29I-01.50-05.5A	Arbor	0.197	1.50	1.11	1.34	12,7	-	1.50	6,5	5	0.44	14000	RD..10T3
R220.29I-02.00-05.6A	Arbor	0.197	2.00	1.61	1.61	19,05	-	1.50	4,2	6	0.66	12500	RD..10T3

DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN MM							C min	C max					
		APMXS	DCX	DC	DCSFMS	DCB	TDZ	LF							
R217.29I-1020.RE-05.2A	Combimaster	5,0	20,0	10,0	18,5	-	M10	28,0	90,0	30,0	38,0	2	0,1	27400	RD..10T3..
R217.29I-1225.RE-05.3A	Combimaster	5,0	25,0	15,0	23,0	-	M12	30,0	13,8	40,0	48,0	3	0,1	24400	RD..10T3..
R217.29I-1232.RE-05.4A	Combimaster	5,0	32,0	22,0	23,0	-	M12	30,0	8,0	54,0	62,0	4	0,1	21600	RD..10T3..
R217.29I-1632.RE-05.4A	Combimaster	5,0	32,0	22,0	30,0	-	M16	40,0	8,8	54,0	62,0	4	0,2	21600	RD..10T3..
R217.29I-1632.RE-05.5A	Combimaster	5,0	32,0	22,2	30,0	-	M16	40,0	4,1	54,4	62,0	5	0,2	21600	RD..10T3..
R217.29I-1635.RE-05.5A	Combimaster	5,0	35,0	25,1	30,0	-	M16	40,0	7,5	60,2	68,0	5	0,2	15600	RD..10T3..
R220.29I-0040-05.5A	Arbor	5,0	40,0	30,0	33,0	16,0	-	40,0	7,3	70,0	78,0	5	0,2	19300	RD..10T3..
R217.29I-1640.RE-05.4A	Combimaster	5,0	40,0	30,0	30,0	-	M16	40,0	5,5	70,0	78,0	4	0,3	19300	RD..10T3..
R217.29I-1640.RE-05.5A	Combimaster	5,0	40,0	30,0	30,0	-	M16	40,0	5,5	70,0	78,0	5	0,3	19300	RD..10T3..
R217.29I-1642.RE-05.5A	Combimaster	5,0	42,0	32,0	30,0	-	M16	40,0	5,6	74,0	82,0	5	0,3	18800	RD..10T3..
R217.29I-2040.RE-05.6A	Combimaster	5,0	40,0	30,2	36,5	-	M20	40,0	5,9	70,4	78,0	6	0,3	19300	RD..10T3..
R217.29I-1642.RE-05.6A	Combimaster	5,0	42,0	32,0	30,0	-	M16	40,0	6,0	74,0	82,0	6	0,3	18800	RD..10T3..
R217.29I-2042.RE-05.6A	Combimaster	5,0	42,0	32,2	36,5	-	M20	40,0	5,5	74,4	82,0	6	0,3	18800	RD..10T3..
R220.29I-0050-05.4A	Arbor	5,0	50,0	40,0	41,0	22,0	-	40,0	4,3	90,0	98,0	4	0,3	17300	RD..10T3..
R220.29I-0050-05.6A	Arbor	5,0	50,0	40,0	41,0	22,0	-	40,0	4,3	90,0	98,0	6	0,3	17300	RD..10T3..
R220.29I-0052-05.7A	Arbor	5,0	52,0	42,1	41,0	22,0	-	40,0	4,3	94,2	102,0	7	0,3	17000	RD..10T3..
R220.29I-0063-05.6A	Arbor	5,0	63,0	53,0	49,0	22,0	-	40,0	3,1	116,0	124,0	6	0,5	15800	RD..10T3..
R220.29I-0063-05.8A	Arbor	5,0	63,0	53,0	49,0	22,0	-	40,0	3,9	116,0	124,0	8	0,5	15800	RD..10T3..

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

ROUND COPY MILLING CUTTERS 16



DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN MM						RMPX°	DC	KG	12200	APMXS
		APMXS	DCX	DC	DCSFMS	TDZ / DCB	LF					
R217.29I-1632.RE-08.2A	Combimaster	8,0	32,0	15,9	30,0	M16	40,0	17,8	2	0,2	12200	RP.1605
R217.29I-1640.RE-08.3A	Combimaster	8,0	40,0	24,2	30,0	M16	40,0	2,4	3	0,2	10900	RP.1605
R217.29I-2040.RE-08.3A	Combimaster	8,0	40,0	24,2	36,5	M20	40,0	2,4	3	0,3	10900	RP.1605
R220.29I-0050-08.4A	Arbor	8,0	50,0	34,2	41,0	22,0	50,0	4,8	4	0,4	9700	RP.1605
R220.29I-0052-08.4A	Arbor	8,0	52,0	36,2	41,0	22,0	50,0	5,7	4	0,4	9600	RP.1605
R220.29I-0063-08.4A	Arbor	8,0	63,0	47,1	49,0	22,0	50,0	7,5	4	0,6	8700	RP.1605
R220.29I-0063-08.5A	Arbor	8,0	63,0	47,1	49,0	22,0	50,0	7,1	5	0,6	8700	RP.1605
R220.29I-0063-08.6A	Arbor	8,0	63,0	47,1	49,0	22,0	50,0	7,1	6	0,6	8700	RP.1605
R220.29I-0066-08.5A	Arbor	8,0	66,0	50,1	61,0	27,0	50,0	6,9	5	0,7	8400	RP.1605
R220.29I-0066-08.6A	Arbor	8,0	66,0	50,0	61,0	27,0	50,0	6,7	6	0,7	8400	RP.1605
R220.29I-0080-08.5A	Arbor	8,0	80,0	64,1	61,0	27,0	50,0	5,0	5	1,0	7700	RP.1605
R220.29I-0080-08.7A	Arbor	8,0	80,0	64,1	61,0	27,0	50,0	5,0	7	0,9	7700	RP.1605
R220.29I-0084-08.5A	Arbor	8,0	84,0	68,1	79,0	32,0	50,0	4,6	5	1,2	7500	RP.1605
R220.29I-0100-08.8A	Arbor	8,0	100,0	84,1	79,0	32,0	50,0	3,7	8	1,6	6800	RP.1605
R220.29I-0125-08.10A	Arbor	8,0	125,0	109,1	90,0	40,0	63,0	2,8	10	2,9	6100	RP.1605
R220.29I-8160-08.10A	Arbor	8,0	160,0	144,1	90,0	40,0	63,0	2,1	10	4,1	5400	RP.1605

DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN MM						RMPX°	DC	KG	6800	APMXS
		APMXS	DCX	DC	DCSFMS	DCB	LF					
R220.29I-0100.08-6MA	Arbor	8,0	100,0	84,1	79,0	32,0	50,0	3,8	6	2,8	6100	RP.1605..
R220.29I-0125.08-6MA	Arbor	8,0	125,0	109,1	90,0	40,0	63,0	2,8	6	2,8	6100	RP.1605..
R220.29I-8160.08-7MA	Arbor	8,0	160,0	143,1	90,0	40,0	63,0	2,2	7	4,2	5400	RP.1605..

ROUND COPY MILLING CUTTERS 16 (INCH)

DESIGNATION	TYPE OF MOUNTING	DIMENSIONS IN INCH						RMPX°	DC	KG	9600	APMXS
		APMXS	DCX	DC	DCSFMS	DCB	LF					
R220.29I-02.00-08.4A	Arbor	0.315	2.00	1.38	1.61	0.75	2.00	2,7	4	0.88	9600	RP.1605..
R220.29I-02.50-08.5A	Arbor	0.315	2.50	1.88	1.81	0.75	2.00	7,0	5	1.32	8700	RP.1605..
R220.29I-03.00-08.6A	Arbor	0.315	3.00	2.38	2.40	1.00	2.00	5,3	6	1.98	7700	RP.1605..
R220.29I-04.00-08.7A	Arbor	0.315	4.00	3.38	3.50	1.50	2.50	3,6	7	5.07	6800	RP.1605..

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

ROUND COPY MILLING CUTTERS 10 INSERTS

DESIGNATION	INSD	S	Cutting rake	GRADES																
				MP1501	MP2050	MP2501	MP3000	MH1000	MN4500	MK1500	MK2050	MS2050	MS2500	T25M	T350W	F15M	F25M	F30M	F40M	HX
RDHT10T3M0-8-E04	10,0	3,97	20,0°												■			■		
RDHT10T3MOT-8-M05	10,0	3,97	16,0°	■		■		■	■	■	■				■					
RDKT10T3MOT-6-M05	10,0	3,97	16,0°		■			■	■						■					
RDHT10T3MOT-8-M11	10,0	3,97	16,0°	■				■							■					
RDKT10T3MOT-8-M07	10,0	3,97	11,0°		■		■	■	■	■	■	■			■					
RDHW10T3M0-8-MD04	10,0	3,97	0,0°		■										■					
RDHW10T3MOT-8-MD06	10,0	3,97	0,0°			■														
RDKW10T3MOT-6-MD06	10,0	3,97	0,0°				■	■	■		■	■	■	■	■	■	■	■	■	
RDKW10T3MOT-8-MD06	10,0	3,97	0,0°	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	

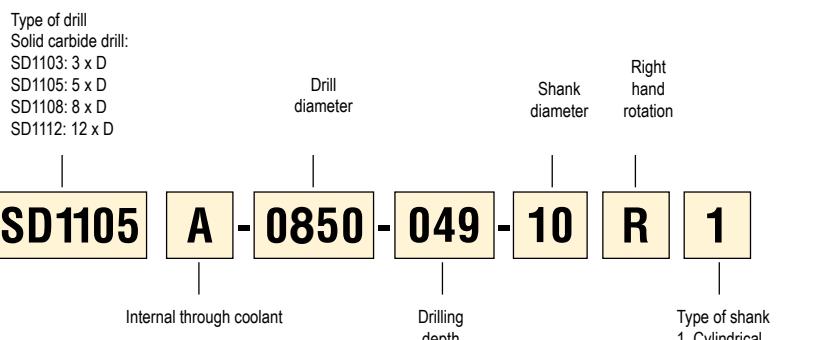
DESIGNATION	INSD	S	Cutting rake	GRADES																
				MP1501	MP2050	MP2501	MP3000	MH1000	MN4500	MK1500	MK2050	MS2050	MS2500	T25M	T350W	F15M	F25M	F30M	F40M	HX
RPHT1605MOT-6-ME11	16,0	5,56	21,0°												■					■
RPHT1605MOT-8-ME11	16,0	5,56	21,0°	■				■	■	■	■	■	■	■	■	■	■	■	■	
RPHT1605MOT-6-M12	16,0	5,56	15,0°																	■
RPHT1605MOT-8-M12	16,0	5,56	15,0°	■				■	■	■	■	■	■	■	■	■	■	■	■	
RPKT1605MOT-6-M18	16,0	5,56	15,0°					■								■				■
RPKT1605MOT-8-M18	16,0	5,56	15,0°	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
RPKW1605MOT-6-MD20	16,0	5,56	0,0°					■	■	■	■	■	■	■	■	■	■	■	■	
RPKW1605MOT-8-MD20	16,0	5,56	21,0°	■	■											■			■	

Please check availability in current price and stock list.
For more information please visit My Pages on secotools.com.

ROUND COPY MILLING CUTTERS 16 INSERTS

UNIVERSAL DRILLS

Code key Seco Universal



ITEM NUMBER	DESIGNATION
02898974	SD1103-0300-014-06R1
02898975	SD1103-0310-014-06R1
02898976	SD1103-0318-014-06R1
02898977	SD1103-0320-014-06R1
02898978	SD1103-0325-014-06R1
02898979	SD1103-0330-014-06R1
02898980	SD1103-0340-014-06R1
02898981	SD1103-0350-014-06R1
02898982	SD1103-0357-014-06R1
02898983	SD1103-0360-014-06R1
02898984	SD1103-0365-014-06R1
02898985	SD1103-0370-014-06R1
02898986	SD1103-0380-017-06R1
02898987	SD1103-0390-017-06R1
02898988	SD1103-0397-017-06R1
02898989	SD1103-0400-017-06R1
02898990	SD1103-0410-017-06R1
02898991	SD1103-0420-017-06R1
02898992	SD1103-0430-017-06R1
02898993	SD1103-0437-017-06R1
02898994	SD1103-0440-017-06R1
02898995	SD1103-0450-017-06R1
02898996	SD1103-0460-017-06R1
02898997	SD1103-0465-017-06R1
02898998	SD1103-0470-017-06R1
02898999	SD1103-0476-020-06R1
02899000	SD1103-0480-020-06R1
02899001	SD1103-0490-020-06R1
02899002	SD1103-0500-020-06R1
02899003	SD1103-0510-020-06R1
02899004	SD1103-0516-020-06R1

ITEM NUMBER	DESIGNATION
02899005	SD1103-0520-020-06R1
02899006	SD1103-0530-020-06R1
02899007	SD1103-0540-020-06R1
02899008	SD1103-0550-020-06R1
02899009	SD1103-0555-020-06R1
02899010	SD1103-0556-020-06R1
02899011	SD1103-0560-020-06R1
02899012	SD1103-0570-020-06R1
02899013	SD1103-0580-020-06R1
02899014	SD1103-0590-020-06R1
02899015	SD1103-0595-020-06R1
02899016	SD1103-0600-020-06R1
02899017	SD1103-0610-024-08R1
02899018	SD1103-0620-024-08R1
02899019	SD1103-0630-024-08R1
02899020	SD1103-0635-024-08R1
02899021	SD1103-0640-024-08R1
02899022	SD1103-0650-024-08R1
02899024	SD1103-0660-024-08R1
02899025	SD1103-0675-024-08R1
02899026	SD1103-0680-024-08R1
02899027	SD1103-0690-024-08R1
02899028	SD1103-0700-024-08R1
02899029	SD1103-0710-029-08R1
02899030	SD1103-0714-029-08R1
02899031	SD1103-0720-029-08R1
02899032	SD1103-0730-029-08R1
02899033	SD1103-0740-029-08R1
02899034	SD1103-0750-029-08R1
02899035	SD1103-0754-029-08R1
02899036	SD1103-0755-029-08R1

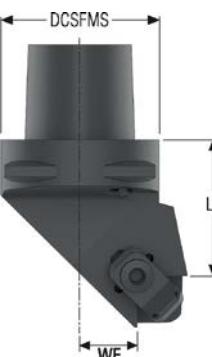
ITEM NUMBER	DESIGNATION	ITEM NUMBER	DESIGNATION	ITEM NUMBER	DESIGNATION
02899070	SD1103-1000-035-10R1	02899113	SD1103-1380-043-14R1	02898260	SD1103A-0410-017-06R1
02899071	SD1103-1020-040-12R1	02899114	SD1103-1390-043-14R1	02898261	SD1103A-0420-017-06R1
02899072	SD1103-1032-040-12R1	02899115	SD1103-1400-043-14R1	02898262	SD1103A-0430-017-06R1
02899073	SD1103-1040-040-12R1	02899116	SD1103-1420-045-16R1	02898263	SD1103A-0437-017-06R1
02899074	SD1103-1050-040-12R1	02899117	SD1103-1429-045-16R1	02898264	SD1103A-0450-017-06R1
02899075	SD1103-1060-040-12R1	02899119	SD1103-1450-045-16R1	02898265	SD1103A-0460-017-06R1
02899076	SD1103-1072-040-12R1	02899120	SD1103-1470-045-16R1	02898266	SD1103A-0465-017-06R1
02899077	SD1103-1080-040-12R1	02899121	SD1103-1475-045-16R1	02898267	SD1103A-0470-017-06R1
02899078	SD1103-1090-040-12R1	02899122	SD1103-1480-045-16R1	02898268	SD1103A-0476-020-06R1
02899079	SD1103-1100-040-12R1	02899123	SD1103-1500-045-16R1	02898269	SD1103A-0480-020-06R1
02899080	SD1103-1110-040-12R1	02899124	SD1103-1510-045-16R1	02898270	SD1103A-0490-020-06R1
02899081	SD1103-1111-040-12R1	02899125	SD1103-1530-045-16R1	02898271	SD1103A-0500-020-06R1
02899082	SD1103-1120-040-12R1	02899126	SD1103-1550-045-16R1	02898272	SD1103A-0510-020-06R1
02899083	SD1103-1130-040-12R1	02899127	SD1103-1570-045-16R1	02898273	SD1103A-0516-020-06R1
02899084	SD1103-1140-040-12R1	02899128	SD1103-1580-045-16R1	02898275	SD1103A-0520-020-06R1
02899085	SD1103-1150-040-12R1	02899129	SD1103-1588-045-16R1	02898276	SD1103A-0530-020-06R1
02899086	SD1103-1151-040-12R1	02899130	SD1103-1600-045-16R1	02898277	SD1103A-0540-020-06R1
02899087	SD1103-1155-040-12R1	02899131	SD1103-1650-051-18R1	02898278	SD1103A-0550-020-06R1
02899088	SD1103-1160-040-12R1	02899132	SD1103-1700-051-18R1	02898279	SD1103A-0555-020-06R1
02899089	SD1103-1170-040-12R1	02899133	SD1103-1750-051-18R1	02898280	SD1103A-0556-020-06R1
02899090	SD1103-1180-040-12R1	02899134	SD1103-1800-051-18R1	02898281	SD1103A-0560-020-06R1
02899091	SD1103-1190-040-12R1	02899135	SD1103-1850-055-20R1	02898282	SD1103A-0570-020-06R1
02899092	SD1103-1191-040-12R1	02899136	SD1103-1900-055-20R1	02898283	SD1103A-0580-020-06R1
02899093	SD1103-1200-040-12R1	02899137	SD1103-1905-055-20R1	02898284	SD1103A-0590-020-06R1
02899094	SD1103-1210-043-14R1	02899138	SD1103-1950-055-20R1	02898285	SD1103A-0595-020-06R1
02899095	SD1103-1220-043-14R1	02899139	SD1103-2000-055-20R1	02898286	SD1103A-0600-020-06R1
02899096	SD1103-1230-043-14R1			02898287	SD1103A-0610-024-08R1
02899097	SD1103-1240-043-14R1	02898244	SD1103A-0300-014-06R1	02898288	SD1103A-0620-024-08R1
02899098	SD1103-1250-043-14R1	02898245	SD1103A-0310-014-06R1	02898289	SD1103A-0630-024-08R1
02899099	SD1103-1260-043-14R1	02898246	SD1103A-0318-014-06R1	02898290	SD1103A-0635-024-08R1
02899100	SD1103-1270-043-14R1	02898247	SD1103A-0320-014-06R1	02898291	SD1103A-0640-024-08R1
02899101	SD1103-1275-043-14R1	02898248	SD1103A-0325-014-06R1	02898292	SD1103A-0650-024-08R1
02899102	SD1103-1280-043-14R1	02898249	SD1103A-0330-014-06R1	02898293	SD1103A-0660-024-08R1
02899103	SD1103-1290-043-14R1	02898250	SD1103A-0340-014-06R1	02898294	SD1103A-0670-024-08R1
02899104	SD1103-1300-043-14R1	02898251	SD1103A-0350-014-06R1	02898295	SD1103A-0675-024-08R1
02899105	SD1103-1310-043-14R1	02898252	SD1103A-0357-014-06R1	02898296	SD1103A-0680-024-08R1
02899106	SD1103-1320-043-14R1	02898			

ITEM NUMBER	DESIGNATION										
02898304	SD1103A-0750-029-08R1	02898347	SD1103A-1100-040-12R1	02898390	SD1103A-1500-045-16R1	02897870	SD1105A-0476-035-06R1	02897913	SD1105A-0800-043-08R1	02897957	SD1105A-1140-056-12R1
02898305	SD1103A-0754-029-08R1	02898348	SD1103A-1110-040-12R1	02898391	SD1103A-1510-045-16R1	02897871	SD1105A-0480-035-06R1	02897914	SD1105A-0810-049-10R1	02897958	SD1105A-1150-056-12R1
02898306	SD1103A-0755-029-08R1	02898349	SD1103A-1111-040-12R1	02898392	SD1103A-1530-045-16R1	02897872	SD1105A-0490-035-06R1	02897915	SD1105A-0820-049-10R1	02897959	SD1105A-1151-056-12R1
02898307	SD1103A-0760-029-08R1	02898350	SD1103A-1120-040-12R1	02898393	SD1103A-1550-045-16R1	02897873	SD1105A-0500-035-06R1	02897916	SD1105A-0830-049-10R1	02897960	SD1105A-1155-056-12R1
02898308	SD1103A-0770-029-08R1	02898351	SD1103A-1130-040-12R1	02898394	SD1103A-1570-045-16R1	02897874	SD1105A-0510-035-06R1	02897917	SD1105A-0833-049-10R1	02897961	SD1105A-1160-056-12R1
02898309	SD1103A-0780-029-08R1	02898352	SD1103A-1140-040-12R1	02898395	SD1103A-1580-045-16R1	02897875	SD1105A-0516-035-06R1	02897918	SD1105A-0840-049-10R1	02897962	SD1105A-1170-056-12R1
02898310	SD1103A-0790-029-08R1	02898353	SD1103A-1150-040-12R1	02898396	SD1103A-1588-045-16R1	02897876	SD1105A-0520-035-06R1	02897919	SD1105A-0850-049-10R1	02897963	SD1105A-1180-056-12R1
02898311	SD1103A-0794-029-08R1	02898354	SD1103A-1151-040-12R1	02898397	SD1103A-1600-045-16R1	02897877	SD1105A-0530-035-06R1	02897920	SD1105A-0860-049-10R1	02897964	SD1105A-1190-056-12R1
02898312	SD1103A-0800-029-08R1	02898355	SD1103A-1155-040-12R1	02898398	SD1103A-1650-051-18R1	02897878	SD1105A-0540-035-06R1	02897921	SD1105A-0870-049-10R1	02897965	SD1105A-1191-056-12R1
02898313	SD1103A-0810-035-10R1	02898356	SD1103A-1160-040-12R1	02898399	SD1103A-1700-051-18R1	02897879	SD1105A-0550-035-06R1	02897922	SD1105A-0873-049-10R1	02897966	SD1105A-1200-056-12R1
02898314	SD1103A-0820-035-10R1	02898357	SD1103A-1170-040-12R1	02898400	SD1103A-1750-051-18R1	02897880	SD1105A-0555-035-06R1	02897923	SD1105A-0880-049-10R1	02897967	SD1105A-1210-060-14R1
02898315	SD1103A-0830-035-10R1	02898358	SD1103A-1180-040-12R1	02898401	SD1103A-1800-051-18R1	02897881	SD1105A-0556-035-06R1	02897924	SD1105A-0890-049-10R1	02897968	SD1105A-1220-060-14R1
02898316	SD1103A-0833-035-10R1	02898359	SD1103A-1190-040-12R1	02898402	SD1103A-1850-055-20R1	02897882	SD1105A-0560-035-06R1	02897925	SD1105A-0900-049-10R1	02897969	SD1105A-1225-060-14R1
02898317	SD1103A-0840-035-10R1	02898360	SD1103A-1191-040-12R1	02898403	SD1103A-1900-055-20R1	02897883	SD1105A-0570-035-06R1	02897926	SD1105A-0910-049-10R1	02897970	SD1105A-1230-060-14R1
02898318	SD1103A-0850-035-10R1	02898361	SD1103A-1200-040-12R1	02898404	SD1103A-1905-055-20R1	02897884	SD1105A-0580-035-06R1	02897927	SD1105A-0913-049-10R1	02897972	SD1105A-1240-060-14R1
02898319	SD1103A-0860-035-10R1	02898362	SD1103A-1210-043-14R1	02898405	SD1103A-1950-055-20R1	02897885	SD1105A-0590-035-06R1	02897928	SD1105A-0920-049-10R1	02897973	SD1105A-1250-060-14R1
02898320	SD1103A-0870-035-10R1	02898363	SD1103A-1220-043-14R1	02898406	SD1103A-2000-055-20R1	02897886	SD1105A-0595-035-06R1	02897929	SD1105A-0930-049-10R1	02897974	SD1105A-1260-060-14R1
02898321	SD1103A-0873-035-10R1	02898364	SD1103A-1230-043-14R1			02897887	SD1105A-0600-035-06R1	02897930	SD1105A-0940-049-10R1	02897950	SD1105A-1270-060-14R1
02898322	SD1103A-0880-035-10R1	02898365	SD1103A-1240-043-14R1	02897845	SD1105A-0300-023-06R1	02897888	SD1105A-0610-043-08R1	02897931	SD1105A-0950-049-10R1	02897976	SD1105A-1275-060-14R1
02898323	SD1103A-0890-035-10R1	02898366	SD1103A-1250-043-14R1	02897846	SD1105A-0310-023-06R1	02897889	SD1105A-0620-043-08R1	02897932	SD1105A-0953-049-10R1	02897977	SD1105A-1280-060-14R1
02898324	SD1103A-0900-035-10R1	02898367	SD1103A-1260-043-14R1	02897847	SD1105A-0318-023-06R1	02897890	SD1105A-0630-043-08R1	02897933	SD1105A-0955-049-10R1	02897978	SD1105A-1290-060-14R1
02898325	SD1103A-0910-035-10R1	02898368	SD1103A-1270-043-14R1	02897848	SD1105A-0320-023-06R1	02897891	SD1105A-0635-043-08R1	02897934	SD1105A-0960-049-10R1	02897979	SD1105A-1300-060-14R1
02898326	SD1103A-0913-035-10R1	02898369	SD1103A-1275-043-14R1	02897849	SD1105A-0325-023-06R1	02897892	SD1105A-0640-043-08R1	02897935	SD1105A-0970-049-10R1	02897980	SD1105A-1310-060-14R1
02898327	SD1103A-0920-035-10R1	02898370	SD1103A-1280-043-14R1	02897850	SD1105A-0330-023-06R1	02897893	SD1105A-0650-043-08R1	02897936	SD1105A-0980-049-10R1	02897981	SD1105A-1320-060-14R1
02898328	SD1103A-0930-035-10R1	02898371	SD1103A-1290-043-14R1	02897851	SD1105A-0340-023-06R1	02897894	SD1105A-0660-043-08R1	02897937	SD1105A-0990-049-10R1	02897982	SD1105A-1330-060-14R1
02898329	SD1103A-0940-035-10R1	02898372	SD1103A-1300-043-14R1	02897852	SD1105A-0350-023-06R1	02897895	SD1105A-0670-043-08R1	02897938	SD1105A-0992-049-10R1	02897983	SD1105A-1340-060-14R1
02898330	SD1103A-0950-035-10R1	02898373	SD1103A-1310-043-14R1	02897853	SD1105A-0357-023-06R1	02897896	SD1105A-0675-043-08R1	02897939	SD1105A-1000-049-10R1	02897984	SD1105A-1349-060-14R1
02898331	SD1103A-0953-035-10R1	02898374	SD1103A-1320-043-14R1	02897854	SD1105A-0360-023-06R1	02897897	SD1105A-0680-043-08R1	02897940	SD1105A-1010-056-12R1	02897985	SD1105A-1350-060-14R1
02898332	SD1103A-0955-035-10R1	02898375	SD1103A-1330-043-14R1	02897855	SD1105A-0365-023-06R1	02897898	SD1105A-0690-043-08R1	02897941	SD1105A-1020-056-12R1	02897986	SD1105A-1360-060-14R1
02898333	SD1103A-0960-035-10R1	02898376	SD1103A-1340-043-14R1	02897856	SD1105A-0370-023-06R1	02897899	SD1105A-0700-043-08R1	02897942	SD1105A-1030-056-12R1	02897987	SD1105A-1370-060-14R1
02898334	SD1103A-0970-035-10R1	02898377	SD1103A-1349-043-14R1	02897857	SD1105A-0380-029-06R1	02897900	SD1105A-0710-043-08R1	02897943	SD1105A-1032-056-12R1	02897988	SD1105A-1380-060-14R1
02898335	SD1103A-0980-035-10R1	02898378	SD1103A-1350-043-14R1	02897858	SD1105A-0390-029-06R1	02897901	SD1105A-0714-043-08R1	02897944	SD1105A-1040-056-12R1	02897989	SD1105A-1390-060-14R1
02898336	SD1103A-0990-035-10R1	02898379	SD1103A-1360-043-14R1	02897859	SD1105A-0397-029-06R1	02897902	SD1105A-0720-043-08R1				

ITEM NUMBER	DESIGNATION										
02898001	SD1105A-1490-063-16R1	02898044	SD1105A-1900-077-20R1	03295203	SD1108A-0540-048-06R1	03295040	SD1108A-0880-080-10R1	03295076	SD1108A-1600-136-16R1	03295111	SD1112A-0556-074-06R1
02898002	SD1105A-1500-063-16R1	02898045	SD1105A-1905-077-20R1	03295204	SD1108A-0550-048-06R1	03295041	SD1108A-0900-080-10R1	03295077	SD1108A-1650-153-18R1	03295112	SD1112A-0560-074-06R1
02898003	SD1105A-1510-063-16R1	02898046	SD1105A-1910-077-20R1	03295206	SD1108A-0556-048-06R1	03295042	SD1108A-0910-080-10R1	03295078	SD1108A-1700-153-18R1	03295113	SD1112A-0570-074-06R1
02898004	SD1105A-1520-063-16R1	02898047	SD1105A-1920-077-20R1	03295207	SD1108A-0560-048-06R1	03323695	SD1108A-0913-080-10R1	03295079	SD1108A-1750-153-18R1	03295114	SD1112A-0580-074-06R1
02898005	SD1105A-1530-063-16R1	02898048	SD1105A-1930-077-20R1	03295208	SD1108A-0570-048-06R1	03295043	SD1108A-0930-080-10R1	03295080	SD1108A-1800-153-18R1	03295115	SD1112A-0590-074-06R1
02898006	SD1105A-1540-063-16R1	02898049	SD1105A-1940-077-20R1	03295012	SD1108A-0580-048-06R1	03295044	SD1108A-0940-080-10R1	03295081	SD1108A-1850-170-20R1	03295116	SD1112A-0600-074-06R1
02898007	SD1105A-1550-063-16R1	02898050	SD1105A-1950-077-20R1	03295013	SD1108A-0590-048-06R1	03295045	SD1108A-0950-080-10R1	03295082	SD1108A-1900-170-20R1	03295117	SD1112A-0610-098-08R1
02898008	SD1105A-1560-063-16R1	02898051	SD1105A-1960-077-20R1	03323686	SD1108A-0595-048-06R1	03323696	SD1108A-0953-080-10R1	03323703	SD1108A-1905-170-20R1	03295118	SD1112A-0620-098-08R1
02898009	SD1105A-1570-063-16R1	02898052	SD1105A-1970-077-20R1	03295014	SD1108A-0600-048-06R1	03295046	SD1108A-0970-080-10R1	03295083	SD1108A-1950-170-20R1	03295119	SD1112A-0630-098-08R1
02898010	SD1105A-1580-063-16R1	02898053	SD1105A-1980-077-20R1	03295015	SD1108A-0610-055-08R1	03295047	SD1108A-0980-080-10R1	03295084	SD1108A-2000-170-20R1	03295120	SD1112A-0635-098-08R1
02898011	SD1105A-1588-063-16R1	02898054	SD1105A-1990-077-20R1	03295016	SD1108A-0620-055-08R1	03295048	SD1108A-0990-080-10R1	03295085	SD1112A-0300-048-06R1	03295121	SD1112A-0640-098-08R1
02898012	SD1105A-1590-063-16R1	02898055	SD1105A-2000-077-20R1	03295017	SD1108A-0630-055-08R1	03323697	SD1108A-0992-080-10R1	03295086	SD1112A-0310-048-06R1	03295123	SD1112A-0660-098-08R1
02898013	SD1105A-1600-063-16R1	03295178	SD1108A-0300-028-06R1	03295018	SD1108A-0635-055-08R1	03295049	SD1108A-1000-080-10R1	03323704	SD1112A-0318-048-06R1	03295124	SD1112A-0670-098-08R1
02898014	SD1105A-1610-071-18R1	03295179	SD1108A-0310-028-06R1	03295020	SD1108A-0650-055-08R1	03295051	SD1108A-1030-096-12R1	03295087	SD1112A-0320-048-06R1	03323710	SD1112A-0675-098-08R1
02898015	SD1105A-1620-071-18R1	03323680	SD1108A-0318-028-06R1	03295021	SD1108A-0660-055-08R1	03323698	SD1108A-1032-096-12R1	03295088	SD1112A-0330-048-06R1	03295125	SD1112A-0680-098-08R1
02898016	SD1105A-1630-071-18R1	03295180	SD1108A-0320-028-06R1	03295022	SD1108A-0670-055-08R1	03295053	SD1108A-1040-096-12R1	03295089	SD1112A-0340-048-06R1	03295126	SD1112A-0690-098-08R1
02898017	SD1105A-1640-071-18R1	03295181	SD1108A-0330-028-06R1	03295023	SD1108A-0675-055-08R1	03295054	SD1108A-1050-096-12R1	03295090	SD1112A-0350-048-06R1	03295127	SD1112A-0700-098-08R1
02898018	SD1105A-1650-071-18R1	03295182	SD1108A-0340-028-06R1	03323687	SD1108A-0675-055-08R1	03295055	SD1108A-1070-096-12R1	03323705	SD1112A-0357-048-06R1	03295128	SD1112A-0710-098-08R1
02898019	SD1105A-1660-071-18R1	03295183	SD1108A-0350-028-06R1	03295024	SD1108A-0690-055-08R1	03295056	SD1108A-1080-096-12R1	03295091	SD1112A-0360-048-06R1	03323711	SD1112A-0714-098-08R1
02898020	SD1105A-1670-071-18R1	03323681	SD1108A-0357-028-06R1	03295025	SD1108A-0700-055-08R1	03295057	SD1108A-1100-096-12R1	03295092	SD1112A-0370-048-06R1	03323712	SD1112A-0730-098-08R1
02898021	SD1105A-1675-071-18R1	03295184	SD1108A-0360-028-06R1	03295026	SD1108A-0710-064-08R1	03323700	SD1108A-1111-096-12R1	03295093	SD1112A-0380-056-06R1	03295129	SD1112A-0740-098-08R1
02898022	SD1105A-1680-071-18R1	03295185	SD1108A-0370-028-06R1	03295027	SD1108A-0714-064-08R1	03295058	SD1108A-1120-096-12R1	03295094	SD1112A-0390-056-06R1	03295130	SD1112A-0750-098-08R1
02898023	SD1105A-1690-071-18R1	03295186	SD1108A-0380-037-06R1	03295028	SD1108A-0730-064-08R1	03295059	SD1108A-1130-096-12R1	03295095	SD1112A-0400-056-06R1	03295131	SD1112A-0780-098-08R1
02898024	SD1105A-1700-071-18R1	03295187	SD1108A-0390-037-06R1	03295029	SD1108A-0740-064-08R1	03295060	SD1108A-1150-096-12R1	03295096	SD1112A-0410-056-06R1	03295132	SD1112A-0790-098-08R1
02898025	SD1105A-1710-071-18R1	03323682	SD1108A-0397-037-06R1	03295030	SD1108A-0750-064-08R1	03295061	SD1108A-1170-096-12R1	03295097	SD1112A-0420-056-06R1	03323714	SD1112A-0794-098-08R1
02898026	SD1105A-1720-071-18R1	03295188	SD1108A-0400-037-06R1	03323690	SD1108A-0754-064-08R1	03295062	SD1108A-1180-096-12R1	03295098	SD1112A-0430-056-06R1	03295133	SD1112A-0800-098-08R1
02898027	SD1105A-1730-071-18R1	03295189	SD1108A-0410-037-06R1	03295031	SD1108A-0760-064-08R1	03295063	SD1108A-1190-096-12R1	03323707	SD1112A-0437-056-06R1	03295135	SD1112A-0810-123-10R1
02898028	SD1105A-1740-071-18R1	03295190	SD1108A-0420-037-06R1	03295032	SD1108A-0770-064-08R1	03323701	SD1108A-1191-096-12R1	03295099	SD1112A-0440-056-06R1	03295136	SD1112A-0820-123-10R1
02898029	SD1105A-1750-071-18R1	03295191	SD1108A-0430-037-06R1	03295033	SD1108A-0780-064-08R1	03295064	SD1108A-1200-096-12R1	03295100	SD1112A-0450-056-06R1	03295137	SD1112A-0830-123-10R1
02898030	SD1105A-1760-071-18R1	03323683	SD1108A-0437-037-06R1	03295034	SD1108A-0790-064-08R1	03295065	SD1108A-1230-119-14R1	03295101	SD1112A-0460-056-06R1	03295138	SD1112A-0840-123-10R1
02898031	SD1105A-1770-071-18R1	03295192	SD1108A-0440-037-06R1	03295035	SD1108A-0800-064-08R1	03295066	SD1108A-1250-119-14R1	03295102	SD1112A-0470-056-06R1	03295139	SD1112A-0850-123-10R1
02898032	SD1105A-1780-071-18R1	03295193	SD1108A-0450-037-06R1	03295036	SD1108A-0810-080-10R1	03295067	SD1108A-1270-119-14R1	03295103	SD1112A-0480-074-06R1	03295141	SD1112A-0870-123-10R1
02898033	SD1105A-1790-071-18R1	03295194	SD1108A-0460-037-06R1	03295037	SD1108A-0820-080-10R1	03295068					

SECO-CAPTO™ TOOLHOLDER & CASSETTE FOR ADVANCED MATERIAL

ITEM NUMBER	DESIGNATION	ITEM NUMBER	DESIGNATION	ITEM NUMBER	DESIGNATION
03295147	SD1112A-0980-123-10R1				
03323718	SD1112A-0992-123-10R1				
03295148	SD1112A-1000-123-10R1				
03295149	SD1112A-1020-140-12R1				
03295150	SD1112A-1030-140-12R1				
03323719	SD1112A-1032-140-12R1				
03295151	SD1112A-1050-140-12R1				
03323720	SD1112A-1072-140-12R1				
03295152	SD1112A-1080-140-12R1				
03295153	SD1112A-1100-140-12R1				
03323722	SD1112A-1111-140-12R1				
03295154	SD1112A-1120-140-12R1				
03295155	SD1112A-1150-140-12R1				
03295156	SD1112A-1170-140-12R1				
03295157	SD1112A-1180-140-12R1				
03323723	SD1112A-1191-140-12R1				
03295158	SD1112A-1200-140-12R1				
03295159	SD1112A-1220-168-14R1				
03295160	SD1112A-1230-168-14R1				
03295161	SD1112A-1250-168-14R1				
03295162	SD1112A-1270-168-14R1				
03295163	SD1112A-1300-168-14R1				
03323724	SD1112A-1349-168-14R1				
03295164	SD1112A-1350-168-14R1				
03295165	SD1112A-1400-168-14R1				
03295166	SD1112A-1429-192-16R1				
03295167	SD1112A-1450-192-16R1				
03295168	SD1112A-1500-192-16R1				
03295169	SD1112A-1550-192-16R1				
03295170	SD1112A-1588-192-16R1				
03295171	SD1112A-1600-192-16R1				
03295172	SD1112A-1650-216-18R1				
03295173	SD1112A-1700-216-18R1				
03295174	SD1112A-1750-216-18R1				
03295175	SD1112A-1800-216-18R1				
03295176	SD1112A-1900-238-20R1				
03295177	SD1112A-2000-238-20R1				



PRODUCT NUMBER	DESIGNATION	CAPTO SIZE	DCSFMS	WF	LF
0330009	C5-CXXXL-35060-CT10	C5	50	18,02	42,96
0330014	C5-CXXXR-35060-CT10	C5	50	18,02	42,96
0330015	C6-CXXXL-45065-CT10	C6	63	28,02	47,96
0330016	C6-CXXXR-45065-CT10	C6	63	28,02	47,96



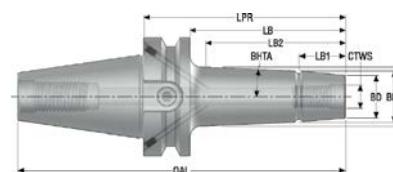
PRODUCT NUMBER	DESIGNATION	KAPR	LF	WF	HF	INSERT	INSERT ANSI
0330028	CT10-CCLNX-0903*					CN.N0903	CN.N 32
0330023	CT10-CCLNX-1204	95	17	17	15,53	CN.N1204	CN.N 43
0330024	CT10-CCLNX-1207	95	17	17	15,53	CN.N1207	CN.N 45
0330029	CT10-CRSNX-0903*					RN.N0903	RN.N 32
0330025	CT10-CRSNX-1203	45	17	17	15,18	RN.N1203	RN.N 42
0330026	CT10-CRSNX-1204	45	17	17	15,18	RN.N1204	RN.N 43
0330027	CT10-CRSNX-1207	45	17	17	15,18	RN.N1207	RN.N 45

* Not available for SN1:2020, will be added a.s.a.p.

COMBIMASTER™ M20

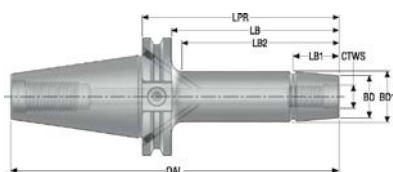
COMBIMASTER ARBORS - EG. BT JIS B 6339-ADB

DESIGN 1 (OPTION V)



Machine side
taper type

DESIGN 2



Tool fitting
size

Gauge
length

Option

New Designation:

DIN40ADB - **M20** - **060** - **V**

V = Conical
K = Steadyline

PRODUCT NUMBER	DESIGNATION	MACHINE SIDE TAPER	WORKPIECE SIDE COMBIMASTER CTWS	DIMENSIONS IN MM								BHTA	DESIGN	RFID HOLE	BALANCING	
				LPR	LB	LB2	LB1	BD	BD2	BD1	OAL					
03308015	BT40ADB-M20-135	BT40ADB	M20	135	108	100	30	36,5	-	37	200,4	0,5	2	Yes	G6.3@ 20 000rpm	1,7
03308016	BT40ADB-M20-160-K	BT40ADB	M20	160	133	-	31	36,5	-	37	225,4	-	2	Yes	G6.3@ 20 000rpm	2,2
03308017	BT40ADB-M20-185	BT40ADB	M20	185	158	150	35	36,5	-	37	250,4	0,4	2	Yes	G6.3@ 20 000rpm	2,1
03308018	BT50ADB-M20-185-K	BT50ADB	M20	185	147	-	31	36,5	-	37	286,8	-	2	Yes	G6.3@ 20 000rpm	4,9
03308019	BT50ADB-M20-145	BT50ADB	M20	145	107	100	30	36,5	-	37	246,8	0,5	2	Yes	G6.3@ 20 000rpm	4,3
03308020	BT50ADB-M20-295-V	BT50ADB	M20	295	257	249	35	36,5	68	68	396,8	0,82	1	Yes	G6.3@ 20 000rpm	7,5

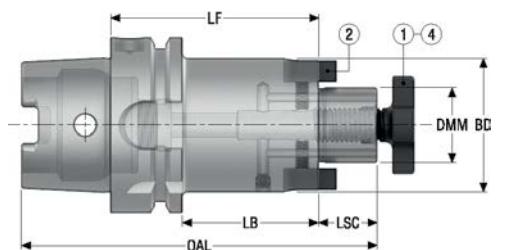
03308021	C5-M16-135	C5	M16	135	112	110	35	30	-	30,5	165	0,4	2	Yes	G6.3@ 20 000rpm	1,1
03308022	C5-M20-135	C5	M20	135	112	110	35	36,5	-	37	165	0,4	2	Yes	G6.3@ 20 000rpm	1,3
03308023	C6-M16-110	C6	M16	110	85	80	25	30	-	30,5	148	0,6	2	Yes	G6.3@ 20 000rpm	1,3
03308024	C6-M16-145	C6	M16	145	120	115	35	30	-	30,5	183	0,4	2	Yes	G6.3@ 20 000rpm	1,5
03308025	C6-M20-110	C6	M20	110	85	80	25	36,5	-	37	110	0,6	2	Yes	G6.3@ 20 000rpm	1,5
03308026	C6-M20-145	C6	M20	145	120	115	35	36,5	-	37	183	0,4	2	Yes	G6.3@ 20 000rpm	1,7
03308027	C8-M20-145	C8	M20	145	112	110	35	36,5	-	37	193	0,4	2	Yes	G6.3@ 20 000rpm	2,7

PRODUCT NUMBER	DESIGNATION	MACHINE SIDE TAPER	WORKPIECE SIDE COMBIMASTER CTWS	DIMENSIONS IN MM								BHTA	DESIGN	RFID HOLE	BALANCING	
				LPR	LB	LB2	LB1	BD	BD2	BD1	OAL					
03308039	DIN40ADB-M20-060-V	DIN40ADB	M20	60	40,9	25	10	36,5	44	37	128,4	2,86	1	Yes	G6.3@ 20 000rpm	1,2
03308040	DIN40ADB-M20-110	DIN40ADB	M20	110	90,9	75	25	36,5	-	37	178,4	0,6	2	Yes	G6.3@ 20 000rpm	1,5
03308041	DIN40ADB-M20-135	DIN40ADB	M20	135	115,9	100	30	36,5	-	37	203,4	0,5	2	Yes	G6.3@ 20 000rpm	1,6
03308042	DIN40ADB-M20-160-K	DIN40ADB	M20	160	140,9	-	31	36,5	-	37	228,4	-	2	Yes	G6.3@ 20 000rpm	2,1
03308043	DIN40ADB-M20-185	DIN40ADB	M20	185	165,9	150	35	36,5	-	37	253,4	0,4	2	Yes	G6.3@ 20 000rpm	2
03308044	DIN50ADB-M20-145	DIN50ADB	M20	145	125,9	100	30	36,5	-	37	246,75	0,5	2	Yes	G6.3@ 20 000rpm	3,5
03308045	DIN50ADB-M20-185-K	DIN50ADB	M20	185	165,9	-	31	36,5	-	37	286,75	-	2	Yes	G6.3@ 20 000rpm	4,1
03308046	DIN50ADB-M20-295-V	DIN50ADB	M20	295	275,9	250	35	36,5	68	38	396,75	0,82	1	Yes	G6.3@ 20 000rpm	7,1

PRODUCT NUMBER	DESIGNATION	MACHINE SIDE TAPER	WORKPIECE SIDE COMBIMASTER CTWS	DIMENSIONS IN MM								BHTA	DESIGN	RFID HOLE	BALANCING	
				LPR	LB	LB2	LB1	BD	BD2	BD1	OAL					
03308047	HSKA63-M20-085	HSKA63	M20	85	59	50	20	36,5	-	37	117	0,7	2	Yes	G6.3@ 20 000rpm	1,1
03308048	HSKA63-M20-135	HSKA63	M20	135	109	100	30	36,5	-	37	167	0,5	2	Yes	G6.3@ 20 000rpm	1,4
03308049	HSKA63-M20-160-K	HSKA63	M20	160	134	-	31	36,5	-	37	192	-	2	Yes	G6.3@ 20 000rpm	1,9
03308050	HSKA63-M20-185	HSKA63	M20	185	159	150	35	36,5	-	37	217	0,4	2	Yes	G6.3@ 20 000rpm	1,8
03308051	HSKA100-M20-085	HSKA100	M20	85	56	50	20	36,5	-	37	135	0,7	2	Yes	G6.3@ 20 000rpm	2,4
03308052	HSKA100-M20-185-K	HSKA100	M20	185	156	-	31	36,5	-	37	235	-	2	Yes	G6.3@ 20 000rpm	3,4
03308028	CAT40TFADB-M16-5.315	CAT40TFADB	M16	135	115,9	100	30	30	-	30,5	203,4	0,5	2	Yes	G6.3@ 20 000rpm	1,5
03308029	CAT40TFADB-M20-1.772	CAT40TFADB	M20	45	25,9	10	5	36,5	-	37	113,4	2,8	2	Yes	G6.3@ 20 000rpm	1
03308030	CAT40TFADB-M20-3.346	CAT40TFADB	M20	85	65,9	50	20	36,5	-	37	153					

SHELL MILL HOLDERS, SMALL FACE – ISO 3937

SHELL MILL HOLDERS, WITH THROUGH COOLANT CHANNELS EG. HSK-A/ISO12164-1-HSK-A



Accessories:
4 = Bolt, through coolant

Spare parts:
1 = Bolt
2 = Tenon/Screw

PRODUCT NUMBER	DESIGNATION	MACHINING SIDE TAPER	WORKPIECE SIDE DMM (MM)	DIMENSIONS IN MM					RFID HOLE	BALANCING	KG
				LG	BD	OAL	LB	LSC			
03301553	HSKA63-SM22-050-F3L1	HSKA63	22	50	40	101	24	19	Yes	G6.3@15 000rpm	1
03301554	HSKA63-SM22-100-F3L1	HSKA63	22	100	40	151	74	19	Yes	G6.3@15 000rpm	1,4
03301555	HSKA63-SM22-160-F3L1	HSKA63	22	160	40	211	134	19	Yes	G6.3@15 000rpm	2
03301560	HSKA63-SM27-100-F3L1	HSKA63	27	100	48	153	74	21	Yes	G6.3@15 000rpm	1,8
03301561	HSKA63-SM27-160-F3L1	HSKA63	27	160	48	213	134	21	Yes	G6.3@15 000rpm	2,6
03301566	HSKA63-SM32-060-F3L1	HSKA63	32	60	58	116	34	24	Yes	G6.3@15 000rpm	1,5
03301567	HSKA63-SM32-100-F3L1	HSKA63	32	100	58	156	74	24	Yes	G6.3@15 000rpm	2,8
03301573	HSKA100-SM22-050-F3L1	HSKA100	22	50	40	119	21	19	Yes	G6.3@15 000rpm	2,3
03301574	HSKA100-SM22-100-F3L1	HSKA100	22	100	40	169	71	19	Yes	G6.3@15 000rpm	2,3
03301575	HSKA100-SM22-160-F3L1	HSKA100	22	160	40	229	131	19	Yes	G6.3@15 000rpm	3,3
03301581	HSKA100-SM27-100-F3L1	HSKA100	27	100	48	171	71	21	Yes	G6.3@15 000rpm	3,2
03301582	HSKA100-SM27-160-F3L1	HSKA100	27	160	48	231	131	21	Yes	G6.3@15 000rpm	4,1
03301586	HSKA100-SM32-050-F3L1	HSKA100	32	50	58	124	21	24	Yes	G6.3@15 000rpm	2,6
03301587	HSKA100-SM32-100-F3L1	HSKA100	32	100	58	174	71	24	Yes	G6.3@15 000rpm	3,5
03301588	HSKA100-SM32-160-F3L1	HSKA100	32	160	58	234	131	24	Yes	G6.3@15 000rpm	4,7
03301592	HSKA100-SM40-060-F3L1	HSKA100	40	60	70	137	31	27	Yes	G6.3@15 000rpm	3,2
03301593	HSKA100-SM40-100-F3L1	HSKA100	40	100	70	177	71	27	Yes	G6.3@15 000rpm	4,2
03301594	HSKA100-SM40-160-F3L1	HSKA100	40	160	70	237	131	27	Yes	G6.3@15 000rpm	5,9
03301599	DIN50ADB-SM22-044-F3L1	DIN50ADB	22	44	40	164,75	24,9	19	Yes	G6.3@15 000rpm	2,9
03301600	DIN50ADB-SM22-100-F3L1	DIN50ADB	22	100	40	220,75	80,9	19	Yes	G6.3@15 000rpm	3,4
03301601	DIN50ADB-SM22-160-F3L1	DIN50ADB	22	160	40	280,75	140,9	19	Yes	G6.3@15 000rpm	4
03301602	DIN50ADB-SM27-100-F3L1	DIN50ADB	27	100	48	222,75	80,9	21	Yes	G6.3@15 000rpm	3,8
03301603	DIN50ADB-SM27-160-F3L1	DIN50ADB	27	160	48	282,75	140,9	21	Yes	G6.3@15 000rpm	4,5
03301604	DIN50ADB-SM32-100-F3L1	DIN50ADB	32	100	58	225,75	80,9	24	Yes	G6.3@15 000rpm	4,3
03301605	DIN50ADB-SM32-160-F3L1	DIN50ADB	32	160	58	285,75	140,9	24	Yes	G6.3@15 000rpm	5,5
03301606	DIN50ADB-SM40-100-F3L1	DIN50ADB	40	100	70	228,75	80,9	27	Yes	G6.3@15 000rpm	5,2

PRODUCT NUMBER	DESIGNATION	MACHINING SIDE TAPER	WORKPIECE SIDE DMM (MM)	DIMENSIONS IN MM					RFID HOLE	BALANCING	KG	
				LG	BD	OAL	LB	LSC				
03301607	DIN50ADB-SM40-160-F3L1	DIN50ADB	40		160	70	288,75	140,9	27	Yes	G6.3@15 000rpm	6,8
03301608	DIN50AD-SM27-044-F3L1	DIN50AD	27		44	48	166,75	24,9	21	Yes	G6.3@15 000rpm	3
03301609	DIN50AD-SM32-044-F3L1	DIN50AD	32		44	58	169,75	24,9	24	Yes	G6.3@15 000rpm	3,2
03301610	DIN50AD-SM40-044-F3L1	DIN50AD	40		44	70	172,75	24,9	27	Yes	G6.3@15 000rpm	3,5
03301618	BT50TFADB-SM22-075-F3L1	BT50TFADB	22		75	40	195,8	37	19	Yes	G6.3@15 000rpm	3,9
03301619	BT50TFADB-SM22-120-F3L1	BT50TFADB	22		120	40	240,8	82	19	Yes	G6.3@15 000rpm	4,3
03301621	BT50TFADB-SM27-075-F3L1	BT50TFADB	27		75	48	197,8	37	21	Yes	G6.3@15 000rpm	4,1
03301622	BT50TFADB-SM27-120-F3L1	BT50TFADB	27		120	48	242,8	82	21	Yes	G6.3@15 000rpm	4,7
03301624	BT50TFADB-SM32-075-F3L1	BT50TFADB	32		75	58	200,8	37	24	Yes	G6.3@15 000rpm	4,4
03301625	BT50TFADB-SM32-120-F3L1	BT50TFADB	32		120	58	245,8	82	24	Yes	G6.3@15 000rpm	5,2
03301627	BT50TFADB-SM40-075-F3L1	BT50TFADB	40		75	70	203,8	37	27	Yes	G6.3@15 000rpm	4,8
03301628	BT50TFADB-SM40-120-F3L1	BT50TFADB	40		120	70	248,8	82	27	Yes	G6.3@15 000rpm	6,1
03301630	BT50ADB-SM22-063-F3L1	BT50ADB	22		63	40	183,8	25	19	Yes	G6.3@15 000rpm	3,8
03301631	BT50ADB-SM22-100-F3L1	BT50ADB	22		100	40	220,8	62	19	Yes	G6.3@15 000rpm	4,1
03301632	BT50ADB-SM22-160-F3L1	BT50ADB	22		160	40	280,8	122	19	Yes	G6.3@15 000rpm	4,7
03301634	BT50ADB-SM27-063-F3L1	BT50ADB	27		63	48	185,8	25	21	Yes	G6.3@15 000rpm	3,9
03301635	BT50ADB-SM27-100-F3L1	BT50ADB	27		100	48	222,8	62	21	Yes	G6.3@15 000rpm	4,4
03301636	BT50ADB-SM27-160-F3L1	BT50ADB	27		160	48	282,8	122	21	Yes	G6.3@15 000rpm	5,2
03301637	BT50ADB-SM32-063-F3L1	BT50ADB	32		63	58	188,8	25	24	Yes	G6.3@15 000rpm	4,1
03301638	BT50ADB-SM32-100-F3L1	BT50ADB	32		100	58	225,8	62	24	Yes	G6.3@15 000rpm	4,8
03301639	BT50ADB-SM32-160-F3L1	BT50ADB	32		160	58	285,8	122	24	Yes	G6.3@15 000rpm	6
03301640	BT50ADB-SM40-063-F3L1	BT50ADB	40		63	70	191,8	25	27	Yes	G6.3@15 000rpm	4,5
03301641	BT50ADB-SM40-100-F3L1	BT50ADB	40		100	70	228,8	62	27	Yes	G6.3@15 000rpm	5,5
03301642	BT50ADB-SM40-160-F3L1	BT50ADB	40		160	70	288,8	122	27	Yes	G6.3@15 000rpm	7,2
03301646	BT40TFADB-SM22-060-F3L1	BT40TFADB	22		60	40	144,4	33	19	Yes	G6.3@15 000rpm	

EASYSHRINK EVO

EASYSHRINK EVO



DELIVERY CONTENT	DESIGNATION	CONNECTIONS	CAPACITY TOOL SHANK		SHRINKING TIME, APPROX.	DIMENSIONS IN MM			KG
			CARBIDE/HEAVY METAL	STEEL/HSS		WIDTH	DEPTH	HEIGHT	
1 Easyshrink EVO device	ZFM30IN10	Europe: AC 3x400V +PE /16A/50Hz	Ø 3-32	Ø 6-32	10 sec.	317	943	920	66
	ZFM30IN30	USA & Canadian*: 3x400 – 480 VAC +GND/20 amp/60Hz	Ø 3-32	Ø 6-32	10 sec.	317	943	920	66
· 5 standard heat focusing stoppers for Ø 3 to Ø 32					Transformer only :	440	500	560	90
· 8 stop rods									
· 2 cooling cones									
· 1 pair of gloves									
· 1 operating instructions									
*ZFM30IN30 include 1 Transformer for USA & Canadian voltage									

REFRIGERATION UNIT



DELIVERY CONTENT	DESIGNATION	COOLING BELLS QTY.	COOLING TIME APPROX.	DIMENSIONS IN MM			KG
				WIDTH	DEPTH	HEIGHT	
1 Refrigeration unit	ZFM30RE1	2	1min	490	630	285	35

· 1 column for Tubes Support
 · 2 cooling bells with connecting tubes
 · 1 Extension Table

Contact bushes are required depending of your type of shrinkfit holders and Ø. For more information please visit [My Pages on secotools.com](#).

Seco Tools makes no warranties or representations in respect of use and content of the technical data. Information is provided "as is" without any express or implied warranty of any kind. Furthermore, Seco Tools does not warrant the accuracy or completeness of the information that may be contained in the Summary. All representations and warranties, express or implied are hereby disclaimed. In no event will Seco Tools be liable to any party for any direct, indirect, special or other consequential damages for any use of the information in the Summary even if Seco Tools is advised of the possibility of such damages.

SOLID END MILLS NIAGARA CUTTER™



PRODUCT NUMBER	DESCRIPTION	DIMENSIONS IN INCH						NUMBER OF FLUTES	COATING	RADIUS (RE)	SHANK TYPE
		FLUTE DIA (DC)	SHANK DIA (DMM)	LOC (APMX)	OVERALL LENGTH (OAL)	NECK DIA (DN)	REACH LENGTH (LN)				
03302585	AN230-0.500-E2-S.0-Z2	1/2	1/2	3/4	3	0.470	1.250	2	Uncoated	-	Cylindrical
03302586	AN230R-0.500-E2-R030.0-Z2	1/2	1/2	3/4	3	0.470	1.250	2	Uncoated	0.030	Cylindrical
03302587	AN230R-0.500-E2-R060.0-Z2	1/2	1/2	3/4	3	0.470	1.250	2	Uncoated	0.060	Cylindrical
03302588	AN230-0.500-E3-S.0-Z2	1/2	1/2	3/4	3 1/2	0.470	1.750	2	Uncoated	-	Cylindrical
03302589	AN230R-0.500-E3-R030.0-Z2	1/2	1/2	3/4	3 1/2	0.470	1.750	2	Uncoated	0.030	Cylindrical
03302590	AN230R-0.500-E3-R060.0-Z2	1/2	1/2	3/4	3 1/2	0.470	1.750	2	Uncoated	0.060	Cylindrical
03302591	AN230-0.500-E4-S.0-Z2	1/2	1/2	3/4	4	0.470	2.250	2	Uncoated	-	Cylindrical
03302592	AN230R-0.500-E4-R030.0-Z2	1/2	1/2	3/4	4	0.470	2.250	2	Uncoated	0.030	Cylindrical
03302593	AN230R-0.500-E4-R060.0-Z2	1/2	1/2	3/4	4	0.470	2.250	2	Uncoated	0.060	Cylindrical
03302594	AN230-0.500-E5-S.0-Z2	1/2	1/2	3/4	4 1/2	0.470	2.750	2	Uncoated	-	Cylindrical
03302595	AN230R-0.500-E5-R030.0-Z2	1/2	1/2	3/4	4 1/2	0.470	2.750	2	Uncoated	0.030	Cylindrical
03302596	AN230R-0.500-E5-R060.0-Z2	1/2	1/2	3/4	4 1/2	0.470	2.750	2	Uncoated	0.060	Cylindrical
03302597	AN230-0.750-E2-S.0-Z2	3/4	3/4	1	4	0.720	2.125	2	Uncoated	-	Cylindrical
03302598	AN230R-0.750-E2-R030.0-Z2	3/4	3/4	1	4	0.720	2.125	2	Uncoated	0.030	Cylindrical
03302599	AN230R-0.750-E2-R060.0-Z2	3/4	3/4	1	4	0.720	2.125	2	Uncoated	0.060	Cylindrical
03302600	AN230R-0.750-E2-R090.0-Z2	3/4	3/4	1	4	0.720	2.125	2	Uncoated	0.090	Cylindrical
03302601	AN230R-0.750-E2-R120.0-Z2	3/4	3/4	1	4	0.720	2.125	2	Uncoated	0.120	Cylindrical
03302602	AN230-0.750-E3-S.0-Z2	3/4	3/4	1	4 1/2	0.720	2.625	2	Uncoated	-	Cylindrical
03302603	AN230R-0.750-E3-R030.0-Z2	3/4	3/4	1	4 1/2	0.720	2.625	2	Uncoated	0.030	Cylindrical
03302604	AN230R-0.750-E3-R060.0-Z2	3/4	3/4	1	4 1/2	0.720	2.625	2	Uncoated	0.060	Cylindrical
03302605	AN230R-0.750-E3-R090.0-Z2	3/4	3/4	1	4 1/2	0.720	2.625	2	Uncoated	0.090	Cylindrical
03302606	AN230R-0.750-E3-R120.0-Z2	3/4	3/4	1	4 1/2	0.720	2.625	2	Uncoated	0.120	Cylindrical
03302607	AN230-0.750-E4-S.0-Z2	3/4	3/4	1	5	0.720	3.125	2	Uncoated	-	Cylindrical
03302608	AN230R-0.750-E4-R030.0-Z2	3/4	3/4	1	5	0.720	3.125	2	Uncoated	0.030	Cylindrical
03302609	AN230R-0.750-E4-R060.0-Z2	3/4	3/4	1	5	0.720	3.125	2	Uncoated	0.060	Cylindrical
03302610	AN230R-0.750-E4-R090.0-Z2	3/4	3/4	1	5	0.720	3.125	2	Uncoated	0.090	Cylindrical
03302611	AN230R-0.750-E4-R120.0-Z2	3/4	3/4	1	5	0.720	3.125	2	Uncoated	0.120	Cylindrical
03302612	AN230-0.750-E5-S.0-Z2	3/4	3/4	1	5 1/2	0.720	3.625	2	Uncoated	-	Cylindrical

PRODUCT NUMBER	DESCRIPTION	DIMENSIONS IN INCH						NUMBER OF FLUTES	COATING	RADIUS (RE)	SHANK TYPE
		FLUTE DIA (DC)	SHANK DIA (DMM)	LOC (APMX)	OVERALL LENGTH (OAL)	NECK DIA (DN)	REACH LENGTH (LN)				
03302613	AN230R-0.750-E5-R030.0-Z2	3/4	3/4	1	5 1/2	0.720	3.625	2	Uncoated	0.030	Cylindrical
03302614	AN230R-0.750-E5-R060.0-Z2	3/4	3/4	1	5 1/2	0.720	3.625	2	Uncoated	0.060	Cylindrical
03302615	AN230R-0.750-E5-R090.0-Z2	3/4	3/4	1	5 1/2	0.720	3.625	2	Uncoated	0.090	Cylindrical
03302616	AN230R-0.750-E5-R120.0-Z2	3/4	3/4	1	5 1/2	0.720	3.625	2	Uncoated	0.120	Cylindrical
03302617	AN230-1.000-E2-S.0-Z2	1	1	1 1/4	4	0.960	2.125	2	Uncoated	-	Cylindrical
03302618	AN230R-1.000-E2-R030.0-Z2	1	1	1 1/4	4	0.960	2.125	2	Uncoated	0.030	Cylindrical
03302619	AN230R-1.000-E2-R060.0-Z2	1	1	1 1/4	4	0.960	2.125	2	Uncoated	0.060	Cylindrical
03302620	AN230R-1.000-E2-R090.0-Z2	1	1	1 1/4	4	0.960	2.125	2	Uncoated	0.090	Cylindrical
03302621	AN230R-1.000-E2-R120.0-Z2	1	1	1 1/4	4	0.960	2.125	2	Uncoated	0.120	Cylindrical
03302622	AN230-1.000-E3-S.0-Z2	1	1	1 1/4	4 1/2	0.960	2.625	2	Uncoated	-	Cylindrical
03302623	AN230R-1.000-E3-R030.0-Z2	1	1	1 1/4	4 1/2	0.960	2.625	2	Uncoated	0.030	Cylindrical
03302624	AN230R-1.000-E3-R060.0-Z2	1	1	1 1/4	4 1/2	0.960	2.625	2	Uncoated	0.060	Cylindrical
03302625	AN230R-1.000-E3-R090.0-Z2	1	1	1 1/4	4 1/2	0.960	2.625	2	Uncoated	0.090	Cylindrical
03302626	AN230R-1.000-E3-R120.0-Z2	1	1	1 1/4	4 1/2	0.960	2.625	2	Uncoated	0.120	Cylindrical
03302627	AN230-1.000-E4-S.0-Z2	1	1	1 1/4	5	0.960	3.125	2	Uncoated	-	Cylindrical
03302628	AN230R-1.000-E4-R030.0-Z2	1	1	1 1/4	5	0.960	3.125	2	Uncoated	0.030	Cylindrical
03302629	AN230R-1.000-E4-R060.0-Z2	1	1	1 1/4	5	0.960	3.125	2	Uncoated	0.060	Cylindrical
03302630	AN230R-1.000-E4-R090.0-Z2	1	1	1 1/4	5	0.960	3.125	2	Uncoated	0.090	Cylindrical
03302631	AN230R-1.000-E4-R120.0-Z2	1	1	1 1/4	5	0.960	3.125	2	Uncoated	0.120	Cylindrical
03302634	AN335-0.500-E2-S.0-Z3	1/2	1/2	3/4	3	0.470	1.250	3	Uncoated	-	Cylindrical
03302635	AN335R-0.500-E2-R030.0-Z3	1/2	1/2	3/4	3	0.470	1.250	3	Uncoated	0.030	Cylindrical
03302636	AN335R-0.500-E2-R060.0-Z3	1/2	1/2	3/4	3	0.470	1.250	3	Uncoated	0.060	Cylindrical
03302637	AN335-0.500-E3-S.0-Z3	1/2	1/2	3/4	3 1/2	0.470	1.750	3	Uncoated	-	Cylindrical
03302638	AN335R-0.500-E3-R030.0-Z3	1/2	1/2	3/4	3 1/2	0.470	1.750	3	Uncoated	0.030	Cylindrical
03302639	AN335R-0.500-E3-R060.0-Z3	1/2	1/2	3/4	3 1/2	0.470	1.750	3	Uncoated	0.060	C

TECHNICAL TIPS

PRODUCT NUMBER	DESCRIPTION	DIMENSIONS IN INCH						NUMBER OF FLUTES	COATING	RADIUS (RE)	SHANK TYPE
		FLUTE DIA (DC)	SHANK DIA (DMM)	LOC (APMX)	OVERALL LENGTH (OAL)	NECK DIA (DN)	REACH LENGTH (LN)				
03302655	AN335R-0.750-E3-R120.0-Z3	3/4	3/4	1	4 1/2	0.720	2.625	3	Uncoated	0.120	Cylindrical
03302656	AN335-0.750-E4-S.0-Z3	3/4	3/4	1	5	0.720	3.125	3	Uncoated	-	Cylindrical
03302657	AN335R-0.750-E4-R030.0-Z3	3/4	3/4	1	5	0.720	3.125	3	Uncoated	0.030	Cylindrical
03302658	AN335R-0.750-E4-R060.0-Z3	3/4	3/4	1	5	0.720	3.125	3	Uncoated	0.060	Cylindrical
03302659	AN335R-0.750-E4-R090.0-Z3	3/4	3/4	1	5	0.720	3.125	3	Uncoated	0.090	Cylindrical
03302660	AN335R-0.750-E4-R120.0-Z3	3/4	3/4	1	5	0.720	3.125	3	Uncoated	0.120	Cylindrical
03302662	AN335-0.750-E5-S.0-Z3	3/4	3/4	1	5 1/2	0.720	3.625	3	Uncoated	-	Cylindrical
03302663	AN335R-0.750-E5-R030.0-Z3	3/4	3/4	1	5 1/2	0.720	3.625	3	Uncoated	0.030	Cylindrical
03302664	AN335R-0.750-E5-R060.0-Z3	3/4	3/4	1	5 1/2	0.720	3.625	3	Uncoated	0.060	Cylindrical
03302665	AN335R-0.750-E5-R090.0-Z3	3/4	3/4	1	5 1/2	0.720	3.625	3	Uncoated	0.090	Cylindrical
03302666	AN335R-0.750-E5-R120.0-Z3	3/4	3/4	1	5 1/2	0.720	3.625	3	Uncoated	0.120	Cylindrical
03302667	AN335-1.000-E2-S.0-Z3	1	1	1 1/4	4	0.960	2.125	3	Uncoated	-	Cylindrical
03302668	AN335R-1.000-E2-R030.0-Z3	1	1	1 1/4	4	0.960	2.125	3	Uncoated	0.030	Cylindrical
03302669	AN335R-1.000-E2-R060.0-Z3	1	1	1 1/4	4	0.960	2.125	3	Uncoated	0.060	Cylindrical
03302670	AN335R-1.000-E2-R090.0-Z3	1	1	1 1/4	4	0.960	2.125	3	Uncoated	0.090	Cylindrical
03302671	AN335R-1.000-E2-R120.0-Z3	1	1	1 1/4	4	0.960	2.125	3	Uncoated	0.120	Cylindrical
03302672	AN335-1.000-E3-S.0-Z3	1	1	1 1/4	4 1/2	0.960	2.625	3	Uncoated	-	Cylindrical
03302673	AN335R-1.000-E3-R030.0-Z3	1	1	1 1/4	4 1/2	0.960	2.625	3	Uncoated	0.030	Cylindrical
03302674	AN335R-1.000-E3-R060.0-Z3	1	1	1 1/4	4 1/2	0.960	2.625	3	Uncoated	0.060	Cylindrical
03302675	AN335R-1.000-E3-R090.0-Z3	1	1	1 1/4	4 1/2	0.960	2.625	3	Uncoated	0.090	Cylindrical
03302676	AN335R-1.000-E3-R120.0-Z3	1	1	1 1/4	4 1/2	0.960	2.625	3	Uncoated	0.120	Cylindrical
03302677	AN335-1.000-E4-S.0-Z3	1	1	1 1/4	5	0.960	3.125	3	Uncoated	-	Cylindrical
03302678	AN335R-1.000-E4-R030.0-Z3	1	1	1 1/4	5	0.960	3.125	3	Uncoated	0.030	Cylindrical
03302679	AN335R-1.000-E4-R060.0-Z3	1	1	1 1/4	5	0.960	3.125	3	Uncoated	0.060	Cylindrical
03302680	AN335R-1.000-E4-R090.0-Z3	1	1	1 1/4	5	0.960	3.125	3	Uncoated	0.090	Cylindrical
03302681	AN335R-1.000-E4-R120.0-Z3	1	1	1 1/4	5	0.960	3.125	3	Uncoated	0.120	Cylindrical

WHY WAS THIS PRODUCT DEVELOPED?

The Niagara Cutter AN230 and AN335 are designed for high speed / high velocity aluminum milling applications. These 2 series of end mills meet the design requirements established by industry leading CNC machine tool builders to be run in milling machines utilizing 80kw and 120kw spindles. The flexibility of the AN230 and AN335 can also be used in mid-range to high performance milling machines found in many Aerospace machine shops.

WHAT CAN NIAGARA CUTTER OFFER?

A consistent and reliable high level of performance for each and every tool, standard or special. This is delivered from the engineered flute shape, true polishing of the K-land to provide a strong and homogenous cutting edge.

AN230R & AN335R OFFERS:

- Square end and standard Aerospace corner radius sizes
- Unequal flute spacing to eliminate harmonics
- Polished Rake Face K-Land to reduce friction and chip to flute contact
- Stabilization land to eliminate harmonics
- Available in multiple reach lengths to accommodate shallow and deep pockets
- Shank lengths optimized for shrink fit toolholder clamping depths
- Internal Y coolant channels available as standards on the AN335 series

APPLICATION AREAS

High velocity slotting and profiling milling Aluminum up to 1 x diameter depth of cut. High pressure flood coolant and thru the spindle coolant (AN335) is recommended to ensure proper chip evacuation. Balanced tool holder assemblies are highly recommended per the machine tool builder requirements.

INDUSTRY REQUIREMENTS AND NEEDS

- 80kw spindles typically run the AN230 geometry
- 120kw spindles typically run the AN335 geometry
- High rpm applications require balanced toolholder assemblies
- High precision holders that ensure minimal run-out as well as good clamping and transmittable torque are highly recommended when high velocity milling
 - Heavy duty reinforced shrink fit holders
 - Power milling chucks
 - Weldon holders
 - High precision collet chucks
- Anti-pullout protection is highly recommended such as Hamier Safelock or Weldon
- Programming “lead in” and “lead outs” to ensure smooth transitions into and exiting the workpiece





WWW.SECOTOOLS.COM

WWW.SECOTOOLS.COM

03330573, ST20196715 US,
© SECO TOOLS AB, 2019. All rights reserved.
Technical specifications are subject to change
without notice.



Follow us on our social media channels.

SECO 