

# METALWORKING SERVICES

## CATALOG



[www.kennametal.com](http://www.kennametal.com)





# **Kennametal Metalworking Services Catalog**

Metalcutting tools are a valuable investment. Kennametal Metalworking Services help protect that investment for the long term and support the processes you use in your machining business.

Our services are designed to save your business time, money, and inventory. From onsite tool management and engineering personnel, to inventory control systems, to tool manufacturing, reconditioning, and recycling, our programs support tools and their processes throughout their entire lifecycle.

The manufacturing industry is transforming, and machine shops need to operate efficiently to be successful. It's important that tools last longer and maintain their performance in delivering productivity. Let Kennametal Metalworking Services Catalog help.

For more information, visit [www.kennametal.com](http://www.kennametal.com) or contact your Kennametal salesperson or customer service representative.







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# Kennametal Metalworking Services

## Introduction

Kennametal Metalworking Services provides full support throughout the lifecycle of tooling products. Services range from reconditioning of solid carbide round tools to specialized Cost per Part (CPP) Programs with onsite support personnel managing the tool crib and providing engineering support to drive savings. We purchase scrap carbide for recycling, completing the tool lifecycle, and meeting the planet's need for environmental responsibility.

All Kennametal Metalworking Services are designed for cost savings. Rapid Response Centers™ (RRCs) turn around reconditioned solid carbide drills and end mills in under six days, minimizing inventory and ensuring the original technology of the Kennametal product is maintained after each regrind. Quotes for simple special drills and end mills are completed in less than 24 hours and product delivered in less than 10 days.

Kennametal Metalworking Services include tool reconditioning, ToolBOSS™ vending solutions, Rapid Response Centers, carbide recycling, and Cost per Part Programs.



# SERVICES

## PARTS MACHINING

Purchasing

Inventory  
Management

Tool  
Maintenance

Tooling  
Logistics

## COST PER PART

Vending  
Solutions



Reconditioning



Purchasing  
Recycling

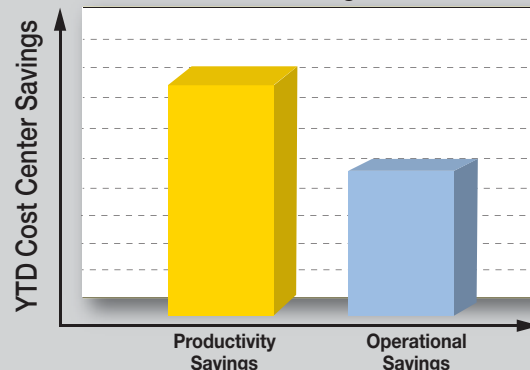


Purchasing  
Tool Pre-Setting



Tooling  
Optimization

## YTD Cost Savings Tracker





# Kennametal Metalworking Services

## NOVO™

NOVO is a suite of powerful digital tools. It links together process planning; inventory availability and purchase; cost-per-part management; and productivity improvements.



See pages 8–11 for more information.

## Cost per Part

This program manages the complete lifecycle of tooling at the customer site. This includes onsite tool crib management, supply chain and inventory control, tool pre-setting, and tooling optimization through a full-time engineer. The onsite Kennametal team addresses ongoing cost reductions, continuous process optimization, and improved productivity and efficiency.

See pages 12–16 for more information.



## ToolBOSS™ Vending Solution

The ToolBOSS vending solution automates the management of tools and supplies and reduces tool purchase, possession, and usage costs by increasing operational effectiveness.

Advantages include:

- Totally unmanned, secure tool stores operating 24/7.
- Full tool management software system, recording every transaction by job, machine, user, and date.
- Automatic re-ordering system, linkable via e-commerce to your suppliers.

See pages 18–27 for more information.





## Tooling Reconditioning

Kennametal's Reconditioning Service optimizes the value of metalcutting tools throughout their lifecycle by providing like-new performance and characteristics. Reconditioning restores tools to the original Kennametal geometries, and rapid turnaround time ensures reductions in on-hand inventory. Use our convenient Blue Box™ program to ship tools between the production center and reconditioning shop.

See pages 28–31 for more information.



## Rapid Response Centers™ (RRC)

These stand-alone centers, located geographically close to customers, were created with speed and customer focus in mind. They provide a combination of reconditioning and localized production of simple special round tool drills and end mills using the latest technology. RRCs offer direct access to local Kennametal representatives for quotes in less than 24 hours. We have several RRCs around the globe.

See pages 32–37 for more information.



# Kennametal Metalworking Services

## Carbide Recycling

Kennametal's carbide recycling program helps to reduce energy usage and add sustainable raw materials. At our easy-to-use web portal, find the value of your used carbide and arrange to send it to us. We accept any coated or non-coated carbide items free of brazing and foreign contaminants. Recycling used carbide helps to preserve and protect the environment, while ensuring these materials are recycled responsibly.

See pages 38–39 for more information.



## Customer Application Support (CAS)

The Kennametal Customer Application Support (CAS) team troubleshoots metalcutting application challenges. The Help Desk engineers are knowledgeable, experienced, and committed to getting cutting tool problems solved. CAS is a single point of contact for fast answers to any technical questions.

See pages 40–41 for more information.



## Engineered Solutions

Kennametal engineered solutions pinpoint and address specific needs of customers, workpiece materials, or workpiece configurations. Solutions include standard products, custom designs, and old-fashioned process know-how that can only come from many decades of tooling expertise.

They are the result of coordinated global resources and are available anywhere in the world, no matter how small or large the project.

See pages 42–43 for more information.





## Kennametal Konnect

Konnect is the Kennametal online buying portal available via the Kennametal website. The features available through Konnect offer you real-time access to local and global product availability, order statuses, invoices and quotes, and much more.

See pages 44–45 for more information.



## Kennametal Knowledge Center

Manufacturing is changing, and shops (and employees) need to adjust machining methods to stay competitive. Kennametal Knowledge Center believes metalworking is a science, not an art.

The Knowledge Center teaches the latest machining practices with a focus on process, regardless of the tool brand used. After all, it doesn't matter what brand of tool you use if you aren't machining by the best method.

See pages 46–49 for more information.



# NOVO

Changing the Way Work Gets Done



If you've experienced NOVO™ already, then you know the power of digital productivity. Encompassing this revolutionary digital power, NOVO is a robust suite of additional offerings that seamlessly transform your entire workflow: **NOVO Select**, **NOVO Advise**, **NOVO Simulate**, **NOVO Inquire**, **NOVO Purchase**, **NOVO Optimize**, and **NOVO Guarantee**. With NOVO's open architecture, you can access the power of existing and future world-class partners to exchange standard file formats for your operation. From art to part to profit, NOVO ensures that you execute flawlessly to accelerate every job and maximize every shift.



## NOVO select

Using drill-down search and advanced filters, **NOVO™ Select** helps you find and select the best tools for any machining job. Tools can be selected from your current shop inventory, or any available source (in stock or purchased).

- Select a tool.
- Smart filters.
- Fits-with items.





## **NOVO™ advise**

Using digital intelligence, **NOVO™ Advise** ranks tool recommendations that meet your requirements based on the machining environments and user preferences. **NOVO Advise** thinks like a process planner working in CAD-CAM software and guides you through a series of parameters to determine the best tools for the job.

- Define machining feature.
- Apply constraints requirements.
- Set machining sequences.
- Rank results.



## **NOVO™ simulate**

**NOVO™ Simulate** provides you with all the assets you need in one place to efficiently simulate your processes, with reduced setup time and increased accuracy. Also, providing seamless tooling data transfer in the ISO 13399 format for easy use by most shop systems.

- CAM Software.
- Simulation.
- Machine control.
- Pre-setting and tool management.



# NOVO

Changing the Way Work Gets Done

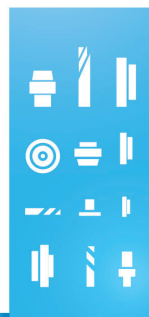
## **NOVO™ inquire**

By integrating with your shop's ToolBOSS™ software, **NOVO™ Inquire** makes ToolBOSS inventory easily viewable during process planning. If a tool isn't in your inventory, it recommends the next best tool choice in your inventory.

- ToolBOSS integration.
- Reduce inventory and tooling costs.
- Pre-setting and programming help.
- Find “second best” tooling.



“Do I have all the tools  
I need in stock?”



## **NOVO™ purchase**

With **NOVO™ Purchase** through NOVO, you can easily create tool assemblies, check in-stock inventory, and order new tooling from Kennametal Konnect or your distributor. It also allows you to check prices, order status, and more — all without leaving NOVO.

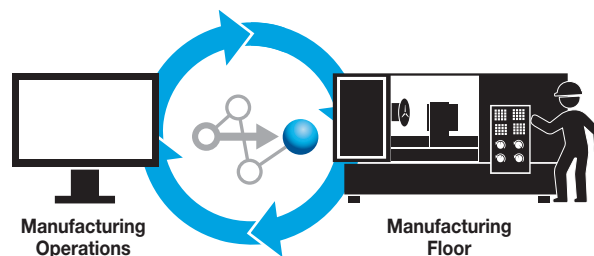
- Check inventory.
- Tool assemblies.
- Fast purchasing.



## **NOVO™ optimize**

By using actual data from the shop floor, **NOVO™ Optimize** (currently available in the US reports) real-time and historical data of how cutting tools and machines are performing in your shop, and recommends improvement opportunities. You can reduce production loss, justify capital expenditures, and see your actual production compared to your planned production.

- Measure, analyze, improve.
- Machine efficiency.
- Tool optimization.
- Operator feedback.
- Reports.



## **NOVO™ guarantee**

**NOVO™ Guarantee** helps you face your operating challenges by bringing it all together: efficient production, better part quality, and resource management. Combined, these add up to guaranteed lower operating costs, which mean lower overall cost per part.

- Onsite services.
- Cost per part.
- Cost per pound.



To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)

# Kennametal Cost per Part (CPP) Program

## Kennametal Cost per Part (CPP) Program

### Getting to the Good Part

The Cost per Part (CPP) Program is the most comprehensive and customizable tool management solution in Kennametal's service portfolio. It's like having the perfect house guest: we come only when invited; we use our own stuff; and we help you out while we're there. And during our stay, we save you money. Kennametal's Cost per Part (CPP) program could be the perfect "house guest" at your shop for proven production methods with guaranteed savings. The CPP program reduces overall costs per part by managing tooling, increasing efficiency, and tracking outcomes. We guarantee a specific cost per part savings and partner with you for your long-term success.

The CPP program is ideal for:

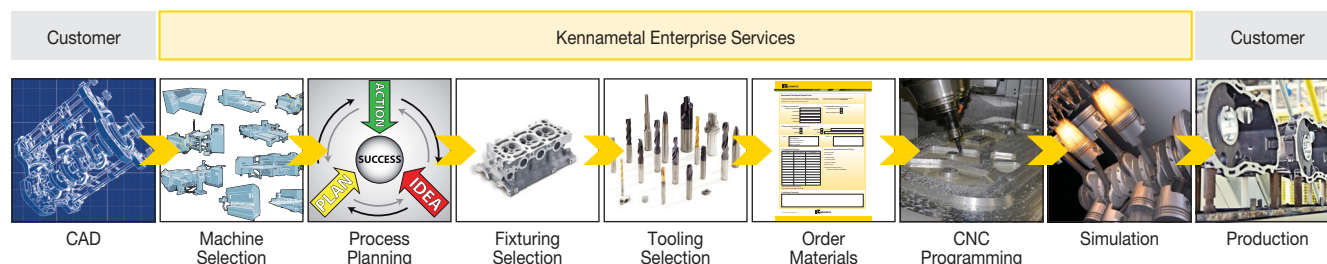
- Shops with high-volume production of single parts.
- Shops that consume large amounts of perishable tools (e.g., drills, inserts, end mills).
- Shops with high metal removal rates.

This program provides dedicated onsite operational and technical resources who work closely with customers to identify and test better tooling solutions, to produce large productivity savings.

### How It Works

We analyze every step of your production process to create a baseline of the current process and cost per part. Then we set up shop inside your plant, becoming your "house guest" for the life of the contract as we improve your production process. Kennametal onsite staff can range from one person to 10, and can include a tooling engineer, a site manager, and tool pre-setters (who deliver tools where needed in the plant, remove used tools from the production area, recondition used tools, reassemble them, and return them to the machine, ready for use).

### Process Design







## Kennametal Cost per Part (CPP) Program

### Risk Reduction

Our onsite staff manages your tool crib, and Kennametal's tools are on consignment throughout the life of the contract. No more stock outages and expediting order costs. That's a big risk reduction for your business.

### Benefits Abound

Kennametal engineering support is onsite every day in your shop to monitor ongoing improvements, and post performance results. Testing, productivity, and savings are tracked and visible.

Because all facilities have different needs at different times, the CPP Program is unique for each customer. Through the development and execution of four key areas — productivity, performance, partnership, and professional services — we deliver:

- Improved productivity and efficiency.
- Risk reduction.
- Inventory management.
- Lower operating costs.
- Operational excellence.
- Optimized inventory.

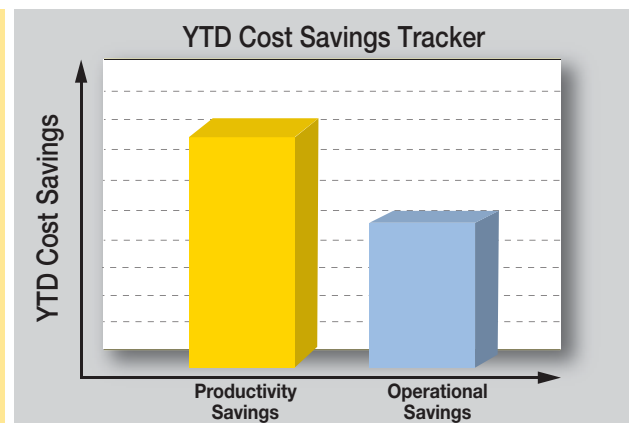
Our newest innovations are applied at CPP customer sites to make an immediate impact on both performance and productivity savings.

#### Productivity Savings

- Cycle time reduction.
- Capacity savings.
- Throughput increase.
- Quality improvement.
- Guaranteed CPP reduction.

#### Operational Savings

- Inventory carrying cost reduction.
- Monthly summary billing.
- Contracted pricing.
- Out-of-stock elimination.
- Training and education services.



## Productivity

### Increased Productivity Is the Best Source of Value Creation. Through This Value, We Earn the Right to Work With You.

The Kennametal CPP Program focuses on productivity and operational savings, not just tooling cost. In manufacturing, tooling cost is only a fraction of the overall spend. Focusing on the overall manufacturing spend will provide a better return and profit.

## Performance

### If It Cannot Be Measured, It Cannot Be Controlled. We Measure Our Performance Against the Industry's Best.

The Kennametal CPP Program has decades of experience and proven processes modeled after the Continuous Improvement Process philosophy to ensure a LEAN culture. Performances are regularly measured, tracked, documented, and communicated based on mutually established key performance indicators (KPIs).

Common KPIs are:

- Safety
- Operational savings
- Productivity savings
- Quality
- Lead time
- Damaged tools
- Inventory

#### **Manufacturing Engineer Manager, Kennametal Cost per Part Customer since 2001**

*"Kennametal is a key member of our manufacturing team. Their willingness to challenge the status quo and push daily for improvements is why we experience such positive performance results. I can't thank the Kennametal team enough for their support in being the driving factor behind continuous improvements."*



## Cost Per Part Report

TAVIS

Job#

**KENNAMETAL**

Job Number





## Partnership

### Through Transparent Processes and Measurable Outcomes, We Align Our Goals to Achieve Greater Results.

The Kennametal CPP Program is a partnership where the customer and Kennametal team share equal responsibility for the site performance and success. By aligning goals as a team, we break away from the traditional, and at times incompatible, customer/vendor relationship. The unified site team drives the level of success.



## Professional Services

### Our World-Class Team Will Be Onsite in Your Shop Every Day — Working with You to Achieve the Results.

The dedicated onsite Kennametal team is in your shop every day working toward ongoing improvements and post-performance results. The team also assists in tool presetting, management of tool disbursement, point-of-use tools, and inventory. This helps to streamline purchasing and invoicing.

#### Improve Your Productivity:

- Eliminate downtime from stock-outs.
- Achieve up to 66% setup time reduction.
- Improve inventory turns up to 6–8 per year.

#### Increase Your Bottom Line:

- Reduce on-hand inventory up to 50% in six months.
- Slash tool consumption up to 30%.
- Reduce acquisition costs up to 90%.



#### **Global Supply Chain Manager, Kennametal Cost per Part Customer since 2006**

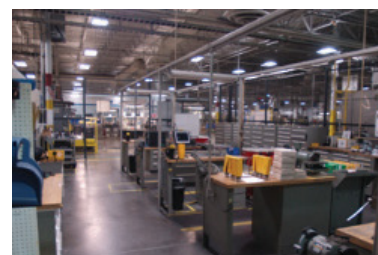
*"Our Kennametal tool management program has yielded excellent results. We are very pleased with the job Kennametal has done thus far and now expect even greater savings to be achieved in their second year. Productivity savings of 20.5% the first year really shows the value that Kennametal Metalworking Services is providing. We know we are on the right track."*





## Proven Results

We have more than 20 years of proven experience with cost per part and tooling management programs in all regions of the world. We have saved some machining companies more than 35% of their tooling spend in process optimization costs. Continuous improvement tools, coupled with an onsite tooling engineer, enable us to identify poor performing tooling solutions and replace them with better technology. We test this technology on your shop floor, prove its performance, and track the savings.



### **Tooling and Production Magazine**

*"In the program, Kennametal staffs dedicated service teams within a client's facility to manage the company's tooling inventory, preset tooling, deliver tools to the production floor, and continually optimize production performance. Some of Kennametal's programs have evolved far beyond traditional product and labor fee-based programs to arrangements where Kennametal is actually compensated for each successful part machined. Using this approach, both Kennametal and its client share directly in the success of the plant and productivity savings achieved."*



To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)

Looking for more information about the services in this catalog?  
Check the Kennametal website!



## Metalworking Services

Visit <http://www.kennametal.com/services/> to browse the entire portfolio of Kennametal Metalworking Services. It's fast, free, and always available. Find out how Kennametal can help you manage your tooling.

# ToolBOSS Vending Solutions

## ToolBOSS Vending Solutions

ToolBOSS vending solutions help to reduce costs and improve efficiencies to give you a competitive edge.

We will identify the vending solution best suited to help you:

- Cut tooling inventory by 50% or more.
- Decrease spending on tooling by up to 30%.
- Reduce administrative costs by as much as 90%.

**Delivering the industry's best practices and optimal solutions to manage tools and supplies, reduce costs, and increase operational effectiveness!**

now with NOVO Interface



To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)

## Customer Offering

### Shared Rewards

Free use of ToolBOSS vending machine combined with a comprehensive maintenance and service package based on agreed sales targets for specified contract terms.

### Direct Purchase of Equipment

ToolBOSS vending machines are available for purchase. Maintenance and service packages available with annual agreements.



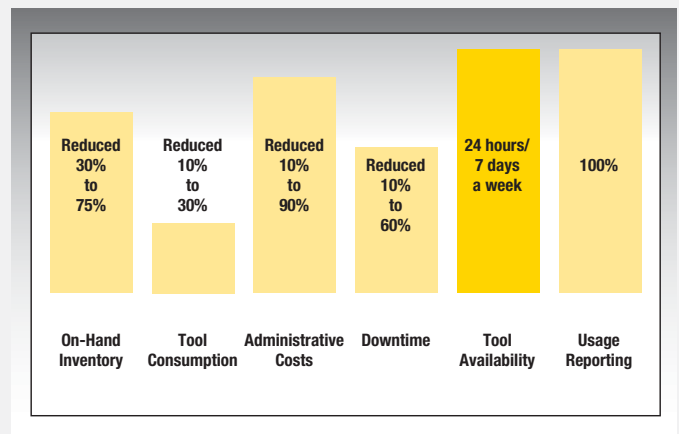
For more information, please contact us at:  
Phone: 888 281 8080  
Email: [na-help.desk@toolboss.com](mailto:na-help.desk@toolboss.com)  
[www.toolboss.com](http://www.toolboss.com)





## Why Should You Use Kennametal ToolBOSS Services?

- **Faster Results:**  
We can help you to establish needs, identify solutions, and achieve measurable results, quickly and cost effectively.
- **Proven Methodology:**  
Successful implementation requires careful planning, teamwork, disciplined execution, and your active involvement.
- **Disciplined Project Execution:**  
We have implemented hundreds of customized supply chain programs with major manufacturers worldwide, achieving impressive efficiency gains, cost reductions, and other related benefits.
- **Superior Service:**  
Our ongoing support, education, installation, and maintenance programs deliver the latest updates and technologies to easily adapt your supply chain to changing industry conditions.
- **Commitment to Success:**  
We believe our success depends upon your success. We are committed to helping you achieve long-term operational and financial benefits.



### What customers have experienced with ToolBOSS

*"ToolBOSS saves me about four man hours per day. In my little job shop, that's worth about \$80,000 annually loaded cost. Incredible!"*

— Owner, Job Shop

*"Tool-use data reported by ToolBOSS software drives our continuous improvement programs. In the first year, we made improvements that reduced the tool cost per man hour KPI by 15%."*

— Production Engineering Manager, Pumps and Valves Industry

*"ToolBOSS reduced our MRO non-production inventory from \$1,114,680 to under \$207,012 in just a few months."*

— Aerospace Manufacturer



## We Help Our Customers Increase Operational Effectiveness

Kennametal helps customers become more globally competitive by providing a blend of expert services and high-quality products focused on streamlining supply chain and increasing overall operational effectiveness.

Successful tool management programs begin with gathering the right data. We collect, organize, and analyze your metalcutting tool and supply inventory and purchasing data. Then we customize a solution that addresses your current needs and provides room to grow. Our staff will implement the solution, train your personnel, and provide ongoing maintenance and support.

Whether your manufacturing involves batch processes or mass production — or metalcutting machines organized in lines, cells, or stand-alone units — Kennametal vending solutions will eliminate unnecessary overhead, ensure tooling availability, shorten setup times, and minimize costs by 30–90%. In fact, our solutions often quickly pay for themselves by delivering savings that exceed your annual spend on cutting tools and supplies.

Contact your Kennametal representative today to learn more about the Kennametal ToolBOSS vending solution that's right for you!

## Secure Inventory Control, Accountability, and Flexibility

Kennametal ToolBOSS is a unique combination of robust, configurable hardware, modern electronics, industry standard software techniques, and the latest developments in data communications.

A single integrated range of vending units can provide unparalleled inventory control, single-item security, accountability of use, and online ordering.

ToolBOSS machines are suitable for dispensing cutting tools and MRO consumables, critical spare parts, maintenance products, fasteners and fixings, safety products, inspection and measuring equipment, and for other applications.

A single machine can store and control items from the size of a tiny screw to bulky safety shoes. One ToolBOSS unit can have the footprint of a filing cabinet, while larger systems can manage more than 4,000 different items.



## The Kennametal ToolBOSS Provides:

- 24/7 automated control.
- Guaranteed availability.
- Secure, auditable storage.
- Consumable and reusable tooling solutions.
- Item calibration tracking and control.
- Line side availability.
- Fast and easy system operation.
- Complete user accountability.
- Automatic procurement capabilities.
- Centralized SQL database.

## ToolBOSS Provides an Easy Way to:

- Reduce inventory procurement costs.
- Improve product availability.
- Reduce tooling/consumable waste.
- Improve customer relationship.
- Enhance calibration tracking and control.
- Improve productivity.

## Take Control

The software system that drives ToolBOSS is powerful and easy to use.

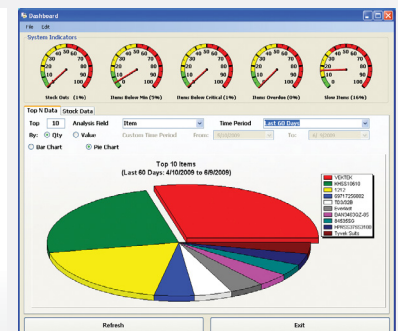
Because of the unique design of the ToolBOSS, items can be issued and returned for repeated use. This is valuable for inspection equipment and tooling applications.

The software allows issue by multiple criteria (cell, job, user) and access to restricted items, such as those required for a single job, while allowing general-use items (e.g., safety equipment) to be available to everybody.

Controlled access through permissions, passwords, and access devices enables each user a unique "profile" to suit their individual requirements. A supplier can restock the machines, but an operator can only withdraw and return items.

ToolBOSS controls items outside the unit by issuing a key or items directly. Loose items, such as screws and washers, can be issued by weight using built-in electronic scales. Batch or individual traceable items, such as inspection equipment or aircraft spares, can be managed. A coded, non-editable audit trail provides evidence of every transaction. Search routines, and the ability to display images of both items and the users, are also part of the design.

Every ToolBOSS machine includes a powerful, flexible report generator that enables standard and customized report output.



Once a report has been defined, it can be accessed anywhere on the network or sent via email. With the networking and hardware built into ToolBOSS as standard, users on the network can access ToolBOSS to reconfigure, run reports, and collect ordering information. Full EDI/electronic capability is included for analysis of information and purchasing. Multiple independent suppliers can access only their information.

Multiple ToolBOSS units can be networked together and provide information about each unit's contents.



Combined with our powerful ToolBOSS™ Management Software, the cabinet provides a versatile high-capacity solution to meet the unpredictable challenges of logistics and supply chain management.

- **Reconfigurable:** Single trays or the entire frame can be easily changed in minutes without the use of tools.
- **Unique Manual Override Ability:** Unique manual override capability, easy-to-use, and 24/7 availability.
- **Drawer Options:** 30 different drawer sizes available to accommodate a large variety of differently sized items; additional special sizes are available upon request.
- **Security:** Access to items in the cabinet can be restricted by the use of: username, password, biometric identification, card readers, or a combination of these options. High-strength drawer locks cannot be forced open by normal or aggressive use, without using tools.
- **Compatibility:** The cabinet is fully compatible with existing ToolBOSS units.
- **High-Speed Access:** Rapid search and selection of items via the ToolBOSS software is enhanced with an LED identification system that guides users to the correct drawer.

- **Expandability:** The cabinet can be expanded by up to 10 units per system, providing up to 1,121 secure locations.
- **Dimensions:** 20.1" D x 21.5" W x 78.7" H (510mm D x 545mm W x 2000mm H)
- **Capacity:**
  - As a stand-alone machine:
    - 26 levels
    - 104 locations (max)
    - 1,248 compartments (max)
  - As an add-on machine:
    - 28 levels
    - 113 locations (max)
    - 1,344 compartments (max)



For more information about managing your inventory with ToolBOSS, please contact your Kennametal Representative or Authorized Kennametal Distributor.



## Services Include the Following:

### Step 1 — Item Survey

The Item Survey accurately assesses your storage needs. Without it, you risk implementing a solution that is either inadequate or overpriced. A completed Item Survey is the foundation for designing a supply chain solution correctly sized for your needs.

### Step 2 — Item Planning and Database Building

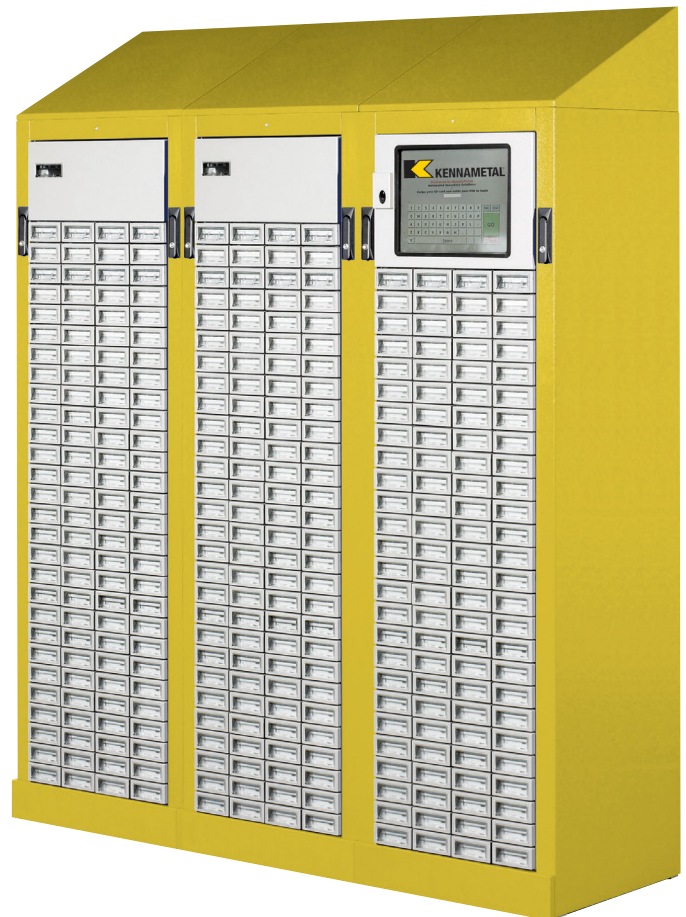
This service optimizes your supply chain. It transforms the data gathered during the Item Survey into a functional database that determines which process changes and enhancements will yield the greatest savings.

### Step 3 — Education and Installation

We support our products, equipment, and services with a range of installation and onsite and offsite education programs to quickly and effectively train employees to help maximize the investment.

### Step 4 — Equipment and Software Maintenance Agreements

Our Equipment and Software Maintenance Agreements offer free replacement parts for failed components, free software updates, and unlimited telephone support. Kennametal provides several payment options to suit any budget and ensure uninterrupted support.





## The ToolBOSS™ ECTC (Journeyman)

### A Conventional Cabinet with ToolBOSS Electronic Lock Upgrade

- **Software:** Uses a light version of the ToolBOSS operating software. Migrates easily into ToolBOSS equipment and software — no new software to learn.
- **Security:** ToolBOSS ECTC (Journeyman) offers drawer-level security to conventional tool cabinets that are upgraded with a ToolBOSS electronic lock. This lock provides additional security to the electronic locks supplied by many cabinet manufacturers. With the ToolBOSS electronic lock, users can open only specific drawers, rather than the entire cabinet. An LED light illuminates the drawer that is unlocked.
- **Cost-Effective:** Provides cost-effective control for a large number of lower usage and lower cost items.
- Ensures that the correct drawer opens when an authorized user requests an item via the software.
- **Compatibility:** Requires no additional training for existing ToolBOSS users.
- **Versatility:** Suitable for storing small to large sized items.
- **Stand-alone:** Can be used as a stand-alone or add-on.
- **Dimensions:**  
7 drawers: all 28-1/4" W x 28-1/2" D (71,76mm W x 72,39mm D)  
Each available in different heights
- **Weight Capacity:** 440 lbs (200 kg)



## SUPPLY LOCKERS

### Bulk Storage and Large Items

- **Bulk Storage:** Three different cupboard sizes available.
- **Stand-alone:** Can be used as a stand-alone solution for managing large and bulky items.
- **Configurable:** Each locker can be configured with a mixture of three different cupboard sizes.
- **Secure Locations:** Up to 27 secure locations in a single unit.
- **Expandable:** Can be expanded by up to 10 lockers providing up to 270 secure locations.
- **Compatibility:** Can be seamlessly integrated into any existing ToolBOSS installation.
- **Manual Override:** Easy-to-use manual override capability to ensure access to items in case of power or computer failure.
- **Dimensions:**  
**Frame:** 20.1" D x 42.9" W x 78.7" H (510 mm D x 1090mm W x 2000mm H)  
**Cupboards:**  
Small: 0.63" H x 125.98" W x 196.85" D (154mm H x 320mm W x 500mm D)  
Medium: 100" H x 125.98" W x 196.85" D (254mm H x 320mm W x 500mm D)  
Large: 202.75" H x 125.98" W x 196.85" D (515mm H x 320mm W x 500mm D)
- **Weight Capacity:** 165.35 lbs (75 kg) per cupboard





## MODULO

### High Capacity, Competitive, and Modular

- **Configurable:** Can be configured to provide different size drawers and compartments.
- **High Capacity:** Up to 120 secure locations managing up to 1,440 items.
- **Unique Manual Override Ability:** Easy-to-use, unique front access manual override capability, which requires no disassembly. The override can be set to allow access to only the required items, maintaining the security of the rest of your vital components.
- **Easy Scoop Design:** Compartment shape ensures smooth retrieval of contents.
- **High-Speed Access:** Rapid search and selection of items is enhanced with a complete LED identification system, which guides users to the drawer.
- **Expandable:** Up to 10 units per system, providing 1,200 secure locations, managing up to 14,400 items.
- **Compatibility:** The MODULO unit is fully compatible with all existing ToolBOSS machines.
- **Dimensions:** 20.1" D x 21.5" W x 78.7" H (510mm D x 545mm W x 2000mm H)
- **Capacity:** 120 locations, 1,440 compartments (max)
- **Construction:** Steel frame, ABS plastic drawers
- **User Interface:** 15" capacitive touchscreen



## ROTOPOINT

### Ideal Solution Where Space Is Limited but a Large Number of Different Items Must Be Managed, like Gloves, Goggles, and Hand Tools

- **Non-Tooling Support:** Ideal for MRO items, such as gloves, goggles, and hand tools.
- **Low to High Volume:** ROTOPOINT is available in 6 variations, providing a wide number of locations from 90 up to a maximum of 468 in a single unit.
- **Manual Override:** ROTOPOINT has a simple manual override that allows the contents to be accessed in case of power outages.
- **Security:** The compartments in the ROTOPOINT are hidden from view behind sturdy sliding doors and can withstand vigorous use. The contents can be randomly distributed around the ROTOPOINT, reducing the risk of the unauthorized removal of contents.
- **Expandability:** The ROTOPOINT unit can be expanded by up to 10 units per system to provide up to 4,680 secure locations, managed and controlled by ToolBOSS tool management software.
- **Compatibility:** The ROTOPOINT is fully compatible with all existing ToolBOSS tool machines.
- **Dimensions:** 40.6" D x 40.6" W x 79.1" H (1030mm D x 1030mm W x 2010mm H)
- **Weight Capacity:** 551.15 lbs (250 kg) uniform distributed load
- **Locations per Level:** 18–36
- **Number of Doors:** 5–13
- **Locations:** 90–468 in a single frame



**MAXIMIZING CHOICE:**

From satellite stores to central warehouses, our advanced integrated solutions ensure easy and consistent management of your data, with robust automated synchronization to a centralized database.

**EMPOWERING YOU:**

Our secure, easy-to-use customer portal provides advanced data management tools that eliminate the need for costly in-house application deployment. This facilitates regional, national, and global availability of your enterprise data.

**REMOTE MANAGEMENT:**

Software-only installations for manned or satellite stores integrate seamlessly to the central database. This provides consistent and complete visibility across the business, while simultaneously improving return on investment.



**REDUCED INVESTMENT:**

Our solutions require minimal investment for training, infrastructure deployment, and maintenance. They ensure optimal use of resources to improve efficiency, enhance productivity, and maximize profitability.

**SITE-WIDE MANAGEMENT:**

Single trays or the entire frame can easily be changed in minutes without the use of tools.

**TAILOR-MADE:**

Individual, location-specific system settings and reorder points ensure each machine and store area is optimized to the local requirements. This maintains automatic, uninterrupted, and efficient operation.

#### **ROBUST SOLUTIONS:**

Automatic data replication, integrity, backup, and recovery tools guarantee your data is always secure with automatic and transparent management of sporadic network or infrastructure problems.

## **ToolBOSS Vending Solutions**

The Kennametal ToolBOSS™ is built using leading-edge technologies that provide flexible, cost-saving solutions you control.

Built on a powerful synchronization agent, each point-of-use machine or terminal operates independently, while automatically synchronizing data across your organization.

Comprehensive data exchange delivers consolidated information relating to KPIs for all areas of the business; data can be managed on a site-by-site or corporate level depending on specific requirements.

Our systems provide comprehensive, information-focused solutions that enable you to stay competitive.

#### **SECURE ACCESS:**

Using industry standard, end-to-end 256-bit SSL encrypted data transfer, we manage and protect your valuable data, while ensuring you retain complete ownership and instant worldwide access.

#### **INFORMATION CONSOLIDATION:**

With usage and inventory data replicated on a central database, located on your network or on our expansive hosted SAN, our flexible and robust architecture ensures instant availability of management information.

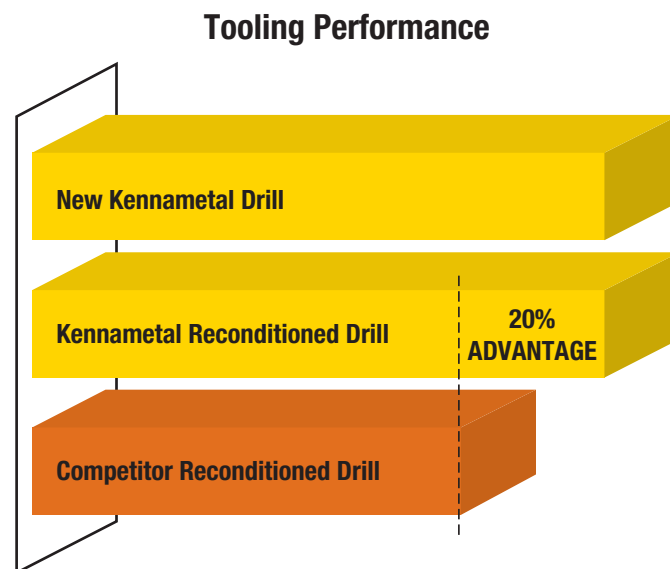


# Reconditioning Services

## Why Reconditioning?

Our Reconditioning Services optimize the value of your metalcutting tools by providing like-new performance to tools on-hand. Reconditioning tools is smart for business and the environment. You save money, reduce inventory, and avoid material waste.

Customers purchase Kennametal tooling for its high performance. Why not continue receiving that same high performance after each reconditioning cycle? Kennametal can help you reduce tooling costs by more than 50% versus purchasing new tools (see graph on page 29). And taking advantage of our innovative tooling designs provides even greater savings because the reconditioned tool continues to achieve the same like-new performance as the original purchase.



*NOTE: Estimated value. Values vary based on machining conditions.*

***Kennametal keeps you performing at  
the highest productivity rates.***

To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)





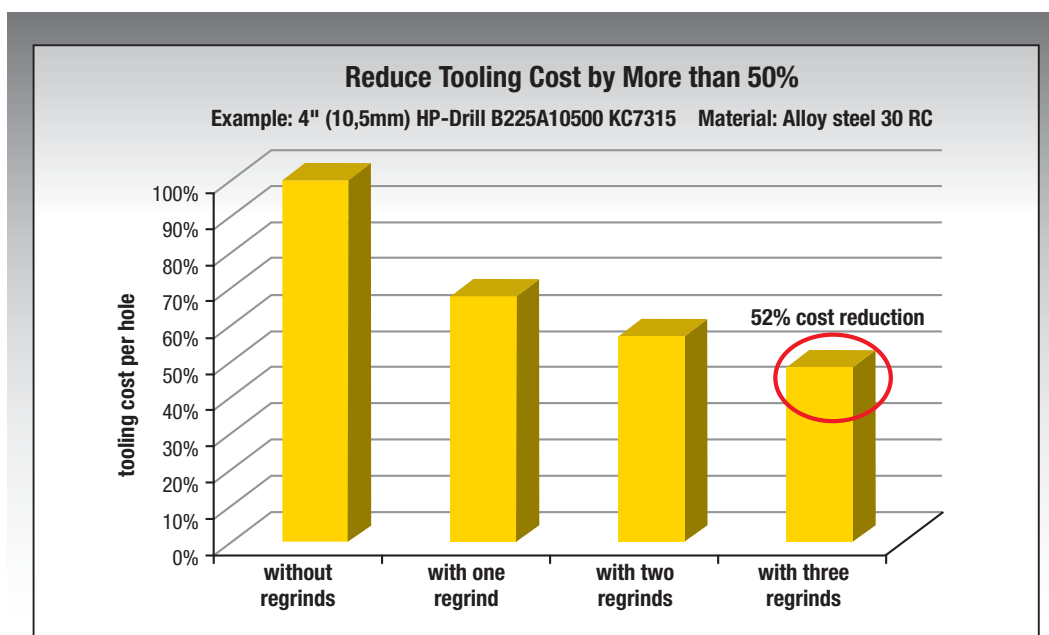
## Value

- Reconditioning performance comparable to new products in reliability, tolerances, and productivity.
- Application support over the entire tool lifecycle.
- Reduced tooling cost.

## Offerings

### Reconditioning of:

- Solid carbide drills
- Carbide modular drills
- Solid carbide end mills
- Reamers
- Solid carbide taps
- PCD/CBN tooling
- Modular inserts for KSEM™ drills

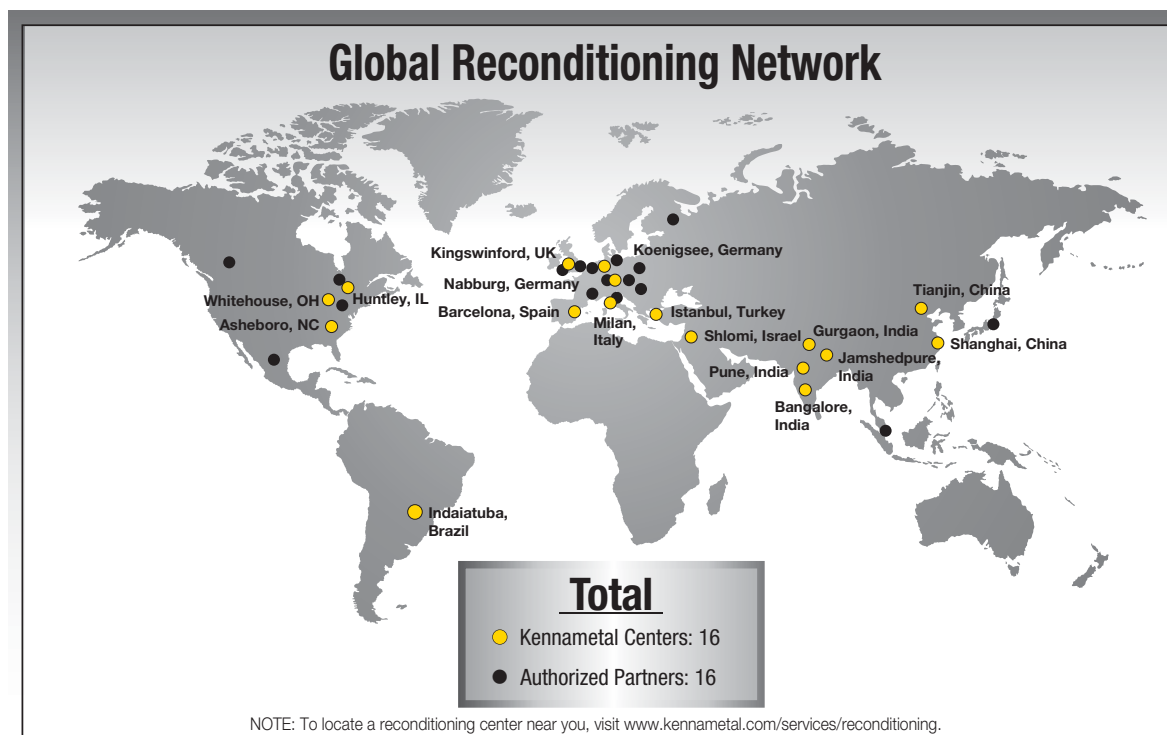


# Reconditioning Services

## Value Proposition

### Kennametal Reconditioning Services Optimize the Total Value of Metalcutting Tools through Their Entire Life

- Local support you can trust.
- Rapid turnaround to minimize inventory.
- Like-new performance continues delivering productivity.
- Application support throughout the tool lifecycle.
- Kennametal proprietary geometry specifications after each regrind.
- Kennametal certified coatings.
- Easy logistics through the Blue Box™ process.







## Simple Logistics

Our unique Blue Box™ program simplifies sending and receiving reconditioned tools to reduce shipping time and on-hand inventory. The program is easy to use:

### Kennametal Blue Box • Easy as 1, 2, 3...

- 1 Simply load your tools into our specially designed and reusable Blue Box™, or carefully package your tools in a sturdy shipping box. Download the shipping form from the Kennametal website.
- 2 Contact your local customer service location for instructions, then send the tools to the nearest Kennametal Reconditioning Center.
- 3 Leave the rest to us! Kennametal will recondition and return your tools in like-new condition to boost your productivity!

*Boxes are available from Kennametal Reconditioning Centers.*



***No One Brings More Value to  
Your Shop Floor than Kennametal.***

# Rapid Response Centers™ (RRC)

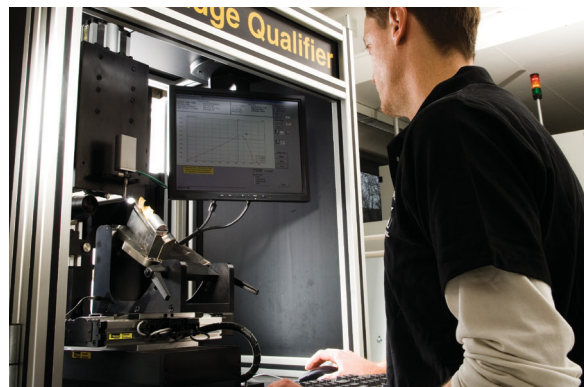
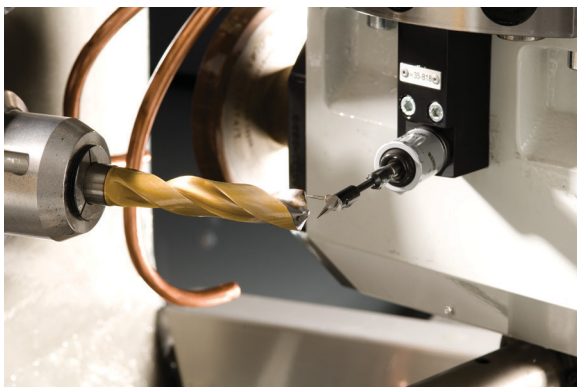
## Kennametal Rapid Response Centers (RRC): Reconditioning, Manufacturing of Simple Specials, and Training\*

Kennametal understands the benefits of supporting customer needs through local facilities that provide services with fast turnaround. Our global Rapid Response Centers (RRCs) offer reconditioning services and manufacturing of simple specials for round tools. RRCs are conveniently located and can provide faster service for new and reconditioned tools.

- Local engineering
- Local manufacturing
- Improved reconditioning lead time
- Available 24 hours, 5 days a week
- Quotes in 24 hours
- Solid carbide drills
- Solid carbide taps
- End mills
- Reamers

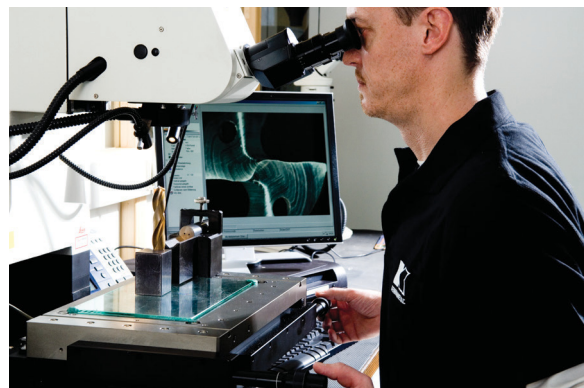


\*Offering may vary depending on region. Please contact your Kennametal Sales Representative for details, or visit [www.kennametal.com](http://www.kennametal.com).



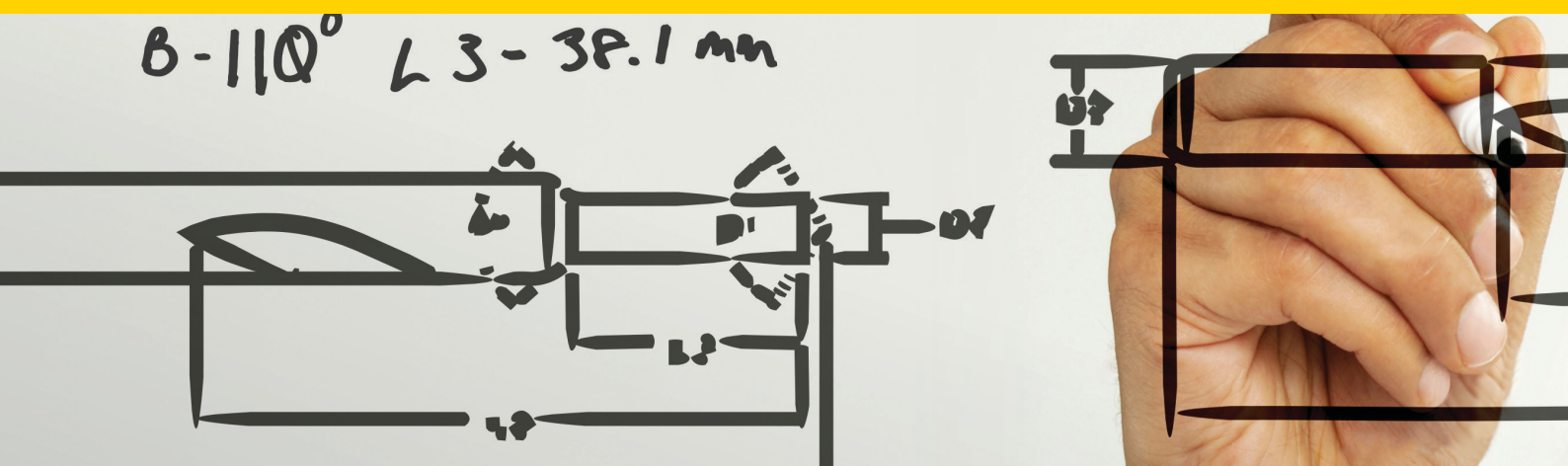
## Our Experts. Your Local RRC.

Our local expert technicians use original proprietary geometry specifications to deliver high-quality reconditioning and manufacturing of simple specials — ensuring the highest performance.



[www.kennametal.com/rapidresponse](http://www.kennametal.com/rapidresponse)





## The RRC Advantage: Simple Specials

Manufacturers know the value of high quality products in demanding environments. To maximize production and stay competitive, their tools need to be reconditioned or manufactured and delivered as quickly and conveniently as possible. Kennametal created Rapid Response Centers™ to exceed our customer's expectations, delivering the tools they need faster than ever before.

## Direct.

*Work directly with our local onsite expert technicians.*

Contact RRCs by email, fax, or telephone, or go to our website and fill out a quote request at [www.kennametal.com/rapidresponse](http://www.kennametal.com/rapidresponse).

## Responsive.

*Quotes can be delivered in 24 hours or less.*

When you submit a request, the process immediately begins. Quote requests submitted through our secure RRC web form will be delivered in 24 hours or less. Receive a quick turnaround and response from an RRC — every step of the way.

## Smart.

*Made locally, delivered faster — saving you time & money.*

The complete RRC service doesn't end once an order has been fulfilled. Future orders will be expedited through a detailed RRC history report that makes the process even faster and easier than the first time.

**Request for Quote**

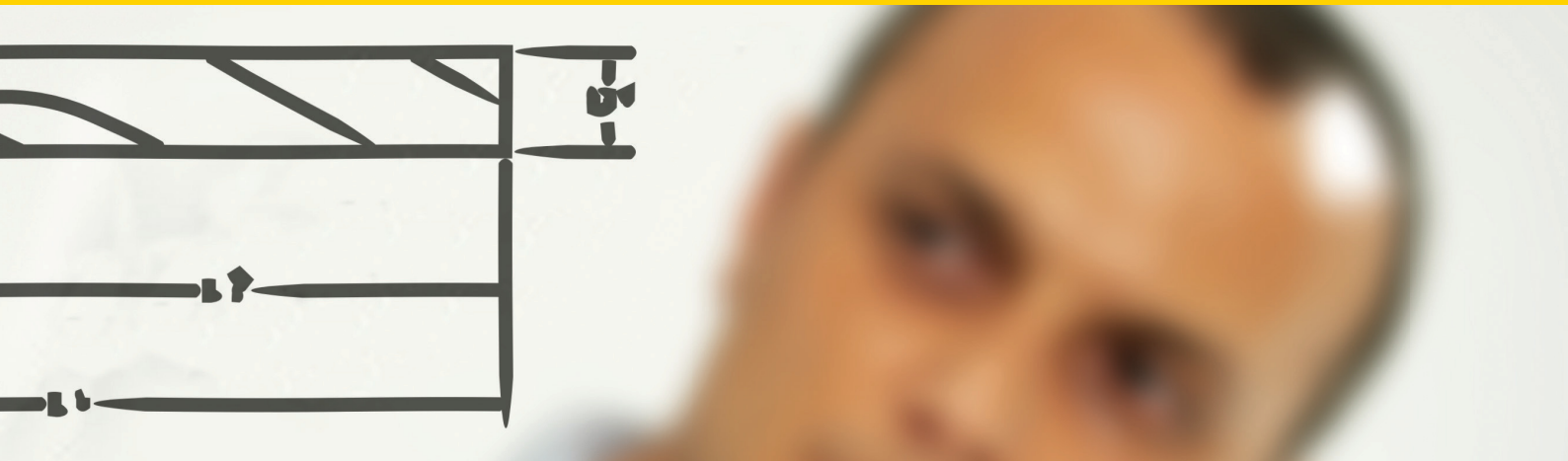


**Quote in 24 Hours**



**Place an Order**





### ■ RRC Offering Package For Local Manufactured Simple Specials

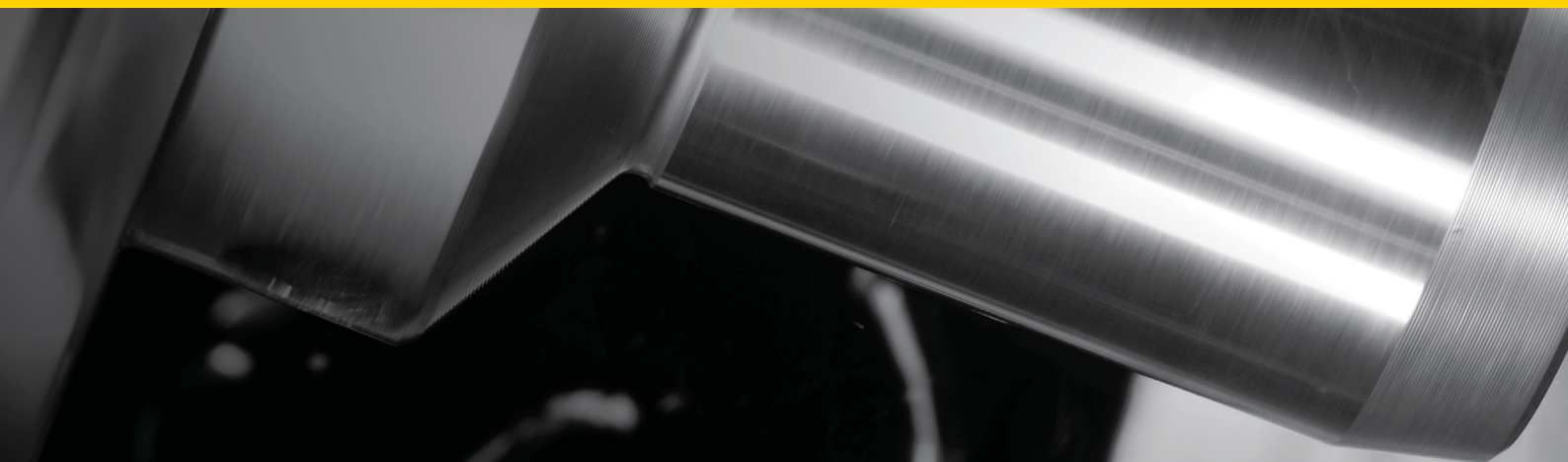
#	Criteria	Solid Carbide Drills	Solid Carbide End Mills
1	Diameter (D)	3–25mm	6–32mm
2	Length (L)	10 x D	10 x D
3	Max # of flutes (Z)	3	6
4	Max # of steps	2	—
5	Point geometry	All Kennametal points	Square, Ball nose
6	Flute form	Straight, Helix	Straight, Helix, Unequal fluting
7	Coating	Best available	Best available
8	Quotation	24 hours	24 hours
9	Delivery	10 working days	10 working days

Rapid Response Centers (RRCs) focus on the quick turnaround of simple special solid carbide drills and end mills. The local convenience means faster response to your needs because requests are fulfilled and manufactured on site. Simple specials can be completed and delivered in 10 working days or less, from receipt of the order.

RRCs allow you to work directly with our local onsite expert technicians — saving you time and money. You also can contact RRCs by email, fax, or telephone, or go to our website and fill out a quote request at [www.kennametal.com/rapidresponse](http://www.kennametal.com/rapidresponse).

RRCs utilize the original Kennametal proprietary geometry specifications that ensure the highest performance, even on used, reconditioned tools. This technology provides productivity savings throughout the entire life cycle of the tool. Simple specials come with the same unique technology and are delivered in a shorter time to match your production times.

***Receive Tools in less than 10 Working Days.***



## RRC Types

● <b>Type A</b>	● <b>Type B</b>	● <b>Type C</b>
<ul style="list-style-type: none"> <li>• <b>Reconditioning</b></li> </ul> <p><b>Lead Time:</b> 6 working days + logistics</p> <p>● Zory, Poland</p>	<ul style="list-style-type: none"> <li>• Reconditioning</li> <li>• <b>Simple Special Drills/End Mills</b></li> </ul> <p><b>Quotations:</b> 24 hours <b>Lead Time:</b> 10 working days + logistics</p> <p>● Kingswinford, UK</p>	<ul style="list-style-type: none"> <li>• Reconditioning</li> <li>• Simple Special Drills/End Mills</li> <li>• <b>Training and Demo Center</b></li> </ul> <p>Number of training and customer events.</p> <p>● Istanbul, Turkey ● Busan, S. Korea</p>

**Locations\***

To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)

\* As of 2015





## Rapid Response Centers (RRCs)

For customer service, or to place an order, contact:

**United Kingdom****KINGSWINFORD****Kennametal UK Limited**

Building 14

Pensnett Trading Estate

Kingswinford

West Midlands

DY6 7NP

Phone: 01384 408060

01384 408457

Fax: 0800 917 8289

Email: k-kngw.rrc@kennametal.com

**Turkey****Kennametal Kesici Takımlar ve San. Ve Tic A.Ş.**

DES Sanayi Sitesi 110. S

D29 Blok No.45 34776 Yukarı Dudullu

Umraniye, İstanbul, Turkey

Phone: 0216 574 4780 (Pbx)

Fax: 0216 574 0564

Email: k-istn.information@kennametal.com

**Poland**

Kennametal Produkcja Sp. z o.o.

Serwis Regeneracji Narzędzi UI.

Boczna 8 Zory, Poland 44-240

Phone: 00800 4411941

Fax: 61 6656501

Email: poland.service@kennametal.com

**Korea**

RRC 센터

한국 케나메탈(유)

부산광역시 강서구 유통단지1로 132번길

38 (대저2동)

전화: 070 4923 9760 1

팩스: 051 972 0006

Email: k-kr.ce-rrc@kennametal.com



[www.kennametal.com/rapidresponse](http://www.kennametal.com/rapidresponse)

# Carbide Recycling Services

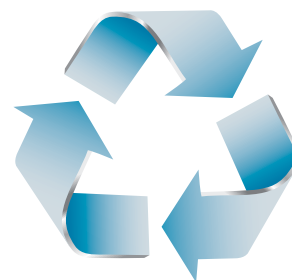
## Kennametal Carbide Recycling

### Good for You, Better for the Environment!

The Kennametal Carbide Recycling Program can turn accumulated scrap carbide tooling in your shop into cash.

We pay cash for used carbide tooling, including coated or non-coated carbide inserts, drills, end mills, reamers, and taps, regardless of brand.

It's good for the environment and a responsible way to dispose of scrap carbide.



Our carbide recycling program features:

- Easy-to-use web portal that shows what your scrap carbide is worth before sending it to us.
- Online forms that make it easy to ship scrap carbide to Kennametal.
- Green Box™ containers for safe, convenient shipping of scrap carbide to Kennametal.
- Cash payment for used carbide tooling.

Contact a Kennametal sales representative for program availability in your area, or visit [www.kennametal.com/carbide-recycling](http://www.kennametal.com/carbide-recycling).



## Carbide Recycling Made Simple.

Sell Your Scrap Carbide to Kennametal in 3 Easy Steps!

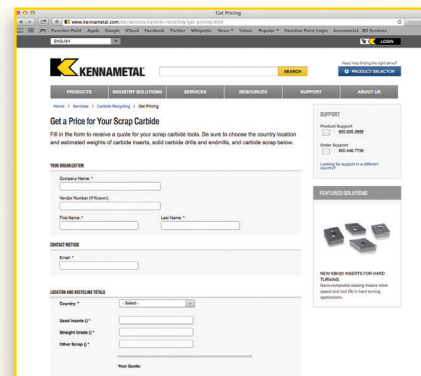


1

Visit [www.kennametal.com/carbide-recycling](http://www.kennametal.com/carbide-recycling).

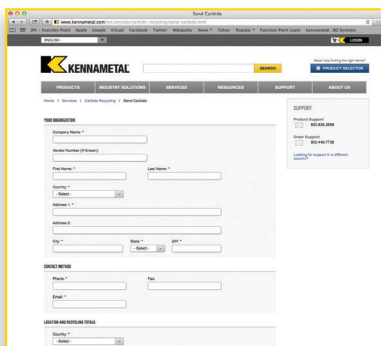
2

Get a quote to find out what your scrap carbide is worth, or click the "Send Carbide" Link.



3

Fill out the form and send it with your scrap carbide to Kennametal.




To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)

Visit [www.kennametal.com/carbide-recycling](http://www.kennametal.com/carbide-recycling) for full details about the Carbide Recycling Program.



# Customer Application Support

## Customer Application Support (CAS)

The Kennametal Customer Application Support (CAS) team troubleshoots metalcutting application challenges.

### Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

#### Service Level Excellence

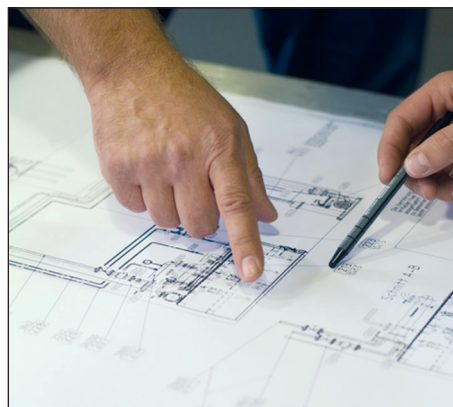
- Fast telephone response.
- Quick technical solutions.
- Efficient case management.

#### Services

- Operating parameters.
- Process optimization.
- Hardware support.
- Tooling selection.
- Troubleshooting.

#### Best-in-Class Support Tools and Technology

- Materials database.
- Application calculators.
- Tooling performance experts.



## Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

### Convenient Access Options:

Originating Country	Language	Phone	Fax	E-mail
Australia	English	1800 666 667	001 724 539 6830 *	ap.kmt.techsupport@kennametal.com
Austria	German	0800 202873	0049 911 9735 429 *	eu.techsupport@kennametal.com
Belgium	English/French	0800 80850	0049 911 9735 429 *	eu.techsupport@kennametal.com
China	Chinese	400 889 2238	+86 21 5834 2200 *	k.cn.techsupport@kennametal.com
Denmark	English	808 89298	001 724 539 6830 *	na.techsupport@kennametal.com
Finland	English	0800 919412	001 724 539 6830 *	na.techsupport@kennametal.com
France	French	080 5540 367	0049 911 9735 429 *	eu.techsupport@kennametal.com
Germany	German	0800 0006651	0911 9735 429 *	eu.techsupport@kennametal.com
India	English	80 43281 156	—	in.techsupport@kennametal.com
Israel	English	1809 449889	001 724 539 6830 *	na.techsupport@kennametal.com
Italy	Italian	800 916561	02 89512146 *	eu.techsupport@kennametal.com
Japan	English	03 3820 2855	03 3820 2800 *	ap.kmt.techsupport@kennametal.com
Korea (South)	English	+82 2 2100 6100	001 724 539 6830 *	ap.kmt.techsupport@kennametal.com
Malaysia	English	1800 812 990	001 724 539 6830 *	ap.kmt.techsupport@kennametal.com
Netherlands	English	0800 0201 130	001 724 539 6830 *	eu.techsupport@kennametal.com
New Zealand	English	0800 450 941	001 724 539 6830 *	ap.kmt.techsupport@kennametal.com
Norway	English	800 10080	001 724 539 6830 *	na.techsupport@kennametal.com
Poland	Polish	0080 04411887	06166 56504 *	eu.techsupport@kennametal.com
Russia (landline)	Russian	8800 5556394	0048 6166 56504 *	eu.techsupport@kennametal.com
Russia (cell phone)	Russian	+7 8005556394	0048 6166 56504 *	eu.techsupport@kennametal.com
Singapore	English	1800 6221031	001 724 539 6830 *	ap.kmt.techsupport@kennametal.com
South Africa	English	0800 981643	001 724 539 6830 *	na.techsupport@kennametal.com
Sweden	English	020799246	001 724 539 6830 *	na.techsupport@kennametal.com
Taiwan	English	0800 666 197	001 724 539 6830 *	ap.kmt.techsupport@kennametal.com
Thailand	English	1800 4417820	001 724 539 6830 *	ap.kmt.techsupport@kennametal.com
UK	English	0800 032 8339	001 724 539 6830 *	na.techsupport@kennametal.com
Ukraine	Russian	0800502664	0048 6166 56504 *	eu.techsupport@kennametal.com
USA	English	800 835 3668	001 724 539 6830 *	na.techsupport@kennametal.com

Phone and fax numbers marked with \* are not toll free

# Engineered Solutions

## Engineered Solutions

### You Won't Find These Solutions in a Catalog

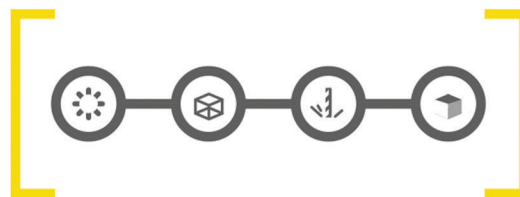
Kennametal engineered solutions pinpoint and address specific needs of customers, workpiece materials, or workpiece configurations. Solutions include standard products, custom designs, and old-fashioned process know-how that can only come from many decades of tooling expertise.

They are the result of coordinated global resources and are available anywhere in the world, no matter how small or large the project.

## Manufacturing Process

### We Look at the Entire Production Process, Not Just Portions of It

From the machine tool to the last stop in production, we can optimize the manufacturing process throughout every step. The result is low implementation time and costs, and rapid return on investment.







## Case Studies

### THE CHALLENGE Aerospace Components

A customer who makes aerospace components was about to lose a job due to lead-time issues and cost. They contacted Kennametal based on success with previous components. The objective was to reduce the number of passes from 6 to 2 in the application. After a complete assessment, the recommended solution was to use the HARVI™ helical rougher that would cut the full width of the part (previous tool only cut half the width) with five effective flutes.

**THE RESULT** Cycle time was reduced from 84 minutes to 39 minutes. The number of passes was successfully reduced from 6 to 2.



### THE CHALLENGE Intense Machining

A customer needed to remove several hundred pounds of material during part machining and to reduce the cycle time.

**THE RESULT** A custom 4-disc slotting cutter was designed to machine the part in an entirely different way — 450 inserts within the cutter body removed 500 pounds of titanium.

Our engineered solution reduced cycle time by 66%, from 48 hours to only 16 hours. It saved the company nearly \$2.2 million annually and eliminated the need to run extra shifts or hire more workers.

# \$2.2 million

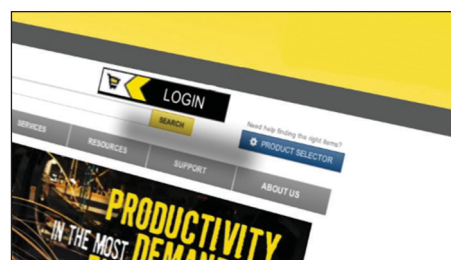
# Kennametal Konnect

## Kennametal's Web Shop

**Available in 19 Languages, Kennametal Konnect Offers Complete Self-Service Account Management and More**

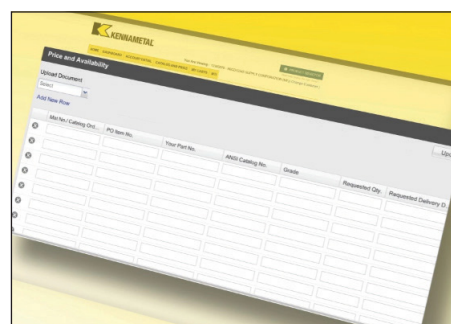
### Check Real-Time Local and Global Product Availability from the Homepage

- Login as a current customer, or easily create a new business or guest account.
- Check price and global availability.
- Enter products directly into your cart or upload from Microsoft® Excel®, quote, or template.
- Customized layout of grid.
- Faster, better performance.
- Add items to multiple carts from all search grids.
- Add multiple quoted items to same cart.
- Create a custom from a standard product and immediately receive new part number and see price!



### Search Features

- See product status, stock status, replacements.
- Related items in details of each search.
- Enhanced delivery date functionality.
- Easily track packages, status of shipments, backorders.
- Enter RMA request directly online!
- Global availability of products in 9 consolidation warehouses.
- See and order obsolete product until stock is depleted.
- Automatically replace obsolete item with replacement.
- Search in any grid.





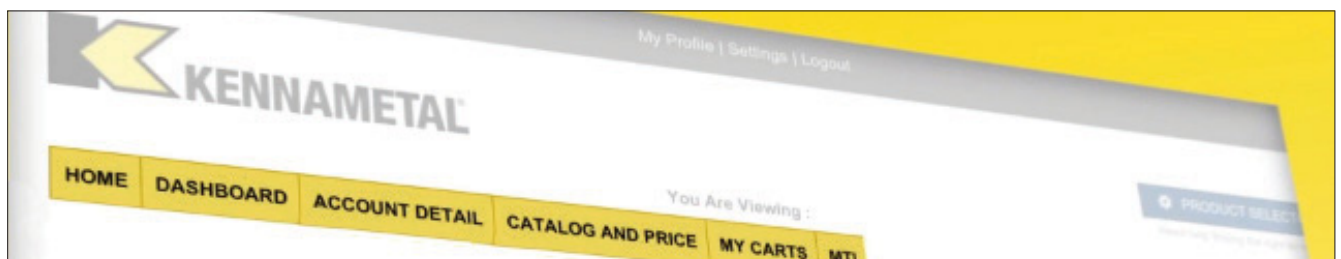
## Dashboard Features

Single snapshot of all your transactions with Kennametal:

- Orders, quotes, contracts
- Scheduling agreements
- Quick product look-up
- Track packages
- Invoices
- Credits
- Debit memos

## Manage Account Details

- Sales returns
- Create ship-to accounts
- Complaints
- Sales returns
- Email any of your documents
- Download price file
- Transaction history
- Complete document flow in all transactions



## Seamless Integration with Kennametal.com

- Multiple product search categories.
- Click to see product detail page during search.
- Related products displayed within each material.

## Multiple and Persistent Shopping Carts

- Ability to create multiple carts and share with your team.
- Portal available in 19 languages that are easily interchangeable.
- Cart automatically saves if your session times out.
- Password reset connected to security question.





# Kennametal Knowledge Center

## Kennametal Knowledge Center

### Classes to Suit Everyone

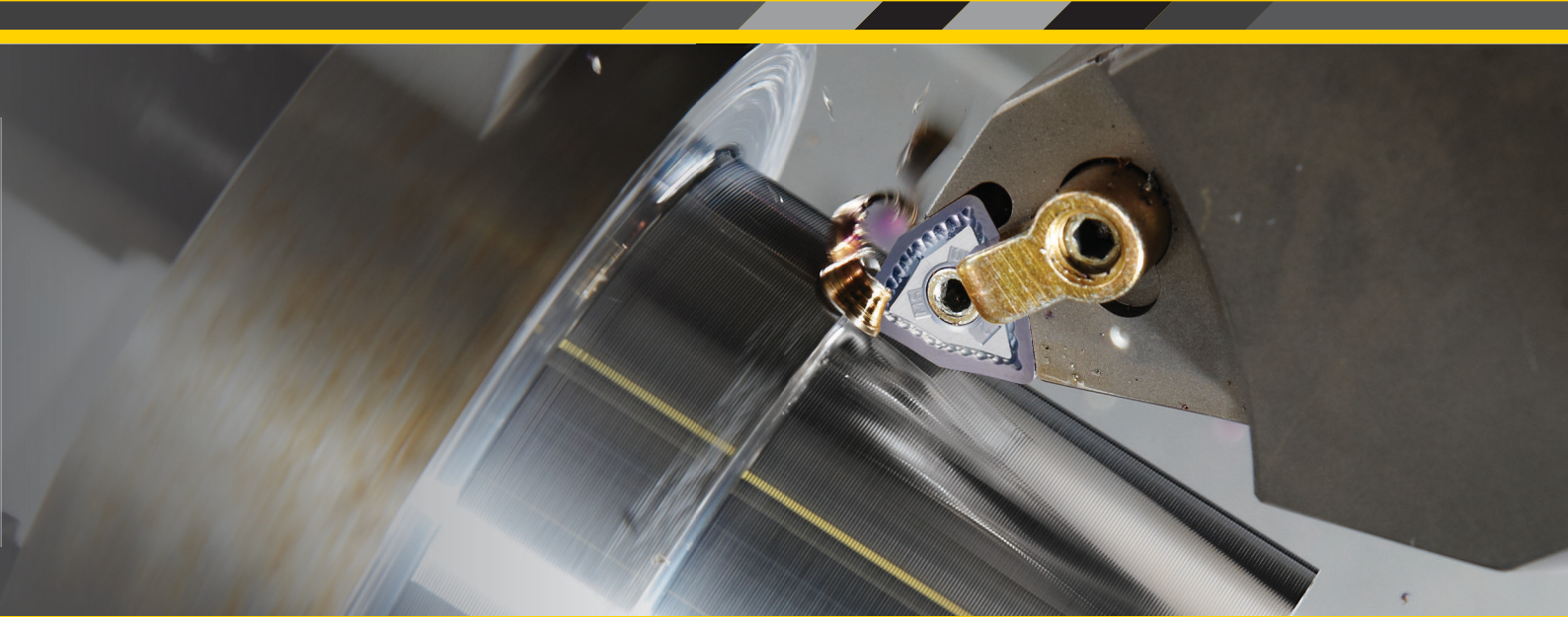
Doing things the same way year after year can stall productivity. Continuing education and training in the latest machining practices are necessary to stay competitive.

The Knowledge Center offers several ways to get trained: industry- and application-specific courses, customer onsite programs, and online-based certified metalcutting professional courses. In-person classes include lecture, lab, and machining demonstrations.

### Regional Training

The Regional Application Engineering Program is designed to provide a broad base of knowledge for the selection and use of metalcutting tools. Instruction includes lecture-style presentations and video demonstrations. Participants receive notes and text materials, and the video demonstrations reinforce the theories presented in the lecture.





## Metalcutting Application Training

The Comprehensive Metalworking Application Course provides a broad base of knowledge for the selection and use of metalcutting tools. Lecture-style presentations and laboratory demonstrations enhance course material through actual cutting tests and reinforce the theories presented in the lecture.



To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)



# Kennametal Knowledge Center

## Online Certified Metalcutting Professional (CMP) Training

Kennametal's online CMP course will dramatically improve the profitability, productivity, and part selection quality of those who complete the program. Our CMP program clearly and concisely explains the metalcutting process and provides defined and common tool selection criteria based on proven cause and effect relationships among three categories of tool design and application factors:

- 1. ENGINEERING PRINCIPLES** — identify tool design features and application factors used to affect tool performance.
- 2. TURNING PROCESSES** — define how to apply the Engineering Principles selection criteria to lathe and turning center applications.
- 3. MACHINING CENTER PROCESSES** — cover how to apply the Engineering Principles selection criteria to machining center applications.

## Sales and Authorized Distributor Training

The Sales and Distribution Training Program provides a broad base of knowledge for the selection and use of metalcutting tools. This program is specifically designed to address the needs of channel partners focused on improving their Kennametal brand product knowledge while improving their application expertise. Lecture-style presentations and video demonstrations reinforce the theories presented in the lecture.

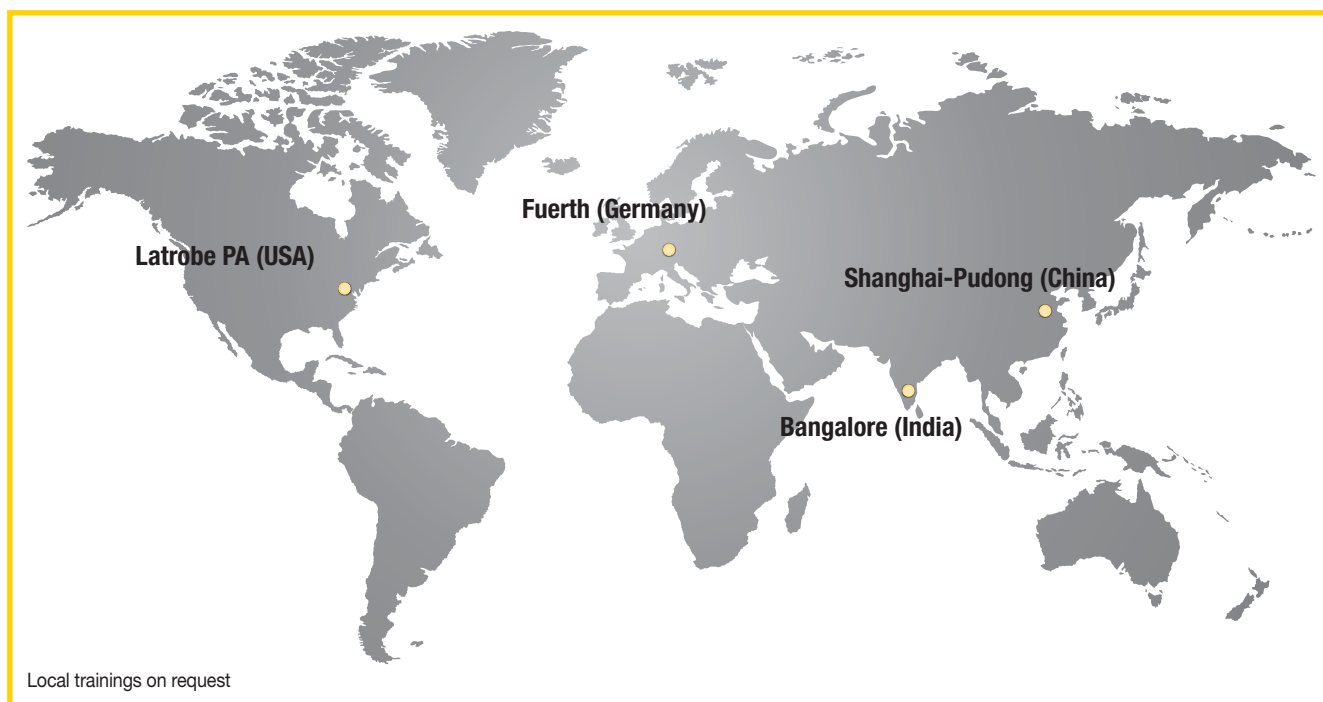


To learn more, scan here or visit  
[www.kennametal.com](http://www.kennametal.com)





## Global Presence



## Global Contacts

North America:  
Tel: +1 724 539 2979  
E-mail: [k-na-knowledge.center@kennametal.com](mailto:k-na-knowledge.center@kennametal.com)

India:  
Tel: +91 80 28394321  
E-mail: [k-in-knowledge.center@kennametal.com](mailto:k-in-knowledge.center@kennametal.com)

EMEA/Germany:  
Tel: +49 911 9735 299  
E-mail: [k-de-knowledge.center@kennametal.com](mailto:k-de-knowledge.center@kennametal.com)

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Tel: +86 21 38608358  
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# Kennametal and the Machine Tool Industry (MTI)

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### Partners from Point to Part

Challenges are always better faced with a partner. Getting the most out of a manufacturing process means a 3-point partnership between the end user, the machine tool builder, and the tooling provider. The right partner works with you every step of the way, from the point of the spindle connection to the completed part.

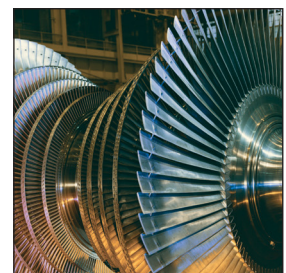
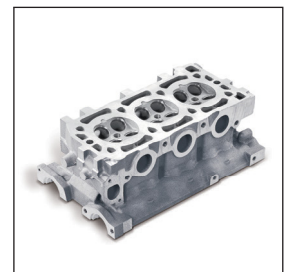
Let Kennametal's Machine Tool Industry (MTI) specialists be your partners. We'll work with you from pre-planning, time studies, and machine tool selection through setup, runoff, operator training, and process optimization. The MTI team focuses simultaneously on engineering, process and application support, and tool selection. We look at the total solution to get you where you want and need to be in your manufacturing.

We have MTI specialists in more than 65 countries around the world, so there's always someone near you: [mti.solutions@kennametal.com](mailto:mti.solutions@kennametal.com).

### Components of a Winning Strategy

Our mission is to build lasting relationships with all of the focused builders, end users, and dealers to provide continuous communications and to ensure we have their mind share. Kennametal is the number one choice of machine tool builders, dealers, and end users globally for total tooling solutions. We provide world class quality, service, and on-time delivery to meet and exceed your expectations.

- Trust
- Innovation
- Dedicated Support
- Capability
- Engineered Solutions





### Global Manufacturers

Our global organization and network is ensuring a reliable support at the home of the machine tool builder and the final place of installation, and following the machines worldwide.

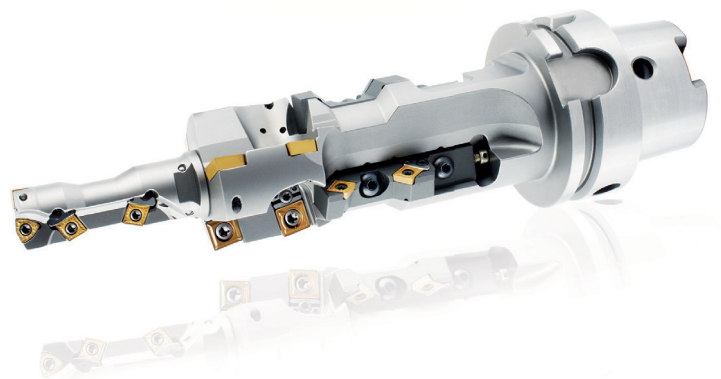
- Simultaneous engineering support from art to part.
- Seamless transition from the initial investment phase to full production by qualified technical hand-off to local Kennametal staff at the end user stage, guaranteeing satisfying continued service and support.
- Starter kits for machine tool equipment.

### Global Kennametal MTI

We will provide our customers with a total solution from spindle connection to the part. We include all brands of the Kennametal family of companies to enhance this total solution.

### Global Machine Tool Builders

Providing machine tool builders with a long term expertise in the OEM business and an unreached bandwidth of competitive technical solutions, consisting of standard, as well as customized cutting tool technology.





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## VOICE OF THE **CUSTOMER**

***VP of Manufacturing, Kennametal Cost per Part  
Customer since 1996***

*"Kennametal has been an outstanding strategic partner since the beginning and continues to bring new and innovative concepts in cutting tool technology to our shop floor. Furthermore, they collaborate with our machining technical team to deliver continuous improvement projects that result in longer tooling life, reduced operating cost and increased machining efficiency. Kennametal's support and reliability is unmatched in my opinion. Our operation has never suffered any downtime as a results of not having the right tool in the right place at the right time."*



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[www.kennametal.com](http://www.kennametal.com)

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