2026 MASTER CATALOG

ROYAL PRODUCTS

OPTIMIZE CNC PERFORMANCE, PRODUCTIVITY, AND PROFITS!



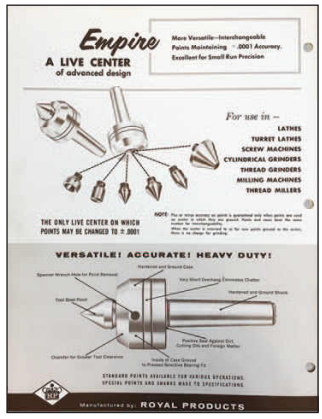
ROYALPRODUCTS.COM

80 YEARS THE HISTORY OF ROYAL PRODUCTS



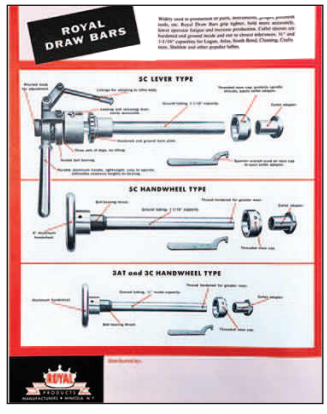
Royal Products has been a leading American manufacturer of metalworking performance accessories for more than 80 years. The company was founded in 1946 by Bob Curran, who had an idea for a changeable-point live center with a combination taper/thread interface that would ensure near-perfect accuracy when points were interchanged.

After being awarded a U.S. patent for his concept, Bob convinced a friend who owned a small machine shop in lower Manhattan to rent him some evening machine time so he could make his first "production run", which only totaled enough bodies, points, and seal retainers to make ten complete live centers.



Bob assembled his first live center and drove out to Long Island to visit an industrial distributor for feedback on his design. The distributor liked what he saw and said he'd take two, so Bob left his very first center with the distributor and headed back to Manhattan to assemble the second one. Curran Manufacturing Corporation was born!

Within a few years Bob had sold enough live centers and had earned enough money to buy several used machines and rent a small shop of his own, along the way adding additional live center models to Curran Manufacturing's offering. Having emigrated to the United States as a boy from Prince Edward Island, Canada, Bob had always had an interest in the British Monarchy. This was reflected in his early live center model names, including "The Regal" and "The Monarch", and eventually led Bob to rebrand the company as Royal Products.



As Royal Products began to grow, Bob added a second key product line to the company's offering – 5C collet closers for manual engine lathes. These collet closers became extremely popular for small diameter turning jobs, finding their way into virtually every machine shop in North America and cementing Royal's position as a trusted American manufacturer of precision workholding products.

Today, more than 80 years after Bob Curran designed, built, and sold his very first live center, Royal's modern, highly automated factory operates around the clock, producing thousands of metalworking performance accessories designed to optimize CNC machine tool performance, productivity, and profits.

While Royal Products has certainly evolved considerably from its humble beginnings, its founder's dedication to delivering solutions and being an easy company to do business with remain core values upon which the company continues to build.

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UPC Code Number = 698230 + 5-Digit Part Number

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NEW FOR 2026

80 YEARS

Setup Time Reduction = Greater Throughput and Profitability

Let's face it – with most manufacturers now utilizing advanced cutting tool technology, it's getting increasingly more difficult to squeeze extra productivity and profit out of the cut. The opportunity for improvement is there, but it's incremental.

However, how many hours a week do your machines sit idle during changeovers? **Royal's new product additions for 2026 share a common theme – helping you slash setup times so your machines can spend more time making chips, and profits!**

Two-Jaw MTC™ Chucks

We've expanded our lineup of the revolutionary MTC™ Multi-Tasking Chuck - a jaw chuck, collet chuck, and I.D. workholding system all in one. Our new two-jaw models are great for prismatic parts.



Expanded Lineup of Quick-Grip™ CNC Combo Chucks

In 2025 Royal introduced the QG-65 Combo Chuck – a CNC collet chuck and I.D. workholding system all in one unit. Thanks to tremendous customer demand, Royal has now expanded the lineup to include QG-52 and QG-80 models.



RCS™ Rapid-Change Chuck System

Already own several chucks that you'd like to quickly and easily swap on and off of your lathe spindle as jobs demand? Now you can with the Royal RCS™ Rapid-Change Chuck System. A precision master receiver permanently mounts to the lathe spindle, enabling lightning-fast chuck changeover times at a fraction of the cost of other systems.



Power-Block™ Combo Fixtures

Due to the extremely positive feedback we've received on our QG Combo Chucks for CNC lathes, we've adapted the technology to our key-operated Power-Block for machining center applications. Enables fast and easy swapping of QG collets, 5C collets, and I.D. workholding for your 3, 4, and 5-axis machining centers.



Expanded Range of Zero-Point Receivers

Building upon the success of our heavy-duty Z-Lock™ zero-point workholding system, Royal now offers receivers with the popular 52/96mm four-stud mounting arrangements. Available in both key-operated and pneumatic versions, these new zero-point receivers are the perfect solution for automated load/unload applications on your machining centers.



New Additions to Royal's SLV™ "Sturdy Little Vise" Line

Our SLV™ self-centering vises are quickly becoming the industry standard thanks to their incredible holding power and virtual elimination of jaw-lift/flex. We've introduced a new model for 2026 specifically designed for robot/cobot loading, along with additional multi-vise pyramid options designed to suit all 5-axis tilt ranges.



OPTIMIZE CNC MACHINE TOOL PERFORMANCE, PRODUCTIVITY AND PROFITS!

NEW



MTC™ Multi-Tasking Chucks
Pages 9-18

NEW



Quick-Grip™ CNC Combo Chucks
Pages 19-24

NEW



Rapid-Change™ Chuck Systems
Pages 25-28



Standard Quick-Grip™ CNC Collet Chucks
Pages 29-43



Key-Operated Quick-Grip™ Collet Chucks
Page 44

NEW



Power-Block™ Quick-Grip™ Collet Fixtures
Pages 45-50



Quick-Grip™ CNC Collets
Pages 51-68



Quick-Grip™ Accessories
Pages 69-70



5C, 16C, & 3J CNC Collet Chucks
Page 71-76



5C, 16C, & 3J Collet Fixtures
Page 77



5C Step and Expanding Collets
Page 78



CNC I.D. Workholding Systems
Pages 79-86

OPTIMIZE CNC MACHINE TOOL PERFORMANCE, PRODUCTIVITY AND PROFITS!

NEW



SLV™ Self-Centering Vises
Pages 87-93

NEW



Zero-Point Workholding Systems
Pages 94-98



Rota-Rack® Parts Accumulators
Pages 99-107



Rota-Rack® Compact
Pages 108-110



CNC Bar Pullers
Pages 111-118



Live and Dead Centers
Pages 119-152



Deburring Tools & Blades
Pages 153-158



General Machine Shop Aids
Pages 159-166



Albrecht Precision Drill Chucks
Pages 167-176



Ultra-Precision ER Collets
Pages 177-180



Royal Filtermist Mist Collectors
Pages 181-209

80 YEARS THE HISTORY OF ROYAL PRODUCTS

For over 80 years, leading manufacturers have trusted Royal Products to help optimize their CNC machine tool productivity. As an ISO-9001 registered company, Royal is dedicated to continuous improvement and strives to be the best supplier of CNC metalworking accessories in the industry.

One of our key advantages is that, like our customers, we own and operate our own modern factory full of the latest CNC turning, milling, and grinding equipment. Because of this, our team understands firsthand what it takes to make a shop successful, and we also have the advantage of pushing and evaluating our products every day in our own demanding production environment. Royal's philosophy is simple – if we wouldn't use one of our products in our own shop, then we won't sell it.

Our People



If there's one compliment that our customers give us over and over, it's that Royal Products is one of the easiest companies they do business with.

We don't look at ourselves as being exceptional in this area – we simply treat people the way we'd like to be treated ourselves. If a customer has a problem with one of our products, we take care of it, regardless of "whose fault it is".

This isn't rocket science – we know that if we consistently go above and beyond and always do the right thing, our customers will reward us with their loyalty.

Our Inventory

97%

Inventory can be a difficult issue for many suppliers because "sleeping money" on the warehouse shelves ties up cash that could be used for other business functions. We look at inventory differently, understanding that when our customers need one of our products, they often need it "right now" because they have a spindle down, a hot job with a tight deadline, a new machine ready to be installed, etc.

In an effort to be as responsive as possible, Royal maintains very large inventories of all products in our line, enabling us to ship over 97% of all orders the same day we receive them. Again, this isn't a revolutionary concept – it's simply being dedicated to having what our customers need, when they need it.

Our Quality



Everyone delivers quality, right? Well, they should anyway…. But let's face it, not all products can be the best – many fall into the category of "good enough".

Being "good enough" doesn't sit well with the Royal team, or our First be Best, Then be First attitude.

It takes unrelenting effort to be consistently recognized as the brand leader in the products we offer, and every single member of our team understands that if we don't deliver the absolute best machine tool performance accessories to our customers, they won't be able to make the absolute best parts for their customers.

Our Knowledge



So now you know that Royal is super easy to do business with, has the products you need in stock for same-day shipping, and manufactures the best metalworking accessories available.

But did you also know that we employ a large team of metalworking experts strategically located throughout the country who visit dozens of shops and factories every week to evaluate processes and offer improvement recommendations? Or that one of these experts can visit your shop in one of our fully equipped demo vans so you and your crew can experience firsthand Royal's broad range of products right from the convenience of your own parking lot? Call us to schedule a visit today!

ROYAL BRINGS INCREASED PRODUCTIVITY DIRECTLY TO YOUR COMPANY PARKING LOT





Not Able to Visit a Tradeshow?

No problem – with Royal's nationwide fleet of fully-equipped mobile showrooms, we can bring the show right to your company parking lot.

Each of our demo vans is outfitted with dozens of productivity-enhancing CNC metalworking accessories that you and your team can see/touch/try firsthand, and then determine for yourselves how they might bring value to your company.

Schedule your visit today at **royalproducts.com**

Risk-Free PERFORMANCE Guarantee

UNSURE? ROYAL HAS YOU COVERED!

With Royal's exclusive Risk-Free Performance Guarantee, you can try many of our products on the toughest jobs in your shop for 45-days, and if you aren't 100% satisfied with the performance, we'll take it back and arrange for a full refund.

How can we offer such a guarantee? It's simple – our products are all designed and built to outperform expectations, and very few customers are ever disappointed.

We understand that implementing new technology can be scary, and we are happy to alleviate your concerns by removing the risk.

Call us today at 1-800-645-4174 to find out more.

WORKHOLDING OVERVIEW - TURNING

NEW

MTC™ Multi-Tasking CNC Jaw Chucks

2 and 3-jaw chucks that can also utilize Quick-Grip™ collets, I.D. workholding, 5C collets, and more. A true All-in-One CNC Lathe Chuck!



NEW

Combo Quick-Grip™ CNC Collet Chucks

Accu-Length CNC collet chucks that can utilize Quick-Grip™ collets, I.D. workholding, 5C collets, and more. Great flexibility for job shops!



NEW

RCS™ Rapid Change System

With the Royal Rapid Change System, a master receiver mounts to the lathe spindle and enables your workholding devices to be interchanged in minutes as jobs require.



Standard Quick-Grip™ CNC Collet Chucks

The industry standard – 100% made in USA! Available in both Accu-Length™ and Pullback versions in the following sizes: QG-32, 42, 52, 65, 80, and 100.



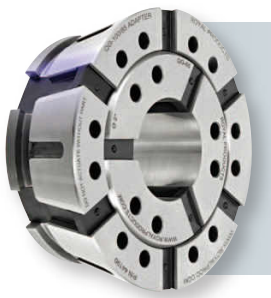
Key-Operated Quick-Grip™ Collet Chucks

Manual actuation – designed for lathes, grinders, and 4/5-axis rotary tables that are not equipped with a hydraulic actuator/drawtube.



S-Type Master Collets and QG-100/65 Adapters

Utilize S-type collet pads in your QG chucks. QG-100 to QG-65 adapter offers flexibility for gripping smaller diameter parts in a large capacity chuck.



5C, 16C & 3J CNC Collet Chucks

Traditional CNC collet chucks available in Accu-Length and Pullback models for 5C, 16C, and 3J collets. Nose diameters optimized for maximum tool clearance.



I.D. Workholding Systems

Designed for gripping on the internal bore of a workpiece – great for OP20 because it leaves the entire part O.D. accessible for finishing. Sealed sleeves protect against coolant and chips.



Quick-Grip™ CNC Collets

Thousands of round, hex, square and emergency collets in stock ready for same-day shipping. Custom shapes and sizes are available as quick-ship specials.

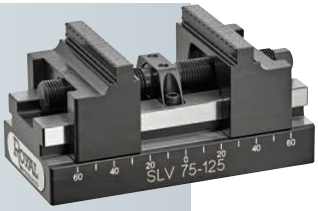


WORKHOLDING OVERVIEW - MILLING

NEW

SLV™ Self-Centering Vises

Heavy-duty box-way construction virtually eliminates jaw lift and jaw flex for much more aggressive chip removal. Finally – a vise that doesn't limit your cycle time!



NEW



52 and 96mm Key-Operated Zero-Point Receivers

Manual actuation with precision repeatability and rock-solid gripping strength.

NEW

Automatic Zero-Point Receivers

Optimized for robot/cobot loading and unloading of Royal SLV vises. Spring close/ air open.





Z-Lock™ Key-Operated Zero-Point Receivers

Tremendous hold-down force – great for securing fixture plates, vises, collet fixtures, etc. on VMC's, HMC's, and 4/5-axis rotary tables. Available in single, dual, and quad arrangements.

Key-Operated Quick-Grip™ Collet Chucks

Manually actuated. For stationary or 4/5-axis applications. 360-degree part contact prevents crushing/distortion. Custom collets available for gripping odd-shaped parts, extrusions, etc.





Power-Block™ Quick-Grip™ Collet Fixtures

Similar advantages to the key-operated models but powered hydraulicly or pneumatically for auto load/unload applications. Can be ganged together to machine multiple parts at the same time.

5C, 16C, and 3J Key-Operated Collet Fixtures

Manal clamp/unclamp. Enables the use of common 5C, 16C, or 3J collets in all stationary and 4/5-axis rotary table applications.

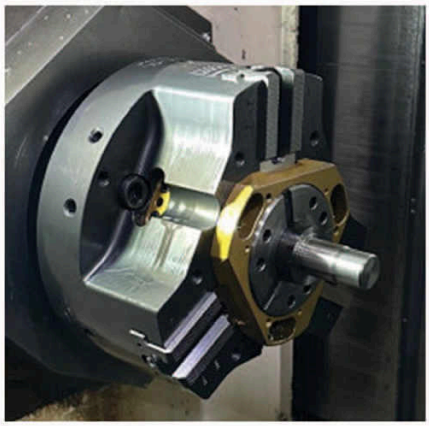


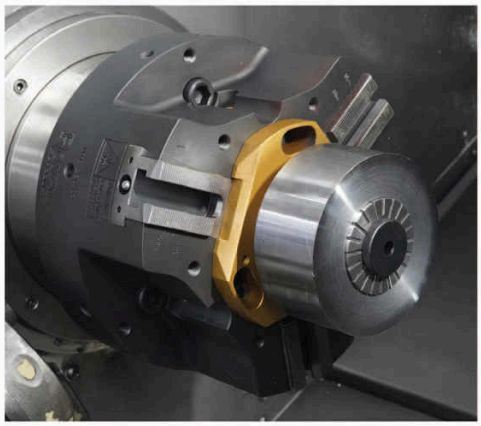


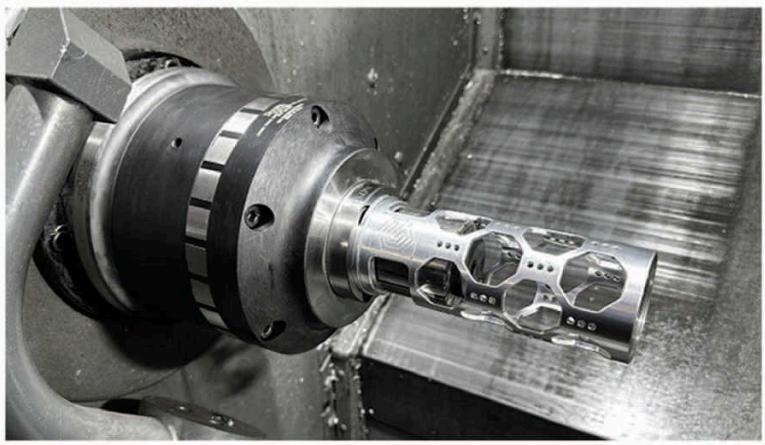
Power-Block™ I.D. Workholding Fixtures

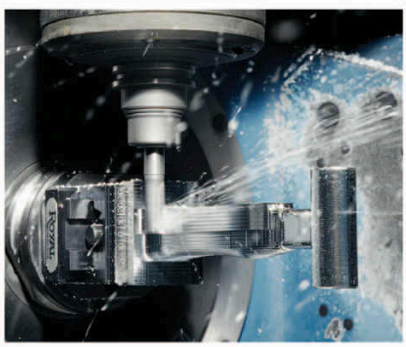
Dedicated I.D. gripping system for stationary or 4/5-axis applications. Hydraulic or pneumatic operation is suited for auto load/unload applications.

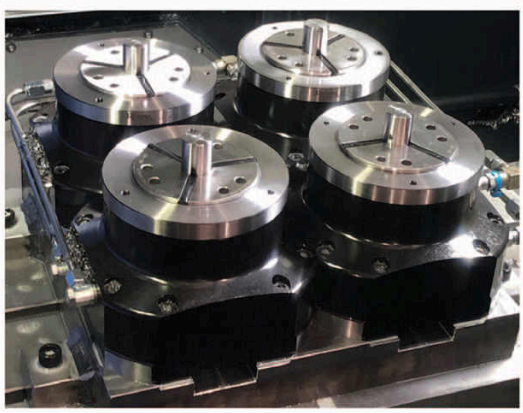
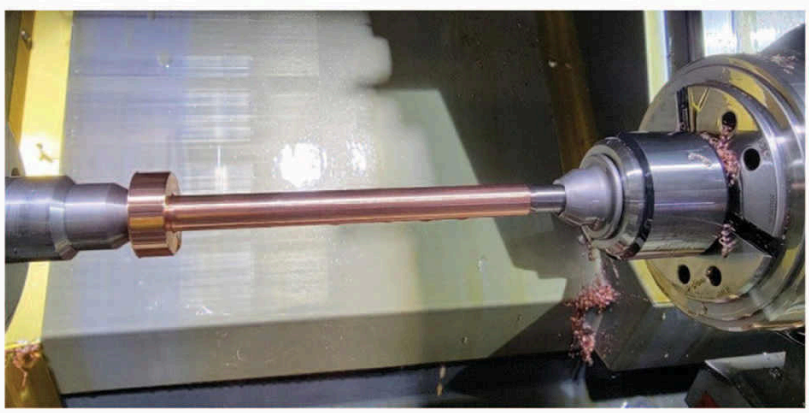
WORKHOLDING FOR EVERY APPLICATION









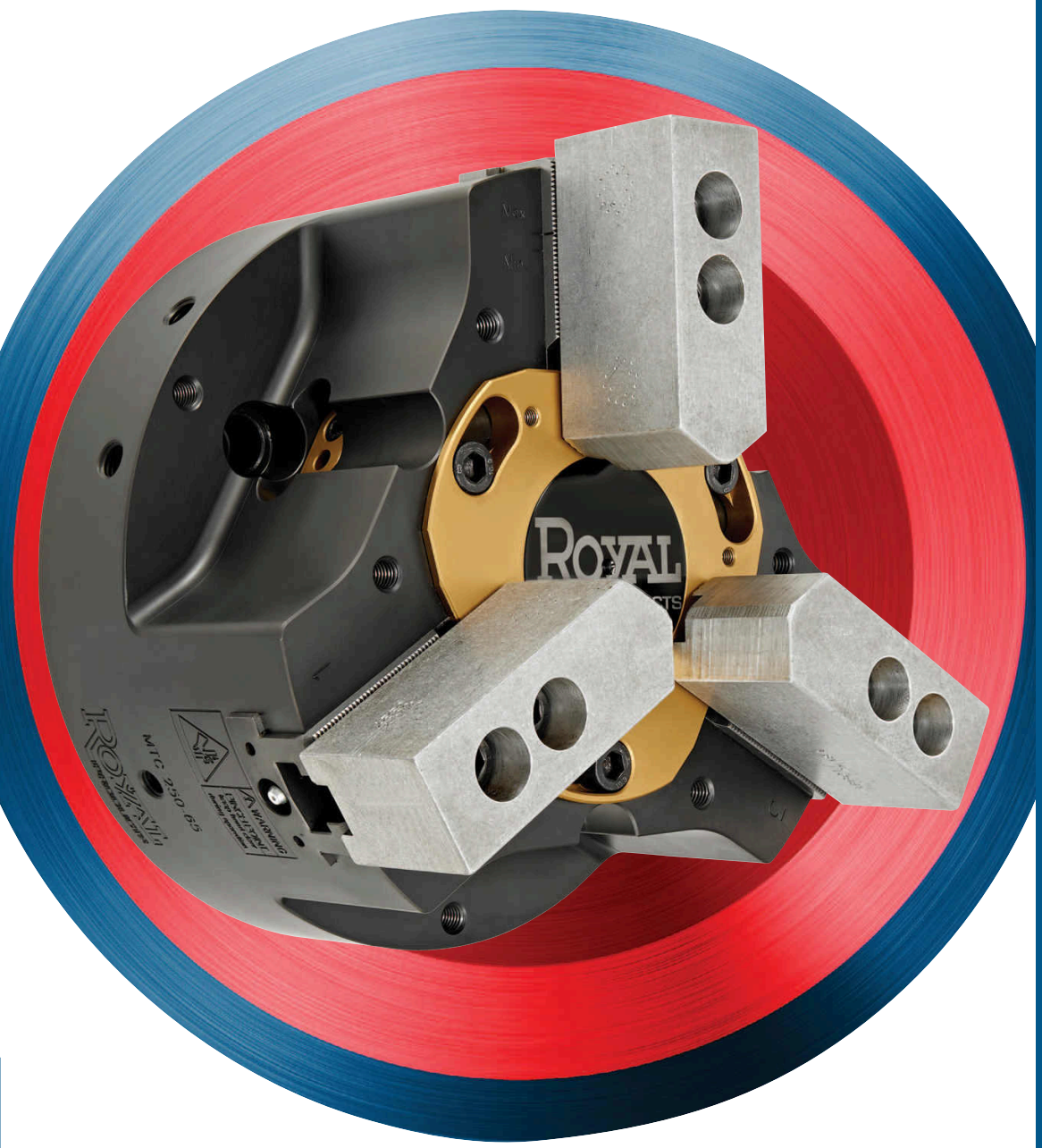
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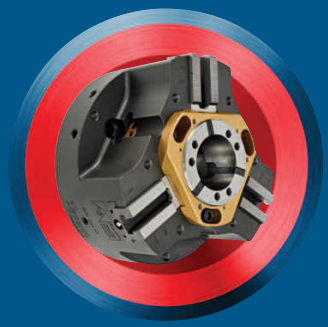
ROYAL PRODUCTS

MTC™ MULTI-TASKING CHUCK

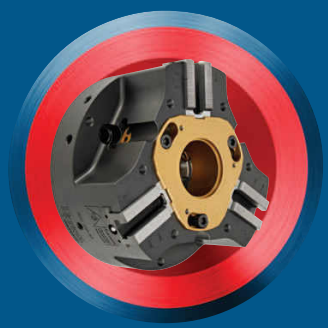
A REVOLUTIONARY 3-JAW CHUCK, COLLET CHUCK, AND I.D. WORKHOLDING SYSTEM ALL-IN-ONE.

NEW













ROYAL PRODUCTS
Optimize everything.



ROYAL MTC™ MULTI-TASKING CHUCK
A True All-in-One CNC Lathe Chuck

The Royal MTC™ is a Revolutionary 3-Jaw Chuck, Collet Chuck, and I.D. Workholding System All-in-One

NEW

No Need to Ever Change Your Chuck Again
Switching your lathe workholding as jobs demand can be a difficult process and eats up valuable production time. But no longer! With the Royal MTC™ it's a snap to change over between:

- ✔ 3-Jaw Chuck
- ✔ Quick-Grip™ CNC Collet Chuck
- ✔ I.D. Workholding System
- ✔ And much more…



Converting Between Jaw/Collet/I.D. Applications Takes Just Minutes and is Accomplished by Simply Swapping the Quick-Change Center Hub. The Chuck Body Never Needs to be Removed from the Lathe Spindle!

ROYAL MTC™ MULTI-TASKING CHUCK
A True All-in-One CNC Lathe Chuck



Setup Times Slashed
Change from jaw chuck to collet chuck to I.D. mandrel in minutes without ever removing the chuck from the spindle.

Ingenious Patent-Pending Design
Simply change out the hardened and ground TiN coated center hubs as applications require – chuck body always remains mounted to the lathe spindle.

Standard Top Tooling
All Royal MTC™ chucks incorporate base jaw serrations of 60° x 1.5mm as standard. Alternative base jaws with inch serrations or quick-change configurations are available as specials.

Extreme Rigidity
Much more stable than other systems because MTC™ is a true jaw-chuck with both collet and I.D. capabilities – not a collet chuck with a heavy jaw chuck hanging off the front end.



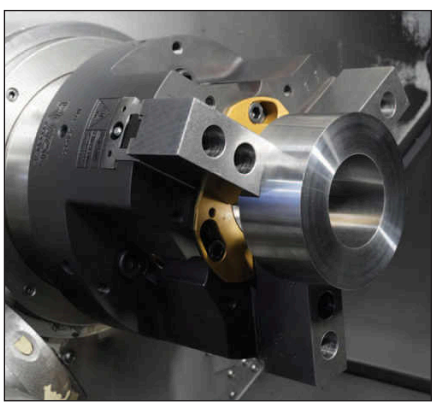
High Accuracy
Jaw repeatability is 0.0002" –0.0003" and the QG collet hub is guaranteed to be within 0.0003" TIR.

Great Tool Clearance
All chuck bodies are relief milled for optimized tool clearance and reduced rotational mass.

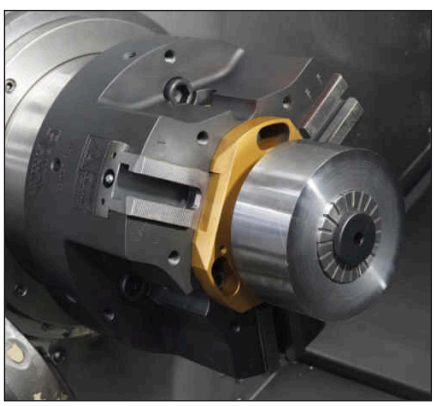
Multiple Sizes
Royal stocks the MTC™ in 8", 10", 12", and 15" versions. Backplates are available to suit all standard spindle mounts.

Unmatched Flexibility
Run virtually any job on a single CNC lathe – modular design provides the ability to seamlessly integrate additional components (5C collet adapter, face driver, etc.) as needed.

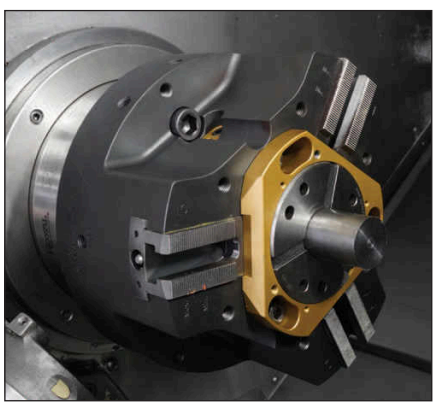
The Royal MTC™ – The Only CNC Lathe Chuck You'll Ever Need!



Jaw Mode



I.D. Gripping Mode



QG Collet Mode



ROYAL MTC™ MULTI-TASKING CHUCK

A True All-in-One CNC Lathe Chuck

Completely Modular – Add Components as You Land New Jobs



Check out the Royal MTC™ Video at www.royalproducts.com

ROYAL MTC™ MULTI-TASKING CHUCK
A True All-in-One CNC Lathe Chuck



NEW for 2026 - Two-Jaw MTC™ Models

- ✔ Great for non-cylindrical workpieces.
- ✔ Contact Royal for ordering information.



Easy Single-Part Number Ordering



The following items are included with every Royal MTC™ Multi-Tasking Chuck:

- ✔ A 3-Jaw chuck featuring industry standard 60° x 1.5mm base jaws to accept a wide array of top jaws.
- ✔ A Quick-Grip™ center hub hardened and precision ground to accept Royal Quick-Grip™ Collets.
- ✔ A thru-hole center hub to accommodate long-parts when using as a jaw chuck.
- ✔ A center cap to block chips from entering the drawtube when using the jaw chuck for slug work.
- ✔ A removable internal workstop for use with both jaws and collets.
- ✔ A center hub removal tool.
- ✔ A grease gun and tube of chuck grease.
- ✔ A hardened and ground backplate to suit your particular lathe's spindle nose (not shown).
- ✔ A custom-machined drawtube connector for hassle-free installation.

5C Collet Adapter



View the Royal MTC™ in action at royalproducts.com

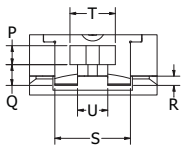


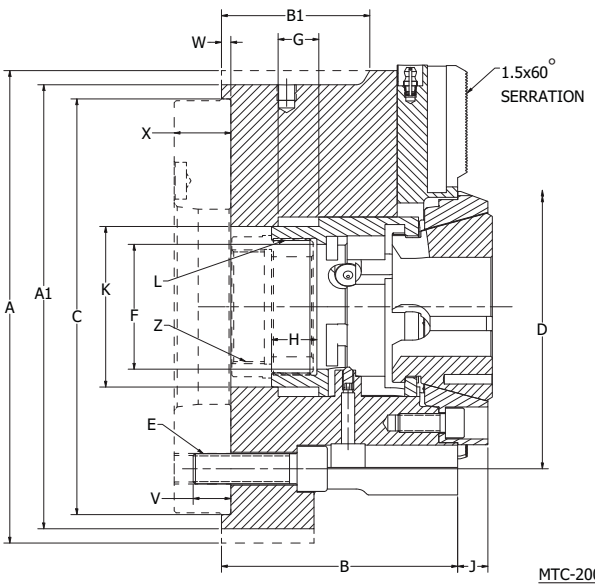
- ❑ 5C collet adapter is great for workpieces smaller than 1" dia.
- ❑ Utilizes the same center hub as the I.D. mandrel
- ❑ Provides excellent tool clearance for small dia. work

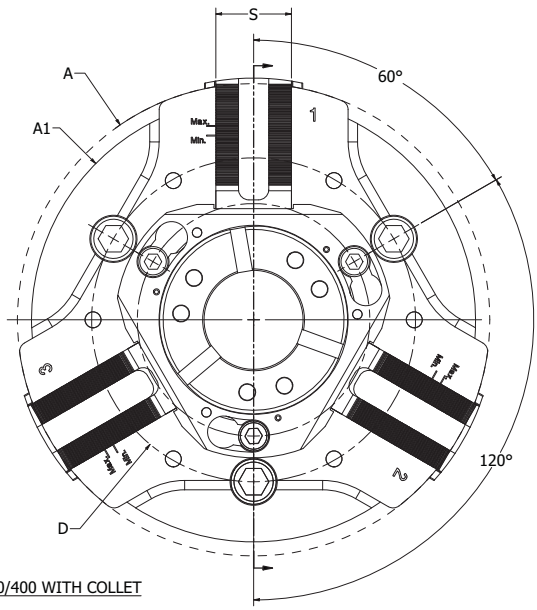


ROYAL MTC™ MULTI-TASKING CHUCK
A True All-in-One CNC Lathe Chuck

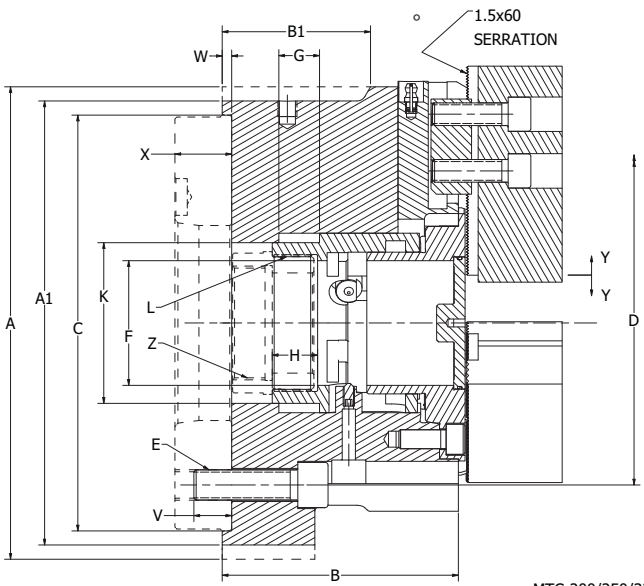
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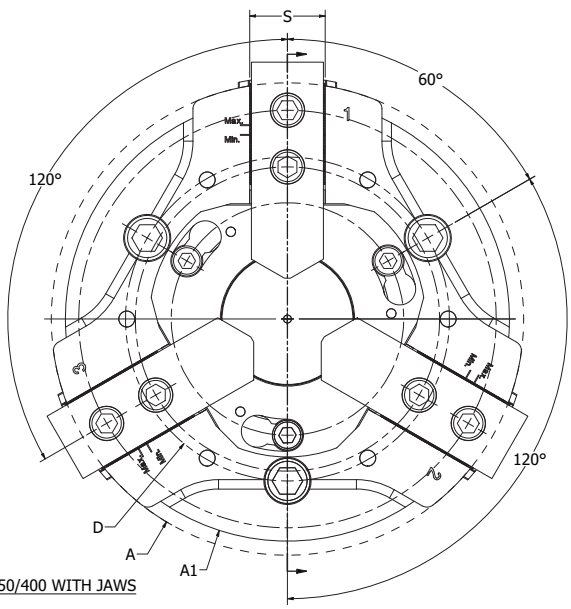






MTC-200/250/320/350/400 WITH COLLET





MTC-200/250/320/350/400 WITH JAWS

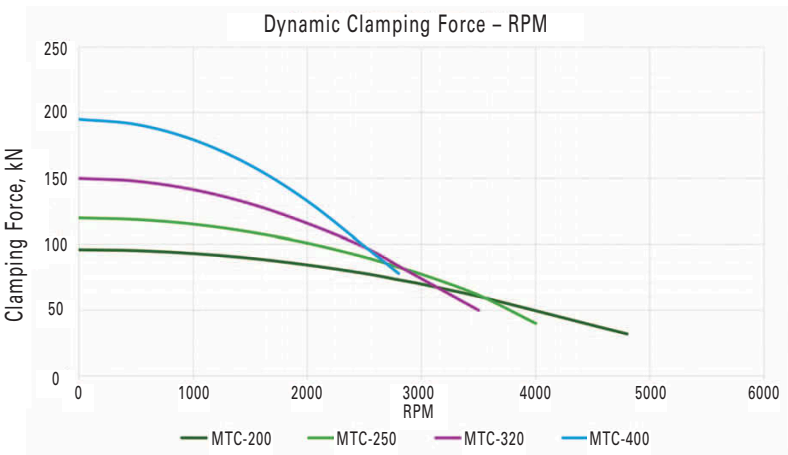
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ROYAL MTC™ MULTI-TASKING CHUCK
A True All-in-One CNC Lathe Chuck



Dimensions

	MTC-200		MTC-250		MTC-320		MTC-350		MTC-400	
	INCH	METRIC	INCH	METRIC	INCH	METRIC	INCH	METRIC	INCH	METRIC
A	7.87	200	9.84	250	12.60	320	13.78	13.78	15.75	400
A1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B	4.33	110	4.92	125	5.91	150	6.50	165	6.89	175
B1	N/A	N/A	N/A	N/A	3.89	98.7	N/A	N/A	N/A	N/A
C	6.69	170	8.66	220	11.02	280	12.76	324	13.78	350
D	5.25	133.4	6.75	171.4	9.25	235	11.42	290	12.21	310
E	M12		M16		M20		M20		M20	
F	2.09	53	2.60	66	3.19	81	4.09	104	4.09	104
G (optimal)	0.79	20	0.95	24	1.10	28	1.10	28	1.34	34
G (minimum)	0.59	15	0.71	18	0.83	21	0.87	22	1.00	25.5
H	0.91	23	0.95	24	1.10	28	1.26	32	1.50	38
J	0.43	11	0.63	16	0.63	16	0.59	15	0.71	18
K	2.95	75	3.35	85	4.13	105	3.94	100	5.91	150
L	M64x1.5		M72x1.5		M92x2		M130x2		M130x2	
P	0.39	10	0.39	10	0.47	12	0.47	12	0.59	15
Q	0.43	11	0.43	11	0.47	12	0.49	12.5	0.51	13
R	0.20	5	0.20	5	0.20	5	0.20	5	0.20	5
S	1.58	40	1.58	40	1.77	45	1.77	45	2.05	52
T	0.95	24	0.95	24	1.19	30.1	1.19	30.1	1.19	30.1
U	0.63	16	0.63	16	0.83	21	0.83	21	0.83	21
V	0.79	20	0.79	20	1.02	26	1.18	30	0.98	25
W	0.20	5	0.20	5	0.20	5	0.20	5	0.20	5
X	Varies		Varies		Varies		Varies		Varies	
Y	+/-0.08	+/-2.0	+/-0.10	+/-2.5	+/-0.12	+/-3.0	+/-0.114	+/-2.9	+/-0.14	+/-3.6
Z	Varies		Varies		Varies		Varies		Varies	



Warning: While the static clamping force of all three-jaw chucks is a function of the machine's hydraulic actuator (piston surface area, input pressure, etc.), it is essential to understand that the dynamic clamping force acting on a workpiece is affected by additional factors such as rpm and top jaw weight. This graph represents the maximum dynamic clamping force of all Royal MTC™ chuck models throughout the stated rpm range.

Be sure to understand the relationship between input pressure and drawtube axial force for your machine's specific hydraulic actuator and ensure that all relevant parameters are sufficient to keep workpieces safely clamped. If you have any questions or concerns regarding the safe use of this product, please contact a Royal Products applications engineer at 1-800-645-4174 before use.

MTC-200 Top Jaw Weight 4.9 lbs.
MTC-250 Top Jaw Weight 6.2 lbs.
MTC-320 Top Jaw Weight 7.9 lbs.
MTC-400 Top Jaw Weight 10.1 lbs.



ROYAL MTC™ MULTI-TASKING CHUCK
A True All-in-One CNC Lathe Chuck

Specifications

Royal MTC™ with Chuck Jaws

	MTC-200		MTC-250		MTC-320		MTC-350		MTC-400	
	INCH	METRIC	INCH	METRIC	INCH	METRIC	INCH	METRIC	INCH	METRIC
OPTIMAL DRAWTUBE STROKE	0.79	20	0.95	24	1.10	28	1.102	28	1.339	34
CLAMPING RANGE (JAW/DIAMETER) AT OPTIMAL DRAWTUBE	0.16/0.32	4/8	0.20/0.40	5/10	0.24/0.48	6/12	0.24/48	6/12	0.283	7.2/14.4
MINIMUM DRAWTUBE STROKE	0.59	15	0.71	18	0.83	21	0.83	21	1.004	25.5
CLAMPING RANGE (JAW/DIAMETER) AT MINIMUM DRAWTUBE	0.12/0.24	3/6	0.15/0.30	3.75/7.5	0.18/0.35	4.5/9	0.18/0.35	4.5/9	0.210/0.43	5.4/10.8
MAXIMUM ACTUATING FORCE	9,217 (lbs.)	41 (kN)	11,690 (lbs.)	52 (kN)	14,613 (lbs.)	65 (kN)	14,613 (lbs.)	65 (kN)	19,109 (lbs.)	85 (kN)
CLAMPING FORCE PER JAW	7,194 (lbs.)	32 (kN)	8,992 (lbs.)	40 (kN)	11,240 (lbs.)	50 (kN)	11,240 (lbs.)	65 (kN)	14,613 (lbs.)	65 (kN)
TOTAL CLAMPING FORCE	21,582 (lbs.)	96 (kN)	26,977 (lbs.)	120 (kN)	33,721 (lbs.)	150 (kN)	33,721 (lbs.)	65 (kN)	33,838 (lbs.)	195 (kN)
MAXIMUM RPM	4800		4000		3500		3200		2800	
WEIGHT*	44 (lbs.)	20 (kg)	66 (lbs.)	30 (kg)	132 (lbs.)	60 (kg)	165 (lbs.)	65 (kN)	249 (lbs.)	113 (kg)

*Chuck only. Does not include backplate or top jaws.

Royal MTC™ with Collet

	MTC-200		MTC-250		MTC-320		MTC-350		MTC-400	
	INCH	METRIC	INCH	METRIC	INCH	METRIC	INCH	METRIC	INCH	METRIC
QG COLLET MODEL	QG-52		QG-65		QG-80		QG-100		QG-100	
ACTUATING STROKE	0.16	4	0.16	4	0.16	4	0.32	8	0.32	8
MAXIMUM ACTUATING FORCE	9,217 (lbs.)	41 (kN)	10,116 (lbs.)	45 (kN)	11,240 (lbs.)	50 (kN)	11,240 (lbs.)	50 (kN)	14,613 (lbs.)	65 (kN)
CLAMPING FORCE	21,132 (lbs.)	94 (kN)	23,605 (lbs.)	105 (kN)	25,853 (lbs.)	115 (kN)	25,853 (lbs.)	115 (kN)	33,721 (lbs.)	150 (kN)
MAXIMUM RPM	5500		4600		4000		3200		3200	

Important: Please ensure that your machine's hydraulic actuator meets at least the minimum drawtube stroke requirements as outlined above. Also see warning on the preceding page to ensure that your specific actuator/input pressure achieves adequate dynamic clamping force to eliminate the risk of a workpiece becoming dislodged during use. If you have any questions or concerns regarding the safe use of this product, please contact one of our applications engineers at 1-800-645-4174.

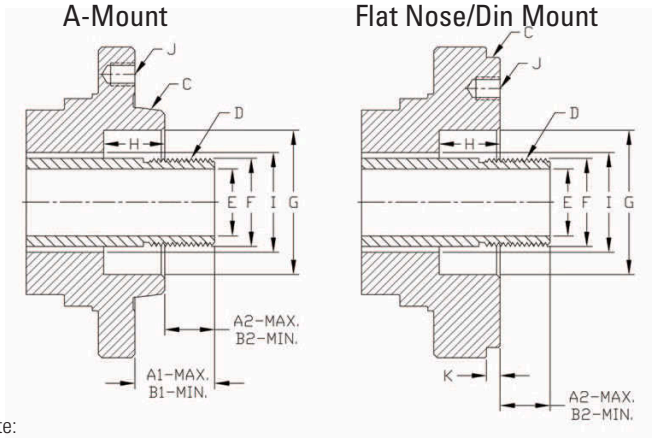


What to Know Before You Order

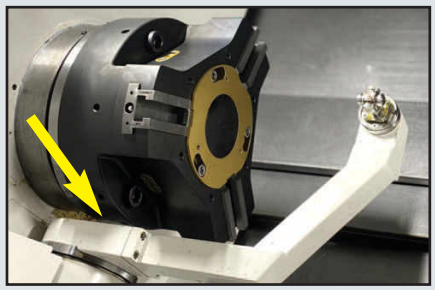
In addition to the safety considerations regarding actuator force and drawtube stroke (highlighted on the previous pages), Royal may also require some specific dimensional information for your lathe to ensure that we supply the correct backplate and drawtube connector.

We maintain an extensive machine tool database populated with thousands of actuator and drawtube specs, but sometimes changes/substitutions are made to the machine that we aren't aware of. For safety purposes and to ensure a hassle-free installation experience, the information requested below may need to be supplied with your MTC™ order. If you have any questions, please contact a Royal Products applications engineer at 1-800-645-4174.

Spindle Nose With Chuck Removed



Note:
A drawtube sometimes unscrews from the actuator when the 3-jaw chuck is removed. Make sure drawtube is fully screwed in before taking dimensions.



Important

Machine tool components such as a tool eye, parts catcher, chuck guarding , etc. may result in interference with the MTC's outer diameter and/or length – especially if you are looking to upsize your chuck.

If your machine is equipped with any potential interference components, please contact Royal prior to ordering to discuss possible solutions.

Machine (make & model)_____

Machine Serial Number_____

Existing Chuck (make & model)_____

(if applicable)

Actuator (make & model)_____

Spindle - Main __ Sub __

A1 – Max. (tube extended)_____

B1 – Min. (tube retracted) _____

A2 – Max. (tube extended)_____

B2 – Min. (tube retracted) _____

C-Spindle Type & Size_____

(i.e. A2-6, 110mm, etc.)

D-Drawtube Thread _____

Pitch _____

Internal or External _____

Length of Thread _____

E – Drawtube I.D. _____

F – Drawtube O.D. _____

G – Counterbore I.D. _____

H – Counterbore Length _____

I – Spindle Through Hole Diameter_____

J – Mounting Hole (DIN & A2–15 Spindles ONLY)

Thread Size _____

Quantity_____

Spacing _____

Bolt Circle Diameter_____

K–Pilot Length (DIN Spindles ONLY)_____

Max. Actuator Pull Force_____

Any items in machine work envelope that need to be evaluated for potential interference such as a tool eye, parts catcher, etc.? Yes _____ No _____

If Yes, please describe _____



ROYAL MTC™ MULTI-TASKING CHUCK
A True All-in-One CNC Lathe Chuck

Easy Single Part Number Ordering



The following items are included with every Royal MTC™ Multi-Tasking Chuck:

- ✔ A 3-Jaw chuck featuring industry standard 60°x1.5mm base jaws to accept a wide array of top jaws.
- ✔ A Quick-Grip™ center hub hardened and precision ground to accept Royal Quick-Grip™ Collets.
- ✔ A thru-hole center hub to accommodate long-parts when using as a jaw chuck.
- ✔ A center cap to block chips from entering the drawtube when using the jaw chuck for slug work.
- ✔ A removable internal workstop for use with both jaws and collets.
- ✔ A center hub removal tool.
- ✔ A grease gun and tube of chuck grease.
- ✔ A hardened and ground backplate to suit your particular lathe's spindle nose (not shown).
- ✔ A custom-machined drawtube connector for hassle-free installation.

Royal MTC™ Multi-Tasking Chucks

CHUCK MODEL	SPINDLE TYPE	PART NUMBER	PRICE*
MTC-200	A2-5	51202	**$33,905**
MTC-200	A2-6	51204	**33,905**
MTC-200	140 MM	51206	**33,905**
MTC-250	A2-6	51208	**37,405**
MTC-250	A2-8	51210	**37,405**
MTC-250	140 MM	51212	**37,405**
MTC-320	A2-6	51213	**41,985**
MTC-320	A2-8	51214	**41,985**
MTC-320	A2-11	51216	**41,985**
MTC-350	A2-8	51221	**48,260**
MTC-350	A2-11	51222	**48,260**
MTC-400	A2-8	51217	**48,260**
MTC-400	A2-11	51218	**48,260**
MTC-400	A2-15	51220	**48,260**

*Price includes a hardened and ground backplate up to 3" long. If your machine requires an extended backplate we will advise and quote a special plate.

Additional Accessories

- ❑ The center hub for I.D. workholding is designed with a 75mm recess and is compatible with all Royal I.D. mandrels and sleeves (see page 84-85 for details).
- ❑ If you currently use a different brand of I.D. workholding, it may be possible for Royal to supply a custom center hub that would enable its use with the MTC – contact us to discuss.
- ❑ The lifting/installation tool is highly recommended for fast and easy installation. This device affixes to the chuck body in the same manner as the center hubs do, balancing the chuck's mass and enabling it to be easily threaded onto the machine's drawtube.



I.D. Center Hub



5C Adapter



Lifting/Installation Tool

Royal MTC™ Accessories

DESCRIPTION	FITS CHUCK MODEL	PART NUMBER	PRICE
Center Hub for I.D. Workholding* and 5C Collet Nose	MTC-200	51230	**$4,485**
	MTC-250	51231	**4,820**
	MTC-320	51232	**5,800**
	MTC-350	51234	**8,970**
	MTC-400	51233	**8,970**
5C Adapter	ALL	65138	**1,235**
Lifting/Installation Tool	MTC-200	51225	**2,890**
	MTC-250	51226	**3,035**
	MTC-320	51227	**3,340**
	MTC-350	51229	**3,710**
	MTC-400	51228	**3,710**

*Order mandrels and sleeves separately.

ROYAL PRODUCTS

QG COMBO CHUCK

– QUICK O.D. TO I.D. TO 5C CHANGEOVER
– FEATURING DEAD-LENGTH OPERATION
– PERFECT FOR SUB-SPINDLES!

NEW





ROYAL PRODUCTS
Optimize everything.



ROYAL QG COMBO CHUCK
Easily Switch Between OD, ID, and 5C Applications

The Best of Both Worlds

The Royal QG Combo Chuck represents the next generation of our best-selling Accu-Length™ CNC Collet Chucks – it's a Quick-Grip™ Collet Chuck, I.D. Workholding System, and 5C Collet Chuck All-in-One!

- ✔ At its core, this is a Quick-Grip™ Accu-Length™ Collet Chuck, and because there is noz-axis movement of the collet or workpiece, the chuck is perfectly suited for both main and sub-spindle applications.
- ✔ The chuck can also be quickly converted to an I.D. workholding system simply by attaching the nose cap and mandrel. Changeover time takes just minutes and no adjusting of the prox switches is required.
- ✔ For very small diameter work, a 5C collet nose is also available (pullback actuation).

NEW









Customer comment – "No need to adjust the prox switches because the chuck is always in the push mode. It is a real game-changer!"

Accu-Length™ Operation – A Very Important Royal Advantage!

Unlike other combination chucks that are based upon a pullback collet design, the Royal QG Combo Chuck is modeled on our Accu-Length™ design, ensuring precise part transfers from main to sub with no risk of z-axis part movement. This makes the Royal QG Combo chuck a much better solution for sub-spindle applications compared to the pullback models offered by others.

ROYAL QG COMBO CHUCK
Easily Switch Between OD, ID, and 5C Applications



Lightning-Fast Collet Changes
Changing collets on a Royal Quick-Grip™ collet chuck takes just a few seconds. A unique hook and groove design for securing the collet is used instead of traditional threads.

Accu-Length™ Design – A Very Important Royal Advantage
Unlike other combination chucks that are based upon a pullback collet design, the Royal QG Combo Chuck is based on our Accu-Length™ design, ensuring precise part transfer from main to sub with no risk of z-axis part movement. This makes the Royal QG Combo chuck a much better solution for sub-spindle applications compared to the pullback models offered by others.

Widest Collet Gripping Range
With a gripping range of 0.062" per collet, you don't need to worry if your stock is off-size.

Extreme Accuracy
Like all Royal QG Collet Chucks, accuracy is guaranteed to be within 0.0002" TIR when being used as a collet chuck, and the I.D. mandrel can be dialed in to almost absolute zero when being used as an I.D. system.





Parallel Workpiece Gripping
With all Royal QG Collet Chucks, the collet segments always remain parallel to the workpiece for full-length part engagement, enabling much more aggressive chip removal.

An included anodized aluminum ring protects the precision locating taper from chip exposure when using as a conventional collet chuck.

Bolt and Go™
The special nose cap that houses the I.D. mandrel is based upon a precision face/taper interface to ensure near-perfect repeatability during changeovers. The mounting taper is located on the back side of the nose and is protected from chips by an aluminum ring when the I.D. system is not being used.

Heavy-Duty Construction
All chuck components, except for the drawtube connector, are hardened to Rc 61-63 for high rigidity and durability.

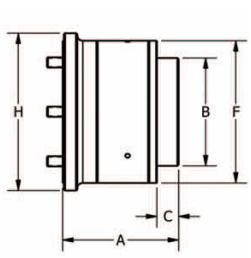
Coolant Slinger
The chuck body incorporates an oversized flange to protect the machine tool spindle bearings from coolant penetration.

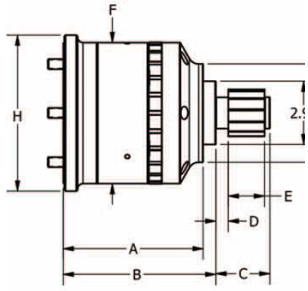
Simple Installation
All Royal QG Collet Chucks include a custom-machined drawtube connector and all mounting hardware for hassle-free installation.

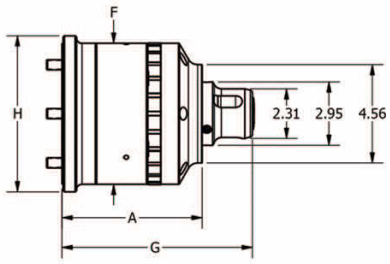


ROYAL QG COMBO CHUCK

Easily Switch Between OD, ID, and 5C Applications







Chuck Only

SPINDLE TYPE	COLLET TYPE	CHUCK STYLE	A	B	C	F	H	CHUCK WEIGHT (lbs.)	MAX DRAWBAR FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)	MAX RPM	PART NUMBER
A2-5	QG-52	C	4.80	4.37	0.87	6.10	6.85	28	7,865	17,980	6,000	65110
A2-5	QG-52	UC	4.20	4.37	0.87	6.10	6.10	22	7,865	17,980	6,000	65111
A2-6	QG-52	UC	4.60	4.37	0.87	6.15	7.25	26	7,865	17,980	6,000	65112
110 MM	QG-52	UC	4.20	4.37	0.87	6.10	6.10	24	7,865	17,980	6,000	65113
115 MM	QG-52	UC	4.40	4.37	0.87	6.10	6.10	24	7,865	17,980	6,000	65109
140 MM	QG-52	UC	4.20	4.37	0.87	6.10	6.10	23	7,865	17,980	6,000	65114
A2-5	QG-65	C	4.80	4.96	1.00	6.55	7.25	30	10,115	23,600	6,000	65115
A2-5	QG-65	UC	4.50	4.96	1.00	6.55	6.55	27	10,115	23,600	6,000	65116
A2-6	QG-65	C	5.33	4.96	1.00	6.55	7.25	34	10,115	23,600	6,000	65117
A2-6	QG-65	UC	4.65	4.96	1.00	6.55	7.25	27	10,115	23,600	6,000	65118
A2-6	QG-65	EL	7.00	4.96	1.00	6.55	7.25	48	10,115	23,600	6,000	65119
A2-8	QG-65	C	5.50	4.96	1.00	6.55	9.45	48	10,115	23,600	6,000	65120
110 MM	QG-65	UC	4.45	4.96	1.00	6.55	6.55	28	10,115	23,600	6,000	65121
140 MM	QG-65	UC	4.80	4.96	1.00	6.55	7.45	32	10,115	23,600	6,000	65122
A2-5	QG-80	C	4.95	5.68	1.00	7.45	7.45	40	11,240	25,850	5,000	65123
A2-6	QG-80	C	4.95	5.68	1.00	7.45	7.45	40	11,240	25,850	5,000	65124
A2-6	QG-80	EL	7.00	5.68	1.00	7.45	7.45	64	11,240	25,850	5,000	65125
A2-8	QG-80	C	5.20	5.68	1.00	7.45	7.45	50	11,240	25,850	5,000	65126
140 MM	QG-80	C	4.95	5.68	1.00	7.45	7.45	40	11,240	25,850	5,000	65127

Chuck with I.D. Gripping Setup

SPINDLE TYPE	COLLET TYPE	CHUCK STYLE	A	B	C D E	WEIGHT (lbs.)	PART NUMBER
A2-5	QG-52	C	6.12	6.70		42	65110
A2-5	QG-52	UC	5.52	6.10		36	65111
A2-6	QG-52	UC	5.92	6.51		40	65112
110 MM	QG-52	UC	5.72	6.30		38	65113
115 MM	QG-52	UC	5.72	6.30		38	65109
140 MM	QG-52	UC	5.72	6.30		38	65114
A2-5	QG-65	C	5.99	6.57		45	65115
A2-5	QG-65	UC	5.69	6.27		42	65116
A2-6	QG-65	C	6.52	7.10	SEE	49	65117
A2-6	QG-65	UC	5.84	6.43	MANDREL	42	65118
A2-6	QG-65	EL	8.19	8.77	CHART	63	65119
A2-8	QG-65	C	6.69	7.27		63	65120
110 MM	QG-65	UC	5.64	6.22		43	65121
140 MM	QG-65	UC	5.99	6.57		47	65122
A2-5	QG-80	C	6.14	6.72		59	65123
A2-6	QG-80	C	6.14	6.72		59	65124
A2-6	QG-80	EL	8.19	8.77		83	65125
A2-8	QG-80	C	6.39	6.97		68	65126
140 MM	QG-80	C	6.14	6.72		59	65127

Chuck with 5C Setup

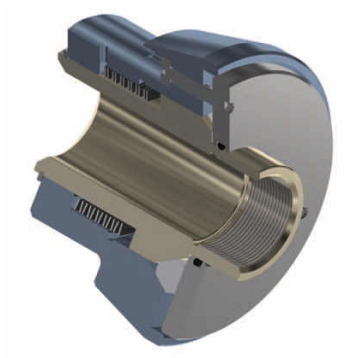
SPINDLE TYPE	COLLET TYPE	CHUCK STYLE	A	F	G	H	WEIGHT (lbs.)	PART NUMBER
A2-5	QG-52	C	6.12	6.10	8.45	6.85	44	65110
A2-5	QG-52	UC	5.52	6.10	7.85	6.10	38	65111
A2-6	QG-52	UC	5.92	6.15	8.25	7.25	42	65112
110 MM	QG-52	UC	5.72	6.10	8.05	6.10	40	65113
115 MM	QG-52	UC	5.72	6.10	8.05	6.10	40	65109
140 MM	QG-52	UC	5.72	6.10	8.05	6.10	40	65114
A2-5	QG-65	C	5.99	6.55	8.32	7.25	47	65115
A2-5	QG-65	UC	5.69	6.55	8.02	6.55	44	65116
A2-6	QG-65	C	6.52	6.55	8.85	7.25	51	65117
A2-6	QG-65	UC	5.84	6.55	8.17	7.25	44	65118
A2-6	QG-65	EL	8.19	6.55	10.52	7.25	65	65119
A2-8	QG-65	C	6.69	6.55	9.02	9.45	65	65120
110 MM	QG-65	UC	5.64	6.55	7.97	6.55	45	65121
140 MM	QG-65	UC	5.99	6.55	8.32	7.45	49	65122
A2-5	QG-80	C	6.14	7.45	8.47	7.45	61	65123
A2-6	QG-80	C	6.14	7.45	8.47	7.45	61	65124
A2-6	QG-80	EL	8.19	7.45	10.52	7.45	85	65125
A2-8	QG-80	C	6.39	7.45	8.72	9.45	71	65126
140 MM	QG-80	C	6.14	7.45	8.47	7.45	62	65127

TEL: 1-800-645-4174
royalproducts.com

ROYAL QG COMBO CHUCK
Easily Switch Between OD, ID, and 5C Applications



How It Works



To maintain precise z-axis positioning of the workpiece, the collet in a Royal Accu-Length™ Collet Chuck is fixed to the body and the chuck's closing sleeve pushes forward over the collet to compress it. The collet, and therefore the workpiece, remains fixed in the z-position.

With our I.D. Workholding System, the mandrel is fixed to the chuck body and a tapered pin is pulled back into the sleeve to expand it.

The Royal QG Combo Chuck uses a clever motion reversal adapter that converts the push-forward action of the closing sleeve to pullback motion that actuates the I.D. system via a series of hardened wedges. Simple, effective, and extremely durable!

Note – Actuator pressure may need to be adjusted to achieve optimal clamping force. Visit royalproducts.com for clamping force information.

Flexibility for Today's Jobs – and Tomorrow's!



By choosing the Royal QG Combo Chuck, you're minimizing changeover time between jobs and guaranteeing yourself tremendous flexibility.

The QG Combo Chuck operates exactly as a standard Royal QG Accu-Length™ Collet Chuck does, while offering a ton of additional functionality.

To add I.D. or 5C capabilities, simply install the nose cap and push/pull adapter (sold separately) and affix Royal's I.D. mandrels/sleeves found on pages 84-85, or our 5C collet adapter.

The chuck body never needs to be removed from the lathe spindle, so changing between jobs is fast, easy, and safe.

- ✔ **Available in Models QG-52, 65, and 80**
- ✔ **All Models In Stock for Same-Day Shipping**

Check out the Royal QG Combo Chuck Video at www.royalproducts.com



ROYAL QG COMBO CHUCK
Easily Switch Between OD, ID, and 5C Applications

How To Order

1. Choose the appropriate collet chuck based upon lathe spindle nose and desired collet range:
   - GG-52 – 2.03" round capacity
   - QG-65 – 2.66" round capacity
   - QG-80 – 3.28" round capacity
2. To add I.D. gripping or 5C gripping, order nose cap and push/pull adapter assembly for your specific Combo Chuck.
3. Order I.D. workholding components (including expanding rod adapters) and/or 5C collet nose as needed.



NEW



Quick-Grip™ Combo CNC Collet Chucks

SPINDLE TYPE	COLLET TYPE	CHUCK STYLE	PART NUMBER	PRICE
A2-5	QG-52	C	65110	**$5,840**
A2-5	QG-52	UC	65111	**5,840**
A2-6	QG-52	UC	65112	**5,840**
110 MM	QG-52	UC	65113	**5,840**
115 MM	QG-52	UC	65109	**5,840**
140 MM	QG-52	UC	65114	**5,840**
A2-5	QG-65	C	65115	**6,270**
A2-5	QG-65	UC	65116	**6,270**
A2-6	QG-65	C	65117	**6,270**
A2-6	QG-65	UC	65118	**6,270**
A2-6	QG-65	EL	65119	**6,270**
A2-8	QG-65	C	65120	**7,050**
110 MM	QG-65	UC	65121	**6,840**
140 MM	QG-65	UC	65122	**6,840**
A2-5	QG-80	C	65123	**7,270**
A2-6	QG-80	C	65124	**7,270**
A2-6	QG-80	EL	65125	**7,270**
A2-8	QG-80	C	65126	**7,270**
140 MM	QG-80	C	65127	**7,270**

QG Combo Chuck Accessories

Nose Cap with Push/Pull Adapter
Required for I.D. and/or 5C Gripping

FITS COMBO CHUCK MODEL	PART NUMBER	PRICE
QG-52	65132	**$3,940**
QG-65	65133	**4,190**
QG-80	65134	**4,850**

Expanding Rod Adapters
Required for I.D. Gripping

FITS MANDREL MODEL	PART NUMBER	PRICE
A	65140	**$415**
B & C	65141	**415**
D	65142	**415**
E	65143	**415**

5C Collet Nose

PART NUMBER	PRICE
65138	**$1,235**

ROYAL PRODUCTS

RCS™ RAPID CHANGE SYSTEM

A MASTER RECEIVER COMBINED WITH QUICK-CHANGE SUBPLATES ENABLES YOUR CNC LATHE WORKHOLDING TO BE CHANGED QUICKLY, EASILY AND SAFELY.

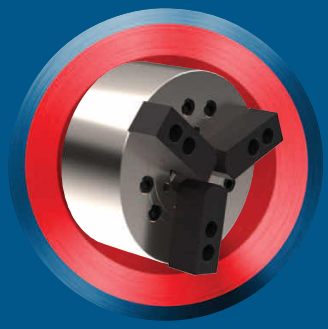
NEW

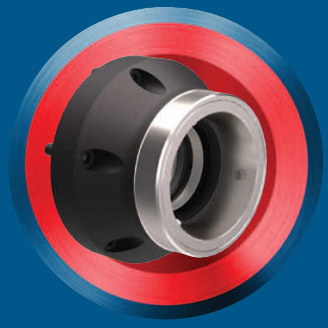












ROYAL PRODUCTS
Optimize everything.



ROYAL RCS™ RAPID CHANGE SYSTEM

The Royal RCS™ Brings Quick-Change Workholding to Your Existing CNC Lathes and Enables You to Use the Chucks You Already Own

NEW



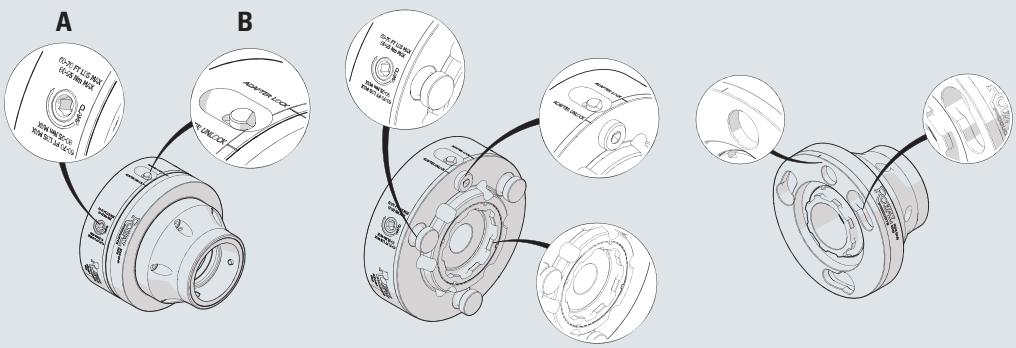


- Changing out the workholding on your CNC lathes as jobs demand can be a time-consuming hassle.
- The Royal RCS™ greatly simplifies and speeds up CNC Lathe workholding changeovers via a master receiver that mounts to the lathe spindle and quick-change subplates with integral bayonet couplers.
- The Royal Rapid Change System is the perfect solution for job shops because it eliminates the need to schedule work through specific machines based upon how a machine's workholding is already configured.
- Addresses workforce challenges faced by many manufacturers by simplifying the process of chuck changeovers.
- With the RCS™ you aren't locked into Royal's workholding – we can adapt the subplates and bayonet couplers to any jaw chuck, collet chuck, ID system, etc. so you can continue to use the workholding you already own, like, and trust.
- Don't wait to integrate this system into your next CNC lathe – it's the perfect solution for increasing throughput and profitability on the machines you already own.

Change Chucks in Less Than Five Minutes!

Here's How it Works:

1. Release cams (3) "A"
2. Push release button "B"
3. Rotate chuck 25 degrees counterclockwise
4. Remove chuck
5. Install next chuck
6. Rotate chuck 25 degrees clockwise
7. Lock cams



TEL: 1-800-645-4174
royalproducts.com

ROYAL RCS™ RAPID CHANGE SYSTEM



Master Receiver
Once the master receiver is mounted to the lathe spindle it never needs to be removed.

Brings Quick-Change to Any CNC Lathe
A hassle-free way to upgrade any CNC lathe for lightning-fast chuck changeovers.

Precision Repeatability
Guaranteed to 0.0002".



Proudly Made in U.S.A.

Exceptional Strength
Hardened, ground, and engineered to work with both push and pull workholding devices.

Flexible and Adaptable
Easily integrates with your existing jaw chucks, collet chucks, ID workholding, etc.

Check out the Royal RCS™ Rapid Change System Video at www.royalproducts.com



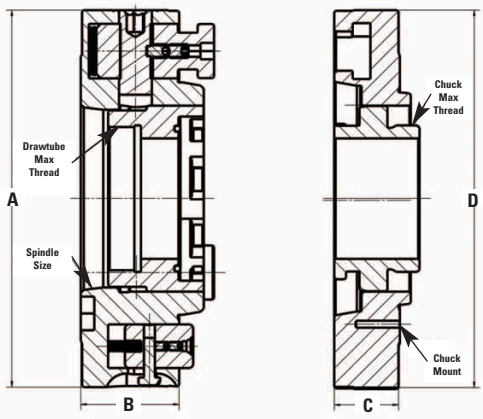
ROYAL RCS™ RAPID CHANGE SYSTEM

How to Order

1. Choose the master receiver based upon your lathe spindle nose and chuck diameters. This component always remains bolted to the lathe spindle and includes a custom machined drawtube connector with bayonet interface.
2. Order the appropriate subplates corresponding to the receiver model. Each subplate includes a custom machined bayonet coupler matched to the chuck that will be mounted to it.



Proudly Made in U.S.A.



Master Receiver | Subplate

Royal RCS™ Receivers*

LATHE SPINDLE TYPE	DESCRIPTION	MAX BAR CAPACITY	A	B	DRAWTUBE MAX THREAD	MAX DRAWTUBE FORCE (lbs.)		MAX RPM	WEIGHT (lbs.)	PART NUMBER	PRICE*
						PULL	PUSH				
A2-6	RCS-8 Receiver with A2-6 Mount	3.00	8.63	2.25	M85	12,000	11,500	5,000	32	65202	**$9,985**
A2-6	RCS-10 Receiver with A2-6 Mount	3.31	9.94	2.25	M95	15,000	15,000	4,200	43	65204	**9,985**
A2-8	RCS-10 Receiver with A2-8 Mount	3.31	9.94	2.25	M95	15,000	15,000	4,200	41	65206	**9,985**

* Includes custom machined drawtube connector with bayonet interface.

Royal RCS™ Subplates with Couplers

RCS™ RECEIVER MODEL	DESCRIPTION	MAX BAR CAPACITY	C	D	CHUCK MAX THREAD	MAX DRAWTUBE FORCE (lbs.)		MAX RPM	WEIGHT (lbs.)	PART NUMBER	PRICE*
						PULL	PUSH				
RCS-8	RCS-8 to QG-65 Subplate with Coupler	2.60	1.50	8.63	N/A	12,000	10,115	5,000	18	65215	**$6,285**
RCS-8	RCS-8 to QG-80 Subplate with Coupler	3.19	1.50	8.63	N/A	12,000	11,240	5,000	19	65216	**6,285**
RCS-8	RCS-8 to A2-6 Subplate with Coupler	3.00	2.25	8.63	M90	12,000	11,500	5,000	23	65220	**7,185**
RCS-8	RCS-8 to 170MM Mount 8" 3-Jaw Chuck Subplate with Coupler	3.00	1.81	8.63	M105	12,000	11,500	5,000	24	65210	**6,735**
RCS-8	RCS-8 to 220MM Mount 10/12" 3-Jaw Chuck Subplate with Coupler	3.00	1.81	8.66	M105	12,000	11,500	5,000	23	65211	**6,735**
RCS-10	RCS-10 to QG-65 Subplate with Coupler	2.60	1.50	9.94	N/A	15,000	10,115	4,200	25	65217	**6,735**
RCS-10	RCS-10 to QG-80 Subplate with Coupler	3.19	1.50	9.94	N/A	15,000	11,240	4,200	25	65218	**6,735**
RCS-10	RCS-10 to A2-6 Subplate with Coupler	3.00	2.94	9.94	M90	15,000	15,000	4,200	35	65221	**7,185**
RCS-10	RCS-10 to A2-8 Subplate with Coupler	3.31	1.31	9.94	M120	15,000	15,000	4,200	22	65222	**7,185**
RCS-10	RCS-10 to 170MM Mount 8" 3-Jaw Chuck Subplate with Coupler	3.31	2.81	9.94	M100	15,000	15,000	4,200	39	65212	**7,185**
RCS-10	RCS-10 to 220MM Mount 10/12" 3-Jaw Chuck Subplate with Coupler	3.31	1.75	9.94	M120	15,000	15,000	4,200	28	65213	**7,185**

*Includes bayonet coupler.

NOTE – Royal stocks all receivers and subplates. However, the bayonet couplers need to be customized for each specific chuck. Royal will contact you if dimensional information is required. Please allow 6 weeks for delivery.

ROYAL PRODUCTS

QUICK-GRIP™ WORKHOLDING

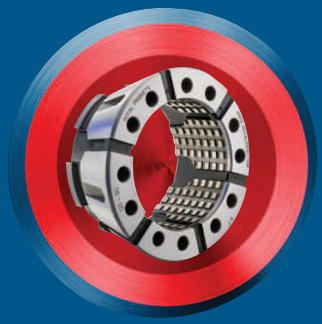
– TEN-SECOND COLLET CHANGES
– 0.0002" TIR OR BETTER
– PARALLEL GRIP COLLETS WITH A WIDE RANGE
– MOST COMPACT CHUCKS IN THE INDUSTRY
– IN-STOCK FOR SAME-DAY SHIPPING













ROYAL PRODUCTS
Optimize everything.



ROYAL QUICK-GRIP™ CNC COLLET CHUCKS

The Most Advanced Collet Chucks Available for Today's CNC Lathes



- ✔ Ten-Second Collet Changes Slash Setup Times.
- ✔ Industry-Leading Gripping Range – 0.062" (0.080" for QG-100).
- ✔ Ultra-Precision Accuracy – 0.0002" TIR Guaranteed.
- ✔ Extreme Grip Force = Most Aggressive Chip Removal Rates and Fastest Cycle Times.
- ✔ Maximum Rigidity Produces Superior Part Finishes.
- ✔ Best Tool Clearance – Critical For Live Tooling.
- ✔ Exclusive Royal Risk-Free Performance Guarantee.
- ✔ In-Stock for Same-Day Shipping.

Proudly Made in U.S.A.

Four Unique Models For All Applications



Combo Chuck

- Easily swap from O.D. to I.D. and 5C workholding.
- Accu-Length™ operation makes it perfect for sub-spindles.
- See pages 20-24 for more info.



Accu-Length™

- Fixed-position collet maintains precise z-axis part positioning – critical for secondary operations.
- Usually the best choice for main spindles, and always required for sub-spindles to ensure proper part transfer.



Pull-to-a-Stop

- Pullback design, however z-axis part positioning can be controlled with an included internal stop.
- Stop is easily removed for bar work.
- Often used in robot-load applications where workpiece confirmation is required.



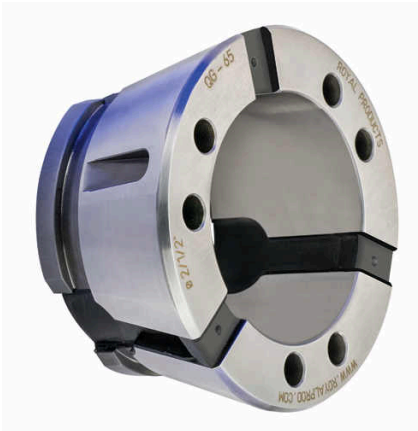
Pullback

- Most economical choice, but limited primarily to first operation, main-spindle applications.
- No ability to control z-axis part position.

NOTE – In order to provide our customers with the best possible service, Royal maintains a huge inventory of Quick-Grip™ CNC Collet Chucks, plus more than 500 unique drawtube connector models – enabling same-day shipping on virtually all collet chuck orders.

Big Benefit #1 Ten-Second Collet Changes

With the Royal Quick-Grip™ CNC Collet Chuck, collet changes take just seconds. Here's how it works:



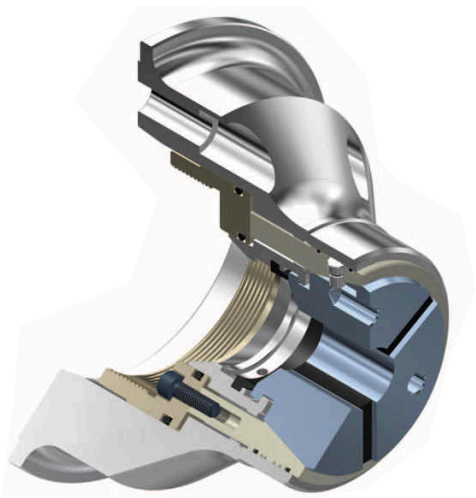
1. The unique collets are constructed of hardened steel segments securely joined together by vulcanized rubber. Each collet contains an annular hook and groove configuration on the rear section of its outer diameter.



2. The installation tool incorporates steel pins that align with reamed holes on the collet face. When these pins engage the face holes and the trigger on the tool is actuated, the collet becomes temporarily compressed.



3. In its compressed state, the collet can then be inserted into the collet chuck, where the hooks on the rear of the collet segments become axially aligned with a retaining groove in the chuck.



4. Releasing the installation tool allows the collet to spring open, seating the hooks in the groove and drawing the matching I.D./O.D. tapers into full, positive contact. The collet is now installed.

REDUCED SETUP TIME = GREATER THROUGHPUT AND HIGHER PROFITS!



ROYAL QUICK-GRIP™ CNC COLLET CHUCKS

Big Benefit #2 Ultra-Precision Accuracy – 0.0002" or Better



While many users purchase the Royal Quick-Grip™ CNC Collet Chuck for its lightning-fast collet changes and wide gripping range, another major benefit of this system is its extreme accuracy.

With CNC collet chucks, there are several factors which affect overall system accuracy. These include:

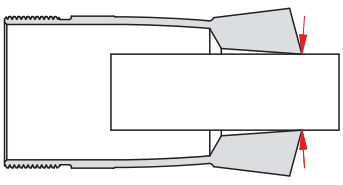
- Accuracy and tolerance of chuck mount (taper angle, gage line diameter, squareness of mounting flange, etc.)
- Tolerance and fit between chuck components (body to mounting adapter, closing sleeve to chuck bore, etc.)
- Accuracy and tolerance of collets (O.D. collet angle, bore sizing, concentricity of I.D. to O.D., etc.)

The manufacturing processes for Royal CNC collet chucks and collets have all been fully optimized to achieve the absolute tightest tolerances and highest accuracies. While we guarantee our chucks at 0.0002" TIR between the A-mount taper and collet chuck closing sleeve, they often run at 0.00005" or better! Round-bore collet accuracy is also guaranteed to be within 0.0002" TIR.

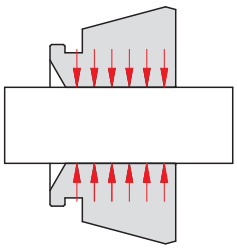
This means that out of the box, with absolutely no indicating in, you can expect to achieve a Quick-Grip™ total system accuracy of 0.0004" TIR or better. We know of no other collet chuck manufacturer that can consistently produce such an exact level of precision.

How much time do you waste boring jaws? The Royal Quick-Grip™ pays for itself in no time.

Big Benefit #3 Industry-Leading Gripping Range – 0.062"/0.080"



Spring-Type Collet
With a spring-type collet, unless the bore is exactly sized to the workpiece diameter there will be reduced contact, resulting in compromised accuracy and grip force.



Quick-Grip Collet
With a Quick-Grip™ collet, the segments always remain parallel to the workpiece, helping to maintain optimum accuracy and grip force.

Royal Quick-Grip™ Collets have a much wider collapse range than conventional spring collets. A spring-type collet can only be compressed by up to 0.005" before there is a sharp drop off in both grip force and accuracy due to the changing angle of the gripping surface.

However, with the unique design of the Royal Quick-Grip™ collet, each collet segment is bonded to the adjacent segments with vulcanized rubber. This ensures that the collet segments always remain parallel to the workpiece as the collet is compressed, giving the Quick-Grip™ collet a full collapse range of .062" (nominal diameter +/- .031). For the QG-100, this range is even greater – 0.080"!

Advantages of this system include:

- The ability to compensate for oversized and undersized bar stock.
- Superior accuracy and grip force – by remaining parallel to the workpiece, each collet segment makes contact over its entire length. With old-technology spring collets, over-collapsing results in just a narrow ring of contact near the collet face.
- The wide range of the Royal Quick-Grip™ collet provides the ability to clear larger diameters in order to grip on smaller diameters. This "over the shoulder" feature offers second-op advantages over traditional spring collets.



Big Benefit #4 Slash Cycle Times and Boost Throughput

Royal Quick-Grip™ Offers Unmatched Grip Force and Rigidity

The parallel-grip functionality of Royal Quick-Grip™ Collets provides extremely high grip force by maintaining workpiece contact over the entire length of each collet segment (see image on previous page). Additionally, the design and construction of all Royal Quick-Grip™ CNC Collet Chucks has been optimized for rock-solid rigidity.

This combination of tremendous grip force and outstanding rigidity results in something that every manufacturer strives for – the ability to drastically increase speeds, feeds and depth of cut, without sacrificing part accuracy or surface finish.

Exceptional Grip Force and Rigidity → **More Aggressive Chip Removal Rates**

More Aggressive Chip Removal Rates → **Faster Cycle Times**

Faster Cycle Times → **Increased Throughput**

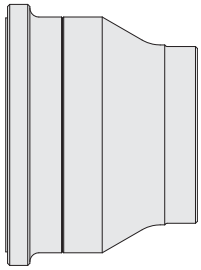
Increased Throughput → **Higher Profits**

Many Royal Quick-Grip™ users have told us that they have made back their investment in just a few short weeks thanks to such a significant increase in throughput over their previous three-jaw chucks and older-style collet chucks.

Big Benefit #5 Most Compact Collet Chucks in the Industry

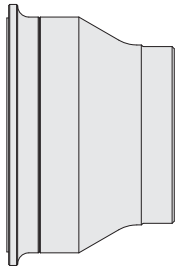
Royal Accu-Length™ CNC Collet Chucks have been optimized for tool clearance and rigidity. Short lengths maximize the usable space inside the machining envelope, while extremely compact nose diameters reduce tool interference and enable machining to take place closer to the spindle.

Compact
(Standard Length/Compact Nose Diameter)



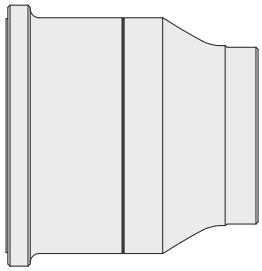
The traditional length ensures that these chucks can accommodate most machine drawtubes, while a greatly reduced nose diameter offers the best tool clearance in the industry.

Ultra-Compact
(Compact Length/Compact Nose Diameter)



These are the smallest collet chucks available. Often mounted on sub-spindles, Royal's Ultra-Compact CNC Collet Chucks make a great choice when maximum z-axis capacity is the primary requirement.

Extended-Length
(Longer Length/Compact Nose Diameter)

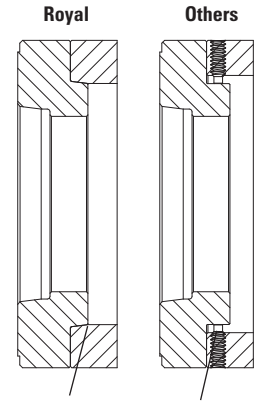


Royal stocks a few chuck models in extended-length versions to accommodate a handful of machines with limited z-axis travel. As a rule, it is usually best to choose the shortest chuck model possible for your machine.



ROYAL QUICK-GRIP™ CNC COLLET CHUCKS

Big Benefit #6 Exclusive Royal Bolt & Go™ Mounting Advantage



All Royal CNC Collet Chucks mount quickly, easily, and accurately due to our exclusive Bolt & Go™ mounting interface.

Many Royal chuck models mount directly to the lathe spindle without the need for an adapter plate. However, for models that do use a plate, a precision–ground tapered fit between the plate's male pilot and chuck body's female recess ensures a consistent, near-perfect fit without the need for any adjustment. This precision fit also enhances overall system rigidity by providing both face and taper contact.

Other chuck manufacturers use a less precise approach. Instead of providing a near-perfect tapered interface between the chuck body and plate, they rely on a loose fit between a male cylindrical pilot on the plate and an oversized bore within the chuck body. Because there is clearance between these two components, jack screws located around the circumference must be used to radially true-up the chuck on the plate. This process of using the jack screws and an indicator to dial out the runout each time a chuck is mounted wastes valuable production time. The rigidity of this design is also significantly less due to the limited point-contact provided by the screws against the pilot as compared to the full-contact tapered fit of the Royal Bolt & Go™ interface.

Knock 30 Minutes Off Your Setup Time with Royal Bolt & Go™

Big Benefit #7 Risk-Free Performance Guarantee

- ✔ Smarter Design
- ✔ Better Quality
- ✔ Outstanding Support



- ✔ Same-Day Shipping
- ✔ No Hassles
- ✔ Risk-Free Guarantee

In addition to providing superior quality, service, support, and deliveries, Royal CNC Collet Chucks also carry an industry exclusive risk-free performance guarantee. This no-risk guarantee allows our customers to run a collet chuck on the toughest jobs in their shop for 45-days, and if they are not 100% satisfied with its performance, we will take it back and arrange for a full refund through their distributor.

When you buy a CNC collet chuck from Royal Products, you can have complete confidence that we will not let you down. For over 80 years, Royal has been recognized as one of the most reliable and trusted suppliers in the metalworking industry. We are here for you today, and we'll be here for you tomorrow.



Big Benefit #8 Precision-Made in USA ISO 9001:2015 Certified

- Every Royal CNC collet chuck is completely manufactured in our modern factory on state-of-the-art automated CNC equipment.
- All chucks, sleeves, adapter plates, collets, etc., come off of our gantry-loaded multi-tasking machines complete – eliminating the accuracy and quality issues often associated with multiple setups/operations.





- All grinding takes place on precision Swiss-made CNC grinders that enable multiple features to be ground in a single setup, resulting in near-perfect tolerances and ensuring absolute consistency from part to part.
- Royal Products is an ISO9001:2015 registered company dedicated to continuous improvement. Every process is documented and followed down to the smallest detail for consistent quality – every time.

Big Benefit #9 Outstanding Support



Royal maintains a fleet of fully-equipped mobile showrooms designed to bring solutions to our customers' doorsteps. To schedule a visit to your company, please visit royalproducts.com.

- Royal's knowledgeable team of applications engineers makes it very easy for you to do business with us. When you call Royal, the person you speak with will be a workholding expert, and if we can't offer you the best solution for your application, we'll do our best to recommend a company that can – even if it's a competitor!
- Royal CNC Collet Chucks are sold through a select network of the country's top industrial and machine tool distributors. We also have strong relationships with all of the major machine tool builders and importers to make sure that our products seamlessly interface with their machines.
- With over forty factory-trained account managers strategically located throughout North America, our highly-qualified field support team is always ready and willing to serve you.

Big Benefit #10 We Make it Easy

- All Royal CNC collet chucks include everything needed for installation, (even the hex keys). We strive to give our customers "the mint on the pillow" treatment.
- Through the past thirty years of gathering machine tool specifications and working closely with all of the major machine tool builders, Royal Products has developed a huge database of drawtube specifications, virtually eliminating the need for a customer to ever measure a machine.
- We now stock over 500 of the most common drawtube connector models, and non-stock connectors are made very quickly from semi-finished blanks.
- All Royal CNC collet chucks come packaged in specially designed heavy-gage boxes with form-fitting foam inserts to provide complete protection of all contents.





HOW TO CHOOSE THE RIGHT QUICK-GRIP™ CNC COLLET CHUCK

Chuck Style

Royal offers four Quick-Grip™ Collet Chuck styles to suit virtually all CNC lathes and applications. If you're unsure which style is the best choice for your needs, the guidelines below should be helpful.



Combo Chuck

- ❑ Best choice for when you have a mix of both I.D. and O.D. work.
- ❑ Features Accu-Length™ operation.
- ❑ Perfect for sub spindles!
- ❑ See pages 20-24 for more info.



Accu-Length™

- ❑ Fixed position collet maintains precise z-axis part positioning – critical for secondary operations.
- ❑ Usually the best choice for main spindles, and always required for sub-spindles to ensure proper part transfer.



Pull-to-a-Stop

- ❑ Pullback design, however z-axis part positioning can be controlled with an internal included stop.
- ❑ Stop is easily removed for bar work.
- ❑ Often used in robot-load applications where workpiece confirmation is required.



Pullback

- ❑ Most economical choice, but limited primarily to first operation, main-spindle applications.
- ❑ No ability to control z-axis part position.

Capacity

It is typical practice to size a collet chuck according to the I.D. bore of the CNC lathe's drawtube. When the drawtube thru capacity falls between chuck models, it is usually best to choose a chuck with a slightly larger capacity than the drawtube bore to ensure you don't limit the jobs your machine can handle.

For machines with second spindles, sometimes the capacity of the second spindle is less than that of the main spindle. In cases like this, most customers choose the same chuck model for both spindles so they can standardize on collets.

CHUCK MODEL	MAX BAR CAPACITY
QG-32	1.28"
QG-42	1.68"
QG-52	2.03"
QG-65	2.66"
QG-80	3.28"
QG-100	4.03"

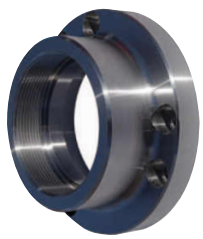
Spindle Mount

All CNC lathes have industry-standard spindle mounting specifications. Simply match the spindle mount of your machine (found in your owner's manual) to the spindle mount of the collet chuck.

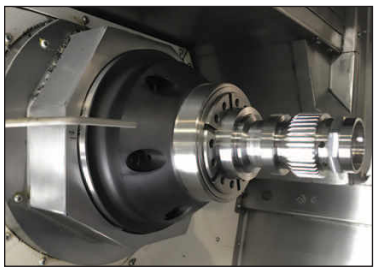
Drawtube Connector

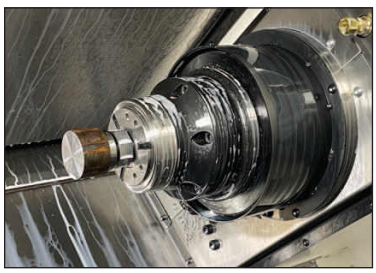
In our never-ending quest to provide our customers with the best possible service, every Royal CNC Collet Chuck includes a custom-machined drawtube connector to ensure seamless, hassle-free installation.

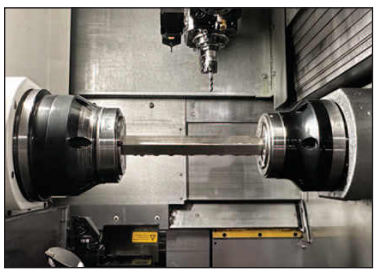
Royal stocks over 500 unique drawtube connector models, enabling same-day shipping on virtually all collet chuck orders.



ROYAL STANDARD QUICK-GRIP™ ACCU-LENGTH™ CNC COLLET CHUCKS









- ✔ Great for both main and sub-spindles.
- ✔ 10-second collet changes.
- ✔ Widest collet gripping range – 0.062" (0.080" for QG-100).
- ✔ Extremely accurate – 0.0002" TIR.
- ✔ Parallel workpiece gripping.
- ✔ Exclusive Bolt & Go™ mounting feature – no need to tap/indicate for accuracy.
- ✔ Compact and ultra-compact models to suit all machines and applications.
- ✔ Nose diameter optimized for superior tool clearance.
- ✔ In-stock for same-day shipping.





Proudly Made in U.S.A.



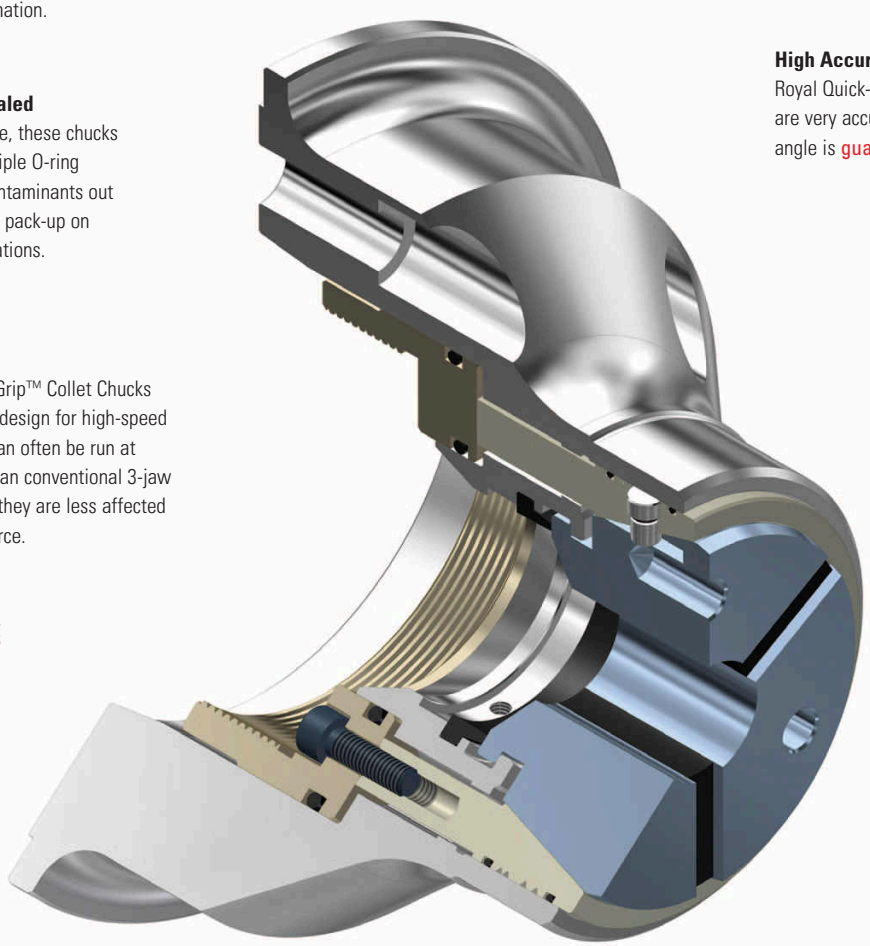
ROYAL STANDARD QUICK-GRIP™ ACCU-LENGTH™ CNC COLLET CHUCKS

Bolt & Go™
Our exclusive Bolt & Go™ mounting feature is standard on all Royal Quick-Grip™ Collet Chuck models. Bolt & Go™ enables chucks to be mounted very quickly and ensures maximum accuracy and rigidity. See page 34 for additional information.

Extremely Fast Collet Changes
Changing collets on a Royal Quick-Grip™ CNC Collet Chuck takes just a few seconds. A unique hook and groove design for securing collets is used instead of traditional threads.

Wide Gripping Range
Royal Quick-Grip™ Collets have a 0.062" gripping range (+/- 0.031"), enabling them to accommodate undersized and oversized bar stock. This range is even larger for the QG-100 – 0.080"

Completely Sealed
Lubricated for life, these chucks incorporate multiple O-ring seals to keep contaminants out and prevent chip pack-up on bore-thru applications.



High Accuracy
Royal Quick-Grip™ CNC Collet Chucks are very accurate – runout on the closing angle is guaranteed to be within 0.0002" TIR.

Low-Profile
Royal Quick-Grip™ CNC Collet Chucks have smaller nose diameters than other quick-change collet chucks for superior tool clearance.

High RPM
All Royal Quick-Grip™ Collet Chucks are balanced by design for high-speed operation, and can often be run at higher speeds than conventional 3-jaw chucks because they are less affected by centrifugal force.



Collet Compatibility
Royal Quick-Grip™ Collet Chucks can sometimes utilize other brands of quick-change collets. Call Royal to verify.

Heavy-Duty Construction
All chuck components, except for the drawtube connector, are hardened to Rc 61-63 for high rigidity and durability.

Coolant Slinger
All bodies incorporate an oversized flange to protect the machine tool spindle bearings from coolant penetration.

Shortest Length
Royal Quick-Grip™ CNC Collet Chucks are among the shortest chucks available, providing maximum work envelope utilization. This is especially important for smaller machines with limited z-axis travel.

Dead-Length Operation
Royal Quick-Grip™ Accu-Length™ CNC Collet Chucks incorporate dead length operation to eliminate part pullback. With this design, the collet is held stationary in the chuck body and a tapered sleeve pushes forward to compress it, resulting in precise z-axis workpiece positioning.

Easy Installation
Royal Quick-Grip™ Collet Chucks include all mounting hardware, mounting wrenches, and a custom-machined drawtube connector to ensure hassle-free installation.

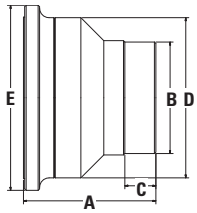
Specials
If you have a special application that goes beyond the scope of our standard line, we will be happy to design and build a custom system to meet your needs. Please contact a Royal applications engineer to discuss your requirements.

Note – Collets and installation tool sold separately

ROYAL STANDARD QUICK-GRIP™ ACCU-LENGTH™ CNC COLLET CHUCKS









Royal Quick-Grip™ Accu-Length™ CNC Collet Chucks

SPINDLE TYPE	COLLET TYPE	MAX CAPACITY BAR	MAX CAPACITY SLUG[3]	CHUCK STYLE	A OVERALL LENGTH	B NOSE DIAMETER	C NOSE LENGTH	D BODY DIAMETER	E FLANGE DIAMETER	CHUCK WEIGHT (lbs.)	MAX DRAWBAR FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)	MAX RPM	PART NUMBER	PRICE[1]
A2-4	QG-32	1.28	1.80	UC	4.40	3.59	0.75	5.63	6.35	18	5,620	15,740	7,000	46192	**$5,080**
A2-5	QG-32	1.28	1.80	UC	4.53	3.59	0.75	5.63	6.35	17	5,620	15,740	7,000	46193	**5,080**
A2-6	QG-32	1.28	1.80	UC	4.53	3.59	0.75	5.63	7.25	20	5,620	15,740	7,000	46194	**5,080**
110 MM	QG-32	1.28	1.80	UC	4.18	3.59	0.75	5.63	5.63	16	5,620	15,740	7,000	46195	**5,080**
140 MM	QG-32	1.28	1.80	UC	4.18	3.59	0.75	5.63	6.35	16	5,620	15,740	7,000	46196	**5,080**
A2-5	QG-42	1.66	2.62	C	4.60	4.07	0.75	5.70	6.45	19	7,865	17,980	6,000	46100	**5,080**
A2-5	QG-42	1.66	2.62	UC	4.00	4.07	0.75	5.70	6.45	15	7,865	17,980	6,000	46105	**5,080**
A2-6	QG-42	1.66	2.62	UC	4.45	4.07	0.75	6.20	7.25	21	7,865	17,980	6,000	46110	**5,080**
110 MM	GQ-42	1.66	2.62	UC	3.95	4.07	0.75	5.70	5.70	16	7,865	17,980	6,000	46112	**5,080**
140 MM	QG-42	1.66	2.62	UC	3.95	4.07	0.75	5.70	5.70	15	7,865	17,980	6,000	46115	**5,080**
A2-5	QG-52	2.03	2.57	C	4.80	4.37	0.75	6.10	6.85	24	7,865	17,980	6,000	46116	**5,080**
A2-5	QG-52	2.03	2.57	UC	4.20	4.37	0.75	6.10	6.10	18	7,865	17,980	6,000	46117	**5,080**
A2-6	QG-52	2.03	2.57	UC	4.60	4.37	0.75	6.20	7.25	23	7,865	17,980	6,000	46118	**5,080**
110 MM	QG-52	2.03	2.57	UC	4.20	4.37	0.75	6.10	6.10	17	7,865	17,980	6,000	46121	**5,080**
115 MM	QG-52	2.03	2.57	UC	4.20	4.37	0.75	6.10	6.10	19	7,865	17,980	6,000	46122	**5,080**
140 MM	QG-52	2.03	2.57	UC	4.20	4.37	0.75	6.10	6.10	19	7,865	17,980	6,000	46119	**5,080**
A2-5	QG-65	2.66	3.40	C	4.80	4.96	0.87	6.55	7.25	27	10,115	23,600	6,000	46120	**5,730**
A2-5	QG-65	2.66	3.40	UC	4.50	4.96	0.87	6.55	6.55	24	10,115	23,600	6,000	46125	**5,730**
A2-6	QG-65	2.66	3.40	C	5.33	4.96	0.87	6.55	7.25	31	10,115	23,600	6,000	46130	**5,730**
A2-6	QG-65	2.66	3.40	UC	4.65	4.96	0.87	6.55	7.25	24	10,115	23,600	6,000	46135	**5,730**
A2-6	QG-65	2.66	3.40	EL[2]	7.00	4.96	0.87	6.55	7.25	45	10,115	23,600	6,000	46140	**5,730**
A2-8	QG-65	2.66	3.40	C	5.50	4.96	0.87	8.00	9.45	45	10,115	23,600	6,000	46145	**6,450**
110 MM	QG-65	2.66	3.40	UC	4.45	4.96	0.87	6.55	6.55	25	10,115	23,600	6,000	46150	**6,260**
140 MM	QG-65	2.66	3.40	UC	4.80	4.96	0.87	6.55	7.45	29	10,115	23,600	6,000	46155	**6,260**
A2-5	QG-80	3.28	4.00	C	4.95	5.68	0.87	7.45	7.45	33	11,240	25,850	5,000	46160	**6,650**
A2-6	QG-80	3.28	4.00	C	4.95	5.68	0.87	7.45	7.45	35	11,240	25,850	5,000	46165	**6,650**
A2-6	QG-80	3.28	4.00	EL[2]	7.00	5.68	0.87	7.45	7.45	58	11,240	25,850	5,000	46166	**6,650**
A2-8	QG-80	3.28	4.00	C	5.20	5.68	0.87	8.00	9.45	43	11,240	25,850	5,000	46170	**6,650**
140 MM	QG-80	3.28	4.00	C	4.75	5.68	0.87	7.45	7.45	34	11,240	25,850	5,000	46175	**6,650**
A2-6	QG-100	4.03	5.15	C	6.18	7.07	0.87	9.40	9.40	76	14,610	33,720	5,000	46180	**9,640**
A2-8	QG-100	4.03	5.15	C	6.43	7.07	0.87	9.40	10.75	89	14,610	33,720	5,000	46185	**9,760**
A2-11	QG-100	4.03	5.15	C	6.68	7.07	0.87	9.40	12.50	93	14,610	33,720	5,000	46190	**11,410**

C=Compact, UC=Ultra-Compact, EL=Extended-Length

[1] Includes drawtube connector. Collets and installation tool sold separately.

[2] Extended-length – for use on machines where z-axis turret travel is limited.

[3] Slug capacity requires counterboring of collets. See page 66 details.



ROYAL QUICK-GRIP™ PULL-TO-A-STOP CNC COLLET CHUCKS

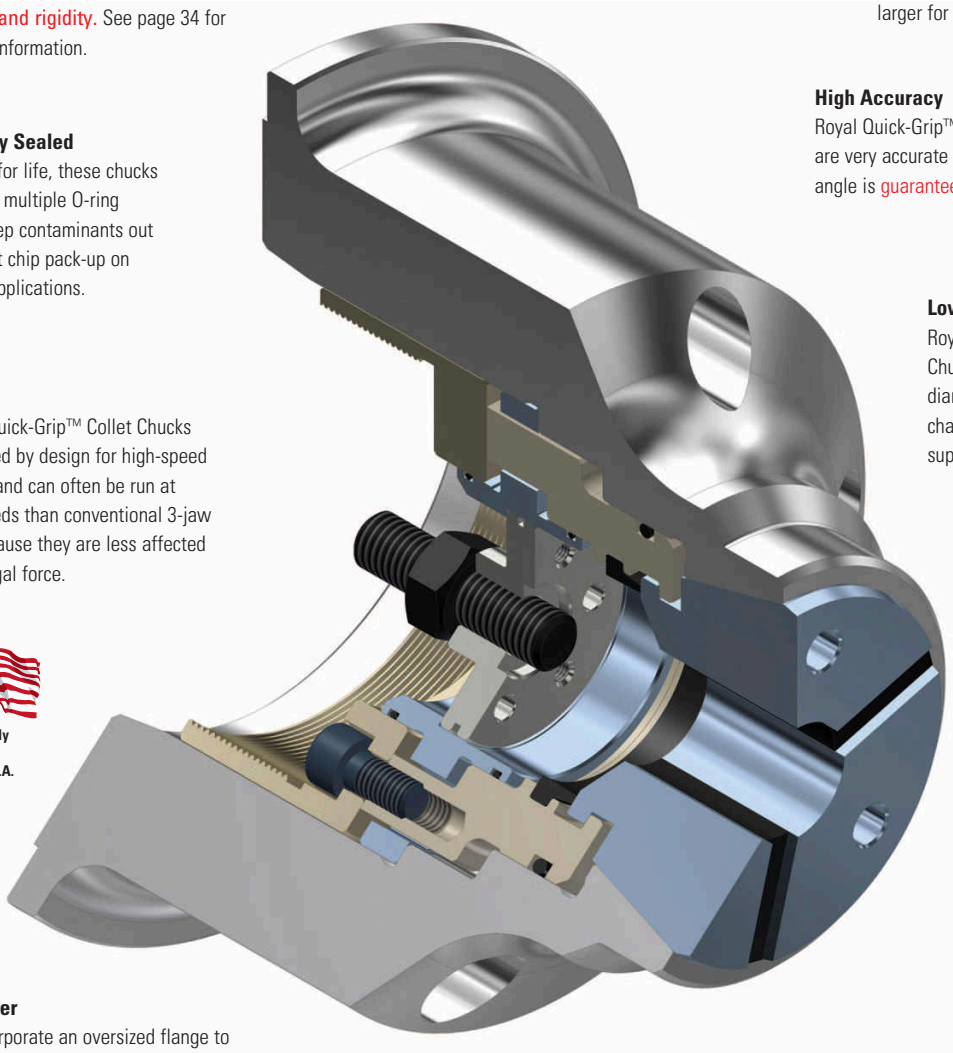
Bolt & Go™
Our exclusive Bolt & Go™ mounting feature is standard on all Royal Quick-Grip™ Collet Chuck models. Bolt & Go™ enables chucks to be mounted very quickly and ensures maximum accuracy and rigidity. See page 34 for additional information.

Extremely Fast Collet Changes
Changing collets on a Royal Quick-Grip™ CNC Collet Chuck takes just a few seconds. A unique hook and groove design for securing collets is used instead of traditional threads.

Wide Gripping Range
Royal Quick-Grip™ Collets have a 0.062" gripping range (+/- 0.031"), enabling them to accommodate undersized and oversized bar stock. This range is even larger for the QG-100 – 0.080".

Completely Sealed
Lubricated for life, these chucks incorporate multiple O-ring seals to keep contaminants out and prevent chip pack-up on bore-thru applications.

High Accuracy
Royal Quick-Grip™ CNC Collet Chucks are very accurate – runout on the closing angle is guaranteed to be within 0.0002" TIR.



Low-Profile
Royal Quick-Grip™ CNC Collet Chucks have smaller nose diameters than other quick-change collet chucks for superior tool clearance.

High RPM
All Royal Quick-Grip™ Collet Chucks are balanced by design for high-speed operation, and can often be run at higher speeds than conventional 3-jaw chucks because they are less affected by centrifugal force.



Collet Compatibility
Royal Quick-Grip™ Collet Chucks can sometimes utilize other brands of quick-change collets. Call Royal to verify.

Heavy-Duty Construction
All chuck components, except for the drawtube connector, are hardened to Rc 61-63 for high rigidity and durability.

Coolant Slinger
All bodies incorporate an oversized flange to protect the machine tool spindle bearings from coolant penetration.

Easy Installation
Royal Quick-Grip™ Collet Chucks include all mounting hardware, mounting wrenches, and a custom-machined drawtube connector to ensure hassle-free installation.

Shortest Length
Royal Quick-Grip™ CNC Collet Chucks are among the shortest chucks available, providing maximum work envelope utilization. This is especially important for smaller machines with limited z-axis travel.

Two-Chucks In One
The Royal Quick-Grip™ Pull-to-a-Stop CNC Collet Chuck includes a removable stop for precise, consistent workpiece positioning. The pullback action of the collet draws the workpiece securely against the stop, eliminating any chance of z-axis part movement and enabling very aggressive cutting.

When thru-hole capacity is required for bar feeding applications, simply remove the stop and the chuck will function as a normal pullback-style collet chuck.

Specials
If you have a special application that goes beyond the scope of our standard line, we will be happy to design and build a custom system to meet your needs. Please contact a Royal applications engineer to discuss your requirements.

Note – Collets and installation tool sold separately

ROYAL QUICK-GRIP™ PULL-TO-A-STOP CNC COLLET CHUCKS

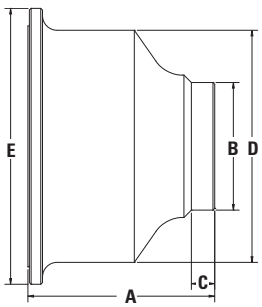




- ✔ Same great features as our Accu-Length™ Quick-Grip™ models, except that the collet is not fixed – it moves axially upon opening and closing.
- ✔ Adjustable stop guarantees precise, consistent z-axis part positioning and enables very aggressive cutting.
- ✔ Ideal for high-volume, robot-load applications in which the part needs to locate against a shoulder and air-sensing / position confirmation is required.
- ✔ Also a great choice for any CNC lathe equipped with a servo-driven bar feeder – simply remove the included stop for full thru-capacity.
- ✔ In-stock for same-day shipping.



Chuck includes removable standard stop.





Risk-Free PERFORMANCE Guarantee

Royal Quick-Grip™ Pull-to-a-Stop CNC Collet Chucks

SPINDLE TYPE	COLLET TYPE	MAX CAPACITY BAR	MAX CAPACITY SLUG[3]	A OVERALL LENGTH	B NOSE DIAMETER	C NOSE LENGTH	D BODY DIAMETER	E FLANGE DIAMETER	CHUCK WEIGHT (lbs.)	MAX DRAWBAR FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)	MAX RPM	PART NUMBER	PRICE[1]
A2-5	QG-42	1.66	2.62	5.10	3.54	0.62	6.00	6.70	21	7,865	17,980	6,000	46010	**$5,430**
A2-6	QG-42	1.66	2.62	5.50	3.54	0.62	6.25	7.45	25	7,865	17,980	6,000	46012	**5,430**
A2-5	QG-52	2.03	2.57	5.25	3.63	0.62	6.19	6.95	21	7,865	17,980	6,000	46028	**5,430**
A2-6	QG-52	2.03	2.57	5.65	3.63	0.67	6.19	7.25	22	7,865	17,980	6,000	46030	**5,430**
A2-5	QG-65	2.66	3.40	5.50	4.37	0.80	6.70	7.62	28	10,115	23,600	6,000	46014	**6,190**
A2-6	QG-65	2.66	3.40	6.00	4.37	0.80	6.70	7.62	29	10,115	23,600	6,000	46016	**6,190**
A2-6	QG-65	2.66	3.40	7.00[2]	4.37	0.80	6.70	7.62	35	10,115	23,600	6,000	46017	**6,190**
A2-8	QG-65	2.66	3.40	6.40	4.37	0.80	7.95	9.45	45	10,115	23,600	6,000	46018	**6,190**
A2-6	QG-80	3.28	4.00	6.00	4.96	0.80	8.00	8.75	44	11,240	25,850	5,000	46020	**6,790**
A2-8	QG-80	3.28	4.00	6.40	4.96	0.80	8.00	9.45	47	11,240	25,850	5,000	46022	**6,790**
A2-6	QG-100	4.03	5.15	7.08	6.30	0.80	9.40	9.40	88	14,610	33,720	5,000	46023	**8,420**
A2-8	QG-100	4.03	5.15	7.33	6.30	0.80	9.40	10.75	95	14,610	33,720	5,000	46024	**8,420**
A2-11	QG-100	4.03	5.15	7.58	6.30	0.80	9.40	12.50	102	14,610	33,720	5,000	46026	**9,140**

[1] Includes drawtube connector. Collets and installation tool sold separately.
[2] Extended-length – for use on machines where z-axis turret travel is limited.
[3] Slug capacity requires counterboring of collets. See page 66 details.



ROYAL QUICK-GRIP™ PULLBACK CNC COLLET CHUCKS

Bolt & Go™
Our exclusive Bolt & Go™ mounting feature is standard on all Royal Quick-Grip™ Collet Chuck models. Bolt & Go™ enables chucks to be mounted very quickly and ensures maximum accuracy and rigidity. See page 34 for additional information.

Extremely Fast Collet Changes
Changing collets on a Royal Quick-Grip™ CNC Collet Chuck takes just a few seconds. A unique hook and groove design for securing collets is used instead of traditional threads.

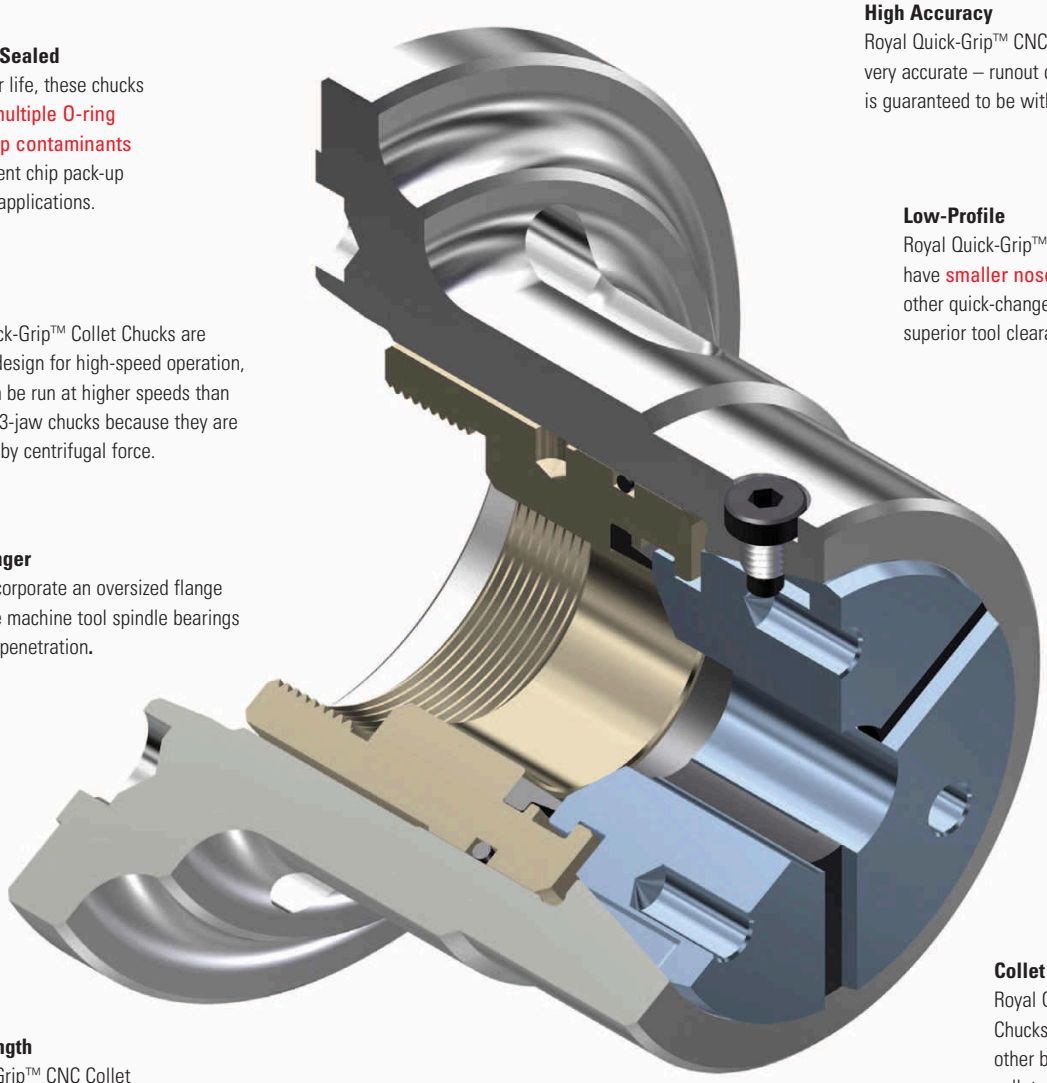
Wide Gripping Range
Royal Quick-Grip™ Collets have a 0.062" gripping range (+/- 0.031"), enabling them to accommodate undersized and oversized bar stock. This range is even larger for the QG-100 – 0.080".

Completely Sealed
Lubricated for life, these chucks incorporate multiple O-ring seals to keep contaminants out and prevent chip pack-up on bore-thru applications.

High Accuracy
Royal Quick-Grip™ CNC Collet Chucks are very accurate – runout on the closing angle is guaranteed to be within 0.0002" TIR.

Low-Profile
Royal Quick-Grip™ CNC Collet Chucks have smaller nose diameters than other quick-change collet chucks for superior tool clearance.

High RPM
All Royal Quick-Grip™ Collet Chucks are balanced by design for high-speed operation, and can often be run at higher speeds than conventional 3-jaw chucks because they are less affected by centrifugal force.



Coolant Slinger
All bodies incorporate an oversized flange to protect the machine tool spindle bearings from coolant penetration.



Collet Compatibility
Royal Quick-Grip™ Collet Chucks can sometimes utilize other brands of quick-change collets. Call Royal to verify.

Shortest Length
Royal Quick-Grip™ CNC Collet Chucks are among the shortest chucks available, providing maximum work envelope utilization. This is especially important for smaller machines with limited z-axis travel.

Specials
If you have a special application that goes beyond the scope of our standard line, we will be happy to design and build a custom system to meet your needs. Please contact a Royal applications engineer to discuss your requirements.

Heavy-Duty Construction
All chuck components, including the drawtube connector, are hardened to Rc 61-63 for high rigidity and durability.

Easy Installation
Royal Quick-Grip™ Collet Chucks include all mounting hardware, mounting wrenches, and a custom-machined drawtube connector to ensure hassle-free installation.

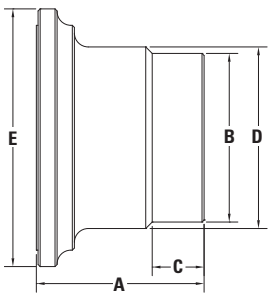
Note – Collets and installation tool sold separately

ROYAL QUICK-GRIP™ PULLBACK CNC COLLET CHUCKS





- ✔ Traditional pullback design – collet is pulled into chuck to close, pushed out to open.
- ✔ No collet stop capability, therefore this chuck style is typically used only on jobs where holding precise axial position is not critical.
- ✔ Includes many of the same features of our QG Accu-Length™ models, including:
  - 10-second collet changes
  - 0.0002" TIR accuracy on closing angle
  - Wide 0.062" collet range (0.080" for QG-100)
  - Compact dimensions for superior clearance
- ✔ In-stock for same-day shipping.







Royal Quick-Grip™ Pullback CNC Collet Chucks

SPINDLE TYPE	COLLET TYPE	MAX CAPACITY BAR	MAX CAPACITY SLUG[2]	A OVERALL LENGTH	B NOSE DIAMETER	C NOSE LENGTH	D BODY DIAMETER	E FLANGE DIAMETER	CHUCK WEIGHT (lbs.)	MAX DRAWBAR FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)	MAX RPM	PART NUMBER	PRICE[1]
A2-5	QG-42	1.66	2.62	4.45	4.11	3.50	5.25	6.45	11	7,865	17,980	6,000	44020	**$3,545**
A2-6	QG-42	1.66	2.62	4.35	4.11	1.50	4.38	7.45	13	7,865	17,980	6,000	44022	**3,545**
A2-5	QG-65	2.66	3.40	4.30	4.88	1.50	6.45	6.45	19	10,115	23,600	6,000	44028	**3,790**
A2-6	QG-65	2.66	3.40	4.85	4.88	1.50	5.25	7.45	17	10,115	23,600	6,000	44030	**3,790**
A2-8	QG-65	2.66	3.40	5.00	4.88	1.50	5.72	9.45	25	10,115	23,600	6,000	44032	**4,635**
A2-6	QG-80	3.28	4.00	4.85	5.47	1.25	5.68	7.45	25	11,240	25,850	5,000	44034	**4,740**
A2-8	QG-80	3.28	4.00	5.00	5.47	1.25	5.72	9.45	25	11,240	25,850	5,000	44036	**4,750**

[1] Includes drawtube connector. Collets and installation tool sold separately.

[2] Slug capacity requires counterboring of collets. See page 66 details.

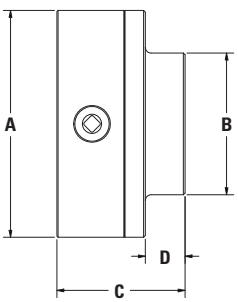
Check out the Royal Quick-Grip™ CNC Collet Chuck Video at www.colletchucks.com

ROYAL KEY-OPERATED QUICK-GRIP™ COLLET CHUCK FOR MANUAL LATHES





- Now you can enjoy the same great features of the Royal Quick-Grip™ CNC Collet Chuck on your manual engine lathes, including ten-second collet changes and parallel-grip collets with a full 0.062" clamping range.
- No hydraulic actuator needed – chuck is operated with a traditional square-drive chuck key (included) via a side-access screw.
- In addition to manual lathe applications, this chuck can also be utilized on indexers, rotary tables, etc.
- By eliminating the drawtube and offering a full 2-5/8" thru capacity (compared to 1-1/16" of a 5C collet closer), users can make much better use of their lathe's spindle capacity.
- Very accurate – 0.0005" TIR guaranteed!
- Balanced to 4,000 rpm.
- Superior gripping force – up to 16,860 lbs.
- Order backplate separately. Other backplate styles available as custom order.
- For use with Royal QG-65 collets and installation tools (pages 52-70).
- Note – this product is specifically designed for use on manual equipment not equipped with a hydraulic actuator. For CNC lathes, better performance will be achieved through the use of Royal CNC Collet Chucks.



Royal Key-Operated Quick-Grip™ Collet Chuck for Manual Lathes*

MODEL	CAPACITY	A	B	C	D	MAX TIGHTENING TORQUE (ft.-lbs.)	MAX CLAMPING FORCE (lbs.)	PART NUMBER	PRICE
QG-65	2.66	7.87	4.92	4.45	1.38	118	16,860	43920	**$6,895**

*Order backplate, collets, and installation tool separately.

Backplates for Key-Operated QG Collet Chuck

MODEL	PLATE DIAMETER	PLATE THICKNESS	PART NUMBER	PRICE
A2-5	7.87	1.10	43930	**$1,340**
A2-6	7.87	1.18	43932	**1,470**
D1-5	7.87	1.60	43934	**1,695**
D1-6	7.87	1.85	43936	**2,060**

- Hardened and precision ground.
- Backplates accept Royal Quick-Grip™ stops featured on page 69.

ROYAL QUICK-GRIP™ POWER-BLOCK™ COLLET FIXTURES

Hydraulic or Pneumatic Actuation



Extremely Fast Collet Changes
Changing collets on a Royal Quick-Grip™ Power-Block™ takes just a few seconds. A unique hook and groove design for securing collets is used instead of traditional threads.

Tool Clearance Optimized
Slim nose diameter offers better tool clearance compared to vises and other prismatic workholding devices.

Extreme Grip Force
The gripping segments of Royal Quick-Grip™ collets always remain parallel to the workpiece over their full length, ensuring grip force is evenly distributed. This is a significant advantage for thin-walled parts that are susceptible to crushing.

Wide Gripping Range
Royal Quick-Grip™ Collets have a 0.062" gripping range (+/- 0.031"), enabling them to accommodate undersized and oversized bar stock. This range is even larger for the QG-100 – 0.080".

Great for 5th-Axis Applications!

Completely Sealed
Lubricated for life, these fixtures incorporate multiple O-ring seals to prevent chips and coolant from impacting piston movement.

Flexible
The face of the Royal Power-Block™ is precision-ground and includes tapped holes, enabling the use of custom stops, locators, etc.



Heavy-Duty Construction
Body and piston are hardened to Rc 61-63 for maximum rigidity and durability.

Dual-Port Actuation
All units are equipped with ports on both the side and bottom surface of the fixture, offering actuation flexibility for both fixed and rotary table applications.

Custom Collet Profiles
One of the greatest advantages of this workholding system is in Royal's ability to supply custom collet profiles for odd-shaped second-op gripping. See examples on page 68.

Low Maintenance
Oversized evacuation slots on all four sides enable chips to be easily flushed clear on bore-thru applications.

Precision Mounting
Internal bore and external O.D. are both precision-ground, offering flexibility while ensuring accurate, repeatable mounting to plates, tombstones, etc.



Note – Collets and installation tool sold separately

ROYAL QUICK-GRIP™ POWER-BLOCK™ COLLET FIXTURES

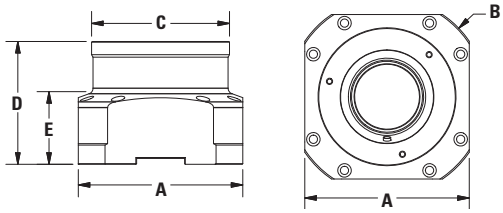
Hydraulic or Pneumatic Actuation







When paired with a custom-profile Quick-Grip™ collet, the Royal Power-Block™ can help you optimize your workholding for parts that aren't well-suited to traditional vises or prismatic fixtures. See page 68 for examples.



- Royal Power-Block™ Collet Fixtures bring the full functionality of our Quick-Grip™ CNC Collet Chucks to your vertical and horizontal machining centers.
- These fixtures incorporate many of the same great features as our Quick-Grip™ CNC Collet Chucks, including ten-second collet changes and the use of parallel-grip collets with a full 0.062" clamping range (0.080" for QG-100).
- A great alternative to traditional vises and fixtures – especially for long, thin parts, or those with asymmetrical external features.
- Units are designed to be actuated via hydraulic pressure, and may also be actuated pneumatically for lighter-duty applications (contact Royal for details).
- Engineered for use in both stationary and rotary-table applications. **Caution – not for use on lathes or grinders above 60 rpm!**
- Heavy-duty all steel construction with a large double-acting piston for high clamping force.
- Configured with both side and bottom ports for plumbing flexibility.
- Multiple units can be plumbed in series for single-source actuation.
- Mounting face is precision-ground for perpendicularity to centerline.
- Ideal for high-production vertical and horizontal milling applications.
- For use with Royal Quick-Grip™ collets and installation tools (pages 52-70).

Power-Block™ Grip Force Specifications*

MODEL	MAX INPUT HYDRAULIC PRESSURE (psi.)	MAX AXIAL FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)
QG-32	1450	5,620	15,735
QG-42	580	7,865	17,980
QG-52	580	7,865	17,980
QG-65	580	10,115	23,600
QG-80	580	11,240	25,850
QG-100	580	14,610	33,720

*Contact Royal for pneumatic actuation specifications.

Royal Quick-Grip™ Power-Block™ Collet Fixtures

MODEL	CAPACITY (ROUND)	CAPACITY (SQUARE)	A (SQUARE)	B (OUTER DIA.)	C	D	E	FIXTURE WEIGHT (lbs.)	PART NUMBER	PRICE*
QG-32	1.29	0.91	3.15	4.17	2.95	3.74	2.09	6	43958	**$3,235**
QG-42	1.66	1.16	6.06	6.89	4.13	4.72	3.56	25	43960	**3,860**
QG-52	2.00	1.37	6.06	6.89	4.13	4.72	3.56	25	43962	**3,860**
QG-65	2.66	1.78	6.85	8.27	4.92	5.12	3.36	33	43964	**4,160**
QG-80	3.28	2.03	7.34	8.46	6.30	5.12	3.00	38	43954	**4,675**
QG-100	4.03	2.78	9.02	10.63	8.46	5.51	3.38	66	43956	**6,425**

*Collets and installation tool sold separately.

ROYAL POWER-BLOCK™ QG-32 FIXTURE



High Density Workholding for Machining Centers

- Royal Power-Block™ Collet Fixtures bring the full functionality of our Quick-Grip™ CNC Collet Chucks to your vertical and horizontal machining centers – Now available in compact QG-32 sizing.
- Actuated by either air or hydraulics.
- Booster cylinder available for extra clamping force.
- Compact footprint enables close ganging for multi-part applications in condensed spaces.





DESCRIPTION	PART NUMBER	PRICE*
QG-32 Hydraulic Power-Block™ Collet Fixture	43958	**$3,235**
Booster Cylinder for QG-32 Hydraulic Power-Block™	43980	**3,195**
Baseplate for QG-32 Hydraulic Power-Block™	43978	**1,495**

ROYAL QUICK-GRIP™ POWER-BLOCK™ RISERS



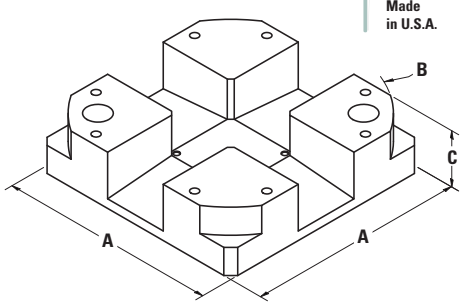


- These risers are designed specifically for Royal Power-Block™ Collet Fixtures and have multiple uses, including:
  - Raising the fixture height for improved 5th-axis accessibility.
  - Enhancing chip evacuation for thru-hole machining applications.
- Surface ground within 0.0002" parallelism.
- 20mm wide keyway on bottom surface provides secure engagement with machining center tables and rotary tables.
- Risers also available for Royal Key-Operated Power-Block™ Fixtures. Please contact one of our applications engineers for information.
- In stock for same-day shipping.



Royal Power-Block™ Risers

FITS HYDRAULIC POWER-BLOCK™ MODEL	A	B	C	PART NUMBER	PRICE*
QG-42	6.06	6.89	1.75	43970	**$1,620**
QG-52	6.06	6.89	1.75	43970	**1,620**
QG-65	6.85	8.27	1.75	43972	**1,660**
QG-80	7.34	8.46	1.75	43974	**1,765**
QG-100	9.02	10.63	1.75	43976	**2,085**



*Riser only. Order Power-Block™ and collets separately.



ROYAL QG COMBO POWER-BLOCK™ KEY-OPERATED COLLET FIXTURES

Three Great Workholding Options in One Fixture!

NEW



Proudly Made in U.S.A.



Quick-Grip™ Collet Setup



I.D. Gripping Setup



5C Collet Setup

Get More Out of Your Vertical, Horizontal, and 5-Axis Machining

- These multi-function fixtures enable you to use Royal QG collets, Royal I.D. mandrels/sleeves, and 5C collets in your 3, 4, and 5-axis applications.
- Manually actuated with a hex key (included).
- Many of the same great features as our QG Combo CNC Collet Chucks, including ten-second collet changes and parallel-grip collets with a full 0.062" clamping range.
- Can be used in both stationary and rotary table applications. Caution – not for use on lathes or grinders above 5 rpm!
- Pullback design with an internally threaded backplate enables the use of a stop rod.
- Unit is supplied configured to accept Royal QG collets. For I.D. and 5C workholding, additional components are required (order separately).

How It Works

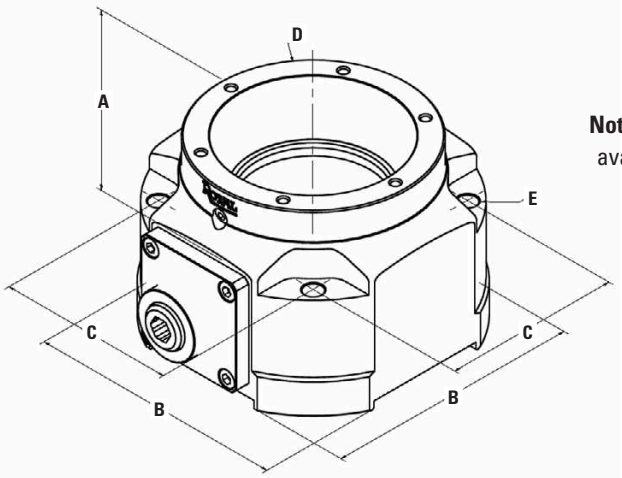


- Royal QG Power-Block™ Combo Fixtures directly accept Royal QG collets.
- For I.D. and 5C applications, a hardened and ground adapter (sold separately) is inserted and bolted to the fixture and engages with the piston via a bayonet arrangement.
- This adapter has a ground 75mm I.D. recess to accept Royal I.D. mandrels (see pages 84-85) or our 5C collet nose.



Odd-Shaped Parts? No problem! Royal can supply custom collets for any configuration.

ROYAL QG COMBO POWER-BLOCK™ KEY-OPERATED COLLET FIXTURES



Note Dimensions for I.D. and 5C setups available online at royalproducts.com

Proudly Made in U.S.A.

Royal QG Combo Power-Block™ Key-Operated Collet Fixtures

MODEL	A	B	C	D	E	MAX TIGHTENING TORQUE (ft.-lbs.)	MAX CLAMPING FORCE (lbs.)	PART NUMBER	PRICE
QG-52	4.13	5.38	3.71	4.13	0.43	42	5,125	43985	**$4,405**
QG-65	4.13	5.88	4.07	4.92	0.43	42	6,430	43986	**4,660**
QG-80	4.25	6.50	4.60	5.51	0.51	57	7,420	43987	**6,425**

Combo Power-Block™ Adapter

Required for I.D. and/or 5C Gripping

FITS MODEL	PART NUMBER	PRICE
QG-52	43991	**$2,350**
QG-65	43992	**2,625**
QG-80	43993	**3,170**

Expanding Rod Adapters

Required for I.D. Gripping

FITS MANDREL MODEL	PART NUMBER	PRICE
A	65140	**$415**
B & C	65141	**415**
D	65142	**415**
E	65143	**415**

5C Collet Nose

PART NUMBER	PRICE
65138	**$1,235**

FIRST-GENERATION KEY-OPERATED POWER-BLOCKS™



- These first-generation models utilize Royal QG Collets only – no I.D. or 5C functionality.
- Available while supplies last – visit royalproducts.com for pricing and availability.

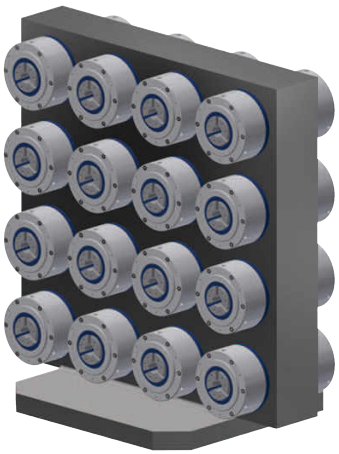
MODEL	PART NUMBER
QG-42	43900
QG-52	43902
QG-65	43904
QG-80	43908
QG-100	43912

ROYAL CUSTOM POWER-BLOCK™ WORKHOLDING

The Royal Power-Block™ offers unique production-enhancing opportunities for:

- ✔ 5th-Axis Applications
- ✔ Horizontal Machining Centers
- ✔ Multi-Station Rotary-Transfer Applications

Here is a sampling of how some of our customers have greatly improved productivity with Royal Power-Blocks™.

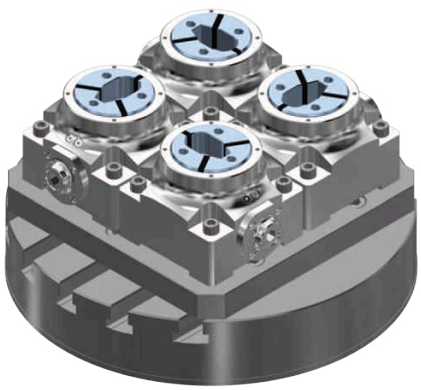


Application: Double-sided shaft-end machining on a horizontal machining center.

Capacity: 16 parts at one time.

Unique Features:

- ❑ 32 custom Small-Body Accu-Length™ Collet Fixtures mounted to a custom internally ported T-column.
- ❑ Gripping force supplied by internal die springs in each fixture.
- ❑ Pneumatically unclamped via a single intake port.
- ❑ This arrangement allows for all parts to be loaded and clamped off-line, so when the column travels into the machining center no air or hydraulic lines need to remain attached.

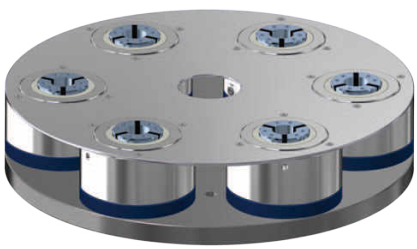


Application: "Tapered Oval" shaped part in a 5th-axis machining center.

Capacity: Four parts at one time.

Unique Features:

- ❑ Four standard Key-Operated Power-Blocks™ mounted to the machine tool rotary table via a custom adapter plate.
- ❑ Four hardened and ground collets custom-machined according to the exact part profile.
- ❑ Customer experienced an increase in throughput of 236% over the multi-station vise that was previously being used.



Application: Six-station rotary-transfer machine.

Capacity: Five parts in process at one time. Sixth station used for load/unload.

Unique Features:

- ❑ Six custom Small-Body Accu-Length™ Hydraulic Power-Block™ Fixtures mounted to a custom plate.
- ❑ Six custom counter-bored collets for precise z-axis positioning.
- ❑ Custom chip-shield.
- ❑ Clamp/unclamp provided via a centrally located indexing hydraulic manifold (not shown).

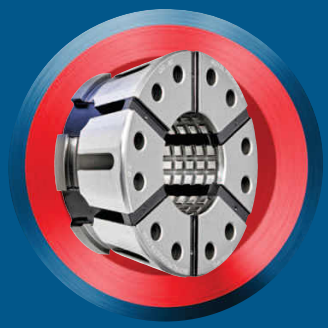
ROYAL PRODUCTS

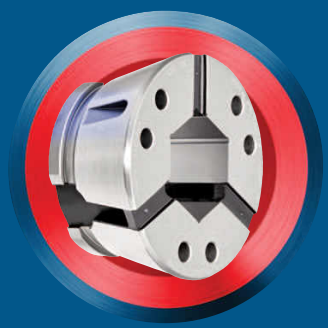
QUICK-GRIP™ COLLETS AND ACCESSORIES

– ULTRA-PRECISION QUICK-GRIP™ COLLETS
– COLLET INSTALLATION TOOLS, STOPS AND EJECTORS
– HARDENED AND GROUND ADAPTER PLATES













ROYAL PRODUCTS
Optimize everything.

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS

Full Range of Inch and Metric Sizes Available from Stock



These Extremely Advanced Collets Will Revolutionize Your Workholding

- Industry-leading 0.062" Gripping Range (0.080" for QG-100) – greater than other quick-change collets on the market and more than 12X that of traditional spring collets (see page 32).
- Royal Quick-Grip Collets are precision-ground to nominal size, with a gripping range of +/- 0.31" to handle undersized/oversized stock (+/- 0.40" for QG-100).

  Example – a ½" QG-65 collet is ground to 0.500" dia., and can hold any part ranging in size from 0.469" – 0.531" dia.
- Ultra-Precision Accuracy – 0.0002" TIR or better guaranteed on round-bores (see page 32). Total system accuracy (chuck + collet) guaranteed to 0.0004" or better.
- All Royal Quick-Grip™ Collets are designed for minimal projection beyond the chuck face (≤ 0.020") for optimum rigidity and machine work-zone utilization.
- All models have a smooth gripping surface, but round-bores are also available from stock in a double-serrated version for very aggressive first-op machining.
- Vulcanized rubber between the hardened steel collet segments provides outstanding protection against coolant and chip penetration, and Royal's advanced vulcanization process carries a lifetime guarantee against failure.
- Collets can be counter-bored for increased capacity (see page 66).
- S-type master collets available for QG-65 and QG-80 chuck models – see page 67.
- Royal Quick-Grip™ Collets are compatible with some other brands of quick-change chucks, but note that the QG-80 and QG-100 models have a six-slot design (for increased gripping torque) that requires the use of a Royal installation tool. Call us to verify compatibility.
- Custom sizes and shapes available as quick-ship specials. Collet segments can also be carbide-coated for extremely harsh applications. Contact one of our applications engineers at 1-800-645-4174 to discuss your requirements.

Royal Ultra-Precision Quick-Grip™ Collet Specifications

			ROUND		HEX	SQUARE			
COLLET MODEL	COLLET RANGE	NUMBER OF SLOTS	MAXIMUM THRU CAPACITY	MAXIMUM CAPACITY WHEN COUNTER-BORED**	MAXIMUM THRU CAPACITY	MAXIMUM THRU CAPACITY	EMERGENCY COLLETS AVAILABLE	CUSTOM SIZES AND SHAPES AVAILABLE	CARBIDE COATING AVAILABLE
QG-32	0.062	3	1.28	1.80	1.09	0.91	Y	Y	Y
QG-42	0.062	3	1.66	2.62	1.40	1.15	Y	Y	Y
QG-52	0.062	3	2.03	2.57	1.78	1.41	Y	Y	Y
QG-65	0.062	3	2.66	3.40	2.28	1.78	Y	Y	Y
QG-80	0.062	6*	3.28	4.00	2.78	2.03	Y	Y	Y
QG-100	0.080	6*	4.03	5.15	3.28	2.78	Y	Y	Y

* The unique six-slot design of the Royal QG-80 and QG-100 Quick-Grip™ collets provides increased workpiece contact over the entire gripping range for superior gripping torque over other brands.

** Counter-boring collets is a special operation and it is important to note that the maximum counter-bore diameter varies with depth. For more information, please see page 66 or contact Royal.

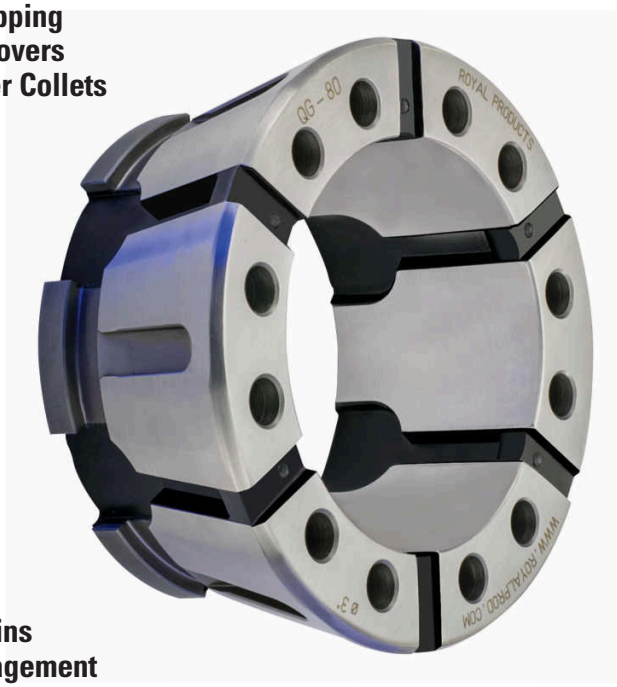
Why Do Top Manufacturers Insist on Royal Quick-Grip™ Collets?

Industry-Leading 0.062" Gripping Range (0.080" for QG-100) Covers More Diameters with Fewer Collets

Ultra-Precision Accuracy – 0.0002" TIR or Better

Vulcanization Guaranteed for Life

Parallel-Grip Maintains Full-Length Part Engagement



Exceptional Grip-Force Enables Very Aggressive Cutting

Exclusive Royal Risk-Free Performance Guarantee

Fast Delivery on Custom Shapes and Sizes – See Page 68

Special Slot Relief Grinding Eliminates "Collet Popping" and Minimizes Chuck Wear

Order Today – Have it Tomorrow



Round – Smooth | Round – Serrated | Hex | Square | Emergency

Thousands of Round, Hex, Square and Emergency Collets IN-STOCK for SAME-DAY SHIPPING!

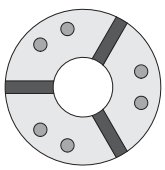
ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-32

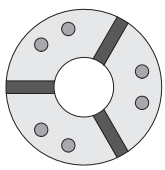


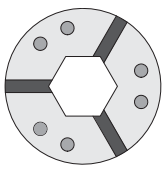
QG-32 CAPACITY	
Bar Diameter	1.28" (32.5mm)
Slug Diameter*	1.80" (45.7mm)

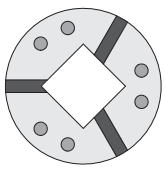
* See page 66 for details.

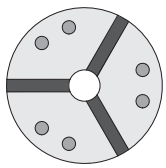
- Huge inventory of Round, Hex, Square, and Emergency styles always in stock, ready for same-day shipping.
- Industry-leading 0.062" gripping range covers a wide range of part diameters. Collets are ground to nominal size and have a range of +/-0.031".
- Parallel-grip ensures full-length part contact for maximum grip force, rigidity, and accuracy.
- Can be counter-bored for increased part capacity up to 1.80" – see page 66 for details.
- Quick-ship specials available for custom shapes.


Round Inch


Round Metric


Hex


Square


Emergency

Royal QG-32 Round Collets (Inch) – $362 Each

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
3/16"	0.157–0.219	45300	N/A
7/32"	0.188–0.250	45301	N/A
1/4"	0.219–0.281	45302	N/A
9/32"	0.250–0.312	45303	N/A
5/16"	0.282–0.344	45304	Call
11/32"	0.313–0.375	45305	Call
3/8"	0.344–0.406	45306	Call
13/32"	0.375–0.437	45307	Call
7/16"	0.407–0.469	45308	Call
15/32"	0.438–0.500	45309	Call
1/2"	0.469–0.531	45310	Call
17/32"	0.500–0.562	45311	Call

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
9/16"	0.532–0.594	45312	Call
19/32"	0.563–0.625	45313	Call
5/8"	0.594–0.656	45314	Call
21/32"	0.625–0.687	45315	Call
11/16"	0.657–0.719	45316	Call
23/32"	0.688–0.750	45317	Call
3/4"	0.719–0.781	45318	Call
25/32"	0.750–0.812	45319	Call
13/16"	0.782–0.844	45320	Call
27/32"	0.813–0.875	45321	Call
7/8"	0.844–0.906	45322	Call
29/32"	0.875–0.937	45323	Call

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
15/16"	0.907–0.969	45324	Call
31/32"	0.938–1.000	45325	Call
1"	0.969–1.031	45326	Call
1 1/32"	1.000–1.062	45327	Call
1 1/16"	1.032–1.094	45328	Call
1 3/32"	1.063–1.125	45329	Call
1 1/8"	1.094–1.156	45330	Call
1 5/32"	1.125–1.187	45331	Call
1 3/16"	1.157–1.219	45332	Call
1 7/32"	1.188–1.250	45333	Call
1 1/4"	1.219–1.281	45334	Call

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-32



Royal QG-32 Round Collets (Metric) – $362 Each

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
4mm	3.25–4.75	63300	N/A
5mm	4.25–5.75	63301	N/A
6mm	5.25–6.75	63302	N/A
7mm	6.25–7.75	63303	N/A
8mm	7.25–8.75	63304	N/A
9mm	8.25–9.75	63305	Call
10mm	9.25–10.75	63306	Call
11mm	10.25–11.75	63307	Call
12mm	11.25–12.75	63308	Call
13mm	12.25–13.75	63309	Call

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
14mm	13.25–14.75	63310	Call
15mm	14.25–15.75	63311	Call
16mm	15.25–16.75	63312	Call
17mm	16.25–17.75	63313	Call
18mm	17.25–18.75	63314	Call
19mm	18.25–19.75	63315	Call
20mm	19.25–20.75	63316	Call
21mm	20.25–21.75	63317	Call
22mm	21.25–22.75	63318	Call
23mm	22.25–23.75	63319	Call

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
24mm	23.25–24.75	63320	Call
25mm	24.25–25.75	63321	Call
26mm	25.25–26.75	63322	Call
27mm	26.25–27.75	63323	Call
28mm	27.25–28.75	63324	Call
29mm	28.25–29.75	63325	Call
30mm	29.25–30.75	63326	Call
31mm	30.25–31.75	63327	Call
32mm	31.25–32.75	63328	Call

Royal QG-32 Hex Collets – $540 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1/4"	0.219–0.281	45370
5/16"	0.282–0.344	45371
3/8"	0.344–0.406	45372
7/16"	0.407–0.469	45373
1/2	0.469–0.531	45374

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
9/16"	0.532–0.594	45375
5/8"	0.594–0.656	45376
11/16"	0.657–0.719	45377
3/4"	0.719–0.781	45378
13/16"	0.782–0.844	45379

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
7/8"	0.844–0.906	45380
15/16"	0.907–0.969	45381
1"	0.969–1.031	45382
1 1/16"	1.032–1.094	45383

Royal QG-32 Square Collets – $540 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1/4"	0.219–0.281	45390
3/8"	0.344–0.406	45391

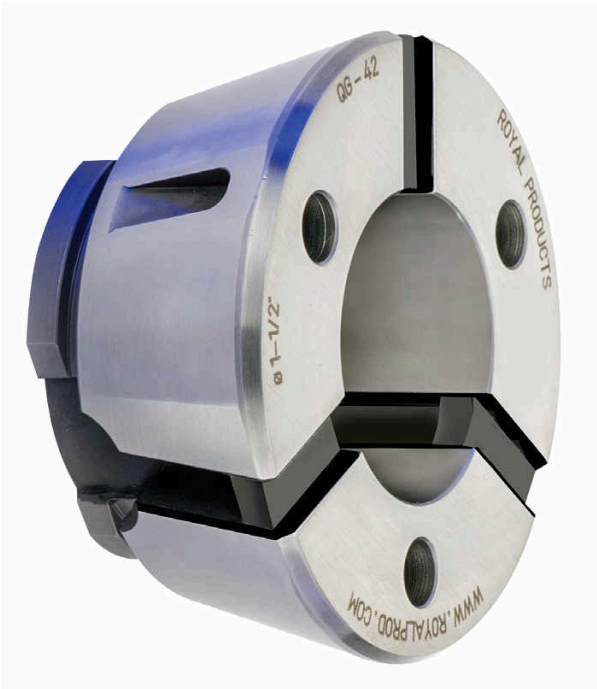
NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1/2"	0.469–0.531	45392
5/8"	0.594–0.656	45393

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
3/4"	0.719–0.781	45394
7/8"	0.844–0.906	45395

Royal QG-32 Emergency Collets – $425 Each – See Page 66

Check out the Royal Quick-Grip™ CNC Collet Chuck Video at www.colletchucks.com

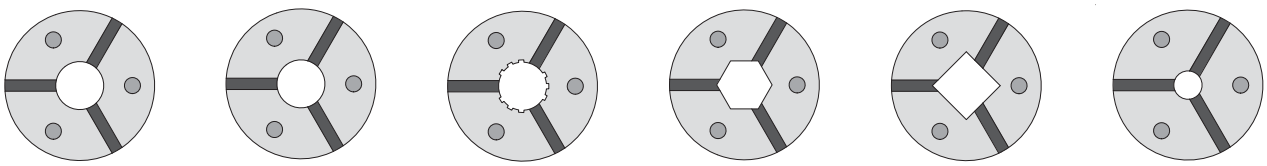
ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-42



QG-42 CAPACITY	
Bar Diameter	1.66" (42.8mm)
Slug Diameter*	2.62" (66.5mm)

* See page 66 for details.

- Huge inventory of Round, Hex, Square, and Emergency styles always in stock, ready for same-day shipping.
- Smooth and serrated versions for round-bore models (all others smooth only).
- Industry-leading 0.062" gripping range covers a wide range of part diameters. Collets are ground to nominal size and have a range of +/- 0.031".
- Parallel-grip ensures full-length part contact for maximum grip force, rigidity, and accuracy.
- Can be counter-bored for increased part capacity up to 2.62" – see page 66 for details.
- Quick-ship specials available for custom shapes.
- Can utilize manual and pneumatic changing tools.



Royal QG-42 Round Collets (Inch) – $362 Each

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
3/16"	0.157–0.219	44101	N/A
7/32"	0.188–0.250	44102	N/A
1/4"	0.219–0.281	44103	N/A
9/32"	0.250–0.312	44104	N/A
5/16"	0.282–0.344	44105	N/A
11/32"	0.313–0.375	44106	44155
3/8"	0.344–0.406	44107	44156
13/32"	0.375–0.437	44108	44157
7/16"	0.407–0.469	44109	44158
15/32"	0.438–0.500	44110	44159
1/2"	0.469–0.531	44111	44160
17/32"	0.500–0.562	44112	44161
9/16"	0.532–0.594	44113	44162
19/32"	0.563–0.625	44114	44163
5/8"	0.594–0.656	44115	44164
21/32"	0.625–0.687	44116	44165

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
11/16"	0.657–0.719	44117	44166
23/32"	0.688–0.750	44118	44167
3/4"	0.719–0.781	44119	44168
25/32"	0.750–0.812	44120	44169
13/16"	0.782–0.844	44121	44170
27/32"	0.813–0.875	44122	44171
7/8"	0.844–0.906	44123	44172
29/32"	0.875–0.937	44124	44173
15/16"	0.907–0.969	44125	44174
31/32"	0.938–1.000	44126	44175
1"	0.969–1.031	44127	44176
1 1/32"	1.000–1.062	44128	Call
1 1/16"	1.032–1.094	44129	44177
1 3/32"	1.063–1.125	44130	Call
1 1/8"	1.094–1.156	44131	44178
1 5/32"	1.125–1.187	44132	Call

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
1 3/16"	1.157–1.219	44133	44179
1 7/32"	1.188–1.250	44134	Call
1 1/4"	1.219–1.281	44135	44180
1 9/32"	1.250–1.312	44136	Call
1 5/16"	1.282–1.344	44137	44181
1 11/32"	1.313–1.375	44138	Call
1 3/8"	1.344–1.406	44139	44182
1 13/32"	1.375–1.437	44140	Call
1 7/16"	1.407–1.469	44141	44183
1 15/32"	1.438–1.500	44142	Call
1 1/2"	1.469–1.531	44143	44184
1 17/32"	1.500–1.562	44144	Call
1 9/16"	1.532–1.594	44145	44185
1 19/32"	1.563–1.625	44146	Call
1 5/8"	1.594–1.656	44147	44186

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-42



Royal QG-42 Round Collets (Metric) – $362 Each

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
4mm	3.25–4.75	62100	N/A
5mm	4.25–5.75	62102	N/A
6mm	5.25–6.75	62104	N/A
7mm	6.25–7.75	62106	N/A
8mm	7.25–8.75	62108	N/A
9mm	8.25–9.75	62110	62200
10mm	9.25–10.75	62112	62201
11mm	10.25–11.75	62114	62202
12mm	11.25–12.75	62116	62203
13mm	12.25–13.75	62118	62204
14mm	13.25–14.75	62120	62205
15mm	14.25–15.75	62122	62206
16mm	15.25–16.75	62124	62207

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
17mm	16.25–17.75	62126	62208
18mm	17.25–18.75	62128	62209
19mm	18.25–19.75	62130	62210
20mm	19.25–20.75	62132	62211
21mm	20.25–21.75	62134	62212
22mm	21.25–22.75	62136	62213
23mm	22.25–23.75	62138	62214
24mm	23.25–24.75	62140	62215
25mm	24.25–25.75	62142	62216
26mm	25.25–26.75	62144	62217
27mm	26.25–27.75	62146	62218
28mm	27.25–28.75	62148	62219
29mm	28.25–29.75	62150	62220

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
30mm	29.25–30.75	62152	62221
31mm	30.25–31.75	62154	62222
32mm	31.25–32.75	62156	62223
33mm	32.25–33.75	62158	62224
34mm	33.25–34.75	62160	62225
35mm	34.25–35.75	62162	62226
36mm	35.25–36.75	62164	62227
37mm	36.25–37.75	62166	62228
38mm	37.25–38.75	62168	62229
39mm	38.25–39.75	62170	62230
40mm	39.25–40.75	62172	62231
41mm	40.25–41.75	62174	62232
42mm	41.25–42.75	62176	62233

Royal QG-42 Hex Collets – $540 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1/4"	0.219–0.281	44375
3/8"	0.344–0.406	44377
1/2"	0.469–0.531	44379
5/8"	0.594–0.656	44381

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
3/4"	0.719–0.781	44383
7/8"	0.844–0.906	44385
1"	0.969–1.031	44387
1 1/8"	1.094–1.156	44389

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1 1/4"	1.219–1.281	44391
1 3/8"	1.344–1.406	44393

Royal QG-42 Square Collets – $540 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1/4"	0.219–0.281	44670
3/8"	0.344–0.406	44672
1/2"	0.469–0.531	44674

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
5/8"	0.594–0.656	44676
3/4"	0.719–0.781	44678
7/8"	0.844–0.906	44680

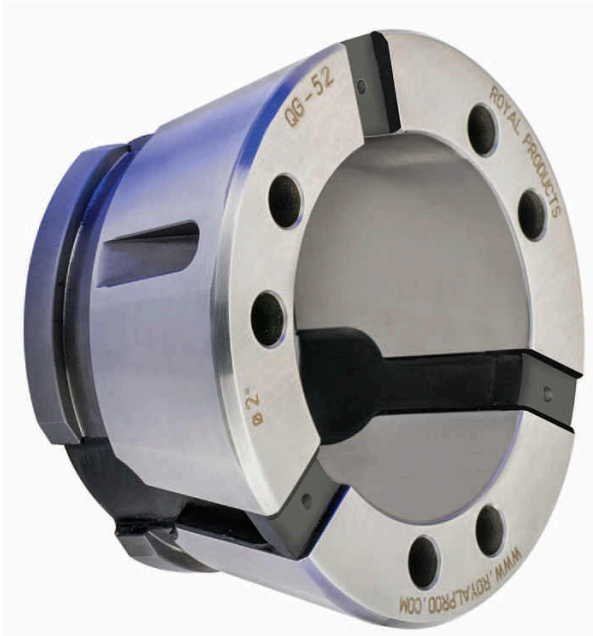
NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1"	0.969–1.031	44682
1 1/8"	1.094–1.156	44684

Royal QG-42 Emergency Collets – $425 Each – See Page 66

Check out the Royal Quick-Grip™ CNC Collet Chuck Video at www.colletchucks.com



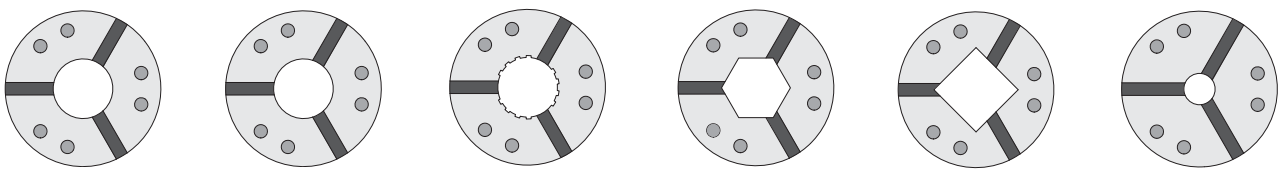
ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-52



QG-52 CAPACITY	
Bar Diameter	2.03" (51.6mm)
Slug Diameter*	2.57" (64.3mm)

* See page 66 for details.

- Huge inventory of Round, Hex, Square, and Emergency styles always in stock, ready for same-day shipping.
- Smooth and serrated versions for round-bore models (all others smooth only).
- Industry-leading 0.062" gripping range covers a wide range of part diameters. Collets are ground to nominal size and have a range of +/- 0.031".
- Parallel-grip ensures full-length part contact for maximum grip force, rigidity, and accuracy.
- Can be counter-bored for increased part capacity up to 2.57" – see page 66 for details.
- Quick-ship specials available for custom shapes.
- Can utilize manual and pneumatic changing tools.



Royal QG-52 Round Collets (Inch) – $362 Each

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
3/16"	0.157–0.219	45600	N/A
7/32"	0.188–0.250	45601	N/A
1/4"	0.219–0.281	45602	N/A
9/32"	0.250–0.312	45603	N/A
5/16"	0.282–0.344	45604	N/A
11/32"	0.313–0.375	45605	45665
3/8"	0.344–0.406	45606	45666
13/32"	0.375–0.437	45607	45667
7/16"	0.407–0.469	45608	45668
15/32"	0.438–0.500	45609	45669
1/2"	0.469–0.531	45610	45670
17/32"	0.500–0.562	45611	45671
9/16"	0.532–0.594	45612	45672
19/32"	0.563–0.625	45613	45673
5/8"	0.594–0.656	45614	45674
21/32"	0.625–0.687	45615	45675
11/16"	0.657–0.719	45616	45676
23/32"	0.688–0.750	45617	45677
3/4"	0.719–0.781	45618	45678
25/32"	0.750–0.812	45619	45679

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
13/16"	0.782–0.844	45620	45680
27/32"	0.813–0.875	45621	45681
7/8"	0.844–0.906	45622	45682
29/32"	0.875–0.937	45623	45683
15/16"	0.907–0.969	45624	45684
31/32"	0.938–1.000	45625	45685
1"	0.969–1.031	45626	45686
1 1/32"	1.000–1.062	45627	N/A
1 1/16"	1.032–1.094	45628	45687
1 3/32"	1.063–1.125	45629	N/A
1 1/8"	1.094–1.156	45630	45688
1 5/32"	1.125–1.187	45631	N/A
1 3/16"	1.157–1.219	45632	45689
1 7/32"	1.188–1.250	45633	N/A
1 1/4"	1.219–1.281	45634	45690
1 9/32"	1.250–1.312	45635	N/A
1 5/16"	1.282–1.344	45636	45691
1 11/32"	1.313–1.375	45637	N/A
1 3/8"	1.344–1.406	45638	45692
1 13/32"	1.375–1.437	45639	N/A

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
1 7/16"	1.407–1.469	45640	45693
1 15/32"	1.438–1.500	45641	N/A
1 1/2"	1.469–1.531	45642	45694
1 17/32"	1.500–1.562	45643	N/A
1 9/16"	1.532–1.594	45644	45695
1 19/32"	1.563–1.625	45645	N/A
1 5/8"	1.594–1.656	45646	45696
1 21/32"	1.625–1.687	45647	N/A
1 11/16"	1.657–1.719	45648	45697
1 23/32"	1.688–1.750	45649	N/A
1 3/4"	1.719–1.781	45650	45698
1 25/32"	1.750–1.812	45651	N/A
1 13/16"	1.782–1.844	45652	45699
1 27/32"	1.813–1.875	45653	N/A
1 7/8"	1.844–1.906	45654	45700
1 29/32"	1.875–1.937	45655	N/A
1 15/16"	1.907–1.969	45656	45701
1 31/32"	1.938–2.000	45657	N/A
2"	1.969–2.031	45658	45702

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-52



Royal QG-52 Round Collets (Metric) – $362 Each

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
4mm	3.25–4.75	63200	N/A
5mm	4.25–5.75	63201	N/A
6mm	5.25–6.75	63202	N/A
7mm	6.25–7.75	63203	N/A
8mm	7.25–8.75	63204	N/A
9mm	8.25–9.75	63205	63250
10mm	9.25–10.75	63206	63251
11mm	10.25–11.75	63207	63252
12mm	11.25–12.75	63208	63253
13mm	12.25–13.75	63209	63254
14mm	13.25–14.75	63210	63255
15mm	14.25–15.75	63211	63256
16mm	15.25–16.75	63212	63257
17mm	16.25–17.75	63213	63258
18mm	17.25–18.75	63214	63259
19mm	18.25–19.75	63215	63260
20mm	19.25–20.75	63216	63261

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
21mm	20.25–21.75	63217	63262
22mm	21.25–22.75	63218	63263
23mm	22.25–23.75	63219	63264
24mm	23.25–24.75	63220	63265
25mm	24.25–25.75	63221	63266
26mm	25.25–26.75	63222	63267
27mm	26.25–27.75	63223	63268
28mm	27.25–28.75	63224	63269
29mm	28.25–29.75	63225	63270
30mm	29.25–30.75	63226	63271
31mm	30.25–31.75	63227	63272
32mm	31.25–32.75	63228	63273
33mm	32.25–33.75	63229	63274
34mm	33.25–34.75	63230	63275
35mm	34.25–35.75	63231	63276
36mm	35.25–36.75	63232	63277
37mm	36.25–37.75	63233	63278

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
38mm	37.25–38.75	63234	63279
39mm	38.25–39.75	63235	63280
40mm	39.25–40.75	63236	63281
41mm	40.25–41.75	63237	63282
42mm	41.25–42.75	63238	63283
43mm	42.25–43.75	63239	63284
44mm	43.25–44.75	63240	63285
45mm	44.25–45.75	63241	63286
46mm	45.25–46.75	63242	63287
47mm	46.25–47.75	63243	63288
48mm	47.25–48.75	63244	63289
49mm	48.25–49.75	63245	63290
50mm	49.25–50.75	63246	63291
51mm	50.25–51.75	63247	63292
52mm	51.25–52.75	63248	63293

Royal QG-52 Hex Collets – $540 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1/4"	0.219–0.281	45710
5/16"	0.282–0.344	45711
3/8"	0.344–0.406	45712
7/16"	0.407–0.469	45713
1/2"	0.469–0.531	45714
9/16"	0.532–0.594	45715
5/8"	0.594–0.656	45716
11/16"	0.657–0.719	45717
3/4"	0.719–0.781	45718

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
13/16"	0.782–0.844	45719
7/8"	0.844–0.906	45720
15/16"	0.907–0.969	45721
1"	0.969–1.031	45722
1 1/16"	1.032–1.094	45723
1 1/8"	1.094–1.156	45724
1 3/16"	1.156–1.219	45725
1 1/4"	1.219–1.281	45726
1 5/16"	1.281–1.344	45727

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1 3/8"	1.344–1.406	45728
1 7/16"	1.406–1.469	45729
1 1/2"	1.469–1.531	45730
1 9/16"	1.531–1.594	45731
1 5/8"	1.594–1.656	45732
1 11/16"	1.656–1.719	45733
1 3/4"	1.719–1.781	45734

Royal QG-52 Square Collets – $540 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1/4"	0.219–0.281	45740
3/8"	0.344–0.406	45742
1/2"	0.469–0.531	45744
5/8"	0.594–0.656	45746

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
3/4"	0.719–0.781	45748
7/8"	0.844–0.906	45750
1"	0.969–1.031	45752
1 1/8"	1.094–1.156	45754

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1 1/4"	1.219–1.281	45756
1 3/8"	1.344–1.406	45758

Royal QG-52 Emergency Collets – $425 Each – See Page 66

Check out the Royal Quick-Grip™ CNC Collet Chuck Video at www.colletchucks.com

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS

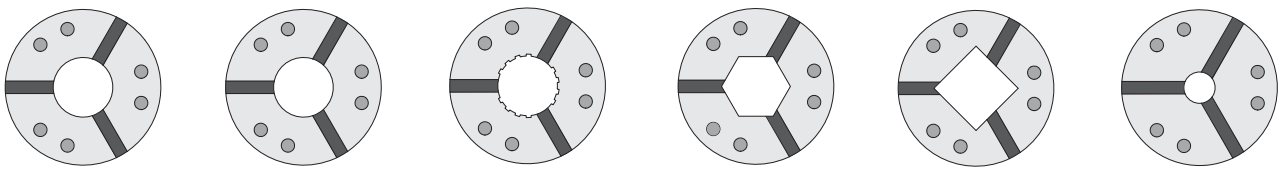
QG-65



QG-65 CAPACITY	
Bar Diameter	2.66" (65.8mm)
Slug Diameter*	3.40" (86.4mm)

* See page 66 for details.

- Huge inventory of Round, Hex, Square, and Emergency styles always in stock, ready for same-day shipping.
- Industry-leading 0.062" gripping range covers a wide range of part diameters. Collets are ground to nominal size and have a range of +/- 0.031".
- Parallel-grip ensures full-length part contact for maximum grip force, rigidity, and accuracy.
- Can be counter-bored for increased part capacity up to 3.40" – see page 66 for details.
- Quick-ship specials available for custom shapes.
- Can utilize manual and pneumatic changing tools.



Round Inch | Round Metric | Serrated | Hex | Square | Emergency

Royal QG-65 Round Collets (Inch) – $425 Each

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
3/16"	0.157–0.219	44201	N/A
7/32"	0.188–0.250	44202	N/A
1/4"	0.219–0.281	44203	N/A
9/32"	0.250–0.312	44204	N/A
5/16"	0.282–0.344	44205	N/A
11/32"	0.313–0.375	44206	44306
3/8"	0.344–0.406	44207	44307
13/32"	0.375–0.437	44208	44308
7/16"	0.407–0.469	44209	44309
15/32"	0.438–0.500	44210	44310
1/2"	0.469–0.531	44211	44311
17/32"	0.500–0.562	44212	44312
9/16"	0.532–0.594	44213	44313
19/32"	0.563–0.625	44214	44314
5/8"	0.594–0.656	44215	44315
21/32"	0.625–0.687	44216	44316
11/16"	0.657–0.719	44217	44317
23/32"	0.688–0.750	44218	44318
3/4"	0.719–0.781	44219	44319
25/32"	0.750–0.812	44220	44320
13/16"	0.782–0.844	44221	44321
27/32"	0.813–0.875	44222	44322
7/8"	0.844–0.906	44223	44323
29/32"	0.875–0.937	44224	44324
15/16"	0.907–0.969	44225	44325
31/32"	0.938–1.000	44226	44326
1"	0.969–1.031	44227	44327

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
1 1/32"	1.000–1.062	44228	Call
1 1/16"	1.032–1.094	44229	44328
1 3/32"	1.063–1.125	44230	Call
1 1/8"	1.094–1.156	44231	44329
1 5/32"	1.125–1.187	44232	Call
1 3/16"	1.157–1.219	44233	44330
1 7/32"	1.188–1.250	44234	Call
1 1/4"	1.219–1.281	44235	44331
1 9/32"	1.250–1.312	44236	Call
1 5/16"	1.282–1.344	44237	44332
1 11/32"	1.313–1.375	44238	Call
1 3/8"	1.344–1.406	44239	44333
1 13/32"	1.375–1.437	44240	Call
1 7/16"	1.407–1.469	44241	44334
1 15/32"	1.438–1.500	44242	Call
1 1/2"	1.469–1.531	44243	44335
1 17/32"	1.500–1.562	44244	Call
1 9/16"	1.532–1.594	44245	44336
1 19/32"	1.563–1.625	44246	Call
1 5/8"	1.594–1.656	44247	44337
1 21/32"	1.625–1.687	44248	Call
1 11/16"	1.657–1.719	44249	44338
1 23/32"	1.688–1.750	44250	Call
1 3/4"	1.719–1.781	44251	44339
1 25/32"	1.750–1.812	44252	Call
1 13/16"	1.782–1.844	44253	44340
1 27/32"	1.813–1.875	44254	Call

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
1 7/8"	1.844–1.906	44255	44341
1 29/32"	1.875–1.937	44256	Call
1 15/16"	1.907–1.969	44257	44342
1 31/32"	1.938–2.000	44279	Call
2"	1.969–2.031	44258	44343
2 1/32"	2.000–2.062	44259	Call
2 1/16"	2.032–2.094	44260	44344
2 3/32"	2.063–2.125	44261	Call
2 1/8"	2.094–2.156	44262	44345
2 5/32"	2.125–2.187	44263	Call
2 3/16"	2.157–2.219	44264	44346
2 7/32"	2.188–2.250	44265	Call
2 1/4"	2.219–2.281	44266	44347
2 9/32"	2.250–2.312	44267	Call
2 5/16"	2.282–2.344	44268	44348
2 11/32"	2.313–2.375	44269	Call
2 3/8"	2.344–2.406	44270	44349
2 13/32"	2.375–2.437	44271	Call
2 7/16"	2.407–2.469	44272	44350
2 15/32"	2.438–2.500	44273	Call
2 1/2"	2.469–2.531	44274	44351
2 17/32"	2.500–2.562	44275	Call
2 9/16"	2.532–2.594	44276	44352
2 19/32"	2.563–2.625	44277	N/A
2 5/8"	2.594–2.656	44278	N/A

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-65



Royal QG-65 Round Collets (Metric) – $425 Each

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
4mm	3.25–4.75	62300	N/A
5mm	4.25–5.75	62302	N/A
6mm	5.25–6.75	62304	N/A
7mm	6.25–7.75	62306	N/A
8mm	7.25–8.75	62308	N/A
9mm	8.25–9.75	62310	62500
10mm	9.25–10.75	62312	62501
11mm	10.25–11.75	62314	62502
12mm	11.25–12.75	62316	62503
13mm	12.25–13.75	62318	62504
14mm	13.25–14.75	62320	62505
15mm	14.25–15.75	62322	62506
16mm	15.25–16.75	62324	62507
17mm	16.25–17.75	62326	62508
18mm	17.25–18.75	62328	62509
19mm	18.25–19.75	62330	62510
20mm	19.25–20.75	62332	62511
21mm	20.25–21.75	62334	62512
22mm	21.25–22.75	62336	62513
23mm	22.25–23.75	62338	62514
24mm	23.25–24.75	62340	62515
25mm	24.25–25.75	62342	62516
26mm	25.25–26.75	62344	62517
27mm	26.25–27.75	62346	62518
28mm	27.25–28.75	62348	62519
29mm	28.25–29.75	62350	62520
30mm	29.25–30.75	62352	62521
31mm	30.25–31.75	62354	62522
32mm	31.25–32.75	62356	62523
33mm	32.25–33.75	62358	62524
34mm	33.25–34.75	62360	62525
35mm	34.25–35.75	62362	62526
36mm	35.25–36.75	62364	62527
37mm	36.25–37.75	62366	62528
38mm	37.25–38.75	62368	62529
39mm	38.25–39.75	62370	62530
40mm	39.25–40.75	62372	62531
41mm	40.25–41.75	62374	62532
42mm	41.25–42.75	62376	62533
43mm	42.25–43.75	62378	62534
44mm	43.25–44.75	62380	62535
45mm	44.25–45.75	62382	62536
46mm	45.25–46.75	62384	62537
47mm	46.25–47.75	62386	62538
48mm	47.25–48.75	62388	62539
49mm	48.25–49.75	62390	62540
50mm	49.25–50.75	62392	62541
51mm	50.25–51.75	62394	62542
52mm	51.25–52.75	62396	62543
53mm	52.25–53.75	62398	62544
54mm	53.25–54.75	62400	62545
55mm	54.25–55.75	62402	62546
56mm	55.25–56.75	62404	62547
57mm	56.25–57.75	62406	62548
58mm	57.25–58.75	62408	62549
59mm	58.25–59.75	62410	62550
60mm	59.25–60.75	62412	N/A
61mm	60.25–61.75	62414	N/A
62mm	61.25–62.75	62416	N/A
63mm	62.25–63.75	62418	N/A
64mm	63.25–64.75	62420	N/A
65mm	64.25–65.75	62422	N/A

Royal QG-65 Hex Collets – $680 Each

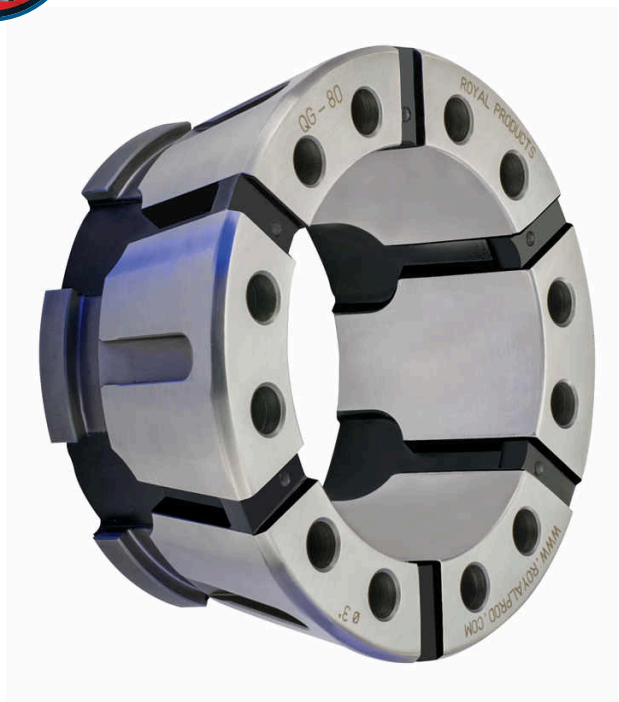
NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
5/16"	0.282–0.344	44700
3/8"	0.344–0.406	44701
7/16"	0.407–0.469	44702
1/2"	0.469–0.531	44703
9/16"	0.532–0.594	44704
5/8"	0.594–0.656	44705
11/16"	0.657–0.719	44706
3/4"	0.719–0.781	44707
13/16"	0.782–0.844	44708
7/8"	0.844–0.906	44709
15/16"	0.907–0.969	44710
1"	0.969–1.031	44711
1 1/16"	1.032–1.094	44712
1 1/8"	1.094–1.156	44713
1 3/16"	1.156–1.219	44714
1 1/4"	1.219–1.281	44715
1 5/16"	1.281–1.344	44716
1 3/8"	1.344–1.406	44717
1 7/16"	1.406–1.469	44718
1 1/2"	1.469–1.531	44719
1 9/16"	1.531–1.594	44720
1 5/8"	1.594–1.656	44721
1 11/16"	1.656–1.719	44722
1 3/4"	1.719–1.781	44723
1 13/16"	1.781–1.844	44724
1 7/8"	1.844–1.906	44725
1 15/16"	1.906–1.969	44726
2"	1.969–2.031	44727
2 1/16"	2.031–2.094	44728
2 1/8"	2.094–2.156	44729
2 3/16"	2.156–2.219	44730
2 1/4"	2.219–2.281	44731

Royal QG-65 Square Collets – $680 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
3/8"	0.344–0.406	44787
1/2"	0.469–0.531	44734
5/8"	0.594–0.656	44788
3/4"	0.719–0.781	44735
7/8"	0.844–0.906	44789
1"	0.969–1.031	44736
1 1/8"	1.094–1.156	44790
1 1/4"	1.219–1.281	44737
1 3/8"	1.344–1.406	44791
1 1/2"	1.469–1.531	44738
1 5/8"	1.594–1.656	44792
1 3/4"	1.719–1.781	44739

Royal QG-65 Emergency Collets – $477 Each – See Page 66

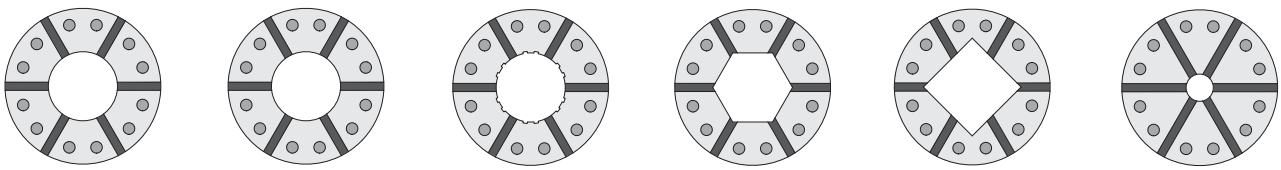
ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-80



QG-80 CAPACITY	
Bar Diameter	3.28" (80.8mm)
Slug Diameter*	4.00" (101.6mm)

* See page 66 for details.

- Huge inventory of Round, Hex, Square, and Emergency styles always in stock, ready for same-day shipping.
- Industry-leading 0.062" gripping range covers a wide range of part diameters. Collets are ground to nominal size and have a range of +/- 0.031".
- Parallel-grip ensures full-length part contact for maximum grip force, rigidity, and accuracy.
- Six-segment design further increases gripping torque.
- Can be counter-bored for increased part capacity up to 4.00" – see page 66 for details.
- Can utilize manual and pneumatic changing tools.



Royal QG-80 Round Collets* (Inch) – $655 Each

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
1/4"	0.219–0.281	44403	N/A
5/16"	0.282–0.344	44405	N/A
3/8"	0.344–0.406	44407	N/A
7/16"	0.407–0.469	44409	44509
1/2"	0.469–0.531	44411	44511
9/16"	0.532–0.594	44413	44513
5/8"	0.594–0.656	44415	44515
11/16"	0.657–0.719	44417	44517
3/4"	0.719–0.781	44419	44519
13/16"	0.782–0.844	44421	44521
7/8"	0.844–0.906	44423	44523
15/16"	0.907–0.969	44425	44525
1"	0.969–1.031	44427	44527
1 1/16"	1.032–1.094	44429	44529
1 1/8"	1.094–1.156	44431	44531
1 3/16"	1.157–1.219	44433	44533
1 1/4"	1.219–1.281	44435	44535
1 5/16"	1.282–1.344	44437	44537
1 3/8"	1.344–1.406	44439	44539
1 7/16"	1.407–1.469	44441	44541
1 1/2"	1.469–1.531	44443	44543
1 9/16"	1.532–1.594	44445	44545
1 5/8"	1.594–1.656	44447	44547
1 11/16"	1.657–1.719	44449	44549
1 3/4"	1.719–1.781	44451	44551
1 13/16"	1.782–1.844	44453	44553
1 7/8"	1.844–1.906	44455	44555
1 15/16"	1.907–1.969	44457	44557
2"	1.969–2.031	44459	44559
2 1/16"	2.032–2.094	44461	44561
2 1/8"	2.094–2.156	44463	44563
2 3/16"	2.157–2.219	44465	44565
2 1/4"	2.219–2.281	44467	44567
2 5/16"	2.282–2.344	44469	44569
2 3/8"	2.344–2.406	44471	44571
2 7/16"	2.407–2.469	44473	44573
2 1/2"	2.469–2.531	44475	44575
2 9/16"	2.532–2.594	44477	44577
2 5/8"	2.594–2.656	44479	44579
2 11/16"	2.657–2.719	44481	44581
2 3/4"	2.719–2.781	44483	44583
2 13/16"	2.782–2.844	44485	44585
2 7/8"	2.844–2.906	44487	44587
2 15/16"	2.907–2.969	44489	44589
3"	2.969–3.031	44491	44591
3 1/16"	3.032–3.094	44493	N/A
3 1/8"	3.094–3.156	44495	N/A
3 3/16"	3.157–3.219	44497	N/A
3 1/4"	3.219–3.281	44499	N/A

*Royal QG-80 collets have six segments instead of three for increased gripping torque.

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-80



Royal QG-80 Round Collets* (Metric) – $655 Each

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
7mm	6.25–7.75	62600	N/A
8mm	7.25–8.75	62602	N/A
9mm	8.25–9.75	62604	N/A
10mm	9.25–10.75	62606	N/A
11mm	10.25–11.75	62608	62800
12mm	11.25–12.75	62610	62801
13mm	12.25–13.75	62612	62802
14mm	13.25–14.75	62614	62803
15mm	14.25–15.75	62616	62804
16mm	15.25–16.75	62618	62805
17mm	16.25–17.75	62620	62806
18mm	17.25–18.75	62622	62807
19mm	18.25–19.75	62624	62808
20mm	19.25–20.75	62626	62809
21mm	20.25–21.75	62628	62810
22mm	21.25–22.75	62630	62811
23mm	22.25–23.75	62632	62812
24mm	23.25–24.75	62634	62813
25mm	24.25–25.75	62636	62814
26mm	25.25–26.75	62638	62815
27mm	26.25–27.75	62640	62816
28mm	27.25–28.75	62642	62817
29mm	28.25–29.75	62644	62818
30mm	29.25–30.75	62646	62819
31mm	30.25–31.75	62648	62820

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
32mm	31.25–32.75	62650	62821
33mm	32.25–33.75	62652	62822
34mm	33.25–34.75	62654	62823
35mm	34.25–35.75	62656	62824
36mm	35.25–36.75	62658	62825
37mm	36.25–37.75	62660	62826
38mm	37.25–38.75	62662	62827
39mm	38.25–39.75	62664	62828
40mm	39.25–40.75	62666	62829
41mm	40.25–41.75	62668	62830
42mm	41.25–42.75	62670	62831
43mm	42.35–43.75	62672	62832
44mm	43.25–44.75	62674	62833
45mm	44.25–45.75	62676	62834
46mm	45.25–46.75	62678	62835
47mm	46.25–47.75	62680	62836
48mm	47.25–48.75	62682	62837
49mm	48.25–49.75	62684	62838
50mm	49.25–50.75	62686	62839
51mm	50.25–51.75	62688	62840
52mm	51.25–52.75	62690	62841
53mm	52.25–53.75	62692	62842
54mm	53.25–54.75	62694	62843
55mm	54.25–55.75	62696	62844
56mm	55.25–56.75	62698	62845

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
57mm	56.25–57.75	62700	62846
58mm	57.25–58.75	62702	62847
59mm	58.25–59.75	62704	62848
60mm	59.25–60.75	62706	62849
61mm	60.25–61.75	62708	62850
62mm	61.25–62.75	62710	62851
63mm	62.25–63.75	62712	62852
64mm	63.25–64.75	62714	62853
65mm	64.25–65.75	62716	62854
66mm	65.25–66.75	62718	62855
67mm	66.25–67.75	62720	62856
68mm	67.25–68.75	62722	62857
69mm	68.25–69.75	62724	62858
70mm	69.25–70.75	62726	62859
71mm	70.25–71.75	62728	62860
72mm	71.25–72.75	62730	62861
73mm	72.25–73.75	62732	62862
74mm	73.25–74.75	62734	62863
75mm	74.25–75.75	62736	62864
76mm	75.25–76.75	62738	62865
77mm	76.25–77.75	62740	62866
78mm	77.25–78.75	62742	N/A
79mm	78.25–79.75	62744	N/A
80mm	79.25–80.75	62746	N/A

*Royal QG-80 collets have six segments instead of three for increased gripping torque.

Royal QG-80 Hex Collets* – $1,015 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
3/8"	0.344–0.406	44778
7/16"	0.407–0.469	44740
1/2"	0.469–0.531	44741
9/16"	0.532–0.594	44742
5/8"	0.594–0.656	44743
11/16"	0.657–0.719	44744
3/4"	0.719–0.781	44745
13/16"	0.782–0.844	44746
7/8"	0.844–0.906	44747
15/16"	0.907–0.969	44748
1"	0.969–1.031	44749
1 1/16"	1.032–1.094	44750
1 1/8"	1.094–1.156	44751

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1 3/16"	1.156–1.219	44752
1 1/4"	1.219–1.281	44753
1 5/16"	1.281–1.344	44754
1 3/8"	1.344–1.406	44755
1 7/16"	1.406–1.469	44756
1 1/2"	1.469–1.531	44757
1 9/16"	1.531–1.594	44758
1 5/8"	1.594–1.656	44759
1 11/16"	1.656–1.719	44760
1 3/4"	1.719–1.781	44761
1 13/16"	1.781–1.844	44762
1 7/8"	1.844–1.906	44763
1 15/16"	1.906–1.969	44764

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
2"	1.969–2.031	44765
2 1/16"	2.031–2.094	44766
2 1/8"	2.094–2.156	44767
2 3/16"	2.156–2.219	44768
2 1/4"	2.219–2.281	44769
2 5/16"	2.281–2.344	44770
2 3/8	2.344–2.406	44771
2 7/16"	2.406–2.469	44772
2 1/2"	2.469–2.531	44773
2 9/16"	2.531–2.594	44774
2 5/8"	2.594–2.656	44775
2 11/16"	2.656–2.719	44776
2 3/4"	2.719–2.781	44777

*Royal QG-80 collets have six segments instead of three for increased gripping torque.

Royal QG-80 Square Collets* – $1,015 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
3/8"	0.344–0.406	44793
1/2"	0.469–0.531	44780
5/8"	0.594–0.656	44794
3/4"	0.719–0.781	44781
7/8"	0.844–0.906	44795

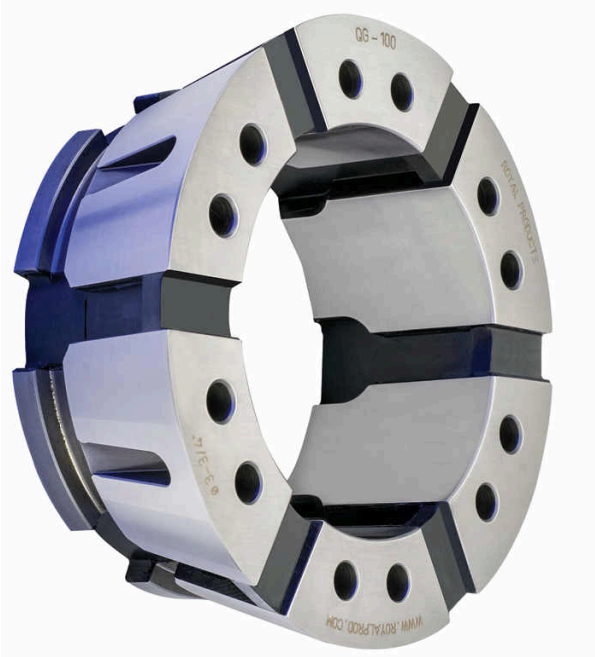
NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1"	0.969–1.031	44782
1 1/8"	1.094–1.156	44796
1 1/4"	1.219–1.281	44783
1 3/8"	1.344–1.406	44797
1 1/2"	1.469–1.531	44784

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1 5/8"	1.594–1.656	44798
1 3/4"	1.719–1.781	44785
1 7/8"	1.844–1.906	44799
2"	1.969–2.031	44786

*Royal QG-80 collets have six segments instead of three for increased gripping torque.

Royal QG-80 Emergency Collets – $658 Each – See Page 66

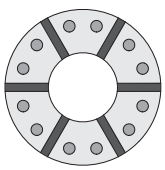
ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-100

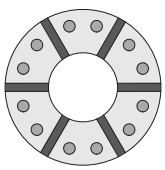


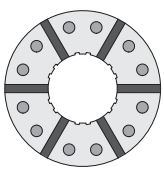
QG-100 CAPACITY	
Bar Diameter	4.03" (100.8mm)
Slug Diameter*	5.15" (130.8mm)

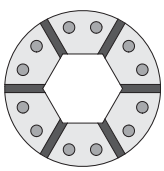
* See page 66 for details.

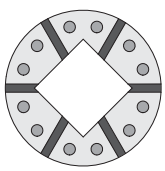
- Huge inventory of Round, Hex, Square, and Emergency styles always in stock, ready for same-day shipping.
- Smooth and serrated versions for round-bore models (all others smooth only).
- Industry-leading 0.080" gripping range covers a wide range of part diameters. Collets are ground to nominal size and have a range of +/- 0.040".
- Parallel-grip ensures full-length part contact for maximum grip force, rigidity, and accuracy.
- Six-segment design further increases gripping torque.
- Can be counter-bored for increased part capacity up to 5.15" – see page 66 for details.
- Quick-ship specials available for custom shapes.
- Utilizes pneumatic changing tool.

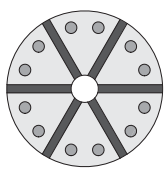

Round Inch


Round Metric


Serrated


Hex


Square


Emergency

Royal QG-100 Round Collets* (Inch) – $980 Each

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
5/8"	0.585–0.665	45012	N/A
11/16"	0.648–0.728	45013	N/A
3/4"	0.710–0.790	45014	N/A
13/16"	0.773–0.853	45015	N/A
7/8"	0.835–0.915	45016	N/A
15/16"	0.898–0.978	45017	N/A
1"	0.960–1.040	45018	N/A
1 1/16"	1.023–1.103	45019	N/A
1 1/8"	1.085–1.165	45020	N/A
1 3/16"	1.148–1.228	45021	N/A
1 1/4"	1.210–1.290	45022	N/A
1 5/16"	1.273–1.353	45023	N/A
1 3/8"	1.335–1.415	45024	N/A
1 7/16"	1.398–1.478	45025	N/A
1 1/2"	1.460–1.540	45026	45201
1 9/16"	1.523–1.603	45027	45202
1 5/8"	1.585–1.665	45028	45203
1 11/16"	1.648–1.728	45029	45204
1 3/4"	1.710–1.790	45030	45205

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
1 13/16"	1.773–1.853	45031	45206
1 7/8"	1.835–1.915	45032	45207
1 15/16"	1.898–1.978	45033	45208
2"	1.960–2.040	45034	45209
2 1/16"	2.023–2.103	45035	45210
2 1/8"	2.085–2.165	45036	45211
2 3/16"	2.148–2.228	45037	45212
2 1/4"	2.210–2.290	45038	45213
2 5/16"	2.273–2.353	45039	45214
2 3/8"	2.335–2.415	45040	45215
2 7/16"	2.398–2.478	45041	45216
2 1/2"	2.460–2.540	45042	45217
2 9/16"	2.523–2.603	45043	45218
2 5/8"	2.585–2.665	45044	45219
2 11/16"	2.648–2.728	45045	45220
2 3/4"	2.710–2.790	45046	45221
2 13/16"	2.773–2.853	45047	45222
2 7/8"	2.835–2.915	45048	45223
2 15/16"	2.898–2.978	45049	45224

NOMINAL SIZE	RANGE (INCHES)	SMOOTH PART NUMBER	SERRATED PART NUMBER
3"	2.960–3.040	45050	45225
3 1/16"	3.023–3.103	45051	45226
3 1/8"	3.085–3.165	45052	45227
3 3/16"	3.148–3.228	45053	45228
3 1/4"	3.210–3.290	45054	45229
3 5/16"	3.273–3.353	45055	45230
3 3/8"	3.335–3.415	45056	45231
3 7/16"	3.398–3.478	45057	45232
3 1/2"	3.460–3.540	45058	45233
3 9/16"	3.523–3.603	45059	45234
3 5/8"	3.585–3.665	45060	45235
3 11/16"	3.648–3.728	45061	45236
3 3/4"	3.710–3.790	45062	45237
3 13/16"	3.773–3.853	45063	N/A
3 7/8"	3.835–3.915	45064	N/A
3 15/16"	3.898–3.978	45065	N/A
4"	3.960–4.040	45066	N/A

*Royal QG-100 collets have six segments instead of three for increased gripping torque.

ROYAL ULTRA-PRECISION QUICK-GRIP™ COLLETS
QG-100



Royal QG-100 Round Collets* (Metric) – $980 Each

NOMINAL SIZE	RANGE (mm)	SMOOTH PART NUMBER	SERRATED PART NUMBER
16mm	15.0–17.0	62900	N/A
17mm	16.0–18.0	62902	N/A
18mm	17.0–19.0	62904	N/A
19mm	18.0–20.0	62906	N/A
20mm	19.0–21.0	62908	N/A
21mm	20.0–22.0	62910	N/A
22mm	21.0–23.0	62912	N/A
23mm	22.0–24.0	62914	N/A
24mm	23.0–25.0	62916	N/A
25mm	24.0–26.0	62918	N/A
26mm	25.0–27.0	62920	N/A
27mm	26.0–28.0	62922	N/A
28mm	27.0–29.0	62924	N/A
29mm	28.0–30.0	62926	N/A
30mm	29.0–31.0	62928	N/A
31mm	30.0–32.0	62930	N/A
32mm	31.0–33.0	62932	N/A
33mm	32.0–34.0	62934	N/A
34mm	33.0–35.0	62936	N/A
35mm	34.0–36.0	62938	N/A
36mm	35.0–37.0	62940	N/A
37mm	36.0–38.0	62942	N/A
38mm	37.0–39.0	62944	63100
39mm	38.0–40.0	62946	63101
40mm	39.0–41.0	62948	63102
41mm	40.0–42.0	62950	63103
42mm	41.0–43.0	62952	63104
43mm	42.0–44.0	62954	63105
44mm	43.0–45.0	62956	63106
45mm	44.0–46.0	62958	63107
46mm	45.0–47.0	62960	63108
47mm	46.0–48.0	62962	63109
48mm	47.0–49.0	62964	63110
49mm	48.0–50.0	62966	63111
50mm	49.0–51.0	62968	63112
51mm	50.0–52.0	62970	63113
52mm	51.0–53.0	62972	63114
53mm	52.0–54.0	62974	63115
54mm	53.0–55.0	62976	63116
55mm	54.0–56.0	62978	63117
56mm	55.0–57.0	62980	63118
57mm	56.0–58.0	62982	63119
58mm	57.0–59.0	62984	63120
59mm	58.0–60.0	62986	63121
60mm	59.0–61.0	62988	63122
61mm	60.0–62.0	62990	63123
62mm	61.0–63.0	62992	63124
63mm	62.0–64.0	62994	63125
64mm	63.0–65.0	62996	63126
65mm	64.0–66.0	62998	63127
66mm	65.0–67.0	63000	63128
67mm	66.0–68.0	63002	63129
68mm	67.0–69.0	63004	63130
69mm	68.0–70.0	63006	63131
70mm	69.0–71.0	63008	63132
71mm	70.0–72.0	63010	63133
72mm	71.0–73.0	63012	63134
73mm	72.0–74.0	63014	63135
74mm	73.0–75.0	63016	63136
75mm	74.0–76.0	63018	63137
76mm	75.0–77.0	63020	63138
77mm	76.0–78.0	63022	63139
78mm	77.0–79.0	63024	63140
79mm	78.0–80.0	63026	63141
80mm	79.0–81.0	63028	63142
81mm	80.0–82.0	63030	63143
82mm	81.0–83.0	63032	63144
83mm	82.0–84.0	63034	63145
84mm	83.0–85.0	63036	63146
85mm	84.0–86.0	63038	63147
86mm	85.0–87.0	63040	63148
87mm	86.0–88.0	63042	63149
88mm	87.0–89.0	63044	63150
89mm	88.0–90.0	63046	63151
90mm	89.0–91.0	63048	63152
91mm	90.0–92.0	63050	63153
92mm	91.0–93.0	63052	63154
93mm	92.0–94.0	63054	63155
94mm	93.0–95.0	63056	63156
95mm	94.0–96.0	63058	63157
96mm	95.0–97.0	63060	63158
97mm	96.0–98.0	63062	63159
98mm	97.0–99.0	63064	63160
99mm	98.0–100.0	63066	63161
100mm	99.0–101.00	63068	63162

*Royal QG-100 collets have six segments instead of three for increased gripping torque.

Royal QG-100 Hex Collets* – $1,365 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
3/4"	0.710–0.790	44904
7/8"	0.835–0.915	44906
1"	0.960–1.040	44908
1 1/8"	1.085–1.165	44910
1 1/4"	1.210–1.290	44912
1 3/8"	1.335–1.415	44914
1 1/2"	1.460–1.540	44916
1 5/8"	1.585–1.665	44918
1 3/4"	1.710–1.790	44920
1 7/8"	1.835–1.915	44922
2"	1.960–2.040	44924
2 1/8"	2.085–2.165	44926
2 1/4"	2.210–2.290	44928
2 3/8"	2.335–2.415	44930
2 1/2"	2.460–2.540	44932
2 5/8"	2.585–2.665	44934
2 3/4"	2.710–2.790	44936
2 7/8"	2.835–2.915	44938
3"	2.960–3.040	44940
3 1/8	3.085–3.165	44942
3 1/4"	3.210–3.290	44944

*Royal QG-100 collets have six segments instead of three for increased gripping torque.

Royal QG-100 Square Collets* – $1,365 Each

NOMINAL SIZE	RANGE (INCHES)	PART NUMBER
1"	0.960–1.040	44950
1 1/8"	1.085–1.165	44952
1 1/4"	1.210–1.290	44954
1 3/8"	1.335–1.415	44956
1 1/2"	1.460–1.540	44958
1 5/8"	1.585–1.665	44960
1 3/4"	1.710–1.790	44962
1 7/8"	1.835–1.915	44964
2"	1.960–2.040	44966
2 1/8"	2.085–2.165	44968
2 1/4"	2.210–2.290	44970
2 3/8"	2.335–2.415	44972
2 1/2"	2.460–2.540	44974
2 5/8"	2.585–2.665	44976
2 3/4"	2.710–2.790	44978

*Royal QG-100 collets have six segments instead of three for increased gripping torque.

Royal QG-100 Emergency Collets* – $1,190 Each – See Page 66

ROYAL QUICK-GRIP™ EMERGENCY COLLETS



- Semi-hard Quick-Grip™ emergency collets are designed to be machined in-place by the user to accommodate special sizes, shapes, steps, etc.
- Available in assorted pilot hole sizes to minimize machining time.
- Collets can be counter-bored beyond standard capacity, eliminating the need for a three-jaw chuck on many jobs. The chart below provides some basic counter-bore guidelines, but many other diameter/depth combinations are possible. Please contact Royal for additional information.
- Boring fixture holds collet segments firmly in-place and puts collet under slight compression to ensure accuracy and roundness during machining. Order fixture separately.

Royal Quick-Grip™ Emergency Collets

FITS CHUCK MODEL	PILOT HOLE SIZE	PART NUMBER	PRICE
QG-32	5mm (0.20")	44397	$425
QG-42	5mm (0.20")	44187	425
	15mm (0.59")	44188	425
QG-52	8mm (0.31")	44395	425
	15mm (0.59")	44396	425
QG-65	8mm (0.31")	44353	477
	20mm (0.79")	44354	477
	30mm (1.18")	44355	477
QG-80	8mm (0.31")	44360	720
	20mm (0.79")	44361	720
	40mm (1.57")	44362	720
QG-100	30mm (1.18")	44367	1,190
	45mm (1.77")	44368	1,190
	65mm (2.56")	44369	1,190

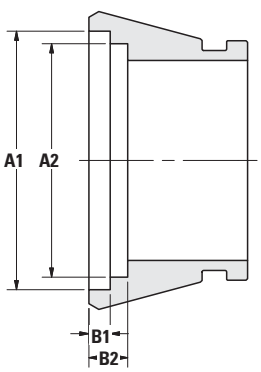


Royal Boring Fixtures

COLLET MODEL	PART NUMBER	PRICE
QG-32	44399	$255
QG-42	44082	255
QG-52	44094	255
QG-65	44083	357
QG-80	44088	587
QG-100	44089	705

Royal Quick-Grip™ Collet Counter-Bore Guidelines





- The parameters shown represent a sampling of counter-bore possibilities. Other diameter/depth combinations are possible. Please contact Royal with your specific requirements.
- For precise z-axis positioning, best practice is to use a Royal stop.
- Users can counter-bore their own emergency collets, or order to size as hardened and ground specials.
- For a better understanding of counter-bore collets and their use, please contact one of our applications engineers at 1-800-645-4174.

COLLET MODEL	A1	B1	A2	B2
QG-32	1.81	0.22	1.38	0.88
QG-42	2.62	0.28	2.53	0.39
QG-52	2.57	0.28	2.49	0.50
QG-65	3.40	0.28	3.07	0.51
QG-80	4.00	0.28	3.66	0.51
QG-100	5.15	0.28	4.61	0.79

ROYAL QUICK-GRIP™ S-TYPE MASTER COLLETS



Occasionally, customers express interest in using S-type collet pads to grip their parts. Although this outdated technology is typically not the best choice for most workholding applications, S-type collet pads can be utilized with Royal Quick-Grip™ CNC Collet Chucks via our Quick-Grip™ S-Type Master Collets. These master collets are available for Royal QG-65 and QG-80 chuck models, and are capable of accepting S-20, S-26, and S-30 collet pads.

- It is important to note that the master collet must be installed in the chuck prior to pad installation, thereby mitigating the system's quick-change advantage.
- Royal QG-80 master collets contain four segments instead of our traditional six, requiring the use of a special four-segment changing tool (sold separately below). The model 65 utilizes the same installation tool as our standard QG-65 collets.
- Due to the stacking of tolerances and complex geometry, the use of S-type collet pads will result in a significant reduction in accuracy. Most S-pad manufacturers will not guarantee their pads to run better than 0.001" – 0.0025" TIR. By contrast, Royal hardened and ground Quick-Grip™ collets are guaranteed accurate to 0.0002" TIR.
- The use of S-type pads reduces overall Quick-Grip™ chucking capacity. See chart below.



Royal Quick-Grip™ S-Type Master Collets

CHUCK MODEL	S-TYPE PAD MODEL	MAXIMUM PAD CAPACITY*	MASTER COLLET PART NUMBER	PRICE**
QG-65	S-20	2.00	44196	**$824**
QG-80	S-26	2.63	44197	**1,190**
QG-80	S-30	3.00	44198	**1,190**

*Please note – normal thru-capacity is reduced when using S-type master collets and pads.
**S-type pads not included with master collet. Order pads separately through your local tooling supplier.



44199 shown

Royal Collet Installation Tool For Use With Quick-Grip™ S-Type Master Collets

MASTER COLLET MODEL	NUMBER OF SEGMENTS	PART NUMBER	PRICE
QG-65	3	44098	**$714**
QG-80	4*	44199*	**916**

*Please note that the model 80 installation tool is not the same as the one offered for our regular QG-80 collets because our hardened and ground QG-80 collets have six segments while the QG-80 master collet has four segments.

ROYAL QG-100 TO QG-65 ADAPTER





QG-65 collet sold separately

Use Smaller Diameter QG-65 Quick-Grip™ Collets in a QG-100 Collet Chuck!

- Brings added versatility to your Royal QG-100 Collet Chucks by enabling QG-65 Collets to be used on small diameter jobs
- Hold parts as small as 3/16th diameter in a QG-100 system.
- Minimal loss of accuracy – 0.0008" TIR or better on bore of QG-65 collet when using adapter.

DESCRIPTION	PART NUMBER	PRICE
QG-100 to QG-65 Adapter	44190	**$2,595**

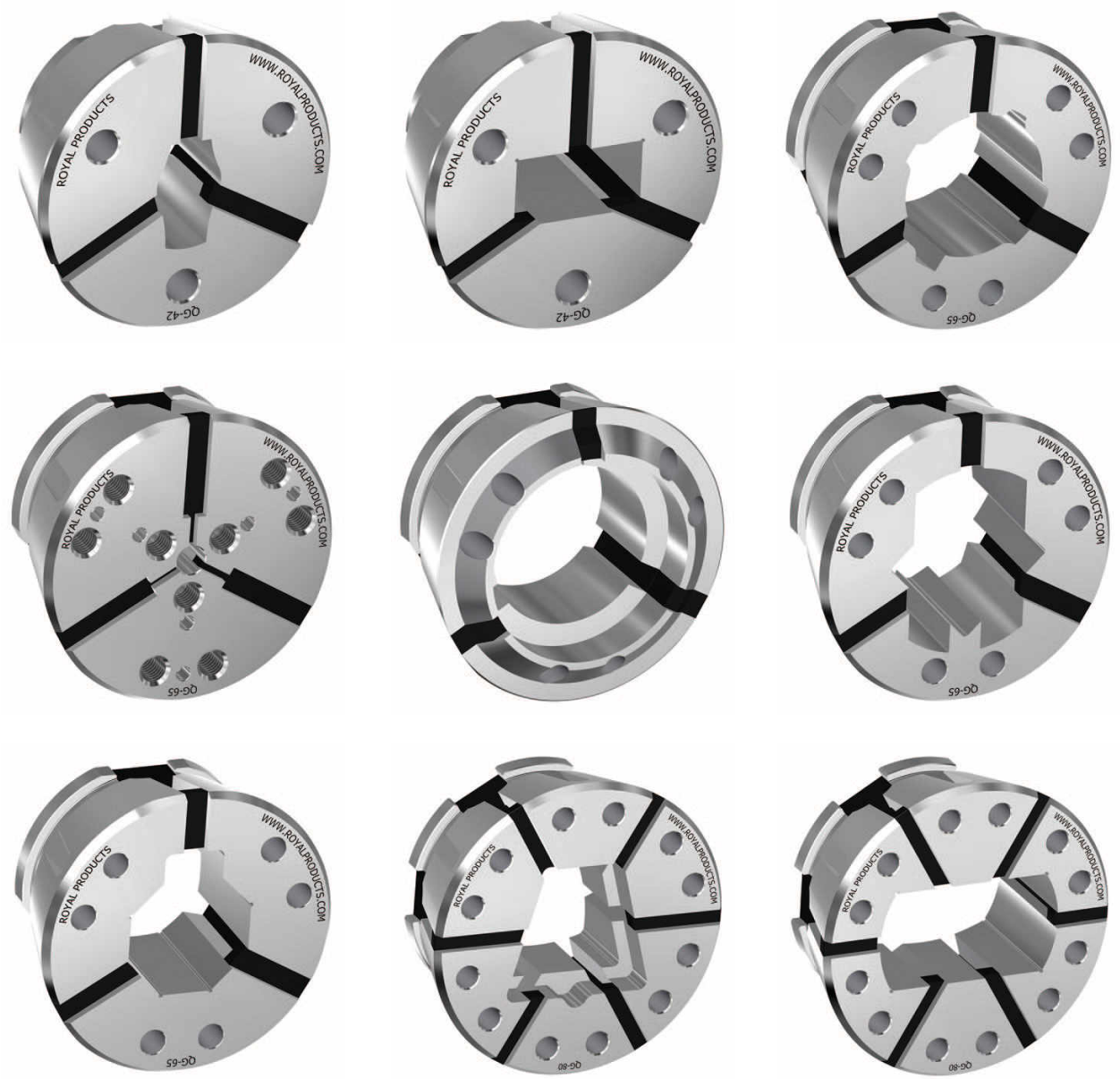
ROYAL CUSTOM QUICK-GRIP™ COLLETS

In addition to the thousands of standard Quick-Grip™ Collets we stock for same-day shipping, Royal also offers extensive design and manufacturing services for custom collets to suit unique workpiece shapes. The two main applications for custom collets are:

– Second-op turning where the gripping surface is not cylindrical.

– Milling applications where a Royal Power-Block™ Collet Fixture provides a superior workholding solution over conventional vises and prismatic fixtures.

Shown below are a few examples to highlight some of our capabilities. Please give one of our applications engineers a call today to discuss how custom Quick-Grip™ Collets can help optimize your manufacturing processes.



Have a Question? Give One of Our Engineers a Call at 1-800-645-4174

ROYAL QUICK-GRIP™
CNC COLLET CHUCK ACCESSORIES

Royal Quick-Grip™ Collet Installation Tools

- Easy to use tools enable collets to be changed in seconds.
- Simply insert the steel pins into the collet face holes and squeeze the trigger to collapse the collet.
- Available in both manual and pneumatic versions. **Note** – pneumatic changing tools require an air supply line.





Royal Quick-Grip™ Collet Installation Tools

FITS CHUCK MODEL	TYPE	PART NUMBER	PRICE
QG-32	Manual	44195	**$714**
QG-42	Manual	44097	**714**
QG-42	Pneumatic	44371	**1,805**
QG-52	Manual	44095	**714**
QG-52	Pneumatic	44359	**1,635**
QG-65	Manual	44098	**714**
QG-65	Pneumatic	44372	**1,805**
QG-80	Manual	44099	**742**
QG-80	Pneumatic	44373	**3,080**
QG-100	Pneumatic	44374	**3,080**

Royal Quick-Grip™ Standard and Extra-Depth Stops

- A stop is used for accurate z-axis positioning of short workpieces within a collet.
- Rod length is easily adjusted according to workpiece parameters.
- Royal's easy-to-install stop assemblies locate against a shoulder within the chuck body and are held rigidly in-place with radially-located screws.





Proudly Made in U.S.A.

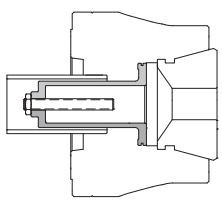
Royal Quick-Grip™ Standard Stops

FITS CHUCK MODEL	MAX THROAT DEPTH*		PART NUMBER	PRICE
	ACCU-LENGTH CHUCK MODELS	PULL-TO-A-STOP CHUCK MODELS		
QG-32	2.10	N/A	44090	**$240**
QG-42	2.03	2.89	44080	**240**
QG-52	2.17	3.04	44818	**240**
QG-65	2.47	3.33	44081	**272**
QG-80	2.46	3.33	44084	**310**
QG-100	2.71	3.65	44816	**351**

* Measured from collet face.

- Royal Quick-Grip™ Extra-Depth Stops have a greater throat depth than the standard stops, enabling longer parts to be swallowed while minimizing protrusion beyond the collet face.
- For use with Royal Accu-Length™ and Pull-to-a-Stop Quick-Grip™ CNC Collet Chuck Models.





Royal Quick-Grip™ Extra-Depth Stops

FITS CHUCK MODEL	MAX THROAT DEPTH*		MAX PART DIAMETER	MIN DRAWTUBE I.D.	PART NUMBER	PRICE
	ACCU-LENGTH CHUCK MODELS	PULL-TO-A-STOP CHUCK MODELS				
QG-32	5.00	N/A	0.88	1.29	44800	**$422**
QG-42	5.00	5.86	1.25	1.66	44802	**422**
QG-52	5.00	5.87	1.38	1.78	44803	**422**
QG-65	6.00	6.86	1.25	1.66	44804	**477**
QG-65	6.00	6.86	2.25	2.73	44806	**477**
QG-80	5.95	6.82	2.00	2.48	44808	**575**
QG-80	5.95	6.82	2.75	3.23	44810	**575**
QG-100	6.00	6.94	2.75	3.23	44812	**696**
QG-100	6.00	6.94	3.50	3.91	44814	**696**

* Measured from collet face.



ROYAL QUICK-GRIP™ CNC COLLET CHUCK ACCESSORIES

Royal Quick-Grip™ Ejectors

- Ejectors are used in sub-spindle applications with Royal Quick-Grip™ Accu-Length™ CNC Collet Chucks to push finished workpieces into the part catcher upon completion.
- A hardened plunger rod and a bronze bushing work together to provide smooth, consistent operation.
- Design enables tip to be changed without removing ejector assembly from the chuck.
- Available in standard and compact models:
  - – Standard Model – for parts ranging in size from 0.81" to 4.00" dia.
  - – Compact Model – for parts ranging in size from 0.18" to 1.50" dia.
- Easily customizable as workpiece configurations require.
- Pneumatic versions also available upon request.

For an alternative solution to an ejector, check out the Royal Grippex Coolant-Actuated Bar Puller. The Grippex, when fitted with special jaws, can be used to pull finished parts from a sub-spindle, eliminating the need for an ejector and freeing up the spindle bore to swallow longer parts.



Proudly Made in U.S.A.

Royal Quick-Grip™ Ejectors

FITS ACCU-LENGTH™ CHUCK MODEL	EJECTOR STYLE	PART DIAMETER RANGE	PART NUMBER	PRICE
QG-32	Compact	0.18–1.25	44033	$1,095
QG-42	Compact	0.18–1.25	44043	1,095
QG-42	Standard	0.81–1.63	44040	1,265
QG-52	Compact	0.18–1.25	44037	1,095
QG-52	Standard	0.81–2.03	44035	1,265
QG-65	Compact	0.18–1.25	44044	1,110
QG-65	Standard	0.81–2.63	44041	1,285
QG-80	Compact	0.18–1.25	44045	1,135
QG-80	Standard	0.81–3.25	44042	1,295
QG-100	Compact	0.50–1.50	44047	1,160
QG-100	Standard	1.50–4.00	44046	1,325

Royal Hardened and Ground Adapter Plates

Proudly Made in U.S.A.



- Adapter plates offer the flexibility to mount collet chucks and 3-jaw chucks to a wider range of spindles:
  - – Mount a larger chuck on a smaller spindle for increased capacity.
  - – Mount a smaller chuck on a larger spindle for increased tool clearance and higher speeds.
- All Royal adapter plates are hardened to Rc 61-63.
- High accuracy – 0.0002" TIR guaranteed.
- Metric screws included for mounting plate to spindle.
- Drive button included on all plates except 44012 and 44013.

Royal Hardened and Ground Adapter Plates

SPINDLE MOUNT	CHUCK MOUNT	PLATE DIAMETER	PLATE THICKNESS	THRU-HOLE DIA.	SPINDLE MOUNTING BOLTS	CHUCK MOUNT THREADS	PART NUMBER	PRICE
A2-5	A2-6	6.68	1.00	2.63	M-10	M-12	44000	$1,960
A2-6	A2-6	6.68	1.25	3.56	M-12	M-12	44012	1,750
A2-6	A2-8	8.68	1.00	3.75	M-12	M-16	44004	2,270
A2-8	A2-6	8.25	1.75	3.44	M-16	M-12	44010	2,270
A2-8	A2-8	8.69	2.00	4.76	M-16	M-16	44013	2,385
A2-11	A2-8	11.00	2.00	4.76	M-20	M-16	44014	2,875
110MM	A2-5	5.31	0.75	2.00	M-10	M-10	44006	1,695
140MM	A2-6	6.68	1.00	3.00	M-10	M-12	44008	2,030

Other configurations available. Contact a Royal Products applications engineer at 1-800-645-4174 with your requirements.

ROYAL PRODUCTS

LOW-PROFILE 5C, 16C & 3J WORKHOLDING LINEUP

– CNC COLLET CHUCKS AND KEY-OPERATED MILLING FIXTURES
– USE TRADITIONAL SPRING-TYPE COLLETS
– 5C STEP AND EXPANDING COLLETS













ROYAL PRODUCTS
Optimize everything.

ROYAL LOW-PROFILE 5C, 16C AND 3J ACCU-LENGTH™ CNC COLLET CHUCKS

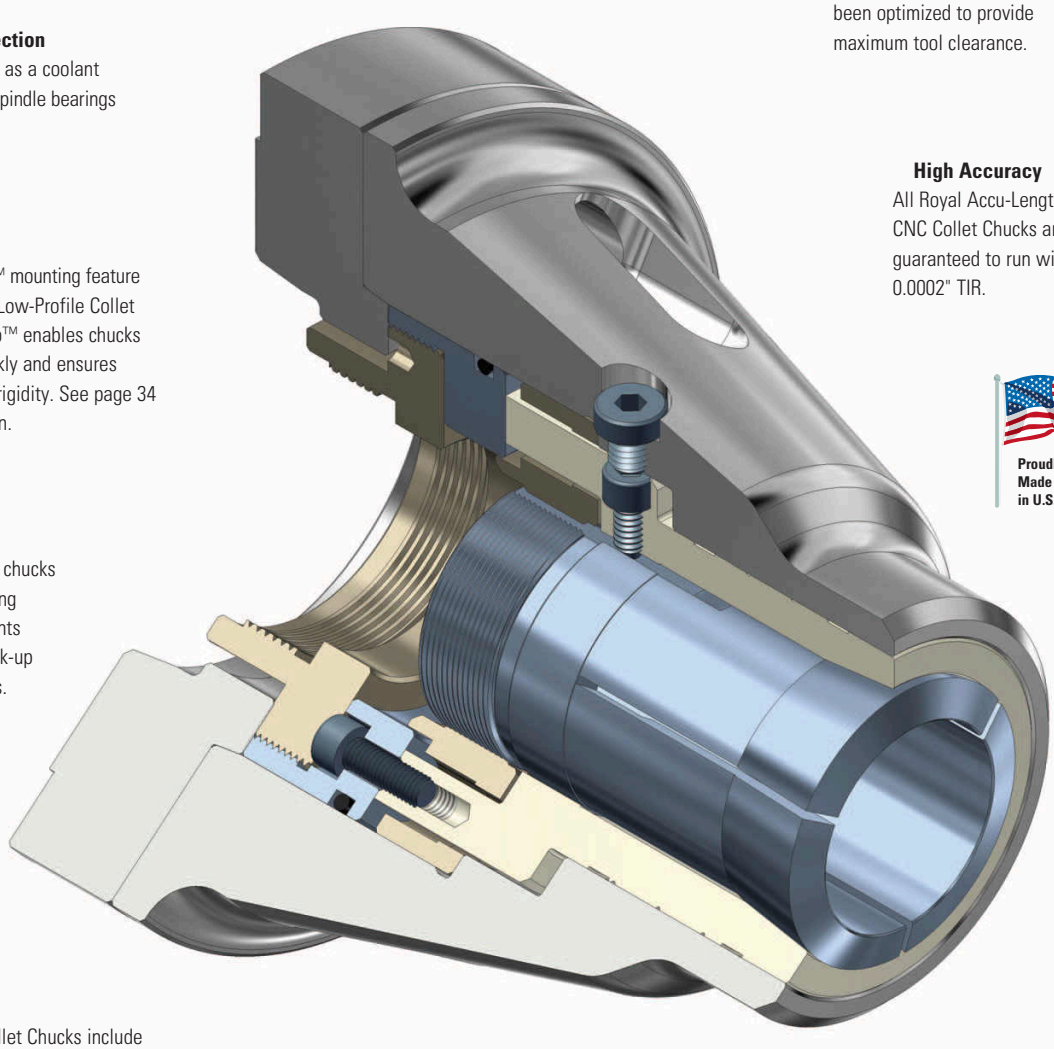
High RPM
All Royal CNC collet chucks are balanced by design for high-speed operation, and can often be run at higher speeds than conventional 3-jaw chucks because they are less prone to the negative effects of centrifugal force.

Dead-Length Operation
Royal Accu-Length™ CNC Collet Chucks incorporate dead-length operation to eliminate part pullback. With this design, a tapered sleeve pushes forward over the collet to compress it, resulting in precise z-axis positioning.

Outstanding Rigidity
All Royal Accu-Length™ Collet Chucks have been optimized for maximum rigidity, and all components are hardened for strength and durability.

Low-Profile
All external dimensions have been optimized to provide maximum tool clearance.

Spindle Bearing Protection
An oversized flange acts as a coolant slinger to protect lathe spindle bearings from contaminants.



High Accuracy
All Royal Accu-Length™ CNC Collet Chucks are guaranteed to run within 0.0002" TIR.

Bolt & Go™
Our exclusive Bolt & Go™ mounting feature is standard on all Royal Low-Profile Collet Chuck models. Bolt & Go™ enables chucks to be mounted very quickly and ensures maximum accuracy and rigidity. See page 34 for additional information.

Proudly Made in U.S.A.

Completely Sealed
Lubricated for life, these chucks incorporate multiple O-ring seals to keep contaminants out and prevent chip pack-up on bore-thru applications.

Easy Installation
All Royal Low-Profile Collet Chucks include a collet wrench, mounting hardware, mounting wrenches, and a custom-machined drawtube connector for hassle-free installation.

Specials
If you have a special application that goes beyond the scope of our standard line, we will be happy to design and build a custom system to meet your needs. Please contact a Royal applications engineer to discuss your requirements.

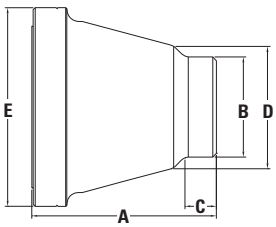
Wide Range
Royal manufactures a wide range of Accu-Length™ Collet Chucks to fit all popular spindle noses and collet styles.

Note – Collets sold separately

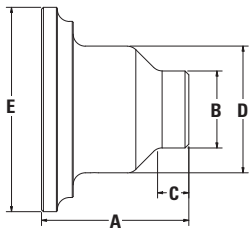
ROYAL LOW-PROFILE 5C, 16C AND 3J ACCU-LENGTH™ CNC COLLET CHUCKS



- These chucks utilize spring-type collets and therefore do not provide the parallel grip functionality or wide gripping range of our Quick-Grip™ models.
- Dead-length operation – sleeve pushes forward to compress the collet, providing precise z-axis part positioning.
- Low-profile nose offers outstanding tool clearance.
- In-stock for same-day shipping.



3J & 26C



5C

Proudly Made in U.S.A.

Risk-Free PERFORMANCE Guarantee

Royal Low-Profile Accu-Length™ CNC Collet Chucks

SPINDLE TYPE	COLLET TYPE	CAPACITY	A OVERALL LENGTH	B NOSE DIAMETER	C NOSE LENGTH	D BODY DIAMETER	E FLANGE DIAMETER	CHUCK WEIGHT (lbs.)	MAX DRAWBAR FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)	MAX RPM	PART NUMBER	PRICE
A2-5	5C	1 1/16"	5.75	2.43	1.00	4.00	6.45	21	4,000	13,600	6,000	42330	**$6,960**
A2-6	5C	1 1/16"	5.75	2.43	1.00	4.00	7.45	21	4,000	13,600	6,000	42332	**7,260**
110mm	5C	1 1/16"	5.55	2.43	1.00	4.00	6.45	21	4,000	13,600	6,000	42334	**7,260**
140mm	5C	1 1/16"	4.45	2.43	1.00	4.00	6.45	13	4,000	13,600	6,000	42336	**7,260**
A2-5	16C	1 5/8"	6.50	3.25	1.03	3.80	6.45	25	5,400	18,300	6,000	42338	**7,620**
A2-6	16C	1 5/8"	6.25	3.25	1.03	3.80	7.45	25	5,400	18,300	6,000	42340	**7,880**
A2-8	16C	1 5/8"	7.25	3.25	1.03	3.67	9.45	51	5,400	18,300	4,500	42342	**8,120**
110mm	16C	1 5/8"	6.30	3.25	1.03	3.80	6.45	25	5,400	18,300	6,000	42337	**7,880**
140mm	16C	1 5/8"	6.30	3.25	1.03	3.80	6.45	25	5,400	18,300	6,000	42343	**8,050**
A2-5	3J	1 3/4"	6.23	3.25	1.03	3.97	6.45	24	5,400	26,300	6,000	42344	**7,880**
A2-5 UC*	3J	1 3/4"	5.47	3.25	1.03	4.06	5.20	16	5,400	26,300	6,000	42345	**7,880**
A2-6	3J	1 3/4"	6.25	3.25	1.03	3.97	7.45	26	5,400	26,300	6,000	42346	**8,120**
A2-8	3J	1 3/4"	7.00	3.25	1.03	3.97	9.45	49	5,400	26,300	4,500	42348	**8,430**
110mm UC*	3J	1 3/4"	5.42	3.25	1.03	4.06	5.20	17	5,400	26,300	6,000	42351	**7,880**
140mm	3J	1 3/4"	6.03	3.25	1.03	3.97	6.45	23	5,400	26,300	6,000	42354	**8,290**

*Ultra-compact length.

For capacities greater than 1.75", choose the appropriate Royal Quick-Grip™ CNC Collet Chuck from pages 36-41 Quick-Grip™ CNC Collet Chucks offer many advantages over Low-Profile Collet Chucks, including superior tool clearance, parallel-grip functionality, and better price-points.

If you would like to continue utilizing older technology S-type collet pads, you can do so with the use of our Quick-Grip™ master collets – see page 67 for additional information.

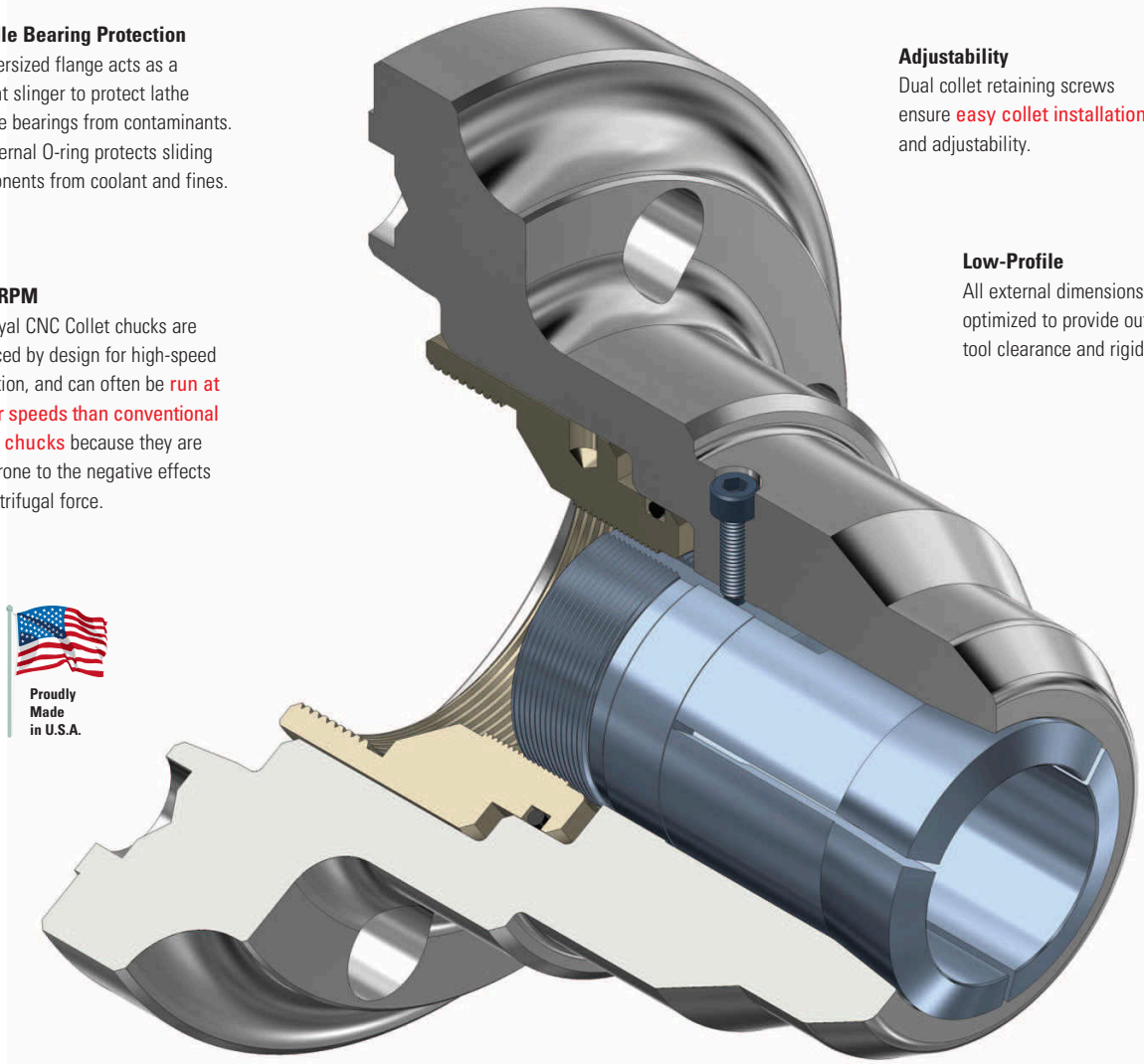
ROYAL LOW-PROFILE 5C, 16C & 3J PULLBACK CNC COLLET CHUCKS

Simple Design
Royal Low-Profile Pullback CNC Collet Chucks provide a simple, low-cost method for utilizing collets on all CNC lathes and turning centers.

Wide Range
Royal manufactures a wide range of chucks to fit all popular spindle noses and collet styles. Gripping capacities range from 1/64" to 1-3/4" diameter.

High Accuracy
All Royal Low-Profile Pullback CNC Collet Chucks are guaranteed to run within 0.0002" TIR.

Spindle Bearing Protection
An oversized flange acts as a coolant slinger to protect lathe spindle bearings from contaminants. An internal O-ring protects sliding components from coolant and fines.



Adjustability
Dual collet retaining screws ensure easy collet installation and adjustability.

Low-Profile
All external dimensions have been optimized to provide outstanding tool clearance and rigidity.

High RPM
All Royal CNC Collet chucks are balanced by design for high-speed operation, and can often be run at higher speeds than conventional 3-jaw chucks because they are less prone to the negative effects of centrifugal force.

Proudly Made in U.S.A.

Easy Installation
All Royal Low-Profile Pullback Chucks include a collet wrench, mounting hardware, mounting wrenches, and a custom-machined drawtube connector to ensure hassle-free installation.

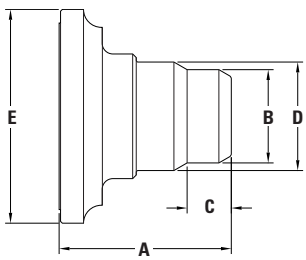
Heavy-Duty Construction
All chuck components, except for the drawtube connector, are hardened to Rc 61-63 for rigidity and durability.

Specials
If you have a special application that goes beyond the scope of our standard line, we will be happy to design and build a custom system to meet your needs. Please contact a Royal applications engineer to discuss your requirements.

ROYAL LOW-PROFILE 5C, 16C & 3J PULLBACK CNC COLLET CHUCKS



- Traditional pullback design – collet is drawn into chuck for closing, pushed out for opening.
- Typically used on first-operations where holding precise axial positioning is not required.
- In-stock for same-day shipping.





Risk-Free PERFORMANCE Guarantee

Royal Low-Profile Pullback CNC Collet Chucks

SPINDLE TYPE	COLLET TYPE	CAPACITY	THREADED NOSE*	A OVERALL LENGTH	B NOSE DIAMETER	C NOSE LENGTH	D BODY DIAMETER	E FLANGE DIAMETER	CHUCK WEIGHT (lbs.)	MAX DRAWBAR FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)	MAX RPM	PART NUMBER	PRICE
A2-5	5C	1 1/16"	N	5.00	2.63	1.05	3.14	6.45	12	4,490	15,750	6,000	42053	**$2,090**
A2-5	5C	1 1/16"	Y*	5.00	2.187-10	1.22	3.14	6.45	11	4,490*	15,750	6,000*	42054	**2,350**
A2-6	5C	1 1/16"	N	5.00	2.63	1.05	3.14	7.45	17	4,490	15,750	6,000	42055	**2,490**
A2-6	5C	1 1/16"	Y*	5.00	2.187-10	1.22	3.14	7.45	15	4,490*	15,750	6,000*	42080	**2,710**
A2-6	5C	1 1/16"	N	6.00	2.63	1.05	3.14	7.45	19	4,490	15,750	6,000	42057	**2,780**
A2-6	5C	1 1/16"	Y*	6.00	2.187-10	1.22	3.14	7.45	18	4,490*	15,750	6,000*	42058	**2,970**
A2-8	5C	1 1/16"	N	6.00	2.63	1.05	3.14	9.45	30	4,490	15,750	4,500	42059	**3,190**
A2-5	16C	1 5/8"	N	6.00	3.00	1.85	3.31	6.45	13	5,390	19,800	6,000	42067	**2,710**
A2-6	16C	1 5/8"	N	6.00	3.25	1.54	3.78	7.45	20	5,390	19,800	6,000	42069	**2,910**
A2-8	16C	1 5/8"	N	6.00	3.25	1.54	3.78	9.45	30	5,390	19,800	4,500	42071	**3,160**
A2-5	3J	1 3/4"	N	6.00	3.08	1.16	3.33	6.45	13	5,390	26,340	6,000	42061	**2,820**
A2-6	3J	1 3/4"	N	6.00	3.25	1.05	3.87	7.45	20	5,390	26,340	6,000	42063	**3,050**
A2-8	3J	1 3/4"	N	6.00	3.25	1.05	3.87	9.45	31	5,390	26,340	4,500	42065	**3,750**

*Threaded-nose collet chucks are for use with 5C step collets that close on the head, not the 10-degree angle. Never exceed the manufacturer's rpm and drawbar force limits for any threaded accessories.

For capacities greater than 1.75", choose the appropriate Royal Quick-Grip™ CNC Collet Chuck from pages 36-41. Quick-Grip™ CNC Collet Chucks offer many advantages over Low-Profile Collet Chucks, including superior tool clearance, parallel-grip functionality, and better price-points.

If you would like to continue utilizing older technology S-type collet pads, you can do so with the use of our Quick-Grip™ master collets – see page 67 for additional information.

ROYAL LOW-PROFILE 5C, 16C & 3J COLLET CHUCK ACCESSORIES

Ejectors



Proudly Made in U.S.A.

- Ejectors are used in sub-spindle applications to push finished workpieces into the part catcher upon completion.
- Spring is encased inside of body for protection.
- A hardened plunger rod and a bronze bearing work together to provide smooth, consistent operation.

Royal Ejectors for Low-Profile Collet Chucks

FITS CHUCK MODEL	PART NUMBER	PRICE
5C Accu-Length™	45145	**$799**
16C Accu-Length™	45146	**888**
3J Accu-Length™	45147	**888**

For an alternative solution to an ejector, check out the Royal Grippex Coolant-Actuated Bar Puller. The Grippex, when fitted with special robot gripper jaws, can be used to pull finished parts from a sub-spindle, eliminating the need for an ejector and freeing up the spindle bore to swallow longer parts.

Collet Stops



Proudly Made in U.S.A.

- A collet stop is used for accurate z-axis positioning of short workpieces within a collet.
- Stop rod length is easily adjusted.
- Assembly screws directly into rear of collet.

Royal Collet Stops for Low-Profile Collet Chucks

FITS CHUCK MODEL	PART NUMBER	PRICE
5C Accu-Length™ and Pullback	20030	**$35**
16C Accu-Length™ and Pullback	45151	**354**
3J Accu-Length™ and Pullback	45152	**354**

Heavy-Duty Collet Wrenches



Proudly Made in U.S.A.

- Heavy-duty one-piece head – pins won't shear off.
- Comfortable knurled handle offers superior grip and makes collet installation a breeze.
- Cross-drilled hole in handle allows a screwdriver to be used as a lever for hard-to-remove collets.

Royal Heavy-Duty Collet Wrenches

COLLET STYLE	NUMBER OF COLLET SLOTS	PART NUMBER	PRICE
5C	3	45187	**$202**
16C/3J	3	45188	**202**
16C/3J	4	45189	**202**

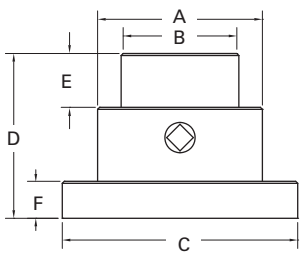
ROYAL 5C, 16C, & 3J KEY-OPERATED COLLET FIXTURES



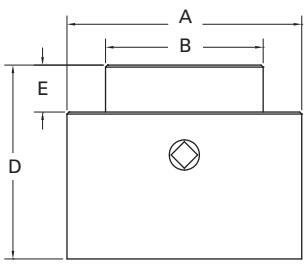
Proudly Made in U.S.A.

- Opened and closed via an internal cam mechanism.
- Accu-Length™ operation – collet and workpiece position remains fixed for precise length control.
- Can be used in both stationary and rotary table applications. **Caution – not for use on lathes or grinders above 5 rpm!**
- Special model 62004 bolts directly to Haas HRT-100 and HRT-110* and other small indexers.
  Note – cam bolt is recessed on this model.
- All other models configured for both four and six-slot mounting – 4.125" bolt circle diameter.
- All models include cam wrench.

Type 1



Type 2



Royal 5C, 16C and 3J Key-Operated Collet Fixtures

MODEL	CAPACITY	TYPE	A	B	C	D	E	F	PART NUMBER	PRICE
5C	1 1/16"	Type 1	3.37	2.50	4.95	3.50	1.15	0.75	62002	**$1,725**
5C (for HRT-100 & 110)*	1 1/16"	Type 2	4.20	2.50	–	3.50	1.15	–	62004	**1,725**
16C	1 5/8"	Type 2	4.95	3.35	–	4.63	1.50	–	62006	**2,260**
3J	1 3/4"	Type 2	4.95	3.35	–	4.13	1.00	–	62008	**2,260**

*Haas, HRT-100 and HRT-110 are registered trademarks of Haas Automation, Inc.



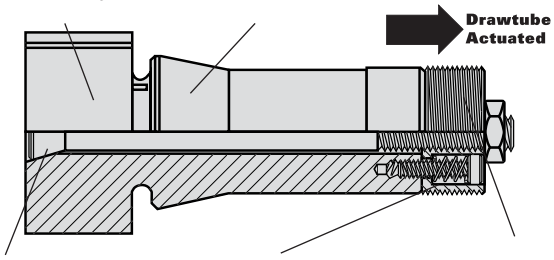
ROYAL 5C EMERGENCY EXPANDING COLLETS
Easily Machined to Required Size

- Unlike chucks and most collets that grip the O.D. of a workpiece, 5C expanding collets are designed to grip on the I.D. of a part.
- Accu-length design ensures precise workpiece positioning – no z-axis movement.
- Collet head is easily machined to required size. Can be re-machined as necessary.
- Concentricities of ±0.0002" can typically be achieved using Royal 5C expanding collets.
- Made from 1144 steel that can be hardened after machining for wear resistance.



Head is easily machined to required size by customer. See chart for range.

Precision ground body for excellent workpiece concentricity.



Expanding rod is hardened and ground for strength and durability.

Internal spring provides positive release.

Rear threaded section is separate from collet body. When this section is pulled back by the drawtube, it pulls the tapered expanding rod back, causing the head to expand.

Royal 5C Internal Expanding Collets

NOMINAL HEAD DIAMETER	HEAD LENGTH	MACHINABLE RANGE MIN-MAX	PART NUMBER	PRICE
¾"	1"	¼"–11/16"	20100	**$286**
1"	1"	7/16"–15/16"	20101	**286**
1½"	1"	¾"–1 7/16"	20102	**272**
1½"	1½"	¾"–1 7/16"	20103	**298**
1½"	2"	¾"–1 7/16"	20104	**299**
2"	1"	¾"–1 15/16"	20107	**314**
2"	1½"	¾"–1 15/16"	20108	**330**
2"	2"	¾"–1 15/16"	20109	**414**
2½"	1"	¾"–2 7/16"	20112	**383**
3"	1"	¾"–2 15/16"	20117	**413**
5"	2"	¾"–4 15/16"	20127	**807**

Replacement Expanding Rods

HEAD DIA.	HEAD LENGTH	PART NUMBER	PRICE
¾"	1"	20135	**$88**
1"	1"	20136	**82**
1½"–5"	1"	20130	**62**
1½"–5"	1½"	20131	**66**
1½"–5"	2"	20132	**68**



ROYAL 5C EMERGENCY STEP COLLETS
Easily Machined to Required Size



- Royal step collets allow large diameter parts to be held in a 5C collet.
- Head can be easily bored out by customer to required size.
- Three dowel pins are supplied to ensure accurate machining.
- 1¼" thick head allows for 1" bore depth.
- Collets are made from 1144 steel and can be hardened for wear resistance.

Royal 5C Step Collets

HEAD DIA.*	PILOT HOLE	PIN DIA.	PART NUMBER	PRICE
2"	¼"	⅛"	20020	**$258**
3"	5/16"	¼"	20022	**342**
4"	5/16"	¼"	20024	**532**
5"	5/16"	¼"	20025	**689**

*We recommend ordering a collet with a head diameter at least 1/2" larger than workpiece diameter.

Note — these step collets close on the 10° angle, not the head O.D.. When using, be sure part is sufficiently clamped.

ROYAL PRODUCTS

I.D. WORKHOLDING

– I.D. CLAMPING OFFERS FULL O.D. PART ACCESS
– PARALLEL EXPANSION FOR OPTIMUM ACCURACY AND GRIP FORCE
– LARGE RANGE IN STOCK FOR IMMEDIATE SHIPMENT

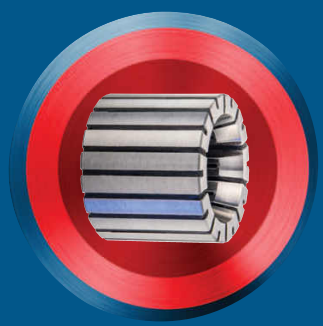












ROYAL PRODUCTS
Optimize everything.

ROYAL I.D. WORKHOLDING SYSTEMS

Royal Offers Three Standard Off-the-Shelf I.D. Workholding Systems Designed to Suit a Wide Range of Applications:



CNC

- For use on all CNC Lathes.
- Actuated via machine's drawtube.
- Accu-Length™ design makes this system a great sub-spindle workholding option.
- Includes a custom-machined drawtube connector to fit your specific lathe.



Power-Block™

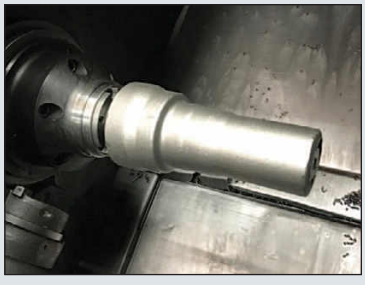
- For use on all Machining Centers.
- Can be used in both stationary and 4th/5th -axis applications.
- Hydraulic or pneumatic actuation.
- Well suited to auto-load applications.



Key-Operated

- Universal – can be used in virtually any turning, milling, or grinding application.
- 1-1/2" dia. shank is quickly and easily gripped in a chuck or collet.
- Manual actuation makes this model best suited to non-production applications.

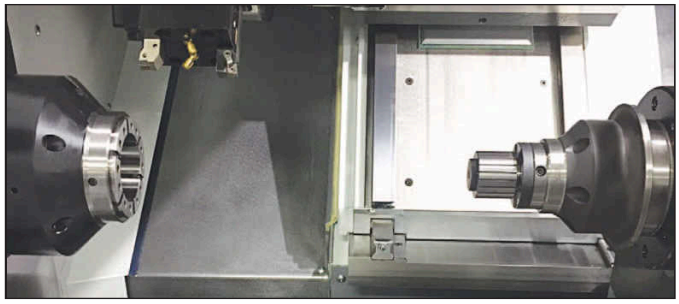
I.D. Gripping is Often Overlooked as a Workholding Option, Yet in Many Situations it is the Best Choice



Shown here, a long casting is gripped via the I.D. bore so the full O.D. can be machined in a single operation.

- ✔ A part's full length can be turned in a single operation, guaranteeing perfect concentricity of all O.D. features.
- ✔ I.D. gripping offers an alternative to gripping on a finished O.D. surface, reducing the risk of part damage.
- ✔ For many parts, the engagement-length of an internal bore can be greater than what is available for external gripping, resulting in superior rigidity and torque transmission.
- ✔ I.D. systems provide optimal tool clearance, making them a great option for lathes with live tooling.

Perfect Combination – A Royal Quick-Grip™ CNC Collet Chuck on the main spindle and a Royal CNC I.D. Workholding System on the sub.



ROYAL CNC I.D. WORKHOLDING
For Turning Applications



Bolt & Go™
Royal's exclusive Bolt & Go™ mounting feature ensures maximum accuracy and rigidity with no adjusting required. Other systems require the mandrel to be trammed in – a hassle that wastes valuable machining time.

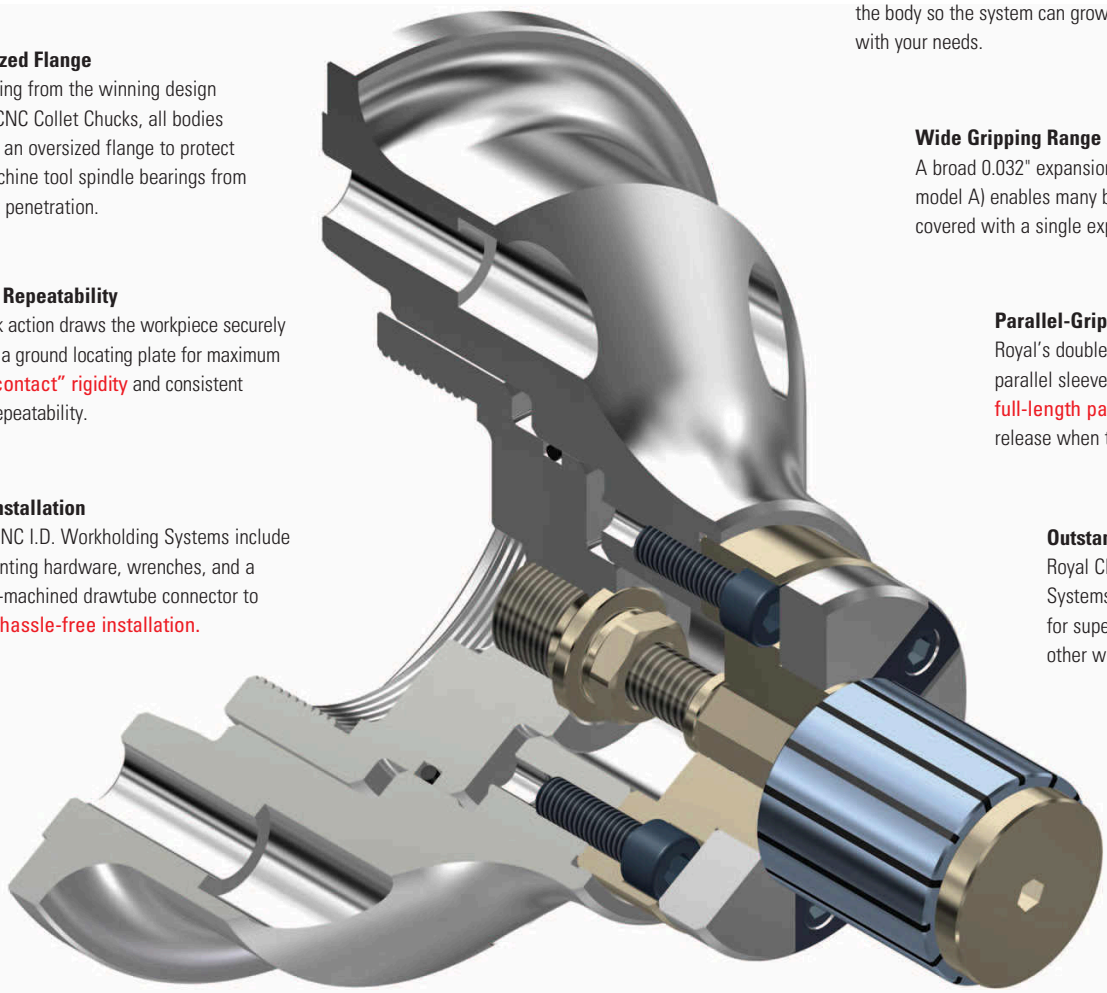
Same-Day Shipping
Royal maintains a huge inventory of standard bodies, mandrels, and sleeves to help us achieve our goal of same-day shipping on all orders.

Ultra-Precision Accuracy
System runout guaranteed to be 0.0005" TIR or better.

Modular Design
Mandrel models A-E all have a common mounting interface with the body so the system can grow with your needs.

Oversized Flange
Borrowing from the winning design of our CNC Collet Chucks, all bodies feature an oversized flange to protect the machine tool spindle bearings from coolant penetration.

Wide Gripping Range
A broad 0.032" expansion range (0.020" for model A) enables many bore sizes to be covered with a single expanding sleeve.



Z-Axis Repeatability
Pullback action draws the workpiece securely against a ground locating plate for maximum "dual-contact" rigidity and consistent z-axis repeatability.

Parallel-Grip
Royal's double-angle design provides parallel sleeve expansion, ensuring full-length part contact and positive release when the part is unclamped.

Easy Installation
Royal CNC I.D. Workholding Systems include all mounting hardware, wrenches, and a custom-machined drawtube connector to ensure hassle-free installation.

Outstanding Tool Clearance
Royal CNC I.D. Workholding Systems have been optimized for superior tool clearance over other workholding systems.

Heavy-Duty Construction
Royal consistently builds products that outlast the competition, especially in the most demanding environments. Bodies, mandrels, and expanding rods are all hardened to Rc 61-63 for maximum durability.

Custom Systems
If our standard line doesn't meet your needs, give us a call to discuss your special requirements. Capabilities include:

- Larger sizes – up to 25" diameter
- Extended-length systems
- Multi-step systems for locating on multiple bore diameters
- Automation enhancements such as ejector rings, part confirmation, etc.

Completely Sealed
All expanding sleeve slots are sealed to prevent contaminants from accumulating on the mandrel surface – ensuring years of trouble-free service. An internal O-ring on the drawtube connector offers additional protection.



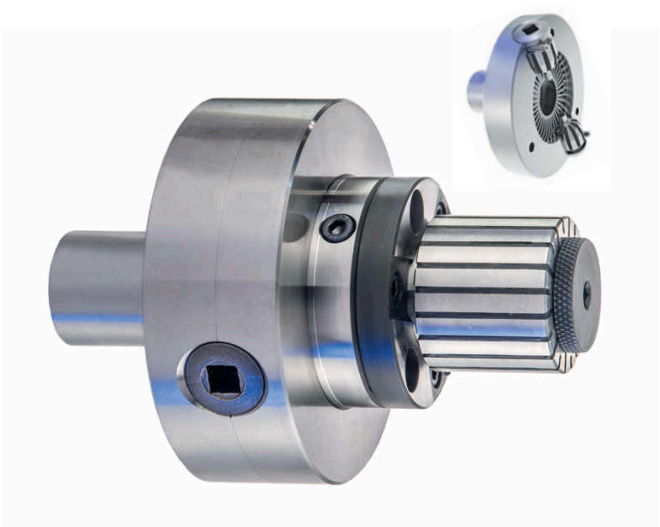
ROYAL POWER-BLOCK™ I.D. WORKHOLDING
For Milling Applications



- The Royal Power-Block™ I.D. Workholding System enables secure gripping on the internal bore of a workpiece for full external machining access.
- Pullback action draws workpiece securely against a ground locator for precise, consistent z-axis positioning.
- Unit can be mounted to a traditional machining center table and can also be used in 4th and 5th -axis applications.
- Fixture is designed to be actuated via hydraulic pressure and may also be actuated pneumatically for lighter-duty applications (contact Royal for details).
- For use with all Royal precision mandrels, stops, and sleeves. These items are sold separately – please see pages 84-85.
- Heavy-duty all steel construction with a large double-acting piston provides high clamping force.
- Configured with both side and bottom ports for plumbing flexibility.
- Multiple units can be plumbed in series for single-source actuation.
- Ideal for high-production applications on vertical, horizontal, and five-axis machining centers.
- Tombstone and angle plate compatible.



ROYAL KEY-OPERATED I.D. WORKHOLDING
For Turning, Milling and Grinding Applications



- Royal's Key-Operated I.D. Workholding System incorporates a precision-ground 1-1/2" diameter straight shank that enables the unit to be held in any collet or jaw chuck, reducing setup times by eliminating the need to change out the machine's workholding device.
- For use with all Royal precision mandrels, stops, and sleeves. These items are sold separately – please see pages 84-85.
- Side-actuated with an included square-drive key means that this unit can accommodate parts with blind bores.
- Precision-ground square and concentric within 0.0005". If higher accuracy is needed the mandrel can be clocked-in once the unit is gripped in a chuck.
- Universal straight shank mount enables this I.D. workholding system to be easily moved from machine to machine as jobs require.
- A great option for low-volume I.D. gripping.
- When ordering, be sure to also order the appropriate threaded expanding rod adapters sold separately.



How to Order:

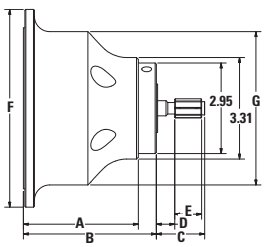
1. Choose the appropriate body assembly based upon your application.
2. Choose the appropriate mandrel (models A-E) based upon the diameter you need to grip. All mandrels and bodies share a common mounting interface for full interchangeability.
3. If required, choose the appropriate part locator to provide a ground banking surface for the workpiece.
4. Choose the appropriate expanding sleeve based upon the mandrel and diameter you need to grip.

Step 1 - Choose Body Assembly

CNC BODY – For CNC Lathes



Proudly Made in U.S.A.



- This body provides a precision interface for mounting the system to a CNC lathe spindle.
- CNC body assembly incudes the hardened steel body, a custom-machined drawtube connector for hassle-free installation, and all mounting hardware.
- Order mandrels, locators, and sleeves separately.

Dimensions

Note – dimensions shown without optional part locator.

SPINDLE MOUNT	A	B	C D E	F	G
A2-5	3.75	4.34	See Mandrel Chart	6.45	5.00
A2-6	4.00	4.59		7.45	6.25
140mm	3.90	4.49		7.45	6.25
A2-8	5.00	5.59		9.45	8.00

Royal CNC I.D. Body Assemblies

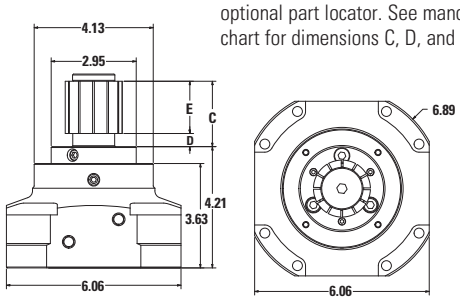
SPINDLE TYPE	PART NUMBER	PRICE
A2-5	47060	**$1,970**
A2-6	47064	**2,390**
140mm	47068	**2,550**
A2-8	47072	**3,190**

POWER-BLOCK™ BODY – For Machining Centers



Proudly Made in U.S.A.

Note – dimensions shown without optional part locator. See mandrel chart for dimensions C, D, and E.



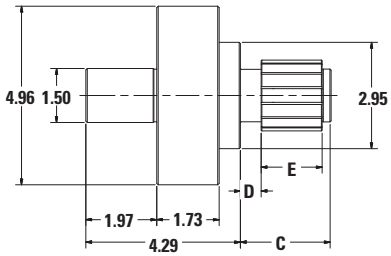
- This body can be mounted to any machining center table, 4th/5th-axis rotary tables, angle plates, tombstones, etc.
- Body weight is 22 lbs.
- Order mandrels, locators, and sleeves separately.

Royal Power-Block™ I.D. Assembly

DESCRIPTION	PART NUMBER	PRICE
Power-Block™ I.D. Body Assembly	47080	**$3,870**

KEY-OPERATED BODY – Universal





Note – dimensions shown without optional part locator. See mandrel chart for dimensions C, D, and E.

- This unit has a precision-ground shaft that can be held in any jaw chuck or 1.5" dia. collet, eliminating the need to change out the workholding and enabling the system to be moved from machine to machine as jobs require.
- Order mandrels, expanding rod adapters, locators, and sleeves separately.

Royal Key-Operated I.D. Body Assemblies

DESCRIPTION	PART NUMBER	PRICE
Key-Operated I.D. Body Assembly	47300	**$6,010**
Expanding Rod Adapter – Fits Model A Mandrels	47310	**450**
Expanding Rod Adapter – Fits Models B&C Mandrels	47315	**450**
Expanding Rod Adapter – Fits Model D Mandrels	47325	**450**
Expanding Rod Adapter – Fits Model E Mandrels	47330	**450**

Step 2 - Choose Mandrel



- Choose appropriate mandrel model according to gripping range.
- All Royal mandrels have a common precision ground interface for complete compatibility with all Royal I.D. body assemblies.
- Order body assembly, locators, and sleeves separately.

Royal Mandrels

MANDREL MODEL	GRIPPING RANGE	C	D	E	MAX AXIAL FORCE (lbs.)	MAX CLAMPING FORCE (lbs.)	PART NUMBER	PRICE
A	0.479–0.640	1.57	0.57	0.87	1570	2670	47100	**$2,140**
B	0.620 –0.901	1.81	0.59	1.06	2245	3820	47101	**2,140**
C	0.870 –1.151	2.05	0.61	1.26	2695	4580	47102	**2,140**
D	1.120 –1.651	2.32	0.60	1.50	4045	6875	47103	**2,140**
E	1.620 –3.276	2.52	0.58	1.69	5170	8785	47104	**2,140**

Step 3 - Choose Part Locator



- Optional part locator bolts to the front of the mandrel and provides a precision banking surface for the workpiece to locate against.
- Order body assembly, mandrels, and sleeves separately.

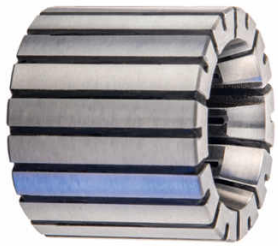
Royal Part Locators

FITS MANDREL MODEL	WIDTH	OUTER DIAMETER	PART NUMBER	PRICE
A	0.47	1.57	47110	**$432**
B	0.47	1.57	47111	**432**
C	0.47	2.95	47112	**497**
D	0.47	2.95	47113	**497**
E	0.47	2.95	47114	**497**



Step 4 - Choose Expanding Sleeve

- Order expanding sleeves according to mandrel models A thru E.
- Royal expanding sleeves are fully sealed against coolant and chip penetration.
- Parallel grip ensures full-length part contact for optimum accuracy and grip force.
- All sleeves collapse 0.005" below nominal ground size to ensure easy part loading and unloading.
- Order body assembly, mandrels, and locators separately.



Royal Expanding Sleeves

MODEL A

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
31/64"	0.479–0.499	47120*	$627
1/2"	0.495–0.515	47121*	627
33/64"	0.510–0.530	47122	627
17/32"	0.526–0.546	47123	627

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
35/64"	0.542–0.562	47124	$627
9/16"	0.558–0.578	47125	627
37/64"	0.573–0.593	47119	627
19/32"	0.589–0.601	47127	627

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
39/64"	0.604–0.624	47126	$627
5/8"	0.620–0.640	47129	627
41/64"	0.636–0.656	47128	627

MODEL B

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
5/8"	0.620–0.651	47130*	$683
21/32"	0.651–0.682	47131	683
11/16"	0.683–0.714	47132	683

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
23/32"	0.714–0.745	47133	$683
3/4"	0.745–0.776	47134	683
25/32"	0.776–0.807	47135	683

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
13/16"	0.808–0.839	47136	$683
27/32"	0.830–0.870	47137	683
7/8"	0.870–0.901	47138	683

MODEL C

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
7/8"	0.870–0.901	47140	$683
29/32"	0.901–0.932	47141	683
15/16"	0.933–0.964	47142	683

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
31/32"	0.964–0.995	47143	$683
1"	0.995–1.026	47144	683
1 1/32"	1.026–1.057	47145	683

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
1 1/16"	1.058–1.089	47146	$683
1 3/32"	1.089–1.120	47147	683
1 1/8"	1.120–1.151	47148	683

MODEL D

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
1 1/8"	1.120–1.151	47150	$745
1 5/32"	1.151–1.182	47151	745
1 3/16"	1.183–1.214	47152	745
1 7/32"	1.214–1.245	47153	745
1 1/4"	1.245–1.276	47154	745
1 9/32"	1.276–1.317	47155	745

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
1 5/16"	1.308–1.339	47156	$745
1 11/32"	1.339–1.370	47157	745
1 3/8"	1.370–1.401	47158	745
1 13/32"	1.401–1.432	47159	745
1 7/16"	1.433–1.464	47160	745
1 15/32"	1.464–1.495	47161	745

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
1 1/2"	1.495–1.526	47162	$745
1 17/32"	1.526–1.557	47163	745
1 9/16"	1.558–1.589	47164	745
1 19/32"	1.589–1.620	47165	745
1 5/8"	1.620–1.651	47166	745

MODEL E

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
1 5/8"	1.620–1.651	47170	$908
1 21/32"	1.651–1.682	47171	908
1 11/16"	1.683–1.714	47172	908
1 23/32"	1.714–1.745	47173	908
1 3/4"	1.745–1.776	47174	908
1 25/32"	1.776–1.807	47175	908
1 13/16"	1.808–1.839	47176	908
1 27/32"	1.839–1.870	47177	908
1 7/8"	1.870–1.901	47178	908
1 29/32"	1.901–1.932	47179	908
1 15/16"	1.933–1.964	47180	908
1 31/32"	1.964–1.995	47181	908
2"	1.995–2.026	47182	908
2 1/32"	2.026–2.057	47183	908
2 1/16"	2.058–2.089	47184	908
2 3/32"	2.089–2.120	47185	908
2 1/8"	2.120–2.151	47186	908
2 5/32"	2.151–2.182	47187	908

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
2 3/16"	2.183–2.214	47188	$908
2 7/32"	2.214–2.245	47189	908
2 1/4"	2.245–2.276	47190	908
2 9/32"	2.276–2.307	47191	908
2 5/16"	2.308–2.339	47192	908
2 11/32"	2.339–2.370	47193	908
2 3/8"	2.370–2.401	47194	908
2 13/32"	2.401–2.432	47195	908
2 7/16"	2.433–2.464	47196	908
2 15/32"	2.464–2.495	47197	908
2 1/2"	2.495–2.526	47198	908
2 17/32"	2.526–2.557	47199	1,030
2 9/16"	2.558–2.589	47200	1,030
2 19/32"	2.589–2.620	47201	1,030
2 5/8"	2.620–2.651	47202	1,030
2 21/32"	2.651–2.682	47203	1,030
2 11/16"	2.683–2.714	47204	1,030
2 23/32"	2.714–2.745	47205	1,030

NOMINAL SLEEVE DIAMETER	GRIPPING RANGE	PART NUMBER	PRICE
2 3/4"	2.745–2.776	47206	$1,030
2 25/32"	2.776–2.807	47207	1,030
2 13/16"	2.808–2.839	47208	1,030
2 27/32"	2.839–2.870	47209	1,030
2 7/8"	2.870–2.901	47210	1,030
2 29/32"	2.901–2.932	47211	1,030
2 15/16"	2.933–2.964	47212	1,030
2 31/32"	2.964–2.995	47213	1,030
3"	2.995–3.026	47214	1,030
3 1/32"	3.026–3.057	47215	1,030
3 1/16"	3.058–3.089	47216	1,030
3 3/32"	3.089–3.120	47217	1,030
3 1/8"	3.120–3.151	47218	1,030
3 5/32"	3.151–3.182	47219	1,030
3 3/16"	3.183–3.214	47220	1,030
3 7/32"	3.214–3.245	47221	1,030
3 1/4"	3.245–3.276	47222	1,030

*Not sealed due to limited wall thickness.

Note – sleeves larger than 2-1/2" dia. are 0.28" longer than dimension E and terminate flush with the face of the expanding rod.



ROYAL CUSTOM I.D. WORKHOLDING

When a standard off-the-shelf I.D. workholding system won't quite work for your application, Royal has the expertise to design and build custom systems that are optimized for your requirements.

Below are some examples of some of the more common custom systems that we regularly supply.

Dual-Sleeve

Typically starting at $15,000



Commonly used for:

- ❑ Long parts that need extra support.
- ❑ Very aggressive machining – sometimes incorporates knurled sleeves for castings and forgings.
- ❑ Large diameter-to-length ratios.

"Pressure Angle" Design

Typically starting at $8,500

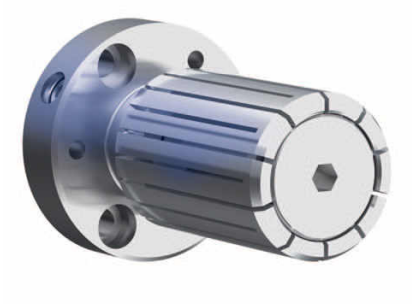


Commonly used for:

- ❑ Parts with short or blind bores.
- ❑ Very aggressive machining.
- ❑ Note that with this design, the head of expanding rod is recessed behind sleeve face to maximize grip-length.
- ❑ This design applies extra gripping torque along its length to keep the workpiece firmly seated.

Extended Sleeve

Typically starting at $8,900



Commonly used for:

- ❑ Long parts that need extra support.
- ❑ Large diameter-to-length ratios.
- ❑ Great for thin-wall cylinder applications - load is distributed over a larger area to reduce risk of distortion.

Please keep in mind that in addition to the above systems, many other custom solutions/features are also available, including:

- Part ejectors
- Part confirmation
- Non-round bores
- Splined sleeves
- Radial orientation
- Positive-drive pins
- Center hole for tailstock support
- Custom locators
- Large diameters – up to 24"
- Surface-treated sleeves
- Knurled sleeves for castings and forgings
- Wide-range sleeves – to clear a small bore and expand into a larger bore

ROYAL PRODUCTS

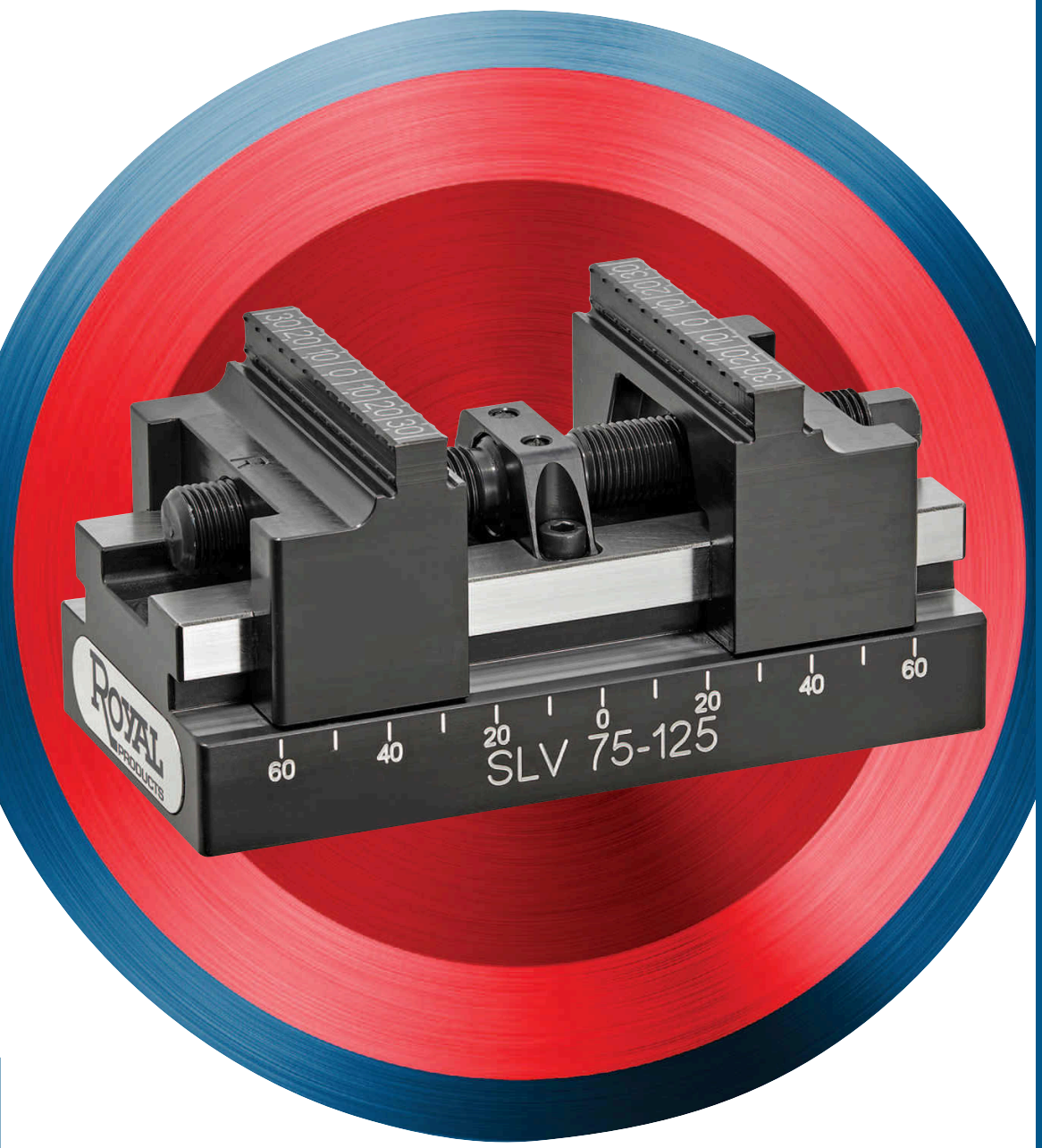
WORKHOLDING FOR MACHINING CENTERS

SLV™ SELF CENTERING VISES – JAW LIFT/FLEX ELIMINATED!

BROAD RANGE OF ZERO-POINT SYSTEMS:

– HEAVY DUTY Z-LOCK™
– 52 AND 96MM MANUAL RECEIVERS
– POWERED RECEIVER FOR AUTOMATED LOADING

NEW





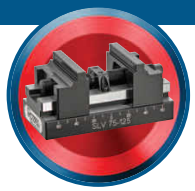








ROYAL PRODUCTS
Optimize everything.



ROYAL SLV™ SELF-CENTERING VISES

SLV → Sturdy Little Vise

Superior Design
Outstanding performance over other self-centering vises is achieved through a combination of several unique design elements:

- ✔ Extremely rigid one-piece jaw design is modeled after a CNC box way to minimize deflection through captive, multi-plane contact. Jaw lift is virtually non-existent.
- ✔ The massive drive spindle is elevated to apply the clamping force much closer to the workpiece compared to other vises.
- ✔ The hardened vise body is machined from a proprietary tool steel for maximum strength and rigidity.

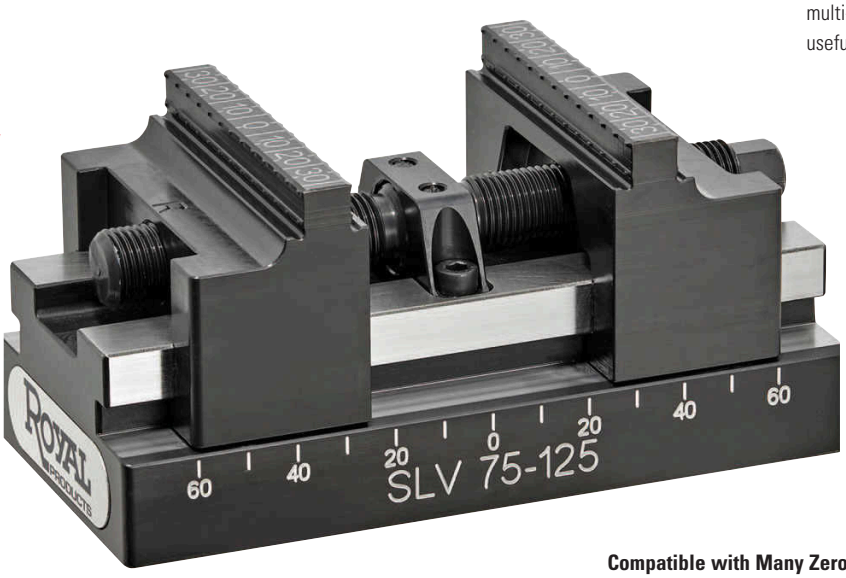
Incredible Grip Force
The Royal SLV™ Self-Centering Vise has been optimized to deliver tremendous grip force and rigidity in a very compact package. This is one **S**turdy **L**ittle **V**ise!

No More Cutting Dovetails
The Royal SLV™ securely grips workpieces at a depth of as little as 3mm (1/8"), reducing scrap and eliminating the need to cut dovetails or emboss the workpiece contact surface.

Precision Repeatability
0.0006" or better repeatability – guaranteed.

Great for 5-Axis
Mounting pyramids available for multi-vise setups – especially useful in five-axis applications.

Never Needs Realignment
The central guide bushing is both pinned and bolted to the vise body to maintain perfect alignment and eliminate any need for readjustment.



Reduced Chip Buildup
Shallow throat depth allows for easy and complete chip blow-off.

Same-Day Shipping
All vises, jaw sets, and pyramids are in stock for same-day shipping.

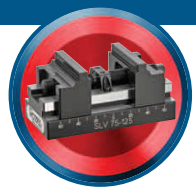
Multiple Jaw Options
All Royal **S**turdy **L**ittle **V**ises come equipped with a set of standard-grip jaws. Additional jaw models are available for more specialized applications.

Compatible with Many Zero-Point Receivers
The Royal SLV™ is also configured to accept the mounting studs of many zero-point systems based on common 52 and 96mm bolt patterns (see compatibility chart).

Risk-Free PERFORMANCE Guarantee

Never Let Your Workholding be the Limiting Factor in Your Machining Processes – Try a Royal SLV™ on Your Toughest Application RISK-FREE!

ROYAL SLV™ SELF-CENTERING VISES



Extreme Clamping Force!

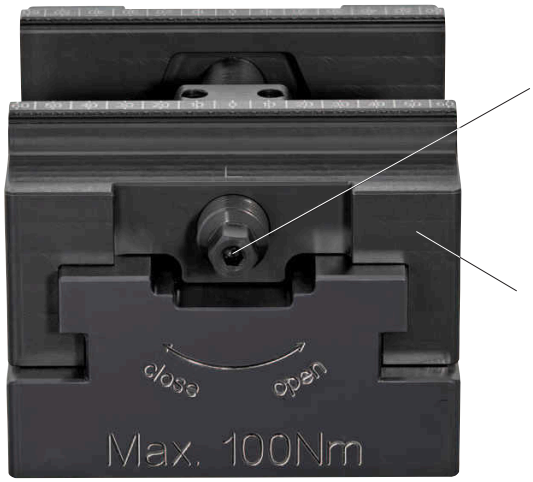
✔Jaw Lift Eliminated!

✔Jaw Flex Eliminated!

✔Cutting Dovetails Eliminated!

How...?

A Smart, Rugged, Common-Sense Design!



Elevated Drive Spindle applies tremendous clamping force because it is positioned much closer to the workpiece than other vises.

Extremely Rigid Box Way construction virtually eliminates jaw lift/flex.

Incredible 25X Part-Length to Gripping-Depth Ratio with No Part Prep!

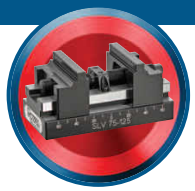






Check out the video at www.royalproducts.com

Are Your Current Vises Holding You Back? Try a Royal SLV™ on the Toughest Applications in Your Shop Completely RISK-FREE – Order Today!



ROYAL SLV™ SELF-CENTERING VISES

Extreme Clamping Force

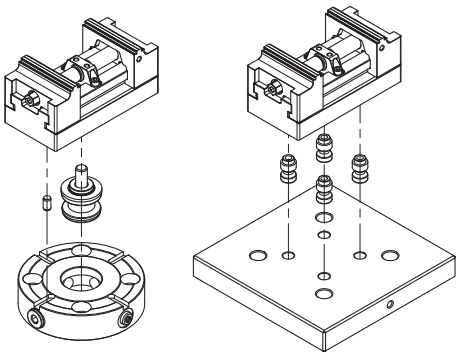


- All Royal SLV™ Vise includes a set of Standard-Grip Reversable Jaws.
- Additional off-the-shelf jaw models available:
  - Double-Grip – these jaws have a second row of serrations for extreme applications.
  - Combo – serrated on one side, smooth on the other, making them a great choice for both OP-10 and OP-20.
  - Slim-Grip – provide extra clearance for narrow parts.
  - Aluminum Top Jaws – easily machined for holding parts with non-parallel opposing surfaces.
- All Royal SLV™ jaw models in stock for same-day shipping.

Universal Zero-Point Receiver Compatibility

Royal SLV™ Vises are compatible with many zero-point quick-change receivers (even other brands).

- Heavy-Duty Z-Lock™ with single stud configuration
- 52mm four-stud configurations (Royal and others)
- 96mm four-stud configurations (Royal and others)



Zero-Point Mounting Compatibility

SLV™ VISE MODEL	ROYAL Z-LOCK™ (M12X1.75 STUD)	52 MM SQUARE PATTERN (M8X1.25 STUDS)	96 MM SQUARE PATTERN (M10X1.5 STUDS)
SLV 54-70	X	X	X
SLV 75-125	✓	✓	X
SLV 75-150	✓	✓	X
SLV 125-180	✓	✓	✓
SLV 125-230	✓	✓	✓

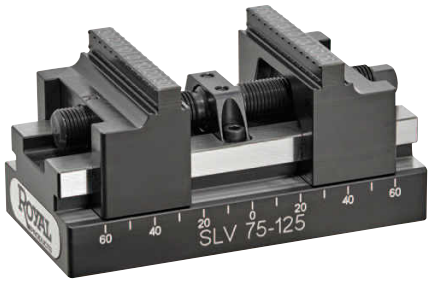
Multi-Vise Pyramids Optimize 5-Axis Production

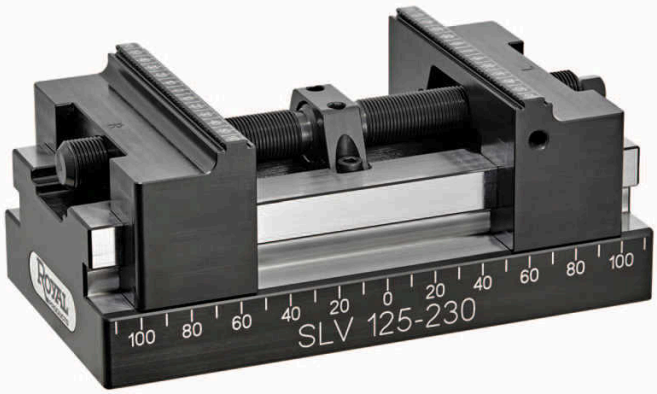


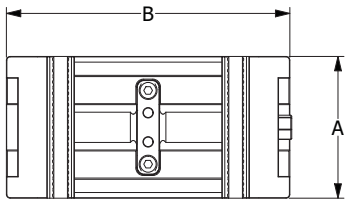
- With Royal Multi-Vise Pyramids, you can take advantage of 5-axis flexibility and increase throughput by machining several parts in a single setup.
- Available for SLV™ 54 and 75 vises.
- Each pyramid includes three vises equipped with standard jaws. **Note** – model 66051 can accept three additional vises (sold separately) providing a total of six workholding stations.
- Manufactured from aircraft-grade aluminum to accomodate 5-axis weight restrictions.
- All pyramids include removable lifting ring for installation ease.
- Larger models (75-125) is offered in two geometries to accomodate 5-axis tilt angle capabilities.

Vise Models For All Applications

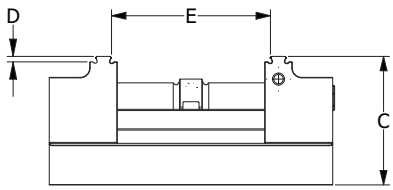








Top View



Side View

Royal SLV™ Self-Centering Vises

SLV™ VISE MODEL	A BODY/JAW WIDTH	B BODY LENGTH	C HEIGHT WITH STANDARD JAWS	D CLAMPING DEPTH WITH STANDARD JAWS	E MIN/MAX CLAMPING RANGE	MAX TIGHTENING TORQUE (ft.-lbs.)	MAX CLAMPING FORCE (lbs.)	WEIGHT WITH STANDARD JAWS (lbs.)	PART NUMBER	PRICE**
SLV 54-70	2.13/1.57*	2.76	1.77	0.11	0.24-1.85	29	2,250	2	66000	**$1,220**
SLV 75-125	2.95	4.92	2.68	0.11	0.24-4.01	52	3,600	8	66002	**1,470**
SLV 75-150	2.95	5.91	2.68	0.11	0.24-5.00	52	3,600	9	66004	**1,520**
SLV 125-180	4.92	7.09	3.62	0.11	0.24-6.06	73	5,850	26	66008	**2,725**
SLV 125-230	4.92	9.06	3.62	0.11	0.24-8.03	73	5,850	31	66010	**2,925**

*For the model 54, please note that the jaw width is narrower than the body.
** Price includes one set of standard jaws and wrenches.

Additional dimensional information available at royalproducts.com



66051

Royal SLV™ Multi-Vise Pyramids

FOR VISE MODEL	ANGLE	PYRAMID DIAMETER	COMBINED WEIGHT OF PYRAMID AND THREE VISES (lbs.)	PART NUMBER	PRICE*
SLV 54-70	125°	8.4	20	66051	**$9,525**
SLV 75-125	110°	14.2	44	66052	**8,270**
SLV 75-125	123.5°	13.7	42	66053	**8,270**

* Includes pyramid and three vises with standard jaws.

Royal SLV™ Jaw Sets



Royal SLV™ Standard-Grip Jaw Set

Included with Each Vise

FITS VISE MODEL	CLAMPING WIDTH	CLAMPING DEPTH	PART NUMBER	PRICE/SET
SLV 54	1.57	0.11	66020	**$637**
SLV 75	2.95	0.11	66022	**744**
SLV 125	4.92	0.11	66024	**1,295**



Royal SLV™ Double-Grip Jaw Set

Increased Clamping Depth and a Second Row of Serrations for Very Aggressive Machining

FITS VISE MODEL	CLAMPING WIDTH	CLAMPING DEPTH	PART NUMBER	PRICE/SET
SLV 75	2.95	0.35	66026	**$912**
SLV 125	4.92	0.35	66028	**1,595**



Royal SLV™ Combo Jaw Set

Both Serrated and Smooth Gripping Surfaces for Roughing and Finishing

FITS VISE MODEL	CLAMPING WIDTH	CLAMPING DEPTH	PART NUMBER	PRICE/SET
SLV 75	2.95	0.11/0.31	66034	**$895**
SLV 125	4.92	0.11/0.42	66036	**1,420**



Royal SLV™ Slim-Grip Jaw Set

Extra Clearance for Narrow Workpieces

FITS VISE MODEL	CLAMPING WIDTH	CLAMPING DEPTH	PART NUMBER	PRICE/SET
SLV 75	1.73	0.11	66038	**$808**



Royal SLV™ Base Jaw Set

Use with Machinable Top Jaws

FITS VISE MODEL	CLAMPING WIDTH	CLAMPING DEPTH	PART NUMBER	PRICE/SET
SLV 75	2.95	N/A	66040	**$780**
SLV 125	4.92	N/A	66042	**1,365**

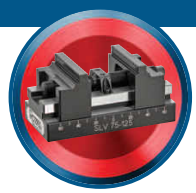


Royal SLV™ Machinable Aluminum Top Jaw Set

Use with Base Jaws

FITS VISE MODEL	CLAMPING WIDTH	CLAMPING DEPTH	PART NUMBER	PRICE/SET
SLV 75	2.95	0.9	66044	**$196**
SLV 125	4.92	1.0	66046	**281**

ROYAL SLV™ SELF-CENTERING AUTOMATION VISES



NEW

- Royal brings unprecedented part clamping to robotic load/unload applications with the new SLV™ Automation Vise.
- Same great design features as our standard SLV™ Self Centering Vises, but with the following additional automation elements:
  - Ability to mount a gripping cleat on either the short or long side of the vise body – provides flexibility and increases staging density for multi-vise automation systems.
  - Slots with dimples provide an alternative fixed datum for robot/cobot gripper engagement.
  - Body is 77mm wide and uses standard 75mm jaws for robot gripper clearance (**Note** – custom "wide-grip" jaws shown).



Cleat Attachment Point
(Long Side)

Slots with Dimples

Cleat Attachment Point
(Short Side)

Coming Soon – Visit royalproducts.com for Updates

ROYAL SLV™ KEY-OPERATED 52 AND 96MM ZERO-POINT RECEIVERS

NEW





- Royal SLV™ Key-Operated Zero-Point Receivers provide an accurate, rigid, quick-change interface for our broad range of SLV™ Self-Centering Vises.
- Royal SLV™ Receivers are 100% steel construction, hardened and ground for repeatability and durability.
- Easily mounted to vertical machining center tables, 4 and 5-axis rotary tables, tombstones, etc.
- Available in both 52mm and 96mm stud patterns for broad market compatibility (**Note** – must use Royal SLV™ studs with these receivers).
- Proprietary locking mechanism prevents loosening during machining for operator safety, tighter part tolerances, and better surface finishes.
- All receivers and studs in-stock for same-day shipping.

Royal SLV™ Key-Operated Zero-Point Receivers

DESCRIPTION	WIDTH (in.)	LENGTH (in.)	HEIGHT (in.)	STUD PATTERN	PART NUMBER	PRICE*
SLV™ 52mm Key-Operated Receiver for Single Vise	4.02	4.02	1.06	52mm	66062	**$1,095**
SLV™ 96mm Key-Operated Receiver for Single Vise	6.50	6.50	1.06	96mm	66066	**1,495**

*Order studs separately.



Studs for Royal SLV™ Receivers

DESCRIPTION	THREAD SIZE	PART NUMBER	PRICE
Studs (set of 4) for 52mm SLV™ Receivers	M8	66060	**$129**
Studs (set of 4) for 96mm SLV™ Receivers	M10	66061	**149**

All Receivers and Studs In-Stock for Same-Day Shipping

ROYAL SLV™ ZERO-POINT AUTOMATION RECEIVER



NEW



- Royal's new SLV™ Zero-Point Automation Receiver is the perfect complement to the SLV™ Automation Vise.
- Designed for robot/cobot loading to maximize unmanned production on your CNC machining centers.
- Easily adaptable to 3, 4, and 5-axis applications.
- Spring-close/air-open design – no hydraulics needed.
- Pneumatic "PLUS" feature directs air to the clamp side of the piston and provides 5X additional clamping force for superior performance during aggressive chip removal.
- Receiver height is optimized for 5-axis machining, making risers unnecessary for most applications.
- Can be used with any workholding device that incorporates a standard 52mm stud pattern.



An Unbeatable Production Combination!
The Royal SLV™ Automation Receiver paired with the Royal SLV™ Automation Vise!

Coming Soon – Visit royalproducts.com for Updates



ROYAL Z-LOCK™ QUICK-CHANGE WORKHOLDING SYSTEM

Quick-Change Workholding For All Machining Centers

- ✔ **Precision Receiver Mounts to Your Machining Center Table or Five-Axis Rotary Table**
- ✔ **Mount Workpieces to Top Plates Offline, Keeping Your Spindles in the Cut for Maximum Production**
- ✔ **Greatly Reduces Setup Times - Top Plates Interchange in Seconds with Precision Repeatability**
- ✔ **The Royal Z-Lock™ Keeps Your Machining Centers Making Parts – and Profits!**







Simple Manual Actuation
A few turns of a hex key and it's locked – no risk of the top plate loosening from vibration, spring wear, or air/hydraulic failure. The Royal Z-Lock™ is also a breeze to implement – no external air or hydraulic lines to install so you'll be running parts more efficiently in no time!

Precision Repeatability
X -axis – 0.0001"
Y -axis – 0.0001"
Z -axis – 0.00005"

Extremely Powerful Clamping Force
Easily achieves up to 11,240 lbs. (50kN) of clamping force. The hardened locking screw contains a large, sturdy engagement surface for failsafe operation.

Massive Locating Surface
Up to 50% greater surface area for superior stability and vibration damping.

No "Machinist's Touch" Required When Changing Top Plates
All stud models have been optimized to eliminate binding, making top plate changeovers a breeze.

ROYAL Z-LOCK™ QUICK-CHANGE WORKHOLDING SYSTEM



How it Works:

The heavy-duty clamping screw of the Royal Z-Lock™ rigidly and precisely engages the matching tapered groove in the stud, providing secure, consistent clamping force. Simple – yet powerful and reliable!



Royal Z-Lock™



Easy to Understand, Easy to Use, Easy to Order!



Receiver with Baseplate

- Available from stock in single, dual, and quad configurations.
- Baseplates include multiple bolt-patterns to accommodate most common machining center T-slot spacing.
- Single receivers may be ordered without baseplates for tombstone and angle plate applications.



Top Plates

- Made of machinable aluminum to accommodate vises, collet fixtures, Mitee-Bite* clamps, etc. – the possibilities are limitless.
- All top plates are precision ground and include the appropriate studs pre-mounted and ready to go.
- 1" thick to accommodate milled locating pockets up to 1/4" deep.



Studs

- Three stud types for single, dual, and quad setups.
- Hardened and ground to handle thousands of changeovers.
- Studs are included with all top plates and are also available separately for customers who wish to use their own top plates, fixtures, or even screw them into the workpiece.

*Mitee-Bite is a registered trademark of Mitee-Bite Corporation.

ROYAL Z-LOCK™ QUICK-CHANGE WORKHOLDING SYSTEM



Not Sure What to Order? Here's a Popular Setup:

- ✔ 1 pc. Royal Z-Lock™ Dual **Part Number 65002**
  (Includes two receivers mounted to baseplate)
- ✔ 2 pcs. Z-Lock™ Top Plate Dual **Part Number 65022**
  (One plate gets loaded offline while the other is working inside your machining center)
  Note: Studs included with all top plates – no need to order separately.

Royal Z-Lock™ Zero-Point Workholding Systems

DESCRIPTION	PART NUMBER	PRICE
Z-Lock™ Single (one receiver mounted to baseplate)	65001	**$1,705**
Z-Lock™ Dual (two receivers mounted to baseplate)	65002	**2,935**
Z-Lock™ Quad (four receivers mounted to baseplate)	65004	**5,645**
Z-Lock™ Top Plate Single (includes one positioning stud and two keys)	65021	**554**
Z-Lock™ Top Plate Dual (includes one positioning stud and one orienting stud)	65022	**878**
Z-Lock™ Top Plate Quad (includes one positioning stud, one orienting stud, and two clamping studs)	65024	**1,695**
Z-Lock™ Receiver Only (no baseplate)	65000	**903**

Note – due to the wide variety of T-slot configurations, baseplate mounting bolts and T-nuts are not included.

Royal Z-Lock™ Accessories and Parts

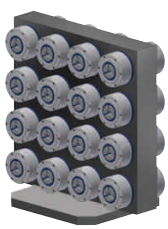
DESCRIPTION	PART NUMBER	PRICE
Positioning Stud	65030	**$160**
Orienting Stud	65031	**160**
Clamping Stud	65032	**160**
Receiver Bore Cover (protects receiver bore from chips when Z-Lock™ is not in use)	65033	**112**
Base Plate Reducer Bushing M12-M10 (for machines with narrow T-slots)	65035	**24**
Anti-Rotation Keys (included with Single Top Plate, not needed for Dual or Quad)	65034	**43**
Replacement Locking Screw	65036	**66**

Additional Machining Center Workholding Solutions from Royal









- ✔ Power-Block™ Collet Fixtures
- ✔ I.D. Workholding Fixtures
- ✔ Custom Collet Profiles
- ✔ Custom Multi-Unit Systems

ROYAL PRODUCTS

ROTA-RACK®

SIMPLE, OFF-THE-SHELF PARTS COLLECTOR INCREASES CNC LATHE THROUGHPUT AND PROFITS

NEW







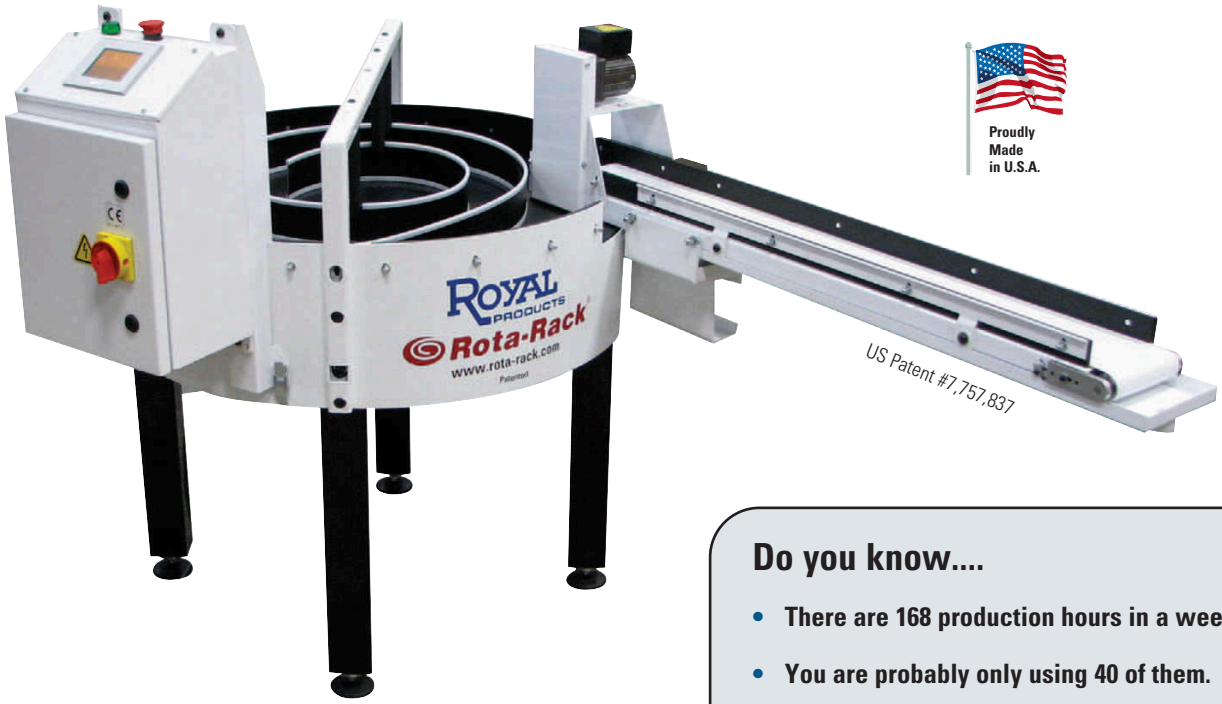






ROYAL PRODUCTS
Optimize everything.

WHAT IS A ROTA-RACK®?



Proudly Made in U.S.A.

The patented Royal Rota-Rack® is an automatic accumulator that can be used with any bar-fed CNC lathe to safely collect finished parts, providing hours of highly profitable, unmanned production.

Do you know....

- There are 168 production hours in a week.
- You are probably only using 40 of them.
- Your machines are worth $100 per hour.
- You could be making an extra $12,800 per week on each machine with a Rota-Rack®.
- You already invested in the bar feeder – how can you not complete the automation package?
- Pays for itself in less than two weeks – Incredible!
- What are you waiting for?

Overnight Production = Pure Profit



5 PM – Tuesday



11 PM – Tuesday



6 AM – Wednesday

WHAT WILL THE ROYAL ROTA-RACK® DO FOR YOU?



Big Benefit #1 Increases Capacity, Throughput, and Profits

Adding a Royal Rota-Rack® to a bar-fed CNC lathe greatly increases machine utilization and throughput.

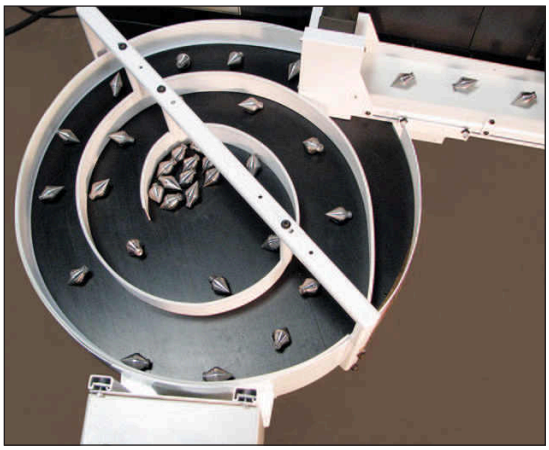
- ❑ Run existing machines extra hours: nights, weekends, lunch breaks, etc.
- ❑ Faster cycle times – no waiting for an operator to unload parts / empty collection boxes.
- ❑ Higher efficiency – produce more parts per shift.
- ❑ Better employee utilization – why have a person do a job that can be handled with simple automation?
- ❑ Increased profitability.



Note: Collection box removed for clarity.

Big Benefit #2 Eliminates Part Damage

The Royal Rota-Rack® has been designed to provide maximum part protection, a feature that is important for all parts but one that is especially useful for parts with delicate external features like threads, edges, and corners.



- ❑ Each time the Rota-Rack® collects a finished part, the turntable smoothly rotates to the next position to ensure that the following part will not forcefully collide with any of the previously-collected parts.
- ❑ All contact surfaces of the Royal Rota-Rack® and conveyor are covered with a high-lubricity UHMW plastic material to minimize friction and protect surface finishes.
- ❑ Reducing scrap and rework costs directly improves profitability.
- ❑ The Rota-Rack's® unique spiral helps keep finished parts in sequential order, aiding in quality control by enabling first piece/last piece inspection.

Big Benefit #3 Provides Complete Reliability

The Royal Rota-Rack® won't show up late, doesn't get sick, and keeps working long after your last employee leaves for the night or weekend.

First day of hunting season? Big snow storm? Cousin's wedding? The Rota-Rack® doesn't care. How many of your competitors will be turning out parts on Super Bowl Sunday?

Check out the Royal Rota-Rack® Video at www.rotarack.com



THE PROFIT MAKER

Case Study – Royal Rota-Rack® Increased Profits at a Small Job Shop by Over $60,000!

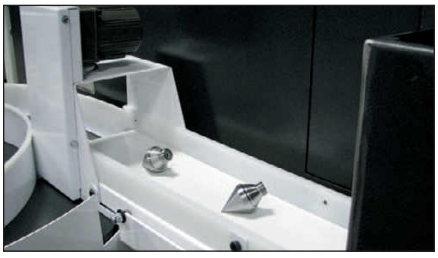
- The owner of a small job shop installed a Royal Rota-Rack® with the intention of running one of his CNC lathes for a few extra hours in the evenings after his employees left for the day.
- For costing purposes, he continued to base all of his overheads on the first shift, figuring that any extra production hours achieved with the Rota-Rack® would be virtually all profit.
- The shop rate on his CNC Lathe = $80 per hour.
- The owner started out conservatively, using Rota-Rack® to deliver just three hours of extra production per night.
- 3 hours x 5 days = 15 hours per week of extra production.
- 15 x $80 = $1,200 in extra profits per week.
- $1200 x 52 weeks = $62,400!

In this real-life example, the lathe only ran an average of three extra hours per night, and still generated more than $60,000 in extra profit in the first year alone. In reality, many shops use the Royal Rota-Rack® to run an extra six to eight hours per night, plus weekends.

How Does The Royal Rota-Rack® Work?



1. User enters the part cycle time and degree of turntable rotation via a simple PLC controller. A counter can also be set to shut the Rota-Rack® down after a specified number of parts have been collected.



2. As a finished part comes out of the lathe, it drops onto the conveyor and is moved towards the Rota-Rack's® rotating turntable.

The Royal Rota-Rack® is very simple to set up and operate. Most users are up and running within an hour or two of removing it from its shipping crate.



3. Each time a part comes out of the machine, the Rota-Rack® indexes to the next position. The degree of turntable rotation is easily adjusted according to part size.



4. As the turntable indexes, the parts are gently guided towards the center via the spiral.



5. After several hours of unmanned production, finished parts are manually removed from the center of the Rota-Rack®.

COMMON CONCERNS ABOUT LIGHTS-OUT PRODUCTION



Crossing over from manned production to unmanned production is a big step for any shop. It isn't easy – but for those who commit to it, the benefits are enormous. Here are few of the most common objections that we hear, and some input on how we addressed some of the same issues in our own shop:

"My machine might crash."

That's true - it might. However, today's CNC's are equipped with all kinds of sensors that immediately shut everything down upon any sign that something has gone wrong. If your machine crashes, you might have to deal with an expensive repair. But what you also must accept is that no operator is a psychic – when was the last time one of your people shut a machine down just before it crashed?

"I might come in the next day to find out that we made a full run of bad parts."

Again, that may happen, but it won't happen every time. In fact, you'll soon realize that this hardly ever happens, and when it does, the value of the scrapped material is so low in relation to the value of the finished parts that it doesn't matter. One of our customers said it best – "$300 worth of aluminum is nothing compared to $3,500 worth of finished parts!"

"I want to keep my people employed - machines are taking over the world…"

Like it or not, automation is here to stay. Look at the agricultural industry – it is estimated that 100 years ago 30-40% of the American population made its living from agriculture. Today that number is about 3%, yet we produce much more food, and of much higher quality, than ever before. That would never have been possible without automation advancements such as the combine.

Automation can actually improve life for your employees by freeing them from repetitive, mundane tasks so they can tackle more complex jobs within your company, and potentially earn more money because they are doing jobs with a higher value. For example, as we became more automated here at Royal, many machine loaders/unloaders advanced into the assembly department. This was a higher-paying position, and we had a need for increased personnel because we were making more parts each week.

Sure, over time your need to increase headcount will be reduced and you will become a much leaner company. However, our experience is that this almost always occurs through natural attrition, and rarely does simple automation result in an immediate need to cut staffing levels.



Utilized to its fullest extent, it is entirely possible to generate an additional profit of $150,000 – $200,000 per lathe, per year, with the Royal Rota-Rack®.

FIVE TIPS FOR SUCCESSFUL LIGHTS-OUT PRODUCTION



1. Reduce the Risk of Tool Breakage

For roughing tools and large drills, use load detection (standard on many machines) to sense tool breakage. If you don't have load detection, utilize tool management.

Example – if you know a certain tool typically lasts for at least 50 parts, switch it out after 40. If you don't have load detection or tool management capabilities, figure out your weak link and adjust your run-size according to what that tool can safely handle. Whatever you do, don't decrease speeds and feeds in the hopes of extending the life of a $9 insert!

2. Control the Chip

Produce chips - not stringers. Leverage the expertise of your cutting tooling suppliers – they can offer you suggestions for optimizing speeds and feeds, let you test various cutting tool geometries, etc. In our own shop, we had an application where we had to try several different approaches for a troublesome grooving operation until we found the optimal one.

Another important aspect of chip control, especially on sub-spindles, is cleaning your workholding between parts with an air blast to ensure that the next part is correctly seated. If you don't have air blast on your machine, use a large diameter thru-coolant drill and blast the chuck with coolant while it is spinning.

3. Coolant Management

Coolant quality and consistency must be regularly monitored – poor coolant shortens tool life, damages machine seals, and hurts part finishes. In addition to regular coolant maintenance, all coolant sumps should be equipped with a tramp oil skimmer.

It is also important to keep the coolant inside the machine instead of dumping it out with each finished workpiece. Techniques include air-blasting the part before unloading, adding drain holes to the part collection basket, refraining from positioning the part collection basket under the part until just before the cut-off tool breaks thru, reducing or shutting off coolant flow during part-off, etc.

4. Thermal Stability/Scheduling

Learn how each of your machines is affected by heat. One of our large Rota-Rack® customers discovered that not all of his machines are stable enough to handle certain high-tolerance jobs over the course of an unmanned shift, so he simply schedules his jobs accordingly.

5. Make it Part of Your Company Culture

Your employees must embrace lights-out manufacturing, and realize that it doesn't make their jobs less secure – it makes them more secure because it better positions your company against domestic and foreign competition. They need to change their thinking from "Can this job run lights-out?" to "How long can I run this job lights-out?"

Ask yourself "How many shops that thought CNC was a passing fad are still around today?" If you don't invest in the latest available technology to make your shop as competitive as possible, how can you expect to remain competitive against those who do? The Royal Rota-Rack® is one of the simplest, least-expensive automation devices you can employ, and the payback is both immediate and ongoing.



Want to see a Rota-Rack in person? Give us a call and we'll arrange for one of our fully-equipped demo vans to visit your company. You can even drop some of your parts onto it so see how they are handled.

Check out the Royal Rota-Rack® Video at www.rotarack.com

HEAVY-DUTY DESIGN – BUILT TO LAST

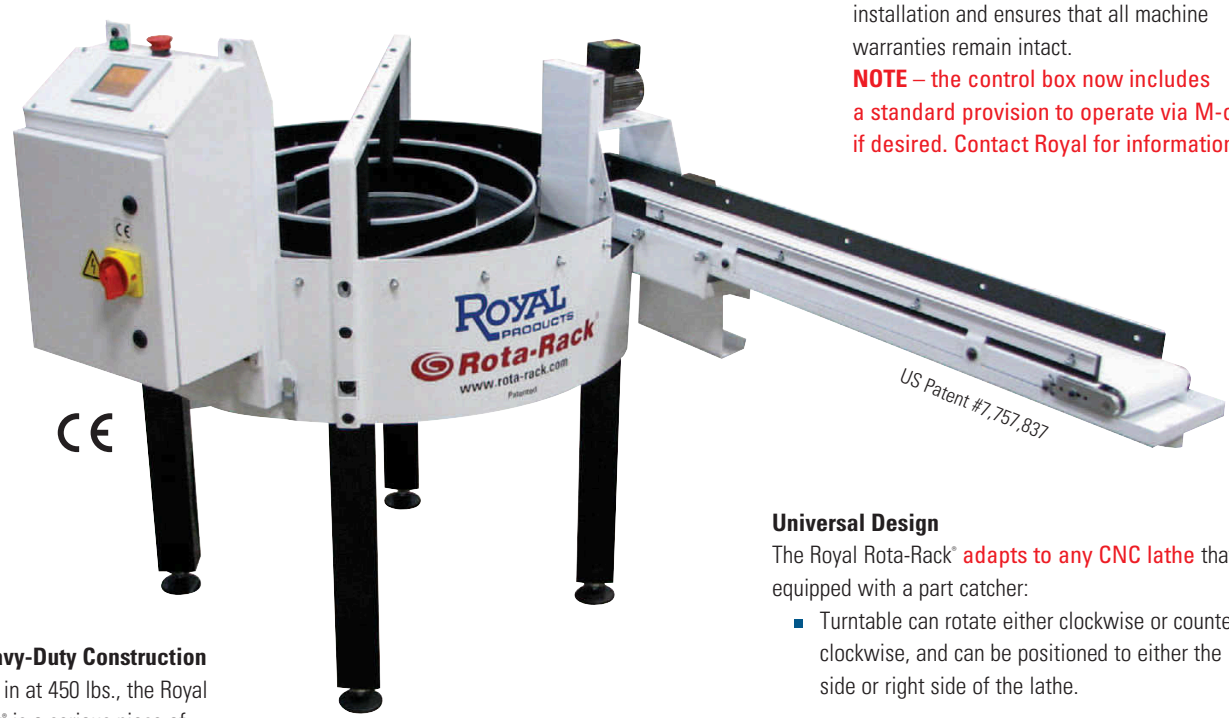


Large Capacity
With over 850 square inches of surface area, the Royal Rota-Rack® can hold hundreds of parts* and provide hours of unmanned operation.

Unique Rotary Spiral
Gently guides finished parts to the center as the turntable rotates.

Coolant Management
Integral drip tray with drain collects excess coolant.

Totally Self-Contained – No Machine Tool Contact
The Royal Rota-Rack® is a complete stand-alone unit – there are no electrical or physical connections of any type with the machine tool. This provides hassle-free installation and ensures that all machine warranties remain intact.
NOTE – the control box now includes a standard provision to operate via M-code if desired. Contact Royal for information.



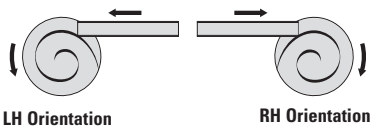
Very Heavy-Duty Construction
Weighing in at 450 lbs., the Royal Rota-Rack® is a serious piece of equipment that is built to withstand years of abuse in the harshest production environments. A heavy gage welded steel frame provides outstanding rigidity, enabling the Rota-Rack® to easily support up to 700 lbs. of finished parts.

Excellent Part Protection
Low-friction UHMW coating on all contact surfaces protects finished parts from scuffs and dents. This durable plastic is the same material used in the manufacture of motorcycle chain guides.

Streamlines Inspection
The Rota-Rack® can be a real asset for quality control – part spacing is easily adjustable to enable first piece/last piece inspection.

Universal Design
The Royal Rota-Rack® adapts to any CNC lathe that is equipped with a part catcher:

- Turntable can rotate either clockwise or counter-clockwise, and can be positioned to either the left side or right side of the lathe.



- Height range 10.5 – 53 inches. Other height requirements can be a accommodated upon special request.
- Rota-Rack® is completely free standing – no bolting to the machine or floor is required.
- Control box can be positioned anywhere on circumference for optimal clearance.
- Easily adapts to machines with existing conveyors.

The Royal Rota-Rack® is reliable, doesn't take sick days, and pays for itself within a few months of use. Order yours today and get a jump on your competition!

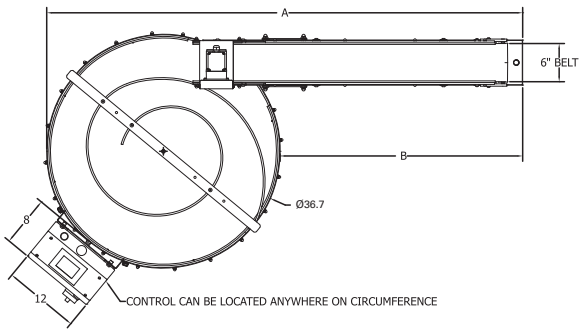
*Actual number of parts depends upon individual part size.

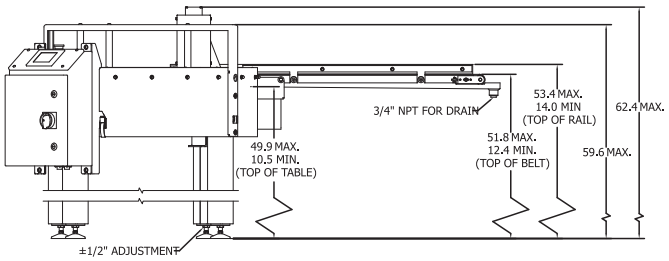


ROYAL ROTA-RACK® SPECIFICATIONS

Large Enough to Hold Lots of Parts, Small Enough to Fit Almost Anywhere

The diameter of the Rota-Rack's turntable is 36", making it large enough to hold a significant number of parts, yet small enough to fit into tight spaces. When considering space utilization, it is very important to note that the Rota-Rack® can double or triple capacity, yet its footprint is only about 10% that of a new lathe and bar feeder.





General Specifications

Usable Surface Area	850 in²/ 5480 cm²
Max. Part Length*	10" / 25 cm
Min. Part Diameter	0.25" / 0.6 cm
Max. Part Diameter*	3" / 8 cm
Payload Capacity	700 lbs. / 318 kg
Height Range	See drawing
Power Supply	110V, 50/60Hz
Unit Weight	450 lbs. / 205kg (including conveyor)

*It is sometimes possible to exceed these parameters. Contact Royal for info.

Conveyor Dimensions

DESCRIPTION	A	B
Short	53"	16"
Standard	75"	38"
Long	94"	57"

Note – unit shown is configured for left-hand positioning. Changing to right-hand configuration simply requires flipping the spiral and conveyor bracket.

Easy Installation

We often refer to the Rota-Rack® as "Off the Shelf Automation" because it is such a breeze to install. In fact, most users report having it up and running within an hour of unpacking it from its shipping crate.

Each Rota-Rack® normally ships with its height and orientation preconfigured according to customer specifications. And because the unit does not need to connect to the lathe either physically or electrically, installation is simply a matter of attaching the legs, sliding it into place in front of the machine, and plugging it into a standard 110v outlet.

The one additional step that may be required for some installations is the modification of the lathe's part collection box, usually located on the door of the machine. In order for parts to reach the Rota-Rack® or its conveyor, the bottom and/or side of the box may have to be opened up as shown in the photo.



Note – see page 104 for important information regarding coolant management.

HOW TO ORDER THE ROYAL ROTA-RACK®



The Heavy-Duty Royal Rota-Rack® can be used with your CNC lathe's existing conveyor. If your machine doesn't have a conveyor, Royal offers three cost-effective options in varying lengths.

Rota-Rack®



Heavy-Duty Rota-Rack® Unit

- Includes accumulator and deluxe control with a simple programable PLC. There are only three parameters to enter and it takes just a few seconds to do so:
  - Part cycle time – unit energizes and turntable begins to rotate each time a part drops out of the machine.
  - Turntable index duration - controls part spacing (great for first piece/last piece inspection purposes).
  - Counter – shuts unit down when the bar feeder is empty and/or the job is complete.
- Aside from plugging the unit into a standard 110V electrical outlet for power, the Rota-Rack® is completely stand-alone – no interface/communication with the machine tool control is required, making setup a breeze. **NOTE** – the control box now includes a standard provision to operate via M-code if desired. Contact Royal for information.
- Can be supplied with the legs custom-cut to suit your machine's exact part exit height – contact a Royal Products applications engineer for details.

Royal Heavy-Duty Rota-Rack®

DESCRIPTION	PART NUMBER	PRICE
Heavy-Duty Rota-Rack® with Deluxe Control	51002*	**$16,730**

*Order conveyor separately.



Proudly Made in U.S.A.

Optional Conveyor



Rota-Rack® Conveyor Options

- All Rota-Rack® Conveyors bolt directly to the Rota-Rack® unit (not the machine) using a unique mounting bracket that enables either left or right-hand positioning.
- Conveyor plugs directly into the Rota-Rack® control box for power and is automatically synchronized to activate whenever the turntable rotates.
- Available in three different lengths to suit all clearance needs.

Conveyor Options

DESCRIPTION*	PART NUMBER	PRICE
Short	51021	**$4,775**
Standard	51022	**4,775**
Long	51023	**6,535**

*See dimensions on previous page.

All Units and Conveyors In-Stock for Immediate Shipping



ROYAL ROTA-RACK® COMPACT
Designed For Swiss Applications

NEW

Height-Adjustable
Accommodates machines with part exit heights between 24-33 inches, (28.5-37.5) when using removable chute.

Coolant Control
Bins equipped with 2mm dia. drain holes for continuous return of oil/coolant to the machine sump.

Quick Setup
Simple one-minute programming via the integral PLC. Unit can also be easily wired into the machine tool control and indexed via M-code.

Minimal Power Consumption
Operates on standard 110V power.

Space-Saving Design
At less than 21" wide and 26" deep, the Royal Rota-Rack® Compact is designed for densely-packed Swiss shops.

In-Stock for Same-Day Shipping!



Sorting
Twelve removable bins provide distinct part separation, enabling you to switch from one job to the next without having to empty the bins.

Enhanced Quality Control
Individual bins optimize part inspection – if the parts in both bin 1 and bin 12 are within spec, there is no need to inspect the parts in bins 2-11.

Bridge the Gap
Included removable chute (not shown) guides your parts from the exit conveyor into the bin.

High Capacity
Each bin has a volume of 100 cubic inches, and the unit has a total collection volume of 1,200 cubic inches.

Simple, Economical Parts Collection for Small Parts/Swiss Applications

Big Benefits in a Small Package

- ✔ **Delivers hours of unmanned production.**
- ✔ **Batches parts by bin for easy sorting/inspection.**
- ✔ **Protects finished components from damage.**
- ✔ **Compact size fits into tight spots.**

Royal Rota-Rack® Compact Parts Accumulator

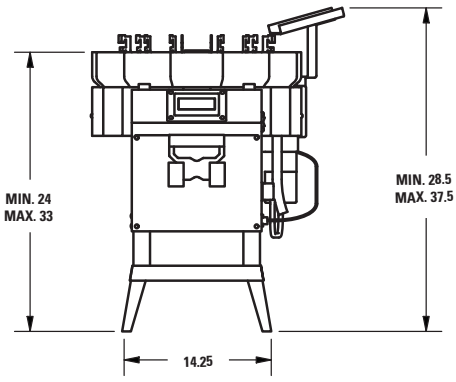
DESCRIPTION	PART NUMBER	PRICE*
Rota-Rack® Compact	51006	**$11,385**

*Includes removable exit chute.

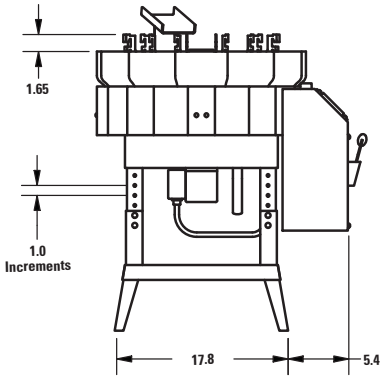
ROYAL ROTA-RACK® COMPACT
Designed For Swiss Applications



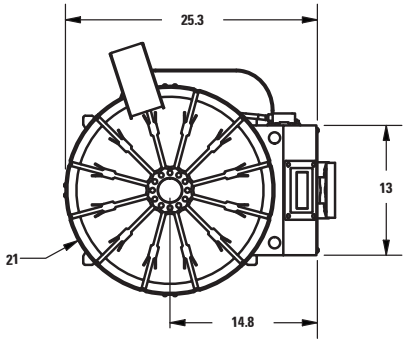
Dimensions



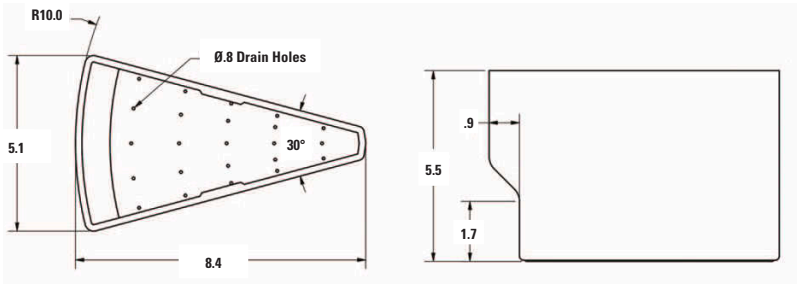
Front View



Side View



Top View



Bin Dimensions

Part volume per bin – 100 cubic inches
Total collector volume – 1,200 cubic inches

Removable handle provides effortless bin removal/transport.





ROYAL ROTA-RACK® INSTALLATIONS

Works With Any CNC Lathe





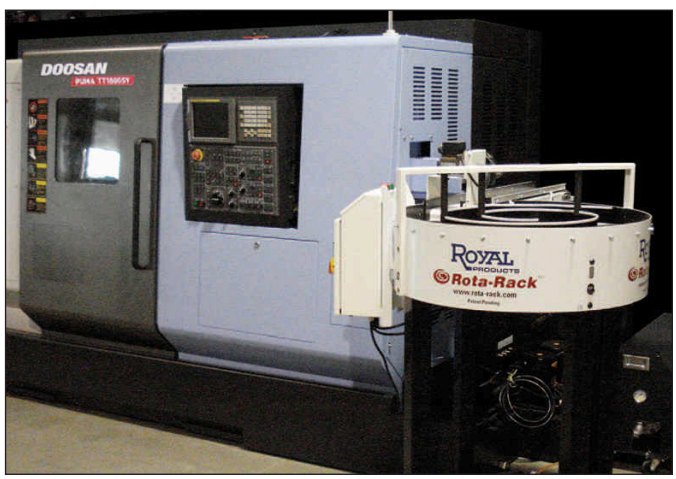












Check out the Royal Rota-Rack® Video at www.rotarack.com

ROYAL PRODUCTS

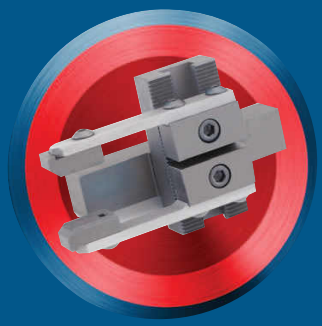
CNC BAR PULLERS

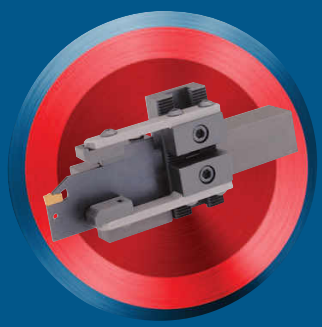
EASILY AUTOMATE ANY CNC LATHE FOR LIGHTS-OUT PRODUCTION













ROYAL PRODUCTS
Optimize everything.

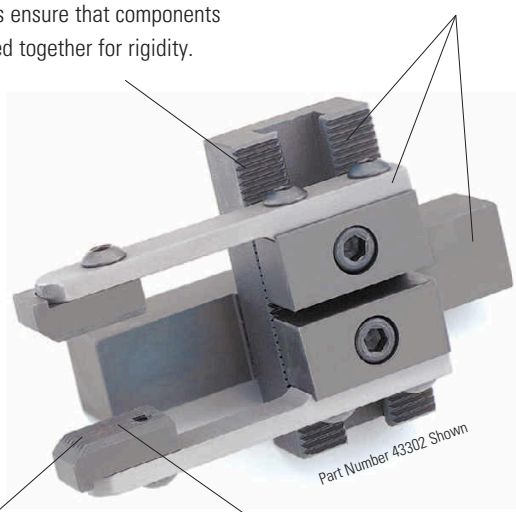
ROYAL COMPACT CNC BAR PULLERS
Automate Any CNC Lathe

- Great for use with small CNC lathes – compact design minimizes tool interference.
- Very easy to setup and use.
- Unit can pull round, square, and hex stock.
- Flexible heat-treated steel fingers provide strong gripping force.
- Each compact bar puller includes one set of serrated jaws and one blank spindle bushing.
- Right-hand operation only.

Proudly Made in U.S.A.

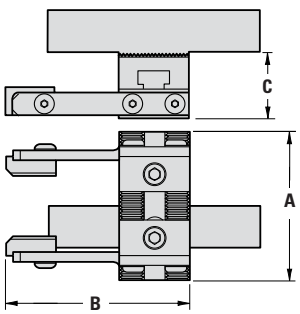
All parts subject to wear are hardened for strength and durability.

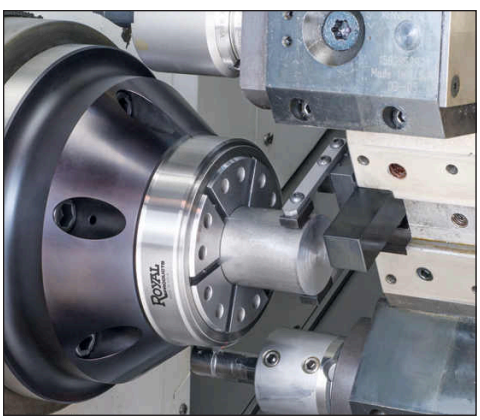
Serrations ensure that components stay locked together for rigidity.



Unit is very easy to use – simply set gap between jaws 1/8" smaller than stock size. As the bar puller slides over the bar along the x-axis, the fingers flex to provide the gripping force. The turret then retracts along the z-axis, pulling the bar out to the desired position.

Serrated jaws provide positive grip. Smooth jaws are available for softer materials.





Royal Compact CNC Bar Pullers

SHANK SIZE	GRIPPING RANGE	A	B	C	PART NUMBER	PRICE[1]
¾" SQ	⅛"–2¼"	2⅝"	3¼"	1 3/16"	43302	**$1,255**
1" SQ	⅛"–2¼"	2⅝"	3¼"	1 3/16"	43304	**1,255**
1" SQ	⅛"–3"	3⅝"	3¼"	1 3/16"	43306	**1,325**

Royal Compact CNC Bar Pullers (Metric)

SHANK SIZE	GRIPPING RANGE	A	B	C	PART NUMBER	PRICE[1]
20mm	3–57mm	67mm	83mm	30mm	43680	**$1,560**
25mm	3–57mm	67mm	83mm	30mm	43684	**1,560**
25mm	3–76mm	92mm	83mm	30mm	43688	**1,615**

[1]Includes bar puller, one set of standard jaws and one blank spindle bushing.

Replacement Parts

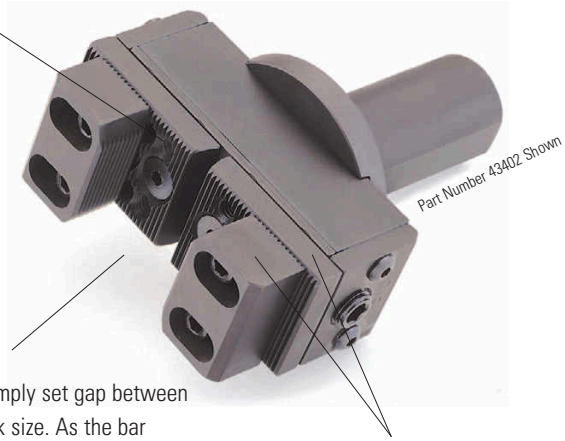
DESCRIPTION	PART NUMBER	PRICE/SET
Spring Finger Set	43505	**$157**
Serrated Jaw Set	43500	**222**
Smooth Jaw Set	43502	**275**

ROYAL HEAVY-DUTY CNC BAR PULLERS
Automate Any CNC Lathe



- Rugged, heavy-duty design withstands the toughest manufacturing environments.
- Very easy to setup and use.
- Unit can pull round, square, and hex stock.
- Large internal die springs provide very strong gripping force.
- Each bar puller includes one set of standard jaws and one blank spindle bushing. Extra capacity jaws sold separately.
- Models 43360, 43372, and 43376 can operate as both right-hand and left-hand units. All others right-hand only.

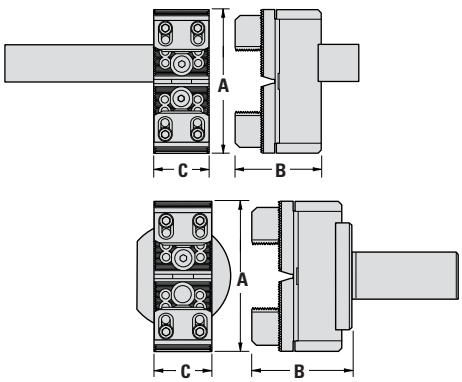
Serrations ensure that components stay locked together for rigidity.

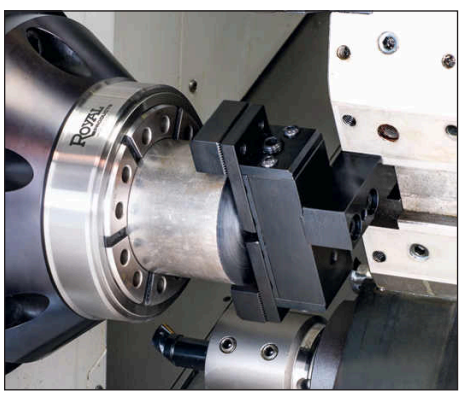


Proudly Made in U.S.A.

Unit is very easy to use – simply set gap between jaws 1/8" smaller than stock size. As the bar puller slides over the bar along the x-axis, the jaws compress heavy-duty internal die springs to provide high gripping force. The turret then retracts along the z-axis, pulling the bar out to the desired position.

All parts subject to wear are hardened for strength and durability.





Replacement Parts

DESCRIPTION	PART NUMBER	PRICE/SET
Standard Jaw Set	43510	**$306**
Extra-Capacity Jaw Set	43512	**334**

Royal Heavy-Duty CNC Bar Pullers – Square Shank

SHANK SIZE	GRIPPING RANGE		A	B	C	PART NUMBER	PRICE
	STANDARD JAWS	EXTRA-CAPACITY JAWS					
¾" SQ	⅛"–2 ¼"	1⅞"–3¾"	3⅞"	2 9/16"	1½"	43360*	**$2,095**
1" SQ	⅛"–2 ¼"	1⅞"–3¾"	3⅞"	2 9/16"	1½"	43366	**2,235**
1" SQ	⅛"–3 ½"	1⅞"–5⅜"	4¾"	2 9/16"	1½"	43370	**2,340**
1" SQ	⅛"–3 ⅝"	1⅞"–5 ½"	5"	2¾"	1¾"	43372*	**2,520**
1" SQ	⅛"–4⅞"	1⅞"–6½"	6¾"	2¾"	1¾"	43376*	**2,820**

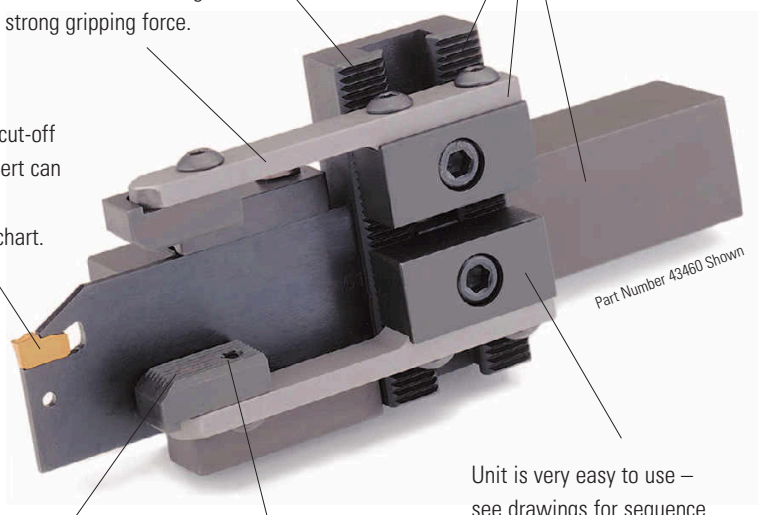
* Can operate as both right-hand and left-hand units.

Royal Heavy-Duty CNC Bar Pullers – Round Shank

SHANK SIZE	GRIPPING RANGE		A	B	C	PART NUMBER	PRICE
	STANDARD JAWS	EXTRA-CAPACITY JAWS					
1" Dia.	⅛"–2 ¼"	1⅞"–3¾"	3⅞"	2 15/16"	1½"	43400	**$2,660**
1¼" Dia.	⅛"–2 ¼"	1⅞"–3¾"	3⅞"	2 15/16"	1½"	43402	**2,660**
1¼" Dia.	⅛"–3 ½"	1⅞"–5⅜"	5⅜"	2 15/16"	1½"	43404	**2,775**

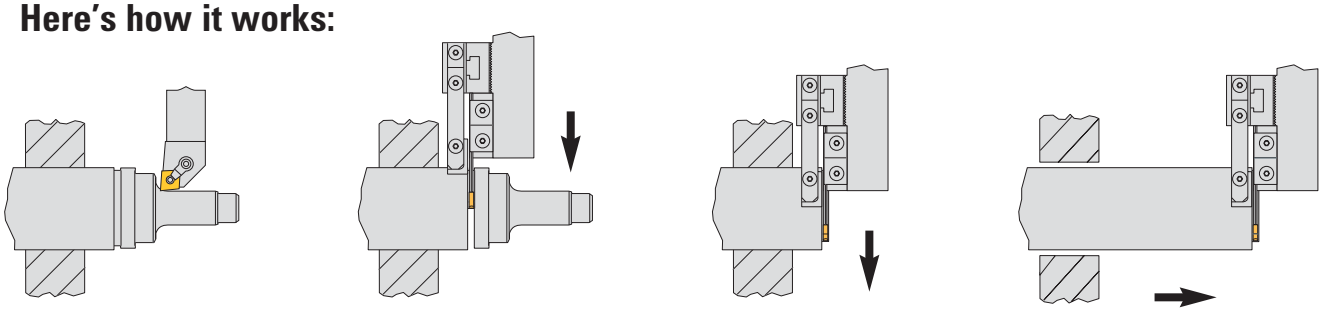
ROYAL COMBO CNC BAR PULLERS
Automate Any CNC Lathe

- The Royal Combo CNC Bar Puller is both a bar puller and a cut-off tool in one unit. Benefits of this design include:
  - Saving a turret station.
  - Reduced cycle time because the turret does not need to index between the cut-off and pulling operations.
- Very easy to setup and use.
- Unit can pull round, square, and hex stock.
- Compact design enables it to be used on most CNC lathes.
- Each Combo Bar Puller includes one set of standard jaws and one blank spindle bushing. Order cut-off insert and holder separately.
- Right-hand operation only.



Proudly Made in U.S.A.

Here's how it works:



Step 1 – Turn

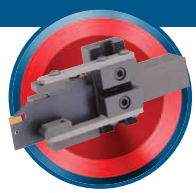
Step 2 – Cut-Off

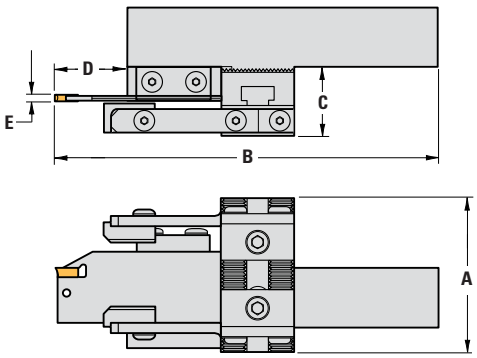
Step 3 – Stop Spindle/Engage

Step 4 – Open Chuck/Pull

Check out the Royal Bar Puller Video at www.barpullers.com

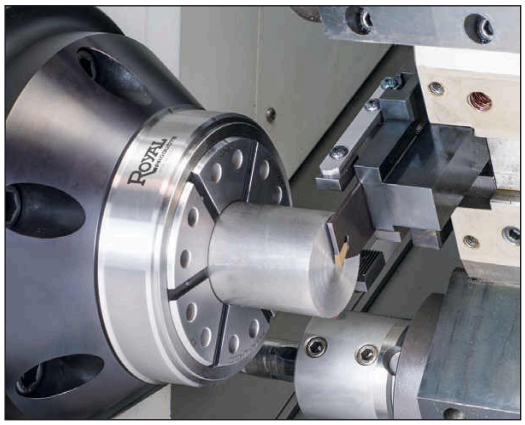
ROYAL COMBO CNC BAR PULLERS
Automate Any CNC Lathe





Proudly Made in U.S.A.

Please note dimension D (maximum depth of cut). If a greater depth of cut is required, we suggest using a separate cut-off tool and only using the bar puller for the pulling operation.



Cycle times are reduced because the turret does not need to index between cut-off and pulling operations.

Part Number 43460 Shown.

Royal Combo CNC Bar Pullers

SHANK SIZE	GRIPPING RANGE	A	B	C	MAX DEPTH OF CUT D[1]	E	PART NUMBER	PRICE[2]
¾" SQ	⅛"– 2¼"	2⅝"	4¾"	1 3/16"	9/16"	0.125"	43456	**$1,780**
1" SQ	⅛"– 2¼"	2⅝"	6⅜"	1 3/16"	1¼"	0.125"	43460	**1,790**
1" SQ	⅛"– 3"	3⅝"	6⅜"	1 3/16"	1¼"	0.125"	43464	**1,865**
1" SQ	⅛"– 4"	3⅝"	6⅜"	1 3/16"	1¼"	0.125"	43468	**2,095**

- Cut-off holder and insert can be purchased separately from Royal Products or through your tooling supplier.
- Bar puller accepts many popular brands of holders and inserts (see chart).
- Cut-off holders not purchased from Royal must be slightly modified before being used with bar puller.

Royal Combo CNC Bar Pullers (Metric)

SHANK SIZE	GRIPPING RANGE	A	B	C	MAX DEPTH OF CUT D[1]	E	PART NUMBER	PRICE[2]
20mm	3–57mm	67mm	121mm	30mm	14.5mm	3mm	43615	**$2,065**
25mm	3–57mm	67mm	162mm	30mm	32mm	3mm	43625	**2,085**
25mm	3–76mm	92mm	162mm	30mm	32mm	3mm	43635	**2,170**

[1]Maximum depth of cut may not reach bar centerline.

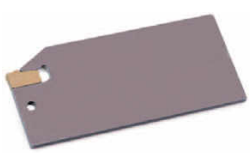
[2]Includes bar puller, one set of standard jaws and one blank spindle bushing. Order insert holder and insert separately.

Replacement Parts — Combo Model

DESCRIPTION	PART NUMBER	PRICE/SET
Spring Finger Set	43505	**$157**
Serrated Jaw Set	43500	**222**
Smooth Jaw Set	43502	**275**

Holder with Insert

BAR PULLER SHANK SIZE	PART NUMBER	PRICE*
¾" or 20mm	43520	**$299**
1" or 25mm	43522	**330**



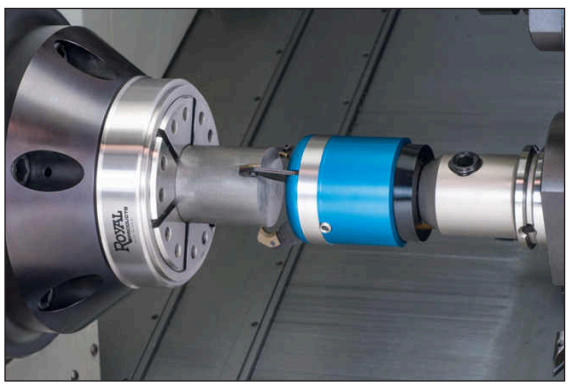
*Includes one modified holder, one neutral cut-off insert, and one installation/removal tool.

Compatibility Chart

BRAND	1/2", 3/4" AND 20mm SHANK	1" AND 25mm SHANK
Carboloy	150.10-20-3	150.10-25-3
Iscar	SGFH26-3	SGFH32-3
Kennametal	EVBSN26M0340	EVBSN32M0350
Manchester	340-105	340-110
Sandvik	151.2-21-30	151.2-25-30
Valenite	VH101 26 3	VH101 32 3

ROYAL GRIPPEX 20L COOLANT-ACTUATED CNC BAR PULLERS — Automate Any CNC Lathe

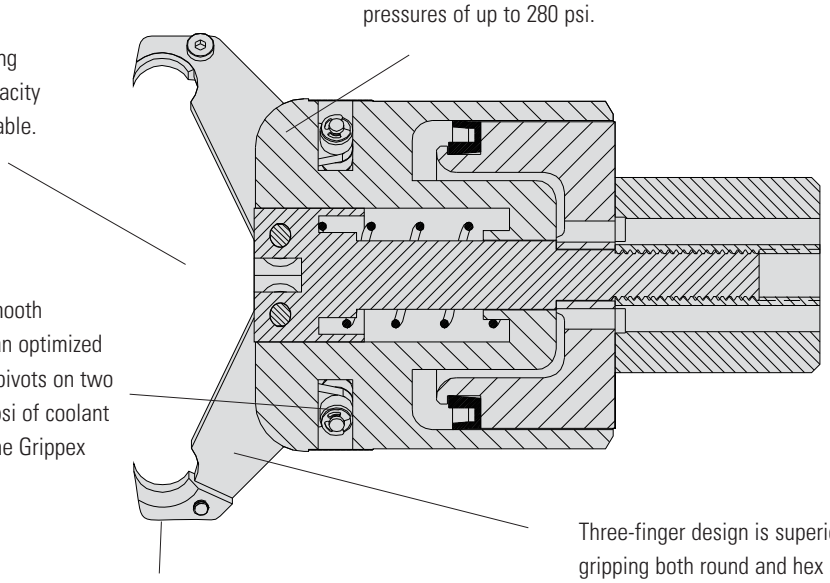




- The Royal Grippex 20L bar puller is actuated by a CNC lathe's coolant system. As coolant is fed through the unit, it pushes a piston forward which causes the fingers to close around the bar stock. When the coolant is turned off, the fingers automatically spring open.
- Self-adjusting mechanism – fingers will close down until they contact the bar stock so no presetting is necessary. This feature allows the Grippex to make multiple pulls on the same workpiece, even after the O.D. has been turned.
- Unit can also be operated by air pressure.
- When fitted with robot gripper jaws, the Grippex can:
  - Remove a bar remnant from a bar-fed lathe and drop it into the parts catcher. This eliminates the risk of the remnant falling into the chip conveyor where it can become jammed and cause damage.
  - Remove a finished workpiece from a sub-spindle and place it into the parts catcher. This eliminates the need for ejectors and also allows the sub-spindle to swallow longer parts.

Thick-walled heavy-duty construction helps to protect unit and allows it to be used at coolant pressures of up to 280 psi.

The Grippex has a wide gripping range of ⅛" – 3⅛". Higher capacity gripping fingers are also available.



Input ports for coolant or air.

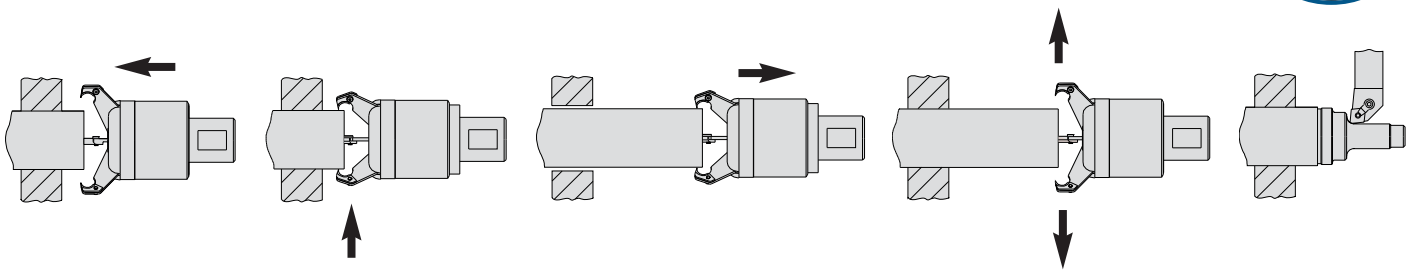
Very high gripping force and smooth operation is achieved through an optimized mechanism where each finger pivots on two roller bearings. As little as 15 psi of coolant pressure is enough to enable the Grippex to pull a 210 lb. bar!

Three-finger design is superior for gripping both round and hex stock. Special two-finger model also available. Contact Royal for information.

Hardened finger inserts reduce wear and help the Grippex penetrate hard materials like stainless steel.

ROYAL GRIPPEX 20L COOLANT-ACTUATED CNC BAR PULLERS – Automate Any CNC Lathe





Step 1
Feed Grippex up to end of bar stock

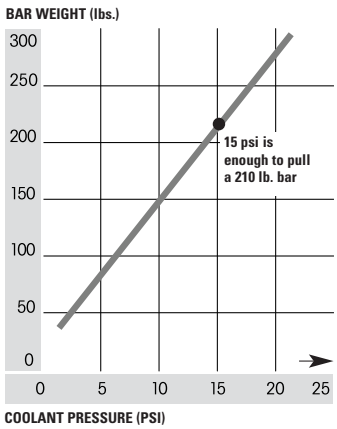
Step 2
Coolant On (M-08) – Fingers close around bar stock

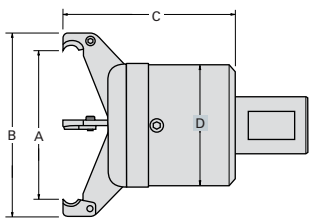
Step 3
Retract turret to desired position, pulling bar with it

Step 4
Coolant Off (M-09) – Fingers open

Step 5
Begin machining next part

Grippex 20L Pulling Force Graph





20L Clearance Dimensions

GRIPPING RANGE	FINGER PART NUMBER	A	B	C	D
1/8"–2 3/8"	43170	2 3/8"	3 1/4"	3 1/2"	2 11/16"
1/8"–3 1/8"	43175	3 1/8"	4"	3 11/16"	2 11/16"
5/16"–4 1/8"	43180	4 1/8"	5 1/16"	4 1/4"	2 11/16"



Royal Grippex 20L Bar Pullers

SHANK	PART NUMBER	PRICE*
1" Round	43140	**$2,385**
1¼" Round	43145	**2,385**
1½" Round	43150	**2,385**

*Includes one set of standard fingers (3⅛"cap), and one set of inserts.



Replacement Finger Sets

CAPACITY	PART NUMBER	PRICE/SET
1/8"–2 3/8"	43170	**$271**
1/8"–3 1/8"(Std.)	43175	**297**
5/16"–4 1/8"	43180	**551**

Contact us if you need fingers for an older model Grippex unit.



Replacement Insert Sets

DESCRIPTION	PART NUMBER	PRICE/SET
20L Insert Set	43185	**$199**



Coolant Adapter

Provides an easy method for feeding coolant or air to unit. Not necessary for most applications.

DESCRIPTION	PART NUMBER	PRICE/SET
Coolant Adapter	43190	**$199**



Robot Gripper Jaw Sets

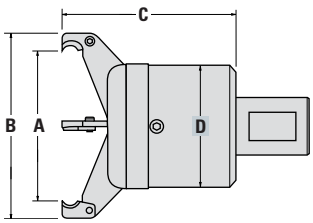
For removing finished parts from a subspindle or removing bar remnants from main spindle.

DESCRIPTION	PART NUMBER	PRICE/SET
20L Robot Gripper Jaw Set	43106	**$349**

ROYAL GRIPPEX 20S COOLANT-ACTUATED CNC BAR PULLERS – Automate Any CNC Lathe

- Same great features as Model 20L featured on previous pages.
- Smaller body diameter enables 20S units to be used on machines with less tool clearance and smaller turrets.
- Gripping force for the 20S is quite high, but not as high as the 20L models (see chart).
- 140 psi maximum coolant pressure.

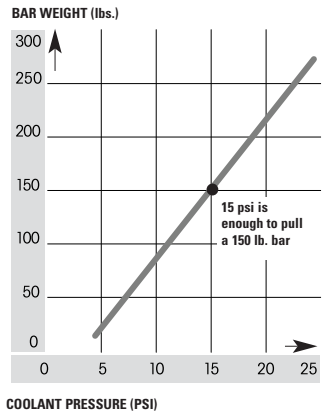




20S Clearance Dimensions

GRIPPING RANGE	A	B	C	D
1/8"–2 1/16"	2 1/16"	2 15/16"	3 3/8"	2 3/8"

Grippex 20S Pulling Force Graph





Royal Grippex 20S Bar Pullers

SHANK	PART NUMBER	PRICE
1"	43340	**$2,280**
1 1/4"	43345	**2,280**



Grippex 20S Replacement Finger Sets

CAPACITY	PART NUMBER	PRICE/SET
1/8"–2 1/16"	43339	**$279**



Coolant Adapter

Provides an easy method for feeding coolant or air to unit. Not necessary for most applications.

DESCRIPTION	PART NUMBER	PRICE/SET
Coolant Adapter	43190	**$199**



Grippex 20S Replacement Insert Sets

CAPACITY	PART NUMBER	PRICE/SET
20S Insert Set	43185	**$199**

ROYAL PRODUCTS

LIVE AND DEAD CENTERS

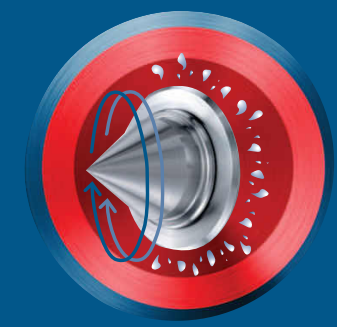
ROYAL MAKES THE BEST LIVE CENTERS ON EARTH













ROYAL PRODUCTS
Optimize everything.

WHY DO TOP MANUFACTURERS INSIST ON ROYAL LIVE CENTERS?



Royal live centers are widely regarded by top metalworking professionals as the best live centers available anywhere in the world. Each Royal live center is a finely crafted tool, incorporating the highest quality steels, bearings, lubricants and seals. Manufactured to exacting tolerances, Royal live centers are guaranteed accurate to **±0.00005" TIR** or better.

Royal Products offers a broad range of standard live center models to suit virtually all turning applications. We also design and build hundreds of custom centers each year to meet special customer requirements. Custom live centers from Royal Products are competitively priced and are held to the same high manufacturing tolerances as our standard models.

EXCLUSIVE ROTO-SHIELD™ TECHNOLOGY

Only Available on Royal Live Centers



ROYAL ROTO-SHIELD™ TECHNOLOGY

The new exclusive Royal Roto-Shield™ represents a breakthrough in live center technology, significantly increasing the effective operating life.

Royal Roto-Shield™ Technology consists of two main components:

– A live center point machined from a solid bar which incorporates a specially-shaped steel coolant slinger.

– A long-life, spring-loaded seal that is resistant to abrasion, high temperatures, and virtually all metalworking fluids.

A dramatic increase in operating life is achieved through the following effects:

– Coolant is deflected, keeping it from penetrating the center.

– Bearings are protected from harmful fines and dust.

– Seal wear is minimized.

– Lubricating grease lasts longer and retains consistency.

The Royal Roto-Shield™ is a standard feature on the following Royal Live Center models:



– High Precision Quad Bearing

– High Precision CNC Quad Bearing

– Heavy-Duty Spindle Type

– Heavy-Duty CNC Spindle Type

– The Ultimate™ Multi-Tasking Center

– High-Speed Precision

– All "Standard Specials"

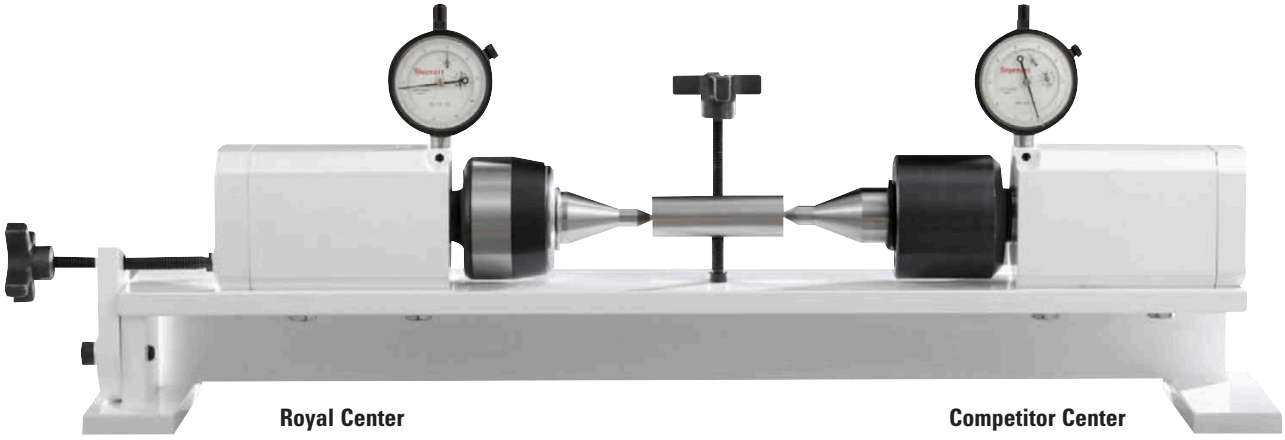


High-Pressure Coolant Approved

Insist on Roto-Shield™ Technology – Only Available on Royal Live Centers

Check out the Royal Live Center Video at www.livecenters.com

WHAT MAKES ROYAL LIVE CENTERS THE MOST RIGID?



Royal Center **Competitor Center**

One of the most common misconceptions regarding live centers relates to the internal length of the rotating point.

Some manufacturers believe that a long, thin point provides more rigidity than a short, thick point. But in fact, the opposite is true.

In order to verify that Royal's short, thick point provides superior rigidity over a long, thin point, we built the test fixture pictured above.

Here's how it works:

– Both live centers have holes drilled in their shanks corresponding to the indicator locations.

– As radial force is applied evenly to the point tips by turning a centrally-located screw, the indicators are able to measure the internal deflection of each point.

– Almost immediately upon application of the load, the indicators show that the competitor's point flexes 600% more than the Royal point!

Point Analysis of 4MT Spindle Type Live Centers



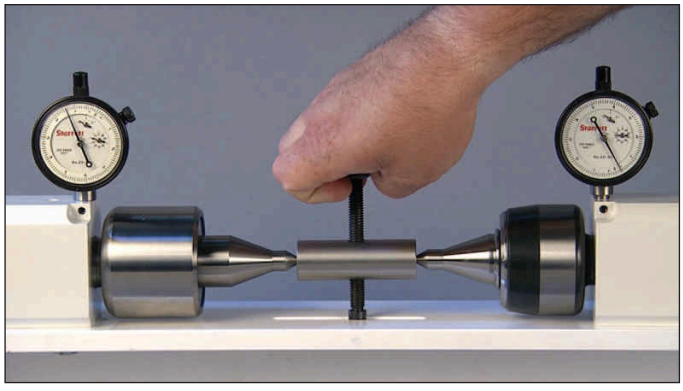
Royal Point Other Brand Point

D1 = Diameter of Royal Point = .603"
D2 = Diameter of Other Brand Point = .465"

Cross-Sectional Area of Royal Point = .285 sq. in.
Cross-Sectional Area of Other Brand Point = .170 sq. in.

The cross-sectional area of the point on the Royal Center is 68% larger than that of the other brand, making the Royal point much more rigid and less likely to deflect under load.

Royal's thick, beefy point offers superior rigidity, resulting in tighter part tolerances and chatter-free surface-finishes.



See the test in action at www.livecenters.com

One Size Does Not Fit All –
So We Turned Special Centers Into Standards!

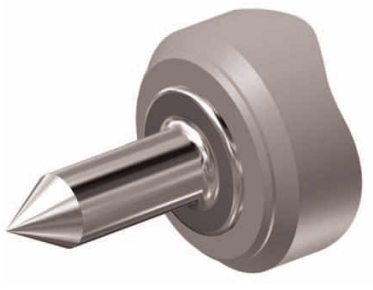
One of Royal's strengths as a leading live center manufacturer is our ability to design and build custom centers to address non-standard applications. However, there are two major drawbacks that are almost always associated with custom-made centers: longer lead times and higher prices.

As an ISO company dedicated to continuous improvement, we decided to see if it might be possible to categorize special centers according to their similarities, and then offer a few new standard models that could handle most jobs.

Our engineers analyzed the prints of hundreds of special centers that we had manufactured over several years, and the results were shocking – over 90% of our customers' special needs could be covered with just five new point styles. These are:



Full-diameter long point for shaft work and parts with large center holes.



A reduced-diameter long point for use when greater clearance is needed.



A small bull-nose point for use with tubes or parts with large center holes.



A female point with a 90° included angle for locating on O.D. part chamfers.



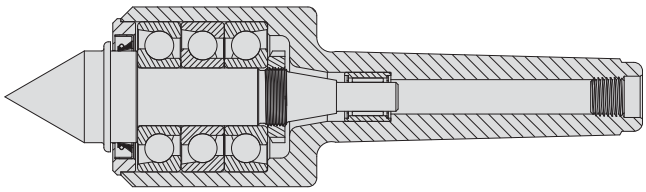
A male point with a 90° included angle for locating on internal part chamfers.



See pages 124-125 for ordering information

Royal maintains a full inventory of each model to ensure same-day delivery, and because we manufacture them in quantity, they are very aggressively-priced.

ROYAL OFF-THE-SHELF "SPECIALS"



Deciding which live center model to use as a platform for Royal's new off-the-shelf "special" program was easy. We chose the High-Precision Quad-Bearing model for the following reasons:

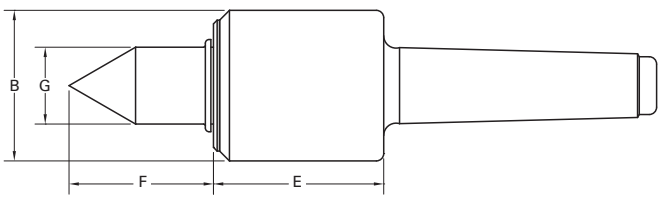
1- Very Rigid Bearing Arrangement
2- Exclusive Roto-Shield™ Technology
3- Low-Profile Head

All Models In Stock for Immediate Delivery



EXCLUSIVE ROYAL ROTO-SHIELD™ TECHNOLOGY

High-Pressure Coolant Approved

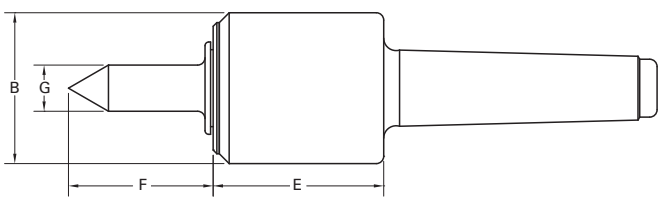




Proudly Made in U.S.A.

Royal High-Precision Quad-Bearing Live Centers – Full Diameter Long Point

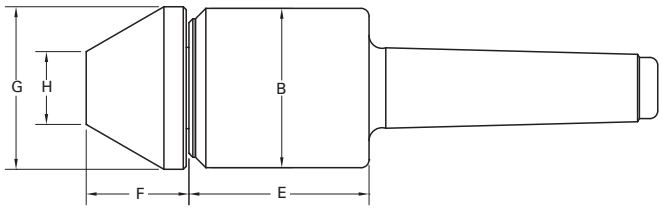
TAPER	B	E	F	G	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.70	2.12	1.75	0.88	6,000	465	1,270	10478	**$1,295**
3 MT	1.70	2.12	1.75	0.88	6,000	465	1,270	10479	**1,295**
4 MT	2.45	2.78	2.35	1.25	5,000	1,230	2,150	10480	**1,610**
5 MT	2.45	2.78	2.35	1.25	5,000	1,230	2,150	10481	**1,685**



Royal High-Precision Quad-Bearing Live Centers – Small Diameter Long Point

TAPER	B	E	F	G	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.70	2.12	1.75	0.50	6,000	350	1,270	10482	**$1,295**
3 MT	1.70	2.12	1.75	0.50	6,000	350	1,270	10483	**1,295**
4 MT	2.45	2.78	2.35	0.75	5,000	925	2,150	10484	**1,610**
5 MT	2.45	2.78	2.35	0.75	5,000	925	2,150	10485	**1,685**

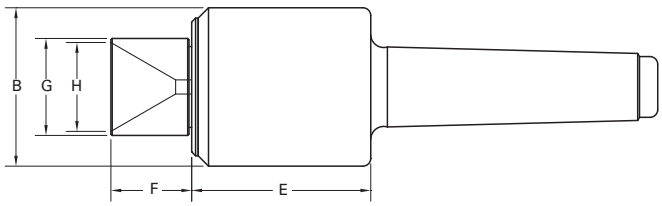
* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.



Proudly Made in U.S.A.

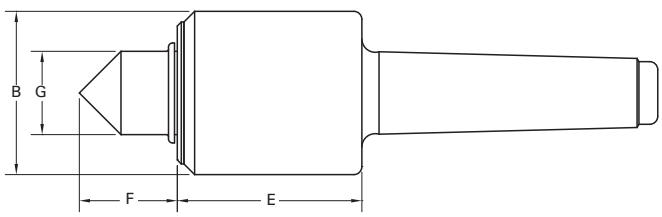
Royal High-Precision Quad-Bearing Live Centers – Bull Nose Point

TAPER	B	E	F	G	H	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.70	2.12	1.25	1.75	0.75	6,000	750	1,270	10490	**$1,330**
3 MT	1.70	2.12	1.25	1.75	0.75	6,000	750	1,270	10491	**1,330**
4 MT	2.45	2.78	1.58	2.50	1.12	5,000	1,905	2,150	10492	**1,685**
5 MT	2.45	2.78	1.58	2.50	1.12	5,000	1,905	2,150	10493	**1,785**



Royal High-Precision Quad-Bearing Live Centers – 90° Female Point

TAPER	B	E	F	G	H	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.70	2.12	1.00	1.12	0.15–1.00	6,000	885	1,270	10494	**$1,295**
3 MT	1.70	2.12	1.00	1.12	0.15–1.00	6,000	885	1,270	10495	**1,295**
4 MT	2.45	2.78	1.25	1.50	0.21–1.38	5,000	2,240	2,150	10496	**1,610**
5 MT	2.45	2.78	1.25	1.50	0.21–1.38	5,000	2,240	2,150	10497	**1,685**

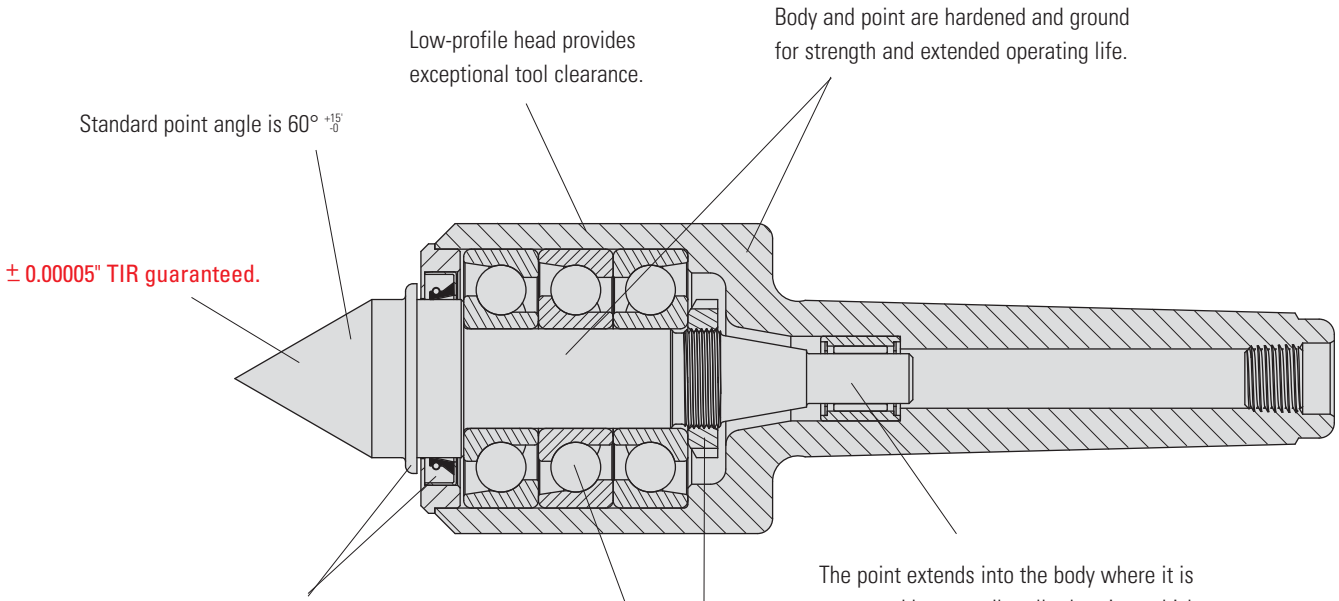


Royal High-Precision Quad-Bearing Live Centers – 90° Male Point

TAPER	B	E	F	G	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.70	2.12	1.07	0.88	6,000	885	1,270	10486	**$1,285**
3 MT	1.70	2.12	1.07	0.88	6,000	885	1,270	10487	**1,285**
4 MT	2.45	2.78	1.47	1.25	5,000	2,240	2,150	10488	**1,595**
5 MT	2.45	2.78	1.47	1.25	5,000	2,240	2,150	10489	**1,685**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

ROYAL HIGH-PRECISION QUAD-BEARING LIVE CENTERS



Proudly Made in U.S.A.

- An excellent choice for precision turning, grinding, and hard-turning.
- Precision, preloaded bearing assembly provides exceptional rigidity and accuracy.
- Low-profile head offers superior tool clearance.
- Exclusive Roto-Shield™ coolant slinger and upgraded seal provide outstanding bearing protection for extended operating life.
- Body and point are hardened and ground for strength and long life.

Check out the Royal Live Center Video at www.livecenters.com

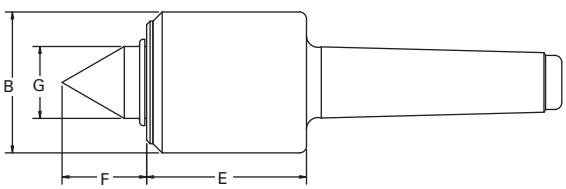
ROYAL HIGH-PRECISION QUAD-BEARING LIVE CENTERS



EXCLUSIVE ROYAL ROTO-SHIELD™ TECHNOLOGY

Proudly Made in U.S.A.





High-Pressure Coolant Approved

Royal High-Precision Quad-Bearing Live Centers - Standard Point

TAPER	B	E	F	G	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.70	2.12	1.07	0.88	6,000	885	1,270	10412	**$1,180**
3 MT	1.70	2.12	1.07	0.88	6,000	885	1,270	10413	**1,180**
4 MT	2.45	2.78	1.47	1.25	5,000	2,240	2,150	10414	**1,395**
5 MT	2.45	2.78	1.47	1.25	5,000	2,240	2,150	10415	**1,475**
5 MT HD	3.82	3.89	2.31	2.00	3,000	5,240	5,300	10445	**2,950**
6 MT HD	3.82	3.89	2.31	2.00	3,000	5,240	5,300	10446	**3,620**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

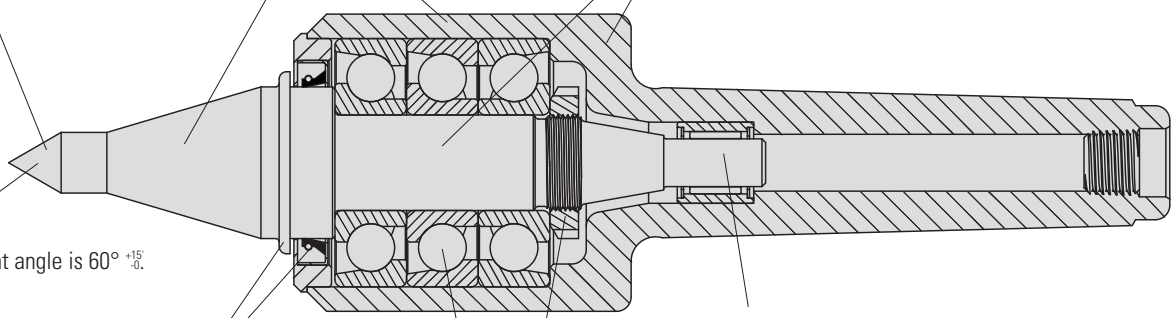
Insist on Roto-Shield™ Technology – Only Available on Royal Live Centers

ROYAL HIGH-PRECISION CNC QUAD-BEARING LIVE CENTERS

Low-profile head and extended point provide exceptional tool clearance.

Body and point are hardened and ground for strength and extended operating life.

± 0.00005" TIR guaranteed.



Standard point angle is 60° $^{+15'}_{-0.}$

The point extends into the body where it is supported by a needle roller bearing, which further increases rigidity, reduces point deflection, and dampens vibration.

Bearing life is significantly extended with the exclusive Royal Roto-Shield™ coolant slinger and a long-life, spring-loaded seal that is resistant to abrasion, high temperatures, and virtually all metalworking fluids.

Three precision angular-contact bearings are secured to the point with a locknut to form a rigid, preloaded assembly. This design is similar to a machine tool spindle cartridge and provides outstanding accuracy and rigidity.

Proudly Made in U.S.A.

- An excellent choice for precision turning, grinding, and hard-turning.
- Precision, preloaded bearing assembly provides exceptional rigidity and accuracy.
- Low-profile head and extended point combine to offer superior tool clearance.
- Exclusive Roto-Shield™ coolant slinger and upgraded seal provide outstanding bearing protection for extended operating life.
- Body and point are hardened and ground for strength and long life.

Check out the Royal Live Center Video at www.livecenters.com

ROYAL HIGH-PRECISION CNC QUAD-BEARING LIVE CENTERS



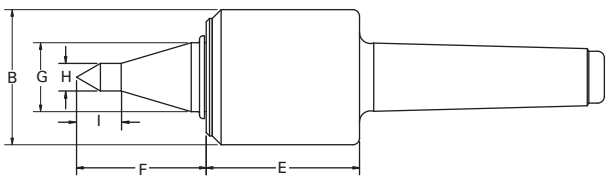


EXCLUSIVE ROYAL ROTO-SHIELD™ TECHNOLOGY



Proudly Made in U.S.A.





High-Pressure Coolant Approved

Royal High-Precision Quad-Bearing Live Centers – CNC Point

TAPER	B	E	F	G	H	I	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.70	2.12	1.75	0.88	0.38	0.63	6,000	465	1,270	10662	**$1,145**
3 MT	1.70	2.12	1.75	0.88	0.38	0.63	6,000	465	1,270	10663	**1,145**
4 MT	2.45	2.78	2.35	1.25	0.50	0.81	5,000	1,230	2,150	10664	**1,395**
5 MT	2.45	2.78	2.35	1.25	0.50	0.81	5,000	1,230	2,150	10665	**1,475**
5 MT HD	3.82	3.89	3.34	2.00	0.75	1.28	3,000	2,210	5,300	10475	**2,950**
6 MT HD	3.82	3.89	3.34	2.00	0.75	1.28	3,000	2,210	5,300	10476	**3,620**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

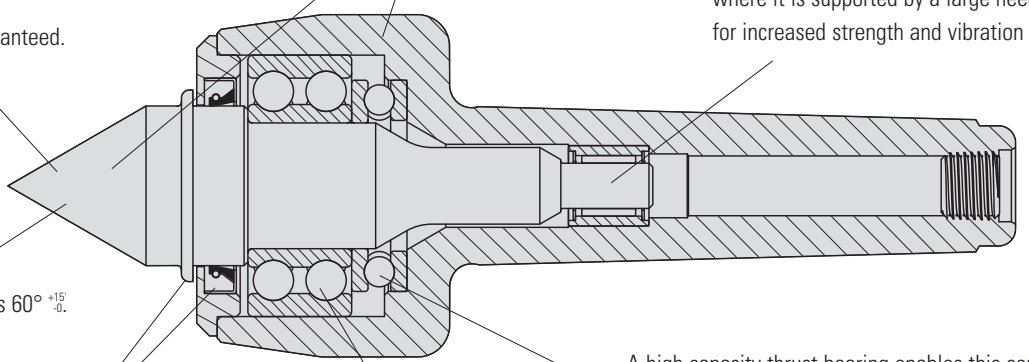
Insist on Roto-Shield™ Technology – Only Available on Royal Live Centers

ROYAL HEAVY-DUTY SPINDLE TYPE LIVE CENTERS

Body and point are hardened and ground for strength and durability.

The thick, rigid point extends into the shank where it is supported by a large needle bearing for increased strength and vibration damping.

± 0.00005" TIR guaranteed.



Standard point angle is 60° $^{+15'}_{-0.}$

A high capacity thrust bearing enables this center to handle extreme axial loads – one of the biggest potential causes of failure for any live center.

Bearing life is significantly extended with the exclusive Royal Roto-Shield™ coolant slinger and a long-life, spring-loaded seal that is resistant to abrasion, high temperatures, and virtually all metalworking fluids.

A precision, double-row angular-contact bearing provides high workpiece weight ratings for turning large, heavy parts. Smaller 2 & 3MT models are not typically used to support very large workpieces so they are instead equipped with a single-row bearing that turns more freely and allows for higher speeds.

Proudly Made in U.S.A.

- One of our most popular models – an excellent heavy-duty live center designed to handle almost all CNC and manual turning jobs.
- Heavy-duty precision bearings provide exceptional radial and thrust load capacities.
- The thick, rigid point extends into the shank where it is supported by a large needle bearing for increased strength and vibration damping.
- Exclusive Roto-Shield™ coolant slinger and upgraded seal provide outstanding bearing protection for extended operating life.
- Body and point are hardened and ground for accuracy and durability.

ROYAL HEAVY-DUTY SPINDLE TYPE LIVE CENTERS

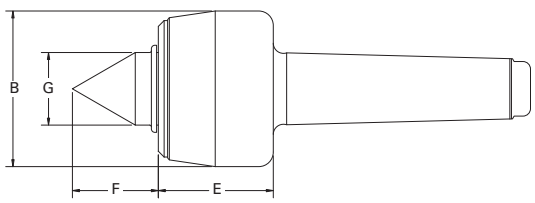


EXCLUSIVE ROYAL ROTO-SHIELD™ TECHNOLOGY

Proudly Made in U.S.A.



High-Pressure Coolant Approved



Royal Heavy-Duty Spindle Type Live Centers

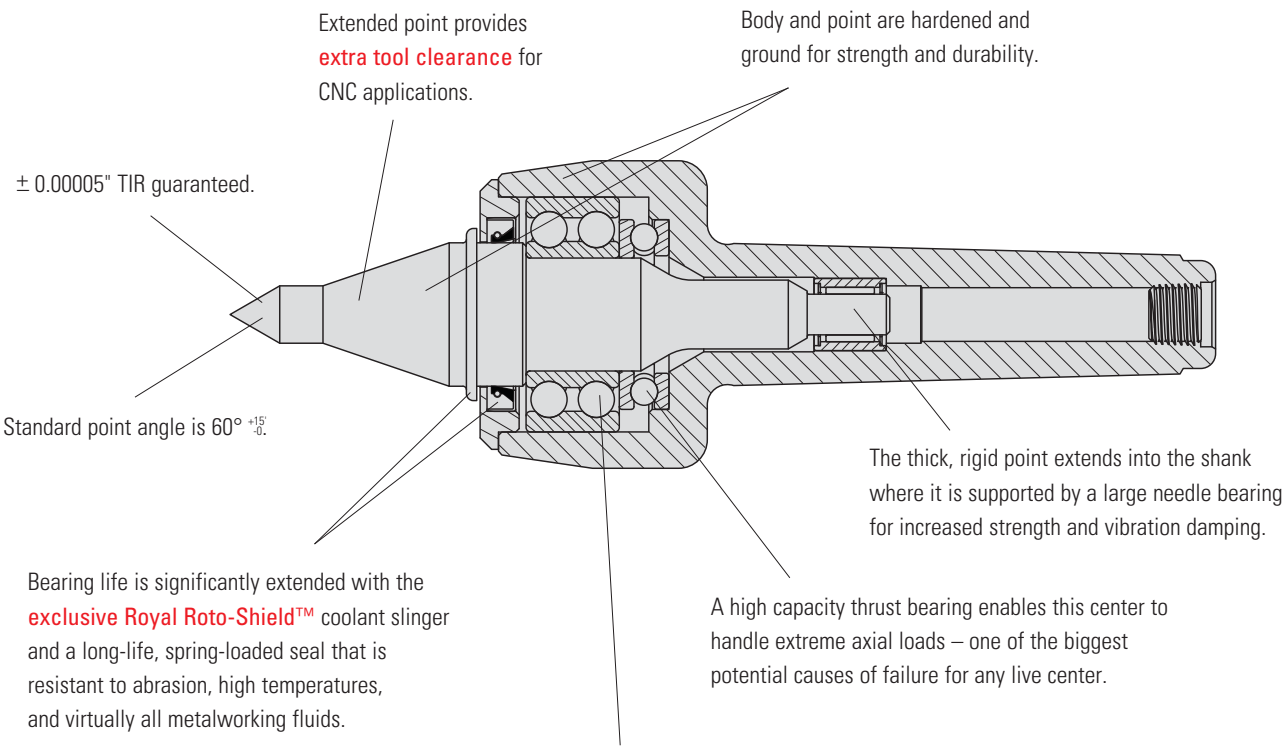
TAPER	B	E	F	G	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.75	1.47	1.01	0.88	6,000	725	2,360	10102	**$982**
3 MT	2.33	1.75	1.22	1.00	5,000	970	3,900	10103	**982**
4 MT	2.68	1.98	1.48	1.25	4,500	1,720	4,050	10104	**1,285**
5 MT	3.45	2.81	1.84	1.50	3,500	3,260	5,700	10105	**1,760**
6 MT	4.00	3.15	2.31	2.00	3,500	4,080	6,000	10106	**3,295**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

Insist on Roto-Shield™ Technology – Only Available on Royal Live Centers



ROYAL HEAVY-DUTY CNC SPINDLE TYPE LIVE CENTERS





- One of our most popular models – an excellent heavy-duty live center designed to handle almost all manual and CNC turning jobs.
- Heavy-duty precision bearings provide exceptional radial and thrust load capacities.
- The thick, rigid point extends into the shank where it is supported by a large needle bearing for increased strength and vibration damping.
- Exclusive Roto-Shield™ coolant slinger and upgraded seal provide outstanding bearing protection for extended operating life.
- Body and point are hardened and ground for accuracy and durability.

ROYAL HEAVY-DUTY CNC SPINDLE TYPE LIVE CENTERS





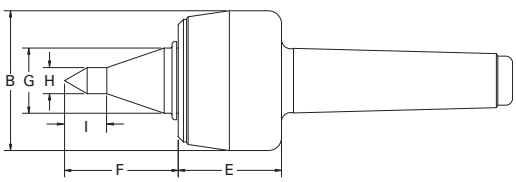
EXCLUSIVE ROYAL ROTO-SHIELD™ TECHNOLOGY



Proudly Made in U.S.A.



✓ High-Pressure Coolant Approved



Royal Heavy-Duty CNC Spindle Type Live Centers

TAPER	B	E	F	G	H	I	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	1.75	1.47	1.35	0.88	0.38	0.63	6,000	375	2,360	10212	**$1,035**
3 MT	2.33	1.75	1.86	1.00	0.38	0.63	5,000	740	3,900	10213	**1,035**
4 MT	2.68	1.98	2.18	1.25	0.50	0.81	4,500	1,120	4,050	10214	**1,315**
5 MT	3.45	2.81	2.58	1.50	0.50	0.81	3,500	1,930	5,700	10215	**1,760**
6 MT	4.00	3.15	3.00	2.00	0.75	1.28	3,500	2,420	6,000	10216	**3,395**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

Insist on Roto-Shield™ Technology – Only Available on Royal Live Centers



ROYAL HIGH-SPEED PRECISION LIVE CENTERS

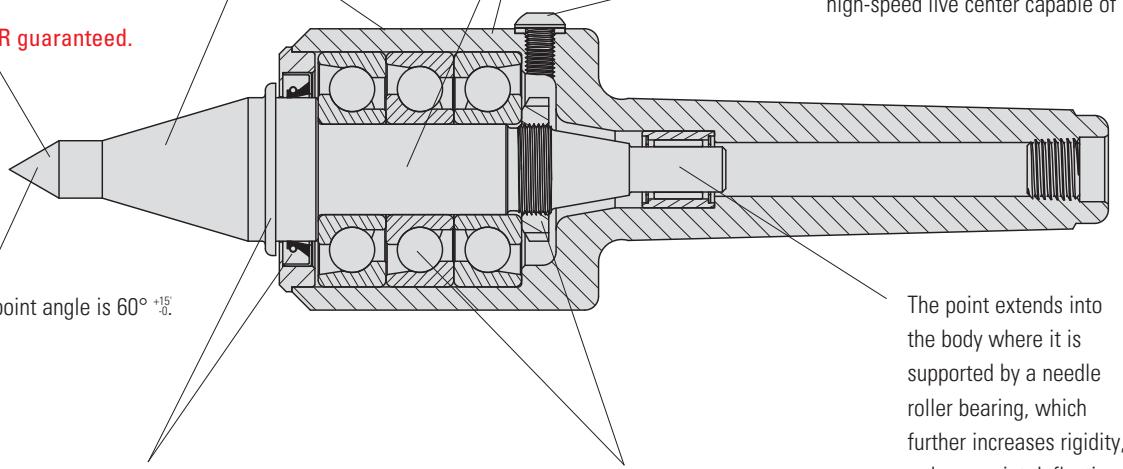
Up to 12,000 RPM!

Low-profile head and extended point provide exceptional tool clearance. Note – carbide-tipped point has a slightly different profile.

Body and point are hardened and ground for strength and extended operating life.

Lubricated with lightweight spindle oil instead of grease for **reduced turning resistance and lower operating temperatures.** A true high-speed live center capable of

± 0.00005" TIR guaranteed.



Standard point angle is 60° $^{+15'}_{-0.}$

The point extends into the body where it is supported by a needle roller bearing, which further increases rigidity, reduces point deflection, and dampens vibration.

Bearing life is significantly extended with the exclusive Royal Roto-Shield™ coolant slinger and a long-life, spring-loaded seal that is resistant to abrasion, high temperatures, and virtually all metalworking fluids.

Three precision angular-contact bearings are secured to the point with a locknut to form a rigid, preloaded assembly. This design is similar to a machine tool spindle cartridge and provides **outstanding accuracy and rigidity.**



Proudly Made in U.S.A.

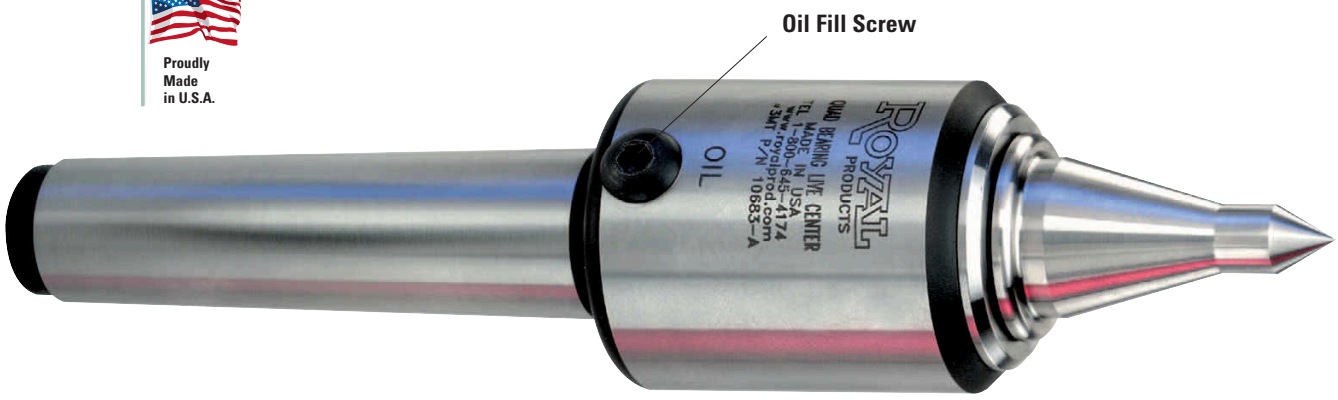
- A true high-speed live center – **up to 12,000 rpm.**
- Lubricated with lightweight spindle oil instead of grease for reduced turning resistance and lower operating temperatures.
- Precision, preloaded bearing assembly provides exceptional rigidity and accuracy.
- **Low-profile head** and extended point combine to offer superior tool clearance.
- Exclusive Roto-Shield™ coolant slinger and upgraded seal provide outstanding bearing protection for extended operating life.
- Body and point are hardened and ground for strength and long life.
- Available in both steel and carbide-tipped point models.

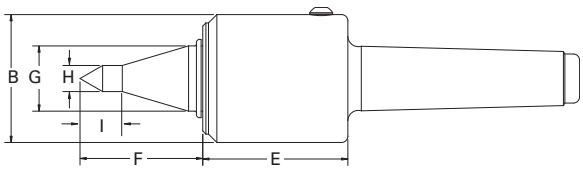
ROYAL HIGH-SPEED PRECISION LIVE CENTERS

Up to 12,000 RPM!



Proudly Made in U.S.A.



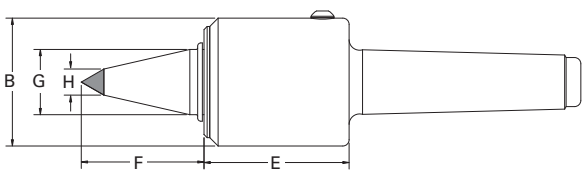




EXCLUSIVE ROYAL ROTO-SHIELD™ TECHNOLOGY

Royal High-Speed Precision Live Centers (Steel-Tipped)

TAPER	B	E	F	G	H	I	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
3 MT	1.70	2.12	1.75	0.88	0.38	0.63	12,000	180	650	10683	**$1,525**
4 MT	2.45	2.78	2.35	1.25	0.50	0.81	12,000	525	1,380	10684	**1,815**
5 MT	2.45	2.78	2.35	1.25	0.50	0.81	12,000	525	1,380	10685	**1,880**



High-Pressure Coolant Approved

Royal High-Speed Precision Live Centers (Carbide-Tipped)

TAPER	B	E	F	G	H	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
3 MT	1.70	2.12	1.75	0.88	0.38	12,000	180	650	10693	**$1,695**
4 MT	2.45	2.78	2.35	1.25	0.50	12,000	525	1,380	10694	**2,070**
5 MT	2.45	2.78	2.35	1.25	0.50	12,000	525	1,380	10695	**2,140**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

Insist on Roto-Shield™ Technology – Only Available on Royal Live Centers



ROYAL ULTIMATE™ MULTI-TASKING LIVE CENTER



Bearing life is significantly extended with the exclusive Royal Roto-Shield™ coolant slinger and a long-life, spring-loaded seal that is resistant to abrasion, high temperatures, and virtually all metalworking fluids.

Bellville disk springs allow the point to slide axially while ensuring that it remains seated in the workpiece center hole.

A large needle bearing supports the rear end of the point carrier for increased strength and vibration damping.

Spring-Loaded Point for Lower Turret and Sub-Spindle Applications

- Designed specifically for use on the latest multi-tasking CNC machines with lower turrets and/or sub-spindles.
- Spring-loaded point overcomes the lack of hydraulic compensation found on tailstocks, protecting lower turrets and sub-spindles from overloading and/or crashes.
- Much longer operating life than other spring-type live centers due to the outstanding sealing characteristics of the exclusive Royal Roto-Shield™ coupled with a long-life spring-loaded neoprene seal.
- Heavy-duty bearing configuration and optimized spring-pak make the Royal Ultimate™ the perfect choice for all multi-tasking machines.



Spring-Loaded Point for Lower Turret and Sub-Spindle Applications





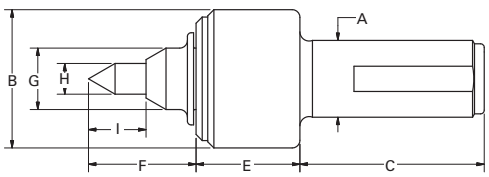
Proudly Made in U.S.A.

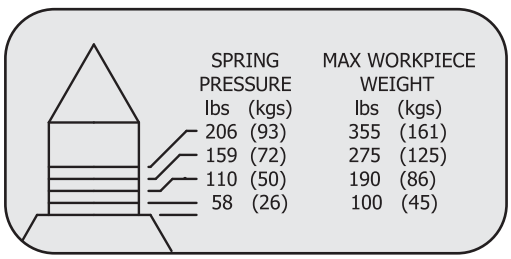
High-Pressure Coolant Approved



EXCLUSIVE ROYAL ROTO-SHIELD™ TECHNOLOGY

A graphical representation laser-marked onto the body of each Ultimate™ Multi-Tasking Live Center takes the guesswork out of the setup process by clearly identifying optimal working parameters.





The Royal Ultimate™ Multi-Tasking Live Center

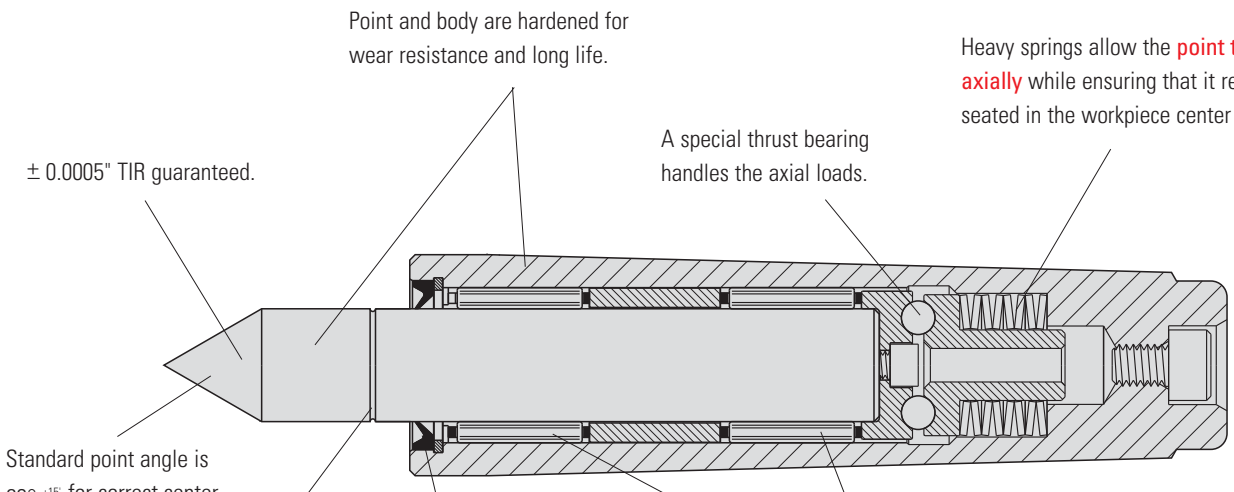
A SHANK STYLE	B	C	E	F	G	H	I	SPRING TRAVEL	MAX. SUGGESTED RPM[1]	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)[2]	PART NUMBER	PRICE
1¼ SS	2.25	3.00	1.69	1.75	1.00	0.50	0.94	0.25	5,000	350	200	10590	**$1,960**

[1] Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

[2] Exceeding this value will bottom-out springs.

Insist on Roto-Shield™ Technology – Only Available on Royal Live Centers

ROYAL SPRING TYPE LIVE CENTERS



Proudly Made in U.S.A.

- Unique spring-loaded point compensates for workpiece thermal expansion.
- Low-profile design provides outstanding tool clearance.
- Available with standard and extended points.
- Can be used in the turret of sub-spindle machines to overcome a lack of hydraulic compensation.

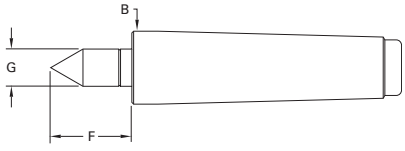
Check out the Royal Live Center Video at www.livecenters.com

ROYAL SPRING TYPE LIVE CENTERS









Royal Spring Type Live Centers — Standard Point

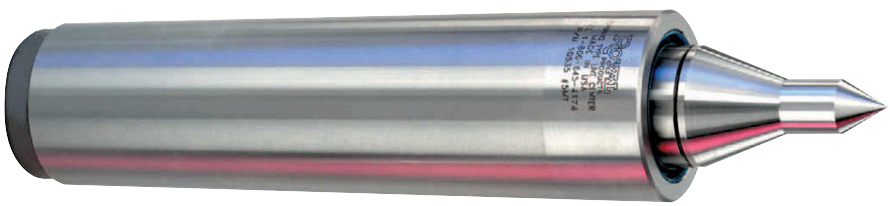
TAPER	B	F	G	SPRING TRAVEL	MAX. SUGGESTED RPM[1]	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)[2]	PART NUMBER	PRICE
2 MT	0.700	0.88	0.39	0.11	5,000	540	150	10522	**$1,135**
3 MT	0.938	1.16	0.55	0.14	5,000	940	315	10523	**1,135**
4 MT	1.231	1.38	0.63	0.18	4,500	1,400	435	10524	**1,355**
5 MT	1.748	2.00	1.10	0.19	4,500	2,340	785	10525	**1,990**

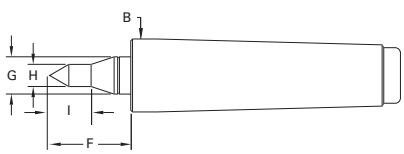
Straight Shank Models

1" Dia.	1.00	1.16	0.55	0.14	5,000	940	315	10526	**$1,135**
1¼" Dia.	1.25	1.38	0.63	0.18	4,500	1,400	435	10527	**1,355**

[1] Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

[2] Exceeding this value will bottom-out springs.





Royal Spring Type Live Centers — CNC Point

TAPER	B	F	G	H	I	SPRING TRAVEL	MAX. SUGGESTED RPM[1]	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)[2]	PART NUMBER	PRICE
2 MT	0.700	0.88	0.39	0.19	0.35	0.11	5,000	150	150	10532	**$1,195**
3 MT	0.938	1.16	0.55	0.25	0.47	0.14	5,000	260	315	10533	**1,195**
4 MT	1.231	1.38	0.63	0.38	0.70	0.18	4,500	580	435	10534	**1,430**
5 MT	1.748	2.00	1.10	0.50	0.93	0.19	4,500	1,050	785	10535	**1,990**

[1] Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

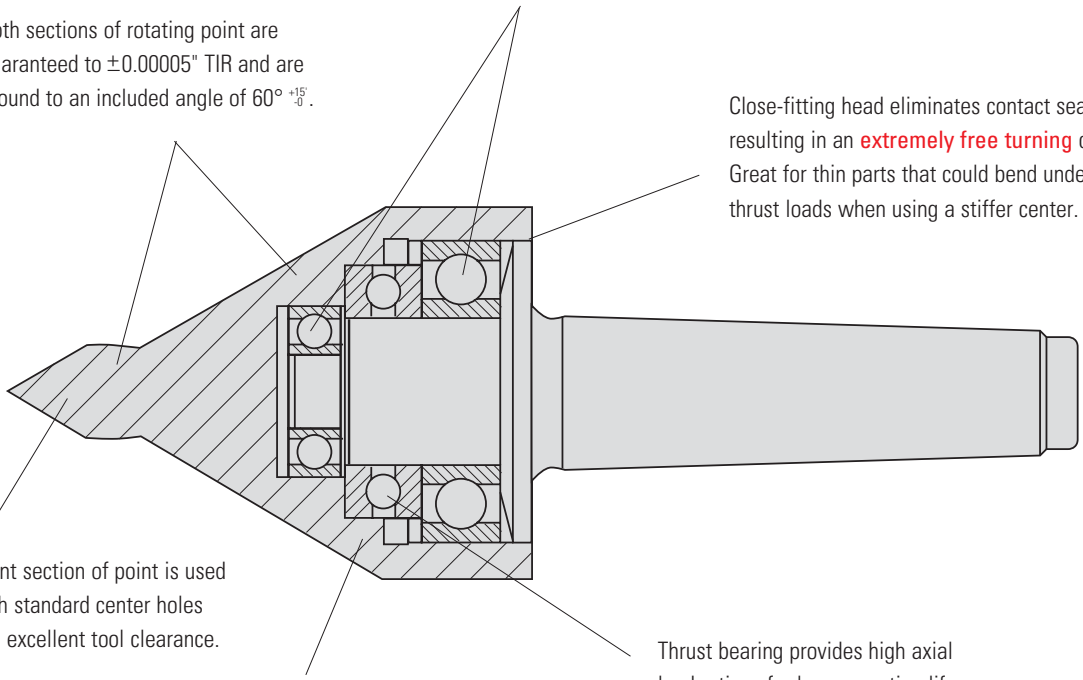
[2] Exceeding this value will bottom-out springs.

ROYAL VERSA-TURN LIVE CENTERS

Two precision radial ball bearings give the Versa-Turn high RPM ratings.

Both sections of rotating point are guaranteed to ±0.00005" TIR and are ground to an included angle of 60° $^{+15'}_{-0}$.

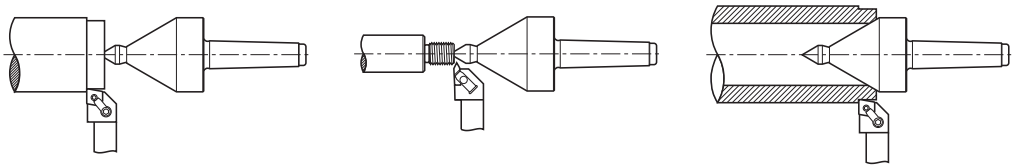
Close-fitting head eliminates contact seal, resulting in an extremely free turning center. Great for thin parts that could bend under high thrust loads when using a stiffer center.



Extended front section of point is used for parts with standard center holes and provides excellent tool clearance.

Thrust bearing provides high axial load ratings for long operating life.

Rear bull-head section of point is great for tubes and parts with large center holes.



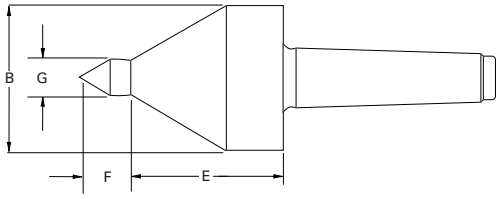
Proudly Made in U.S.A.

- An excellent multi-purpose live center designed to handle most common turning jobs.
- The Royal Versa-Turn™ is extremely free turning, making it an ideal choice for thin parts that could bend when subjected to high thrust loads.
- The unique design is really two centers in one, providing great value for cost-conscious manufacturers.

ROYAL VERSA-TURN LIVE CENTERS

Proudly Made in U.S.A.





Extremely Free Turning – Great for Thin Parts

Royal Versa-Turn Live Centers

TAPER	B	E	F	G	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
3 MT	2.13	2.22	0.74	0.50	5,000	330	2,160	10832	**$809**
3 MT HD	2.50	2.60	0.93	0.63	4,000	685	5,000	10833	**912**
4 MT	2.50	2.60	0.93	0.63	4,000	685	5,000	10834	**938**
4 MT HD	3.38	3.15	1.12	0.75	3,500	1,165	5,700	10835	**1,280**
5 MT	3.38	3.15	1.12	0.75	3,500	1,165	5,700	10836	**1,340**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.



ROYAL "OIL COUNTRY" BIG-BORE BULL HEAD LIVE CENTERS

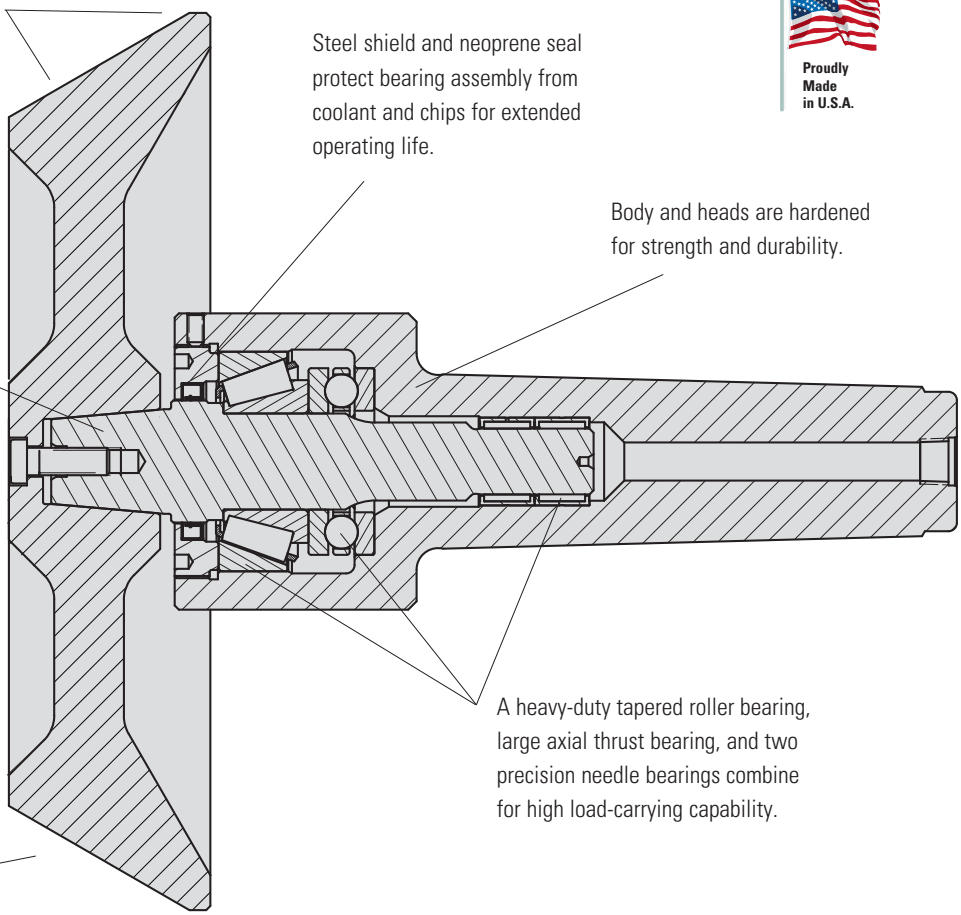
The major and minor diameters of each head extend above and below nominal sizing – enabling each head to cover a wider range of workpieces.

Steel shield and neoprene seal protect bearing assembly from coolant and chips for extended operating life.

Proudly Made in U.S.A.

Body and heads are hardened for strength and durability.

Large capacity modular heads securely locate on a precision tapered shaft for maximum accuracy and rigidity.



± 0.00025" TIR guaranteed.

A heavy-duty tapered roller bearing, large axial thrust bearing, and two precision needle bearings combine for high load-carrying capability.

Head angle is 60° $^{+15'}_{-0}$ for proper part engagement.

- Designed specifically for machining large diameter pipes for the oil and gas industry, but suitable for all large-bore applications.
- In contrast to standard bull head live centers, the modular head design of Royal "Oil Country" Big-Bore centers positions the workpiece closer to the bearing assembly for greater rigidity and longer operating life.
- Interchangeable heads are relieved to achieve the optimal strength/mass ratio, and are sized to cover a wider range of bore sizes with fewer models.
- Bearing configuration consisting of a heavy-duty tapered roller bearing, a large axial thrust bearing, and two precision needle bearings provides exceptional accuracy and rigidity under the most demanding production conditions.

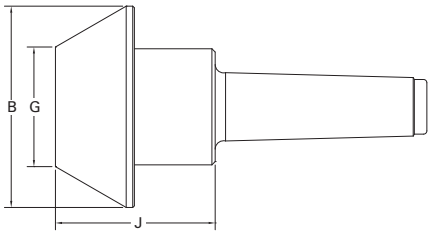
ROYAL "OIL COUNTRY" BIG-BORE BULL HEAD LIVE CENTERS



Specifications

TAPER	HEAD PART NUMBER	B	G	J	MAX SUGGESTED RPM*	WEIGHT OF WORKPIECE (LBS.)	THRUST LOAD (LBS.)
5 MT	10791	4.62	1.63	5.31	2,050	4,500	2,650
5 MT	10792	7.37	4.38	4.59	1,300	4,500	2,650
5 MT	10793	10.12	7.13	4.59	950	4,500	2,650
5 MT	10794	12.87	9.88	4.59	750	4,500	2,650
5 MT	10795	15.62	12.63	4.59	600	4,500	2,650

TAPER	HEAD PART NUMBER	B	G	J	MAX SUGGESTED RPM*	WEIGHT OF WORKPIECE (LBS.)	THRUST LOAD (LBS.)
6 MT	10791	4.62	1.63	6.57	2,050	11,000	3,500
6 MT	10792	7.37	4.38	5.85	1,300	11,000	3,500
6 MT	10793	10.12	7.13	5.85	950	11,000	3,500
6 MT	10794	12.87	9.88	5.85	750	11,000	3,500
6 MT	10795	15.62	12.63	5.85	600	11,000	3,500





Proudly Made in U.S.A.



Royal "Oil Country" Big-Bore Bull Head Live Centers

TAPER	PART NUMBER	PRICE*
5 MT	10782	**$2,290**
6 MT	10784	**3,350**

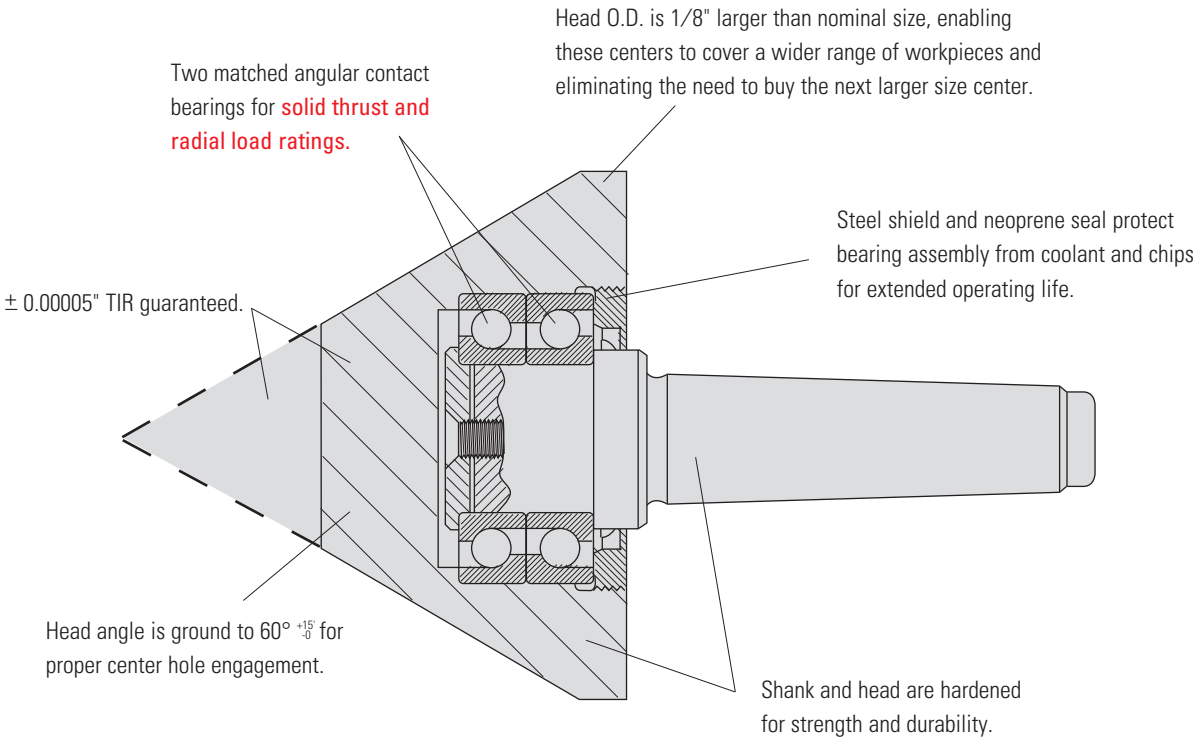
* Head not included. Order Separately.

Modular Heads for Royal "Oil Country" Big-Bore Bull Head Live Centers

HEAD MODEL	B	G	HEAD WEIGHT (LBS.)	PART NUMBER	PRICE
A	4.62	1.63	7	10791	**$1,160**
B	7.37	4.38	18	10792	**1,810**
C	10.12	7.13	33	10793	**2,795**
D	12.87	9.88	51	10794	**3,995**
E	15.62	12.63	65	10795	**6,960**

"Oil Country" Big-Bore Bull Head Dead Centers Also Available – See Page 149

ROYAL STANDARD PIPE & BULL HEAD LIVE CENTERS



Proudly Made in U.S.A.

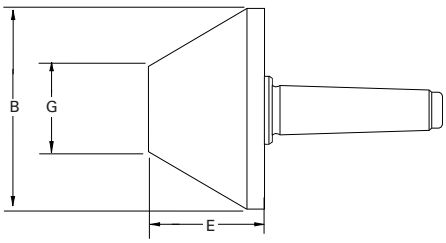
- Designed for turning pipes, tubes, and parts with extra-large center holes.
- Two matched angular contact bearings provide good thrust and radial load ratings.
- Head diameter is 1/8" over nominal size, enabling these centers to cover a wider range of workpieces.
- Bull Head design is shorter than a pipe head, reducing potential interference in blind center hole applications and ensuring that the load is positioned over the bearings for optimum strength.
- Extra large capacity models also available – see previous page.

ROYAL STANDARD PIPE & BULL HEAD LIVE CENTERS





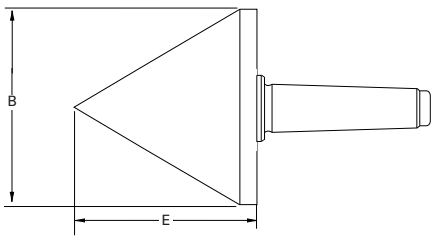
Proudly Made in U.S.A.



Royal Standard Bull Head Live Centers

TAPER	B	E	G	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
3 MT	3.15	2.52	1.00	5,000	615	1,780	10902	**$1,495**
4 MT	4.15	3.01	1.25	4,500	860	2,550	10904	**1,880**
5 MT	4.15	3.01	1.25	4,500	860	2,550	10905	**1,880**
5 MT	5.15	3.17	2.00	4,000	1,145	3,450	10907	**2,320**
5 MT	6.15	3.60	2.50	3,500	1,450	4,500	10909	**3,225**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.



Royal Standard Pipe Head Live Centers

TAPER	B	E	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
3 MT	3.15	3.39	5,000	475	1,780	10702	**$1,570**
4 MT	4.15	4.10	4,500	630	2,550	10704	**1,785**
5 MT	4.15	4.10	4,500	630	2,550	10705	**1,785**

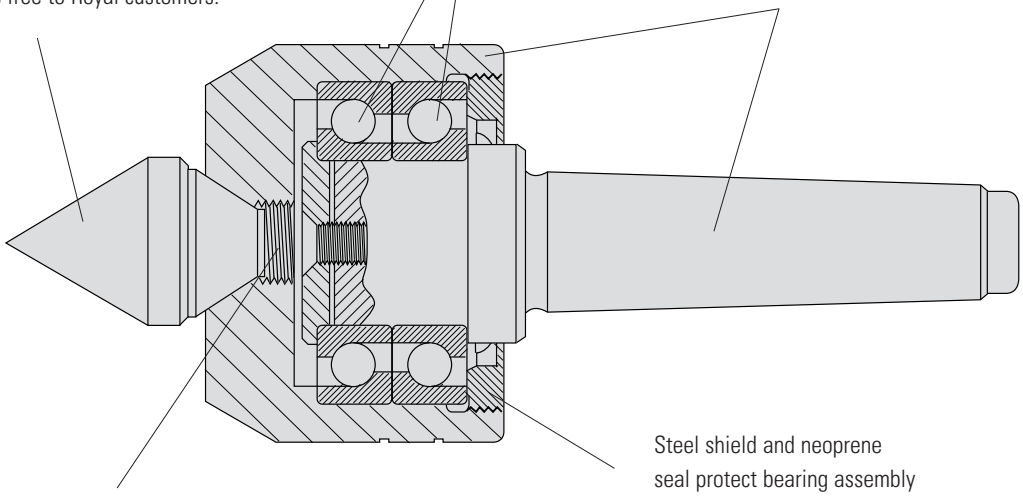
* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.

ROYAL CHANGEABLE-POINT LIVE CENTERS

*Accuracy is guaranteed to be ± 0.00005" TIR as long as the points are installed on the live center to which they have been match-ground. When a customer purchases a new point, we recommend sending the live center back to our factory so we can grind the new point to it. This service is free to Royal customers.

Two precision angular contact bearings help achieve good rpm and load ratings.

Shank, head, and points (except #4 blank point), are hardened for wear resistance and long life.



Precision ground tapers and single-lead threads ensure that points consistently seat in the same location when they are interchanged, providing maximum accuracy.

Steel shield and neoprene seal protect bearing assembly from coolant and chips for extended operating life.

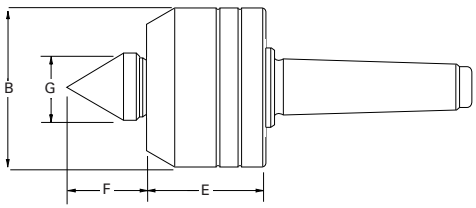
Proudly Made in U.S.A.

- This versatile live center uses interchangeable points to handle many common turning jobs.
- Each center includes a #3 standard 60° male point. Other points sold separately.
- ± 0.00005" TIR guaranteed.*
- Unique taper/thread design allows points to be easily interchanged and ensures accuracy.

Check out the Royal Live Center Video at www.livecenters.com

ROYAL CHANGEABLE-POINT LIVE CENTERS







Royal Changeable-Point Live Centers

TAPER	B	E	F	G	POINT THREADS	MAX. SUGGESTED RPM*	WEIGHT OF WORKPIECE (lbs.)	THRUST LOAD (lbs.)	PART NUMBER	PRICE
2 MT	2.00	1.85	1.13	0.88	5/8" – 18	6,000	390	960	10002	**$1,245**
3 MT	2.38	2.07	1.25	1.00	5/8" – 18	5,000	500	1,140	10003	**1,360**
4 MT	3.50	2.64	1.79	1.50	3/4" – 16	3,500	1,070	1,810	10004	**2,040**
5 MT	3.50	2.64	1.79	1.50	3/4" – 16	3,500	1,070	1,810	10005	**2,180**

* Maximum recommended operating limit. Operating above this speed could result in heat build-up and accelerated bearing wear.



1



2



3



4



5

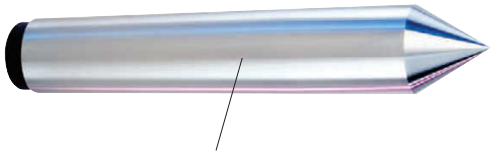
1. Pipe point for pipe and tubing work.
2. Extra-long male point for additional tool clearance.
3. Standard male point.
4. Blank point made of unhardened 4140 steel.
5. Female point for work not having a center-hole.

Individual Points for Changeable-Point Live Centers

	2 MT				3 MT				4 & 5 MT			
POINT	DIA.	"F" DIM.	PART NUMBER	PRICE	DIA.	"F" DIM.	PART NUMBER	PRICE	DIA.	"F" DIM.	PART NUMBER	PRICE
1	0.75–2.12	1.67	10061	**$632**	0.88–2.38	1.75	10071	**$511**	1.38–3.50	2.38	10091	**$797**
2	0.88	1.66	10062	**440**	1.00	1.88	10072	**439**	1.38	2.34	10082	**549**
3	0.88	1.13	10063	**408**	1.00	1.25	10073	**424**	1.50	1.79	10083	**435**
4	0.88	1.13	10064	**252**	1.00	1.25	10074	**199**	1.38	1.66	10084	**277**
5	0.19–0.91	0.92	10065	**398**	0.25–1.06	1.15	10075	**534**	0.25–1.38	1.28	10085	**499**

ROYAL DEAD CENTERS

- Dead centers are typically used for grinding and are also sometimes used in high-precision turning applications.
- Royal manufactures a wide range of standard dead centers to suit most applications, including: full, half, carbide-tipped, and extended-point models.
- All solid dead centers are made from ball bearing steel and are hardened to Rc 61-63 for wear resistance and durability.
- On carbide-tipped models, the carbide blank is brazed into a close-tolerance socket for maximum strength and rigidity.
- All Royal dead centers are ground to an angle of 60° $^{+15'}_{-0}$ and guaranteed to ±0.00005" TIR.



Type 1
Standard Dead Center
add "1" to part number below.

Ball bearing steel hardened and ground to Rc 61-63 for long life.



Type 2
Standard Dead Center with carbide tip
add "2" to part number below.

Carbide blank is brazed into a close-tolerance socket for maximum strength and rigidity.



Type 3
1/2 Dead Center
add "3" to part number below.
Note – Type 3 models are being phased out. Please call for availability.

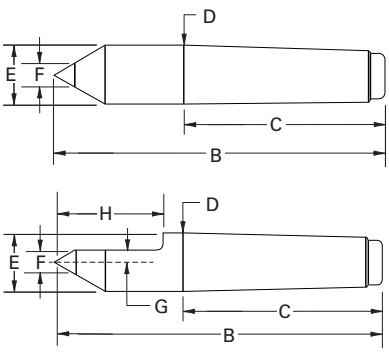
Half centers are relieved for grinding wheel clearance.



Type 4
1/2 Dead Center with carbide tip
add "4" to part number below.

A safety groove shows the maximum allowable regrind range for carbide-tipped models.

Proudly Made in U.S.A.



Royal Dead Centers

Example: A 2 MT dead center with a carbide tip is PART NUMBER 11012.

TAPER A	B	C	D	E	F	G	H	PART NUMBER	PRICE TYPE 1	TYPE 2	TYPE 3	TYPE 4
2 MT	4.19	2.56	.700	0.700	0.38	0.19	1.38	1101-	**$237**	**$315**	**CALL**	**$367**
3 MT	5.25	3.19	.938	0.938	0.50	0.22	1.69	1102-	**367**	**427**	**CALL**	**482**
4 MT	6.75	4.06	1.231	1.231	0.50	0.25	2.25	1103-	**527**	**558**	**CALL**	**615**
5 MT	8.50	5.19	1.748	1.748	0.63	0.38	2.75	1104-	**781**	**868**	**CALL**	**913**

ROYAL "OIL COUNTRY" BULL HEAD DEAD CENTERS



- Designed for turning large tubes and pipes on lathes with live tailstocks.
- Can also be used in large-diameter grinding applications.
- Interchangeable heads (sold separately) offer maximum versatility.
- ±0.0002" TIR guaranteed.
- Extraction nut (included) allows for easy removal from tailstock.
- Special extended models offered for Mazak** lathes.



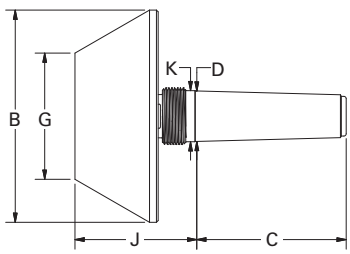
Modular Heads for Royal "Oil Country" Bull Head Dead Center

HEAD MODEL	B	G	HEAD WEIGHT (lbs.)	PART NUMBER	PRICE
A	4.62	1.63	7	10791	**$1,160**
B	7.37	4.38	18	10792	**1,810**
C	10.12	7.13	33	10793	**2,795**
D	12.87	9.88	51	10794	**3,995**
E	15.62	12.63	65	10795	**6,960**



Royal "Oil Country" Bull Head Dead Center Shanks*

TAPER	MODEL	C	D	K	J WITH HEAD A	J WITH HEADS B–E	THREAD	PART NUMBER	PRICE
4 MT	Standard	4.06	1.231	N/A	4.63	3.91	M42 x 1.5	11576*	**$834**
4 MT	Mazak**	4.06	1.231	1.260	4.85	4.13	M42 x 1.5	11577*	**834**
5 MT	Standard	5.19	1.748	N/A	4.63	3.91	M50 x 1.5	11578*	**916**
5 MT	Mazak**	5.19	1.748	1.772	5.06	4.34	M50 x 1.5	11579*	**916**
6 MT	Standard	7.25	2.494	N/A	4.69	3.97	M70 x 2	11580*	**1,770**
6 MT	Mazak**	7.25	2.494	2.500	5.29	4.57	M70 x 2	11581*	**1,770**



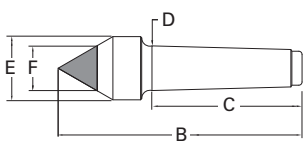
* Head not included – order separately

** Mazak is a registered trademark of Yamazaki Mazak Corporation

OVERSIZED CARBIDE POINT DEAD CENTERS







- Excellent for grinding and high precision turning applications.
- Oversized carbide point covers a wider range of center holes and provides great wear resistance.

Royal Oversized Carbide Point Dead Centers

TAPER A	B	C	D	E	CARBIDE DIAMETER F	PART NUMBER	PRICE
4 MT	6.75	4.06	1.231	1.75	1.25	11526	**$977**
5 MT	8.50	5.19	1.748	1.75	1.25	11527	**1,325**

ROYAL CNC THREADED DEAD CENTERS

Great For Live Tailstocks and Precision Grinding



4140 steel hardened and ground to Rc 61-63 for long life.

Wrench flats for easy removal.

Proudly Made in U.S.A.

Extended length provides great tool clearance. Taper maintains strength and rigidity.

All points are ground to an angle of 60° $^{+15'}_{-0}$ and guaranteed to ± 0.00005" TIR.



Carbide blank is brazed into a close-tolerance socket for maximum strength and rigidity.



Extended length for optimum tool clearance.

Full diameter point covers a wide range of center holes.

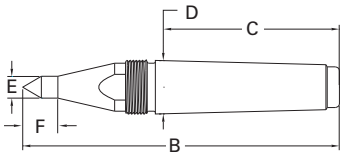
- Royal threaded dead centers are designed for use in CNC turning centers with live tailstocks.
- These dead centers are also widely used in precision grinding applications.
- Available in several styles to suit a wide range of applications.
  - CNC Point
  - Carbide-Tipped CNC Point
  - Full Diameter Extended Point
- Longer than normal gage length on all models provides outstanding clearance.
- Extraction nut and wrench flats enable easy removal from tailstock/spindle.



Extraction nut allows for easy removal from spindle. Order separately.

ROYAL CNC THREADED DEAD CENTERS

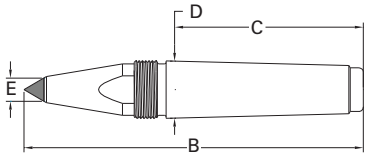




Royal CNC Threaded Dead Centers

Proudly Made in U.S.A.

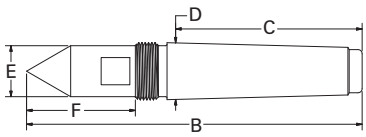
TAPER A	B	C	D	E	F	THREAD	DEAD CENTER PART NUMBER	DEAD CENTER PRICE	EXTRACTION NUT PART NUMBER	EXTRACTION NUT PRICE
3 MT	5.94	3.19	0.938	0.38	0.63	1"–14	11530	**$440**	11550	**$120**
4 MT	7.31	4.06	1.231	0.50	0.81	1¼"–14	11531	**532**	11551	**144**
4 MT	7.31	4.06	1.231	0.75	1.18	1¼"–14	11535	**532**	11551	**144**
5 MT	8.44	5.19	1.748	0.50	0.81	1¾"–12	11532	**759**	11552	**165**
5 MT	8.44	5.19	1.748	0.75	1.18	1¾"–12	11537	**759**	11552	**165**



Royal CNC Threaded Dead Centers with Carbide-Tipped Point

Proudly Made in U.S.A.

TAPER A	B	C	D	E	THREAD	DEAD CENTER PART NUMBER	DEAD CENTER PRICE	EXTRACTION NUT PART NUMBER	EXTRACTION NUT PRICE
3 MT	5.94	3.19	0.938	0.38	1"–14	11540	**$596**	11550	**$120**
4 MT	7.31	4.06	1.231	0.50	1¼"–14	11541	**717**	11551	**144**
5 MT	8.44	5.19	1.748	0.50	1¾"–12	11542	**922**	11552	**165**



Royal Full Diameter Extended Point Threaded Dead Centers

Proudly Made in U.S.A.

TAPER A	B	C	D	E	F	THREAD	DEAD CENTER PART NUMBER	DEAD CENTER PRICE	EXTRACTION NUT PART NUMBER	EXTRACTION NUT PRICE
3 MT	5.94	3.19	0.938	0.86	1.88	1"–14	11534	**$440**	11550	**$120**
4 MT	7.31	4.06	1.231	1.11	2.37	1¼"–14	11536	**532**	11551	**144**
5 MT	8.44	5.19	1.748	1.25	2.36	1¾"–12	11539	**759**	11552	**165**

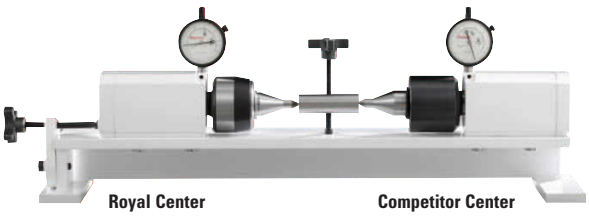
IN CASE YOU MISSED IT.....







ROYAL ROTO-SHIELD™ TECHNOLOGY



See video at www.livecenters.com

WHY TOP MANUFACTURERS INSIST ON ROYAL LIVE CENTERS

Highest Quality

Every Royal Live Center is a finely crafted tool, incorporating the highest quality steels, bearings, seals, and lubricants. For more than 75 years Royal has been the brand that top manufacturers know and trust for their workholding needs. For the thousands of parts that your centers will support, can you afford to go with anything less than a Royal?

Longest Life

Royal's exclusive Roto-Shield™ coolant deflector provides unmatched bearing protection by keeping contaminants out and clean grease in. It's not uncommon for a Royal center to last up to 3x longer than the competition.

Exceptional Rigidity

Royal live centers are significantly more rigid than the competition – resulting in superior accuracy, part finish, and bearing life. Check out the test results at www.livecenters.com.

High-Pressure Coolant Approved

Our hardened steel coolant deflector is integral with the rotating point and has been optimized for high-pressure coolant applications.

A Model for Every Application

Between our broad standard line, our "off-the-shelf" specials, and complete custom center capabilities, Royal has all of your center needs covered.

Same-Day Shipping

We maintain thousands of centers in stock to meet our goal of same-day shipping on all orders. Order it today – you'll have it tomorrow.

Proudly Made in USA

Every Royal Live Center is made in USA in our modern, highly-automated factory. We are extremely proud to be an American manufacturer supporting American manufacturers!

Once you try a Royal Center, you'll never settle for anything less!

ROYAL PRODUCTS

DEBURRING TOOLS

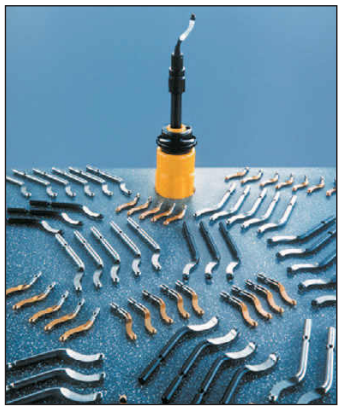
THE WORLD'S BEST DEBURRING TOOLS AND BLADES





ROYAL PRODUCTS
Optimize everything.

ROYAL DEBURRING BLADES



Great Low Prices

STANDARD-DUTY B-BLADES	BLADES PER PACKAGE	PART NUMBER	PRICE PER PACKAGE
B-10	10	22110	**$21.00**
	Our most popular blade. HSS for steel and aluminum.		
B-10A	10	22109	**22.25**
	Similar to B-10 blade but has a thinner profile. High cobalt content for long life. Also great for plastic.		
B-10L	10	22113	**21.00**
	HSS counterclockwise operation in steel and aluminum; ideal for lefties.		
B-10T	10	22112	**45.50**
	Titanium coated HSS for longer life; for steel and aluminum.		
B-10C	10	22117	**127.50**
	Solid carbide for hardened material.		
B-15	10	22118	**29.00**
	Very fine, precise blade; great for plastic.		
B-20	10	22120	**21.00**
	HSS for brass and cast iron; can rotate clockwise and counterclockwise.		
B-20C	10	22121	**134.00**
	Solid carbide for hardened material.		
B-30	10	22130	**35.50**
	HSS; removes internal and external burrs simultaneously from holes drilled into tubing and sheet metal.		
B-60	10	22135	**51.75**
	HSS for internal deburring of hard to reach locations.		

HEAVY-DUTY E-BLADES	BLADES PER PACKAGE	PART NUMBER	PRICE PER PACKAGE
E-100	10	22025	**$26.00**
	Heavy Duty HSS for steel and aluminum.		
E-100A	10	22034	**32.50**
	Heavy Duty M-42 steel, good for plastic and hard materials.		
E-100L	10	22026	**26.00**
	Heavy Duty HSS for counterclockwise operation in steel and aluminum; ideal for lefties.		
E-100T	10	22027	**52.25**
	Heavy Duty titanium coated HSS for steel and aluminum.		
E-200	10	22030	**26.00**
	Heavy Duty HSS for brass and cast iron, bi-directional.		
E-300	10	22040	**33.25**
	Heavy Duty HSS; removes internal and external burrs simultaneously from holes drilled into tubing & sheet metal.		
E-350	10	22035	**27.00**
	Heavy Duty HSS for straight edges on all materials.		
E-600	10	22036	**53.00**
	Heavy Duty HSS; designed to facilitate deburring in the most inaccessible locations.		
E-101	10	22037	**30.50**
	Heavy Duty HSS for holes as small as 7/64" dia. in steel and aluminum.		
E-102	10	22039	**30.50**
	Heavy Duty HSS for small holes in brass and cast iron; can rotate clockwise and counterclockwise.		
E-1500	10	22046	**29.25**
	Heavy Duty HSS for holes as small as 1/16" dia. in steel and aluminum.		
E-1500T	10	22047	**77.50**
	Heavy Duty titanium coated HSS for holes as small as 1/16" dia. in hardened materials		
E-100P	10	22028	**123.50**
	HSS blade with non-removable plastic safety cap protects against part scratching.		

Please contact Royal for special pricing on very large quantities.

ROYAL DEBURRING TOOLS



Royal Zip/Burr™ B-Set



- Takes all B-series blades.
- Includes one B-10 blade and one B-20 blade.
- Holder telescopes from 1/2" to 5".
- Handle has storage compartment for spare blades.
- Blade can be inserted at 90° for deburring cross holes.
- Handle has lifetime guarantee – if it breaks, return it and we will replace it at no charge.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Zip/Burr B-Set	1	22600	**$19.75**
Zip/Burr Handle Only	1	22610	**11.25**
Zip/Burr B-Holder Only	1	22614	**11.25**

Royal Multi/Burr-5



- Blades can be stored in lightweight plastic handle.
- Blades are easily changed by depressing locking button.
- Handle has lifetime guarantee.
- Comes with five blades – one each of E-100, E-200, E-350, E-101 and E-102.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Multi/Burr Complete w/5 Blades	1	22022	**$22.25**
Multi/Burr Handle Only	1	22570	**13.50**

Royal Disposable Burr



- Low-priced yet can handle almost every deburring job.
- Consists of heavy-duty E-100 blade, handle, and handy pocket clip.
- Non-replaceable blade.
- For removing burrs from steel and aluminum.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Disposable Burr	10	22050	**$79.50**

Royal Zip/Burr™ E-Set



- Takes all heavy-duty E-series blades.
- Includes one E-100 blade, one E-200 blade and one E-300 blade.
- Handle has storage compartment for spare blades.
- Holder telescopes from 1/2" to 5".
- Handle has lifetime guarantee – if it breaks, return it and we will replace it at no charge.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Zip/Burr E-Set	1	22620	**$23.00**
Zip/Burr Handle Only	1	22610	**11.25**
Zip/Burr E-Holder Only	1	22633	**11.25**

Royal Double-Header Versa/Burr



- Double-header can be used with both B and E blades.
- Telescopes from 1"–4½"
- Includes one B-10 blade and one B-20 blade.
- Handle has lifetime guarantee.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Complete Double-Header Versa/Burr	1	22105	**$24.75**
Versa/Burr Handle Only	1	22107	**11.25**
B/E Holder Only	1	22108	**13.50**

Royal E-Blade Slim-Grip



- Comes with one replaceable E-100 blade and handle.
- Uses heavy-duty E-Blades.
- Great value.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
E-Blade Slim Grip	10	22172	**$151.50**



ROYAL DEBURRING TOOLS

Royal Mini-Scraper Zip/Burr™



Dimensions

BLADE	
D-50/D-55	3⁄32"

- Fine triangular scraper is ideal for tool and moldmaking work.
- Includes D-50 mini blade.
- Blade is secured to D-holder with a set screw.
- Can also use D-50 TiN and D-55 carbide blades.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Complete Mini-Scraper Zip/Burr	1	22680	**$34.75**
Zip/Burr D-Holder Only	1	22695	**13.50**
HSS Mini-Scraper Blade Only (D-50)	10	22276	**135.50**
D-55 Carbide Blade Only	10	22442	**242.75**

Royal Slim Grip Scraper



Dimensions

BLADE	
T-80	5⁄32"
D-55/D-50	3⁄32"

- Special Slim-Grip design for deburring in hard-to-reach locations.
- Knurled locking collar to control blade extension.
- 22410 includes aluminum handle and one double-sided high speed steel T-80 blade.
- 22420 includes aluminum handle and one single-sided solid carbide D-55 blade.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Slim-Grip Scraper w/T-80 HSS Blade	1	22410	**$37.00**
Slim-Grip Scraper w/D-55 Carbide Blade	1	22420	**46.75**
T-80 HSS Blade Only	10	22432	**171.75**
D-55 Carbide Blade Only	10	22442	**242.75**
D-50 TiN Blade Only	10	22778	**196.75**

Royal Scraper Zip/Burr™



Dimensions

BLADE	
T-40	5⁄32"
T-60	1⁄4"

- Replaceable scraper blades thread into the Zip/Burr holder.
- Blades have a #10 NF thread and are interchangeable with other brand blades.
- Available with either a T-40 or T-60 blade. These blades are similar insize to the T-80 and T-120 but they are only half as long.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Standard Scraper with T-40 Blade	1	22730	**$30.00**
Standard Scraper with T-60 Blade	1	22745	**39.75**
Zip/Burr T-Holder Only	1	22768	**11.25**
T-40 Blade Only	1	22760	**12.75**
T-60 Blade Only	1	22764	**18.50**

Royal Internal Scraper Zip/Burr™





- Includes special blade for deburring cross holes.
- D-66 blade is held in D-holder by a set screw.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Complete Internal Scraper	1	22710	**$32.75**
Zip/Burr D-Holder Only	1	22695	**13.50**
HSS Internal Scraper Blade Only (D-66)	10	22302	**116.50**

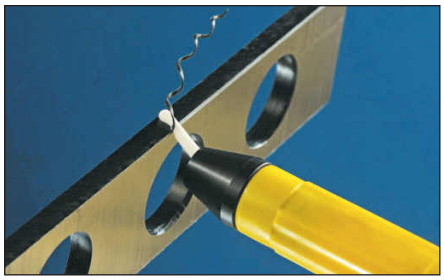
Royal Countersink Zip/Burr™



- Very useful for chamfering deep holes.
- Includes 3/4" countersink.

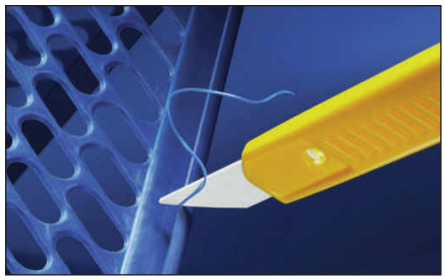
DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Complete Countersink	1	22650	**$56.00**
Zip/Burr C-Holder Only	1	22665	**10.75**
C-12 ½" Countersink Only	1	22155	**32.25**
C-20 ¾" Countersink Only	1	22160	**39.75**
C-20 TiN ¾" Countersink Only	1	22162	**75.50**
C-30 1⅛" Countersink Only	1	22165	**57.50**

ROYAL DEBURRING TOOLS



Royal Ceramic Deburring Tools

Royal ceramic deburring tools offer outstanding performance in virtually all plastic and soft metal deburring applications. These solid ceramic blades and scrapers are extremely durable, resulting in superior edge life when compared with traditional blades. Try one today!



Royal Ceramic Scraper



- Self-lubricating fixed ceramic blade.
- Great for all materials: plastics, soft metals, hard metals, etc.
- Interchangeable blade has a very long life.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Ceramic Scraper	1	22151	**$42,25**
Replacement Ceramic Blade	1	22152	**32.75**
Ceramic Scraper Handle Only	1	22149	**13.50**

Royal Adjustable Mini Ceramic Scraper



- Self-lubricating ceramic blade.
- Long, thin profile provides access to difficult to reach areas
- Ideal for surface cleaning, trimming, deburring, and parting line deflashing of almost all plastics

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Adjustable Mini Ceramic Scraper	1	22146	**$49.50**
Replacement Mini Ceramic Blade	1	22147	**41.50**
Mini Ceramic Scraper Handle Only	1	22148	**12.00**

Royal Compact Ceramic Scraper



- Self-lubricating ceramic blade.
- Ideal for surface scraping and parting line deflashing.
- Perfect for all plastic materials and soft metals.
- Long-life interchangeable blade.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Compact Ceramic Scraper	1	22140	**$41.00**
Replacement Compact Ceramic Blade	1	22141	**36.75**
Compact Ceramic Scraper Handle Only	1	22145	**12.00**

Royal Rotating Ceramic Burr



- Interchangeable self-lubricating ceramic blade.
- Blade rotates like a traditional deburring tool.
- Will deburr holes, contours, and edges.
- Two blade styles available:
  - Model 65 – for soft abrasive plastics
  - Model 75 – for hard abrasive plastics

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Rotating Ceramic Burr – 65	1	22190	**$55.25**
Rotating Ceramic Burr – 75	1	22192	**55.25**
Ceramic Burr Handle Only	1	22194	**28.50**
Ceramic Blade 65 Only	1	22196	**30.75**
Ceramic Blade 75 Only	1	22198	**30.75**

ROYAL DEBURRING TOOLS

Royal Multi-Purpose 4-in-1 Deburring Tool

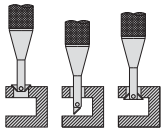


- Four of our most popular blades in a single innovative tool.
  - E-100 Heavy-Duty rotating deburring blade
  - B-20 bi-directional rotating deburring blade
  - 3/8" rotating countersink blade
  - D-50 mini-scraper blade
- All blades mounted to folding steel shafts that lock into place during use, and fold neatly away into the handle when not in use.
- A great all-purpose deburring tool for non-production applications in steel, aluminum, and plastic.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Multi-Purpose Deburring Tool	1	22024	**$108.50**

Royal Reversible Countersink





- Deburrs both inside and outside of very small holes.
- Can be used in both clockwise and counterclockwise directions.
- To use, hold between fingers and rotate back and forth.
- To insert/withdraw blade into/from hole, push knob and release slowly.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Complete Mini Reversible Countersink	1	22455	**$48.25**
Complete Standard Reversible Countersink	1	22465	**49.50**
Complete Large Reversible Countersink	1	22472	**64.50**
R-1 Mini Blade Only (1/8" – 7/32")	1	22137	**24.00**
R-2 Standard Blade Only (13/64" – 11/32")	1	22139	**26.50**
R-3 Large Blade Only (25/64" – 27/32")	1	22136	**29.25**

Royal Double Burr



- Simultaneously removes burrs from both sides of workpiece from 1/32" to 1/2" thick.
- Safety guard protects fingers.
- Unique round cutting blades can be rotated and reversed for long life.
- Blades made of M-2 steel, hardened to 64 Rc.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Double Burr w/Guard and Two Blades	1	22060	**$32.75**
Replacement Blades of M-2 Steel	10	22065	**87.50**
Replacement Blades of M-42 Steel For Use On Stainless Steel	10	22067	**117.00**

Royal Roto-Drive Set



- Roto-Drive – the quickest way to chamfer by hand.
- Single-flute countersink provides a smoother cut than multiple-flute countersinks.
- Very little wrist force needs to be applied, reducing the risk of injury.



Chamfer difficult-to-reach holes.



Chamfer small holes next to shoulder.

DESCRIPTION	PACKAGE OF	PART NUMBER	PRICE
Roto-Drive w/Plastic Handle and 1/8" Countersink	1	22506	**$24.75**
Roto-Drive w/Plastic Handle and 1/4" Countersink	1	22508	**41.25**
Roto-Drive w/Plastic Handle and 5/16" Countersink	1	22510	**41.75**
Roto-Drive w/Plastic Handle and 3/8" Countersink	1	22512	**43.75**
1/8" Countersink Only	1	22520	**12.75**
1/4" Countersink Only	1	22530	**29.75**
5/16" Countersink Only	1	22540	**30.00**
3/8" Countersink Only	1	22550	**32.25**
3/8" TiN Countersink Only	1	22560	**49.25**
Plastic Handle Only	1	22570	**13.50**

ROYAL PRODUCTS

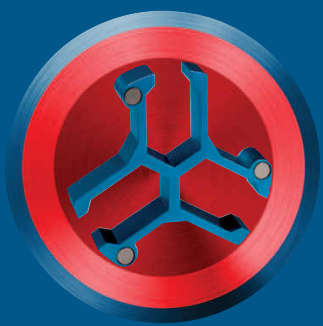
MACHINE SHOP ACCESSORIES

CLEVER, TIME-SAVING PRODUCTS TO MAKE YOUR LIFE EASIER













ROYAL PRODUCTS
Optimize everything.

ROYAL R8 QUICK-CHANGE TOOLING SYSTEM



Unit only protrudes 1⅛" beyond spindle.



1. Loading the Quick-Change Body into a standard R8 spindle.



2. Loading drill chuck holder and drill into body.



3. Removing drill chuck holder with one hand.



4. Inserting endmill holder and endmill for next operation.

- The Royal Quick-Change Tool System provides a fast method for changing tools on a Bridgeport-style mill – once the R8 body is installed in the machine spindle, tools can be changed in seconds.
- One hand operation – simply depress the brass locking button and rotate collar to the locked-open position. When a new tool is inserted, it depresses a spring-loaded pin, snapping the collar back into the locked-closed position.
- Very accurate – total system runout can be less than 0.0005" TIR under the right circumstances.
- Short overhang (1⅛") and two positive-drive keys enable many common milling and drilling operations to be easily performed.

Please note that this tool is designed for light/medium-duty applications where the ability to change tools quickly outweighs the need for extreme rigidity. We do not recommend using this system for heavy milling or high-production applications.

ROYAL R8 QUICK-CHANGE TOOLING SYSTEM





R8 Quick-Change Body Only
– Only protrudes 1⅛" from gage line.

PART NUMBER	PRICE
24100	**$1,545**



Start-Up Milling Kit
Consisting of:
– Quick-Change Body
– One 3/8" Endmill Tool Holder
– One 1/2" Endmill Tool Holder
– One 5/8" Endmill Tool Holder
– One Stand FREE

PART NUMBER	PRICE
24330	**$2,975**



Start-Up Drill & Mill Kit
Consisting of:
– Quick-Change Body
– Three Drill Chuck Tool Holders (specify tapers)
– One 3/8" Endmill Tool Holder
– One 1/2" Endmill Tool Holder
– One 5/8" Endmill Tool Holder
– One Stand FREE

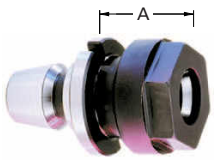
PART NUMBER	PRICE
24335	**$4,170**



Endmill Tool Holder*

BORE SIZE	D	L	PART NUMBER	PRICE
⅛"	½"	1⅜"	24200	**$480**
3/16"	11/16"	1⅜"	24205	**480**
¼"	11/16"	1⅜"	24210	**480**
⅜"	1 3/16"	1⅜"	24215	**480**
½"	1⅜"	1⅜"	24220	**480**
⅝"	1 9/16"	1⅝"	24225**	**480**
¾"	1 13/16"	2 3/16"	24230**	**509**
1"	2"	2 15/16"	24235**	**567**

* Single endmills only. Designed for minimum overhang.
** For light milling only. For heavy milling use solid endmill holder.



Collet Chuck Tool Holder

FOR ERICKSON™ COLLET MODEL	MAX. COLLET CAPACITY	A	PART NUMBER	PRICE
200 DA	⅜"	1 9/16"	24260	**$685**
180 DA	¾"	1 13/16"	24265	**722**
ER -16*	⅜"	1 9/16"	24266	**706**
ER - 32*	¾"	1 15/16"	24268	**759**

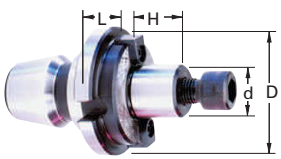
* Collets available on pages 178-179.



Drill Chuck Tool Holder

JACOBS TAPER	L*	PART NUMBER	PRICE
J2	13/32"	24285	**$406**
J3	13/32"	24290	**406**
J6	13/32"	24295	**406**
J33	13/32"	24300	**406**

* Gage line to gage line distance.



Shell Mill Tool Holder

"d" SIZE	D	L	H	PART NUMBER	PRICE
½"	1¼"	9/16"	19/32"	24250	**$625**
¾"	1 11/16"	9/16"	23/32"	24255	**685**



Tool Holder Stand

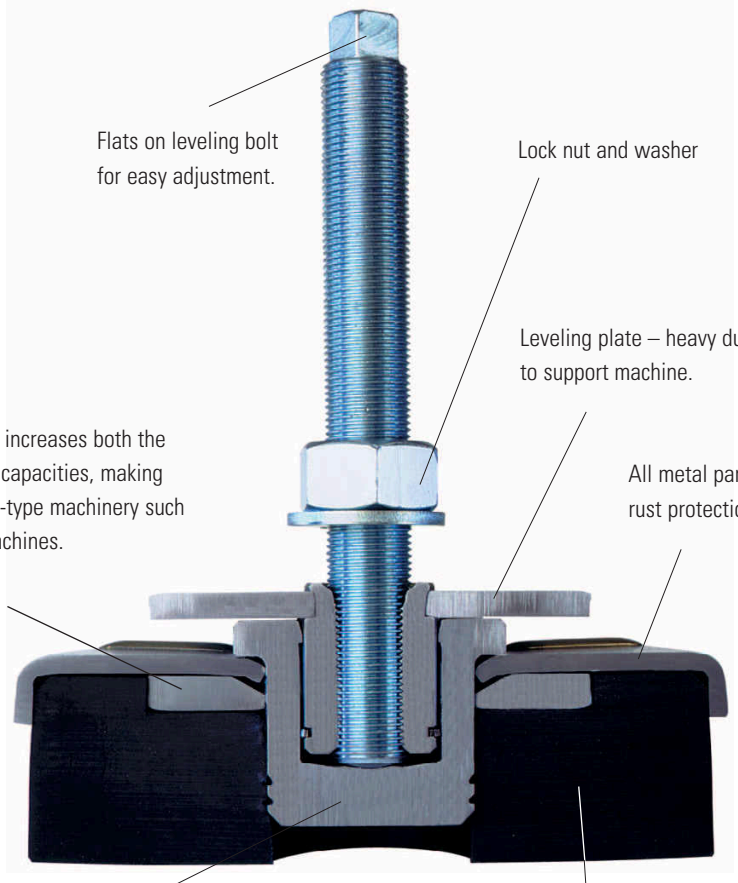
PART NUMBER	PRICE
24325	**$187**

ROYAL MACHINE MOUNTS



- Royal machine mounts are built tough to level and last. All metal parts are zinc plated for rust protection and long life.
- Royal machine mounts simplify machine installation, reduce noise, and isolate vibration.
- Great for injection molding machines, presses, lathes, mills, and grinders.
- These mounts meet OSHA requirements by preventing machines from "walking" without the need for bolting or cementing.
- All Royal machine mounts incorporate a large, chloroprene rubber base that is resistant to oil, water, and many chemicals.
- Support cup is machined from a solid bar instead of deep drawn, resulting in increased thickness for strength and rigidity.
- Unique internal retaining clip ensures that mounts will stay together if machine is moved to a new location.
- Royal machine mounts protect sensitive machine components, improve performance, and reduce maintenance costs.

Royal Machine Mounts are Built Tough to Level and Last!



Shock plate (models #4 and #5 only) increases both the vertical and horizontal load carrying capacities, making these an excellent choice for impact-type machinery such as presses and injection molding machines.

Heavy-duty support cup is machined from a solid steel bar for strength. Other brands rely on a thin drawn cup which often fails by fatigue. Note the increased thickness of the lip and bottom sections.

Thick chloroprene base is resistant to most chemicals.

IMPORTANT – Before installing mounts on any machine, make sure they are approved for use by the machine manufacturer.

ROYAL MACHINE MOUNTS



Choosing the Correct Royal Machine Mounts

1. Calculate the load on each mount by dividing the total weight of the machine by the number of mounting locations.

   Note: sometimes it may be necessary to compensate for machines that do not have an evenly distributed load.

2. Find the category in the specification chart which corresponds to the type of machine being installed.

3. Match up the correct mount with the machine.

Example: Suppose you wish to mount an 18,000-lb. CNC lathe which has six mounting locations.

18,000/6=3,000 lbs. per mount

From the chart on the next page we see that this machine falls into the range of the #3 mount for non-impact machinery.

Warning: Always use the correct mount for each machine. These mounts are not designed for machines that must be bolted to the floor to prevent tipping. If you have any questions, please contact one of our application engineers at 1-800-645-4174.

Royal Machine Mounts

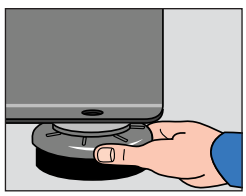
		#1	#2	#3	#4	#5
Load Range per Mount (lbs.)	**General Non-Impact Machinery**	100–1,100	880–2,200	1,760–5,500	3,300–8,800	6,600–12,000
	Injection Molding Machines	390 max.	790 max.	2,180 max.	5,450 max.	8,220 max.
	Presses up to 125 strokes / min	150–440	440–880	880–3,080	3,080–5,940	5,940–8,800
	Presses up to 180 strokes / min	130–300	300–770	770–2,420	2,420–4,290	4,290–7,700
	Presses up to 200 strokes / min	110–260	260–550	550–1,760	1,760–2,860	2,860–5,280
Mount Dimensions	Base Diameter	3.16	4.75	6.31	6.31	7.88
	Leveling Plate Diameter	2.38	3.12	3.93	3.93	3.93
	Height to Top of Leveling Plate	1.63	1.94	2.31	2.31	2.72
	Height to Top of Bolt	5.25	5.25	7.50	7.50	7.88
	Leveling Bolt Size	M12 x 1.25	M16 x 1.5	M20 x 1.5	M20 x 1.5	M20 x 1.5
	Standard Leveling Bolt	4.72	4.72	6.88	6.88	6.88
	Level Adjustment	0.88	0.88	1.00	1.00	1.00
Ordering Info	**Part Number**	**27001**	**27002**	**27003**	**27004**	**27005**
	Price Each	**$70**	**$134**	**$192**	**$230**	**$374**

Extra-Long Leveling Bolts

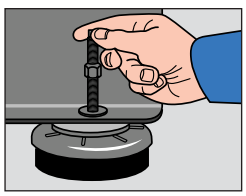
For machines with thick bases.

MOUNT TYPE	BOLT SIZE	BOLT LENGTH	PART NUMBER	PRICE
#1	M12 x 1.25	8¼"	27007	**$35**
#2	M16 x 1.5	8¼"	27008	**40**
#3–#5	M20 x 1.5	9¾"	27009	**56**

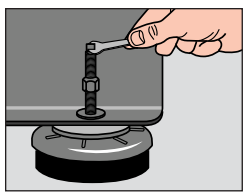
Easy Installation — No drilling or bolting to floor required



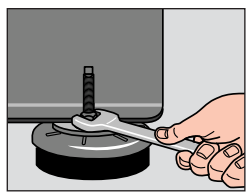
Raise machine and slide mount into place.



Insert leveling bolt through machine base hole and thread into mount. Lower machine onto leveling plate.



Raise or lower machine by turning leveling bolt.



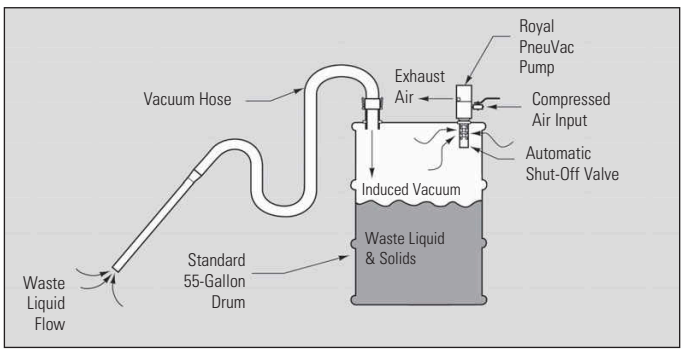
When machine is level, secure in place with washer and lock nut.



ROYAL PNEUVAC™ PUMP

The Royal PneuVac pump is a simple device that uses a compressed air-powered venturi to create a vacuum. All you have to do to operate the unit is: attach the pump and hose to a standard 55-gallon drum, hook up your compressed air supply to the pump, insert the free end of the suction hose into the sump or storage tank, and open the air valve. The coolant and sludge is drawn through the hose and deposited into the drum — quick, clean, and hassle free!





Heavy Duty Construction – Entire pump (except ball valve, float and O-ring) is made from either stainless steel or aluminum. Other brands are made from rust-prone carbon steels and light-duty plastics.

Very Safe – The PneuVac pump is powered by compressed air. This eliminates the possibility of electric shocks often associated with motor-driven pumps. An automatic shut-off valve activates when the drum is full.

Fast – The Royal PneuVac pump can fill a 55-gallon drum in just 90 seconds. Conventional electric pumps can take up to one hour to move the same amount of liquid.

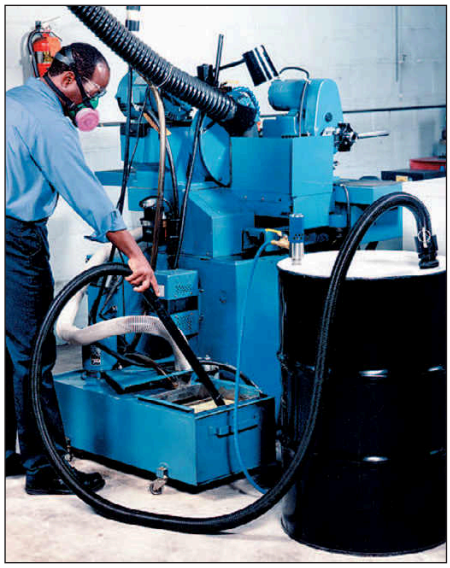
Thorough – This pump not only removes liquid but will also pick up sludge, metal chips and other debris which often clog or wear out impeller-type pumps.

Quiet – Unique baffle system limits noise level without compromising performance.

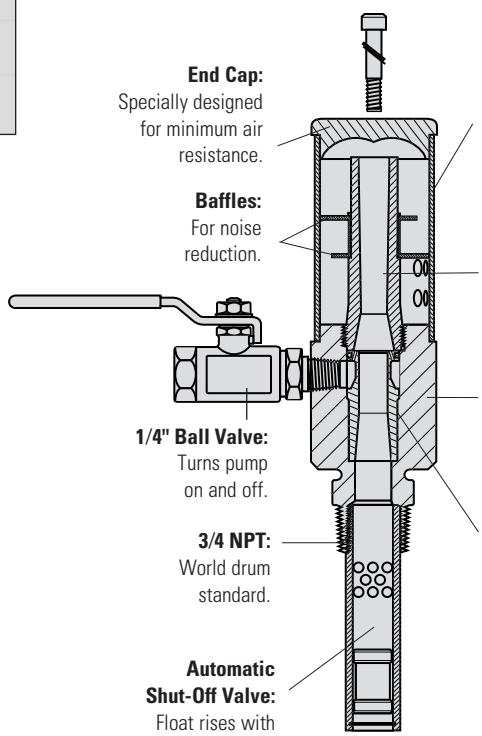
Low Maintenance – The PneuVac pump requires very little maintenance because only compressed air flows through the pump body itself.

Great Warranty – Royal Products provides a 3-year warranty against failure of this product due to manufacturing defects.

Clean Your Coolant Sumps in Less Than Two Minutes



The Royal PneuVac pump filled this 55-gallon drum with coolant in less than two minutes.



End Cap: Specially designed for minimum air resistance.

Baffles: For noise reduction.

1/4" Ball Valve: Turns pump on and off.

3/4 NPT: World drum standard.

Automatic Shut-Off Valve: Float rises with liquid level to block vacuum port as drum becomes full.

Exhaust Housing: Provides an air expansion chamber and directs exhaust air away from operator.

Venturi: Precision machined to ensure optimum air flow.

Body: Stainless steel construction for long life.

Precision Air Injector: Ensures maximum vacuum is generated with minimum air consumption (6.5 cfm @ 100 psi).

ALL PARTS ARE STAINLESS STEEL OR ALUMINUM except brass ball valve, Delrin float and Buna-N O-ring.

ROYAL PNEUVAC™ PUMP



Proudly Made in U.S.A.

Royal PneuVac Pump Kit

Consists of pump, 1/4" ball valve, automatic shut-off valve, 10 ft. of smooth-bore hose, quick-disconnect drum fittings, and one 18" aluminum wand.

DESCRIPTION	PART NUMBER	PRICE
Stainless Steel Pump Kit	48010	**$1,595**
Aluminum Pump Kit	48017	**1,360**
10ft. Replacement Hose w/Cuff (1½" Dia.)	48019	**138**

CAUTION:
1. Do not use the PneuVac pump with flammable or volatile liquids such as gasoline, alcohol, kerosene, aviation fuel, mineral spirits or any similar liquid with a low flash point.
2. Do not modify this product to pressurize drum to pump liquids out. Pressurizing drum could cause an explosion that might result in a serious injury.

ROYAL PNEUVAC™ AIR GUNS

- The Royal PneuVac gun makes shop blow-off and cleanup tasks a breeze.
- Unique design enables unit to act as both a blow gun and a vacuum.
- The deep hole gun is a modified version of the PneuVac gun, designed for removing chips from blind holes. The thin black tube blasts high pressure air to dislodge chips while the main nozzle draws them safely away. A clear plastic shroud protects the operator from flying debris.
- High-output venturi design multiplies air flow. For example, an input air supply of 10 cfm results in an output of approximately 100 cfm.
- Changing between blow and vacuum modes is accomplished by simply reversing the direction of the venturi.
- Full-length trigger design reduces strain.
- High vacuum production with minimal air consumption.
- Made of rugged, anti-static nylon.

Standard PneuVac Gun



PneuVac Deep Hole Gun



DESCRIPTION	PART NUMBER	PRICE
PneuVac Gun Only	49005	**$195**
Dust Bag Kit (PneuVac Gun, Dust Bag, and Clamp)	49085	**262**
Hose Kit (PneuVac Gun, 10ft. Smooth-Bore Hose, and Clamp)	49080	**293**
Deep Hole Gun Only	49010	**267**
Dust Bag and Clamp Only	49020	**79**
10ft. Smooth Bore Hose Only (1¼" Dia.)	49090	**93**

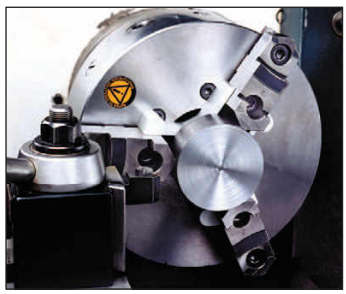
Caution: Always wear safety glasses when operating these tools. Never operate in the vacuum mode unless a hose or dust bag is attached to the exhaust end of the unit.

ROYAL CHUCK STOPS





- The Royal Chuck Stop provides a simple, consistent method for locating short parts in a 3-jaw lathe chuck.
- Captive, web-shaped design eliminates the danger of using spacers or parallels that could come loose and be thrown from a spinning chuck. Three strong magnets further secure the stop to the chuck face.
- Stop allows short parts to project past the chuck jaws, providing clearance for facing operations.
- Setup time is greatly reduced – no need to bore soft jaws.
- The Royal Chuck Stop is very accurate – front and back locating surfaces are parallel within +/- 0.0004".
- Accommodates chuck jaws up to 55mm (2 1/8") wide.
- Anodized finish provides good wear-resistance.



Royal Chuck Stop Sets

DESCRIPTION	PART NUMBER	PRICE
Standard Set – includes 15, 20, & 25mm height stops	25200	**$454**
Deluxe Set – includes 15, 20, 25, 30, & 35mm height stops	25210	**788**

ROYAL SENSITIVE DRILL FEED



- Makes drilling of small holes easy.
- Drills small holes independent of coarser standard quill feed.
- Gives operator better feel and control of feed rate.
- 3/4" travel.
- Fingertip-controlled feed rate helps prevent walking and deflection.
- Eliminates the need for expensive specialized machines to drill small holes.



Royal Sensitive Drill Feed

SHANK DIA.	CHUCK MOUNT TAPER	PART NUMBER	PRICE
1/2"	Jacobs #0 (DIN B6)	25300	**$150**

Price does not include drill chuck pictured.

Simple to Use:

1. Grasp free-turning knurled ring and feed with gentle finger pressure.
2. Drill feed is spring-loaded and retracts automatically when ring is released.

ROYAL PRODUCTS

MILLING AND DRILLING TOOLING SOLUTIONS

– ALBRECHT PRECISION DRILL CHUCKS
– ULTRA-PRECISION ER COLLETS













ROYAL PRODUCTS
Optimize everything.

ALBRECHT
The World's Most Consistently Accurate Drill Chucks

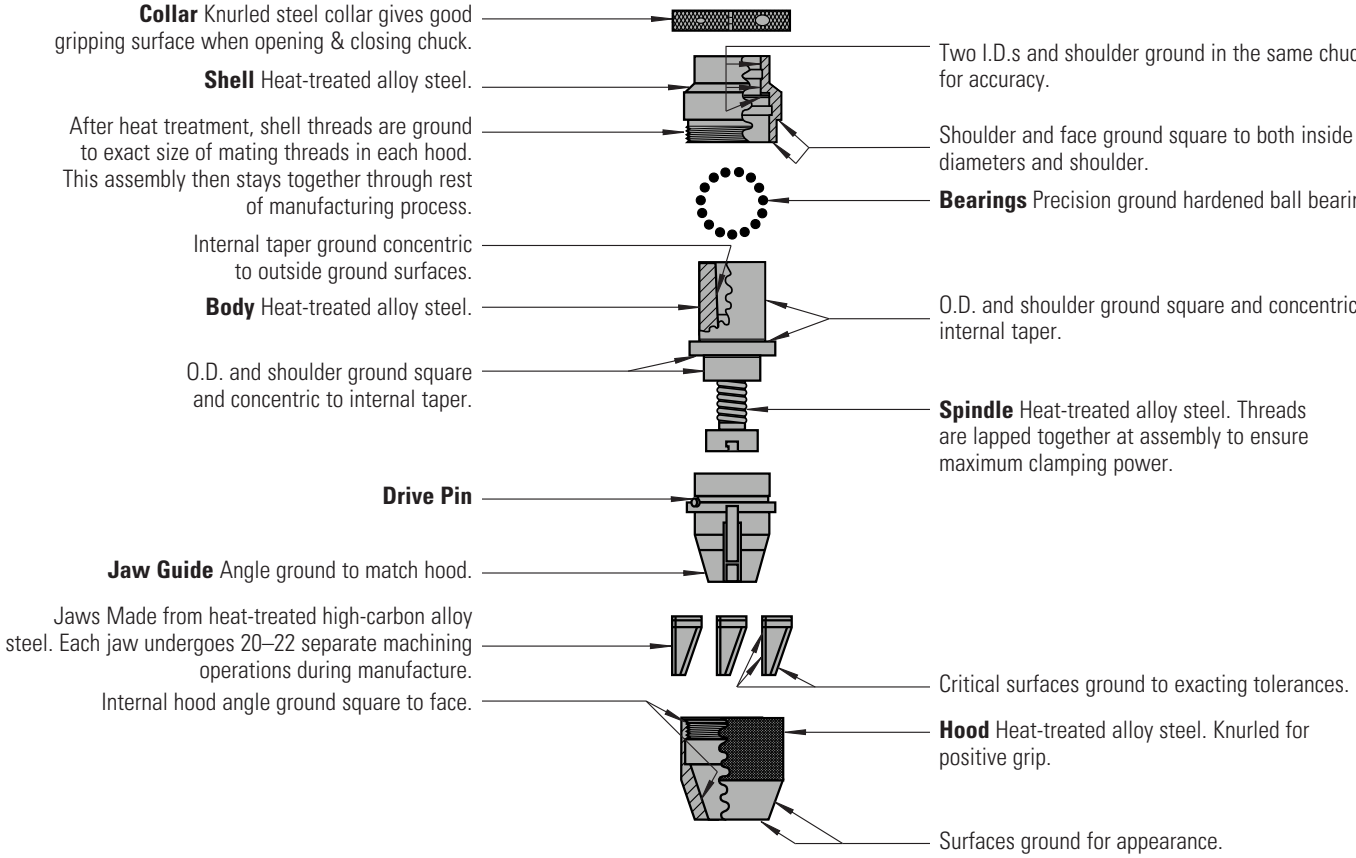


For the past 100 years, Albrecht's line of precision drill chucks has consistently earned the highest praise for outstanding quality and accuracy.

At the Albrecht factory, located outside of Stuttgart, Germany, in-process air gages and custom test fixtures are used to inspect all components throughout each step of the manufacturing process. Upon assembly, each chuck is qualified with 4–6 different diameter test pins at two distinct locations on each pin, and then a quality control inspector repeats the process with 4–6 different pins before approving the chuck for packaging.

Drill chuck accuracy is critical to producing accurate hole sizing and promoting longer drill life. In today's competitive environment of short lead times and slim margins, a few scrapped parts can quickly kill a job's profits. Can you afford to take a chance on anything less than an Albrecht?

WHAT DOES IT TAKE TO MAKE A CLASSIC?



ALBRECHT SELF-TIGHTENING DESIGN





The more torque that is applied to the chuck, the tighter it grips!

All Albrecht Precision Drill Chucks, except for the Key-Lock models, incorporate a unique self-tightening feature that causes them to grip drills tighter as more torque is applied.

This self-tightening advantage, combined with the fact that keyless chucks are easily opened by hand, is causing many industries to abandon key-type drill chucks altogether.

ALBRECHT DIAMOND-IMPREGNATED JAWS

FOR CARBIDE AND HARDENED-SHANK DRILLS

Albrecht's unique diamond-impregnated jaws eliminate the problems of drill slippage and jaw damage that often occur when using carbide or hardened-shank drills.

Because the diamond particles embedded in the jaws are harder than the drill shanks they are gripping, they are able to penetrate for a deep, no-slip bite.

ALBRECHT CNC DRILL CHUCKS
Excellent for CNC Machining Centers

Royal offers two Albrecht drill chuck models designed specifically for CNC machining centers:



KEY-LOCK WRENCH-LOCK

CNC Drill Chuck Advantages

Although some manufacturers use collet chucks or toolholders for holding drills, often an Albrecht CNC Drill Chuck would be a better choice.

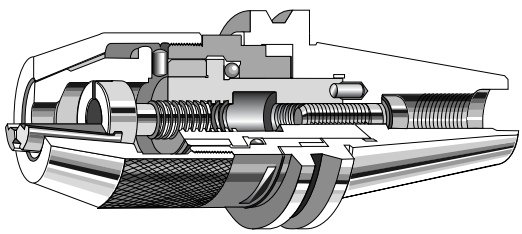
- A drill chuck can hold any size drill shank within its range. This is important because many tap drills have odd-sized shanks that are not compatible with conventional toolholders and collets.
- As the jaws of a drill chuck close, they always remain parallel to centerline. This results in uniform gripping force and maximum accuracy, regardless of the drill shank diameter.

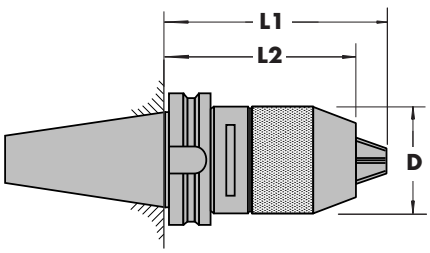
For Best Performance, Equip Your Machining Centers with Albrecht CNC Drill Chucks from Royal

ALBRECHT WRENCH-LOCK PRECISION CNC DRILL CHUCKS



- Internal construction is very similar to Albrecht Classic Drill Chucks.
- Integral CAT taper makes these chucks shorter and more rigid than a chuck/arbor combination, resulting in:
  - Greater accuracy
  - Greater rigidity
  - Larger work envelope
- Integral shank eliminates the possibility of a chuck slipping on its arbor.
- Chuck can be easily tightened and opened by hand.
- Extra tightening force can be achieved by using a spanner wrench (included), although this chuck also incorporates the same self-tightening feature as the Classic models.





Albrecht Wrench-Lock CNC Drill Chucks

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	SHANK TYPE	D	L1	L2	THREAD	MAXIMUM RPM	WEIGHT (lbs.)	PART NUMBER	PRICE
WL130-CAT40	1/32 – 1/2	1–13	CAT 40	2"	3 15/16"	4 7/16"	5/8–1	6,500	4.6	77100	**$920**
WL160-CAT40	1/16 – 5/8	1.5–16	CAT 40	2 1/4"	4 1/32"	4 5/8"	5/8–11	6,500	5.1	77110	**1,040**
WL160-CAT50	1/16 – 5/8	1.5–16	CAT 50	2 1/4"	4 1/32"	4 5/8"	1–8	6,500	6.2	77120	**1,215**

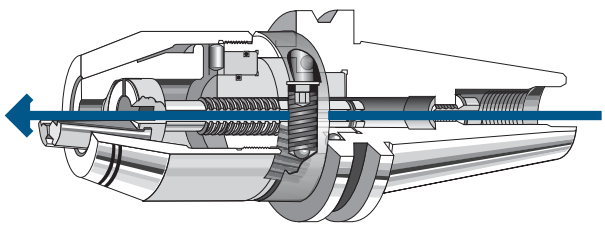
ALBRECHT KEY-LOCK PRECISION CNC DRILL CHUCKS



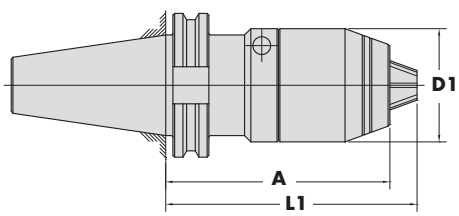


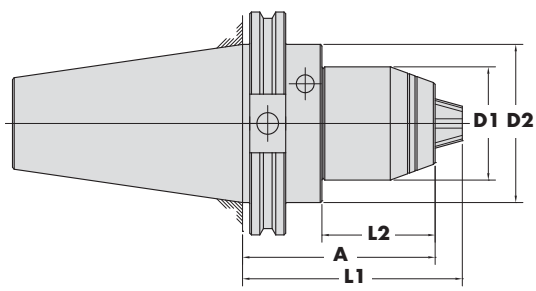
- New, compact design provides increased capacity and better clearance.
- Extremely accurate – Albrecht Key-Lock Drill Chucks are the most accurate drill chucks available.
- Unique worm/gear arrangement is similar to the Überchuck and transmits extremely high gripping force to the jaws.
- Short length and integral shank provide exceptional rigidity.
- Thru-coolant feature is standard on all Albrecht Key-Lock Drill Chucks.
- Non-rotating hood – chuck is opened and closed via a hex key inserted into the side of the body.
- Balanced to G2.5 @ 20,000 rpm for use on all CNC machines.
- Can be operated in both clockwise and counterclockwise directions.

Thru-coolant feature is standard on all Key-Lock chucks.



The key-operated worm and gear assembly generates very high grip force and ensures that the chuck can't loosen during operation because a worm can drive a gear, but a gear cannot drive a worm.





Albrecht Key-Lock CNC Drill Chucks

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	TAPER	A	L1	L2	D1	D2	WEIGHT (lbs.)	PART NUMBER	PRICE
KL100-CAT40	1/64 – 3/8	0.5 – 10	CAT 40	2.72	3.39	1.48	1.50	1.75	2.8	75402	**$1,050**
KL160-HSK 63 Form A	1/32 – 5/8	1 – 16	HSK 63 Form A	3.86	4.33	–	1.97	–	3.4	75403	**1,060**
KL160-HSK 63 Form F	1/32 – 5/8	1 – 16	HSK 63 Form F	3.86	4.33	–	1.97	–	3.5	75408	**1,280**
KL160-CAT40	1/32 – 5/8	1 – 16	CAT 40	3.90	4.37	–	1.97	–	2.7	75404	**960**
KL160-CAT50	1/32 – 5/8	1 – 16	CAT 50	3.31	3.78	1.93	1.97	2.76	7.9	75406	**1,295**

Note – Other tapers available. Please contact Royal at 1-800-645-4174.



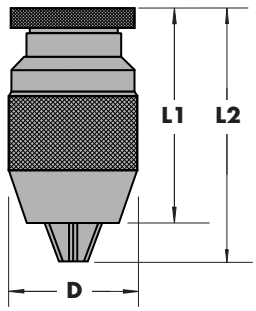
ALBRECHT CLASSIC PRECISION KEYLESS DRILL CHUCKS

The World's Most Consistently Accurate Drill Chucks

- Available in the following styles:
  - – Standard
  - – Thru-hole
  - – Diamond-coated jaws
  - – Stainless Steel
- Keyless operation.
- Self-tightening design.
- Balanced.
- Stainless steel models with threaded mount for corrosive applications such as EDM.
- Thru-hole models are great for EDM applications and also allow the use of longer drills.
- Models with diamond-coated jaws effectively grip carbide-shank drills.
- Threaded-mount models available upon request.

Dimensions

CHUCK MODEL	D	L1	L2
15	0.75	1.38	1.50
30	1.00	1.75	1.88
50	1.19	2.25	2.44
65	1.38	2.44	2.69
100	1.69	3.13	3.63
130	2.00	3.56	4.06
160	2.25	3.75	4.31





Albrecht Classic Keyless Drill Chucks

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	CHUCK MOUNT	MAXIMUM RPM	WEIGHT (lbs.)	PART NUMBER	PRICE
15-J0	0*– 1/16	0*–1.5	J0	50,000	0.1	70010	**$794**
30-J0	0*– 1/8	0*–3	J0	35,000	0.2	70020	**599**
30-J1	0*– 1/8	0*3	J1	35,000	0.2	70030	**599**
65-J1	0*– 1/4	0*–6.5	J1	20,000	0.7	70050	**570**
100-J33	0*– 3/8	0*–10	J33	12,000	1.4	70070	**617**
100-J2	0*– 3/8	0*–10	J2	12,000	1.4	70080	**617**
130-J33	1/32– 1/2	1–13	J33	7,000	2.1	70090	**678**
130-J2	1/32– 1/2	1–13	J2	7,000	2.1	70100	**678**
130-J6	1/32– 1/2	1–13	J6	7,000	2.1	70110	**678**
160-J6	1/8– 5/8	3–16	J6	4,000	2.8	70120	**764**

* The inherent design characteristics of a keyless drill chuck may prevent the jaws from closing down to absolute zero. Albrecht guarantees a minimum gripping diameter of 0.008" for model 15 Keyless Drill Chucks, and 0.015" for Models 30 – 100 Keyless Drill Chucks. If you need to grip a smaller diameter, please contact us at 1-800-645-4174.

ALBRECHT CLASSIC PRECISION KEYLESS DRILL CHUCKS



Albrecht Classic Keyless Drill Chuck with Thru-Hole

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	THRU-HOLE DIA.	CHUCK MOUNT	MAXIMUM RPM	WEIGHT (lbs.)	PART NUMBER	PRICE
15-J0	0*– 1/16	0*–1.5	1.8	J0	50,000	0.1	73500	**$822**
30-J0	0*– 1/8	0*–3	3	J0	35,000	0.2	73510	**602**
30-J1	0*– 1/8	0*–3	3	J1	35,000	0.2	73520	**602**

FOR CARBIDE AND HARDENED-SHANK DRILLS

Albrecht Classic Keyless Drill Chuck with Diamond Jaws

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	CHUCK MOUNT	MAXIMUM RPM	WEIGHT (lbs.)	PART NUMBER	PRICE
130-J33	1/32 – 1/2	1–11	J33	7,000	2.1	70290	**$988**
130-J6	1/32 – 1/2	1–13	J6	7,000	2.1	70300	**988**

Discontinued – Available While Supplies Last.



Albrecht Stainless Steel Classic Keyless Drill Chucks

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	THRU-HOLE DIA.	CHUCK MOUNT	MAXIMUM RPM	WEIGHT (lbs.)	PART NUMBER	PRICE
30-3/8	0– 1/8	0*–3	3	3/8–24	7,500	0.3	73700	**$956**
50-3/8	1/32 – 1/4	0.6–7.4	4	3/8–24	5,000	0.5	73710	**1,030**

Note – These stainless steel chucks are for industrial use only. Special Chucks available for medical/surgical applications. Please contact us at 1-800-645-4174.

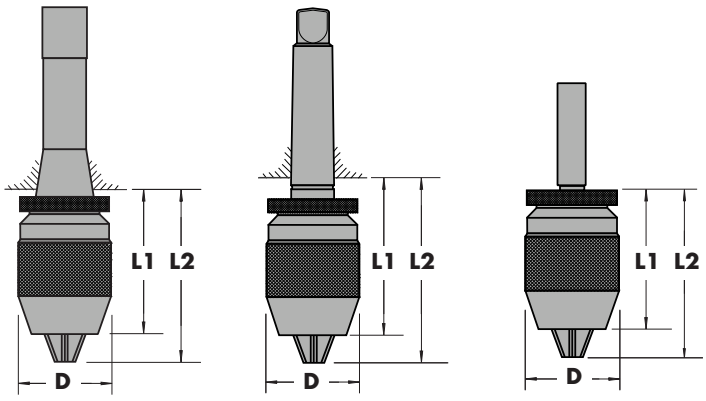


ALBRECHT CLASSIC-PLUS PRECISION DRILL CHUCKS WITH INTEGRAL SHANK

- Integral shank design is more compact than a combined drill chuck and arbor, resulting in:
  - – Greater accuracy
  - – Greater rigidity
  - – Larger work envelope
- Integral shank eliminates the possibility of a chuck slipping on its arbor.
- This unit is often less expensive than a separate chuck and arbor.
- Keyless operation.
- Self-tightening design.
- Balanced.
- Available with standard or diamond-coated jaws.

CHUCK MODEL	D	L1	L2
130-2MT	2"	3 3/8"	3 7/8"
130-3MT	2"	3 3/8"	3 7/8"
130-4MT	2"	3 7/16"	3 15/16"
130-R8	2"	3 5/16"	3 13/16"
130-5/8	2"	3 1/8"	3 5/8"

CHUCK MODEL	D	L1	L2
160-2MT	2 1/4"	3 1/2"	4 1/16"
160-3MT	2 1/4"	3 1/2"	4 1/16"
160-4MT	2 1/4"	3 9/16"	4 1/16"
160-R8	2 1/4"	3 7/16"	3 15/16"



R8 SHANK | MORSE TAPER SHANK | STRAIGHT SHANK



Albrecht Classic-Plus Precision Keyless Drill Chucks with Integral Shank

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	SHANK TYPE	MAXIMUM RPM	WEIGHT (lbs.)	PART NUMBER	PRICE
CP130-2MT	1/32 – 1/2	1–13	2MT	7,000	2.3	73010	**$754**
CP130-3MT	1/32 – 1/2	1–13	3MT	7,000	2.6	73020	**758**
CP130-4MT	1/32 – 1/2	1–13	4MT	7,000	3.3	73030	**799**
CP130-R8	1/32 – 1/2	1–13	R8	7,000	2.6	73040	**822**
CP130-5/8	1/32 – 1/2	1–13	5/8"SS	7,000	2.2	73050	**750**
CP160-2MT	1/8 – 5/8	3–16	2MT	4,000	2.9	73060	**835**
CP160-3MT	1/8 – 5/8	3–16	3MT	4,000	3.3	73070	**840**
CP160-4MT	1/8 – 5/8	3–16	4MT	4,000	4.0	73080	**882**
CP160-R8	1/8 – 5/8	3–16	R8	4,000	4.2	73090	**910**

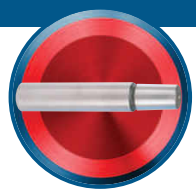
FOR CARBIDE AND HARDENED-SHANK DRILLS

Albrecht Classic-Plus Precision Keyless Drill Chucks with Integral Shank and Diamond-Coated Jaws

CHUCK MODEL	CAPACITY (inches)	CAPACITY (millimeters)	SHANK TYPE	MAXIMUM RPM	WEIGHT (lbs.)	PART NUMBER	PRICE
CPD130-2MT	1/32 – 1/2	1–13	2MT	7,000	2.3	73110	**$1,070**
CPD130-3MT	1/32 – 1/2	1–13	3MT	7,000	2.6	73120	**1,105**
CPD130-4MT	1/32 – 1/2	1–13	4MT	7,000	3.3	73130	**1,125**
CPD130-R8	1/32 – 1/2	1–13	R8	7,000	2.6	73140	**1,155**
CPD130-5/8	1/32 – 1/2	1–13	5/8"SS	7,000	2.2	73150	**1,070**

Discontinued – Available While Supplies Last.

ALBRECHT PRECISION ARBORS



- Manufactured from high-grade alloy steels.
- Hardened for long life.
- Ground concentric within 0.0001".
- Guarantee: If an Albrecht chuck ever slips on an Albrecht arbor, we will repair or replace them at no charge.



Straight Shank

SHANK DIAMETER	SHANK LENGTH	CHUCK TAPER	PART NUMBER	PRICE
3/8"	2½"	J0	70580	**$107**
3/8"	2½"	J1	70583	**112**
½"	2½"	J0	70586	**107**
½"	2½"	J1	70589	**112**
½"	2½"	J2	70592	**132**
½"	2½"	J33	70595	**167**
½"	2½"	J6	70598	**167**
5/8"	2½"	J1	70601	**167**
5/8"	2½"	J33	70607	**167**
5/8"	2½"	J6	70610	**167**
3/4"	3"	J2	70616	**186**
3/4"	3"	J6	70619	**186**
1"	3"	J33	70625	**186**

Discontinued – Available While Supplies Last.

ALBRECHT ACCESSORIES



SENSITIVE DRILL FEEDS

- Makes drilling of small holes easy by giving operator fingertip feed control independent of coarser quill feed.
- Eliminates the need for special machines to drill small holes.
- Reduces breakage and deflection of small drills.

Simple to use:

1. Grasp free-turning knurled ring and feed with gentle finger pressure.
2. Spring-loaded. When ring is released, chuck retracts automatically.





Note: Spring is specifically balanced for use with model 15-J0. The use of other chucks could result in decreased accuracy and performance.

SHANK	TAPER	PART NUMBER	PRICE
1 Morse Taper	J0	70670	**$721**
½" Diameter	J0	70675	**654**

CHUCK REMOVAL TOOLS

- Tapered chuck removal tool can be used to remove the chucks from their mounts.
- Simply match the Jacobs taper on the chuck to the corresponding tool.

CHUCK MOUNT	PART NUMBER	PRICE
J0	70678	**$107**
J1	70680	**151**
J2	70682	**163**
J33	70682	**163**
J6	70682	**163**

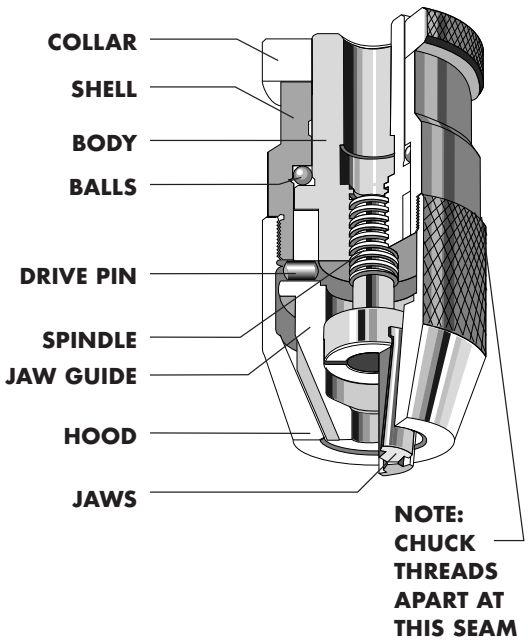






ALBRECHT CHUCK REFURBISHING

Send It In or Do It Yourself



Many customers refurbish their own chucks by following these simple instructions. If you have questions regarding the refurbishing process, please call one of our applications engineers at 1-800-645-4174, or visit www.royalproducts.com.

- Remove collar from chuck.
- There is an invisible seam between the hood and shell. Hold chuck by the shell in a vise with soft jaws and loosen hood with a strap wrench – RH thread.
- Once the hood has been loosened, unscrew by hand to prevent distortion.
- Slide jaws out of jaw guide and remove guide.
- Remove body and spindle assembly to expose balls.
- Clean all parts with a mild solvent.
- Replace worn or damaged parts.
- Reverse steps for assembly.

Caution – do not lubricate acme thread on body/spindle assembly. Thread must be clean and dry for chuck to work correctly.

If you prefer to send your chucks back to our factory for refurbishing, please send them to the address listed in this catalog. Be sure to include your name, telephone number, and either a fax number or email address so we can send you a free, no-obligation quotation. If our technicians determine that a chuck is beyond reasonable refurbishing condition, you will be offered a brand new Albrecht chuck at a discounted price.

ALBRECHT REPLACEMENT PARTS

Classic Keyless Drill Chucks

CHUCK MODEL	BODY & SPINDLE ASSEMBLY		JAWS		HOOD		BALLS (Set)		COLLAR		SHELL		JAW GUIDE		DRIVE PIN	
	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE
C15-J0	70796	$208	70700	$263	70716	$146	70732	$26	70748	$182	70764	$104	70780	$228	71002	$13
C30-J0	70798	170	70702	233	70718	156	70734	20	70750	199	70766	82	70782	209	71004	13
C30-J1	70800	170	70702	233	70718	156	70734	20	70750	199	70766	82	70782	209	71004	13
C65-J1	70804	182	70706	233	70722	156	70738	20	70754	71	70770	87	70786	127	71008	13
C100-J33	70808	221	70710	233	70726	172	70742	20	70758	72	70774	104	70790	132	71012	13
C100-J2	70810	221	70710	233	70726	172	70742	20	70758	72	70774	104	70790	132	71012	13
C130-J33	70812	221	70712	233	70728	219	70744	26	70760	74	70776	104	70792	132	71014	13
C130-J2	70814	221	70712	233	70728	219	70744	26	70760	74	70776	104	70792	132	71014	13
C130-J6	70816	221	70712	233	70728	219	70744	26	70760	74	70776	104	70792	132	71014	13
C160-J6	70818	244	70714	233	70730	245	70746	26	70762	82	70778	117	70794	147	71016	13

Classic-Plus Keyless Drill Chucks

CHUCK MODEL	BODY & SPINDLE ASSEMBLY		JAWS		HOOD		BALLS (Set)		COLLAR		SHELL		JAW GUIDE		DRIVE PIN	
	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE
CP130-2MT	73250	$304	70712	$233	70728	$219	73220	$54	73210	$82	73200	$104	70792	$132	71014	$13
CP130-3MT	73260	327	70712	233	70728	219	73220	54	73210	82	73200	104	70792	132	71014	13
CP130-4MT	73270	364	70712	233	70728	219	73220	54	73210	82	73200	104	70792	132	71014	13
CP130-5/8	73290	295	70712	233	70728	219	73220	54	73210	82	73200	104	70792	132	71014	13
CP130-R8	74040	375	70712	233	70728	219	73220	54	73210	82	73200	104	70792	132	71014	13
CP160-2MT	74044	421	70714	233	70730	245	70747	26	70763	82	73205	117	70794	147	71016	13
CP160-3MT	74042	364	70714	233	70730	245	70747	26	70763	82	73205	117	70794	147	71016	13
CP160-4MT	74041	408	70714	233	70730	245	70747	26	70763	82	73205	117	70794	147	71016	13
CP160-R8	74043	421	70714	233	70730	245	70747	26	70763	82	73205	117	70794	147	71016	13

ROYAL ULTRA-PRECISION ER COLLETS – 0.0002" TIR



Inch and Metric Sizes
Royal ER Collets are available in both inch and metric sizes. This optimizes the surface contact between the collet and cutting tool and results in higher accuracies, stronger grip force, better part finishes, and longer cutting tool life.

Extremely Accurate
Runout is guaranteed to be 6 microns (0.0002") TIR, or better. Each collet is inspected to this standard prior to shipping.

Heavy Duty Construction
Royal ER Collets are made from high-grade steels imported from Germany and are hardened for long life.



Sealed Models Available
For precise coolant delivery to the tip of the cutting tool.

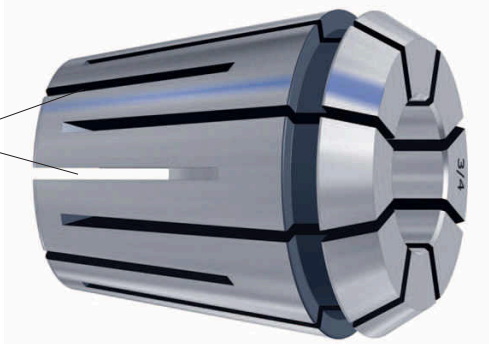
Large Inventory
All sizes are in-stock, ready for immediate shipment.

Wide Gripping Range
Royal standard ER Collets contain 16 slots, providing a larger gripping range than other brands.

Great Value
Very competitive prices make these high-quality ER Collets the best value in the industry.

ROYAL SEALED ULTRA-PRECISION ER COLLETS

Short slots block flow, ensuring that all coolant is delivered thru the cutting tool.

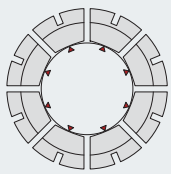


- Ultra-Precision Accuracy – 0.0002" TIR guaranteed.
- High-pressure approved to 1400 psi.
- Unique design is mechanically sealed by virtue of the rear slots terminating prior to the annular groove, completely blocking the path of coolant flow to the front of the collet.
- When using thru-coolant cutting tools, these collets ensure 100% coolant delivery to the tip of the cutting tool.
- Superior to collets sealed with silicone/rubber plugs because plugs are limited to lower operating pressures and are subject to wear.
- Unlike standard ER collets, sealed models do not have a wide collapsibility range, requiring the collet bore to be matched to the cutting tool shank diameter.

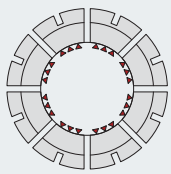
A Perfect Match to Your Cutting Tool Diameter

All Royal ER Collets are available from stock in both inch and metric sizes. This is very important because it enables you to select a collet that has been ground to your precise cutting tool size.

Using a collet that is perfectly matched to the cutting tool diameter ensures that full surface contact is achieved, resulting in higher gripping force, better accuracy, less vibration, better surface finishes, and longer tool life.



Other Brands
Single Point Contact when Using Metric Collets to Hold Inch-Sized Tooling, or Vise Versa



Royal Brand
Full Surface Contact Because Royal ER Collets are Ground to Exact Inch and Metric Sizes

ULTRA-PRECISION ER COLLETS – 0.0002" TIR

Standard and Sealed

Inch Sizes



ER-11	ER-16	ER-20	ER-25	ER-32	ER-40
$48 / $50	$48 / $50	$53 / $58	$56 / $61	$64 / $70	$74 / $81

Royal Ultra-Precision ER Collets (Inch)

DRILL/ ENDMILL DIAMETER	STANDARD COLLET GRIP RANGE*	ER-11*		ER-16		ER-20		ER-25		ER-32		ER-40	
		Standard $48	Sealed $50	Standard $48	Sealed $50	Standard $53	Sealed $58	Standard $56	Sealed $61	Standard $64	Sealed $70	Standard $74	Sealed $81
1/16"	.062 – .043	53002		53020		53050		53090					
3/32"	.093 – .054	53004		53022		53052		53092		53140			
1/8"	.125 – .086	53006	56006	53024	56024	53054	56054	53094	56094	53142		53200	
5/32"	.156 – .117	53008	56008	53026	56026	53056	56056	53096	56096	53144	56144	53202	56202
3/16"	.187 – .148	53010	56010	53028	56028	53058	56058	53098	56098	53146	56146	53204	56204
7/32"	.218 – .179	53012	56012	53030	56030	53060	56060	53100	56100	53148	56148	53206	56206
1/4"	.250 – .211	53014	56014	53032	56032	53062	56062	53102	56102	53150	56150	53208	56208
9/32"	.281 – .242			53034	56034	53064	56064	53104	56104	53152	56152	53210	56210
5/16"	.312 – .273			53036	56036	53066	56066	53106	56106	53154	56154	53212	56212
11/32"	.343 – .304			53038	56038	53068	56068	53108	56108	53156	56156	53214	56214
3/8"	.375 – .336			53040	56040	53070	56070	53110	56110	53158	56158	53216	56216
13/32"	.406 – .367			53042	56042	53072	56072	53112	56112	53160	56160	53218	56218
7/16"	.437 – .398					53074	56074	53114	56114	53162	56162	53220	56220
15/32"	.468 – .429					53076	56076	53116	56116	53164	56164	53222	56222
1/2"	.500 – .461					53078	56078	53118	56118	53166	56166	53224	56224
17/32"	.531 – .492							53120	56120	53168	56168	53226	56226
9/16"	.562 – .523							53122	56122	53170	56170	53228	56228
19/32"	.593 – .554							53124	56124	53172	56172	53230	56230
5/8"	.625 – .586							53126	56126	53174	56174	53232	56232
21/32"	.656 – .617									53176	56176	53234	56234
11/16"	.687 – .648									53178	56178	53236	56236
23/32"	.718 – .679									53180	56180	53238	56238
3/4"	.750 – .711									53182	56182	53240	56240
25/32"	.781 – .742									53184	56184	53242	56242
13/16"	.812 – .773									53186	56186	53244	56244
27/32"	.843 – .804											53246	56246
7/8"	.875 – .836											53248	56248
29/32"	.906 – .867											53250	56250
15/16"	.937 – .898											53252	56252
31/32"	.969 – .930											53254	56254
1"	1.000 – .961											53256	56256

* Gripping range for ER-11 is 1/64". Sealed collets have no range – must be sized exactly.

ULTRA-PRECISION ER COLLETS – 0.0002" TIR

Standard and Sealed

Metric Sizes



ER-11	ER-16	ER-20	ER-25	ER-32	ER-40
$48 / $50	$48 / $50	$53 / $58	$56 / $61	$64 / $70	$74 / $81

Royal Ultra-Precision ER Collets (Metric)

DRILL/ ENDMILL DIAMETER	STANDARD COLLET GRIP RANGE*	ER-11*		ER-16		ER-20		ER-25		ER-32		ER-40	
		Standard $48	Sealed $50	Standard $48	Sealed $50	Standard $53	Sealed $58	Standard $56	Sealed $61	Standard $64	Sealed $70	Standard $74	Sealed $81
1 mm	1 – 0.5	53402		53430									
2 mm	2 – 1	53404		53432		53460		53502					
3 mm	3 – 2	53406	56406	53434	56434	53462	56462	53504	56504	53550			
4 mm	4 – 3	53408	56408	53436	56436	53464	56464	53506	56506	53552	56552	53602	56602
5 mm	5 – 4	53410	56410	53438	56438	53466	56466	53508	56508	53554	56554	53604	56604
6 mm	6 – 5	53412	56412	53440	56440	53468	56468	53510	56510	53556	56556	53606	56606
7 mm	7– 6	53414	56414	53442	56442	53470	56470	53512	56512	53558	56558	53608	56608
8 mm	8 – 7			53444	56444	53472	56472	53514	56514	53560	56560	53610	56610
9 mm	9 – 8			53446	56446	53474	56474	53516	56516	53562	56562	53612	56612
10 mm	10 – 9			53448	56448	53476	56476	53518	56518	53564	56564	53614	56614
11 mm	11 – 10					53478	56478	53520	56520	53566	56566	53616	56616
12 mm	12 – 11					53480	56480	53522	56522	53568	56568	53618	56618
13 mm	13 – 12					53482	56482	53524	56524	53570	56570	53620	56620
14 mm	14 – 13							53526	56526	53572	56572	53622	56622
15 mm	15 – 14							53528	56528	53574	56574	53624	56624
16 mm	16 – 15							53530	56530	53576	56576	53626	56626
17 mm	17 – 16									53578	56578	53628	56628
18 mm	18 – 17									53580	56580	53630	56630
19 mm	19 – 18									53582	56582	53632	56632
20 mm	20 – 19									53584	56584	53634	56634
21 mm	21 – 20											53636	56636
22 mm	22 – 21											53638	56638
23 mm	23 – 22											53640	56640
24 mm	24 – 23											53642	56642
25 mm	25 – 24											53644	56644
26 mm	26 – 25											53646	56646

* Gripping range for ER-11 is 0.5 mm. Sealed collets have no range – must be sized exactly.

ROYAL ULTRA-PRECISION ER COLLET SETS

Standard and Sealed



- 0.0002" TIR guaranteed.
- Convenient sets include all popular sizes.
- Available in inch, metric, standard, and sealed models.

Royal ER Collet Sets (Inch – Standard)

COLLET SERIES	RANGE	NUMBER OF COLLETS IN SET	PART NUMBER	PRICE
ER-11	1/16"–1/4" x 32nds	7	53300	**$336**
ER-16	1/16"–3/8" x 32nds	11	53302	**528**
ER-20	5/32"–1/2" x 32nds	12	53304	**636**
ER-25	5/32"–5/8" x 32nds	16	53306	**896**
ER-32	7/32"–3/4" x 32nds	18	53308	**1,152**
ER-40	1/8"–1" x 16ths	15	53310	**1,110**

Royal ER Collet Sets (Metric – Standard)

COLLET SERIES	RANGE	NUMBER OF COLLETS IN SET	PART NUMBER	PRICE
ER-11	1–7 mm x 1 mm	7	53700	**$336**
ER-16	1–10 mm x 1 mm	10	53702	**480**
ER-20	2–13 mm x 1 mm	12	53704	**636**
ER-25	2–16 mm x 1 mm	15	53706	**840**
ER-32	3–20 mm x 1 mm	18	53708	**1,152**
ER-40	4–26 mm x 1 mm	23	53710	**1,702**

Royal ER Collet Sets (Inch – Sealed*)

COLLET SERIES	RANGE	NUMBER OF COLLETS IN SET	PART NUMBER	PRICE
ER-16	1/8"–3/8" x 32nds	9	56302	**$450**
ER-20	5/32"–1/2" x 32nds	12	56304	**696**
ER-25	5/32"–5/8" x 32nds	16	56306	**976**
ER-32	7/32"–3/4" x 32nds	18	56308	**1,260**
ER-40	3/16"–1" x 16ths	14	56310	**1,134**

* Unlike standard ER collets, sealed models do not have a wide collapsibility range and therefore must be sized to the cutting tool diameter.

Royal ER Collet Sets (Metric – Sealed*)

COLLET SERIES	RANGE	NUMBER OF COLLETS IN SET	PART NUMBER	PRICE
ER-16	3–10 mm x 1 mm	8	56702	**$400**
ER-20	3–13 mm x 1 mm	11	56704	**638**
ER-25	3–16 mm x 1 mm	14	56706	**854**
ER-32	4–20 mm x 1 mm	17	56708	**1,190**
ER-40	4–26 mm x 1 mm	23	56710	**1,863**

* Unlike standard ER collets, sealed models do not have a wide collapsibility range and therefore must be sized to the cutting tool diameter.

ROYAL PRODUCTS

FILTERMIST MIST COLLECTORS

LOW-COST, HIGHLY EFFICIENT, AND MINIMAL MAINTENANCE

See Free After Filter Promotion on Page 189













ROYAL PRODUCTS
Optimize everything.



THE WORLD'S LEADING MIST COLLECTOR



For over 40 years, the Royal Filtermist has been effectively collecting mist and smoke generated by all types of metalworking machinery.

There are currently more than 190,000 units operating in over 60 countries worldwide, making Filtermist the world leader in metalworking pollution control equipment.

Throughout its history, the Royal Filtermist has undergone continuous design advances. The Filtermist FX represents the ninth generation of Royal Filtermist, and is the result of extensive computer-aided modeling and testing. Based upon the well-established principle of centrifugal impaction, the Filtermist FX incorporates a series of improvements that have resulted in the most advanced and effective system available for the removal of mist and smoke created by metalworking machinery.

Check out the Royal Filtermist Video at www.mistcollectors.com

Contents

Why Control Oil Mist and Smoke in Your Shop? . . . . . Page 183
Common Mist Collection Methods . . . . . Pages 184-185
How Does the Royal Filtermist Work? . . . . . Page 186
Royal FX Series Design Features . . . . . Page 187
Why is the Royal Filtermist the Best Choice for the Metalworking Industry? . . . . . Page 188
Royal Risk-Free Performance Guarantee . . . . . Page 189
Royal Filtermist Performance Accessories . . . . . Pages 190-191
Royal Filtermist Mounting Options . . . . . Pages 192-193
Choosing the Correct Filtermist Unit . . . . . Pages 194-195
Royal Filtermist Efficiency . . . . . Page 196
Commonly Asked Royal Filtermist Questions . . . . . Page 197
Royal Filtermist Model FX-300 . . . . . Page 198-199
Royal Filtermist Model FX-575 . . . . . Page 200-201
Royal Filtermist Model FX-900 . . . . . Page 202-203
Royal Filtermist Model FX-1200 . . . . . Page 204-205
Royal Easy Mount™ Filtermist Packages . . . . . Page 206
Royal Filtermist Maintenance . . . . . Page 207
Royal Filtermist Replacement Parts . . . . . Page 208
A Royal Filtermist for Every Application . . . . . Page 209

WHY CONTROL OIL MIST & SMOKE IN YOUR SHOP?



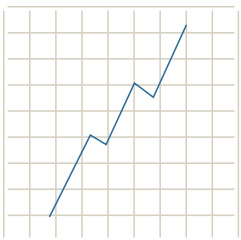


- **Reduced Health Risks**
  Any form of pollution is potentially dangerous to the lungs, larynx, and skin.
- **Reduced Accident Risks**
  Oil mist creates slippery surfaces which increase accident rates.
- **Reduced Fire Hazards**
  Oil deposits create a serious fire risk by allowing fires to spread quickly.



Cost Savings

- **Coolant Cost Savings**
  The Royal Filtermist recycles coolant and returns it to your machine rather than venting it to the atmosphere.
- **Heating and Cooling Cost Savings**
  The Royal Filtermist returns clean air to the shop instead of exhausting it outdoors.
- **Cleaning and Maintenance Cost Savings**
  Uncontrolled airborne mist and smoke deposits result in more frequent cleaning of exposed surfaces.



INCREASED PRODUCTIVITY

- **Thermal Stability**
  Filtermist aids in temperature control which can help machines hold tighter tolerances over long-running jobs and/or during unmanned production.
- **Improved Employee Attendance**
  A contaminated shop environment often results in higher worker absenteeism and lower morale.
- **Less Machine Downtime**
  Fouled contacts in electronic equipment cause expensive downtime.
- **Higher Speeds and Feeds**
  Machining operations can run at higher speeds and feeds without the negative effects of increased mist and smoke production.
- **Better Lighting**
  Haze from mist and smoke and grimy buildup on shop lighting fixtures cause even the most well-lit shops to take on a dingy appearance. Bright, cheerful environments improve employee morale and performance.



- **Fewer Workmen's Compensation Claims**
  The increase in workmen's compensation rates from one large claim can cost more than an air cleaning system for an entire factory.
- **Government Regulations**
  The current OSHA and NIOSH limits on airborne oil mist are 5 mg/cubic meter, and this requirement is expected to become even stricter in the future. The Royal Filtermist exceeds both the current and new proposed limits.



- **Attracting and Keeping Good Employees**
  Your employees expect and deserve a workplace that is as hazard-free as you can make it. One customer, when asked why he wanted to control the oil mist and smoke in his plant, responded, "I wouldn't expect my office people to work with smoke pouring out of their computers, and I sure don't expect my shop workers to work on machines with oil mist pouring out of them!"

The greatest challenge facing today's manufacturers is attracting and keeping talented employees. Don't risk losing good people to the competition because of poor air quality in your shop. Call Royal today!

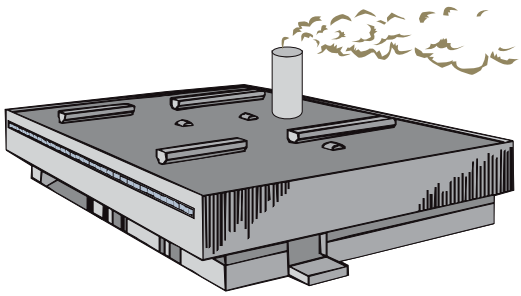


COMMON MIST COLLECTION METHODS

In order to fully understand why the Royal Filtermist is the best choice for handling oil mist and smoke produced by the metalworking industry, it is important to have some general knowledge of how other types of collection systems work. This section contains an overview of the most common methods for controlling mist and smoke. While these systems all have some positive features, their drawbacks make them unsuitable for use in most metalworking applications.

External Venting

At one time, the only method for controlling oil mist and smoke in a shop was to vent it out of the building. This was done either by opening the doors and windows or installing a ventilation system. While this method may look like an attractive low-cost solution, the potential dangers should be enough to make any shop owner reconsider this practice.



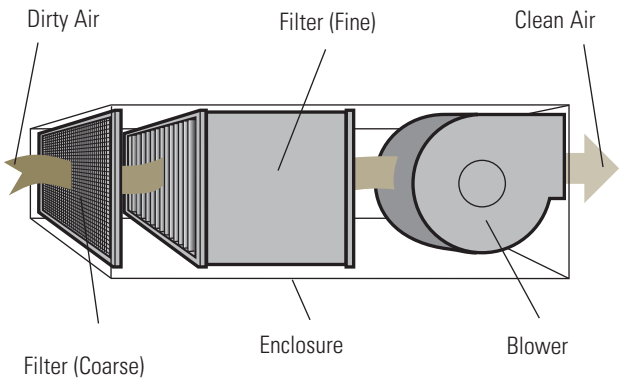
Environmental Hazards Today, it is illegal in many states to exhaust pollutants to the atmosphere. Offending companies run the risk of large fines and lawsuits.

Fire Hazards Over time, oil deposits collect in the ductwork of ventilation systems, making them prime targets for flash fires and providing pathways for fires to spread quickly.

Cleanliness Problems As mist and smoke travels through a shop to the exhaust points, it collects on exposed surfaces. Over time, a grimy buildup occurs on machines, lights, floors, and walls, resulting in dirty, unsafe conditions.

Media-Type Filtration Systems

Media-type filtration systems typically consist of a blower and several filters of varying efficiencies. The contaminated air first passes through a coarse pre-filter where the largest particles are filtered out. It then moves through one or two medium-range filters before reaching the final filter, which is usually made from a high-efficiency HEPA material. Media-type systems are good at collecting dry contaminants such as welding smoke and graphite dust. However, they are often not suitable for metalworking applications where coolant mist is the primary contaminant.



High Operating Costs The biggest drawback of media-type filtration systems is the high operating cost associated with replacement filters. These filters are designed to retain contaminants, so they will become clogged with use. Usually they are made from media that cannot be cleaned, so the only alternative is replacement. Depending upon the cost of the filters and the replacement frequency, this type of system can be quite expensive to operate over the long term.

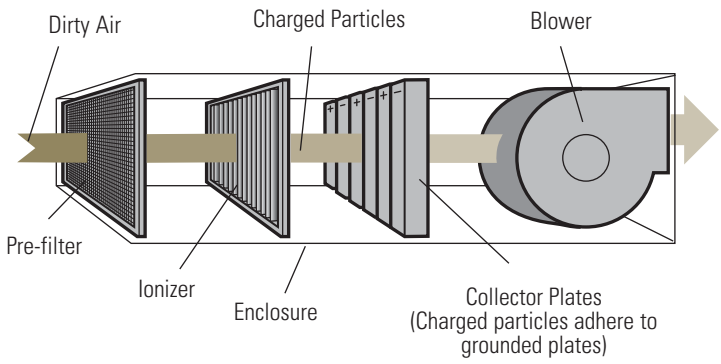
Decreased Throughput Another problem with multi-stage filter units is that the throughput of the system, measured in cfm, decreases as contaminants become trapped in the pores of the filters. It is important to maintain the correct throughput of any collection system. Reduced throughput means reduced collection, allowing contaminants to escape into the shop air.

Not for Mist Most media filters are designed to collect dry pollutants such as smoke and dust. Exposure to coolant and oil mist may damage certain types of filter media.



Electrostatic Precipitators

Electrostatic precipitators use a blower to draw mist and smoke particles past an ionizer, which imparts a positive charge to them. They then pass across a series of alternately like-charged and grounded collection plates. The particles are repelled by the like-charged plates and forced towards the grounded plates where they collect. The filtered air is returned to the shop.



Variable Efficiency Although electrostatic systems are very efficient when the collection plates are clean, the efficiency drops off drastically as the plates become covered with particles. Each time a particle deposits on a plate, it eliminates a spot for other particles to adhere to.

Maintenance Costs To maintain high efficiency, the collection plates must be cleaned often. This can be expensive because the residue is considered to be hazardous waste and must be disposed of by a certified waste handling company. Many electrostatic systems are sold with costly maintenance contracts, resulting in operating costs that greatly exceed the original unit purchase price.

Health Hazards As the collection plates become full, a phenomenon known as arcing can occur. This arcing results in the production of ozone, which has been found to cause a variety of health problems. This potential danger (and the fear of lawsuits) has caused many U.S. companies to remove electrostatic units from their factories.

The Dangers of Ozone

Ozone produced by electrostatic precipitators has been identified as a health risk to humans. Several U.S. government agencies have weighed-in on ozone as it relates to indoor air quality:

According to the **Environmental Protection Agency** (EPA): *When inhaled, ozone can damage the lungs. Relatively low amounts can cause chest pain, coughing, shortness of breath and throat irritation. Ozone may also worsen chronic respiratory diseases such as asthma and compromise the ability of the body to fight respiratory infections. People vary widely in their susceptibility to ozone. Healthy people, as well as those with respiratory difficulty, can experience breathing problems when exposed to ozone.*

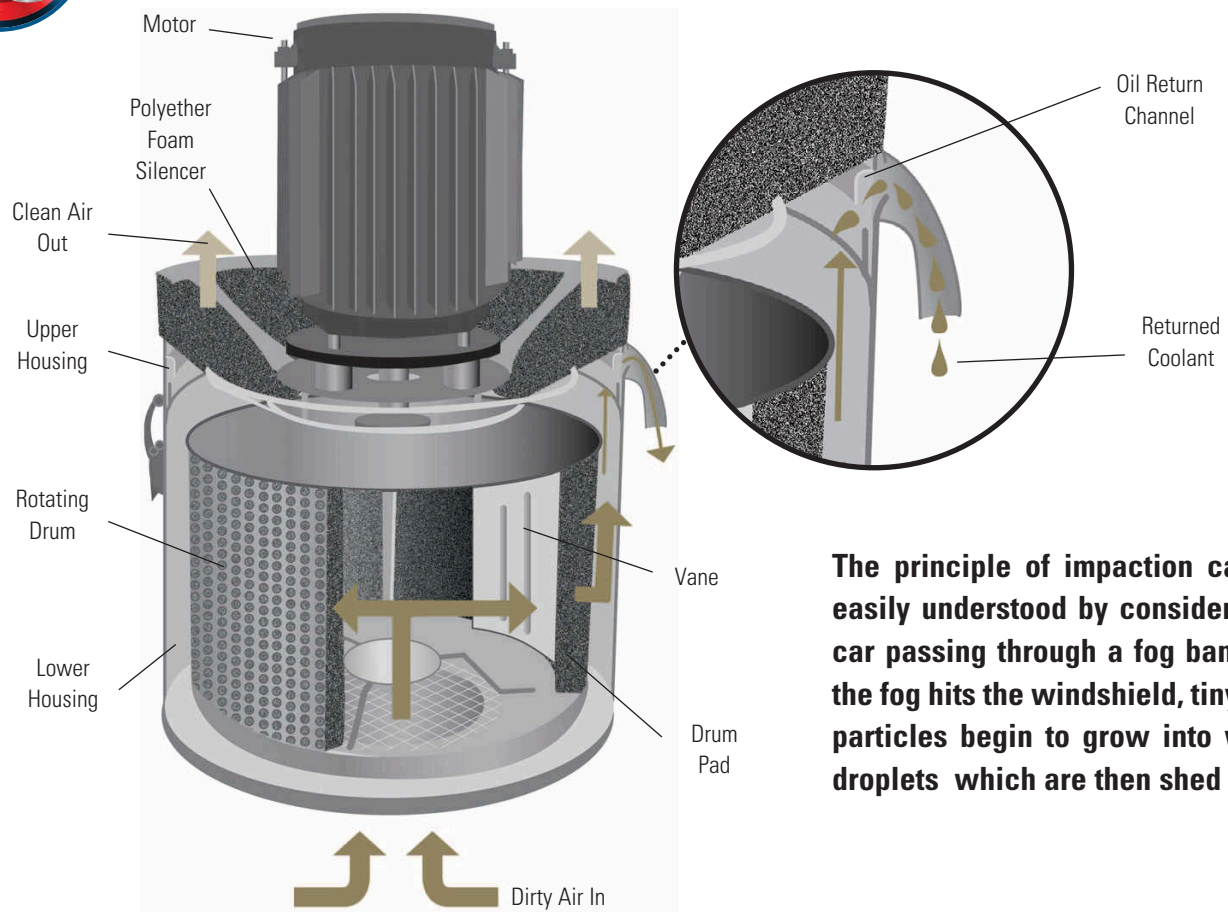
Current U.S. guidelines on indoor ozone levels:

- The **Occupational Safety and Health Administration** (OSHA) requires that workers not be exposed to an average concentration of more than 0.10 ppm (parts per million) for 8 hours.
- The **National Institute of Occupational Safety and Health** (NIOSH) recommends an upper limit of 0.10 ppm, not to be exceeded at any time.

Because of these health risks, many companies have established policies that ban the use of electrostatic mist collectors in their facilities.



HOW DOES THE ROYAL FILTERMIST WORK?



The principle of impaction can be easily understood by considering a car passing through a fog bank. As the fog hits the windshield, tiny mist particles begin to grow into water droplets which are then shed off.

The Royal Filtermist uses the principle of centrifugal impaction to eliminate mist. With only three main components: a drum, a motor, and the housing, its operation is quite simple.

1. A three-phase motor rotates the internal drum at high speed, creating a vacuum which draws mist particles into the center of the drum.
2. The mist particles then collide with the rotating drum's vanes and are forced together with other particles, causing them to coalesce and form larger, droplet-sized particles.
3. As the particles grow into droplets, they pass through the perforations in the rotating drum and centrifugal force causes them to be thrown onto the inner wall of the housing.

Note – it is important to understand that the pads that line the Filtermist drum are not filters. These porous pads are present to slow airflow through the unit, thereby maximizing contact with the drum vanes for greatest overall impaction efficiency.

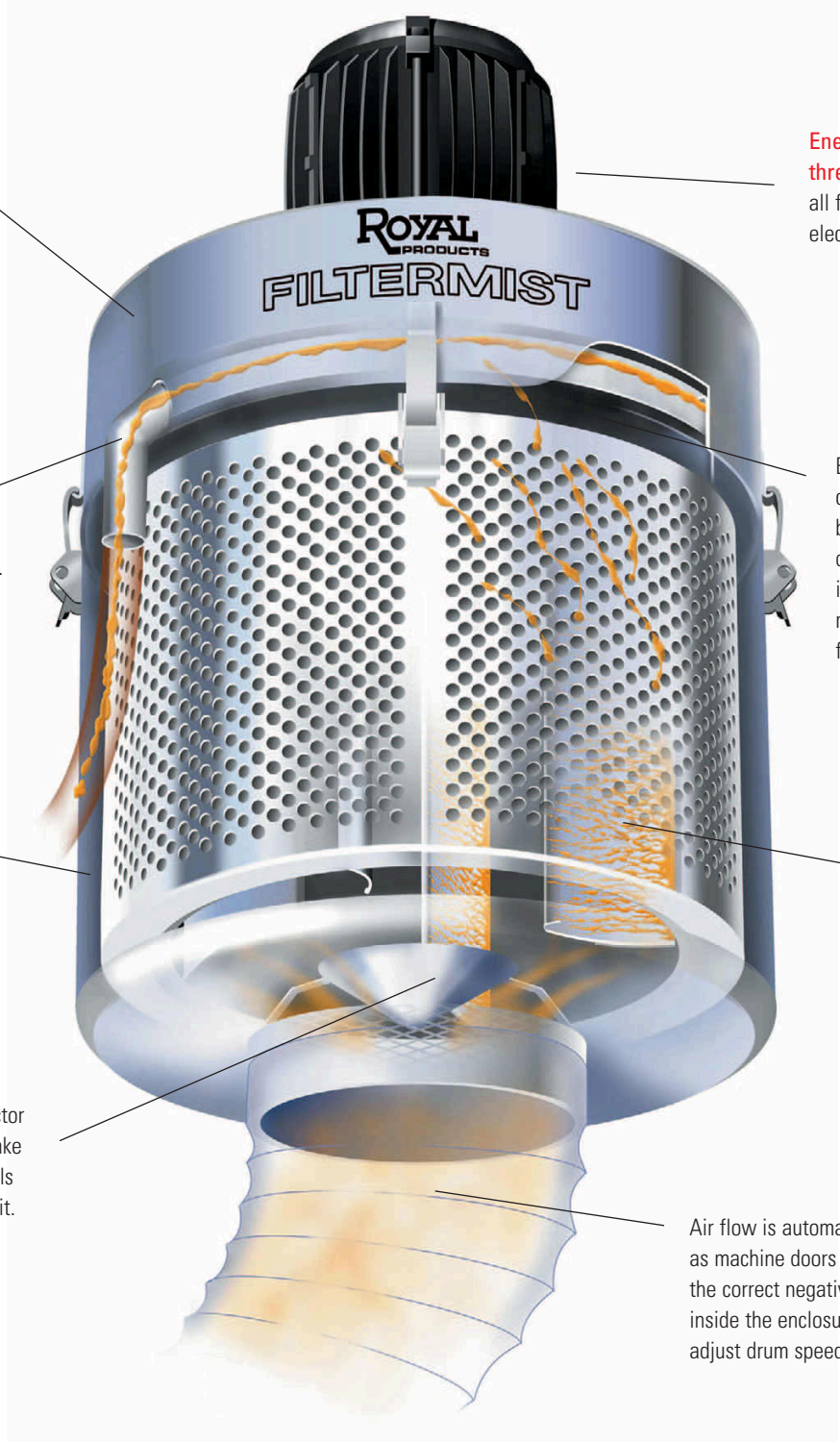
4. The particles are then forced, under pressure, up the walls of the housing to the oil return channel, where they are subsequently drained back to the machine's coolant tank.
5. Clean, oil-free air blows past the motor and is returned to the shop.
6. Since this process relies on the mechanical principle of centrifugal impaction and the rotational speed remains constant, the Royal Filtermist maintains a continuous high efficiency.
7. For certain applications that produce smoke and/or very fine mist particles, an after filter may be required. This filter easily mounts to the top of the Filtermist unit by slipping over the motor and it is secured in place with two toggle clips. An after filter mounted to a Royal Filtermist typically enjoys a comparably long service life because most contaminants are removed by the impaction process prior to reaching the filter.

IMPORTANT — All Filtermist units should be electrically wired to run continuously throughout a standard shift. Units should never be wired to switch on and off with the machining cycle. Please see installation manual for additional information.

ROYAL FX SERIES DESIGN FEATURES



The Royal Filtermist FX Series is the ninth generation of Filtermist. FX Models incorporate a number of design improvements over previous versions to provide the most advanced and effective system available for the removal of mist and smoke.



Compact design and reduced weight provide greater mounting flexibility.

Energy-efficient IE3 three-phase motor meets all federal, state, and local electrical and safety codes.

Oil return channel has been enlarged, enabling unit to process a greater volume of liquid.

Exceptional vibration control through dynamic balancing, uniform mass distribution, and neoprene isolators separating the motor/drum assembly from the housing.

Gap between drum and housing has been optimized for maximum filtration efficiency.

Curved drum vanes improve airflow.

Conical air deflector positioned at intake accurately controls airflow within unit.

Air flow is automatically regulated as machine doors close to keep the correct negative pressure inside the enclosure. No need to adjust drum speed.



WHY IS THE ROYAL FILTERMIST THE BEST CHOICE FOR THE METALWORKING INDUSTRY?

High Efficiency

The Royal Filtermist maintains a continuous high efficiency through constant drum speed. Performance does not decrease with use. See page 196 for efficiency information.

Low Maintenance

Because the unit works on a mechanical principle instead of electrostatics or multi-stage filters, the Royal Filtermist requires significantly less maintenance than most other filtration systems on the market. The small amount of regular maintenance that is required can be easily performed by the customer. See page 207 for maintenance information.

Heavy-Duty Construction

When you purchase a Royal Filtermist, you receive a quality product. Features found on all units include:

- Heavy-duty 3-phase motors that meet all federal, state and local electrical and safety codes.
- All exposed surfaces on the drum and housing are powder coated for wear resistance and long life.
- Very tight manufacturing tolerances provide precise fits between mating parts and ensure that the unit will provide years of trouble-free service.

Vibration Control

The Royal Filtermist incorporates unique features to help it overcome vibration-related problems that are sometimes associated with other centrifugal impaction type systems:

- All drums are dynamically balanced at the factory and tested before shipping.
- Vertical drum arrangement provides even mass distribution.
- Motor is connected to housing with four neoprene mounts, effectively isolating vibration and controlling startup torque.

Low Operating Costs

The Royal Filtermist is cost-effective to own and operate. Other types of systems (media, electrostatic, etc.) require frequent maintenance and costly filter replacement. Companies that sell these units often push expensive maintenance contracts that can far exceed the initial purchase price. Filtermist also consumes very little electrical power compared to other systems due to the use of energy-efficient IE3 motors. In fact, the tighter the machine enclosure, the lower the power draw.

No Heat/AC Waste

Processed air is returned to the shop, reducing heating and cooling costs. A/C service calls are also reduced by protecting intake filters from contaminants.

Flexibility

Units are portable and typically service individual machines, allowing machines to be easily moved or replaced. Large central systems are connected to multiple machines by costly and non-flexible ductwork, making relocation difficult.

Modular Design

The Royal Filtermist is a modular system. Accessories such as after filters, dust cyclones, deflectors, etc. can be easily added as applications require. See pages 190–191 for information on performance accessories.

Easy To Install

Multiple installation configurations allow the Filtermist to overcome almost any mounting obstacle. See pages 192–193 for mounting details.

Wide Range of Sizes

Four sizes ranging from 300–1200 cfm are available to suit all applications.

Strong Technical Support

A large network of local distributors and factory-trained representatives are strategically located throughout the country to provide quick and accurate on-site technical support.

5-Year Warranty

Every Royal Filtermist unit carries a 5-year warranty against failure due to manufacturing defects. Other brands are only protected for 1–2 years. Please note that our warranty does not include normal wear and tear items such as drum pads, silencers, ductwork, etc. The motor carries a one-year warranty.

Proven Worldwide

There are over 190,000 units currently operating in over 60 countries worldwide, making Filtermist the world leader in metalworking pollution control equipment.

ROYAL RISK-FREE PERFORMANCE GUARANTEE





Designed Specifically to collect oil mist and smoke produced by metalworking machinery, the Royal Filtermist simply does the best job, over a longer period of time, for the lowest cost.

Still Not Convinced? Try a Unit Risk-Free!

We're so confident that the Royal Filtermist is the best solution for mist and smoke generated by metalworking machinery, we are willing to guarantee its performance. Our guarantee is simple:



Risk-Free Performance Guarantee

Royal Products will issue full credit on any Royal Filtermist unit returned within 45 days of the purchase date if the customer is not completely satisfied with its performance. The following conditions apply:

1. The unit must be sized and installed according to the recommendations of our local factory representative and/or authorized Filtermist distributor.
2. Credit will be issued for the unit, but may not be issued for ductwork, oil return hoses, etc., if they are not in resalable condition.
3. The customer must contact Royal Products for a return goods number (RGA #). This number must appear on all paperwork and packaging of the unit being returned.
4. The returned unit must be securely packaged and arrive at Royal Products in good condition.

SPECIAL PROMOTION*
FREE AFTER FILTER AND DRUM PAD SET





Special Promotion – Royal Products will include a FREE standard after filter and a FREE set of drum pads with each new Royal Filtermist unit purchased – a value worth up to $548 per unit.

For most applications, this essentially means your first-year maintenance is on us.

Royal's exclusive Risk-Free Performance Guarantee coupled with this money-saving promotion means there has never been a better time to provide your employees with a safer, healthier workplace. Order today!

* Not subject to prior sale. Royal Products reserves the right to cancel this promotion at any time without notice.



ROYAL FILTERMIST PERFORMANCE ACCESSORIES

Royal Products offers a number of optional accessories designed to enhance Filtermist performance, particularly in very demanding applications. Please contact one of our engineers at 1-800-645-4174 if you have any questions regarding the use of these performance accessories.

Royal Standard After Filter



After filters are available for all Royal Filtermist models. They can be used in any application where extreme high efficiency is required, and are especially useful for dealing with the following conditions:

- Applications where heavy, dry smoke is generated along with the mist.
- Applications that produce very fine mist particles which may sometimes bypass the impaction process, (jobs that run at very high spindle speeds, high-pressure coolant, etc.).

Important – An after filter should not be used to compensate for blow-thru that could result from improper installation. If you have questions or concerns about your installation, please contact one of our engineers at 1-800-645-4174.

Standard After Filter Advantages

Easy Installation
The Royal standard after filter simply slides over the Filtermist motor and is secured in place with two toggle clips.

High Efficiency
Adding a standard after filter to a Royal Filtermist unit will greatly increase efficiency in the sub-micron range. See page 196 for additional information on efficiency.

Noise Reduction
An after filter reduces the noise level of a Filtermist unit by approximately 3 dB.

Long Life
Royal standard after filters have extended service lives due to their large surface area. They also last longer because the centrifugal impaction process of the Filtermist removes most of the pollutants before they ever reach the filter. Systems that rely entirely on media filters for the filtering process tend to have much shorter service lives.

Full Range
Standard after filters are available for all size Filtermist units. Models are also available for older series units.

Royal High-Performance After Filters

For very demanding applications, Royal now offers an optimized high-performance after filter.

- Great for all high-pressure oil applications – especially on Swiss machines.
- Unique design incorporates two distinct types of filter media separated by an expansion gap.
- Integral venturi-assisted drain draws liquid away from the filter, greatly lengthening service life – testing has resulted in more than a 10x increase for certain applications.
- Available for all Royal Filtermist FX-series units.
- In stock for immediate delivery.



Before ordering, please give one of our applications engineers a call to ensure that this filter is the correct solution for your specific application.



SPECIAL PROMOTION*
FREE AFTER FILTER AND DRUM PAD SET





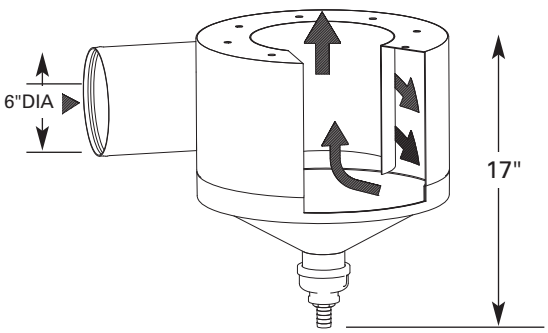
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Royal Cyclonic Swarf Separator

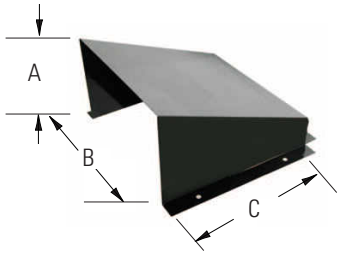


- Recommended for applications that generate solid particles, such as wet grinding dust, cast iron fines, etc.
- Also good for high-speed aluminum milling that produces light fly-away chips.
- Cyclonic action removes solid particles, ensuring that only mist is drawn into the Filtermist unit.
- Acts as a great pre-filter for high pressure coolant applications.
- Reduces maintenance in difficult applications such as heavy grinding.
- Easily attaches to the bottom of the Filtermist unit. Note – the separator cannot be used in direct-mount applications.
- 6" diameter intake port is located on the side of the unit.
- 5ft. of return hose is included for continuous draining.
- Two-piece design allows for easy cleaning.
- Not for use in purely dry applications.
- For models FX-900 and FX-1200 only.
- Reduces throughput of Filtermist unit by approximately 300 cfm.

Royal Chip Deflector

- Protects the Filtermist intake from chips and direct coolant splash.
- Opening is large enough to ensure that airflow and intake velocity are not negatively affected.
- Powder coated finish protects against rust.
- Can be used with all size Filtermist models.
- See page 193 for additional information on correct intake positioning.

MODEL	A	B	C
30220 (FX-900 & 1200)	6"	9 1/2"	10"
30222 (FX-300 & 575)	4 3/4"	8 1/2"	8 1/2"





ROYAL FILTERMIST MOUNTING OPTIONS

A wide variety of mounting options makes the Royal Filtermist very easy to install on virtually any machine tool.

All brackets, stands, and mounting accessories may be ordered individually for your particular application, or you can enjoy the ease of single part number ordering with our universal Easy-Mount™ packages featured on page 206.

For all mounting questions, please contact one of our applications engineers at 1-800-645-4174.

	FX-300	FX-575	FX-900	FX-1200
Direct Mount	YES	YES	YES	YES
Floor Stand	YES	YES	YES	YES
Machine Top Stand	YES	YES	YES	YES
Wall Mount	YES	YES	YES	YES
Side Mount	YES	YES	NO	NO
Plenum	YES	YES	YES	YES

Direct



Very cost-effective and our most popular mounting method. The mist collector mounts to the top of the machine tool enclosure directly over the appropriate intake position.

Models FX-300 and 575 come with everything needed for direct mounting. For models FX-900 and 1200, be sure to order the appropriate direct mount kit.

Items needed for direct mounting:

- Filtermist Unit
- Direct Mount Kit (FX-900 and 1200)



Direct mount kits include collar seal, rigid mounting studs, and hardware.

Floor Stand



Useful for open-top machine tools such as vertical machining centers where there is no option for mounting the mist collector on top of the machine.

The floor stand for models FX-900 and 1200 is adjustable from 6-9ft.
The floor stand for models FX-300 and 575 is fixed at 6ft.

Note - all floor stands must be bolted to the factory floor to prevent tipping.

Items needed for floor stand mounting:

- Filtermist Unit
- Ducting
- Ducting Clamps
- Floor Stand
- Flange Adapter



Wall Bracket



Wall mount brackets are available for all models. These brackets can be mounted to walls or I-beams, and can also be used to mount the mist collector to the side of the machine tool as shown.

Items needed for wall mounting:

- Filtermist Unit
- Ducting
- Ducting Clamps
- Wall Mount Bracket
- Flange Adapter



ROYAL FILTERMIST MOUNTING OPTIONS

Machine Top Stand



A great option when you want the mist collector off the floor, but your machine doesn't lend itself to direct mounting because the ideal intake location within the machine enclosure is not compatible with the mist collector positioning.

The machine top stand for models FX-900 and 1200 has a fixed height of 36". Two height options are available for models FX-300 and 575: 28" and 9.5".

Items needed for machine top stand mounting:

- Filtermist Unit
- Machine Top Stand
- Ducting
- Flange Adapter
- Ducting Clamps



Side Mount Bracket



The side mount bracket is specifically designed for models FX-300 and 575. It mounts directly to the side of the machine tool with no ducting required.

Bracket includes an integral chip deflector. Provides a very clean installation on most smaller CNC machine tools.

Items needed for side mount bracket:

- Filtermist Unit
- Side Mount Bracket



Plenum

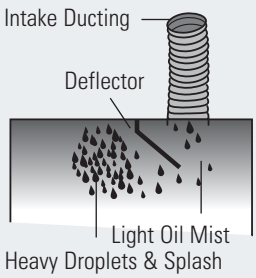


With its side-located intake, Royal's new plenum offers the flexibility for machine top mounting in applications where the mist collector location and intake point are not compatible. Available for all models.

Items needed for plenum mounting:

- Filtermist Unit
- Flange Adapter
- Ducting
- Plenum
- Ducting Clamps





Very Important – Intake Location

No matter what type of machine you are installing your Royal Filtermist on, it is very important to always locate the intake in a position where it will collect mist - not splash. A common mistake is to locate the collection point too close to the cutting action, causing raw coolant and chips to be drawn into the unit.

Whenever possible, draw the mist across the machine enclosure from an area of heavy concentration to an area of lighter concentration. For machines where the intake must be positioned near the cutting action, a deflector can be used to protect the intake from chips and coolant while allowing the mist to pass around it for collection.



CHOOSING THE CORRECT ROYAL FILTERMIST UNIT

Sizing Units

The Royal Filtermist is available in four sizes, based on throughput capacities: 300, 575, 900, and 1200 cfm. Royal Products maintains a database with specifications for many different machine tools, and we recommend you contact one of our applications engineers for your specific sizing requirements.



For those who would like a general rule of thumb, we recommend using the following formula to obtain a rough idea of your requirements:

Filtermist Size = Internal Enclosure Volume x 5

For example, suppose you have a small CNC lathe with an internal work envelope measuring 5ft. wide x 3ft. deep x 4ft. high. Multiplying 5x3x4, we see that the machine has an enclosure volume of 60 cu. ft. Multiplying 60x5 we see that 300 cfm is required, so we'd choose the model FX-300.

Although this rule is very simple, it is handy for determining the general size requirements.

If you are not sure which unit to use, please contact your local Royal Filtermist Distributor or one of our applications engineers.

Grinding



Grinding applications can sometimes be more demanding than typical turning and milling applications because grinding produces fine dust particles that become entrained in the mist stream. Over time, this dust can accumulate on the drum pads, resulting in the need for more frequent maintenance. If regular maintenance is not performed and a significant volume of solid matter builds up in the drum, balance and vibration issues may arise.

A simple way to overcome the problems associated with grinding dust is to fit the Filtermist with a cyclonic swarf separator. The separator mounts below the Filtermist unit and uses cyclonic action to separate out the solid matter, leaving the drum free to process the mist and preventing buildup on the pads. A port on the bottom of the unit facilitates drainage.

Royal Products recommends using a cyclonic swarf separator for all grinding applications.

Check out the Royal Filtermist Video at www.mistcollectors.com

CHOOSING THE CORRECT ROYAL FILTERMIST UNIT



Turning



CNC lathes are relatively easy applications to tackle because the machines are usually well enclosed and direct mounting is often possible. On any well enclosed machine, it is recommended that the Filtermist intake point be located as far from the machining action as possible so that the mist is drawn from an area of heavy concentration to an area of lighter concentration. On CNC lathes, therefore, the ideal intake location is on the right side of the machine, near the tailstock. On subspindle lathes where the right-hand wall moves along the z-axis, it might be necessary for the Filtermist to have a more central location.

Milling



For enclosed machining centers, the Filtermist intake position should be located in an upper corner of the enclosure. Installation on open-top machines is not as clear-cut. If enclosing the machine is not possible, a successful installation can often be accomplished by mounting the Filtermist unit above the machine and running ducting down into the enclosure. It may be necessary to adjust the intake location so that it is close enough to the spindle to collect the mist, yet far enough away to keep chips from being drawn in. A Y-junction may be used to draw mist from both sides of the spindle, and a chip deflector may also come in handy.

High-Pressure Coolant/Oil

More and more machine tools today are equipped with high-pressure coolant systems. Machines running either oil or coolant at high-pressure tend to create a greater volume of mist, with a smaller average particle size. For high-pressure applications, equipping your Filtermist unit with one (or both) of the performance accessories below will greatly help to optimize mist control within your shop.



High-Performance After Filter

This after filter has been specifically engineered for high-pressure coolant and oil applications. Laboratory and field performance tests have shown the service life to be as great as 10x that of a standard after filter.



Cyclonic Swarf Separator

While this accessory was originally designed to remove solid particulate entrained in the mist steam, it has also proven to be very effective as a pre-filter in high-pressure applications by removing much of the mist prior to the impaction process.

If you have any questions regarding the use of these performance accessories in your high-pressure applications, please contact Royal Products at 1-800-645-4174 to schedule a visit by one of our factory-trained mist control experts.



ROYAL FILTERMIST EFFICIENCY

When evaluating the effectiveness of any mist collection system, two major aspects must be considered:

- The unit must be capable of handling the full volume of mist produced by the application.
- The unit must be efficient at capturing particles of all sizes.

Independent testing has proven the Royal Filtermist FX Series to be very effective at handling large volumes of mist and highly efficient at dealing with the full spectrum of particle sizes found in typical metalworking mist concentrations.

While a typical metalworking mist concentration is made up of many different-sized particles, usually 80–90% of these particles are larger than one micron in size, and fewer than 10% of the particles are smaller than 0.5 micron in size.

In order to effectively eliminate mist, the Royal Filtermist incorporates a two-phase process:

1. The first phase utilizes the mechanical process of centrifugal impaction. This centrifugal impaction process is the heart of the Filtermist's operating principle and it is highly effective at handling large volumes of mist.

The centrifugal impaction process is almost 100% efficient at handling particles larger than one micron, which tend to make up the bulk of the mist. When considering a weighted average of the particle size in a typical metalworking mist concentration, overall efficiency of the impaction process is roughly 98%.

2. Many may consider an efficiency of 98% to be adequate for their needs. However, if additional efficiency is required, the Royal Filtermist FX Series units may be equipped with an after filter to handle the small amount of residual mist that bypasses the impaction process. Royal after filters use a carefully selected grade of media that provides an effective balance between being fine enough to capture the smallest of particles while still allowing the filter to enjoy a comparatively long service life. **Overall efficiency of a Royal Filtermist FX Series unit equipped with an after filter exceeds 99.5%.**

OSHA and NIOSH Standards

The OSHA and NIOSH limits on airborne mist particles are currently set at 5mg/m^3. It is believed that in the coming years this level will be reduced by a factor of ten to a new level of 0.5 mg/m^3. The Royal Filtermist FX is so efficient that when equipped with an after filter, it easily meets not only the current limit, but even the stricter proposed limit.

LOCATION	CONCENTRATION (mg / m^3)
Ambient Shop Air	0.75
FX-1200 Inlet	8.0 – 10.0
FX-1200 Exhaust	0.18

In a recent test carried out by an independent contractor, a Mori Seiki SL75ML was fitted with a model FX-1200 Filtermist unit and after filter. Particle counters were set up to monitor the air at three locations during machining – the ambient shop air, the Filtermist intake, and the Filtermist exhaust. The test results confirm that the Filtermist easily meets the challenge. Particle concentration levels at the Filtermist exhaust were well below 0.5 mg/m^3. In fact, the air at the Filtermist exhaust was four-times cleaner than the ambient shop air!

IMPORTANT – The Royal Filtermist is designed to help your shop meet current and future air quality standards. It must be understood, however, that there are many variables involved in controlling shop pollution and we cannot guarantee that the Filtermist alone will prevent occupational diseases to workers. It is your responsibility to establish an effective overall industrial hygiene program designed to comply with OSHA and NIOSH standards. If you have any questions regarding this issue, please contact us at 1-800-645-4174.

COMMONLY ASKED ROYAL FILTERMIST QUESTIONS



How Do I Select the Correct Royal Filtermist for My Application?

Page 194 of this catalog contains some basic sizing information, and you are always welcome to speak to one of our engineers at 1-800-645-4174 if you have any questions. We can also arrange to have one of our local regional managers visit your factory to check out your application and make the appropriate recommendations.

How Do I Order?

The Royal Filtermist system is sold in the U.S. through an exclusive network of authorized distributors. To find out who your local Royal Filtermist distributor is, please contact our customer service department at 1-800-645-4174.

How Do Filtermist Units Ship?

All Filtermist FX Series units can be shipped via UPS. Due to dimensional limitations, the floor stand must ship by truck. When ordering multiple units, it is often more cost effective to ship by truck.



How Do I Install the Royal Filtermist In My Shop?

The Royal Filtermist is a relatively easy piece of equipment to install, and most shops handle their own installations. Detailed instructions are included with each unit.

To ensure a smooth installation process, be sure you have ordered all of the necessary mounting and performance accessories. Please note that all accessories offered in this catalog have been tested for performance and safety. Substituting accessories with non-Royal items could void the Filtermist warranty, affect performance, and result in dangerous operating conditions.

What About Wiring?



The three-phase Filtermist motor must be wired in conjunction with a motor starter switch, which can be purchased through Royal Products. We suggest you have a licensed electrician perform the wiring of the unit. Detailed instructions can be found in the installation manual that is supplied with each unit.

How Often Do the Drum Pads Need to be Changed?



An important aspect to understand about the Royal Filtermist is that the drum pads are not filters. These porous pads are present to slow airflow through the unit, thereby maximizing contact with the drum vanes for greatest overall impaction efficiency.

Because the Royal Filtermist utilizes the mechanical process of centrifugal impaction to eliminate mist, maintenance requirements are minimal. As a result, some customers have reported that they have had units operating for up to five years without ever needing to change the drum pads.

For guidelines regarding Filtermist maintenance, please see page 207.

What Happens If I Have a Problem?

In addition to our large network of authorized distributors, Royal Products employs Regional Business Managers and over 50 factory-trained representatives located throughout the country. In the event of a problem that cannot be solved over the phone, we will arrange for a local Royal Products representative to visit your factory and work with you towards a solution. We firmly believe that after-sales support is as important as the sale itself, and we are committed to this effort.

ROYAL FILTERMIST MODEL FX-300



FX-300 Specifications

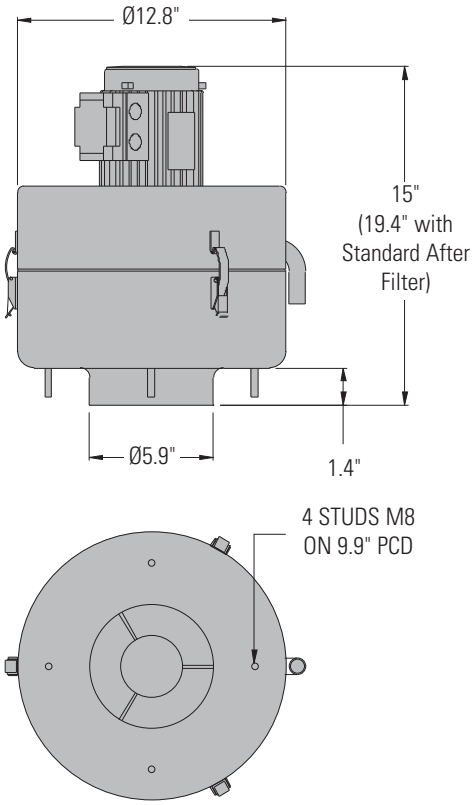
Airflow	295 cfm
Fits machines with enclosure volume of:	Up to 80 cubic feet
Motor	3/4 HP (0.55 kW), 3-Phase, 50/60 Hz. (208/230/460V)
Weight	31 lbs.
Noise Level	65 dBA
Inlet Diameter	6"

Mounting Options — FX-300

Direct Mount	Hardware included with Filtermist Unit
Floor Stand	use 30316 – Floor Stand "A"
Machine Top Stand	use 30319 – Machine Top Stand "A"
Wall Mount	use 30328 – Wall Bracket "A"
Machine Side Mount	use 30330 – Side-Mount Bracket "A"
Universal Plenum	use 30321 – Universal Plenum

- Used primarily on small, enclosed CNC machines with an internal volume of up to 80 cu. ft.
- Large 6" dia. intake results in a very low intake velocity, reducing the likelihood that chips and large droplets will be drawn into the unit.
- The model FX-300 comes complete with a collar seal, mounting hardware, and 5 ft. of coolant return hose.
- Designed primarily for direct-mounting to the top of a machine, but stands and brackets are also available for applications where direct-mounting is not possible.
- Stainless steel model (type 304) available for special applications such as food processing and aqueous parts washers.
- A great option for Swiss machines when used in conjunction with our high-performance after filter.





ROYAL FILTERMIST MODEL FX-300



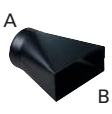
FX-300 Filtermist Units

	DESCRIPTION	PART NUMBER	PRICE
	**FX-300 Filtermist Unit** Includes collar seal and all necessary hardware to mount unit directly to the top of a machine. Also includes 5 ft. of coolant return hose.	30105PROMO See Promo on Page 189	**$3,650**

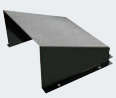
	DESCRIPTION	PART NUMBER	PRICE
	**FX-300 Stainless Steel Unit** For special applications such as food processing and aqueous parts washers	30165PROMO See Promo on Page 189	**$7,540**

FX-300 Mounting Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Side Mounting Bracket "A"** Allows unit to be mounted to the side of a machine tool. Includes hardware and chip deflector.	30330	**$522**
	**Floor Stand "A"** Fixed height of 6 ft. Bolts to floor for safety.	30316	**$910**
	**Standard Machine Top Stand "A"** 28" tall stand bolts to the top of a machine	30319	**$575**
	**Mini Machine Top Stand "A"** 9-1/2" tall.	30311	**$406**
	**Wall Bracket "A"** For mounting unit to a wall or side of a machine.	30328	**$286**
	**Universal Plenum** Convenient accessory for machine-top or chip conveyor mounting. 6" intake dia.	30321	**$1,135**
	**Coolant Return Hose** 3/4" diameter. Note: Also included with unit. See description.	30335	**$9/ft.**

	DESCRIPTION		PART NUMBER	PRICE
	**Ducting** Flexible vinyl with heavy wire support. Warning — never use sheetmetal ducting or any other type that could leak and cause a hazardous condition.	8" 6" 4"	30344 30342 30340	**$33/ft.** **23/ft.** **18/ft.**
	**Ducting Clamps** For securing ducting to accessories	8" 6" 4"	30354 30352 30350	**$11** **11** **10**
	**Y-Junctions** For multiple pickup locations.	A / B 8" / 6" 8" / 4" 6" / 6" 6" / 4" 4" / 4"	30368 30366 30364 30362 30360	**$553** **685** **499** **475** **399**
	**Flange Adapters** For securing ducting directly to an enclosed machine.	8" 6" 4"	30374 30372 30370	**$122** **113** **113**
	**Reducers**	A / B 8" / 6" 6" / 4"	30382 30380	**$217** **217**
	**Fishtails** For use on open machines.	A / B 8" / 11.75" x 5" 6" / 10" x 4.5" 4" / 8.25" x 3.5"	30394 30392 30390	**$386** **358** **330**

FX-300 Performance Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Standard After Filter "A"** Used for collecting dry smoke and very fine mist particles.	30200 See Promo on Page 189	**$412**
	**High-Performance After Filter "A"** Designed for high pressure and Swiss applications. Extended operating life over standard after filter.	30203	**$1,095**
	**Chip Deflector "A"** Protects intake from coolant splash and chips.	30222	**$111**

FX-300 Electrical Accessories

	DESCRIPTION		PART NUMBER	PRICE
	**Starter Box Kit** Includes NEMA 12 box, IEC motor starter, 20 ft. of input cable, 15 ft. of output cable with turn-lock connector	FX-300 & 575 Low-Voltage (208/230V)	30470	**$755**
		FX-300 & 575 High-Voltage (460V)	30471	**$755**



Try a unit on your toughest application risk-free!
See Page 189.

ROYAL FILTERMIST MODEL FX-575



FX-575 Specifications

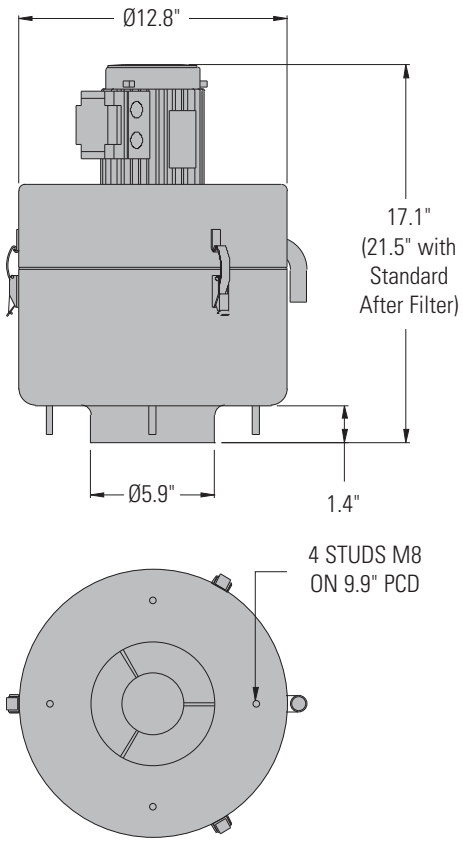
Airflow	560 cfm
Fits machines with enclosure volume of:	60–120 cubic feet
Motor	3/4 HP (0.55 kW), 3-Phase, 50/60 Hz. (208/230/460V)
Weight	35 lbs.
Noise Level	67 dBA
Inlet Diameter	6"

Mounting Options — FX-575

Direct Mount	Hardware included with Filtermist Unit
Floor Stand	use 30316 – Floor Stand "A"
Machine Top Stand	use 30319 – Machine Top Stand "A"
Wall Mount	use 30328 – Wall Bracket "A"
Machine Side Mount	use 30330 – Side-Mount Bracket "A"
Universal Plenum	use 30321 – Universal Plenum"

- For use on enclosed machines with an internal volume between 60 cu. ft. and 120 cu. ft.
- Designed primarily for direct-mounting to the top of a machine, but stands and brackets are also available for applications where direct-mounting is not possible.
- Stainless steel model (type 304) available for special applications such as food processing and aqueous parts washers.
- A great option for Swiss machines when used in conjunction with our high-performance after filter.





ROYAL FILTERMIST MODEL FX-575



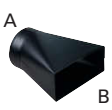
FX-575 Filtermist Units

	DESCRIPTION	PART NUMBER	PRICE
	**FX-575 Filtermist Unit** Includes collar seal and all necessary hardware to mount unit directly to the top of a machine. Also includes 5 ft. of coolant return hose.	30115PROMO See Promo on Page 189	**$4,410**

	DESCRIPTION	PART NUMBER	PRICE
	**FX-575 Stainless Steel Unit** For special applications such as food processing and aqueous parts washers	30185PROMO See Promo on Page 189	**$8.330**

FX-575 Mounting Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Side Mounting Bracket "A"** Allows unit to be mounted to the side of a machine tool. Includes hardware and chip deflector.	30330	**$522**
	**Floor Stand "A"** Fixed height of 6 ft. Bolts to floor for safety.	30316	**$910**
	**Standard Machine Top Stand "A"** 28" tall stand bolts to the top of a machine	30319	**$575**
	**Mini Machine Top Stand "A"** 9-1/2" tall.	30311	**$406**
	**Wall Bracket "A"** For mounting unit to a wall or side of a machine.	30328	**$286**
	**Universal Plenum** Convenient accessory for machine-top or chip conveyor mounting. 6" intake dia.	30321	**$1,135**
	**Coolant Return Hose** 3/4" diameter. Note: Also included with unit. See description.	30335	**$9/ft.**

	DESCRIPTION			PART NUMBER	PRICE
	**Ducting** Flexible vinyl with heavy wire support. Warning — never use sheetmetal ducting or any other type that could leak and cause a hazardous condition.		8" 6" 4"	30344 30342 30340	**$33/ft.** **23/ft.** **18/ft.**
	**Ducting Clamps** For securing ducting to accessories		8" 6" 4"	30354 30352 30350	**$11** **11** **10**
	**Y-Junctions** For multiple pickup locations.	A 8" 8" 6" 6" 4"	B 6" 4" 6" 4" 4"	30368 30366 30364 30362 30360	**$553** **685** **499** **475** **399**
	**Flange Adapters** For securing ducting directly to an enclosed machine.		8" 6" 4"	30374 30372 30370	**$122** **113** **113**
	**Reducers**	A 8" 6"	B 6" 4"	30382 30380	**$217** **217**
	**Fishtails** For use on open machines.	A 8" 6" 4"	B 11.75" x 5" 10" x 4.5" 8.25" x 3.5"	30394 30392 30390	**$386** **358** **330**

FX-575 Performance Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Standard After Filter "A"** Used for collecting dry smoke and very fine mist particles.	30200 See Promo on Page 189	**$412**
	**High-Performance After Filter "A"** Designed for high pressure and Swiss applications. Extended operating life over standard after filter.	30203	**$1,095**
	**Chip Deflector "A"** Protects intake from coolant splash and chips.	30222	**$111**

FX-575 Electrical Accessories

	DESCRIPTION		PART NUMBER	PRICE
	**Starter Box Kit** Includes NEMA 12 box, IEC motor starter, 20 ft. of input cable, 15 ft. of output cable with turn-lock connector	FX-300 & 575 Low-Voltage (208/230V)	30470	**$755**
		FX-300 & 575 High-Voltage (460V)	30471	**$755**



Try a unit on your toughest application risk-free!
See Page 189.



ROYAL FILTERMIST MODEL FX-900



FX-900 Specifications

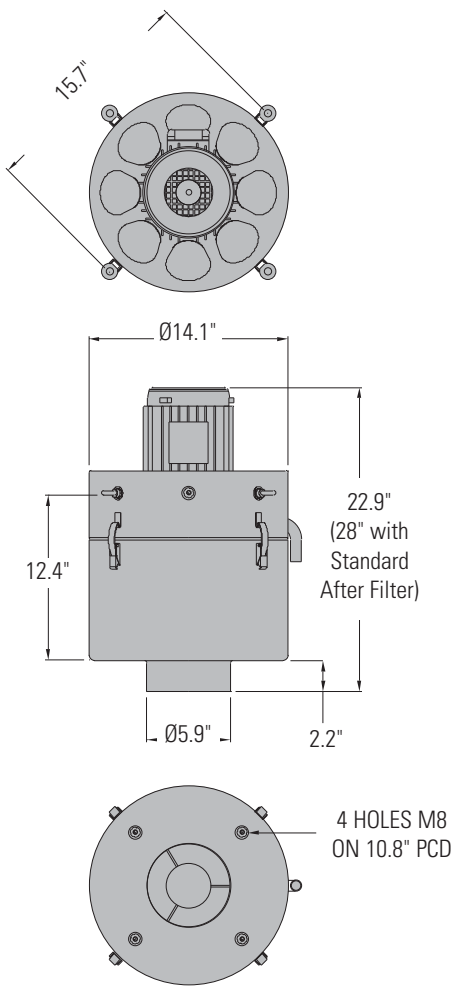
Airflow	900 cfm
Fits machines with enclosure volume of:	90–180 cubic feet
Motor	3 HP (2.2 kW), 3-Phase, 50/60 Hz. (208/230/460V)
Weight	51 lbs.
Noise Level	70 dBA
Inlet Diameter	6"

Mounting Options — FX-900

Direct Mount	use 30302 – FX-900 Direct Mount Kit
Floor Stand	use 30315 – Floor Stand "B"
Machine Top Stand	use 30314 – Machine Stand "B"
Wall Mount	use 30320 – Wall Bracket "B"
Machine Side Mount	use 30320 – Wall Bracket "B"
Universal Plenum	use 30321 – Universal Plenum

- For use on enclosed machines with an internal volume between 90 cu. ft. and 180 cu. ft.
- Popular for open machines requiring a Y-junction and two intake points.
- Unit can be mounted directly to the machine, on stands or on brackets.
- Stainless steel model (type 304) available for special applications such as food processing and aqueous parts washers.





ROYAL FILTERMIST MODEL FX-900



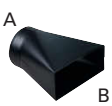
FX-900 Filtermist Units

	DESCRIPTION	PART NUMBER	PRICE
	**FX-900 Filtermist Unit** Includes 12 ft. of coolant return hose. Order performance and mounting accessories separately	30120PROMO See Promo on Page 189	**$5,450**

	DESCRIPTION	PART NUMBER	PRICE
	**FX-900 Stainless Steel Unit** For special applications such as food processing and aqueous parts washers	30160PROMO See Promo on Page 189	**$9,495**

FX-900 Mounting Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Direct Mount Kit (FX-900)** Includes 6" collar seal, set of rigid mounting studs, and hardware.	30302	**$149**
	**Floor Stand "B"** Adjusts from 6 ft. to 9 ft. Bolts to floor for safety.	30315	**$1,550**
	**Machine Top Stand "B"** 3 ft. tall stand bolts to the top of a machine.	30314	**$995**
	**Wall Bracket "B"** Can be used to mount unit to a wall or other suitable mounting surface.	30320	**$625**
	**Universal Plenum** Convenient accessory for machine-top or chip conveyor mounting. 6" intake dia.	30321	**$1,135**
	**Coolant Return Hose** 3/4" diameter. Note: Also included with unit. See description	30335	**$9/ft.**

	DESCRIPTION			PART NUMBER	PRICE
	**Ducting** Flexible vinyl with heavy wire support.	8" 6" 4"		30344 30342 30340	**$33/ft.** **23/ft.** **18/ft.**
	Warning — never use sheetmetal ducting or any other type that could leak and cause a hazardous condition.				
	**Ducting Clamps** For securing ducting to accessories	8" 6" 4"		30354 30352 30350	**$11** **11** **10**
	**Y-Junctions** For multiple pickup locations.	A 8" 8" 6" 6" 4"	B 6" 4" 6" 4" 4"	30368 30366 30364 30362 30360	**$553** **685** **499** **475** **399**
	**Flange Adapters** For securing ducting directly to an enclosed machine.	8" 6" 4"		30374 30372 30370	**$122** **113** **113**
	**Reducers**	A 8" 6"	B 6" 4"	30382 30380	**$217** **217**
	**Fishtails** For use on open machines.	A 8" 6" 4"	B 11.75" x 5" 10" x 4.5" 8.25" x 3.5"	30394 30392 30390	**$386** **358** **330**

FX-900 Performance Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Standard After Filter "B"** Used for collecting dry smoke and very fine mist particles.	30205 See Promo on Page 189	**$441**
	**High-Performance After Filter "B"** Designed for high pressure and Swiss applications. Extended operating life over standard after filter.	30204	**$1,180**
	**Cyclonic Swarf Separator** For use on applications such as grinding and cast iron machining where very fine solid particles are entrained in the mist stream. Also acts as a great pre-filter for high pressure coolant applications. Requires 6" dia. ducting.	30210	**$1,480**
	**Chip Deflector "B"** Protects intake from coolant splash and chips.	30220	**$111**

FX-900 Electrical Accessories

	DESCRIPTION		PART NUMBER	PRICE
	**Starter Box Kit** Includes NEMA 12 box, IEC motor starter, 20 ft. of input cable, 15 ft. of output cable with turn-lock connector	FX-900 & 1200 Low-Voltage (208/230V)	30472	**$755**
		FX-900 & 1200 High-Voltage (460V)	30473	**$755**



Try a unit on your toughest application risk-free!
See Page 189.

ROYAL FILTERMIST MODEL FX-1200



FX-1200 Specifications

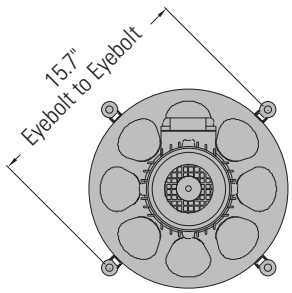
Airflow	1200 cfm
Fits machines with enclosure volume of:	120 cubic feet or larger
Motor	3 HP (2.2 kW), 3-Phase, 50/60 Hz. (208/230/460V)
Weight	64 lbs.
Noise Level	72 dBA
Inlet Diameter	8"

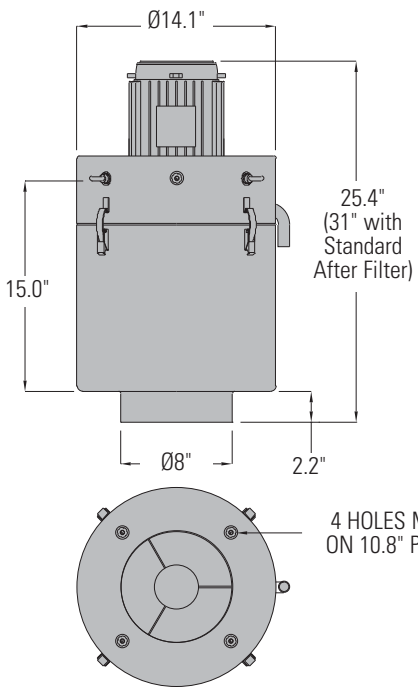
Mounting Options — FX-1200

Direct Mount	use 30304 – FX-1200 Direct Mount Kit
Floor Stand	use 30315 – Floor Stand "B"
Machine Top Stand	use 30314 – Machine Stand "B"
Wall Mount	use 30320 – Wall Bracket "B"
Machine Side Mount	use 30320 – Wall Bracket "B"
Universal Plenum	use 30321 – Universal Plenum

- For use on enclosed machines with an internal volume of 120 cu. ft. or larger.
- Popular for machines requiring Y-junction and two intake points.
- Excellent choice for large machining centers.
- Unit can be mounted directly to the machine, on stands or on brackets.
- Stainless steel model (type 304) available for special applications such as food processing and aqueous parts washers.







ROYAL FILTERMIST MODEL FX-1200



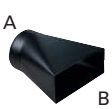
FX-1200 Filtermist Units

	DESCRIPTION	PART NUMBER	PRICE
	**FX-1200 Filtermist Unit** Includes 12 ft. of coolant return hose. Order performance and mounting accessories separately	30130PROMO See Promo on Page 189	**$5,880**

	DESCRIPTION	PART NUMBER	PRICE
	**FX-1200 Stainless Steel Unit** For special applications such as food processing and aqueous parts washers	30170PROMO See Promo on Page 189	**$10,315**

FX-1200 Mounting Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Direct Mount Kit (FX-1200)** Includes 8" collar seal, set of rigid mounting studs, and hardware.	30304	**$149**
	**Floor Stand "B"** Adjusts from 6 ft. to 9 ft. Bolts to floor for safety.	30315	**$1,550**
	**Machine Top Stand "B"** 3 ft. tall stand bolts to the top of a machine.	30314	**$995**
	**Wall Bracket "B"** Can be used to mount unit to a wall or other suitable mounting surface.	30320	**$625**
	**Universal Plenum** Convenient accessory for machine-top or chip conveyor mounting. 6" intake dia.	30321	**$1,135**
	**Coolant Return Hose** 3/4" diameter. Note: Also included with unit. See description	30335	**$9/ft.**

	DESCRIPTION			PART NUMBER	PRICE
	**Ducting** Flexible vinyl with heavy wire support.		8" 6" 4"	30344 30342 30340	**$33/ft.** **23/ft.** **18/ft.**
Warning — never use sheetmetal ducting or any other type that could leak and cause a hazardous condition.					
	**Ducting Clamps** For securing ducting to accessories		8" 6" 4"	30354 30352 30350	**$11** **11** **10**
	**Y-Junctions** For multiple pickup locations.	A 8" 8" 6" 6" 4"	B 6" 4" 6" 4" 4"	30368 30366 30364 30362 30360	**$553** **685** **499** **475** **399**
	**Flange Adapters** For securing ducting directly to an enclosed machine.		8" 6" 4"	30374 30372 30370	**$122** **113** **113**
	**Reducers**	A 8" 6"	B 6" 4"	30382 30380	**$217** **217**
	**Fishtails** For use on open machines.	A 8" 6" 4"	B 11.75" x 5" 10" x 4.5" 8.25" x 3.5"	30394 30392 30390	**$386** **358** **330**

FX-1200 Performance Accessories

	DESCRIPTION	PART NUMBER	PRICE
	**Standard After Filter "B"** Used for collecting dry smoke and very fine mist particles.	30205 See Promo on Page 189	**$441**
	**High-Performance After Filter "B"** Designed for high pressure and Swiss applications. Extended operating life over standard after filter.	30204	**$1,180**
	**Cyclonic Swarf Separator** For use on applications such as grinding and cast iron machining where very fine solid particles are entrained in the mist stream. Also acts as a great pre-filter for high pressure coolant applications. Requires 6" dia. ducting.	30210	**$1,480**
	**Chip Deflector "B"** Protects intake from coolant splash and chips.	30220	**$111**

FX-1200 Electrical Accessories

	DESCRIPTION		PART NUMBER	PRICE
	**Starter Box Kit** Includes NEMA 12 box, IEC motor starter, 20 ft. of input cable, 15 ft. of output cable with turn-lock connector	FX-900 & 1200 Low-Voltage (208/230V)	30472	**$755**
		FX-900 & 1200 High-Voltage (460V)	30473	**$755**

Risk-Free PERFORMANCE Guarantee

Try a unit on your toughest application risk-free!
See Page 189.



ROYAL EASY-MOUNT™ FILTERMIST PACKAGES

Universal Installation and Simple Single Part Number Ordering



- ✔ This advanced mounting system relocates the intake point to the side of the Filtermist unit for enhanced installation flexibility.
- ✔ Enables mounting virtually anywhere on top of the machine tool for optimal positioning of both the mist collector and intake location.
- ✔ Single part-number ordering – Royal Easy-Mount™ packages include everything needed for hassle-free installation:

- Royal Filtermist Unit
- Plenum with drain tube
- Standard After Filter
- Starter Box Kit
- Chip Deflector
- 6" Dia. Ducting (8 ft)
- 6" Ducting Clamps
- 6" Flange Adapter
- Coolant Return Hose (12 ft)
- All Required Hardware
- Extra Set of Drum Pads



The key to this system is the Royal Plenum, which has been optimized for minimal cfm loss. The plenum also functions as a coarse pre-filter by forcing fines and chips to drop out of the mist stream due to the internal airflow directional change.

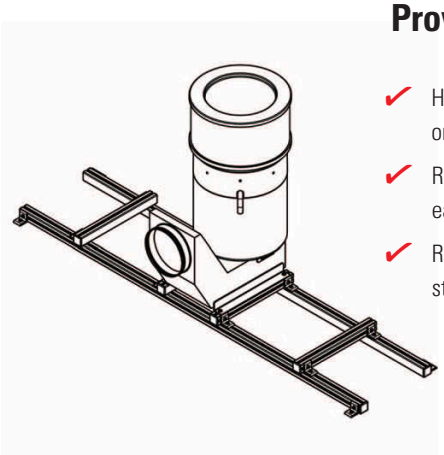
Royal Easy-Mount™ Filtermist Mist Collector Packages

DESCRIPTION	FILTERMIST MODEL	VOLTAGE	INTAKE DIAMETER	PART NUMBER	PRICE
FX-300 Easy-Mount™ Package (Low-Voltage)	FX-300	208/230 Volts	6"	30136	**$5,980**
FX-300 Easy-Mount™ Package (High-Voltage)	FX-300	460 Volts	6"	30137	**5,980**
FX-575 Easy-Mount™ Package (Low-Voltage)	FX-575	208/230 Volts	6"	30138	**6,740**
FX-575 Easy-Mount™ Package (High-Voltage)	FX-575	460 Volts	6"	30139	**6,740**
FX-900 Easy-Mount™ Package (Low-Voltage)	FX-900	208/230 Volts	6"	30127	**7,790**
FX-900 Easy-Mount™ Package (High-Voltage)	FX-900	460 Volts	6"	30128	**7,790**
FX-1200 Easy-Mount™ Package (Low-Voltage)	FX-1200	208/230 Volts	6"	30132	**8,210**
FX-1200 Easy-Mount™ Package (High-Voltage)	FX-1200	460 Volts	6"	30133	**8,210**

Note – Plenum causes approximately 10% cfm loss – please keep in mind when sizing for your application.

Royal Easy-Mount™ Rail Kit

Provides Even Greater Filtermist Mounting Flexibility



- ✔ Heavy-duty rail kit can be used with any Royal Filtermist Easy-Mount™ Package to span openings/voids on top of the machine tool enclosure, making great use of "wasted space" on top of the machine.
- ✔ Rigid 40mm aluminum extrusions provide both strength and vibration-damping capabilities. Rails are easily trimmable to the desired length.
- ✔ Rail Kit includes (3) six-foot lengths of 40mm extrusions – two for mounting the plenum and one to make stiffeners. All brackets, end caps, and hardware included for seamless integration.

DESCRIPTION	PART NUMBER	PRICE
Royal Easy Mount™ Rail Kit	30323	**$767**

ROYAL FILTERMIST MAINTENANCE



One of the most popular features of the Royal Filtermist is the fact that it requires minimal maintenance. Unlike media-type systems and electrostatic units, the Royal Filtermist works almost as well when it is dirty as it does when it is clean.

For safety purposes, it is necessary to periodically inspect the main components of the Royal Filtermist for wear or damage, especially if the unit is making loud noises or exhibiting vibration. Additionally, we recommend that these simple inspection/maintenance procedures be carried out every 2,000 operating hours, (every 1,000 hours for more demanding applications):



- Inspect the drum pads for wear and/or matter buildup that could affect airflow or cause vibration, and replace as necessary. It is important to understand that the pads that line the Filtermist drum are not filters. Their presence slows airflow through the unit, thereby maximizing contact with the drum vanes for greatest overall impaction efficiency.

  Some customers report not having to change drum pads in certain applications for periods of up to five years. While this may or may not be the case in your application, it is important to understand that any visible sign of vibration is often related to solid matter buildup and should be addressed immediately.
- Inspect and replace the motor mounts and torque limiting straps if worn or damaged.
- Inspect silencer and replace if worn or damaged. If the silencer is saturated with oil, it is important to investigate the reason why. This could be the result of a clogged oil return channel or incorrect drum rotation. Important – the Filtermist will create suction regardless of which way the drum spins, but it will only properly collect and return oil mist if the drum is spinning in the proper direction as indicated by the arrow on the housing.
- Inspect the housing seal and replace if necessary. This is especially important on older series units. The redesigned housing of the Filtermist FX Series virtually eliminates the chance of leakage around the seal area.
- Check all mounting fixtures such as stands and suspension kits for damage or signs of fatigue. Repair or replace as necessary.
- Check all other accessories for wear and/or damage (ducting, flange adapters, etc.). Repair or replace as necessary.
- For your convenience, Royal Products offers complete maintenance kits for all Filtermist units. These value-priced kits include a drum pad set, a motor mount set, a silencer, and a housing seal. These items are also available separately.

IMPORTANT – The recommended maintenance schedule and procedures outlined above are meant to serve as a guide for most common Filtermist applications. More detailed information is provided in the Royal Filtermist Installation and Maintenance Manual. When dealing with any equipment of this type, common sense must prevail. Any unsafe conditions pertaining to the Royal Filtermist must be immediately attended to. It is also important to understand that when Royal Filtermist units are used in demanding applications such as grinding or cast iron machining, more frequent maintenance may be required. If you have any questions regarding the maintenance or operation of your Royal Filtermist units, please refer to the Royal Filtermist Installation and Maintenance Manual or contact one of our engineers at 1-800-645-4174.

Maintenance Items

	FX-300		FX-575		FX-900		FX-1200	
DESCRIPTION	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE	PART NUMBER	PRICE
Complete Maintenance Kit Complete kit provides a cost savings over individual components. Includes the following: drum pad set, silencer, housing seal, and motor mount set.	30500	**$231** Save $89	30506	**$266** Save $76	30402	**$330** Save $203	30404	**$344** Save $204
Drum Pad Set	30410	**$57**	30416	**$79**	30412	**$92**	30414	**$107**
Silencer	30520	**$127**	30520	**$127**	30422	**$226**	30422	**$226**
Housing Seal	30430	**$29**	30430	**$29**	30432	**$38**	30432	**$38**
Motor Mount Set	30440	**$107**	30440	**$107**	30442	**$177**	30442	**$177**

Visit royalproducts.com for maintenance items for older series Filtermist units.



ROYAL FILTERMIST REPLACEMENT PARTS



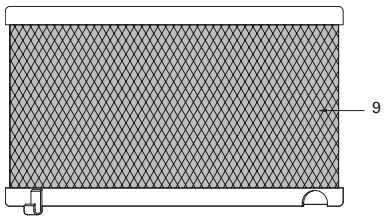
Serial Number Label

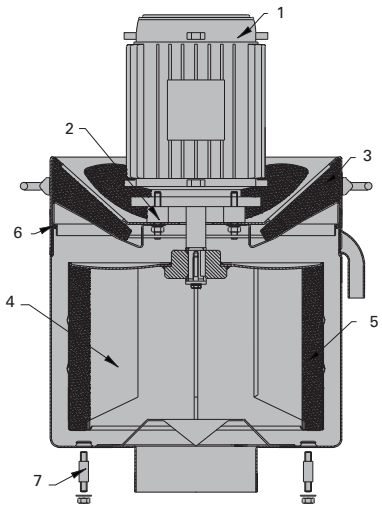
On this unit, the white label with the black text indicates a series 8 model.

Royal Products offers a full array of replacement parts for all Filtermist models. When ordering replacement parts, it is very important that you identify the correct series and model. The series is determined by the color of the serial number label, located on the upper portion of the housing near the motor. The color code is as follows:

Series 6 — Black label, silver text.
Series 7 — Yellow label, black text.
Series 8 — White label, black text.
FX Series — Blue label, white text.

FX Series Only





ITEM NUMBER	DESCRIPTION	FILTERMIST MODEL	BLUE LABEL (FX Series)
1	**Motor**	FX-275/300 FX-550/575 FX-600 FX-900 FX-1200	30450 30450 30452 30454 30454
2	**Motor Mount Set** Includes four mounts and required hardware.	FX-275/300 FX-550/575 FX-600 FX-900 FX-1200	30440 30440 30442 30442 30442
3	**Silencer**	FX-275/550 FX-300/575 FX-600 FX-900 FX-1200	30420 30520 30422 30422 30422
4	**Drum**	FX-275 FX-300 FX-550 FX-575 FX-600 FX-900 FX-1200	30460 30560 30466 30566 30462 30462 30464
5	**Drum Pads** (set of 4)	FX-275/300 FX-550/575 FX-600 FX-900 FX-1200	30410 30416 30412 30412 30414
6	**Housing Seal**	FX-275/300 FX-550/575 FX-600 FX-900 FX-1200	30430 30430 30432 30432 30432
7	**Direct Mounting Kit** Includes collar seal, mounts, and required hardware.	FX-275/300 FX-550/575 FX-600 FX-900 FX-1200	30299 30299 30300 30302 30304
8	**Complete Maintenance Kit** Includes items 2, 3, 5 and 6.	FX-275 FX-300 FX-550 FX-575 FX-600 FX-900 FX-1200	30400 30500 30406 30506 30402 30402 30404
9	**Complete After Filter** Fits over the Filtermist motor. Includes 1-pc. housing/filter element, and toggle clips.	FX-275/300 FX-550/575 FX-600 FX-900 FX-1200	30200/30203* 30200/30203* 30205/30204* 30205/30204* 30205/30204*

*Standard and high-performance models available.

NOTE – The parts on this page are for Filtermist FX Series models with a blue serial number label. If you have an older model Filtermist unit with a white, yellow, or black serial number label, please visit royalproducts.com

A ROYAL FILTERMIST FOR EVERY APPLICATION



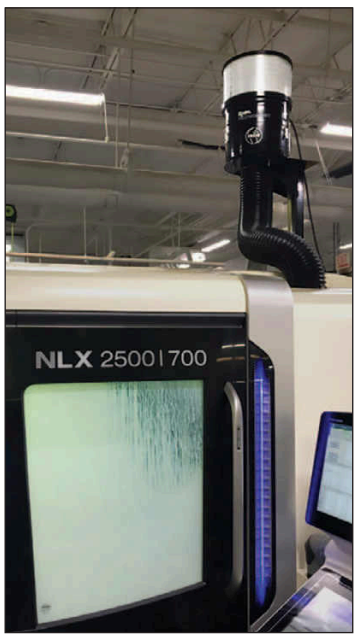
























2026 MASTER CATALOG

ROYAL PRODUCTS

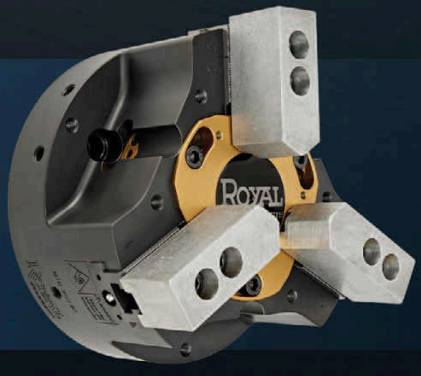
TOOLING • WORKHOLDING • AUTOMATION • MIST CONTROL

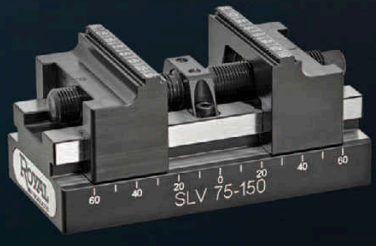


















Catalog Number 85030-26, Rev. A

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