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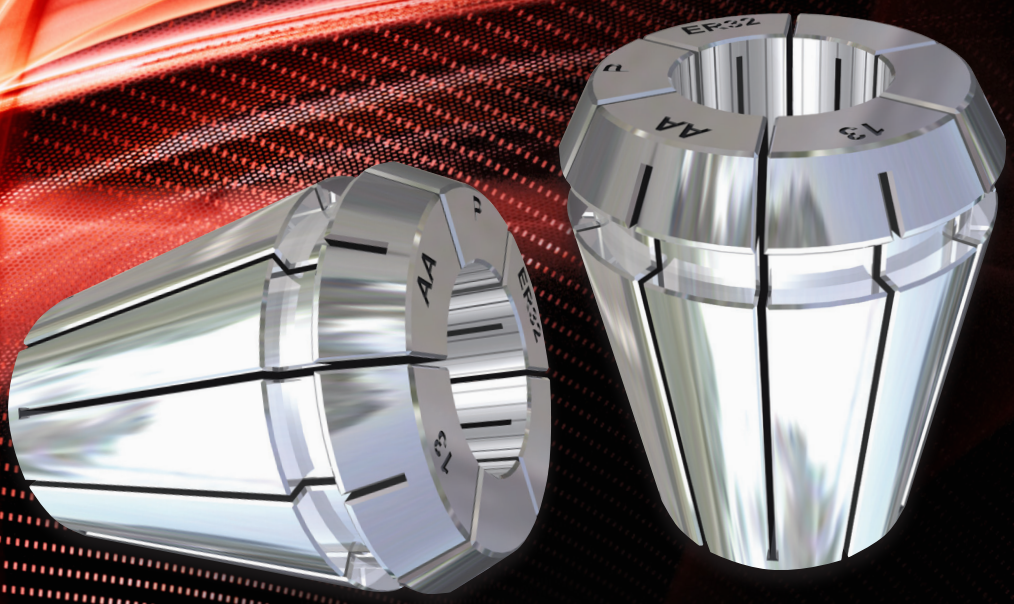
Extreme Precision 5 Micron Collets

The New Standard in AA Grade Toolholding



Increased Tool Life

- Evenly distributed cutting edges for high performance machining
- Consistent cutting profiles ensure the job stays within the desired range.
- For best performance use with ER Power NUT

Maximize Concentricity

- Minimize variation of cutting edges
- Best value of tooling versus operational cost
- Improve system performance and lower cost per piece when used with a quality chuck

Parlec is a proud member of Techniks Tool Group.

CNC TOOLING SOLUTIONS FROM SPINDLE TO WORKPIECE

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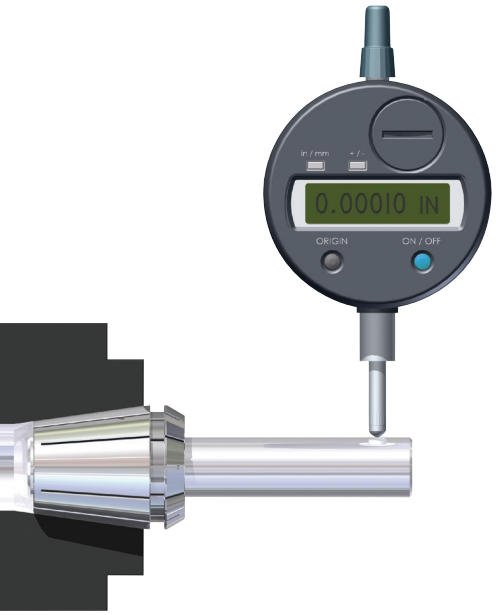
5 MICRON COLLET FEATURES

1 **Extreme Precision Collets**

Concentricity = Tool Life

Improve your systems performance and tool life by adding **5 Micron Collets** and a quality chuck. Upgrade today for higher performance and operational cost savings!

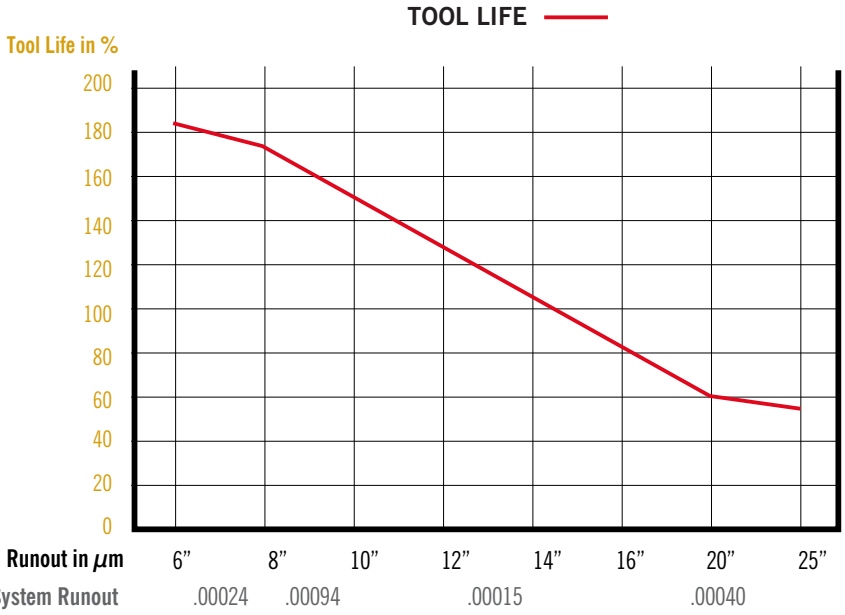


Technical Features

- Gage tolerance of less than 5 microns runout at distance to ISO 15488 (per chart), measured as TIR
- Measured in gage with AT2 taper and maximum 1 micron runout of taper

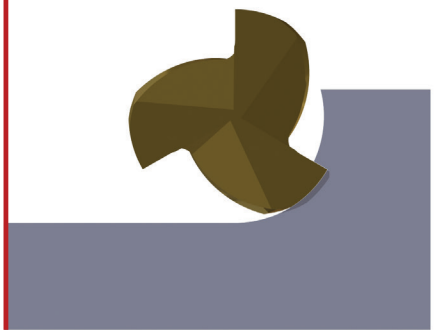
Collet Diameter	Length at measurement	Class 1	Class 2	Parlec Class AA (5 Micron)
.0394 – .063(1 -1.6)	.098 (2.5)	.0006 (.015)	.0004 (.010)	.0002 (.005)
.0631 - .118 (1.6- 3)	.393 (10)			
.118 –.280 (3 – 7)	.630 (20)			
.280 - .394 (7-10)	.984 (25)			
.394 - .708 (10-18)	1.57 (40)	.0008 (.020)	.0006 (.015)	
.708 - 1.08 (18-26)	1.97 (50)			
1.08 – 1.18 (26-30)	2.36 (60)	.0010 (.025)	.0008 (.020)	

Tool Life Prediction of Carbide Tools

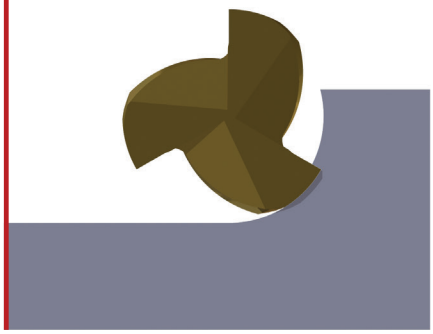


Effects of Runout on the Cutting Edges

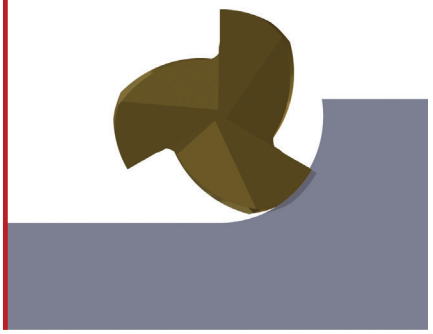
High runout flute takes a heavier than planned cut requiring slowing of planned feed.



Middle runout flute performs as planned.



Low runout flute does not take enough chip to dissipate heat and wears prematurely.



Tooling Cost of Poor Run Out

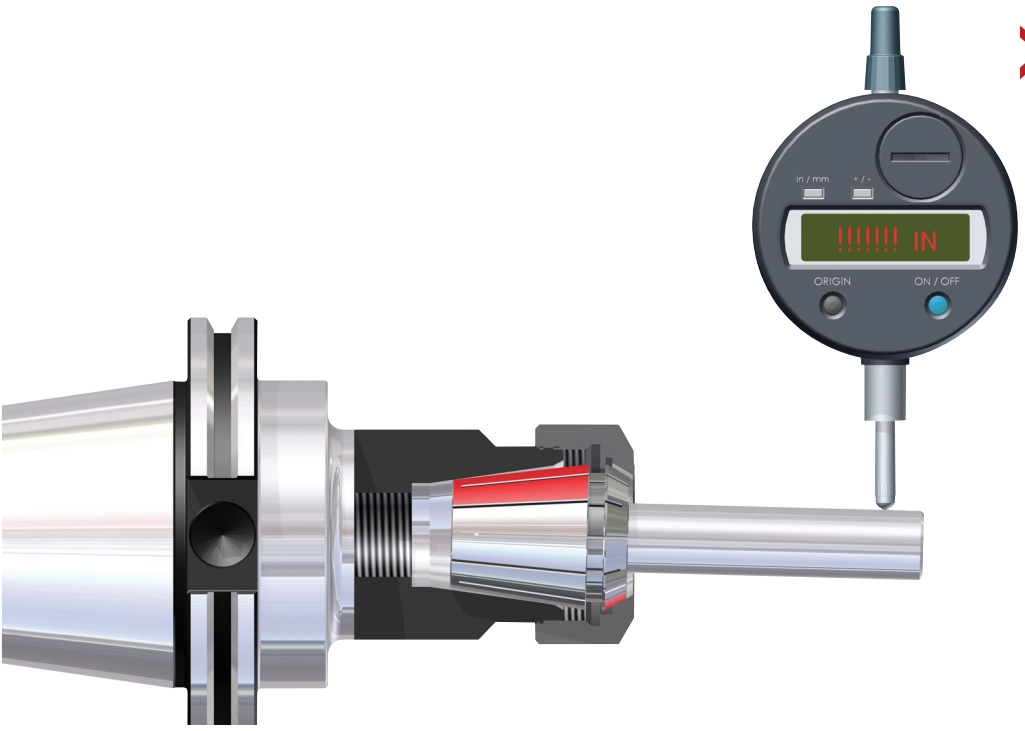
Tooling cost with 150% tool life (10μm)=$106

Cost of Carbide Drill	$100
Cost of AA Collet	$60
	$160
Cost $160 / Life 150%=$106 Additional use $100 / 150%=$66	

Tooling cost with 55% tool life (25μm)=$240

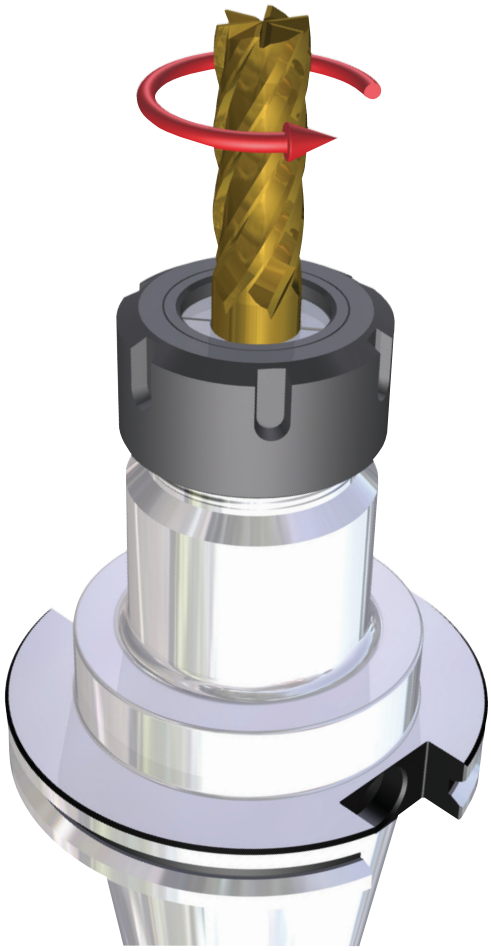
Cost of Carbide Drill	$100
Cost of Std. Collet	$32
	$132
Cost $160 / Life 55%=$240 Additional use $100 / 55%=$181	

5 MICRON COLLET FEATURES



Technical Features

Solid nuts can restrict the uniform contact of the top angle of the collet creating uneven clamping. This will create runout in addition to the normal result of the collet seat and collet. Nuts with friction races are designed to increase grip force and decrease angular defection.



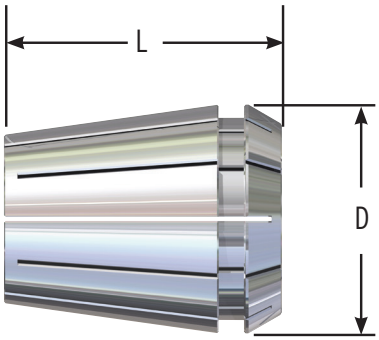
Other AA Collet Design Features and Benefits

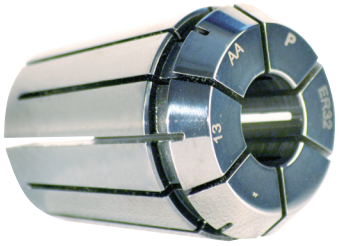
- 12 slots instead of 16 allows for more than enough collapse and increased the area of contact with less tendency to distort.
- All edges are deburred and rounded to promote good interface with the taper of the chuck without the tendency to damage it. This results in more consistent repeatability of the system.
- Collets are polished to eliminate minor blemishes that tend to promote corrosion. Better corrosion resistance will result in longer product life of both the collet and the holder.

The result of an improved AA collet in a quality chuck is increased gripping force, improved rigidity, decreased runout and an overall satisfaction in your collet chuck system.

Use Parlec Power Nut for best results

- Friction Race design improves concentricity and grip force.
- Two piece construction eliminates the torsional force on the collet during clamping.
- Floating race prevents misalignment between clamping nut and collet angle.





AA GRADE 5 MICRON ER PRECISION COLLETS - ER 11

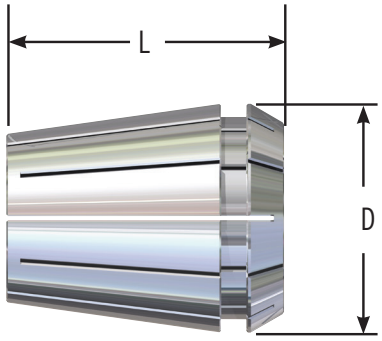
PART NUMBER		
ER 11 METRIC	Recommended Usage -.004" (.1 mm)	Maximum Collapse Range
5UMER11-0039	1 mm	0.5 mm
5UMER11-0059	1.5 mm	0.5 mm
5UMER11-0078	2 mm	0.5 mm
5UMER11-0098	2.5mm	0.5 mm
5UMER11-0118	3 mm	0.5 mm
5UMER11-0137	3.5 mm	0.5 mm
5UMER11-0157	4 mm	0.5 mm
5UMER11-0177	4.5 mm	0.5 mm
5UMER11-0196	5 mm	0.5 mm
5UMER11-0216	5.5 mm	0.5 mm
5UMER11-0236	6 mm	0.5 mm
5UMER11-0255	6.5 mm	0.5 mm
5UMER11-0275	7 mm	0.5 mm

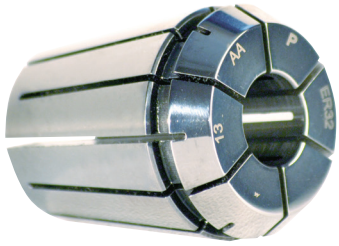
SET PART NUMBER	5UMER11-SM013	Metric Set ER11

ER 11 INCH	Recommended Usage -.004" (.1 mm)	Maximum Collapse Range
5UMER11-0062	1/16"	0.5 mm
5UMER11-0093	3/32"	0.5 mm
5UMER11-0125	1/8"	0.5 mm
5UMER11-0156	5/32"	0.5 mm
5UMER11-0187	3/16"	0.5 mm
5UMER11-0218	7/32"	0.5 mm
5UMER11-0250	1/4"	0.5 mm

SET PART NUMBER	5UMER11-SI007	Inch Set ER11

5 MICRON COLLET APPLICATION GUIDE

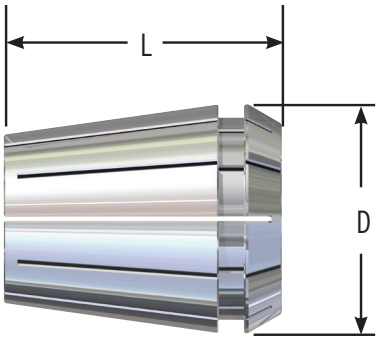


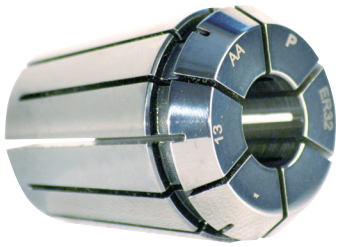


AA GRADE 5 MICRON ER PRECISION COLLETS - INCH

PART NUMBER						
ER 16 Inch	ER 20 Inch	ER 25 Inch	ER32 Inch	ER40 Inch	Recommended Usage - .004" (.1 mm)	Maximum Collapse Range
5UMER16-0062					1/16"	0.5 mm
5UMER16-0093					3/32"	0.5 mm
5UMER16-0125	5UMER20-0125	5UMER25-0125	5UMER32-0125	5UMER40-0125	1/8"	1 mm
5UMER16-0156	5UMER20-0157	5UMER25-0157	5UMER32-0157	5UMER40-0157	5/32"	1 mm
5UMER16-0187	5UMER20-0187	5UMER25-0187	5UMER32-0187	5UMER40-0187	3/16"	1 mm
5UMER16-0218					7/32"	1 mm
5UMER16-0250	5UMER20-0250	5UMER25-0250	5UMER32-0250	5UMER40-0250	1/4"	1 mm
5UMER16-0281					9/32"	1 mm
5UMER16-0312	5UMER20-0312	5UMER25-0312	5UMER32-0312	5UMER40-0312	5/16"	1 mm
5UMER16-0343					11/32"	1 mm
5UMER16-0375	5UMER20-0375	5UMER25-0375	5UMER32-0375	5UMER40-0375	3/8"	1 mm
5UMER16-0406					13/32"	1 mm
	5UMER20-0437	5UMER25-0437	5UMER32-0437	5UMER40-0437	7/16"	1 mm
	5UMER20-0472	5UMER25-0472	5UMER32-0472	5UMER40-0472	15/32"	1 mm
	5UMER20-0500	5UMER25-0500	5UMER32-0500	5UMER40-0500	1/2"	1 mm
		5UMER25-0562	5UMER32-0562	5UMER40-0562	9/16"	1 mm
		5UMER25-0625	5UMER32-0625	5UMER40-0625	5/8"	1 mm
			5UMER32-0687	5UMER40-0687	11/16"	1 mm
			5UMER32-0750	5UMER40-0750	3/4"	1 mm
			5UMER32-0812	5UMER40-0812	13/16"	1 mm
				5UMER40-0875	7/8"	1 mm
				5UMER40-1000	1"	1 mm

SET PART NUMBER	5UMER16-SI010	5UMER20-SI009	5UMER25-SI011	5UMER32-SI014	5UMER40-S1016
SET TYPE	Inch Set ER16	Inch Set ER20	Inch Set ER25	Inch Set ER32	Inch Set ER40
NUMBER OF PIECES	10 Pieces	9 Pieces	11 Pieces	14 Pieces	16 Pieces
NOTES	1/16" and 13/32" not included in set				





AA GRADE 5 MICRON ER PRECISION COLLETS - METRIC

PART NUMBER						
ER 16 Metric	ER 20 Metric	ER 25 Metric	ER32 Metric	ER40 Metric	Recommended Usage - .004" (.1 mm)	Maximum Collapse Range
5UMER16-0039					1 mm	0.5 mm
5UMER16-0078	5UMER20-0078	5UMER25-0078			2 mm	0.5 mm
5UMER16-0118	5UMER20-0118	5UMER25-0118	5UMER32-0118		3 mm	1 mm
5UMER16-0157	5UMER20-0157	5UMER25-0157	5UMER32-0157	5UMER40-0157	4 mm	1 mm
5UMER16-0196	5UMER20-0196	5UMER25-0196	5UMER32-0196	5UMER40-0196	5 mm	1 mm
5UMER16-0236	5UMER20-0236	5UMER25-0236	5UMER32-0236	5UMER40-0236	6 mm	1 mm
5UMER16-0275	5UMER20-0275	5UMER25-0275	5UMER32-0275	5UMER40-0275	7 mm	1 mm
5UMER16-0315	5UMER20-0315	5UMER25-0315	5UMER32-0315	5UMER40-0315	8 mm	1 mm
5UMER16-0354	5UMER20-0354	5UMER25-0354	5UMER32-0354	5UMER40-0354	9 mm	1 mm
5UMER16-0393	5UMER20-0393	5UMER25-0393	5UMER32-0393	5UMER40-0393	10 mm	1 mm
	5UMER20-0433	5UMER25-0433	5UMER32-0433	5UMER40-0433	11 mm	1 mm
	5UMER20-0472	5UMER25-0472	5UMER32-0472	5UMER40-0472	12 mm	1 mm
	5UMER20-0511	5UMER25-0511	5UMER32-0511	5UMER40-0511	13 mm	1 mm
		5UMER25-0551	5UMER32-0551	5UMER40-0551	14 mm	1 mm
		5UMER25-0590	5UMER32-0590	5UMER40-0590	15 mm	1 mm
		5UMER25-0630	5UMER32-0630	5UMER40-0630	16 mm	1 mm
			5UMER32-0669	5UMER40-0669	17 mm	1 mm
			5UMER32-0708	5UMER40-0708	18 mm	1 mm
			5UMER32-0748	5UMER40-0748	19 mm	1 mm
			5UMER32-0787	5UMER40-0787	20 mm	1 mm
				5UMER40-0826	21 mm	1 mm
				5UMER40-0866	22 mm	1 mm
				5UMER40-0905	23 mm	1 mm
				5UMER40-0944	24 mm	1 mm
				5UMER40-0984	25 mm	1 mm
				5UMER40-1023	26 mm	1 mm

SET PART NUMBER	5UMER16-SM010	5UMER20-SM012	5UMER25-SM015	5UMER32-SM018	5UMER40-SM023
SET TYPE	Metric Set ER16	Metric Set ER20	Metric Set ER25	Metric Set ER32	Metric Set ER40
NUMBER OF PIECES	10 Pieces	12 Pieces	15 Pieces	18 Pieces	23 Pieces

For additional sizes and tapers without coolant ports, please refer to Parlec's Full Line Master Tooling Catalog or visit Parlec.com.