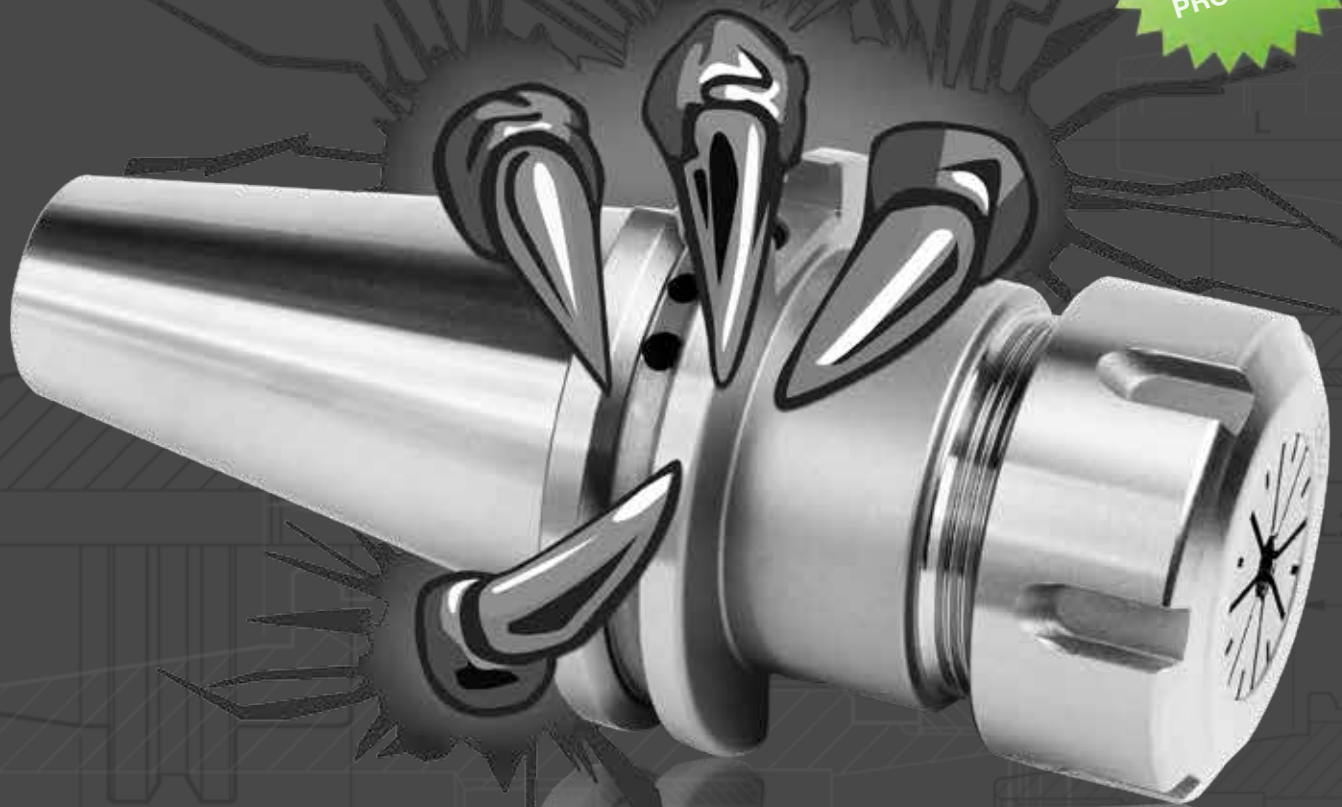


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CAT TOOLING

PAGES 6-20



BT TOOLING

PAGES 21-29



PULL STUDS

PAGE 30



STRAIGHT SHANK

PAGE 31



COLLETS

PAGES 32-40



R8 SHANK

PAGE 41



DRILL CHUCKS & ARBORS

PAGES 42-47



LIVE CENTERS

PAGES 48-49



BUSHINGS

PAGES 50-55



CNC FIXTURES

PAGE 56

SEE PROMOS ON PAGES 57-59



ER Collet Chucks

CAT40	6
CAT50	7
CAT40 <i>Stubby</i>	8
CAT50 <i>Stubby</i>	8
BT30	21
BT40	21
BT50	21
BT40 <i>Stubby</i>	22



DA Collet Chucks

CAT40	9
CAT50	9
BT40	24



TG Collet Chucks

CAT40	10
CAT50	11
BT30	23
BT40	23
BT50	23



End Mill Holders

CAT40	12-13
CAT50	14-15
BT30	24-25
BT40	24-25
BT50	24-25



Boring Bar Blanks

CAT40	16
CAT50	16



Morse Taper Adapters

CAT40	16
CAT50	16
BT40	27
BT50	27



Integral Shank Drill Chucks

CAT40	17
CAT50	17
BT40	26
BT50	26



Shell Mill Adapters

CAT40	18
CAT50	19
BT30	28
BT40	28
BT50	29



Jacobs Taper Adapters

CAT40	20
CAT50	20
BT40	26



Pull Studs Retention Knobs

BT30	30
BT40	30
BT50	30
CAT40	30
CAT50	30



ER Straight Shank

Straight Shank	31
----------------------	----



DA Straight Shank

Straight Shank	31
----------------------	----



ER Collets

.0004" T.I.R.	34-35
.0002" T.I.R.	36
Rigid Tap Collets	37
Steel Sealed	38-39

Sets	32-33
----------------	-------



TG Collets

TG100	40
-----------------	----



R8 Shank End Mill Adapters

R8 End Mill	41
-----------------------	----



R8 Shank Shell Mill Adapters

R8 Shell Mill	41
-------------------------	----



Drill Chuck Arbors

R8 Shank	42
Straight Shank	42
Morse Taper — Threaded	43
Morse Taper — With Tang	43



Keyed Drill Chucks

Ball Bearing	44
Plain Bearing	45



Keyless Drill Chucks

High Precision 10,000RPM	46
High Precision 4,000RPM	46
Standard	47



Live Centers

LC-100	48
LC-101	49
LC-102	49
Kits	48



Bushings

B Style	50
C Style	51
CV Style	52
DD Style	53
J Style	54
Z Style	55



CNC Fixtures

CAT	56
BT30	56
BT40	56
BT50	56
ISO30	56

ER Collet Chucks

CAT 40

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ AD+B coolant thru the spindle & flange (see details on page 61)
- ✓ Balanced G2.5 @ 20,000 RPM
- ✓ Hardened to 56-60 HRC
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ Stop Screw included
- ✓ CAT40 Draw Bar Threads: 5/8"-11



CAT 40

See Drawings On The Next Page

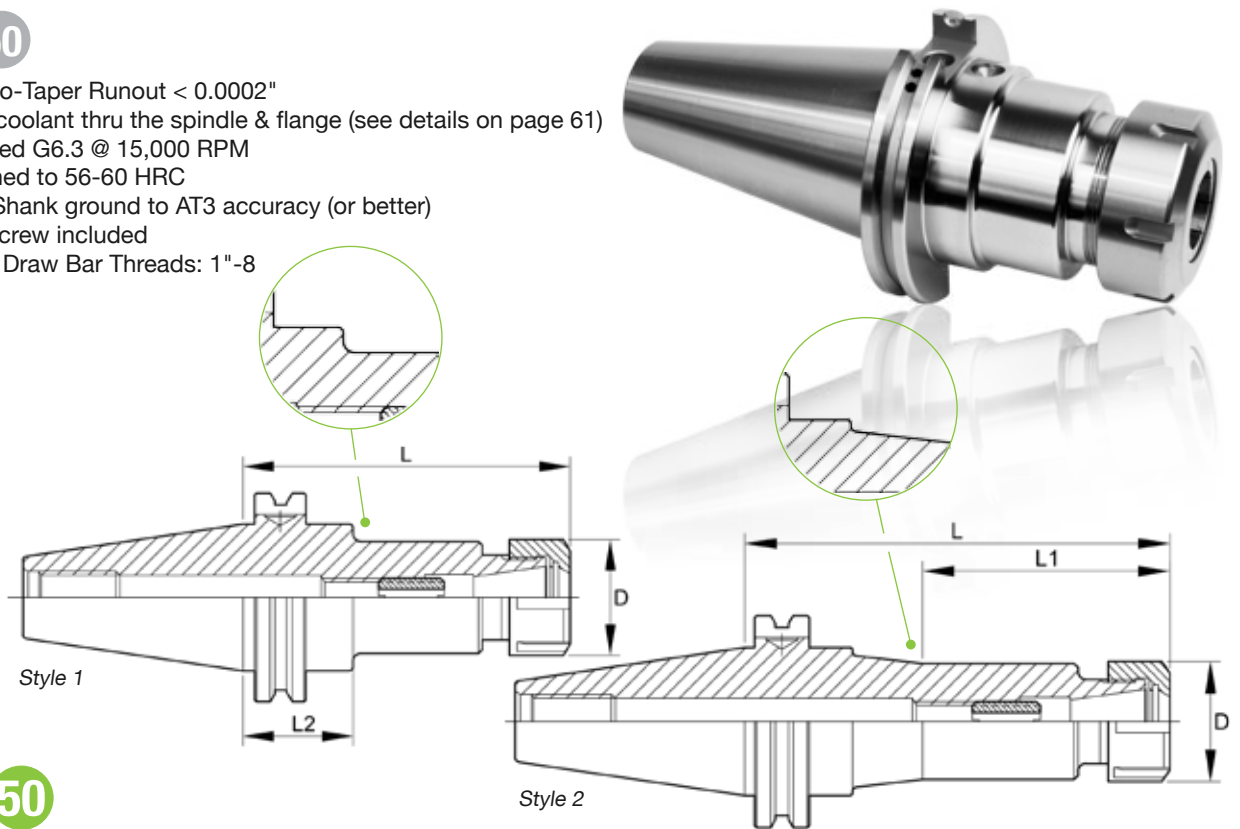
Part Number	Collet Series	Collet Cap Min - Max	Nut	L	L1	L2	D	Weight Approx.	Locknut	Wrench*	Style
CV40ER11250N	11ER	0.019" - 0.276"	Hex	2.5"	-	1.40"	0.79"	2.0 lb	LNHER11M	OEW20M	Style 1
CV40ER11400N	11ER	0.019" - 0.276"	Hex	4"	-	1.40"	0.79"	2.2 lb	LNHER11M	OEW20M	Style 1
CV40ER11600N	11ER	0.019" - 0.276"	Hex	6"	1.83"	1.40"	0.79"	2.4 lb	LNHER11M	OEW20M	Style 2
CV40ER16250N	16ER	0.02" - 0.406"	Hex	2.5"	-	1.40"	1.10"	2.4 lb	LNHER16M	OEW25M	Style 1
CV40ER16400N	16ER	0.02" - 0.406"	Hex	4"	-	1.40"	1.10"	3.2 lb	LNHER16M	OEW25M	Style 1
CV40ER16500N	16ER	0.02" - 0.406"	Hex	5"	-	1.40"	1.10"	3.2 lb	LNHER16M	OEW25M	Style 1
CV40ER16600N	16ER	0.02" - 0.406"	Hex	6"	-	1.40"	1.10"	3.4 lb	LNHER16M	OEW25M	Style 1
CV40ER16800N	16ER	0.02" - 0.406"	Hex	8"	-	1.40"	1.10"	3.6 lb	LNHER16M	OEW25M	Style 1
CV40ER20250N	20ER	0.02" - 0.512"	Hex	2.5"	-	1.40"	1.34"	2.4 lb	LNHER20M	OEW30M	Style 1
CV40ER20400N	20ER	0.02" - 0.512"	Hex	4"	-	1.40"	1.34"	3.5 lb	LNHER20M	OEW30M	Style 1
CV40ER20600N	20ER	0.02" - 0.512"	Hex	6"	-	1.40"	1.34"	3.7 lb	LNHER20M	OEW30M	Style 1
CV40ER20800N	20ER	0.02" - 0.512"	Hex	8"	-	1.40"	1.34"	4.1 lb	LNHER20M	OEW30M	Style 1
CV40ER25250N	25ER	0.04" - 0.630"	Round	2.5"	-	1.40"	1.65"	2.6 lb	LNER25M	ER25WM	Style 1
CV40ER25400N	25ER	0.04" - 0.630"	Round	4"	-	1.40"	1.65"	4.5 lb	LNER25M	ER25WM	Style 1
CV40ER25600N	25ER	0.04" - 0.630"	Round	6"	-	1.40"	1.65"	4.4 lb	LNER25M	ER25WM	Style 1
CV40ER25800N	25ER	0.04" - 0.630"	Round	8"	-	1.40"	1.65"	4.7 lb	LNER25M	ER25WM	Style 1
CV40ER32275N	32ER	0.04" - 0.810"	Round	2.75"	-	1.40"	1.97"	2.4 lb	LNER32M	ER32WM	Style 1
CV40ER32400N	32ER	0.04" - 0.810"	Round	4"	-	1.40"	1.97"	4.1 lb	LNER32M	ER32WM	Style 1
CV40ER32600N	32ER	0.04" - 0.810"	Round	6"	-	1.40"	1.97"	4.6 lb	LNER32M	ER32WM	Style 1
CV40ER32800N	32ER	0.04" - 0.810"	Round	8"	-	1.40"	1.97"	5.0 lb	LNER32M	ER32WM	Style 1
CV40ER40300N	40ER	0.12" - 1.00"	Round	3"	-	1.40"	2.48"	4.1 lb	LNER40M	ER40WM	Style 1
CV40ER40600N	40ER	0.12" - 1.00"	Round	6"	-	1.40"	2.48"	4.6 lb	LNER40M	ER40WM	Style 1
CV40ER40800N	40ER	0.12" - 1.00"	Round	8"	-	1.40"	2.48"	5.2 lb	LNER40M	ER40WM	Style 1

*Wrenches are sold separately

ER Collet Chucks

CAT 50

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ AD+B coolant thru the spindle & flange (see details on page 61)
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Hardened to 56-60 HRC
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ Stop Screw included
- ✓ CAT50 Draw Bar Threads: 1"-8



CAT 50

Part Number	Collet Series	Collet Cap Min - Max	Nut	L	L1	L2	D	Weight Approx.	Locknut	Wrench*	Style
CV50ER16400N	16ER	0.02" - 0.41"	Hex	4"	-	1.40"	1.10"	7.3 lb	LNHER16M	OEW25M	Style 1
CV50ER16600N	16ER	0.02" - 0.41"	Hex	6"	2.39"	1.40"	1.10"	7.9 lb	LNHER16M	OEW25M	Style 2
CV50ER16800N	16ER	0.02" - 0.41"	Hex	8"	2.39"	1.40"	1.10"	8.5 lb	LNHER16M	OEW25M	Style 2
CV50ER161200N	16ER	0.02" - 0.41"	Hex	12"	2.39"	1.40"	1.10"	9.5 lb	LNHER16M	OEW25M	Style 2
CV50ER20400N	20ER	0.02" - 0.50"	Hex	4"	-	1.40"	1.34"	7.4 lb	LNHER20M	OEW30M	Style 1
CV50ER20600N	20ER	0.02" - 0.50"	Hex	6"	2.42"	1.40"	1.34"	8.1 lb	LNHER20M	OEW30M	Style 2
CV50ER20800N	20ER	0.02" - 0.50"	Hex	8"	2.42"	1.40"	1.34"	8.8 lb	LNHER20M	OEW30M	Style 2
CV50ER25400N	25ER	0.04" - 0.63"	Round	4"	-	1.40"	1.65"	7.8 lb	LNER25M	ER25WM	Style 1
CV50ER25600N	25ER	0.04" - 0.63"	Round	6"	-	1.40"	1.65"	8.8 lb	LNER25M	ER25WM	Style 1
CV50ER25800N	25ER	0.04" - 0.63"	Round	8"	-	1.40"	1.65"	9.5 lb	LNER25M	ER25WM	Style 1
CV50ER32400N	32ER	0.04" - 0.81"	Round	4"	-	1.40"	1.97"	8.1 lb	LNER32M	ER32WM	Style 1
CV50ER32600N	32ER	0.04" - 0.81"	Round	6"	-	1.40"	1.97"	9.5 lb	LNER32M	ER32WM	Style 1
CV50ER32800N	32ER	0.04" - 0.81"	Round	8"	-	1.40"	1.97"	10.1 lb	LNER32M	ER32WM	Style 1
CV50ER321200N	32ER	0.04" - 0.81"	Round	12"	-	1.40"	1.97"	10.9 lb	LNER32M	ER32WM	Style 1
CV50ER40400N	40ER	0.12" - 1.00"	Round	4"	-	1.40"	2.48"	8.9 lb	LNER40M	ER40WM	Style 1
CV50ER40600N	40ER	0.12" - 1.00"	Round	6"	-	1.40"	2.48"	11.8 lb	LNER40M	ER40WM	Style 1
CV50ER40800N	40ER	0.12" - 1.00"	Round	8"	-	1.40"	2.48"	12.5 lb	LNER40M	ER40WM	Style 1

*Wrenches are sold separately



ER Collets

0.0002 T.I.R., 0.0004 T.I.R., Steel Sealed & Tap

PAGES 32-39



ER Spare Wrenches

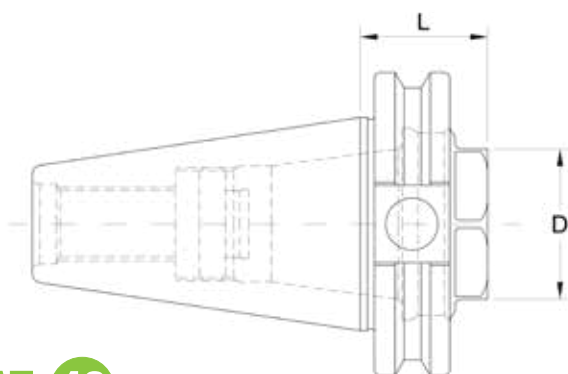
Round & Hex Nuts

PAGE 8

ER Collet Chucks *Stubby*

CAT 40 50

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ AD+B coolant thru the spindle & flange (see details on page 61)
- ✓ Balanced G2.5 @ 20,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT40 Draw Bar Threads: 5/8"-11
- ✓ CAT50 Draw Bar Threads: 1"-8



CAT 40

Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
CV40SER32169N	32ER	0.08" - 0.81"	Hex	1.52"	1.69"	1.7 lb	LNHSER32M	OEWS36M

*Wrenches are sold separately

CAT 50

Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
CV50SER32169N	32ER	0.08" - 0.81"	Hex	1.41"	1.69"	6.27 lb	LNHSER32M	OEWS36M

*Wrenches are sold separately

ER Collet Chuck *Spare Wrenches & Nuts*

ER Style 1
Hex Nut



ER "Hook" Style 2
Round Nut



ER "U" Style 3
Round Nut

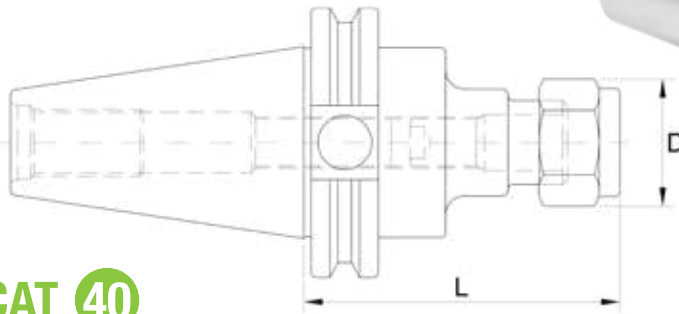


Nut Size	Nut Hex	Wrench Part Number Hex Nut (Style 1)	Nut Round	Wrench Part Number Round Nut ("Hook" Style 2)	Wrench Part Number Round Nut ("U" Style 3)
ER11	LNHER11M	OEWS20M	-	-	-
ER16	LNHER16M	OEWS25M	LNHER16MU	-	ER16U
ER20	LNHER20M	OEWS30M	LNHER20MU	-	ER20U
ER25	-	-	LNHER25M	ER25WM	ER25U
ER32	LNHSER32M	OEWS36M	LNHER32M	ER32WM	ER32U
ER40	-	-	LNHER40M	ER40WM	ER40U

DA Collet Chucks

CAT 40 50

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ Coolant thru the Spindle
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT40 Draw Bar Threads: 5/8"-11
- ✓ CAT50 Draw Bar Threads: 1"-8



CAT 40

Part Number	Collet Series	Collet Cap Min-Max	D	L	Weight Approx.	Locknut	Wrench*
CV40DA208300	200DA	1/64" - 25/64"	1.15"	3.00"	2.41 lb	LNA208M	OEW100
CV40DA208500	200DA	1/64" - 25/64"	1.15"	5.00"	3.05 lb	LNA208M	OEW100
CV40DA188300	180DA	1/64" - 3/4"	1.73"	3.00"	2.42 lb	LNA108M	OEW150
CV40DA188600	180DA	1/64" - 3/4"	1.73"	6.00"	3.60 lb	LNA108M	OEW150

*Wrenches are sold separately

CAT 50

Part Number	Collet Series	Collet Cap Min-Max	D	L	Weight Approx.	Locknut	Wrench*
CV50DA188300	180DA	1/64" - 3/4"	1.73"	3.00"	7.03 lb	LNA108M	OEW150
CV50DA188600	180DA	1/64" - 3/4"	1.73"	6.00"	8.21 lb	LNA108M	OEW150

*Wrenches are sold separately

DA Collet Chuck Spare Wrenches & Nuts

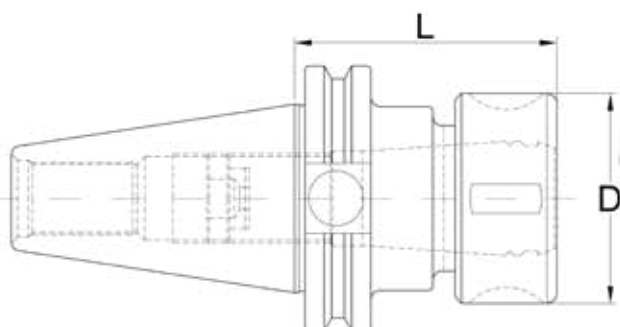
Nut Size	Nut Hex	Wrench Size	Wrench Part Number Round Nut (Style 1)
DA180	LNA108M	1-1/4"	OEW150
DA200	LNA208M	1"	OEW100



TG Collet Chucks

CAT 40

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ Coolant thru the Spindle
- ✓ Balanced G2.5 @ 20,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT40 Draw Bar Threads: 5/8"-11



CAT 40

Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
CV40TG075254G	75TG	3/64" - 3/4"	Round	1.97"	2.54"	2.50 lb	LNA075M	ER32WM
CV40TG075275	75TG	3/64" - 3/4"	Hex	2.09"	2.75"	2.41 lb	NPA075M	OE188
CV40TG075579G	75TG	3/64" - 3/4"	Round	1.97"	5.79"	4.40 lb	LNA075M	ER32WM
CV40TG075600	75TG	3/64" - 3/4"	Hex	2.09"	6.00"	4.40 lb	NPA075M	OE188
CV40TG075800G	75TG	3/64" - 3/4"	Round	1.97"	8.00"	5.54 lb	LNA075M	ER32WM
CV40TG100276G	100TG	5/64" - 1"	Round	2.36"	2.76"	2.69 lb	LNA100M	ER40WM
CV40TG100376G	100TG	5/64" - 1"	Round	2.36"	3.76"	3.23 lb	LNA100M	ER40WM
CV40TG100300	100TG	5/64" - 1"	Hex	2.44"	3.00"	2.77 lb	NPA100M	OE225
CV40TG100400	100TG	5/64" - 1"	Hex	2.44"	4.00"	3.28 lb	NPA100M	OE225
CV40TG100576G	100TG	5/64" - 1"	Round	2.36"	5.76"	5.52 lb	LNA100M	ER40WM
CV40TG100600	100TG	5/64" - 1"	Hex	2.44"	6.00"	5.4 lb	NPA100M	OE225
CV40TG150488	150TG	23/64" - 1-1/2"	Round	3.50"	4.88"	5.72 lb	NPA150M	HSW80M

*Wrenches are sold separately



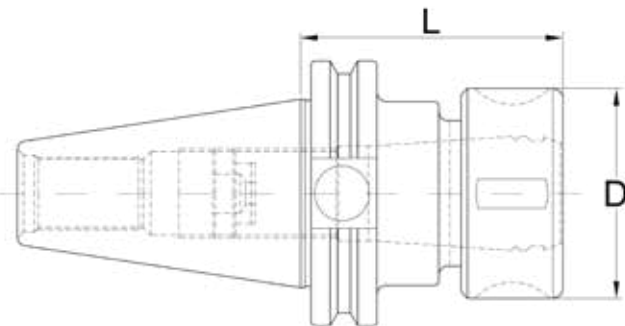
100TG Collets

PAGE 40

TG Collet Chucks

CAT 50

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ Coolant thru the Spindle
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT50 Draw Bar Threads: 1"-8



CAT 50

Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
CV50TG075254G	75TG	3/64" - 3/4"	Round	1.97"	2.54"	7.3 lb	LNA075M	ER32WM
CV50TG075275	75TG	3/64" - 3/4"	Hex	2.09"	2.75"	7.3 lb	NPA075M	OEW188
CV50TG075579G	75TG	3/64" - 3/4"	Round	1.97"	5.79"	9.7 lb	LNA075M	ER32WM
CV50TG075600	75TG	3/64" - 3/4"	Hex	2.09"	6.00"	9.7 lb	NPA075M	OEW188
CV50TG75800G	75TG	3/64" - 3/4"	Round	1.97"	8.00"	11.5 lb	LNA075M	ER32WM
CV50TG0751000G	75TG	3/64" - 3/4"	Round	1.97"	10.0"	13.6 lb	LNA075M	ER32WM
CV50TG100300	100TG	5/64" - 1"	Hex	2.44"	3.00"	7.16 lb	NPA100M	OEW225
CV50TG100326G	100TG	5/64" - 1"	Round	2.36"	3.26"	7.61 lb	LNA100M	ER40WM
CV50TG100400	100TG	5/64" - 1"	Hex	2.44"	4.00"	8.0 lb	NPA100M	OEW225
CV50TG100600	100TG	5/64" - 1"	Hex	2.44"	6.00"	9.76 lb	NPA100M	OEW225
CV50TG150488	150TG	23/64" - 1-1/2"	Round	3.48"	4.88"	10.1 lb	NPA150M	HSW80M

*Wrenches are sold separately

TG Collet Chuck Spare Wrenches & Nuts

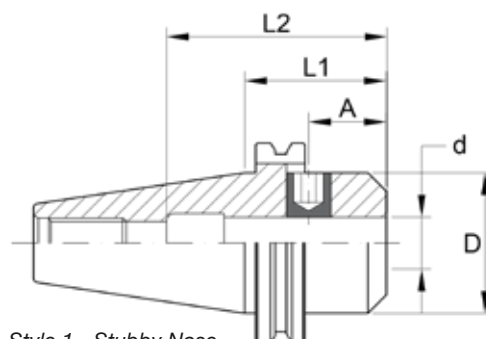


Nut Size	Nut Hex	Wrench Part Number Hex Nut (Style 1)	Nut Round	Wrench Part Number Round Nut ("Hook" Style 2)
TG75	NPA075M	OEW188	LNA075M	ER32WM
TG100	NPA100M	OEW225	LNA100M	ER40WM
TG150	-	-	LNA150M	HSW80M

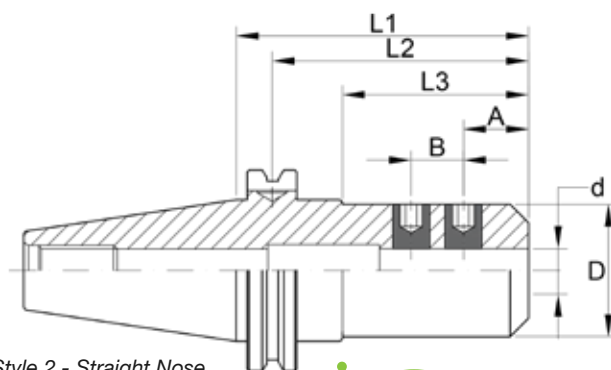
End Mill Holders

CAT 40

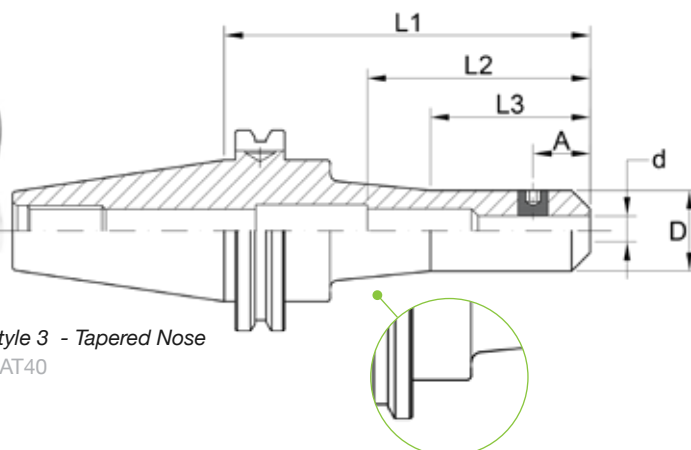
- ✓ Taper-to-Bore Runout < 0.0002"
- ✓ H5 Bore Tolerance
- ✓ AD+B coolant thru the spindle & flange (see details on page 61)
- ✓ Balanced G2.5 @ 20,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT40 Draw Bar Threads: 5/8"-11



Style 1 - Stubby Nose
CAT40



Style 2 - Straight Nose
CAT40



Style 3 - Tapered Nose
CAT40

CAT 40 End Mill Holders

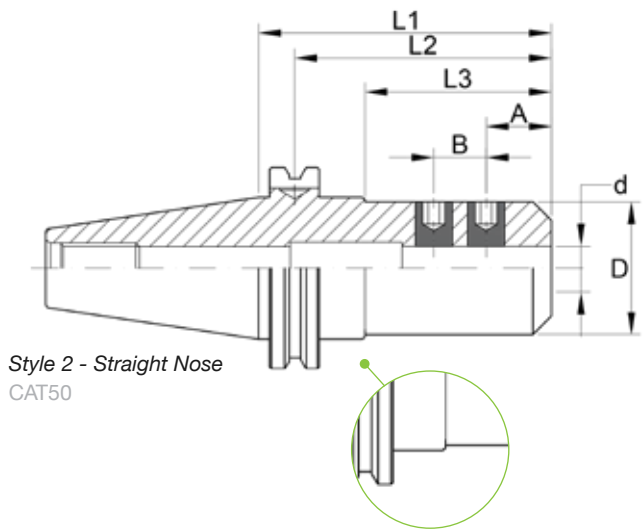
CAT SHANK TOOLS
CATERPILLAR CV ANSI B5.50 / ISO 7388

Part Number	d Hole Dia.	L1 Gage Length	D	L2 Hole Depth	L3	A	B	Weight Approx.	Clamp Screw Size	# Of Clamp Screws	Allen Key Size	Style
CV40ZEM012138N	1/8"	1.38"	0.69"	2.89"	-	0.19"	-	1.79 lb	10-32	1	3/32"	Style 1
CV40EM012450N	1/8"	4.50"	0.69"	6.01"	2.81"	0.19"	-	2.41 lb	10-32	1	3/32"	Style 2
CV40ZEM018138N	3/16"	1.38"	0.69"	2.89"	-	0.44"	-	1.79 lb	10-32	1	3/32"	Style 1
CV40EM018250N	3/16"	2.50"	0.69"	4.01"	1.81"	0.44"	-	2.22 lb	10-32	1	3/32"	Style 2
CV40EM018450N	3/16"	4.50"	0.69"	6.01"	2.81"	0.44"	-	2.41 lb	10-32	1	3/32"	Style 2
CV40EM018600N	3/16"	6.00"	0.69"	7.50"	2.50"	0.44"	-	3.00 lb	10-32	1	3/32"	Style 3
CV40ZEM025138N	1/4"	1.38"	1.00"	2.89"	-	0.44"	-	1.82 lb	1/4"-28	1	1/8"	Style 1
CV40EM025250N	1/4"	2.50"	1.00"	4.01"	1.81"	0.44"	-	2.35 lb	1/4"-28	1	1/8"	Style 2
CV40EM025450N	1/4"	4.50"	0.78"	6.01"	2.81"	0.44"	-	2.51 lb	1/4"-28	1	1/8"	Style 2
CV40EM025600N	1/4"	6.00"	0.78"	7.50"	2.50"	0.44"	-	3.10 lb	1/4"-28	1	1/8"	Style 3
CV40EM025800N	1/4"	8.00"	0.78"	8.00"	2.50"	0.44"	-	3.80 lb	1/4"-28	1	1/8"	Style 3
CV40ZEM031138N	5/16"	1.38"	1.00"	2.89"	-	0.44"	-	1.85 lb	5/16"-24	1	5/32"	Style 1
CV40EM031450N	5/16"	4.50"	1.00"	6.01"	2.81"	0.44"	-	2.76 lb	5/16"-24	1	5/32"	Style 2
CV40EM031600N	5/16"	6.00"	1.00"	7.50"	2.50"	0.44"	-	3.20 lb	5/16"-24	1	5/32"	Style 3
CV40ZEM038138N	3/8"	1.38"	1.00"	2.89"	-	0.75"	-	1.85 lb	3/8"-24	1	3/6"	Style 1
CV40EM038250N	3/8"	2.50"	1.00"	4.01"	1.81"	0.75"	-	2.32 lb	3/8"-24	1	3/16"	Style 2
CV40EM038450N	3/8"	4.50"	1.00"	6.01"	2.81"	0.75"	-	2.69 lb	3/8"-24	1	3/16"	Style 2
CV40EM038650N	3/8"	6.50"	1.00"	8.01"	3.00"	0.75"	-	3.17 lb	3/8"-24	1	3/16"	Style 3
CV40EM038800N	3/8"	8.00"	1.00"	8.01"	4.50"	0.75"	-	3.90 lb	3/8"-24	1	3/16"	Style 3
CV40ZEM044175N	7/16"	1.75"	1.25"	3.26"	-	0.75"	-	2.00 lb	3/8"-24	1	7/32"	Style 1
CV40EM044450N	7/16"	4.50"	1.25"	6.01"	2.81"	0.75"	-	3.04 lb	3/8"-24	1	7/32"	Style 2
CV40ZEM050175N	1/2"	1.75"	1.75"	3.26"	-	0.88"	-	2.27 lb	7/16"-20	1	7/32"	Style 1
CV40EM050262N	1/2"	2.62"	1.38"	4.13"	0.93"	0.88"	-	2.52 lb	7/16"-20	1	7/32"	Style 2
CV40EM050462N	1/2"	4.62"	1.25"	6.13"	2.93"	0.88"	-	3.05 lb	7/16"-20	1	7/32"	Style 2
CV40EM050662N	1/2"	6.62"	1.25"	8.13"	3.00"	0.88"	-	3.83 lb	7/16"-20	1	7/32"	Style 3
CV40EM050800N	1/2"	8.00"	1.25"	8.13"	4.50"	0.88"	-	4.30 lb	7/16"-20	1	7/32"	Style 3
CV40ZEM062175N	5/8"	1.75"	1.75"	3.56"	-	0.94"	-	2.19 lb	9/16"-18	1	1/4"	Style 1
CV40EM062375N	5/8"	3.75"	1.50"	3.56"	2.06"	0.94"	-	2.96 lb	9/16"-18	1	1/4"	Style 2
CV40EM062575N	5/8"	5.75"	1.63"	3.56"	4.06"	0.94"	-	4.21 lb	9/16"-18	1	1/4"	Style 2
CV40EM062800N	5/8"	8.00"	1.63"	3.56"	6.31"	0.94"	-	5.00 lb	9/16"-18	1	1/4"	Style 2
CV40ZEM075175N	3/4"	1.75"	1.75"	2.40"	-	1.00"	-	2.09 lb	5/8"-18	1	5/16"	Style 1
CV40EM075375N	3/4"	3.75"	1.75"	3.94"	2.06"	1.00"	-	3.21 lb	5/8"-18	1	5/16"	Style 2
CV40EM075575N	3/4"	5.75"	1.75"	3.94"	4.06"	1.00"	-	4.44 lb	5/8"-18	1	5/16"	Style 2
CV40EM075800N	3/4"	8.00"	1.75"	3.94"	6.31"	1.00"	-	5.20 lb	5/8"-18	1	5/16"	Style 2
CV40ZEM088175N	7/8"	1.75"	1.88"	2.27"	-	1.00"	-	2.31 lb	5/8"-18	1	5/16"	Style 1
CV40EM088400N	7/8"	4.00"	2.00"	4.19"	2.31"	1.00"	0.81"	3.65 lb	5/8"-18	2	5/16"	Style 2
CV40EM088600N	7/8"	6.00"	1.88"	4.19"	4.31"	1.00"	0.81"	4.86 lb	5/8"-18	2	5/16"	Style 2
CV40ZEM100175N	1"	1.75"	1.75"	2.64"	-	1.12"	-	1.78 lb	3/4"-16	1	3/8"	Style 1
CV40EM100400N	1"	4.00"	2.00"	4.43"	2.31"	1.12"	1.00"	3.39 lb	3/4"-16	2	3/8"	Style 2
CV40EM100600N	1"	6.00"	2.00"	4.43"	4.31"	1.12"	1.00"	5.04 lb	3/4"-16	2	3/8"	Style 2
CV40EM100800N	1"	8.00"	2.00"	4.43"	6.31"	1.12"	1.00"	6.10 lb	3/4"-16	2	3/8"	Style 2
CV40ZEM125200N	1-1/4"	2.00"	2.25"	2.35"	-	1.12"	-	2.25 lb	3/4"-16	1	3/8"	Style 1
CV40EM125425N	1-1/4"	4.25"	2.50"	2.39"	2.56"	1.12"	1.00"	4.96 lb	3/4"-16	2	3/8"	Style 2
CV40EM125625N	1-1/4"	6.25"	2.50"	2.39"	4.56"	1.12"	1.00"	7.47 lb	3/4"-16	2	3/8"	Style 2
CV40EM125800N	1-1/4"	8.00"	2.50"	3.54"	6.31"	1.12"	1.00"	8.90 lb	3/4"-16	2	3/8"	Style 2
CV40EM150462N	1-1/2"	4.63"	2.75"	2.82"	2.94"	1.12"	1.00"	5.80 lb	3/4"-16	2	3/8"	Style 2
CV40EM150662N	1-1/2"	6.63"	2.75"	2.82"	4.94"	1.12"	1.00"	8.76 lb	3/4"-16	2	3/8"	Style 2
CV40EM150800N	1-1/2"	8.00"	2.75"	3.15"	6.31"	1.12"	1.00"	10.50 lb	3/4"-16	2	3/8"	Style 2

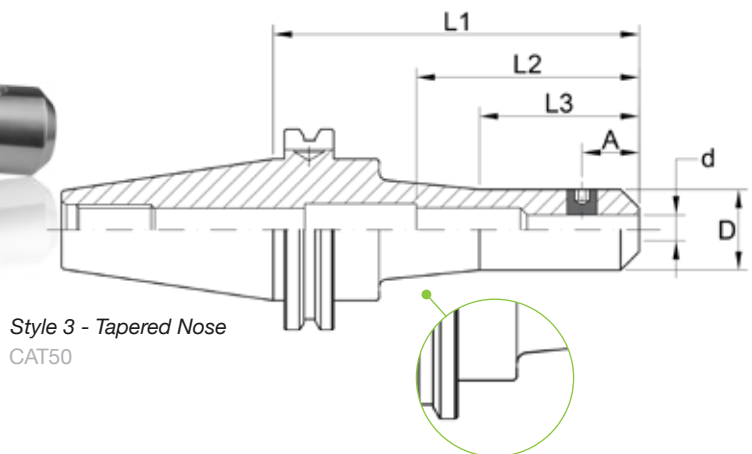
End Mill Holders

CAT 50

- ✓ Taper to Bore Runout < 0.0002"
- ✓ H5 Bore Tolerance
- ✓ AD+B coolant thru the spindle & flange (see details on page 61)
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT50 Draw Bar Threads: 1"-8



Style 2 - Straight Nose
CAT50



Style 3 - Tapered Nose
CAT50

End Mill Holders

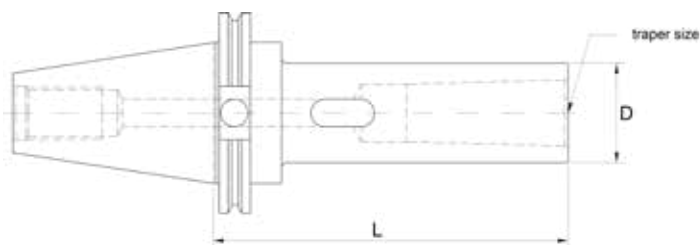
CAT 50

Part Number	d Hole Dia.	L1 Gage Length	D	L2 Hole Depth	L3	A	B	Weight Approx.	Clamp Screw Size	# Of Clamp Screws	Allen Key Size	Style
CV50EM018250N	3/16"	2.50"	0.69"	4.69"	0.92"	0.44"	-	6.55 lb	10-32	1	3/32"	Style 2
CV50EM018450N	3/16"	4.50"	0.69"	6.69"	1.57"	0.44"	-	6.84 lb	10-32	1	3/32"	Style 3
CV50EM025250N	1/4"	2.50"	0.78"	4.69"	0.92"	0.44"	-	6.55 lb	1/4"-28	1	1/8"	Style 2
CV50EM025450N	1/4"	4.50"	0.78"	6.69"	1.57"	0.44"	-	7.17 lb	1/4"-28	1	1/8"	Style 3
CV50EM025600N	1/4"	6.00"	0.78"	8.25"	1.57"	0.44"	-	8.80 lb	1/4"-28	1	1/8"	Style 3
CV50EM031450N	5/16"	4.50"	1.00"	6.69"	2.42"	0.44"	-	7.15 lb	5/16"-24	1	5/32"	Style 2
CV50EM038250N	3/8"	2.50"	1.00"	4.69"	1.00"	0.75"	-	6.63 lb	3/8"-24	1	3/16"	Style 2
CV50EM038450N	3/8"	4.50"	1.00"	6.69"	2.92"	0.75"	-	7.07 lb	3/8"-24	1	3/16"	Style 2
CV50EM038650N	3/8"	6.50"	1.00"	8.69"	3.00"	0.75"	-	7.45 lb	3/8"-24	1	3/16"	Style 3
CV50EM038800N	3/8"	8.00"	1.00"	10.25"	3.00"	0.75"	-	9.00 lb	3/8"-24	1	3/16"	Style 3
CV50EM044450N	7/16"	4.50"	1.25"	4.69"	3.00"	0.88"	-	6.78 lb	3/8"-24	1	7/32"	Style 2
CV50EM050262N	1/2"	2.62"	1.38"	4.81"	1.20"	0.88"	-	6.82 lb	7/16"-20	1	7/32"	Style 2
CV50EM050462N	1/2"	4.62"	1.38"	6.81"	3.05"	0.88"	-	7.52 lb	7/16"-20	1	7/32"	Style 2
CV50EM050662N	1/2"	6.62"	1.38"	8.81"	3.13"	0.88"	-	8.21 lb	7/16"-20	1	7/32"	Style 3
CV50EM050800N	1/2"	8.00"	1.38"	10.25"	3.13"	0.88"	-	9.30 lb	7/16"-20	1	7/32"	Style 3
CV50EM062375N	5/8"	3.75"	1.63"	5.94"	2.25"	0.94"	-	7.53 lb	9/16"-18	1	1/4"	Style 2
CV50EM062575N	5/8"	5.75"	1.63"	7.94"	4.25"	0.94"	-	8.63 lb	9/16"-18	1	1/4"	Style 2
CV50EM062800N	5/8"	8.00"	1.63"	10.00"	4.50"	0.94"	-	10.20 lb	9/16"-18	1	1/4"	Style 3
CV50EM075375N	3/4"	3.75"	1.75"	5.94"	2.25"	1.00"	-	7.65 lb	5/8"-18	1	5/16"	Style 2
CV50EM075575N	3/4"	5.75"	1.75"	7.94"	4.17"	1.00"	-	8.67 lb	5/8"-18	1	5/16"	Style 2
CV50EM075800N	3/4"	8.00"	1.75"	7.94"	1.96"	1.00"	-	10.00 lb	5/8"-18	1	5/16"	Style 3
CV50EM088400N	7/8"	4.00"	2.00"	4.19"	3.40"	1.00"	0.81"	8.00 lb	5/8"-18	2	5/16"	Style 2
CV50EM088600N	7/8"	6.00"	2.00"	4.31"	4.20"	1.00"	0.81"	9.44 lb	5/8"-18	2	5/16"	Style 2
CV50EM100400N	1"	4.00"	2.00"	4.43"	2.50"	1.12"	1.00"	7.95 lb	3/4"-16	2	3/8"	Style 2
CV50EM100600N	1"	6.00"	2.00"	4.43"	4.50"	1.12"	1.00"	9.39 lb	3/4"-16	2	3/8"	Style 2
CV50EM100800N	1"	8.00"	2.00"	4.43"	6.50"	1.12"	1.00"	11.10 lb	3/4"-16	2	3/8"	Style 2
CV50EM125425N	1-1/4"	4.25"	2.50"	2.39"	2.73"	1.12"	1.00"	8.98 lb	3/4"-16	2	3/8"	Style 2
CV50EM125625N	1-1/4"	6.25"	2.50"	2.39"	4.73"	1.12"	1.00"	11.42 lb	3/4"-16	2	3/8"	Style 2
CV50EM125800N	1-1/4"	8.00"	2.50"	3.35"	6.73"	1.12"	1.00"	13.00 lb	3/4"-16	2	3/8"	Style 2
CV50EM150462N	1-1/2"	4.62"	2.75"	3.20"	3.10"	1.50"	1.00"	9.19 lb	3/4"-16	2	3/8"	Style 2
CV50EM150662N	1-1/2"	6.62"	2.75"	5.20"	5.10"	1.12"	1.00"	12.21 lb	3/4"-16	2	3/8"	Style 2
CV50EM150800N	1-1/2"	8.00"	2.75"	7.20"	6.48"	1.12"	1.00"	13.00 lb	3/4"-16	2	3/8"	Style 2
CV50EM200562N	2"	5.62"	3.94"	4.86"	4.10"	1.41"	1.50"	17.70 lb	1"-14	2	1/2"	Style 2
CV50EM200800N	2"	8.00"	3.94"	7.24"	6.48"	1.41"	1.50"	19.00 lb	1"-14	2	1/2"	Style 2

Morse Taper Adapters

CAT 40 50

- ✓ Coolant thru the Spindle
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ MT - CAT Form A
- ✓ CAT40 Draw Bar Threads: 5/8"-11
- ✓ CAT50 Draw Bar Threads: 1"-8



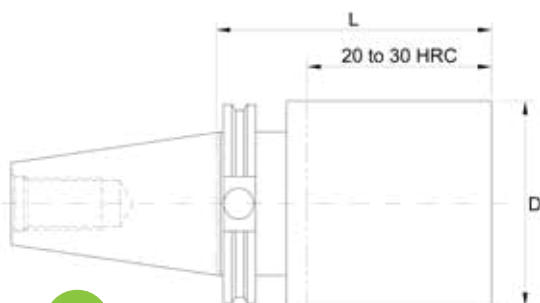
Part Number	Taper Size	D	L	Weight Approx.
CV40MT1175	1	0.980"	1.750"	2.21 lb
CV40MT2244	2	1.260"	2.440"	2.30 lb
CV40MT3300	3	1.570"	3.000"	2.49 lb
CV40MT4388	4	1.890"	3.880"	2.86 lb

Part Number	Taper Size	D	L	Weight Approx.
CV50MT1175	1	2.750"	1.75"	6.90 lb
CV50MT2200	2	2.750"	2.00"	7.43 lb
CV50MT3250	3	1.570"	2.50"	6.73 lb
CV50MT4388	4	1.890"	3.38"	6.90 lb
CV50MT5375	5	2.750"	3.75"	7.55 lb

Boring Bar Blanks

CAT 40 50

- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT40 Draw Bar Threads: 5/8"-11
- ✓ CAT50 Draw Bar Threads: 1"-8



CAT 40

Part Number	D	L	Weight Approx.
CV40BB4001200	4.00"	12.00"	39.89 lb
CV40BB400600	4.00"	6.00"	18.55 lb

CAT 50

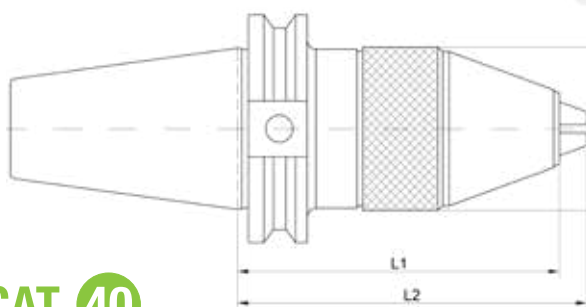
Part Number	D	L	Weight Approx.
CV50BB400120	4.00"	12.00"	44.56 lb
CV50BB400600	4.00"	6.00"	23.23 lb
CV50BB600600	6.00"	6.00"	43.50 lb

Special sizes available upon request. Call 1-800-985-5390

Integral Shank Drill Chucks

CAT 40 50

- ✓ Rigid & heavy-duty design
- ✓ High accuracy & high RPM
- ✓ Wide gripping capacity
- ✓ Self-tightening keyless operation
- ✓ Comes with wrenches
- ✓ Non-Coolant
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ CAT40 Draw Bar Threads: 5/8"-11
- ✓ CAT50 Draw Bar Threads: 1"-8
- ✓ Max T.I.R. 0.0004"



CAT 40

Part Number	Chuck Size	D1 Min-Max	D2	L1	L2	Weight Approx.	Wrench*
CV40DC13M421	1/2"	0.039" - 0.512"	1.89"	4.04"	4.50"	3.84 lb	DKS-13S

*Comes with wrenches

CAT 50

Part Number	Chuck Size	D1 Min-Max	D2	L1	L2	Weight Approx.	Wrench*
CV50DC13M421	1/2"	0.039" - 0.512"	1.98"	4.04"	4.50"	7.85 lb	DKS-13S

*Comes with wrenches



H/V CNC Fixtures

PAGE 56



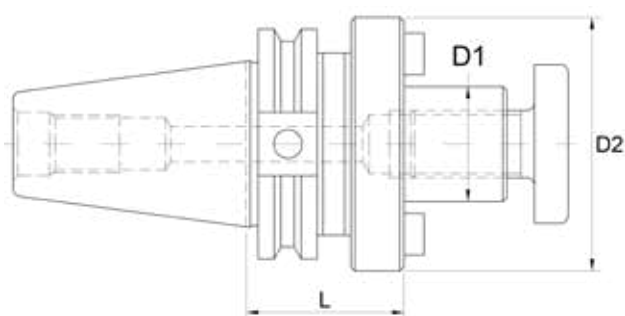
Replacement Chucks

DC-700-0500R

Shell Mill Holders

CAT 40

- ✓ Taper-to-Pilot Runout < 0.0002"
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ h6 Pilot Tolerance
- ✓ AD+B coolant thru the spindle & flange (see details on page 61)
- ✓ Balanced by design
- ✓ CAT40 Draw Bar Threads: 5/8"-11
- ✓ Provided with a non-coolant arbor screw
- ✓ Coolant arbor screws are sold separately



Style 1



Style 1

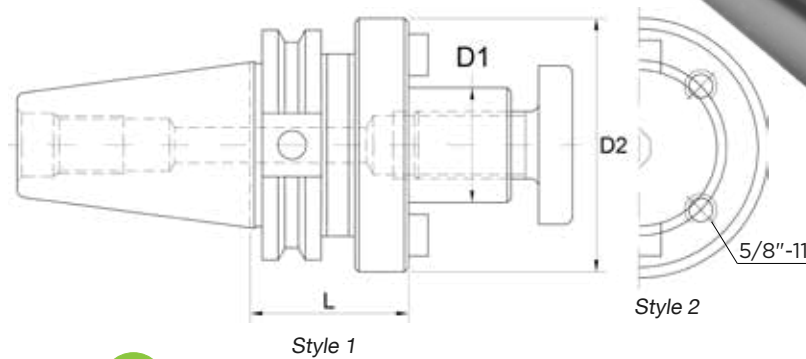
CAT 40

Part Number	D1 Pilot	D2	L Gage Length	Weight Approx.	Allen Key Size	Drive Key Size	Style
CV40SM050138N	1/2"	1.75"	1.38"	2.27 lb	3/16"	1/4"	Style 1
CV40SM075138N	3/4"	1.75"	1.38"	2.21 lb	1/4"	5/16"	Style 1
CV40SM075350N	3/4"	1.75"	3.50"	3.80 lb	1/4"	5/16"	Style 1
CV40SM100206N	1"	2.19"	2.06"	3.10 lb	5/16"	3/8"	Style 1
CV40SM100400N	1"	2.19"	4.00"	4.30 lb	5/16"	3/8"	Style 1
CV40SM125212N	1-1/4"	2.75"	2.12"	4.00 lb	5/16"	1/2"	Style 1
CV40SM125400N	1-1/4"	2.75"	4.00"	5.00 lb	5/16"	1/2"	Style 1
CV40SM150241N	1-1/2"	3.38"	2.41"	5.01 lb	3/8"	5/8"	Style 1
CV40SM150400N	1-1/2"	3.38"	4.00"	6.15 lb	3/8"	5/8"	Style 1

Shell Mill Holders

CAT 50

- ✓ Taper-to-Pilot Runout < 0.0002"
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ h6 Pilot Tolerance
- ✓ AD+B coolant thru the spindle & flange (see details on page 61)
- ✓ Balanced by design
- ✓ CAT50 Draw Bar Threads: 1"-8
- ✓ Provided with a non-coolant arbor screw
- ✓ Coolant arbor screws are sold separately



CAT 50

Part Number	D1	D2	L Gage Length	Weight Approx.	Allen Key Size	Drive Key Size	Style
CV50SM050138N	1/2"	2.75"	1.38"	6.82 lb	3/16"	1/4"	Style 1
CV50SM050350N	1/2"	1.44"	3.50"	7.54 lb	3/16"	1/4"	Style 1
CV50SM075138N	3/4"	2.75"	1.38"	6.88 lb	1/4"	5/16"	Style 1
CV50SM075350N	3/4"	1.75"	3.50"	8.34 lb	1/4"	5/16"	Style 1
CV50SM075600N	3/4"	1.75"	6.00"	9.70 lb	1/4"	5/16"	Style 1
CV50SM100206N	1"	2.19"	2.06"	7.37 lb	5/16"	3/8"	Style 1
CV50SM100400N	1"	2.40"	4.00"	9.97 lb	5/16"	3/8"	Style 1
CV50SM100600N	1"	2.40"	6.00"	12.46 lb	5/16"	3/8"	Style 1
CV50SM125212N	1-1/4"	2.75"	2.12"	7.18 lb	5/16"	1/2"	Style 1
CV50SM125400N	1-1/4"	2.75"	4.00"	10.31 lb	5/16"	1/2"	Style 1
CV50SM125600N	1-1/4"	2.75"	6.00"	11.35 lbs	5/16"	1/2"	Style 1
CV50SM150241N	1-1/2"	3.38"	2.41"	9.71 lb	3/8"	5/8"	Style 1
CV50SM150400N	1-1/2"	3.38"	4.00"	12.27 lb	3/8"	5/8"	Style 1
CV50SM150600N	1-1/2"	3.38"	6.00"	13.40 lbs	3/8"	5/8"	Style 1
CV50SM200240N	2"	4.37"	2.40"	12.50 lb	3/8"	3/4"	Style 2
CV50SM250240**	2-1/2"	4.88"	2.40"	19.00 lb	-	1"	Style 3*

**Non coolant-through

*Provided with the 4-piece 5/8"-11 milling cutter mounting bolts

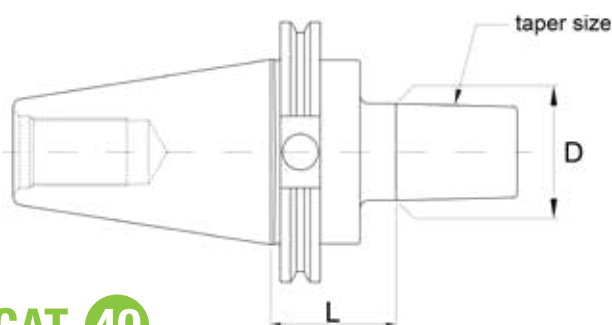
Style 3*



Jacobs Taper Adapters

CAT 40 50

- ✓ Designed to use with Keyless Jacobs Chucks
- ✓ Non-coolant
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ Balanced by design
- ✓ CAT40 Draw Bar Threads: 5/8" - 11
- ✓ CAT50 Draw Bar Threads: 1" - 8



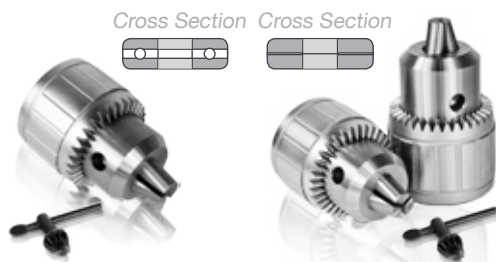
CAT 40

Part Number	Taper Size	D	L	Weight Approx.
CV40JT2157A	JT2	0.560"	1.57"	2.10 lb
CV40JT2244	JT2	0.560"	2.44"	2.33 lb
CV40JT3157A	JT3	0.812"	1.57"	2.30 lb
CV40JT3278	JT3	0.812"	2.78"	2.45 lb
CV40JT33157A	JT33	0.625"	1.57"	2.20 lb
CV40JT33256	JT33	0.625"	2.56"	2.32 lb
CV40JT4157A	JT4	1.124"	1.57"	2.18 lb
CV40JT4244	JT4	1.124"	2.44"	2.45 lb
CV40JT6157A	JT6	0.676"	1.57"	2.50 lb
CV40JT6244	JT6	0.676"	2.44"	2.78 lb

CAT 50

Part Number	Taper Size	D	L	Weight Approx.
CV50JT2157A	JT2	0.560"	1.57"	2.65 lb
CV50JT2244	JT2	0.560"	2.44"	2.93 lb
CV50JT3157A	JT3	0.812"	1.57"	2.90 lb
CV50JT3278	JT3	0.812"	2.78"	3.06 lb
CV50JT33157A	JT33	0.625"	1.57"	2.81 lb
CV50JT33256	JT33	0.625"	2.56"	2.96 lb
CV50JT4157A	JT4	1.124"	1.57"	6.45 lb
CV50JT4325	JT4	1.124"	3.25"	6.97 lb
CV50JT5157A	JT5	1.413"	1.57"	6.92 lb
CV50JT5325	JT5	1.413"	3.25"	7.25 lb
CV50JT6157A	JT6	0.676"	1.57"	6.95 lb

Drill Chucks



Ball Bearing

Keyed

PAGE 44

Plain Bearing

Keyed

PAGE 45



10,000RPM

Keyless

PAGE 46



4,000RPM

Keyless (Precision)

PAGE 46



4,000RPM

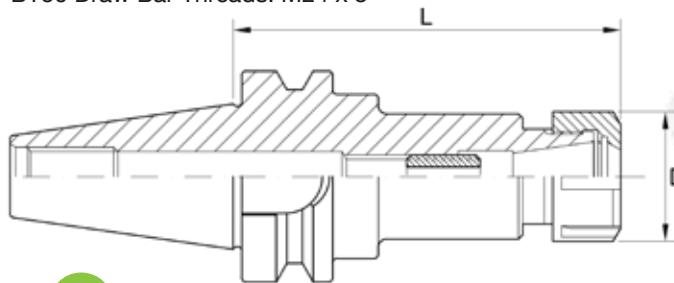
Keyless (Standard)

PAGE 47

ER Collet Chucks

BT 30 40 50

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ Coolant thru Spindle
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT30 Draw Bar Threads: M12 x 1.75
- ✓ BT40 Draw Bar Threads: M16 x 2
- ✓ BT50 Draw Bar Threads: M24 x 3



BT 30

Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
BT30ER16060M	16ER	1/64" - 25/64"	Hex	1.102"	2.362"	1.32 lb	LNHER16M	OEW25M
BT30ER20060M	20ER	1/64" - 33/64"	Hex	1.338"	2.362"	1.32 lb	LNHER20M	OEW30M
BT30ER25060M	25ER	3/64" - 5/8"	Round	1.653"	2.362"	1.32 lb	LNER25M	ER25WM
BT30ER32070M	32ER	5/64" - 25/32"	Round	1.968"	2.755"	1.32 lb	LNER32M	ER32WM

*Wrenches are sold separately

BT 40

Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
BT40ER16120M	16ER	1/64" - 25/64"	Hex	1.102"	4.724"	3.53 lb	LNHER16M	OEW25M
BT40ER20100M	20ER	1/64" - 33/64"	Hex	1.338"	3.937"	3.50 lb	LNHER20M	OEW30M
BT40ER25070M	25ER	3/64" - 5/8"	Round	1.654"	2.756"	2.87 lb	LNER25M	ER25WM
BT40ER25120M	25ER	3/64" - 5/8"	Round	1.654"	4.724"	3.53 lb	LNER25M	ER25WM
BT40ER32070M	32ER	5/64" - 25/32"	Round	1.969"	2.756"	3.09 lb	LNER32M	ER32WM
BT40ER32120M	32ER	5/64" - 25/32"	Round	1.969"	4.724"	3.75 lb	LNER32M	ER32WM
BT40ER40080M	40ER	1/8" - 1-1/32"	Round	2.480"	3.150"	3.31 lb	LNER40M	ER40WM
BT40ER40120M	40ER	1/8" - 1-1/32"	Round	2.480"	4.724"	3.97 lb	LNER40M	ER40WM

*Wrenches are sold separately

BT 50

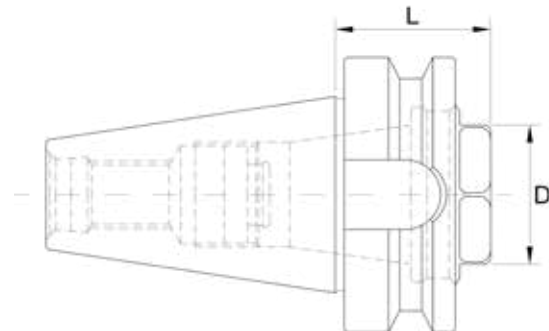
Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
BT50ER16100M	16ER	1/64" - 25/64"	Hex	1.102"	3.937"	7.05 lb	LNHER16M	OEW25M
BT50ER16150M	16ER	1/64" - 25/64"	Hex	1.102"	5.906"	7.94 lb	LNHER16M	OEW25M
BT50ER32070M	32ER	5/64" - 25/32"	Round	1.969"	2.756"	7.50 lb	LNER32M	ER32WM
BT50ER40080M	40ER	1/8" - 1-1/32"	Round	2.480"	3.150"	7.94 lb	LNER40M	ER40WM

*Wrenches are sold separately

ER Collet Chucks *Stubby*

BT 40

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ Coolant thru Spindle
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT40 Draw Bar Threads: M16 x 2



BT 40

Part Number	Collet Series	Collet Cap Min-Max	Nut	D	L	Weight Approx.	Locknut	Wrench*
BT40SER32035M	32ER	0" - 25/32"	Hex	1.417"	1.378"	1.65 lb	LNECSER32M	OEWS36M

*Wrenches are sold separately



ER Collets
0.0002 T.I.R., 0.0004 T.I.R., Steel Sealed & Tap
[PAGES 32-39](#)

ER Collet Chuck *Spare Wrenches*

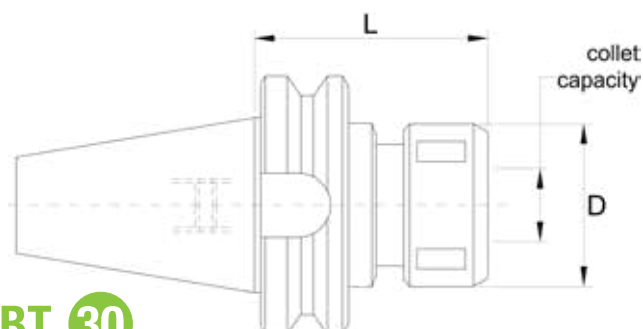


Nut Size	Nut Hex	Wrench Part Number Hex Nut (Style 1)	Nut Round	Wrench Part Number Round Nut ("Hook" Style 2)	Wrench Part Number Round Nut ("U" Style 3)
ER11	LNHER11M	OEWS20M	-	-	-
ER16	LNHER16M	OEWS25M	LNER16MU	-	ER16U
ER20	LNHER20M	OEWS30M	LNER20MU	-	ER20U
ER25	-	-	LNER25M	ER25WM	ER25U
ER32	LNHSER32M	OEWS36M	LNER32M	ER32WM	ER32U
ER40	-	-	LNER40M	ER40WM	ER40U

TG Collet Chucks

BT 30 40 50

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ Coolant thru Spindle
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT30 Draw Bar Threads: M12 x 1.75
- ✓ BT40 Draw Bar Threads: M16 x 2
- ✓ BT50 Draw Bar Threads: M24 x 3



BT 30

Part Number	Collet Series	Collet Cap Min-Max	D	L	Weight Approx.	Locknut	Wrench*
BT30TG075075M	75TG	7/64" - 25/32"	1.969"	2.953"	1.32 lb	LNA075M	ER32WM

*Wrenches are sold separately

BT 40

Part Number	Collet Series	Collet Cap Min-Max	D	L	Weight Approx.	Locknut	Wrench*
BT40TG075070M	75TG	7/64" - 25/32"	1.969"	2.756"	3.09 lb	LNA075M	ER32WM
BT40TG100080M	100TG	7/64" - 1"	2.362"	3.150"	3.09 lb	LNA100M	ER40WM
BT40TG100100M	100TG	7/64" - 1"	2.362"	3.937"	3.97 lb	LNA100M	ER40WM
BT40TG100150M	100TG	7/64" - 1"	2.362"	5.906"	5.51 lb	LNA100M	ER40WM

*Wrenches are sold separately

BT 50

Part Number	Collet Series	Collet Cap Min-Max	D	L	Weight Approx.	Locknut	Wrench*
BT50TG100090M	100TG	7/64" - 1"	2.362"	3.543"	8.60 lb	LNA100M	ER40WM
BT50TG100150M	100TG	7/64" - 1"	2.362"	5.906"	11.46 lb	LNA100M	ER40WM
BT50TG150100M	150TG	29/64" - 1-37/64"	3.346"	3.937"	9.48 lb	LNA150M	HSW80M

*Wrenches are sold separately



100TG Collets
PAGE 40

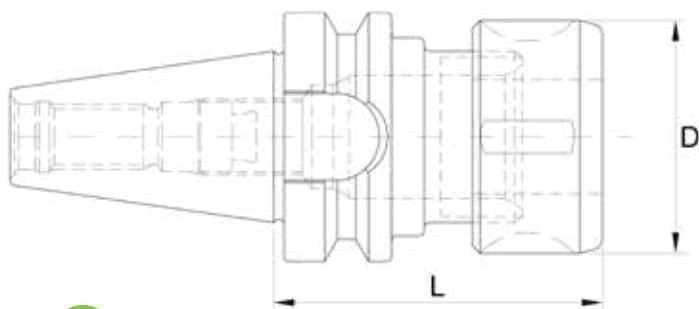


TG Spare Wrenches
Round & Hex Nuts
PAGE 11

DA Collet Chucks

BT 40

- ✓ Taper-to-Taper Runout < 0.0002"
- ✓ Coolant thru Spindle
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT40 Draw Bar Threads: M16 x 2


BT 40

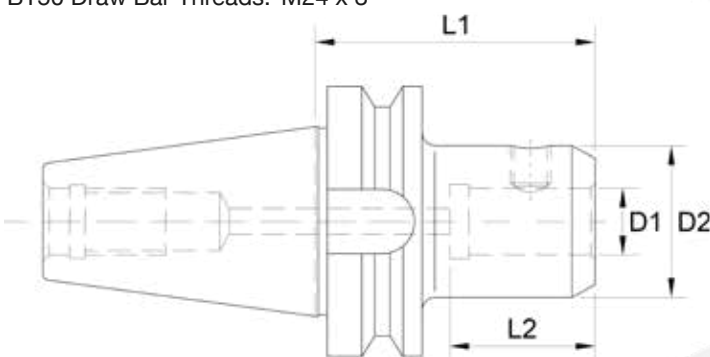
Part Number	Collet Series	Collet Cap Min-Max	D	L	Weight Approx.	Locknut	Wrench*
BT40DA188070M	180DA	3/32" - 25/32"	1.693"	2.756"	2.65 lb	LNA188M	ER25WM
BT40DA188100M	180DA	3/32" - 25/32"	1.693"	3.937"	3.09 lb	LNA188M	ER25WM

*Wrenches are sold separately

End Mill Holders

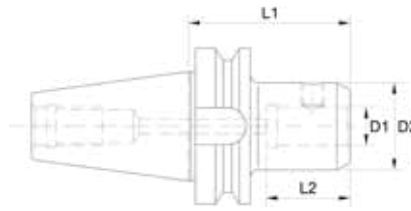
BT 30 40 50

- ✓ Taper-to-Bore Runout < 0.0002"
- ✓ H5 Bore Tolerance
- ✓ Coolant thru Spindle
- ✓ Balanced G6.3 @ 15,000 RPM
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT30 Draw Bar Threads: M12 x 1.75
- ✓ BT40 Draw Bar Threads: M16 x 2
- ✓ BT50 Draw Bar Threads: M24 x 3



End Mill Holders

BT 30



Part Number	D1	D2	L1 Gage Length	L2	Weight Approx.	Clamp Screw Size	# Of Clamp Screws	Allen Key Size
BT30EM012236	1/8"	0.69"	2.36"	3.30"	0.94 lb	10-32	1	3/32"
BT30EM018236	3/16"	0.69"	2.36"	3.30"	0.94 lb	10-32	1	3/32"
BT30EM025236	1/4"	1.00"	2.36"	3.30"	1.10 lb	1/4"-28	1	1/8"
BT30EM031236	5/16"	1.00"	2.36"	3.30"	1.08 lb	5/16"-24	1	5/32"
BT30EM038236	3/8"	1.00"	2.36"	3.30"	1.08 lb	3/8"-24	1	3/16"
BT30EM050236	1/2"	1.38"	2.36"	1.97"	1.26 lb	7/16"-20	1	7/32"
BT30EM062236	5/8"	1.63"	2.36"	2.09"	1.42 lb	9/16"-18	1	1/4"
BT30EM075236	3/4"	1.75"	2.36"	2.22"	1.45 lb	5/8"-18	1	5/16"

BT 40

Part Number	D1	D2	L1 Gage Length	L2	Weight Approx.	Clamp Screw Size	# Of Clamp Screws	Allen Key Size
BT40EM025255	1/4"	1.00"	2.55"	3.93"	2.36 lb	1/4"-28	1	1/8"
BT40EM031255	5/16"	1.00"	2.55"	3.93"	2.36 lb	5/16"-24	1	5/32"
BT40EM038255	3/8"	1.00"	2.55"	3.93"	2.51 lb	3/8"-24	1	3/16"
BT40EM050255	1/2"	1.38"	2.55"	3.93"	2.51 lb	7/16"-20	1	7/32"
BT40EM050400	1/2"	1.38"	4.00"	5.38"	3.02 lb	7/16"-20	1	7/32"
BT40EM062255	5/8"	1.63"	2.55"	2.09"	2.69 lb	9/16"-18	1	1/4"
BT40EM075150	3/4"	1.68"	1.50"	2.22"	2.09 lb	5/8"-18	1	5/16"
BT40EM075236	3/4"	1.75"	2.36"	2.22"	2.50 lb	5/8"-18	1	5/16"
BT40EM075255	3/4"	1.75"	2.55"	2.22"	2.73 lb	5/8"-18	1	5/16"
BT40EM088335	7/8"	2.00"	3.35"	2.22"	3.57 lb	5/8"-18	1	5/16"
BT40EM100162	1"	2.00"	1.63"	2.46"	2.01 lb	3/4"-16	2	3/8"
BT40EM100374	1"	2.00"	3.74"	2.56"	3.75 lb	3/4"-16	2	3/8"
BT40EM100500	1"	2.00"	5.00"	4.49"	4.54 lb	3/4"-16	2	3/8"
BT40EM125335	1-1/4"	2.40"	3.35"	2.51"	3.95 lb	3/4"-16	2	3/8"

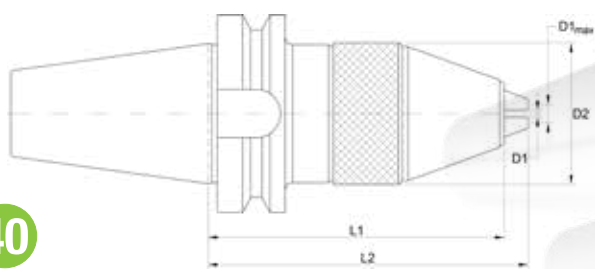
BT 50

Part Number	D1	D2	L1 Gage Length	L2	Weight Approx.	Clamp Screw Size	# Of Clamp Screws	Allen Key Size
BT50EM050295	1/2"	1.38"	2.95"	5.16"	8.14 lb	7/16"-20	1	7/32"
BT50EM075295	3/4"	1.75"	2.95"	5.16"	8.36 lb	5/8"-18	1	5/16"
BT50EM100413	1"	2.00"	4.13"	2.56"	9.30 lb	3/4"-16	2	3/8"
BT50EM100600	1"	2.00"	6.00"	4.30"	10.54 lb	3/4"-16	2	3/8"
BT50EM125413	1-1/4"	2.50"	4.13"	2.51"	10.23 lb	3/4"-16	2	3/8"
BT50EM125600	1-1/4"	2.50"	6.00"	2.51"	12.54 lb	3/4"-16	2	3/8"
BT50EM150413	1-1/2"	2.75"	4.13"	2.93"	10.41 lb	3/4"-16	2	3/8"
BT50EM200531	2"	3.75"	5.31"	3.53"	16.00 lb	1"-14	2	1/2"

Integral Shank Drill Chucks

BT 40 50

- ✓ Rigid & heavy-duty design
- ✓ High accuracy & high RPM
- ✓ Wide gripping capacity
- ✓ Self-tightening keyless operation
- ✓ Comes with wrenches
- ✓ Non-Coolant
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT40 Draw Bar Threads: M16x2
- ✓ BT50 Draw Bar Threads: M24x3
- ✓ Replacement chucks available



BT 40

Part Number	Chuck Size	D1 Min-Max	D2	L1 Gage Length	L2	Weight Approx.	Wrench*
BT40DC13096M	1/2"	0.039" - 0.512"	1.988"	3.795"	4.272"	3.97 lb	DKS-13S

*Comes with wrenches

BT 50

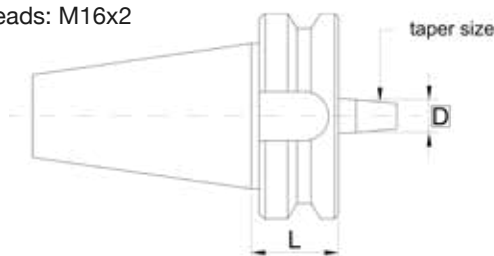
Part Number	Chuck Size	D1 Min-Max	D2	L1 Gage Length	L2	Weight Approx.	Wrench*
BT50DC13096M	1/2"	0.039" - 0.512"	1.988"	4.346"	4.823"	9.70 lb	DKS-13S

*Comes with wrenches

Jacobs Taper Adapters

BT 40

- ✓ Designed to use with all Jacobs Taper Chucks
- ✓ Non-Coolant
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT40 Draw Bar Threads: M16x2



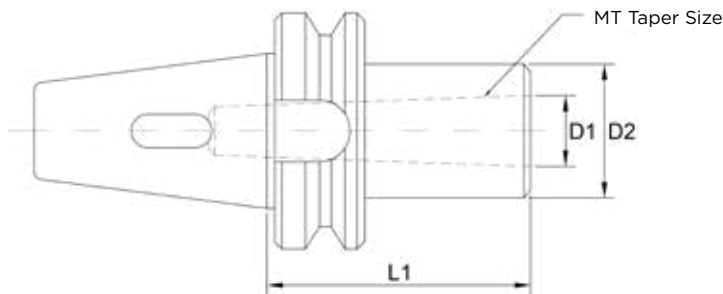
BT 40

Part Number	Taper Size	D	L	Weight Approx.
BT40JT33045M	33	0.624"	1.77"	2.47 lb
BT40JT2244	2	0.559"	2.44"	5.14 lb
BT40JT3318	3	0.811"	3.18"	5.51 lb
BT40JT4118	4	1.124"	1.18"	5.62 lb
BT40JT6118	6	0.676"	1.18"	6.13 lb

Morse Taper Adapters

BT 40 50

- ✓ Coolant thru Spindle
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT40 Draw Bar Threads: M16x2
- ✓ BT50 Draw Bar Threads: M24x3



BT 40

Part Number	Taper Size	D1	D2	L1	Weight Approx.
BT40MT1050M	1	0.476"	0.984"	1.772"	2.23 lb
BT40MT2050M	2	0.701"	1.260"	1.772"	2.34 lb
BT40MT3070M	3	0.937"	1.575"	2.953"	2.49 lb
BT40MT4095M	4	1.232"	1.890"	3.740"	2.93 lb

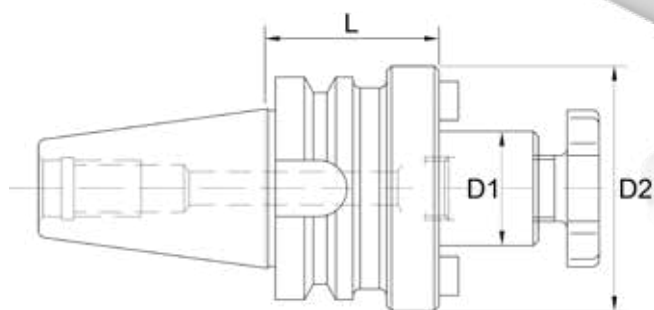
BT 50

Part Number	Taper Size	D1	D2	L1	Weight Approx.
BT50MT1045M	1	0.476"	0.984"	1.772"	3.97 lb
BT50MT3065M	3	0.937"	1.575"	2.559"	7.05 lb
BT50MT4095M	4	1.232"	1.890"	3.740"	7.72 lb
BT50MT5105M	5	1.748"	2.756"	4.134"	9.92 lb

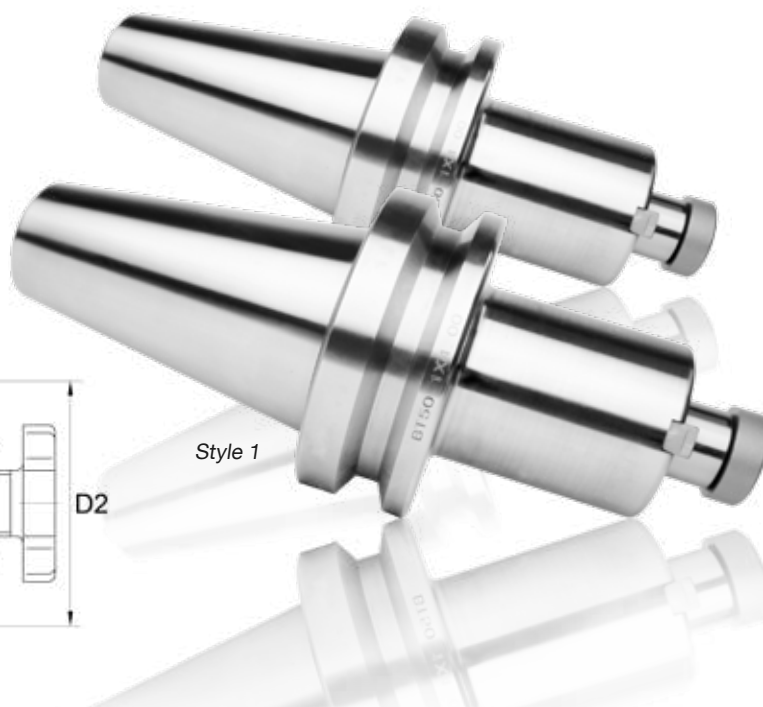
Shell Mill Holders

BT 30 40

- ✓ Taper-to-Pilot Runout < 0.0002"
- ✓ h6 Pilot Tolerance
- ✓ Coolant thru Spindle
- ✓ Balanced by design
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT30 Draw Bar Threads: M12 x 1.75
- ✓ BT40 Draw Bar Threads: M16 x 2
- ✓ Provided with a non-coolant arbor screw
- ✓ Coolant arbor screws are sold separately



Style 1


BT 30

Part Number	D1	D2	L	Weight Approx.	Allen Key Size	Drive Key Size	Style
BT30SM050118	1/2"	1.44"	1.18"	2.10 lb	3/16"	1/4"	Style 1
BT30SM075118	3/4"	1.69"	1.18"	2.30 lb	1/4"	5/16"	Style 1
BT30SM100177	1"	2.19"	1.77"	2.48 lb	5/16"	3/8"	Style 1

BT 40

Part Number	D1	D2	L	Weight Approx.	Allen Key Size	Drive Key Size	Style
BT40SM050177	1/2"	1.44"	1.77"	2.47 lb	3/16"	1/4"	Style 1
BT40SM075177	3/4"	1.75"	1.77"	2.90 lb	1/4"	5/16"	Style 1
BT40SM100177	1"	2.19"	1.77"	3.04 lb	5/16"	3/8"	Style 1
BT40SM125236	1-1/4"	2.88"	2.36"	4.82 lb	5/16"	1/2"	Style 1
BT40SM150236	1-1/2"	3.82"	2.36"	4.69 lb	3/8"	5/8"	Style 1

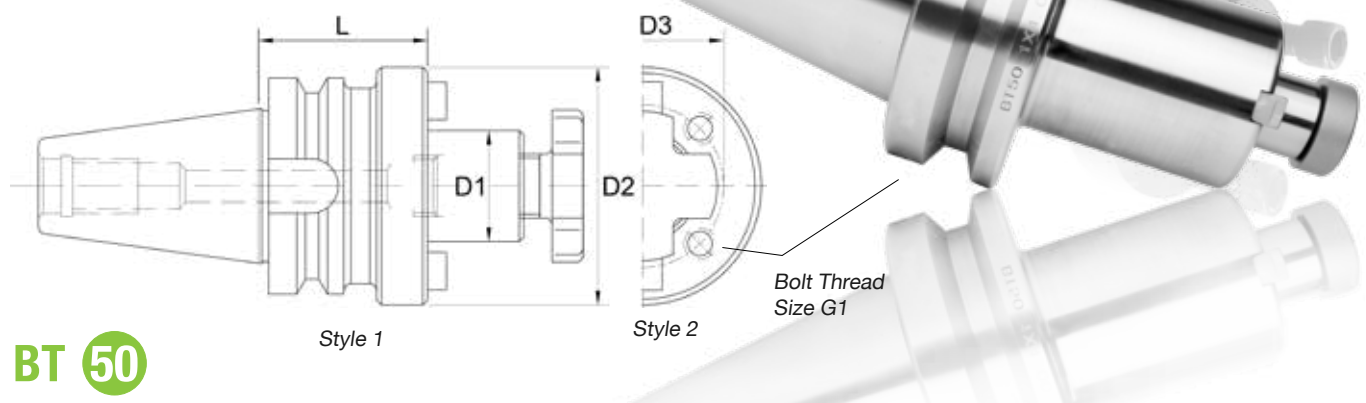


H/V CNC Fixtures

Shell Mill Holders

BT 50

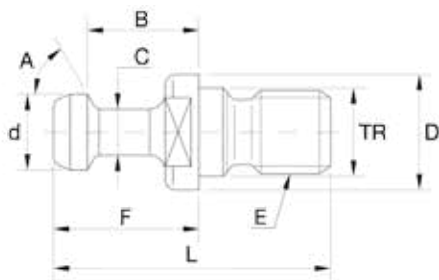
- ✓ Taper-to-Pilot Runout < 0.0002"
- ✓ h6 Pilot Tolerance
- ✓ Coolant thru Spindle
- ✓ Balanced by design
- ✓ Taper Shank ground to AT3 accuracy (or better)
- ✓ BT50 Draw Bar Threads: M24 x 3
- ✓ Provided with a non-coolant arbor screw
- ✓ Coolant arbor screws are sold separately



BT 50

Part Number	D1	D2	D3	L	G1	Weight Approx.	Allen Key Size	Drive Key Size	Style
BT50SM075177	3/4"	1.75"	-	1.77"	-	8.08 lb	1/4"	5/16"	Style 1
BT50SM075400	3/4"	1.75"	-	4.00"	-	9.56 lb	1/4"	5/16"	Style 1
BT50SM100177	1"	2.19"	-	1.77"	-	8.30 lb	5/16"	3/8"	Style 1
BT50SM100400	1"	2.40"	-	4.00"	-	11.06 lb	5/16"	3/8"	Style 1
BT50SM125400	1-1/4"	2.88"	-	4.00"	-	12.80 lb	5/16"	1/2"	Style 1
BT50SM150177	1-1/2"	3.81"	-	1.77"	-	9.40 lb	3/8"	5/8"	Style 1
BT50SM150400	1-1/2"	3.81"	-	4.00"	-	16.60 lb	3/8"	5/8"	Style 1
BT50SM200236	2"	4.13"	-	2.36"	-	14.07 lb	9/16"	3/4"	Style 1
BT50SM200400	2"	4.88"	4.00"	4.00"	5/8 - 11 UNC	19.32 lb	9/16"	3/4"	Style 2

Pull Studs RK Style

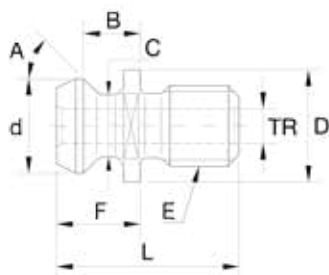


Pull Studs RK BT - MAS - 403

Part Number	Taper Size	TR	A	B	C	D	d	E	F	L
RK30BT1M	30	0.492"	45°	0.707"	0.274"	0.646"	0.431"	M12-1.75	0.904"	1.693"
RK30BT2M	30	0.492"	60°	0.707"	0.274"	0.646"	0.431"	M12-1.75	0.904"	1.693"
RK40BT1M	40	0.669"	45°	1.100"	0.392"	0.902"	0.589"	M16-2.00	1.376"	2.362"
RK40BT2M	40	0.669"	60°	1.100"	0.392"	0.902"	0.589"	M16-2.00	1.376"	2.362"
RK40BT3M	40	0.669"	90°	1.100"	0.392"	0.902"	0.589"	M16-2.00	1.376"	2.362"
RK50BT1M	50	0.984"	45°	1.376"	0.667"	1.492"	0.904"	M24-3.00	1.769"	3.346"
RK50BT2M	50	0.984"	60°	1.376"	0.667"	1.492"	0.904"	M24-3.00	1.769"	3.346"
RK50BT3M	50	0.984"	90°	1.376"	0.667"	1.492"	0.904"	M24-3.00	1.769"	3.346"

Pull Studs RK CT ANSI - Style with Pilot - Inch

Part Number	Taper Size	TR	Coolant Truhole	A	B	C	D	d	E	F	L
RK31114	40	0.636"	—	45°	0.988"	0.392"	0.938"	0.589"	5/8"-11	1.264"	2.250"
RK31114A	40	0.636"	—	60°	0.988"	0.392"	0.938"	0.589"	5/8"-11	1.264"	2.250"
RK31114B	40	0.636"	—	90°	0.988"	0.392"	0.938"	0.589"	5/8"-11	1.264"	2.250"
RK31114H	40	0.636"	0.158"	45°	0.988"	0.392"	0.938"	0.589"	5/8"-11	1.264"	2.250"
RK31118	50	1.026"	—	45°	1.384"	0.668"	1.438"	0.903"	1.00"-8	1.778"	3.355"
RK31118B	50	1.026"	—	90°	1.384"	0.668"	1.438"	0.903"	1.00"-8	1.778"	3.355"
RK31118H	50	1.026"	0.315"	45°	1.384"	0.668"	1.438"	0.903"	1.00"-8	1.778"	3.355"



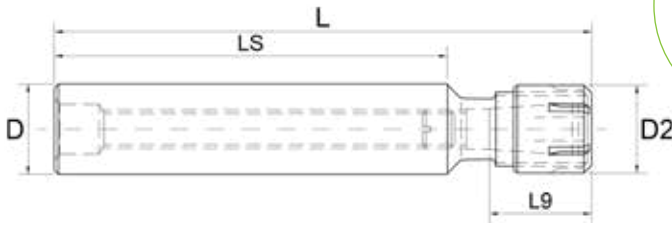
Pull Studs RK CT ANSI - Style - Inch

Part Number	Taper Size	TR	Coolant Truhole	A	B	C	D	d	E	F	L
RK40CV	40	0.281"	—	45°	0.440"	0.490"	0.938"	0.740"	5/8"-11	0.640"	1.500"
RK50CV	50	0.500"	—	45°	0.700"	0.820"	1.400"	1.140"	1.00"-8	1.000"	2.300"

NOTE! Machine tool manufacturers have used many various styles and sizes of retention knobs. They often look very similar and appear to be interchangeable. The use of the incorrect knob, or the incorrect use of a knob, may result in injury or property damage.

ER Straight Shank Collet Chucks

- ✓ 0.0002" runout shank to taper
- ✓ Coolant stop screw Included

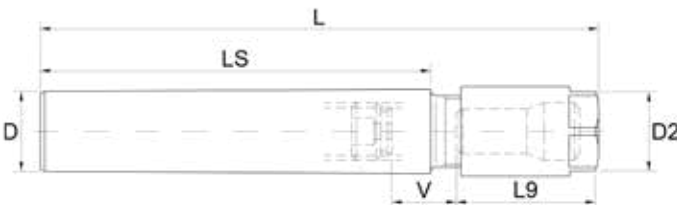


Part Number	Collet Series	Collet Cap Min-Max	D Shank Dia.	D2	L	LS	L9	Weight Approx.	Type of Locknut	Locknut	Wrench
SS050ER11700	11ER	0.020" - 0.276"	1/2"	0.63"	7.00"	5.51"	1.27"	0.40 lb	Round Slim*	LNER11M	ER11WEM
SS075ER16700	16ER	0.020" - 0.406"	3/4"	0.87"	7.00"	5.51"	1.24"	0.90 lb	Round Slim*	LNER16M	ER16WEM
SS100ER20700	20ER	0.020" - 0.512"	1"	1.38"	7.00"	5.51"	1.42"	1.60 lb	Hex	LNHER20M	OEW30M
SS100ER25750	25ER	0.040" - 0.630"	1"	1.65"	7.50"	5.69"	1.57"	1.70 lb	Round	LNER25M	ER25WM
SS075ER32600	32ER	0.040" - 0.810"	3/4"	1.97"	6.00"	4.65"	1.34"	1.10 lb	Round	LNER32M	ER32WM
SS100ER32750	32ER	0.040" - 0.810"	1"	1.97"	7.50"	5.69"	1.93"	1.83 lb	Round	LNER32M	ER32WM
SS125ER32275	32ER	0.040" - 0.810"	1-1/4"	1.97"	4.50"	2.75"	1.72"	1.60 lb	Round	LNER32M	ER32WM
SS125ER32590	32ER	0.040" - 0.810"	1-1/4"	1.97"	6.00"	3.10"	1.72"	2.10 lb	Round	LNER32M	ER32WM
SS100ER40238	40ER	0.120" - 1.000"	1"	2.47"	4.50"	2.38"	2.17"	2.30 lb	Round	LNER40M	ER40WM
SS100ER40700	40ER	0.120" - 1.000"	1"	2.47"	7.00"	4.87"	1.77"	2.70 lb	Round	LNER40M	ER40WM
SS125ER40238	40ER	0.120" - 1.000"	1-1/4"	2.47"	4.50"	2.38"	2.17"	1.90 lb	Round	LNER40M	ER40WM
SS125ER40700	40ER	0.120" - 1.000"	1-1/4"	2.47"	6.50"	4.87"	2.17"	3.10 lb	Round	LNER40M	ER40WM

*Round slim nut for close center work

DA Straight Shank Collet Chucks

- ✓ 0.0004" runout shank to taper
- ✓ Coolant stop screw Included



Part Number	Collet Series	Collet Cap Min-Max	D Shank Dia.	D2	L	LS	L9	V	Weight Approx.	Locknut	Wrench
SS050DA304681	300DA	1/64" - 1/4"	1/2"	0.56"	6.81"	5.42"	1.50"	2.75"	0.37 lb	LNA304M	OEW050
SS075DA204712	200DA	1/64" - 25/64"	3/4"	0.84"	7.12"	5.50"	1.56"	3.19"	0.89 lb	LNA204M	OEW075
SS100DA104731	100DA	1/64" - 9/16"	1"	1.06"	7.31"	5.40"	1.94"	4.68"	1.62 lb	LNA104M	OEW094
SS125DA184738	180DA	1/64" - 3/4"	1-1/4"	1.44"	7.38"	5.41"	1.88"	4.74"	2.56 lb	LNA184M	OEW119

ER Collet Sets (0.0002" T.I.R.)



Inch

Part Number	Number of Pieces	Increments	Set Includes
16ERS000SET2H	12 Pieces	1/32"	1/16" • 3/32" • 1/8" • 5/32" • 3/16" • 7/32" • 1/4" • 9/32" • 5/16" • 11/32" • 3/8" • 13/32"
20ERS000SET1H	8 Pieces	1/16"	3/32" • 1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2"
25ERS0000SET1H	10 Pieces	1/16"	3/32" • 1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8"
32ERS000SET1H	12 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8" • 11/16" • 3/4" • 13/16"
32ERS000SET2H	18 Pieces	1/32"	7/32" • 1/4" • 9/32" • 5/16" • 11/32" • 3/8" • 13/32" • 7/16" • 15/32" • 1/2" • 17/32" • 9/16" • 19/32" • 5/8" • 21/32" • 11/16" • 23/32" • 3/4"
40ERS000SET1H	15 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8" • 11/16" • 3/4" • 13/16" • 7/8" • 15/16" • 1"

See individual 0.0002" T.I.R. collets on page 36

ER Collet Sets (0.0004" T.I.R.)



Inch

Part Number	Number of Pieces	Increments	Set Includes
11ERS000SET2	7 Pieces	1/32"	1/16" • 3/32" • 1/8" • 5/32" • 3/16" • 7/32" • 1/4"
16ERS000SET2	12 Pieces	1/32"	1/16" • 3/32" • 1/8" • 5/32" • 3/16" • 7/32" • 1/4" • 9/32" • 5/16" • 11/32" • 3/8" • 13/32"
20ERS000SET1	8 Pieces	1/16"	3/32" • 1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2"
25ERS0000SET1	10 Pieces	1/16"	3/32" • 1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8"
32ERS000SET1	12 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8" • 11/16" • 3/4" • 13/16"
32ERS000SET2	18 Pieces	1/32"	7/32" • 1/4" • 9/32" • 5/16" • 11/32" • 3/8" • 13/32" • 7/16" • 15/32" • 1/2" • 17/32" • 9/16" • 19/32" • 5/8" • 21/32" • 11/16" • 23/32" • 3/4"
40ERS000SET1	15 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8" • 11/16" • 3/4" • 13/16" • 7/8" • 15/16" • 1"

Metric

Part Number	Number of Pieces	Increments	Set Includes
11ERS000SETM	13 Pieces	0.50 mm	1 mm • 1.5 mm • 2 mm • 2.5 mm • 3 mm • 3.5 mm • 4 mm • 4.5 mm • 5 mm • 5.5 mm • 6 mm • 6.5 mm • 7 mm
16ERS000M	10 Pieces	1.00 mm	1 mm • 2 mm • 3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm
20ERS000M	12 Pieces	1.00 mm	2 mm • 3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm
25ERS000M	15 Pieces	1.00 mm	2 mm • 3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm • 14 mm • 15 mm • 16 mm
32ERS000M	18 Pieces	1.00 mm	3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm • 14 mm • 15 mm • 16 mm • 17 mm • 18 mm • 19 mm • 20 mm
40ERS000M	23 Pieces	1.00 mm	4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm • 14 mm • 15 mm • 16 mm • 17 mm • 18 mm • 19 mm • 20 mm • 21 mm • 22 mm • 23 mm • 24 mm • 25 mm • 26 mm

See individual 0.0004" T.I.R. collets on pages 34-35

ER Collet Sets

Steel Sealed



Inch

Part Number	Number of Pieces	Increments	Set Includes
16ERS000SET2SS	10 Pieces	1/32"	1/8" • 5/32" • 3/16" • 7/32" • 1/4" • 9/32" • 5/16" • 11/32" • 3/8" • 13/32"
20ERS000SET1SS	7 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2"
25ERS000SET1SS	9 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8"
32ERS000SET1SS	12 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8" • 11/16" • 3/4" • 13/16"
32ERS000SET2SS	18 pieces	1/32"	7/32" • 1/4" • 9/32" • 5/16" • 11/32" • 3/8" • 13/32" • 7/16" • 15/32" • 1/2" • 17/32" • 9/16" • 19/32" • 5/8" • 21/32" • 11/16" • 23/32" • 3/4"
40ERS000SET1SS	15 Pieces	1/16"	1/8" • 3/16" • 1/4" • 5/16" • 3/8" • 7/16" • 1/2" • 9/16" • 5/8" • 11/16" • 3/4" • 13/16" • 7/8" • 15/16" • 1"

Metric

Part Number	Number of Pieces	Increments	Set Includes
16ERS000MSS	8 Pieces	1.00 mm	3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm
20ERS000MSS	11 Pieces	1.00 mm	3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm
25ERS000MSS	14 Pieces	1.00 mm	3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm • 14 mm • 15 mm • 16 mm
32ERS000MSS	18 Pieces	1.00 mm	3 mm • 4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm • 14 mm • 15 mm • 16 mm • 17 mm • 18 mm • 19 mm • 20 mm
40ERS000MSS	23 Pieces	1.00 mm	4 mm • 5 mm • 6 mm • 7 mm • 8 mm • 9 mm • 10 mm • 11 mm • 12 mm • 13 mm • 14 mm • 15 mm • 16 mm • 17 mm • 18 mm • 19 mm • 20 mm • 21 mm • 22 mm • 23 mm • 24 mm • 25 mm • 26 mm



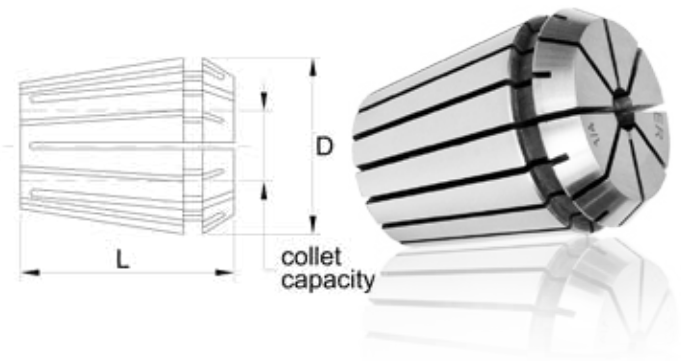
Individual Steel Sealed Collets

PAGES 38 - 39

ER Collets

(0.0004" T.I.R.)

- ✓ Precision collets
- ✓ Collet accuracy: 0.0003" - 0.0004" T.I.R. (0.008 mm - 0.010 mm)
- ✓ Wide clamping ranges: 0.02" - 0.039" collapsibility
- ✓ Made of high quality spring steel



Metric

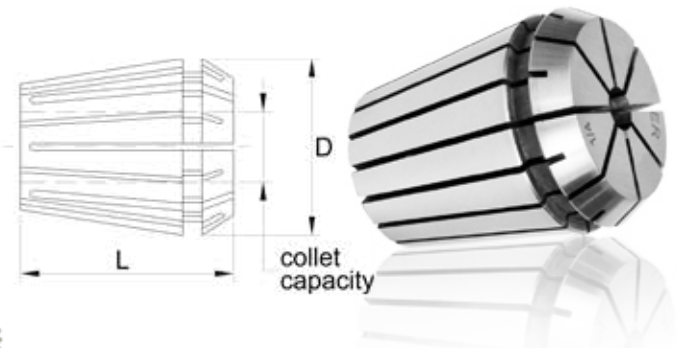


Collet Nominal Size	Collet Capacity (mm) Max-Min	Collet Capacity (inch) Max-Min	ER11 D = 11.5 mm L = 18 mm	ER16 D = 17 mm L = 27.5 mm	ER20 D = 21 mm L = 31.5 mm	ER25 D = 26 mm L = 34 mm	ER32 D = 33 mm L = 40 mm	ER40 D = 41 mm L = 46 mm
1.0 mm	1.0 mm - 0.5 mm	0.03940" - 0.0197"	11ER010M	16ER010M	20ER010M	-	-	-
1.5 mm	1.5 mm - 1.0 mm	0.0590" - 0.0394"	11ER015M	16ER015M	-	-	-	-
2.0 mm	2.0 mm - 1.0 mm	0.0787" - 0.0390"	11ER020M	16ER020M	20ER020M	25ER020M	-	-
2.5 mm	2.5 mm - 1.5 mm	0.0984" - 0.0590"	11ER025M	16ER025M	-	-	-	-
3.0 mm	3.0 mm - 2.0 mm	0.1181" - 0.0787"	11ER030M	16ER030M	20ER030M	25ER030M	32ER030M	-
3.5 mm	3.5 mm - 2.5 mm	0.1378" - 0.0980"	11ER035M	16ER035M	-	-	-	-
4.0 mm	4.0 mm - 3.0 mm	0.1575" - 0.1181"	11ER040M	16ER040M	20ER040M	25ER040M	32ER040M	40ER040M
4.5 mm	4.5 mm - 3.5 mm	0.1772" - 0.1575"	11ER045M	16ER045M	-	-	-	-
5.0 mm	5.0 mm - 4.0 mm	0.1969" - 0.1575"	11ER050M	16ER050M	20ER050M	25ER050M	32ER050M	40ER050M
5.5 mm	5.5 mm - 4.5 mm	0.2165" - 0.1770"	11ER055M	16ER055M	-	-	-	-
6.0 mm	6.0 mm - 5.0 mm	0.2362" - 0.1969"	11ER060M	16ER060M	20ER060M	25ER060M	32ER060M	40ER060M
6.5 mm	6.5 mm - 5.5 mm	0.2559" - 0.2170"	11ER065M	16ER065M	-	-	-	-
7.0 mm	7.0 mm - 6.0 mm	0.2756" - 0.2362"	11ER070M	16ER070M	20ER070M	25ER070M	32ER070M	40ER070M
7.5 mm	7.5 mm - 6.5 mm	0.2953" - 0.2559"	-	16ER075M	-	-	-	-
8.0 mm	8.0 mm - 7.0 mm	0.3150" - 0.2756"	-	16ER080M	20ER080M	25ER080M	32ER080M	40ER080M
8.5 mm	8.5 mm - 7.5 mm	0.3346" - 0.2953"	-	16ER085M	-	-	-	-
9.0 mm	9.0 mm - 8.0 mm	0.3543" - 0.3150"	-	16ER090M	20ER090M	25ER090M	32ER090M	40ER090M
9.5 mm	9.5 mm - 8.5 mm	0.3740" - 0.3346"	-	16ER095M	-	-	-	-
10.0 mm	10.0 mm - 9.0 mm	0.3937" - 0.3543"	-	16ER100M	20ER100M	25ER100M	32ER100M	40ER100M
11.0 mm	11.0 mm - 10.0 mm	0.4330" - 0.3543"	-	-	20ER110M	25ER110M	32ER110M	40ER110M
12.0 mm	12.0 mm - 11.0 mm	0.4724" - 0.4330"	-	-	20ER120M	25ER120M	32ER120M	40ER120M
13.0 mm	13.0 mm - 12.0 mm	0.5118" - 0.4724"	-	-	20ER130M	25ER130M	32ER130M	40ER130M
14.0 mm	14.0 mm - 13.0 mm	0.5512" - 0.5118"	-	-	-	25ER140M	32ER140M	40ER140M
15.0 mm	15.0 mm - 14.0 mm	0.5906" - 0.5512"	-	-	-	25ER150M	32ER150M	40ER150M
16.0 mm	16.0 mm - 15.0 mm	0.6299" - 0.5906"	-	-	-	25ER160M	32ER160M	40ER160M
17.0 mm	17.0 mm - 16.0 mm	0.6693" - 0.6299"	-	-	-	-	32ER170M	40ER170M
18.0 mm	18.0 mm - 17.0 mm	0.7087" - 0.6693"	-	-	-	-	32ER180M	40ER180M
19.0 mm	19.0 mm - 18.0 mm	0.7480" - 0.7087"	-	-	-	-	32ER190M	40ER190M
20.0 mm	20.0 mm - 19.0 mm	0.7874" - 0.7480"	-	-	-	-	32ER200M	40ER200M
21.0 mm	21.0 mm - 20.0 mm	0.8270" - 0.7874"	-	-	-	-	-	40ER210M
22.0 mm	22.0 mm - 21.0 mm	0.8661" - 0.8270"	-	-	-	-	-	40ER220M
23.0 mm	23.0 mm - 22.0 mm	0.9055" - 0.8661"	-	-	-	-	-	40ER230M
24.0 mm	24.0 mm - 23.0 mm	0.9449" - 0.9055"	-	-	-	-	-	40ER240M
25.0 mm	25.0 mm - 24.0 mm	0.9843" - 0.9449"	-	-	-	-	-	40ER250M
26.0 mm	26.0 mm - 25.0 mm	1.0236" - 0.9843"	-	-	-	-	-	40ER260M

ER Collets

(0.0004" T.I.R.)

- ✓ Precision collets
- ✓ Collet accuracy: 0.0003" - 0.0004" T.I.R. (0.008 mm - 0.010 mm)
- ✓ Wide clamping ranges: 0.02" – 0.039" collapsibility
- ✓ Made of high quality spring steel



Inch

Collet Nominal Size	Collet Capacity (inch) Max-Min	Collet Capacity (mm) Max-Min	ER11 D = 0.453" L = 0.709"	ER16 D = 0.669" L = 1.083"	ER20 D = 0.827" L = 1.240"	ER25 D = 1.024" L = 1.339"	ER32 D = 1.299" L = 1.575"	ER40 D = 1.614" L = 1.811"
1/16"	0.0625" - 0.0225"	1.588 mm - 1.080 mm	11ER0062	16ER0062	-	25ER0062	-	-
3/32"	0.0938" - 0.0538	2.383 mm - 1.382 mm	11ER0094	16ER0094	20ER0094	25ER0094	-	-
1/8"	0.1250" - 0.0850"	3.175 mm - 2.174 mm	11ER0125	16ER0125	20ER0125	25ER0125	32ER0125	40ER0125
5/32"	0.1563" - 0.1163"	3.970 mm - 2.969 mm	11ER0156	16ER0156	20ER0156	25ER0156	32ER0156	40ER0156
3/16"	0.1875" - 0.1475"	4.763 mm - 3.762 mm	11ER0188	16ER0188	20ER0188	25ER0188	32ER0188	40ER0188
7/32"	0.2188" - 0.1788"	5.558 mm - 4.557 mm	11ER0219	16ER0219	20ER0219	25ER0219	32ER0219	40ER0219
1/4"	0.2500" - 0.2100"	6.350 mm - 5.349 mm	11ER0250	16ER0250	20ER0250	25ER0250	32ER0250	40ER0250
9/32"	0.2813" - 0.2413"	7.145 mm - 6.144 mm	-	16ER0281	20ER0281	25ER0281	32ER0281	40ER0281
5/16"	0.3125" - 0.2725"	7.938 mm - 6.937 mm	-	16ER0312	20ER0312	25ER0312	32ER0312	40ER0312
11/32"	0.3438" - 0.3038"	8.733 mm - 7.732 mm	-	16ER0344	20ER0344	25ER0344	32ER0344	40ER0344
3/8"	0.3750" - 0.3350"	9.525 mm - 8.524 mm	-	16ER0375	20ER0375	25ER0375	32ER0375	40ER0375
13/32"	0.4063" - 0.3663"	10.320 mm - 9.319 mm	-	16ER0406	20ER0406	25ER0406	32ER0406	40ER0406
7/16"	0.4375" - 0.3975"	11.113 mm - 10.112 mm	-	-	20ER0438	25ER0438	32ER0438	40ER0438
15/32"	0.4688" - 0.4288"	11.908 mm - 10.907 mm	-	-	20ER0469	25ER0469	32ER0469	40ER0469
1/2"	0.5000" - 0.4600"	12.700 mm - 11.836 mm	-	-	20ER0500	25ER0500	32ER0500	40ER0500
17/32"	0.5313" - 0.4913"	13.495 mm - 12.494 mm	-	-	-	25ER0531	32ER0531	40ER0531
9/16"	0.5625" - 0.5225"	14.288 mm - 13.287 mm	-	-	-	25ER0562	32ER0562	40ER0562
19/32"	0.5938" - 0.5538"	15.083 mm - 14.082 mm	-	-	-	25ER0594	32ER0594	40ER0594
5/8"	0.6250" - 0.5850"	15.875 mm - 14.874 mm	-	-	-	25ER0625	32ER0625	40ER0625
21/32"	0.6563" - 0.6163"	16.670 mm - 15.669 mm	-	-	-	-	32ER0656	40ER0656
11/16"	0.6875" - 0.6475"	17.463 mm - 16.462 mm	-	-	-	-	32ER0688	40ER0688
23/32"	0.7188" - 0.6788"	18.258 mm - 17.257 mm	-	-	-	-	32ER0719	40ER0719
3/4"	0.7500" - 0.7100"	19.050 mm - 18.049 mm	-	-	-	-	32ER0750	40ER0750
25/32"	0.7813" - 0.7413"	19.845 mm - 18.844 mm	-	-	-	-	32ER0781	40ER0781
13/16"	0.8125" - 0.7725"	20.638 mm - 19.637 mm	-	-	-	-	32ER0812	40ER0812
27/32"	0.8438" - 0.8038"	21.433 mm - 20.432 mm	-	-	-	-	-	40ER0844
7/8"	0.8750" - 0.8350"	22.225 mm - 21.224 mm	-	-	-	-	-	40ER0875
29/32"	0.9063" - 0.8663"	23.020 mm - 22.013 mm	-	-	-	-	-	40ER0906
15/16"	0.9375" - 0.8975"	23.813 mm - 22.812 mm	-	-	-	-	-	40ER0938
31/32"	0.9688" - 0.9288"	24.608 mm - 23.607 mm	-	-	-	-	-	40ER0969
1"	1.0000" - 0.9600"	25.400 mm - 24.399 mm	-	-	-	-	-	40ER1000



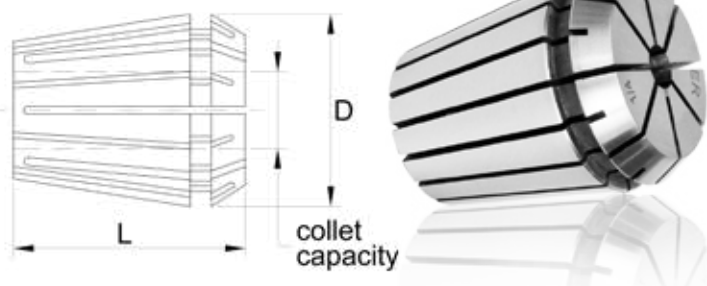
ER Collet Sets

PAGES 32 - 33

ER Collets - Ultra Precision (0.0002" T.I.R.)



- ✓ Ultra-precision collets
- ✓ 0.0002" T.I.R. (0.005mm / 5 microns)
- ✓ Wide clamping ranges: 0.02" – 0.039" collapsibility
- ✓ Made of high quality spring steel



Inch

Collet Nominal Size	Collet Capacity (inch) Max-Min	Collet Capacity (mm) Max-Min	ER16 D = 0.669" L = 1.083"	ER20 D = 0.827" L = 1.240"	ER25 D = 1.024" L = 1.339"	ER32 D = 1.299" L = 1.575"	ER40 D = 1.614" L = 1.811"
1/16"	0.0625" - 0.0225"	1.588 mm - 1.080 mm	16ER0062H	-	25ER0062H	-	-
3/32"	0.0938" - 0.0538	2.383 mm - 1.382 mm	16ER0094H	20ER0094H	25ER0094H	-	-
1/8"	0.1250" - 0.0850"	3.175 mm - 2.174 mm	16ER0125H	20ER0125H	25ER0125H	32ER0125H	40ER0125H
5/32"	0.1563" - 0.1163"	3.970 mm - 2.969 mm	16ER0156H	20ER0156H	25ER0156H	32ER0156H	40ER0156H
3/16"	0.1875" - 0.1475"	4.763 mm - 3.762 mm	16ER0188H	20ER0188H	25ER0188H	32ER0188H	40ER0188H
7/32"	0.2188" - 0.1788"	5.558 mm - 4.557 mm	16ER0219H	20ER0219H	25ER0219H	32ER0219H	40ER0219H
1/4"	0.2500" - 0.2100"	6.350 mm - 5.349 mm	16ER0250H	20ER0250H	25ER0250H	32ER0250H	40ER0250H
9/32"	0.2813" - 0.2413"	7.145 mm - 6.144 mm	16ER0281H	20ER0281H	25ER0281H	32ER0281H	40ER0281H
5/16"	0.3125" - 0.2725"	7.938 mm - 6.937 mm	16ER0312H	20ER0312H	25ER0312H	32ER0312H	40ER0312H
11/32"	0.3438" - 0.3038"	8.733 mm - 7.732 mm	16ER0344H	20ER0344H	25ER0344H	32ER0344H	40ER0344H
3/8"	0.3750" - 0.3350"	9.525 mm - 8.524 mm	16ER0375H	20ER0375H	25ER0375H	32ER0375H	40ER0375H
13/32"	0.4063" - 0.3663"	10.320 mm - 9.319 mm	16ER0406H	20ER0406H	25ER0406H	32ER0406H	40ER0406H
7/16"	0.4375" - 0.3975"	11.113 mm - 10.112 mm	-	20ER0438H	25ER0438H	32ER0438H	40ER0438H
15/32"	0.4688" - 0.4288"	11.908 mm - 10.907 mm	-	20ER0469H	25ER0469H	32ER0469H	40ER0469H
1/2"	0.5000" - 0.4600"	12.700 mm - 11.836 mm	-	20ER0500H	25ER0500H	32ER0500H	40ER0500H
17/32"	0.5313" - 0.4913"	13.495 mm - 12.494 mm	-	-	25ER0531H	32ER0531H	40ER0531H
9/16"	0.5625" - 0.5225"	14.288 mm - 13.287 mm	-	-	25ER0562H	32ER0562H	40ER0562H
19/32"	0.5938" - 0.5538"	15.083 mm - 14.082 mm	-	-	25ER0594H	32ER0594H	40ER0594H
5/8"	0.6250" - 0.5850"	15.875 mm - 14.874 mm	-	-	25ER0625H	32ER0625H	40ER0625H
21/32"	0.6563" - 0.6163"	16.670 mm - 15.669 mm	-	-	-	32ER0656H	40ER0656H
11/16"	0.6875" - 0.6475"	17.463 mm - 16.462 mm	-	-	-	32ER0688H	40ER0688H
23/32"	0.7188" - 0.6788"	18.258 mm - 17.257 mm	-	-	-	32ER0719H	40ER0719H
3/4"	0.7500" - 0.7100"	19.050 mm - 18.049 mm	-	-	-	32ER0750H	40ER0750H
25/32"	0.7813" - 0.7413"	19.845 mm - 18.844 mm	-	-	-	32ER0781H	40ER0781H
13/16"	0.8125" - 0.7725"	20.638 mm - 19.637 mm	-	-	-	32ER0812H	40ER0812H
27/32"	0.8438" - 0.8038"	21.433 mm - 20.432 mm	-	-	-	-	40ER0844H
7/8"	0.8750" - 0.8350"	22.225 mm - 21.224 mm	-	-	-	-	40ER0875H
29/32"	0.9063" - 0.8663"	23.020 mm - 22.013 mm	-	-	-	-	40ER0906H
15/16"	0.9375" - 0.8975"	23.813 mm - 22.812 mm	-	-	-	-	40ER0938H
31/32"	0.9688" - 0.9288"	24.608 mm - 23.607 mm	-	-	-	-	40ER0969H
1"	1.0000" - 0.9600"	25.400 mm - 24.399 mm	-	-	-	-	40ER1000H



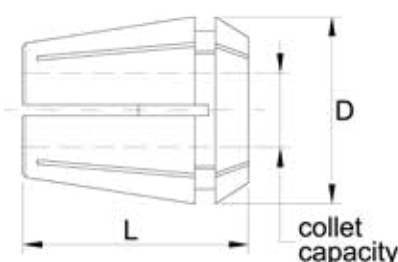
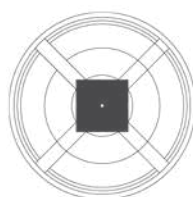
ER Collet Sets

PAGES 32 - 33

ER Rigid Tap Collets



- ✓ Collet accuracy: 0.0004" T.I.R. (0.010 mm)
- ✓ Special design locks tap square in slots
- ✓ Tap Shanks ASME B94.9-1999
- ✓ Collet holes made for tool shanks with h6 tolerance
- ✓ Collets do not "collapse" to the same degree as standard ER collets
- ✓ Talon "slotted" ER tap collets are designed to clamp both the round and the square shank on the tap, providing greater rigidity and better tapping performance

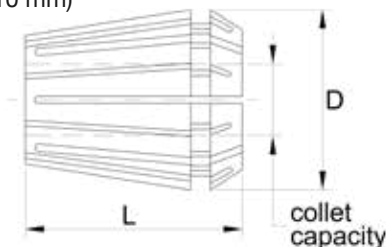


Tap Size inch	Metric ANSI Shank Tap	Tap Shank Dia.	Drive Square Size	ER 16 <i>D</i> = 0.669" <i>L</i> = 1.083"	ER 20 <i>D</i> = 0.827" <i>L</i> = 1.240"	ER 25 <i>D</i> = 1.024" <i>L</i> = 1.339"	ER 32 <i>D</i> = 1.299" <i>L</i> = 1.575"	ER 40 <i>D</i> = 1.614" <i>L</i> = 1.811"
#6	M1.6-M3.5	0.141"	0.110"	16ERT141	20ERT141	25ERT141	32ERT141	40ERT141
#8	M4	0.168"	0.131"	16ERT168	20ERT168	25ERT168	32ERT168	40ERT168
#10	M4.5, M5	0.194"	0.152"	16ERT194	20ERT194	25ERT194	32ERT194	40ERT194
#12	-	0.220"	0.165"	16ERT220	20ERT220	25ERT220	32ERT220	40ERT220
1/8" NPT	-	0.437"	0.328"	-	-	25ERT437	32ERT437	40ERT437
1/4" NPT	-	0.562"	0.421"	-	-	-	32ERT562	40ERT562
1/4"	M6, M6.3	0.255"	0.191"	16ERT255	20ERT255	25ERT255	32ERT255	40ERT255
5/16"	M7, M8	0.318"	0.238"	16ERT318	20ERT318	25ERT318	32ERT318	40ERT318
3/8" NPT	-	0.700"	0.531"	-	-	-	-	40ERT700
3/8"	M10	0.381"	0.286"	16ERT381	20ERT381	25ERT381	32ERT381	40ERT381
7/16"	M11	0.323"	0.242"	-	20ERT323	25ERT323	32ERT323	40ERT323
1/2" NPT	-	0.687"	0.515"	-	-	-	-	40ERT687
1/2"	M12, M12.5	0.367"	0.275"	-	20ERT367	25ERT367	32ERT367	40ERT367
9/16"	M14	0.429"	0.322"	-	-	25ERT429	32ERT429	40ERT429
5/8"	M16	0.480"	0.360"	-	-	25ERT480	32ERT480	40ERT480
11/16"	M18	0.542"	0.542"	-	-	-	32ERT542	40ERT542
3/4"	-	0.590"	0.442"	-	-	-	32ERT590	40ERT590
13/16"	M20	0.652"	0.489"	-	-	-	32ERT652	40ERT652
7/8"	-	0.697"	0.523"	-	-	-	-	40ERT697
15/16"	M24	0.760"	0.570"	-	-	-	-	40ERT760
1"	M25	0.800"	0.600"	-	-	-	-	40ERT800

ER Collets - Steel Sealed



- ✓ Collet accuracy: 0.0003" - 0.0004" T.I.R. (0.008 mm - 0.010 mm)
- ✓ Clamping range varies by size: 0.1mm - 0.4mm
- ✓ For optimal collet performance, use tools with shank diameter equal to the collet nominal size
- ✓ Coolant allowable pressure: 1,500 PSI
- ✓ Made of high quality spring steel

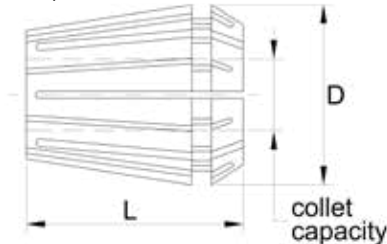


Metric

Nominal Collet Size	ER 16 D = 17 mm L = 27.5 mm	ER 20 D = 21 mm L = 31.5 mm	ER 25 D = 26 mm L = 34 mm	ER 32 D = 33 mm L = 40 mm	ER 40 D = 41 mm L = 46 mm
3.0 mm	16ER030MS	20ER030MS	25ER030MS	32ER030MS	-
3.5 mm	16ER035MS	-	-	-	-
4.0 mm	16ER040MS	20ER040MS	25ER040MS	32ER040MS	40ER040MS
4.5 mm	16ER045MS	-	-	-	-
5.0 mm	16ER050MS	20ER050MS	25ER050MS	32ER050MS	40ER050MS
5.5 mm	16ER055MS	-	-	-	-
6.0 mm	16ER060MS	20ER060MS	25ER060MS	32ER060MS	40ER060MS
6.5 mm	16ER065MS	-	-	-	-
7.0 mm	16ER070MS	20ER070MS	25ER070MS	32ER070MS	40ER070MS
7.5 mm	16ER075MS	-	-	-	-
8.0 mm	16ER080MS	20ER080MS	25ER080MS	32ER080MS	40ER080MS
8.5 mm	16ER085MS	-	-	-	-
9.0 mm	16ER090MS	20ER090MS	25ER090MS	32ER090MS	40ER090MS
9.5 mm	16ER095MS	-	-	-	-
10.0 mm	16ER100MS	20ER100MS	25ER100MS	32ER100MS	40ER100MS
11.0 mm	-	20ER110MS	25ER110MS	32ER110MS	40ER110MS
12.0 mm	-	20ER120MS	25ER120MS	32ER120MS	40ER120MS
13.0 mm	-	20ER130MS	25ER130MS	32ER130MS	40ER130MS
14.0 mm	-	-	25ER140MS	32ER140MS	40ER140MS
15.0 mm	-	-	25ER150MS	32ER150MS	40ER150MS
16.0 mm	-	-	25ER160MS	32ER160MS	40ER160MS
17.0 mm	-	-	-	32ER170MS	40ER170MS
18.0 mm	-	-	-	32ER180MS	40ER180MS
19.0 mm	-	-	-	32ER190MS	40ER190MS
20.0 mm	-	-	-	32ER200MS	40ER200MS
21.0 mm	-	-	-	-	40ER210MS
22.0 mm	-	-	-	-	40ER220MS
23.0 mm	-	-	-	-	40ER230MS
24.0 mm	-	-	-	-	40ER240MS
25.0 mm	-	-	-	-	40ER250MS
26.0 mm	-	-	-	-	40ER260MS

ER Collets - Steel Sealed

- ✓ Collet accuracy: 0.0003" - 0.0004" T.I.R. (0.008 mm - 0.010 mm)
- ✓ Clamping range varies by size: 0.1mm - 0.4mm
- ✓ For optimal collet performance, use tools with shank diameter equal to the collet nominal size
- ✓ Coolant allowable pressure: 1,500 PSI
- ✓ Made of high quality spring steel



Inch

Nominal Collet Size	ER 16 D = 0.669" L = 1.083"	ER 20 D = 0.827" L = 1.240"	ER 25 D = 1.024" L = 1.339"	ER 32 D = 1.299" L = 1.575"	ER 40 D = 1.614" L = 1.811"
1/8"	16ER0125S	20ER0125S	25ER0125S	32ER0125S	40ER0125S
5/32"	16ER0156S	20ER0156S	25ER0156S	32ER0156S	40ER0156S
3/16"	16ER0188S	20ER0188S	25ER0188S	32ER0188S	40ER0188S
7/32"	16ER0219S	20ER0219S	25ER0219S	32ER0219S	40ER0219S
1/4"	16ER0250S	20ER0250S	25ER0250S	32ER0250S	40ER0250S
9/32"	16ER0281S	20ER0281S	25ER0281S	32ER0281S	40ER0281S
5/16"	16ER0312S	20ER0312S	25ER0312S	32ER0312S	40ER0312S
11/32"	16ER0344S	20ER0344S	25ER0344S	32ER0344S	40ER0344S
3/8"	16ER0375S	20ER0375S	25ER0375S	32ER0375S	40ER0375S
13/32"	16ER0406S	20ER0406S	25ER0406S	32ER0406S	40ER0406S
7/16"	-	20ER0438S	25ER0438S	32ER0438S	40ER0438S
15/32"	-	20ER0469S	25ER0469S	32ER0469S	40ER0469S
1/2"	-	20ER0500S	25ER0500S	32ER0500S	40ER0500S
17/32"	-	-	25ER0531S	32ER0531S	40ER0531S
9/16"	-	-	25ER0562S	32ER0562S	40ER0562S
19/32"	-	-	25ER0594S	32ER0594S	40ER0594S
5/8"	-	-	25ER0625S	32ER0625S	40ER0625S
21/32"	-	-	-	32ER0656S	40ER0656S
11/16"	-	-	-	32ER0688S	40ER0688S
23/32"	-	-	-	32ER0719S	40ER0719S
3/4"	-	-	-	32ER0750S	40ER0750S
25/32"	-	-	-	32ER0781S	40ER0781S
13/16"	-	-	-	32ER0812S	40ER0812S
27/32"	-	-	-	-	40ER0844S
7/8"	-	-	-	-	40ER0875S
29/32"	-	-	-	-	40ER0906S
15/16"	-	-	-	-	40ER0938S
31/32"	-	-	-	-	40ER0969S
1"	-	-	-	-	40ER1000S

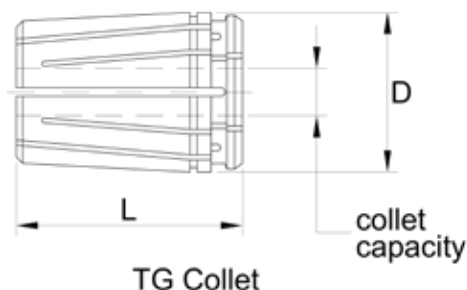


ER Collet Sets

PAGES 32 - 33

100TG Collets (0.0004" T.I.R.)

- ✓ Collapse Range 0.020"
- ✓ Collet accuracy 0.0004" (0.010 mm)
- ✓ Made of high quality spring steel



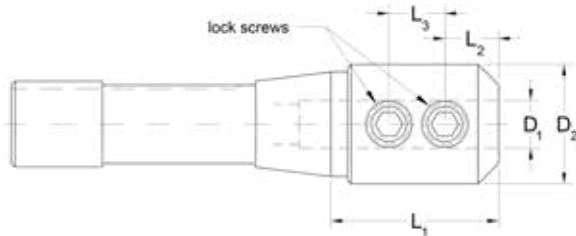
TG 100

Collet Nominal Size	100TG Standard Part Number <i>D = 1.379"</i> <i>L = 2.375"</i>
3/32"	100TG0094
7/64"	100TG0109
1/8"	100TG0125
9/64"	100TG0141
5/32"	100TG0156
11/64"	100TG0172
3/16"	100TG0188
13/64"	100TG0203
7/32"	100TG0219
15/64"	100TG0234
1/4"	100TG0250
17/64"	100TG0266
9/32"	100TG0281
19/64"	100TG0297
5/16"	100TG0312
21/64"	100TG0328
11/32"	100TG0344
23/64"	100TG0359
3/8"	100TG0375
25/64"	100TG0391
13/32"	100TG0406
27/64"	100TG0422

Collet Nominal Size	100TG Standard Part Number <i>D = 1.379"</i> <i>L = 2.375"</i>
7/16"	100TG0438
29/64"	100TG0453
15/32"	100TG0469
31/64"	100TG0484
1/2"	100TG0500
33/64"	100TG0516
17/32"	100TG0531
35/64"	100TG0547
9/16"	100TG0562
5/8"	100TG0625
21/32"	100TG0656
43/64"	100TG0672
11/16"	100TG0688
3/4"	100TG0750
51/64"	100TG0797
13/16"	100TG0812
7/8"	100TG0875
57/64"	100TG0891
29/32"	100TG0906
61/64"	100TG0953
1"	100TG1000

R8 Shank End Mill Holders

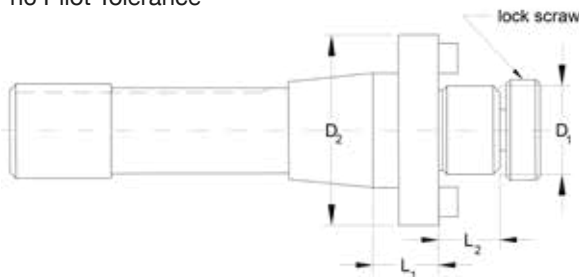
- ✓ R8 shank to bore runout < 0.0004"
- ✓ Draw bar thread 7/16" - 20
- ✓ H5 Bore Tolerance



Part Number	D1 Tool Capacity	D2 Body Diameter	L1 Projection Length	L2	L3	Lock Screw Size	Weight Approx.
R8EM018112	3/16"	0.94"	1.12"	0.406"	-	1/4 - 28 UNF	0.9 lb
R8EM038100	3/8"	1.25"	1.00"	0.719"	-	3/8 - 24 UNF	1.1 lb
R8EM050112	1/2"	1.25"	1.12"	0.875"	-	7/16 - 20 UNF	1.2 lb
R8EM062150	5/8"	1.58"	1.50"	0.875"	-	1/2 - 20 UNF	2.1 lb
R8EM075262	3/4"	1.72"	2.62"	1.109"	-	5/8 - 18 UNF	4.0 lb
R8EM088306	7/8"	1.94"	3.06"	1.063"	0.828"	3/4 - 16 UNF	5.2 lb
R8EM100306	1"	1.94"	3.06"	1.109"	0.953"	3/4 - 16 UNF	5.2 lb
R8EM125306	1-1/4"	2.38"	3.06"	1.109"	0.953"	3/4 - 16 UNF	6.4 lb

R8 Shank Shell Mill Holders

- ✓ R8 shank to pilot runout < 0.0004"
- ✓ Draw bar thread 7/16" - 20
- ✓ h6 Pilot Tolerance

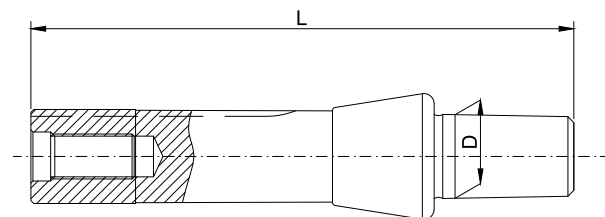


Part Number	D1 Pilot Capacity	D2 Projection Diameter	L1 Projection Length	L2 Pilot Length	Lock Screw Size	Weight Approx.
R8SM050102	1/2"	1.28"	1.02"	0.562"	1/4"-28 UNF-2A	1.4 lb
R8SM075102	3/4"	1.62"	1.02"	1.671"	3/8"-24 UNF-2A	1.8 lb
R8SM100102	1"	1.97"	1.02"	0.671"	1/2"-20 UNF-2A	2.3 lb
R8SM125102	1-1/4"	2.50"	1.02"	0.671"	5/8"-18 UNF-2A	3.0 lb
R8SM150175	1-1/2"	2.95"	1.75"	0.938"	3/4"-16 UNF-2A	5.8 lb

R8 Shank Drill Chuck Arbors



✓ MT taper shank to threaded pilot runout < 0.0004"

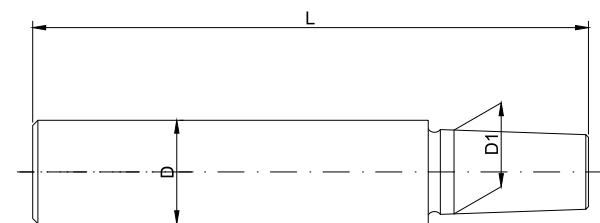


Part Number	Shank Size	Jacobs Taper Size	L Inch	D Inch	Weight Approx.
DCA-R8JT1	R8	1JT	4.92"	0.384"	0.836 lb
DCA-R8JT2	R8	2JT	5.16"	0.559"	0.88 lb
DCA-R8JT33	R8	33JT	5.28"	0.624"	0.902 lb
DCA-R8JT3	R8	3JT	5.51"	0.811"	1.034 lb
DCA-R8JT4	R8	4JT	5.94"	1.124"	1.298 lb
DCA-R8JT6	R8	6JT	5.28"	0.676"	0.946 lb

Straight Shank Drill Chuck Arbors

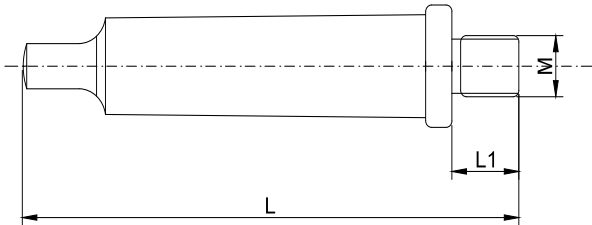


✓ MT taper shank to taper runout < 0.0004"



Part Number	Shank Diameter D	Jacobs Taper Size	L Inch	D1 Inch	Weight Approx.
DCA-500JT0	1/2"	0JT	3.07"	0.250"	0.132 lb
DCA-500JT1	1/2"	1JT	3.31"	0.384"	0.132 lb
DCA-500JT2	1/2"	2JT	3.54"	0.559"	0.198 lb
DCA-500JT33	1/2"	33JT	3.66"	0.624"	0.242 lb
DCA-500JT3	1/2"	3JT	3.86"	0.811"	0.33 lb
DCA-500JT4	1/2"	4JT	4.33"	1.124"	0.616 lb
DCA-500JT6	1/2"	6JT	3.66"	0.676"	0.44 lb
DCA-625JT1	5/8"	1JT	3.31"	0.384"	0.242 lb
DCA-625JT2	5/8"	2JT	3.54"	0.559"	0.286 lb
DCA-625JT33	5/8"	33JT	3.66"	0.624"	0.33 lb
DCA-625JT3	5/8"	3JT	3.86"	0.811"	0.396 lb
DCA-625JT6	5/8"	6JT	3.66"	0.676"	0.33 lb
DCA-750JT2	3/4"	2JT	4.09"	0.559"	0.44 lb
DCA-750JT33	3/4"	33JT	4.21"	0.624"	0.484 lb
DCA-750JT3	3/4"	3JT	4.41"	0.811"	0.66 lb
DCA-750JT4	3/4"	4JT	4.88"	1.124"	0.858 lb
DCA-750JT6	3/4"	6JT	4.21"	0.676"	0.484 lb
DCA-1000JT33	1"	33JT	4.21"	0.624"	0.748 lb
DCA-1000JT3	1"	3JT	4.41"	0.811"	0.858 lb
DCA-1000JT4	1"	4JT	4.88"	1.124"	1.254 lb
DCA-1000JT6	1"	6JT	4.21"	0.676"	0.792 lb

Morse Taper Drill Chuck Arbor Threaded

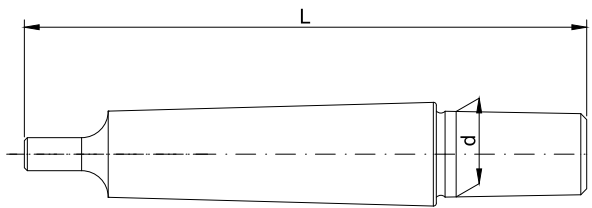


Part Number	MT Shank Size	M Thread Size	L Inch	L1 Inch	Weight Approx.
DCA-MT20375	2	3/8" - 24	3.82"	0.531"	0.308 lb
DCA-MT20500	2	1/2" - 20	3.94"	0.610"	0.308 lb
DCA-MT20625	2	5/8" - 16	4.06"	0.689"	0.352 lb

Morse Taper Drill Chuck Arbors with Tang



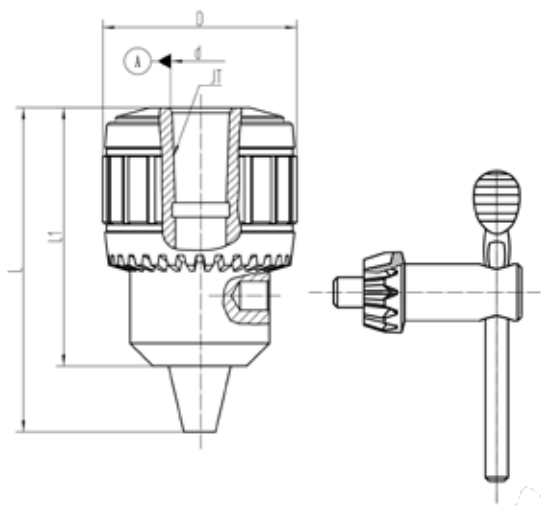
✓ Shank to taper runout < 0.0004"



Part Number	MT Shank Size	Jacobs Taper Size	L Inch	d Inch	Weight Approx.
DCA-MT1JT0	1	0JT	3.19"	0.250"	0.088 lb
DCA-MT1JT1	1	1JT	3.39"	0.384"	0.132 lb
DCA-MT1JT2	1	2JT	3.58"	0.559"	0.154 lb
DCA-MT1JT33	1	33JT	3.78"	0.624"	0.176 lb
DCA-MT1JT6	1	6JT	3.78"	0.676"	0.22 lb
DCA-MT2JT0	2	0JT	3.74"	0.250"	0.264 lb
DCA-MT2JT1	2	1JT	3.98"	0.384"	0.286 lb
DCA-MT2JT2	2	2JT	4.17"	0.559"	0.33 lb
DCA-MT2JT33	2	33JT	4.37"	0.624"	0.352 lb
DCA-MT2JT3	2	3JT	4.45"	0.811"	0.44 lb
DCA-MT2JT4	2	4JT	4.92"	1.124"	0.726 lb
DCA-MT2JT6	2	6JT	4.37"	0.676"	0.374 lb
DCA-MT3JT1	3	1JT	4.72"	0.384"	0.616 lb
DCA-MT3JT2	3	2JT	4.92"	0.559"	0.638 lb
DCA-MT3JT33	3	33JT	5.12"	0.624"	0.682 lb
DCA-MT3JT3	3	3JT	5.31"	0.811"	0.77 lb
DCA-MT3JT4	3	4JT	5.71"	1.124"	1.056 lb
DCA-MT3JT5	3	5JT	5.91"	1.569"	1.386 lb
DCA-MT3JT6	3	6JT	5.12"	0.676"	0.704 lb
DCA-MT4JT2	4	2JT	5.91"	0.559"	1.342 lb
DCA-MT4JT33	4	33JT	6.10"	0.624"	1.386 lb
DCA-MT4JT3	4	3JT	6.30"	0.811"	1.452 lb
DCA-MT4JT4	4	4JT	6.77"	1.124"	1.782 lb
DCA-MT4JT5	4	5JT	7.01"	1.569"	1.134 lb
DCA-MT4JT6	4	6JT	6.10"	0.676"	1.386 lb
DCA-MT5JT3	5	3JT	7.56"	0.811"	3.476 lb
DCA-MT5JT4	5	4JT	8.03"	1.124"	3.74 lb

Super Ball-Bearing Heavy Duty Industrial Drill Chucks

- ✓ Heavy-duty ball-bearing industrial design with high gripping power!
- ✓ All parts are heat-treated and ground within very tight limits
- ✓ High accuracy
- ✓ Chucks are widely used on drilling equipment like: milling machines, lathes, jig borers and radial drilling machines and woodworking machines
- ✓ Comes with a chuck key

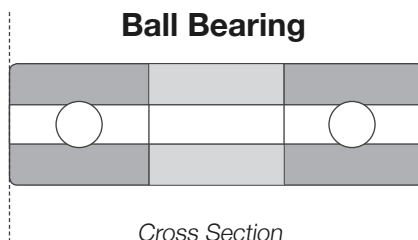


Part Number	Capacity Inch	Capacity Metric	Taper Size	T.I.R.	Weight Approx.	L Max	L1	D	d	Chuck Keys
DC-100-0250J2	0" - 1/4"	0.6 mm - 6.35 mm	JT2	0.003"	0.35 lb	2.402"	1.988"	1.457"	0.549"	DKP-06T
DC-100-0375J2	1/32" - 3/8"	1 mm - 10 mm	JT2	0.003"	0.47 lb	2.913"	2.283"	1.693"	0.549"	DKP-10T
DC-100-0500J6	1/32" - 1/2"	1 mm - 13 mm	JT6	0.003"	1.35 lb	3.504"	2.618"	2.126"	0.676"	DKP-13T
DC-100-0500J33	1/32" - 1/2"	1 mm - 13 mm	JT33	0.003"	1.36 lb	3.504"	2.618"	2.126"	0.624"	DKP-13T
DC-100-0500J3	1/32" - 1/2"	1 mm - 13 mm	JT3	0.003"	1.42 lb	3.780"	2.953"	2.126"	0.811"	DKP-13T
DC-100-0625J3	1/8" - 5/8"	3 mm - 16 mm	JT3	0.003"	1.65 lb	3.819"	2.992"	2.126"	0.811"	DKP-16T
DC-100-0625SJ3	1/32" - 5/8"	1 mm - 16 mm	JT3	0.003"	1.94 lb	4.016"	3.150"	2.264"	0.811"	DKP-16T
DC-100-0750J4	1/8" - 3/4"	3 mm - 20 mm	JT4	0.003"	4.07 lb	4.764"	3.760"	2.539"	1.124"	DKP-20T
DC-100-0750J3	3/16" - 3/4"	5 mm - 20 mm	JT3	0.003"	2.41 lb	4.253"	3.287"	2.539"	0.811"	DKP-20T
DC-100-1000J5	25/64" - 1"	10 mm - 25 mm	JT5	0.003"	7.7 lb	5.709"	4.252"	3.661"	1.413"	DKP-25T



Drill Chuck Arbors

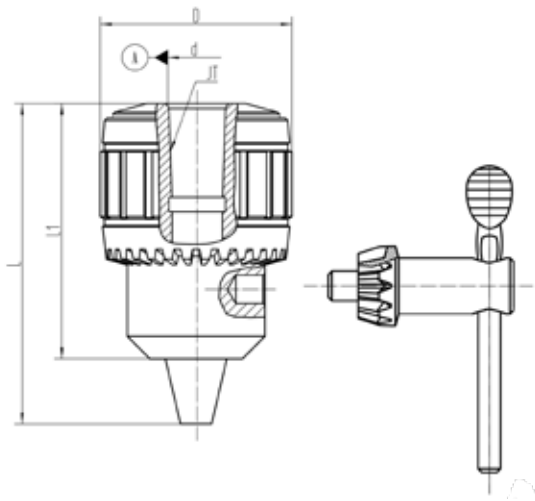
PAGES 42-43



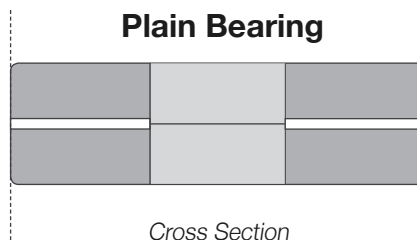
Cross Section

Super Plain-Bearing Heavy Duty Industrial Drill Chucks

- ✓ Heavy-duty plain-bearing industrial design
- ✓ All parts are heat treated and ground within very tight limits
- ✓ High accuracy
- ✓ Chucks are widely used on drilling equipment like: milling machines, lathes, jig borers, radial drilling machines and woodworking machines
- ✓ Comes with a chuck key



Part Number	Capacity Inch	Capacity Metric	Taper Size	T.I.R.	Weight Approx.	L Max	L1	D	d	Chuck Keys
DC-200-0375J2	1/32" - 3/8"	1 mm - 10 mm	JT2	0.003"	0.42 lb	2.913"	2.283"	1.693"	0.549"	DKP-10T
DC-200-0375TH	1/32" - 3/8"	1 mm - 10 mm	3/8 - 24	0.003"	0.4 lb	2.913"	2.283"	1.693"	3/8-24"	DKP-10T
DC-200-0500J2	1/32" - 1/2"	1 mm - 13 mm	JT2	0.003"	1.45 lb	3.504"	2.618"	2.106"	0.549"	DKP-13T
DC-200-0500J6	1/32" - 1/2"	1 mm - 13 mm	JT6	0.003"	1.22 lb	3.504"	2.618"	2.106"	0.676"	DKP-13T
DC-200-0500J33	1/32" - 1/2"	1 mm - 13 mm	JT33	0.003"	1.21 lb	3.504"	2.618"	2.106"	0.624"	DKP-13T
DC-200-0625J3	1/32" - 5/8"	1 mm - 16 mm	JT3	0.003"	1.75 lb	4.016"	3.150"	2.264"	0.811"	DKP-16T
DC-200-0750J4	3/16" - 3/4"	5 mm - 20 mm	JT4	0.003"	2.05 lb	4.764"	3.760"	2.539"	1.124"	DKP-20T
DC-200-0750J3	3/16" - 3/4"	5 mm - 20 mm	JT3	0.003"	2.17 lb	4.252"	3.287"	2.539"	0.811"	DKP-20T



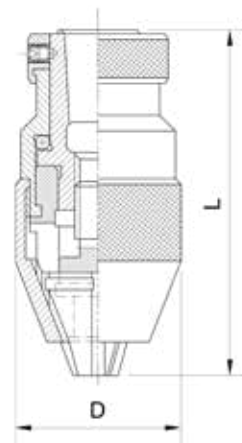
Drill Chuck Arbors

PAGES 42-43

High Precision Heavy Duty Industrial Keyless Drill Chucks

10,000 RPM

- ✓ Self-tightening
- ✓ Extremely high accuracy with high RPM
- ✓ Rigid & heavy-duty design
- ✓ Wide gripping capacity
- ✓ For use on all CNC machines



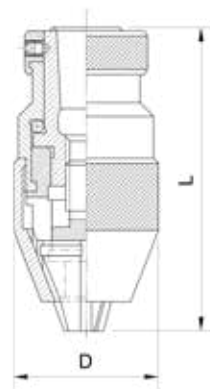
Part Number	Capacity Inch	Capacity Metric	Taper Size	T.I.R.	Weight Approx.	D	L	Chuck Key*
DC-700-0125J0	1/64" - 1/8"	0.2 mm - 3 mm	JT0	0.002"	0.22 lb	0.945"	1.634"	-
DC-700-0156J1	1/64" - 5/32"	0.2 mm - 4 mm	JT1	0.002"	0.42 lb	1.142"	2.394"	-
DC-700-0250J1	1/64" - 1/4"	0.2 mm - 6 mm	JT1	0.002"	0.69 lb	1.339"	2.780"	DKS-10S
DC-700-0312J2	1/64" - 5/16"	0.2 mm - 8 mm	JT2	0.002"	1.05 lb	1.535"	3.165"	DKS-10S
DC-700-0375J2	1/64" - 3/8"	0.2 mm - 10 mm	JT2	0.002"	1.51 lb	1.732"	3.551"	DKS-10S
DC-700-0375J33	1/64" - 3/8"	0.2 mm - 10 mm	JT33	0.002"	1.45 lb	1.732"	3.551"	DKS-10S
DC-700-0500J2	1/64" - 1/2"	0.2 mm - 13 mm	JT2	0.002"	2.29 lb	1.929"	3.961"	DKS-13S
DC-700-0500J33	1/64" - 1/2"	0.2 mm - 13 mm	JT33	0.002"	2.08 lb	1.929"	3.961"	DKS-13S
DC-700-0500J6	1/64" - 1/2"	0.2 mm - 13 mm	JT6	0.002"	2.1 lb	1.929"	3.961"	DKS-13S
DC-700-0625J6	1/64" - 5/8"	0.2 mm - 16 mm	JT6	0.002"	2.79 lb	2.126"	4.417"	DKS-13S
DC-700-0750J3	1/64" - 3/4"	0.2 mm - 20 mm	JT3	0.002"	3.78 lb	2.323"	5.177"	DKS-13S

*Chuck Keys are sold separately

High Precision Heavy Duty Industrial Keyless Drill Chucks

4,000 RPM

- ✓ Self-tightening
- ✓ Extremely high accuracy
- ✓ All parts are heat treated and ground within very tight limits
- ✓ Chucks are widely used on drilling equipment like: milling machines, lathes, jig borers and radial drilling machines

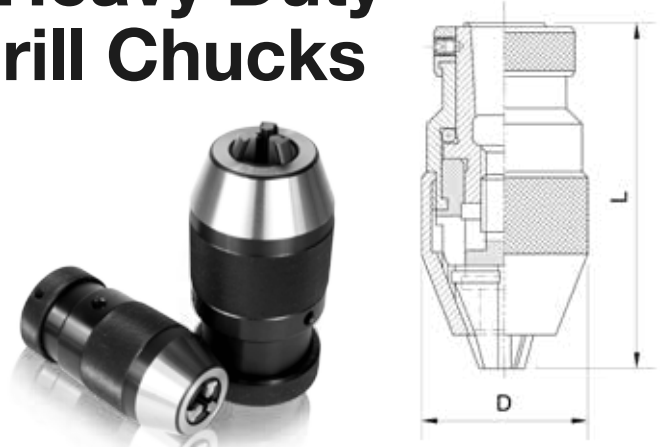


Part Number	Capacity Inch	Capacity Metric	Taper Size	T.I.R.	Weight Approx.	D	L	Chuck Key*
DC-500-0250J1	1/64" - 1/4"	0.2 mm - 6 mm	JT1	0.002"	0.69 lb	1.339"	2.780"	DKS-10S
DC-500-0375J33	1/64" - 3/8"	0.2 mm - 10 mm	JT33	0.002"	1.36 lb	1.732"	3.551"	DKS-10S
DC-500-0375J2	1/64" - 3/8"	0.2 mm - 10 mm	JT2	0.002"	1.51 lb	1.732"	3.551"	DKS-10S
DC-500-0500J2	1/64" - 1/2"	0.2 mm - 13 mm	JT2	0.002"	2.21 lb	1.929"	3.961"	DKS-13S
DC-500-0500J33	1/64" - 1/2"	0.2 mm - 13 mm	JT33	0.002"	2.08 lb	1.929"	3.961"	DKS-13S
DC-500-0500J6	1/64" - 1/2"	0.2 mm - 13 mm	JT6	0.002"	2.16 lb	1.929"	3.961"	DKS-13S
DC-500-0625J6	1/64" - 5/8"	0.2 mm - 16 mm	JT6	0.002"	2.79 lb	2.126"	4.417"	DKS-13S
DC-500-0750J3	1/64" - 3/4"	0.2 mm - 20 mm	JT3	0.002"	3.78 lb	2.323"	5.177"	DKS-13S

*Chuck Keys are sold separately

Standard Accuracy Heavy Duty Industrial Keyless Drill Chucks 4,000 RPM

- ✓ Self-tightening
- ✓ Standard accuracy
- ✓ All parts are heat treated and ground within very tight limits
- ✓ Chucks are widely used on drilling equipment like: milling machines, lathes, jig borers and radial drilling machines



Part Number	Capacity	Capacity Metric	Taper Size	T.I.R.	Weight Approx.	D	L	Chuck Key*
DC-400-0250J1	1/64" - 1/4"	0.2 mm - 6 mm	JT1	0.003"	0.69 lb	1.339"	2.780"	DKS-10S
DC-400-0375J2	1/64" - 3/8"	0.2 mm - 10 mm	JT2	0.004"	1.51 lb	1.732"	3.551"	DKS-10S
DC-400-0500J2	1/64" - 1/2"	0.2 mm - 13 mm	JT2	0.004"	2.21 lb	1.929"	3.961"	DKS-13S
DC-400-0500J33	1/64" - 1/2"	0.2 mm - 13 mm	JT33	0.004"	2.08 lb	1.929"	3.961"	DKS-13S
DC-400-0500J6	1/64" - 1/2"	0.2 mm - 13 mm	JT6	0.004"	2.16 lb	1.929"	3.961"	DKS-13S
DC-400-0625J6	1/64" - 5/8"	0.2 mm - 16 mm	JT6	0.004"	2.79 lb	2.126"	4.417"	DKS-13S
DC-400-0750J3	1/64" - 3/4"	0.2 mm - 20 mm	JT3	0.004"	3.78 lb	2.323"	5.177"	DKS-13S

*Chuck Keys are sold separately

Keyless Drill Chuck Wrenches



Part Number	Drill Chuck Capacity	Drill Chuck Capacity Metric
DKS-10S	1/4" • 5/16" • 3/8"	6 mm • 8 mm • 10 mm
DKS-13S*	1/2" • 5/8" • 3/4"	13 mm • 16 mm • 20 mm



Drill Chuck Arbors

PAGES 42-43

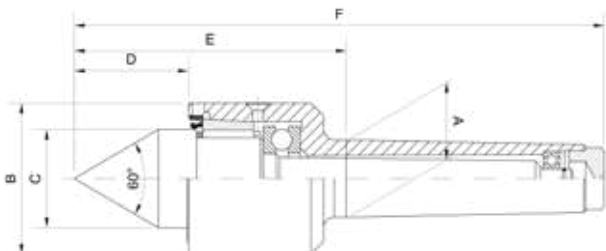
Keyed Drill Chuck Keys



Part Number	Drill Chuck Capacity	Drill Chuck Capacity Metric
DKP-06T	1/4"	6.4 mm
DKP-10T	3/8"	10 mm
DKP-13T	1/2"	13 mm
DKP-16T	5/8"	16 mm
DKP-20T	3/4"	20 mm
DKP-25T	1"	25 mm

Super Precision Low Profile Heavy Duty Live Centers

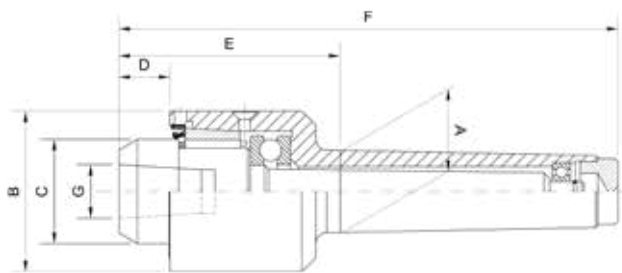
- ✓ High Precision heavy duty high speed design
- ✓ Design for easy lubrication for long life
- ✓ One-piece body & spindle made of high-quality forged alloy steel, hardened to 60 HRC and precisely ground
- ✓ Front bearings are protected by a special steel/elastomer ring
- ✓ Perfect for all kinds of machining operations on manual and CNC lathes



Part Number	Morse Taper Size	A	B	C	D	E	F	T.I.R.	Max RPM	Max Load	Weight Approx.
LC-100-001	1	0.475"	1.338"	0.709"	0.866"	2.402"	4.488"	0.0002"	6,000	220 lb	0.64 lb
LC-100-002	2	0.700"	1.417"	0.866"	1.024"	2.697"	4.941"	0.0002"	5,500	660 lb	0.88 lb
LC-100-003	3	0.938"	1.850"	1.181"	1.378"	3.661"	6.516"	0.0002"	4,500	880 lb	1.94 lb
LC-100-004	4	1.231"	2.283"	1.378"	1.575"	4.094"	7.736"	0.0002"	4,000	2,640 lb	3.23 lb
LC-100-005	5	1.748"	2.68"	1.772"	2.008"	5.295"	9.685"	0.0002"	3,000	4,400 lb	6.86 lb
LC-100-006	6	2.494"	3.543"	2.362"	2.559"	4.472"	12.64"	0.0004"	2,000	8,800 lb	15.52 lb

Super Precision Heavy Duty Live Center Kits

- ✓ Triple-bearing, heavy-duty high speed design
- ✓ All centers are provided with high-precision bearings
- ✓ One-piece body is made of high-quality forged alloy steel, hardened to 60 HRC and precisely ground
- ✓ Bearings are protected by a special steel ring
- ✓ Every set includes: the main body, seven inserts, and an ejecting wedge
- ✓ Set comes with a strong metal or plastic case

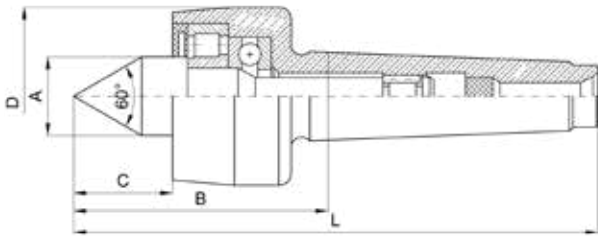


Part Number	Morse Taper Size	A	B	C	D	E	F	G	T.I.R.	Max RPM	Max Load	Weight Approx.
LC-100-002K	2	0.7000"	1.417"	0.866"	0.413"	2.700"	4.331"	0.394"	0.0002"	5,500	660 lb	2.78 lb
LC-100-003K	3	0.9780"	1.850"	1.181"	0.591"	3.661"	5.709"	0.591"	0.0002"	4,500	880 lb	4.94 lb
LC-100-004K	4	1.2310"	2.165"	1.417"	0.630"	4.094"	6.772"	0.787"	0.0002"	4,000	2640 lb	8.32 lb
LC-100-005K	5	1.7441"	2.756"	1.772"	0.787"	5.295"	8.504"	0.984"	0.0002"	3,000	4400 lb	17.67 lb

Super Precision Heavy Duty Live Centers



- ✓ High precision, heavy duty design
- ✓ One-piece body & spindle made of high-quality forged alloy steel hardened to 60 HRC and precisely ground
- ✓ Front bearings are protected by a special steel/elastomer ring
- ✓ Excellent for HD turning applications

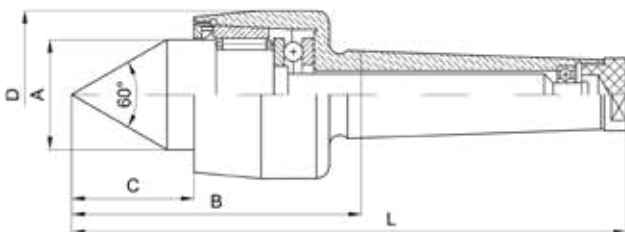


Part Number	Morse Taper Size	A	B	C	D	L	T.I.R	Max RPM	Max Load	Weight Approx.
LC-101-001	1	0.5512"	2.3622"	0.7874"	1.4961"	4.4488"	.0003"	5,000	220 lb	.57 lb
LC-101-002	2	0.7087"	2.5197"	0.8661"	1.7717"	5.0394"	.0002"	5,000	462 lb	.88 lb
LC-101-003	3	0.9843"	3.0709"	1.1811"	2.3228"	6.2598"	.0002"	4,000	924 lb	2.09 lb
LC-101-004	4	1.2598"	3.4646"	1.3386"	2.5197"	7.4803"	.0002"	3,000	1,848 lb	3.48 lb
LC-101-005	5	1.6535"	4.3307"	1.7717"	3.3465"	9.4094"	.0002"	2,500	4,400 lb	7.92 lb
LC-101-006	6	2.5197"	5.9055"	2.7559"	5.0394"	13.0709"	.0003"	2,000	7,700 lb	24.2 lb

Super Precision High RPM Medium Duty Live Centers



- ✓ High precision, high speed, medium duty design
- ✓ Provided with adjustable ultra precision high speed radial bearing
- ✓ One-piece body & spindle made of high-quality forged alloy steel, hardened to 60 HRC and precisely ground
- ✓ Front bearings are protected by a special steel/elastomer ring
- ✓ Perfect for all kinds of machining operations on manual and CNC lathes

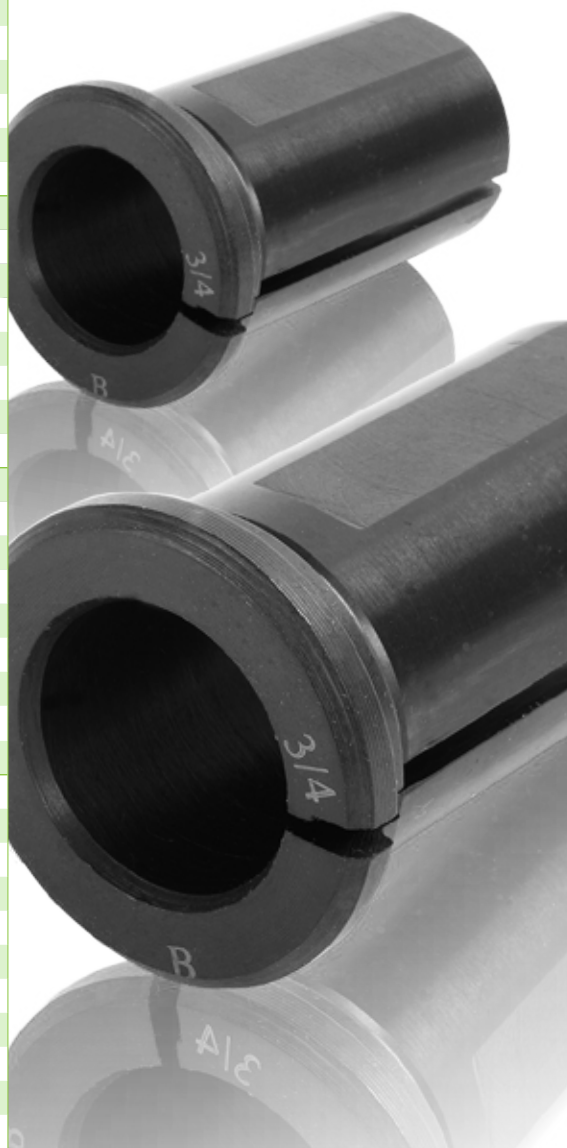
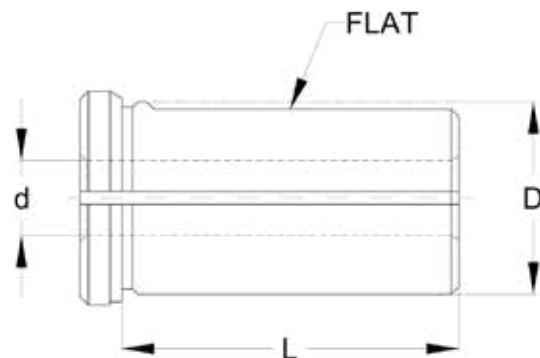


Part Number	Morse Taper Size	A	B	C	D	L	T.I.R	Max RPM	Max Load	Weight Approx.
LC-102-002	2	0.8661"	2.4409"	1.0236"	1.6535"	4.9606"	.0003"	8,000	220 lb	1.20 lb
LC-102-003	3	1.1811"	3.3465"	1.3779"	1.8898"	6.5354"	.0002"	6,000	440 lb	1.85 lb
LC-102-004	4	1.3780"	3.7008"	1.5748"	2.2835"	7.7559"	.0002"	4,500	880 lb	3.32 lb
LC-102-005	5	1.7717"	4.5669"	2.0079"	2.8740"	9.6850"	.0002"	4,000	1,430 lb	7.00 lb
LC-102-006	6	2.3622"	5.4724"	2.5197"	3.5433"	12.6378"	.0002"	3,000	3,080 lb	15.80 lb

B Bushings *Split Bushings*

- ✓ Designed with a split and a flat, which greatly improve the gripping capacity of the tool shank

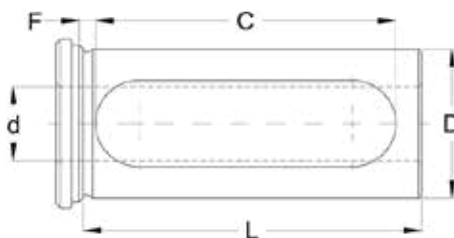
Part Number	Description Type OD D x ID d	L
BBB1000500	B Bushing - 1" x 1/2"	1-3/4"
BBB1000625	B Bushing - 1" x 5/8"	1-3/4"
BBB1000750	B Bushing - 1" x 3/4"	1-3/4"
BBB100S	B Bushing 3 Piece Set - 1/2" - 3/4"	—
BBB1250375	B Bushing - 1-1/4" x 3/8"	2-1/8"
BBB1250500	B Bushing - 1-1/4" x 1/2"	2-1/8"
BBB1250625	B Bushing - 1-1/4" x 5/8"	2-1/8"
BBB1250750	B Bushing - 1-1/4" x 3/4"	2-1/8"
BBB1250875	B Bushing - 1-1/4" x 7/8"	2-1/8"
BBB1251000	B Bushing - 1-1/4" x 1"	2-1/8"
BBB125S	B Bushing 6 Piece Set - 3/8" - 1"	—
BBB1500375	B Bushing - 1-1/2" x 3/8"	2-1/2"
BBB1500500	B Bushing - 1-1/2" x 1/2"	2-1/2"
BBB1500625	B Bushing - 1-1/2" x 5/8"	2-1/2"
BBB1500750	B Bushing - 1-1/2" x 3/4"	2-1/2"
BBB1500875	B Bushing - 1-1/2" x 7/8"	2-1/2"
BBB1501000	B Bushing - 1-1/2" x 1"	2-1/2"
BBB1501250	B Bushing - 1-1/2" x 1-1/4"	2-1/2"
BBB150S	B Bushing 7 Piece Set - 3/8" - 1-1/4"	—
BBB1750500	B Bushing - 1-3/4" x 1/2"	3"
BBB1750625	B Bushing - 1-3/4" x 5/8"	3"
BBB1750750	B Bushing - 1-3/4" x 3/4"	3"
BBB1750875	B Bushing - 1-3/4" x 7/8"	3"
BBB1751000	B Bushing - 1-3/4" x 1"	3"
BBB1751250	B Bushing - 1-3/4" x 1-1/4"	3"
BBB1751500	B Bushing - 1-3/4" x 1-1/2"	3"
BBB175S	B Bushing 7 Piece Set - 1/2" - 1-1/2"	—
BBB2000500	B Bushing - 2" x 1/2"	3-1/2"
BBB2000625	B Bushing - 2" x 5/8"	3-1/2"
BBB2000750	B Bushing - 2" x 3/4"	3-1/2"
BBB2000875	B Bushing - 2" x 7/8"	3-1/2"
BBB2001000	B Bushing - 2" x 1"	3-1/2"
BBB2001250	B Bushing - 2" x 1-1/4"	3-1/2"
BBB2001500	B Bushing - 2" x 1-1/2"	3-1/2"
BBB2001750	B Bushing - 2" x 1-3/4"	3-1/2"
BBB200S	B Bushing 8 Piece Set - 1/2" - 1-3/4"	—
BBB2500500	B Bushing - 2-1/2" x 1/2"	4"
BBB2500625	B Bushing - 2-1/2" x 5/8"	4"
BBB2500750	B Bushing - 2-1/2" x 3/4"	4"
BBB2500875	B Bushing - 2-1/2" x 7/8"	4"
BBB2501000	B Bushing - 2-1/2" x 1"	4"
BBB2501250	B Bushing - 2-1/2" x 1-1/4"	4"
BBB2501500	B Bushing - 2-1/2" x 1-1/2"	4"
BBB2501750	B Bushing - 2-1/2" x 1-3/4"	4"
BBB2502000	B Bushing - 2-1/2" x 2"	4"
BBB2502250	B Bushing - 2-1/2" x 2-1/4"	4"
BBB250S	B Bushing 10 Piece Set - 1/2" - 2-1/4"	—



Save 30% When Purchasing Sets

C Bushings

- ✓ Designed with a long slot for direct tool clamping, allowing for positive alignment of the tool cutting edge
- ✓ Can be used with a variety of set screw configurations

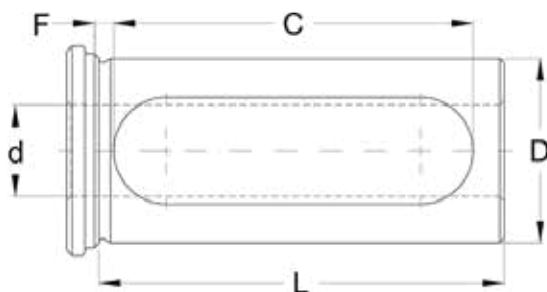


Part Number	Description Type OD $D \times$ ID d	C	F	L
BBC0750375	C Bushing - 3/4" x 3/8"	1-1/2"	0.1693"	2"
BBC0750500	C Bushing - 3/4" x 1/2"	1-1/2"	0.1693"	2"
BBC075S	C Bushing 2 Piece Set - 3/8"-1/2"	—	—	—
BBC1000375	C Bushing - 1" x 3/8"	2-3/8"	0.1319"	2-3/4"
BBC1000500	C Bushing - 1" x 1/2"	2-3/8"	0.1319"	2-3/4"
BBC1000625	C Bushing - 1" x 5/8"	2-3/8"	0.1319"	2-3/4"
BBC1000750	C Bushing - 1" x 3/4"	2-3/8"	0.1319"	2-3/4"
BBC100S	C Bushing 4 Piece Set - 3/8" - 3/4"	—	—	—
BBC1250375	C Bushing - 1-1/4" x 3/8"	2-3/4"	0.1496"	3-1/4"
BBC1250500	C Bushing - 1-1/4" x 1/2"	2-3/4"	0.1496"	3-1/4"
BBC1250625	C Bushing - 1-1/4" x 5/8"	2-3/4"	0.1496"	3-1/4"
BBC1250750	C Bushing - 1-1/4" x 3/4"	2-3/4"	0.1496"	3-1/4"
BBC1250875	C Bushing - 1-1/4" x 7/8"	2-3/4"	0.1496"	3-1/4"
BBC1251000	C Bushing - 1-1/4" x 1"	2-3/4"	0.1496"	3-1/4"
BBC125S	C Bushing 6 Piece Set - 3/8" - 1"	—	—	—
BBC1500375	C Bushing - 1-1/2" x 3/8"	3"	0.1260"	3-3/8"
BBC1500500	C Bushing - 1-1/2" x 1/2"	3"	0.1260"	3-3/8"
BBC1500625	C Bushing - 1-1/2" x 5/8"	3"	0.1260"	3-3/8"
BBC1500750	C Bushing - 1-1/2" x 3/4"	3"	0.1260"	3-3/8"
BBC1500875	C Bushing - 1-1/2" x 7/8"	3"	0.1260"	3-3/8"
BBC1501000	C Bushing - 1-1/2" x 1"	3"	0.1260"	3-3/8"
BBC1501250	C Bushing - 1-1/2" x 1-1/4"	3"	0.1260"	3-3/8"
BBC150S	C Bushing 7 Piece Set - 3/8" - 1-1/4"	—	—	—
BBC1750500	C Bushing - 1-3/4" x 1/2"	3-1/8"	0.1260"	3-1/2"
BBC1750625	C Bushing - 1-3/4" x 5/8"	3-1/8"	0.1260"	3-1/2"
BBC1750750	C Bushing - 1-3/4" x 3/4"	3-1/8"	0.1260"	3-1/2"
BBC1750875	C Bushing - 1-3/4" x 7/8"	3-1/8"	0.1260"	3-1/2"
BBC1751000	C Bushing - 1-3/4" x 1"	3-1/8"	0.1260"	3-1/2"
BBC1751250	C Bushing - 1-3/4" x 1-1/4"	3-1/8"	0.1260"	3-1/2"
BBC1751500	C Bushing - 1-3/4" x 1-1/2"	3-1/8"	0.1260"	3-1/2"
BBC175S	C Bushing 7 Piece Set - 1/2" - 1-1/2"	—	—	—
BBC2000500	C Bushing - 2" x 1/2"	3-5/8"	0.1319"	4"
BBC2000625	C Bushing - 2" x 5/8"	3-5/8"	0.1319"	4"
BBC2000750	C Bushing - 2" x 3/4"	3-5/8"	0.1319"	4"
BBC2000875	C Bushing - 2" x 7/8"	3-5/8"	0.1319"	4"
BBC2001000	C Bushing - 2" x 1"	3-5/8"	0.1319"	4"
BBC2001250	C Bushing - 2" x 1-1/4"	3-5/8"	0.1319"	4"
BBC2001500	C Bushing - 2" x 1-1/2"	3-5/8"	0.1319"	4"
BBC2001750	C Bushing - 2" x 1-3/4"	3-5/8"	0.1319"	4"
BBC200S	C Bushing 8 Piece Set - 1/2" - 1-3/4"	—	—	—
BBC2500500	C Bushing - 2-1/2" x 1/2"	4-1/8"	0.1457"	4-1/2"
BBC2500625	C Bushing - 2-1/2" x 5/8"	4-1/8"	0.1457"	4-1/2"
BBC2500750	C Bushing - 2-1/2" x 3/4"	4-1/8"	0.1457"	4-1/2"
BBC2500875	C Bushing - 2-1/2" x 7/8"	4-1/8"	0.1457"	4-1/2"
BBC2501000	C Bushing - 2-1/2" x 1"	4-1/8"	0.1457"	4-1/2"
BBC2501250	C Bushing - 2-1/2" x 1-1/4"	4-1/8"	0.1457"	4-1/2"
BBC2501500	C Bushing - 2-1/2" x 1-1/2"	4-1/8"	0.1457"	4-1/2"
BBC2501750	C Bushing - 2-1/2" x 1-3/4"	4-1/8"	0.1457"	4-1/2"
BBC2502000	C Bushing - 2-1/2" x 2"	4-1/8"	0.1457"	4-1/2"
BBC2502250	C Bushing - 2-1/2" x 2-1/4"	4-1/8"	0.1457"	4-1/2"
BBC250S	C Bushing 10 Piece Set - 1/2" - 2-1/4"	—	—	—

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CV Bushings

- ✓ Designed with a long slot for direct tool clamping, allowing for positive alignment of the tool cutting edge
- ✓ Can be used with a variety of set screw configurations
- ✓ Metric Lengths (see "L" dimension)



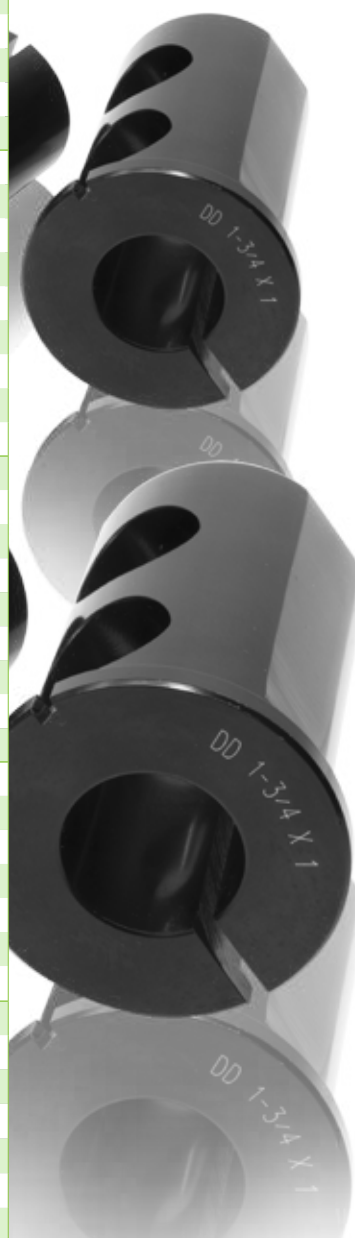
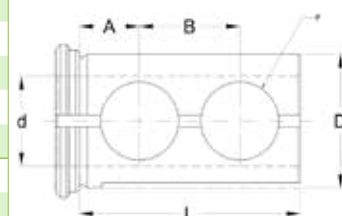
Part Number	Description Type OD $D \times$ ID d	C	C Metric)	F	L	L Metric)
BBV1250250	CV Bushing - 1-1/4" $\times$ 1/4"	1.97"	50 mm	0.1535"	2.36"	60 mm
BBV1250375	CV Bushing - 1-1/4" $\times$ 3/8"	1.97"	50 mm	0.1535"	2.36"	60 mm
BBV1250500	CV Bushing - 1-1/4" $\times$ 1/2"	1.97"	50 mm	0.1535"	2.36"	60 mm
BBV1250625	CV Bushing - 1-1/4" $\times$ 5/8"	1.97"	50 mm	0.1535"	2.36"	60 mm
BBV1250750	CV Bushing - 1-1/4" $\times$ 3/4"	1.97"	50 mm	0.1535"	2.36"	60 mm
BBV1250875	CV Bushing - 1-1/4" $\times$ 7/8"	1.97"	50 mm	0.1535"	2.36"	60 mm
BBV1251000	CV Bushing - 1-1/4" $\times$ 1"	1.97"	50 mm	0.1535"	2.36"	60 mm
BBV125S	CV Bushing 7 Piece Set - 1/4" - 1"	—	—	—	—	—
BBV1500250	CV Bushing - 1-1/2" $\times$ 1/4"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV1500375	CV Bushing - 1-1/2" $\times$ 3/8"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV1500500	CV Bushing - 1-1/2" $\times$ 1/2"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV1500625	CV Bushing - 1-1/2" $\times$ 5/8"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV1500750	CV Bushing - 1-1/2" $\times$ 3/4"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV1500875	CV Bushing - 1-1/2" $\times$ 7/8"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV1501000	CV Bushing - 1-1/2" $\times$ 1"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV1501250	CV Bushing - 1-1/2" $\times$ 1-1/4"	2.36"	60 mm	0.1575"	2.76"	70 mm
BBV150S	CV Bushing 8 Piece Set - 1/4 - 1-1/4"	—	—	—	—	—

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DD Bushings

- ✓ Combines "B" Style (Split Bushing) with "J" Style (with two set screw holes) allowing DD Bushings to be used as either "B" or "J"
- ✓ Each bushing has a split, a flat and either two or four set screw holes

Part Number	Description Type OD D x ID d	A	B	F	L	Screw Holes
BBD1500375	DD Bushing - 1-1/2" x 3/8"	11/16"	1-1/8"	7/8"	2-1/2"	2
BBD1500500	DD Bushing - 1-1/2" x 1/2"	11/16"	1-1/8"	7/8"	2-1/2"	2
BBD1500625	DD Bushing - 1-1/2" x 5/8"	11/16"	1-1/8"	7/8"	2-1/2"	2
BBD1500750	DD Bushing - 1-1/2" x 3/4"	11/16"	1-1/8"	7/8"	2-1/2"	2
BBD1500875	DD Bushing - 1-1/2" x 7/8"	11/16"	1-1/8"	7/8"	2-1/2"	2
BBD1501000	DD Bushing - 1-1/2" x 1"	11/16"	1-1/8"	7/8"	2-1/2"	2
BBD1501250	DD Bushing - 1-1/2" x 1-1/4"	11/16"	1-1/8"	7/8"	2-1/2"	2
BBD150S	DD Bushing 7 Piece Set - 3/8" - 1-1/4"	—	—	—	—	—
BBD1750500	DD Bushing - 1-3/4" x 1/2"	3/4"	1-1/4"	7/8"	3"	2
BBD1750625	DD Bushing - 1-3/4" x 5/8"	3/4"	1-1/4"	7/8"	3"	2
BBD1750750	DD Bushing - 1-3/4" x 3/4"	3/4"	1-1/4"	7/8"	3"	2
BBD1750875	DD Bushing - 1-3/4" x 7/8"	3/4"	1-1/4"	7/8"	3"	2
BBD1751000	DD Bushing - 1-3/4" x 1"	3/4"	1-1/4"	7/8"	3"	2
BBD1751250	DD Bushing - 1-3/4" x 1-1/4"	3/4"	1-1/4"	7/8"	3"	2
BBD1751500	DD Bushing - 1-3/4" x 1-1/2"	3/4"	1-1/4"	7/8"	3"	2
BBD175S	DD Bushing 7 Piece Set - 1/2" - 1-1/2"	—	—	—	—	—
BBD2000500	DD Bushing - 2" x 1/2"	3/4"	1-1/2"	1"	3-1/2"	2
BBD2000625	DD Bushing - 2" x 5/8"	3/4"	1-1/2"	1"	3-1/2"	2
BBD2000750	DD Bushing - 2" x 3/4"	3/4"	1-1/2"	1"	3-1/2"	2
BBD2000875	DD Bushing - 2" x 7/8"	3/4"	1-1/2"	1"	3-1/2"	2
BBD2001000	DD Bushing - 2" x 1"	3/4"	1-1/2"	1"	3-1/2"	2
BBD2001250	DD Bushing - 2" x 1-1/4"	3/4"	1-1/2"	1"	3-1/2"	2
BBD2001500	DD Bushing - 2" x 1-1/2"	3/4"	1-1/2"	1"	3-1/2"	2
BBD2001750	DD Bushing - 2" x 1-3/4"	3/4"	1-1/2"	1"	3-1/2"	2
BBD200S	DD Bushing 8 Piece Set - 1/2" - 1-3/4"	—	—	—	—	—
BBD2500750	DD Bushing - 2-1/2" x 3/4"	7/8"	1-3/4"	1-1/4"	4"	2
BBD2500875	DD Bushing - 2-1/2" x 7/8"	7/8"	1-3/4"	1-1/4"	4"	2
BBD2501000	DD Bushing - 2-1/2" x 1"	7/8"	1-3/4"	1-1/4"	4"	2
BBD2501250	DD Bushing - 2-1/2" x 1-1/4"	7/8"	1-3/4"	1-1/4"	4"	2
BBD2501500	DD Bushing - 2-1/2" x 1-1/2"	7/8"	1-3/4"	1-1/4"	4"	2
BBD2501750	DD Bushing - 2-1/2" x 1-3/4"	7/8"	1-3/4"	1-1/4"	4"	2
BBD2502000	DD Bushing - 2-1/2" x 2"	7/8"	1-3/4"	1-1/4"	4"	2
BBD2502250	DD Bushing - 2-1/2" x 2-1/4"	7/8"	1-3/4"	1-1/4"	4"	2
BBD250S	DD Bushing 8 Piece Set - 3/4" - 2-1/4"	—	—	—	—	—
BBD3001000	DD Bushing - 3" x 1"	1"	2"	1-1/4"	4-1/2"	4
BBD3001250	DD Bushing - 3" x 1-1/4"	1"	2"	1-1/4"	4-1/2"	4
BBD3001500	DD Bushing - 3" x 1-1/2"	1"	2"	1-1/4"	4-1/2"	4
BBD3001750	DD Bushing - 3" x 1-3/4"	1"	2"	1-1/4"	4-1/2"	4
BBD3002000	DD Bushing - 3" x 2"	1"	2"	1-1/4"	4-1/2"	4
BBD3002250	DD Bushing - 3" x 2-1/4"	1"	2"	1-1/4"	4-1/2"	4
BBD300S	DD Bushing 6 Piece Set - 1" - 2-1/4"	—	—	—	—	—
BBD3501500	DD Bushing - 3-1/2" x 1-1/2"	1-1/4"	2-1/2"	1-1/4"	5-1/4"	4
BBD3501750	DD Bushing - 3-1/2" x 1-3/4"	1-1/4"	2-1/2"	1-1/4"	5-1/4"	4
BBD3502000	DD Bushing - 3-1/2" x 2"	1-1/4"	2-1/2"	1-1/4"	5-1/4"	4
BBD3502250	DD Bushing - 3-1/2" x 2-1/4"	1-1/4"	2-1/2"	1-1/4"	5-1/4"	4
BBD3502500	DD Bushing - 3-1/2" x 2-1/2"	1-1/4"	2-1/2"	1-1/4"	5-1/4"	4
BBD3503000	DD Bushing - 3-1/2" x 3"	1-1/4"	2-1/2"	1-1/4"	5-1/4"	4
BBD350S	DD Bushing 6 Piece Set - 1-1/2" - 3"	—	—	—	—	—

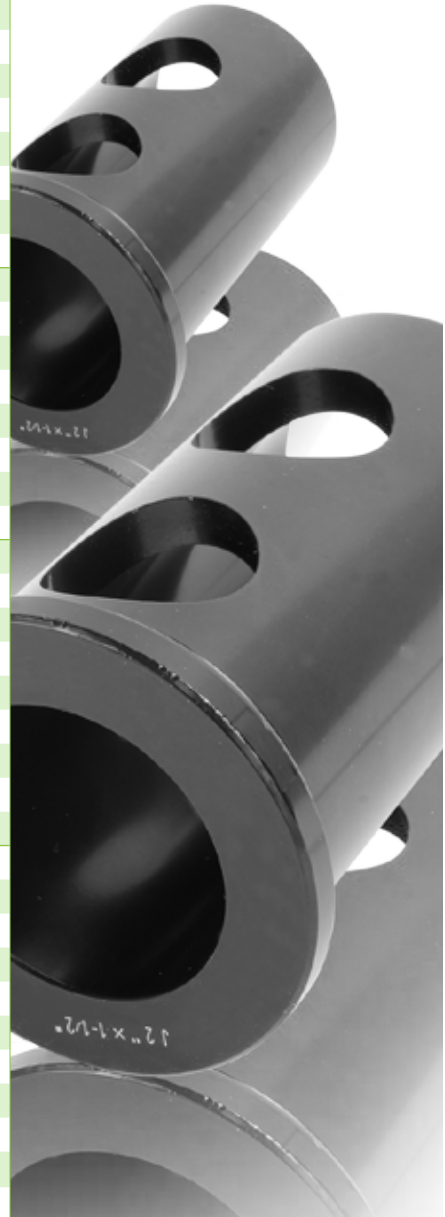
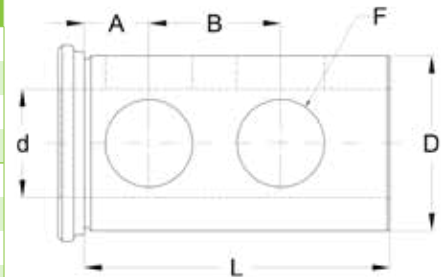


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J Bushings

- ✓ Designed with two set screw clearance holes for direct tool clamping, allowing for positive alignment of the tool cutting edge

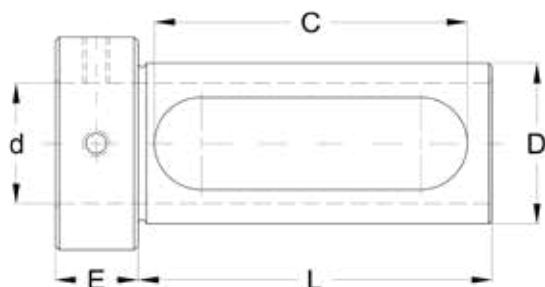
Part Number	Description Type OD D x ID d	A	B	F	L
BBJ1000500	J Bushing - 1" x 1/2"	7/16"	7/8"	5/8"	1-3/4"
BBJ1000625	J Bushing - 1" x 5/8"	7/16"	7/8"	5/8"	1-3/4"
BBJ1000750	J Bushing - 1" x 3/4"	7/16"	7/8"	5/8"	1-3/4"
BBJ100S	J Bushing 3 piece Set - c	—	—	—	—
BBJ1250375	J Bushing - 1-1/4" x 3/8"	5/8"	1"	3/4"	2-1/8"
BBJ1250500	J Bushing - 1-1/4" x 1/2"	5/8"	1"	3/4"	2-1/8"
BBJ1250625	J Bushing - 1-1/4" x 5/8"	5/8"	1"	3/4"	2-1/8"
BBJ1250750	J Bushing - 1-1/4" x 3/4"	5/8"	1"	3/4"	2-1/8"
BBJ1250875	J Bushing - 1-1/4" x 7/8"	5/8"	1"	3/4"	2-1/8"
BBJ1251000	J Bushing - 1-1/4" x 1"	5/8"	1"	3/4"	2-1/8"
BBJ125S	J Bushing 6 Piece Set - 3/8" - 1"	—	—	—	—
BBJ1500375	J Bushing - 1-1/2" x 3/8"	11/16"	1-1/8"	7/8"	2-1/2"
BBJ1500500	J Bushing - 1-1/2" x 1/2"	11/16"	1-1/8"	7/8"	2-1/2"
BBJ1500625	J Bushing - 1-1/2" x 5/8"	11/16"	1-1/8"	7/8"	2-1/2"
BBJ1500750	J Bushing - 1-1/2" x 3/4"	11/16"	1-1/8"	7/8"	2-1/2"
BBJ1500875	J Bushing - 1-1/2" x 7/8"	11/16"	1-1/8"	7/8"	2-1/2"
BBJ1501000	J Bushing - 1-1/2" x 1"	11/16"	1-1/8"	7/8"	2-1/2"
BBJ1501250	J Bushing - 1-1/2" x 1-1/4"	11/16"	1-1/8"	7/8"	2-1/2"
BBJ150S	J Bushing 7 Piece Set - 3/8" - 1-1/4"	—	—	—	—
BBJ1750500	J Bushing - 1-3/4" x 1/2"	3/4"	1-1/4"	7/8"	3"
BBJ1750625	J Bushing - 1-3/4" x 5/8"	3/4"	1-1/4"	7/8"	3"
BBJ1750750	J Bushing - 1-3/4" x 3/4"	3/4"	1-1/4"	7/8"	3"
BBJ1750875	J Bushing - 1-3/4" x 7/8"	3/4"	1-1/4"	7/8"	3"
BBJ1751000	J Bushing - 1-3/4" x 1"	3/4"	1-1/4"	7/8"	3"
BBJ1751250	J Bushing - 1-3/4" x 1-1/4"	3/4"	1-1/4"	7/8"	3"
BBJ1751500	J Bushing - 1-3/4" x 1-1/2"	3/4"	1-1/4"	7/8"	3"
BBJ175S	J Bushing 7 Piece Set - 1/2" - 1-1/2"	—	—	—	—
BBJ2000500	J Bushing - 2" x 1/2"	3/4"	1-1/2"	1"	3-1/2"
BBJ2000625	J Bushing - 2" x 5/8"	3/4"	1-1/2"	1"	3-1/2"
BBJ2000750	J Bushing - 2" x 3/4"	3/4"	1-1/2"	1"	3-1/2"
BBJ2000875	J Bushing - 2" x 7/8"	3/4"	1-1/2"	1"	3-1/2"
BBJ2001000	J Bushing - 2" x 1"	3/4"	1-1/2"	1"	3-1/2"
BBJ2001250	J Bushing - 2" x 1-1/4"	3/4"	1-1/2"	1"	3-1/2"
BBJ2001500	J Bushing - 2" x 1-1/2"	3/4"	1-1/2"	1"	3-1/2"
BBJ2001750	J Bushing - 2" x 1-3/4"	3/4"	1-1/2"	1"	3-1/2"
BBJ200S	J Bushing 8 Piece Set - 1/2" - 1-3/4"	—	—	—	—
BBJ2500500	J Bushing - 2-1/2" x 1/2"	7/8"	1-3/4"	1-1/4"	4"
BBJ2500625	J Bushing - 2-1/2" x 5/8"	7/8"	1-3/4"	1-1/4"	4"
BBJ2500750	J Bushing - 2-1/2" x 3/4"	7/8"	1-3/4"	1-1/4"	4"
BBJ2500875	J Bushing - 2-1/2" x 7/8"	7/8"	1-3/4"	1-1/4"	4"
BBJ2501000	J Bushing - 2-1/2" x 1"	7/8"	1-3/4"	1-1/4"	4"
BBJ2501250	J Bushing - 2-1/2" x 1-1/4"	7/8"	1-3/4"	1-1/4"	4"
BBJ2501500	J Bushing - 2-1/2" x 1-1/2"	7/8"	1-3/4"	1-1/4"	4"
BBJ2501750	J Bushing - 2-1/2" x 1-3/4"	7/8"	1-3/4"	1-1/4"	4"
BBJ2502000	J Bushing - 2-1/2" x 2"	7/8"	1-3/4"	1-1/4"	4"
BBJ2502250	J Bushing - 2-1/2" x 2-1/4"	7/8"	1-3/4"	1-1/4"	4"
BBJ250S	J Bushing 10 Piece Set - 1/2" - 2-1/4"	—	—	—	—



Save 30% When Purchasing Sets

Z Bushings

- ✓ Designed with a long slot and two set screws (in the bushing head)
- ✓ Provides improved rigidity and reduces chatter



Part Number	Description Type OD D x ID d	C	E	L
BBZ1250375	Z Bushing - 1-1/4" x 3/8"	2-5/8"	5/8"	3"
BBZ1250500	Z Bushing - 1-1/4" x 1/2"	2-5/8"	5/8"	3"
BBZ1250625	Z Bushing - 1-1/4" x 5/8"	2-5/8"	5/8"	3"
BBZ1250750	Z Bushing - 1-1/4" x 3/4"	2-5/8"	5/8"	3"
BBZ1250875	Z Bushing - 1-1/4" x 7/8"	2-5/8"	5/8"	3"
BBZ1251000	Z Bushing - 1-1/4" x 1"	2-5/8"	5/8"	3"
BBZ125S	Z Bushing 6 Piece Set - 3/8" - 1"	—	—	—
BBZ1500375	Z Bushing - 1-1/2" x 3/8"	2-7/8"	3/4"	3-1/4"
BBZ1500500	Z Bushing - 1-1/2" x 1/2"	2-7/8"	3/4"	3-1/4"
BBZ1500625	Z Bushing - 1-1/2" x 5/8"	2-7/8"	3/4"	3-1/4"
BBZ1500750	Z Bushing - 1-1/2" x 3/4"	2-7/8"	3/4"	3-1/4"
BBZ1500875	Z Bushing - 1-1/2" x 7/8"	2-7/8"	3/4"	3-1/4"
BBZ1501000	Z Bushing - 1-1/2" x 1"	2-7/8"	3/4"	3-1/4"
BBZ1501250	Z Bushing - 1-1/2" x 1-1/4"	2-7/8"	3/4"	3-1/4"
BBZ150S	Z Bushing 7 Piece Set - 3/8" - 1"	—	—	—
BBZ1750500	Z Bushing - 1-3/4" x 1/2"	3-1/8"	3/4"	3-1/4"
BBZ1750625	Z Bushing - 1-3/4" x 5/8"	3-1/8"	3/4"	3-1/4"
BBZ1750750	Z Bushing - 1-3/4" x 3/4"	3-1/8"	3/4"	3-1/4"
BBZ1750875	Z Bushing - 1-3/4" x 7/8"	3-1/8"	3/4"	3-1/4"
BBZ1751000	Z Bushing - 1-3/4" x 1"	3-1/8"	3/4"	3-1/4"
BBZ1751250	Z Bushing - 1-3/4" x 1-1/4"	3-1/8"	3/4"	3-1/4"
BBZ175S	Z Bushing 5 Piece Set - 1/2" - 1-1/4"	—	—	—
BBZ2000500	Z Bushing - 2" x 1/2"	3-1/2"	3/4"	3-3/4"
BBZ2000750	Z Bushing - 2" x 3/4"	3-1/2"	3/4"	3-3/4"
BBZ2000875	Z Bushing - 2" x 7/8"	3-1/2"	3/4"	3-3/4"
BBZ2001000	Z Bushing - 2" x 1"	3-1/2"	3/4"	3-3/4"
BBZ2001250	Z Bushing - 2" x 1-1/4"	3-1/2"	3/4"	3-3/4"
BBZ2001500	Z Bushing - 2" x 1-1/2"	3-1/2"	3/4"	3-3/4"
BBZ200S	Z Bushing 6 Piece Set - 1/2" - 1-1/2"	—	—	—

Save 30% When Purchasing Sets

Universal H/V CNC Tool Tightening Fixtures

- ✓ Compatible with CAT, BT, DIN & ISO tool holder shanks
- ✓ Improves gripping power of the tool holder
- ✓ Both ends of the tool holder are accessible simultaneously
- ✓ Ensures maximum protection of the tool holder against damages
- ✓ Tools can be mounted in both vertical and horizontal positions
- ✓ Compact and rigid design allows mounting on a work table or a tool cart
- ✓ Fixture body is constructed of high quality aluminum alloy



Part Number	Taper Size	Overall Height (H)	Overall Length (L)	Width (W)	Weight Approx.
4-CNF-030	BT/NMTB ISO 30	4.84"	7.09"	3.23"	3.8 lb
4-CNF-040	CAT/BT40	5.12"	7.09"	3.23"	4.2 lb
4-CNF-050	CAT/BT50	7.24"	9.84"	4.72"	8.4 lb

Collet Chuck & Collet Starter Sets

✓ Each set includes Collet Chucks (2) & Collet Set (1)

SAVE 50%

When You Purchase A Set

NEW



CAT 40

	Description	Part Number	Set Price
16	CT ER Collet Chuck CT40-16 x 2.50"	CV40ER16250N	CV40ER16C \$279.02*
	CT ER Collet Chuck CT40-16 x 4.00"	CV40ER16400N	
	ER 16 Collet Set (12) PC 1/16" - 13/32"	16ERS000SET2	
20	CT ER Collet Chuck CT40-20 x 2.50"	CV40ER20250N	CV40ER20C \$256.56*
	CT ER Collet Chuck CT40-20 x 4.00"	CV40ER20400N	
	ER 20 Collet Set (8) PC 1/16" - 1/2"	20ERS000SET1	
25	CT ER Collet Chuck CT40-25 x 2.50"	CV40ER25250N	CV40ER25C \$278.15*
	CT ER Collet Chuck CT40-25 x 4.00"	CV40ER25400N	
	ER 25 Collet Set (10) PC 1/16" - 5/8"	25ERS000SET1	
32	CT ER Collet Chuck CT40-32 x 2.75"	CV40ER32275N	CV40ER32C \$301.91*
	CT ER Collet Chuck CT40-32 x 4.00"	CV40ER32400N	
	ER 32 Collet Set (12) PC 1/8" - 13/16"	32ERS000SET1	
40	CT ER Collet Chuck CT40-40 x 3.0"	CV40ER40300N	CV40ER40C \$352.59*
	CT ER Collet Chuck CT40-40 x 6.0"	CV40ER40600N	
	ER 40 Collet Set (15) PC 1/8" - 1"	40ERS000SET1	

*Prices are subject to change without notice.

CAT 50

	Description	Part Number	Set Price
16	CT ER Collet Chuck CT50-16 x 4.00"	CV50ER16400N	CV50ER16C \$312.71*
	CT ER Collet Chuck CT50-16 x 6.00"	CV50ER16600N	
	ER 16 Collet Set (12) PC 1/16" - 13/32"	16ERS000SET2	
20	CT ER Collet Chuck CT50-20 x 4.00"	CV50ER20400N	CV50ER20C \$290.25*
	CT ER Collet Chuck CT50-20 x 6.00"	CV50ER20600N	
	ER 20 Collet Set (8) PC 1/16" - 1/2"	20ERS000SET1	
25	CT ER Collet Chuck CT50-25 x 4.0"	CV50ER25400N	CV50ER25C \$311.85*
	CT ER Collet Chuck CT50-25 x 6.00"	CV50ER25600N	
	ER 25 Collet Set (10) PC 1/16" - 5/8"	25ERS000SET1	
32	CT ER Collet Chuck CT50-32 x 4.00"	CV50ER32400N	CV50ER32C \$335.61*
	CT ER Collet Chuck CT50-32 x 6.00"	CV50ER32600N	
	ER 32 Collet Set (12) PC 1/8" - 13/16"	32ERS000SET1	
40	CT ER Collet Chuck CT50-40 x 4.00"	CV50ER40400N	CV50ER40C \$386.28*
	CT ER Collet Chuck CT50-40 x 6.00"	CV50ER40600N	
	ER 40 Collet Set (15) PC 1/8" - 1"	40ERS000SET1	

*Prices are subject to change without notice.


SAVE 30%

When You Purchase A Package



CAT40 Tooling Package

✓ Each package includes Collet Chucks (4), End Mill Holders (6), Shell Mill Adapters (2), Collet Set (1), Wrench (1)

Description	Part Number	16	20	25	32	40
		CV40ER16SPACK	CV40ER20SPACK	CV40ER25SPACK	CV40ER32SPACK	CV40ER40SPACK
		\$919*	\$886*	\$917*	\$954*	\$1,008*
CT ER Collet Chuck CT40-16 x 2.50"	CV40ER16250N	4 ✓				
CT ER Collet Chuck CT40-20 x 2.50"	CV40ER20250N		4 ✓			
CT ER Collet Chuck CT40-25 x 2.50"	CV40ER25250N			4 ✓		
CT ER Collet Chuck CT40-32 x 2.75"	CV40ER32275N				4 ✓	
CT ER Collet Chuck CT40-40 x 3.00"	CV40ER40300N					4 ✓
CT End Mill Holder CT40-1/4" x 2.50"	CV40EM025250N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT40-3/8" x 2.50"	CV40EM038250N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT40-1/2" x 2.62"	CV40EM050262N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT40-5/8" x 1.75"	CV40ZEM062175N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT40-3/4" x 1.75"	CV40ZEM075175N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT40-1" x 1.75"	CV40ZEM100175N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT Shell Mill Adapter CT40-3/4" x 1.38"	CV40SM075138	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT Shell Mill Adapter CT40-1" x 2.06"	CV40SM100206	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
ER 16 Collet Set (12) 1/16" - 13/32"	16ERS000SET2	1 ✓				
ER 20 Collet Set (8) 1/16" - 1/2"	20ERS000SET1		1 ✓			
ER 25 Collet Set (10) 1/16" - 5/8"	25ERS000SET1			1 ✓		
ER 32 Collet Set (12) 1/8" - 13/16"	32ERS000SET1				1 ✓	
ER 40 Collet Set (15) 1/8" - 1"	40ERS000SET1					1 ✓
Wrench-ER25 Round 42mm/1.65"	ER25WM			1 ✓		
Wrench-ER32 Round 50mm/1.97"	ER32WM				1 ✓	
Wrench-ER40 Round 63mm/2.48"	ER40WM					1 ✓
Wrench-ER16 Hex 25mm/.98"	OEW25M (ER16)	1 ✓				
Wrench-ER20 Hex 30mm/1.18"	OEW30M (ER20)		1 ✓			

*Prices are subject to change without notice.

SAVE 30%

When You Purchase A Package

NEW

SETS



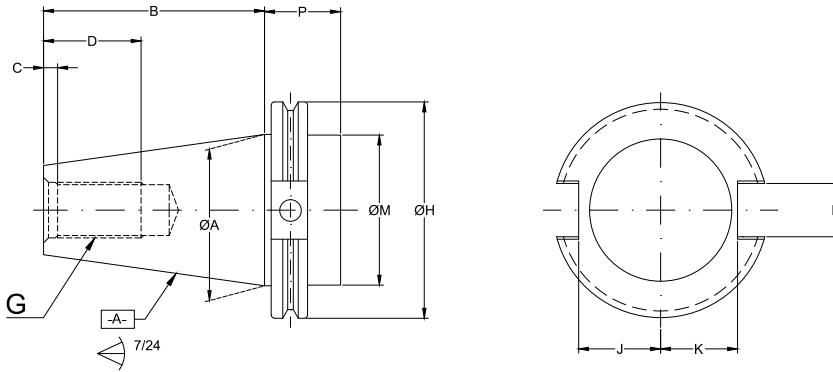
CAT50 Tooling Package

✓ Each package includes Collet Chucks (4), End Mill Holders (6), Shell Mill Adapters (2), Collet Set (1), Wrench (1)

16**20****25****32****40**

		CV50ER16SPACK	CV50ER20SPACK	CV50ER25SPACK	CV50ER32SPACK	CV50ER40SPACK
		\$1,260*	\$1,227*	\$1,259*	\$1,296*	\$1,349*
Description	Part Number					
CT ER Collet Chuck CT50-16 x 4.00"	CV50ER16400N	4 ✓				
CT ER Collet Chuck CT50-20 x 4.00"	CV50ER20400N		4 ✓			
CT ER Collet Chuck CT50-25 x 4.00"	CV50ER25400N			4 ✓		
CT ER Collet Chuck CT50-32 x 4.00"	CV50ER32400N				4 ✓	
CT ER Collet Chuck CT50-40 x 4.00"	CV50ER40400N					4 ✓
CT End Mill Holder CT50-3/8" x 2.50"	CV50EM038250N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT50-1/2" x 2.62"	CV50EM050262N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT50-5/8" x 3.75"	CV50EM062375N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT50-3/4" x 3.75"	CV50EM075375N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT50-1" x 4.00"	CV50EM100400N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT End Mill Holder CT50-1-1/4" x 4.25"	CV50EM125425N	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT Shell Mill Adapter CT50-1" x 2.06"	CV50SM100206	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
CT Shell Mill Adapter CT50-1-1/4" x 2.12"	CV50SM125212	1 ✓	1 ✓	1 ✓	1 ✓	1 ✓
ER 16 Collet Set (12) 1/16" - 13/32"	16ERS000SET2	1 ✓				
ER 20 Collet Set (8) 1/16" - 1/2"	20ERS000SET1		1 ✓			
ER 25 Collet Set (10) 1/16" - 5/8"	25ERS000SET1			1 ✓		
ER 32 Collet Set (12) 1/8" - 13/16"	32ERS000SET1				1 ✓	
ER 40 Collet Set (15) 1/8" - 1"	40ERS000SET1					1 ✓
Wrench-ER25 Round 42mm/1.65"	ER25WM			1 ✓		
Wrench-ER32 Round 50mm/1.97"	ER32WM				1 ✓	
Wrench-ER40 Round 63mm/2.48"	ER40WM					1 ✓
Wrench-ER16 Hex 25mm/.98"	OEWS25M (ER16)	1 ✓				
Wrench-ER20 Hex 30mm/1.18"	OEWS30M (ER20)		1 ✓			

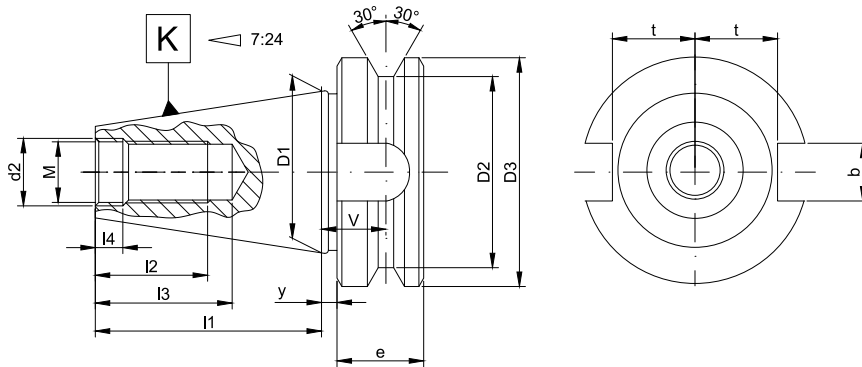
*Prices are subject to change without notice.



CAT Shank ANSI B5.50

Caterpillar CV | ANSI B5.50

Shank	A	B	C	D	G - Thread	H	J	K	L	M	P min
CT40	1.750" 44.45 mm	2.687" 68.25 mm	0.188" 4.76 mm	1.12" 28.45 mm	5/8"-11	2.500" 63.05 mm	0.985" 25.0 mm	0.890" 22.61 mm	0.645" 16.38 mm	1.750" 44.45 mm	1.380" 35.00 mm
CT50	2.750" 69.85 mm	4.000" 101.60 mm	0.250" 6.35 mm	1.75" 44.45 mm	1"-8	3.875" 98.41 mm	1.485" 37.72 mm	1.390" 35.31 mm	1.020" 25.91 mm	2.750" 69.85 mm	1.380" 35.00 mm



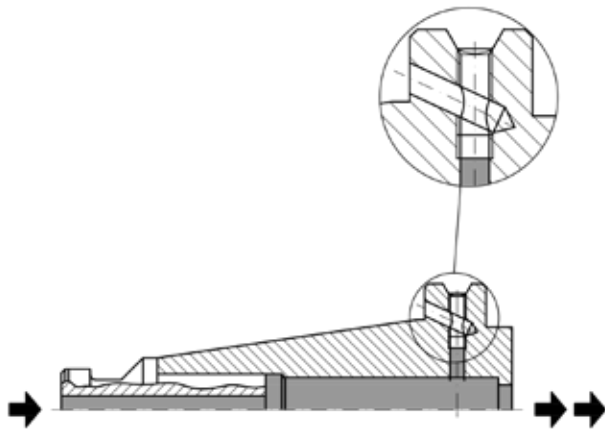
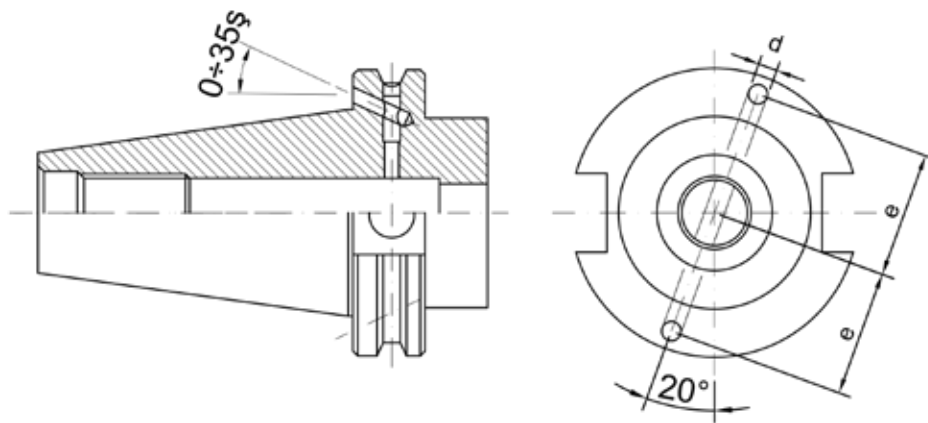
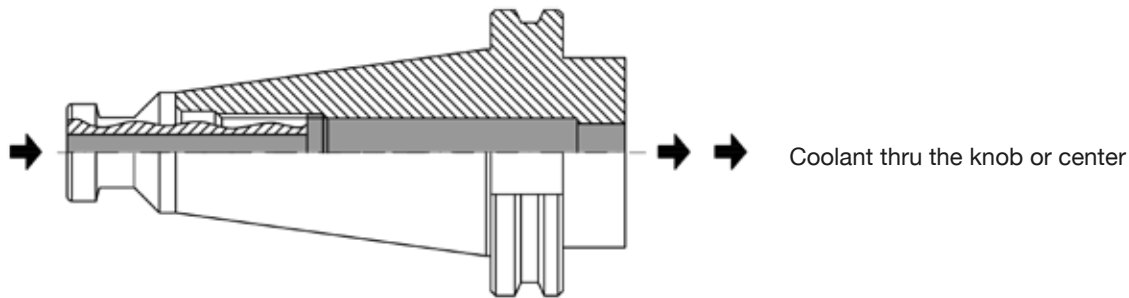
BT Shank MAS 403

Tooling Standard Dimensions | JIS B6339

Shank	D1	D2	D3	I1	I2	I3	I4	e	y	V	d2 (H7)	M Thread	t	b
BT30	1.250" 31.75 mm	1.4961" 38 mm	1.811" 46.00 mm	1.906" 48.40 mm	0.9449" 24 mm	1.3386" 34 mm	0.2756" 7 mm	0.7874" 20 mm	0.079" 2.00 mm	0.5354" 13.6 mm	0.4921" 12.5 mm	M12 - 1.75	0.6417" 16.3 mm	0.3150" 8 mm
BT40	1.750" 44.45 mm	2.0866" 53 mm	2.480" 63.00 mm	2.575" 65.40 mm	1.1811" 30 mm	1.6929" 43 mm	0.3543" 9 mm	0.9843" 25 mm	0.079" 2.00 mm	0.6535" 16.6 mm	0.6693" 17.0 mm	M16 - 2.0	0.8898" 22.6 mm	0.3937" 10 mm
BT50	2.750" 69.85 mm	3.3465" 85 mm	3.937" 100.00 mm	4.008" 101.80 mm	1.7717" 45 mm	2.4409" 62 mm	0.5118" 13 mm	1.3780" 35 mm	0.118" 3.00 mm	0.9134" 23.2 mm	0.9843" 25.0 mm	M24 - 3.0	1.3937" 35.4 mm	0.5906" 15 mm

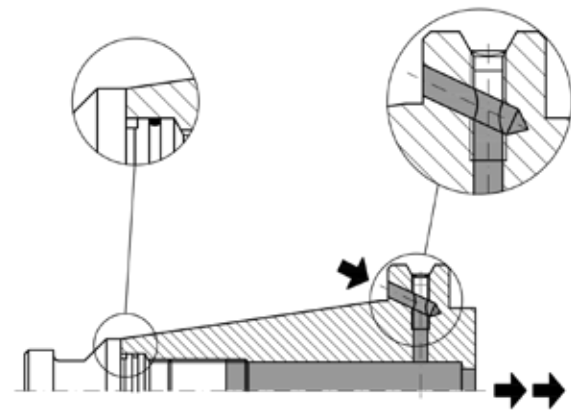
Manufactured to MAS-403-1972 standards

CAT SHANK ANSI B5.50 WITH AD & B COOLANT SYSTEMS



Form AD

Possible variation of coolant supply to DIN 69871 form AD; tightening screws will stop coolant from escaping through flange.



Form B

All Talon toolholders are preset by the factory to the form B coolant supply position. When relocating coolant position screws, use a proper hex key.

PRODUCT LOOKUP BY PART NUMBER

100TG0094	40	100TG1000	40	16ER0250	35	16ER085MS	38
100TG0109	40	11ER0062	35	16ER0250H	36	16ER090M	34
100TG0125	40	11ER0094	35	16ER0250S	39	16ER090MS	38
100TG0141	40	11ER010M	34	16ER025M	34	16ER095M	34
100TG0156	40	11ER0125	35	16ER0281	35	16ER095MS	38
100TG0172	40	11ER0156	35	16ER0281H	36	16ER100M	34
100TG0188	40	11ER015M	34	16ER0281S	39	16ER100MS	38
100TG0203	40	11ER0188	35	16ER030M	34	16ERS000M	32
100TG0219	40	11ER020M	34	16ER030MS	38	16ERS000MSS	33
100TG0234	40	11ER0219	35	16ER0312	35	16ERS000SET2	32, 57, 58, 59
100TG0250	40	11ER0250	35	16ER0312H	36	16ERS000SET2H	32
100TG0266	40	11ER025M	34	16ER0321S	39	16ERS000SET2SS	33
100TG0281	40	11ER030M	34	16ER0344	35	16ERT141	37
100TG0297	40	11ER035M	34	16ER0344H	36	16ERT168	37
100TG0312	40	11ER040M	34	16ER0344S	39	16ERT194	37
100TG0328	40	11ER045M	34	16ER035M	34	16ERT220	37
100TG0344	40	11ER050M	34	16ER035MS	38	16ERT255	37
100TG0359	40	11ER055M	34	16ER0375	35	16ERT318	37
100TG0375	40	11ER060M	34	16ER0375H	36	16ERT381	37
100TG0391	40	11ER065M	34	16ER0375S	39	20ER0094	35
100TG0406	40	11ER070M	34	16ER0406	35	20ER0094H	36
100TG0422	40	11ERS000SET2	32	16ER0406H	36	20ER010M	34
100TG0438	40	11ERS000SETM	32	16ER0406S	39	20ER0125	35
100TG0453	40	16ER0062	35	16ER040M	34	20ER0125H	36
100TG0469	40	16ER0062H	36	16ER040MS	38	20ER0125S	39
100TG0484	40	16ER0094	35	16ER045M	34	20ER0156	35
100TG0500	40	16ER0094H	36	16ER045MS	38	20ER0156H	36
100TG0516	40	16ER010M	34	16ER050M	34	20ER0156S	39
100TG0531	40	16ER0125	35	16ER050MS	38	20ER0188	35
100TG0547	40	16ER0125H	36	16ER055M	34	20ER0188H	36
100TG0562	40	16ER0125S	39	16ER055MS	38	20ER0188S	39
100TG0625	40	16ER0156	35	16ER060M	34	20ER020M	34
100TG0656	40	16ER0156H	36	16ER060MS	38	20ER0219	35
100TG0672	40	16ER0156S	39	16ER065M	34	20ER0219H	36
100TG0688	40	16ER015M	34	16ER065MS	38	20ER0219S	39
100TG0750	40	16ER0188	35	16ER070M	34	20ER0250	35
100TG0797	40	16ER0188H	36	16ER070MS	38	20ER0250H	36
100TG0812	40	16ER0188S	39	16ER075M	34	20ER0250S	39
100TG0875	40	16ER020M	34	16ER075MS	38	20ER0281	35
100TG0891	40	16ER0219	35	16ER080M	34	20ER0281H	36
100TG0906	40	16ER0219H	36	16ER080MS	38	20ER0281S	39
100TG0953	40	16ER0219S	39	16ER085M	34	20ER030M	34

PRODUCT LOOKUP BY PART NUMBER

20ER030MS	38	20ERS000M	32	25ER0344	35	25ER100M	34
20ER0312	35	20ERS000MSS	33	25ER0344H	36	25ER100MS	38
20ER0312H	36	20ERS000SET1	32, 57, 58, 59	25ER0344S	39	25ER110M	34
20ER0312S	39	20ERS000SET1H	32	25ER0375	35	25ER110MS	38
20ER0344	35	20ERS000SET1SS	33	25ER0375H	36	25ER120M	34
20ER0344H	36	20ERT141	37	25ER0375S	39	25ER120MS	38
20ER0344S	39	20ERT168	37	25ER0406	35	25ER130M	34
20ER0375	35	20ERT194	37	25ER0406H	36	25ER130MS	38
20ER0375H	36	20ERT220	37	25ER0406S	39	25ER140M	34
20ER0375S	39	20ERT255	37	25ER040M	34	25ER140MS	38
20ER0406	35	20ERT318	37	25ER040MS	38	25ER150M	34
20ER0406H	36	20ERT323	37	25ER0438	35	25ER150MS	38
20ER0406S	39	20ERT367	37	25ER0438H	36	25ER160M	34
20ER040M	34	20ERT381	37	25ER0438S	39	25ER160MS	38
20ER040MS	38	25ER0062	35	25ER0469	35	25ERS0000SET1	32
20ER0438	35	25ER0062H	36	25ER0469H	36	25ERS0000SET1H	32
20ER0438H	36	25ER0094	35	25ER0469S	39	25ERS0000SET1SS	33
20ER0438S	39	25ER0094H	36	25ER0500	35	25ERS000M	32
20ER0469	35	25ER0125	35	25ER0500H	36	25ERS000MSS	33
20ER0469H	36	25ER0125H	36	25ER0500S	39	25ERS000SET1	57, 58, 59
20ER0469S	39	25ER0125S	39	25ER050M	34	25ERT141	37
20ER0500	35	25ER0156	35	25ER050MS	38	25ERT168	37
20ER0500H	36	25ER0156H	36	25ER0531	35	25ERT194	37
20ER0500S	39	25ER0156S	39	25ER0531H	36	25ERT220	37
20ER050M	34	25ER0188	35	25ER0531S	39	25ERT255	37
20ER050MS	38	25ER0188H	36	25ER0562	35	25ERT318	37
20ER060M	34	25ER0188S	39	25ER0562H	36	25ERT323	37
20ER060MS	38	25ER020M	34	25ER0562S	39	25ERT367	37
20ER070M	34	25ER0219	35	25ER0594	35	25ERT381	37
20ER070MS	38	25ER0219H	36	25ER0594H	36	25ERT429	37
20ER080M	34	25ER0219S	39	25ER0594S	39	25ERT437	37
20ER080MS	38	25ER0250	35	25ER060M	34	25ERT480	37
20ER090M	34	25ER0250H	36	25ER060MS	38	32ER0125	35
20ER090MS	38	25ER0250S	39	25ER0625	35	32ER0125H	36
20ER100M	34	25ER0281	35	25ER0625H	36	32ER0125S	39
20ER100MS	38	25ER0281H	36	25ER0625S	39	32ER0156	35
20ER110M	34	25ER0281S	39	25ER070M	34	32ER0156H	36
20ER110MS	38	25ER030M	34	25ER070MS	38	32ER0156S	39
20ER120M	34	25ER030MS	38	25ER080M	34	32ER0188	35
20ER120MS	38	25ER0312	35	25ER080MS	38	32ER0188H	36
20ER130M	34	25ER0312H	36	25ER090M	34	32ER0188S	39
20ER130MS	38	25ER0312S	39	25ER090MS	38	32ER0219	35

PRODUCT LOOKUP BY PART NUMBER

32ER0219H	36	32ER060M	34	32ER170MS	38	40ER0219H	36
32ER0219S	39	32ER060MS	38	32ER180M	34	40ER0219S	39
32ER0250	35	32ER0625	35	32ER180MS	38	40ER0250	35
32ER0250H	36	32ER0625H	36	32ER190M	34	40ER0250H	36
32ER0250S	39	32ER0625S	39	32ER190MS	38	40ER0250S	39
32ER0281	35	32ER0656	35	32ER200M	34	40ER0281	35
32ER0281H	36	32ER0656H	36	32ER200MS	38	40ER0281H	36
32ER0281S	39	32ER0656S	39	32ERS000M	32	40ER0281S	39
32ER030M	34	32ER0688	35	32ERS000MSS	33	40ER0312	35
32ER030MS	38	32ER0688H	36	32ERS000SET1	32, 57, 58, 59	40ER0312H	36
32ER0312	35	32ER0688S	39	32ERS000SET1H	32	40ER0312S	39
32ER0312H	36	32ER070M	34	32ERS000SET1SS	33	40ER0344	35
32ER0312S	39	32ER070MS	38	32ERS000SET2	32	40ER0344H	36
32ER0344	35	32ER0719	35	32ERS000SET2H	32	40ER0344S	39
32ER0344H	36	32ER0719H	36	32ERS000SET2SS	33	40ER0375	35
32ER0344S	39	32ER0719S	39	32ERT141	37	40ER0375H	36
32ER0375	35	32ER0750	35	32ERT168	37	40ER0375S	39
32ER0375H	36	32ER0750H	36	32ERT194	37	40ER0406	35
32ER0375S	39	32ER0750S	39	32ERT220	37	40ER0406H	36
32ER0406	35	32ER0781	35	32ERT255	37	40ER0406S	39
32ER0406H	36	32ER0781H	36	32ERT318	37	40ER040M	34
32ER0406S	39	32ER0781S	39	32ERT323	37	40ER040MS	38
32ER040M	34	32ER080M	34	32ERT367	37	40ER0438	35
32ER040MS	38	32ER080MS	38	32ERT381	37	40ER0438H	36
32ER0438	35	32ER0812	35	32ERT429	37	40ER0438S	39
32ER0438H	36	32ER0812H	36	32ERT437	37	40ER0469	35
32ER0438S	39	32ER0812S	39	32ERT480	37	40ER0469H	36
32ER0469	35	32ER090M	34	32ERT542	37	40ER0469S	39
32ER0469H	36	32ER090MS	38	32ERT562	37	40ER0500	35
32ER0469S	39	32ER100M	34	32ERT590	37	40ER0500H	36
32ER0500	35	32ER100MS	38	32ERT652	37	40ER0500S	39
32ER0500H	36	32ER110M	34	4-CNF-030	56	40ER050M	34
32ER0500S	39	32ER110MS	38	4-CNF-040	56	40ER050MS	38
32ER050M	34	32ER120M	34	4-CNF-050	56	40ER0531	35
32ER050MS	38	32ER120MS	38	40ER0125	35	40ER0531H	36
32ER0531	35	32ER130M	34	40ER0125H	36	40ER0531S	39
32ER0531H	36	32ER130MS	38	40ER0125S	39	40ER0562	35
32ER0531S	39	32ER140M	34	40ER0156	35	40ER0562H	36
32ER0562	35	32ER140MS	38	40ER0156H	36	40ER0562S	39
32ER0562H	36	32ER150M	34	40ER0156S	39	40ER0594	35
32ER0562S	39	32ER150MS	38	40ER0188	35	40ER0594H	36
32ER0594	35	32ER160M	34	40ER0188H	36	40ER0594S	39
32ER0594H	36	32ER160MS	38	40ER0188S	39	40ER060M	34
32ER0594S	39	32ER170M	34	40ER0219	35	40ER060MS	38

PRODUCT LOOKUP BY PART NUMBER

40ER0625	35	40ER1000S	39	40ERT255	37	BBB2000500	50
40ER0625H	36	40ER100M	34	40ERT318	37	BBB2000625	50
40ER0625S	39	40ER100MS	38	40ERT323	37	BBB2000750	50
40ER0656	35	40ER110M	34	40ERT367	37	BBB2000875	50
40ER0656H	36	40ER110MS	38	40ERT381	37	BBB2001000	50
40ER0656S	39	40ER120M	34	40ERT429	37	BBB2001250	50
40ER0688	35	40ER120MS	38	40ERT437	37	BBB2001500	50
40ER0688H	36	40ER130M	34	40ERT480	37	BBB2001750	50
40ER0688S	39	40ER130MS	38	40ERT542	37	BBB200S	50
40ER070M	34	40ER140M	34	40ERT562	37	BBB2500500	50
40ER070MS	38	40ER140MS	38	40ERT590	37	BBB2500625	50
40ER0719	35	40ER150M	34	40ERT652	37	BBB2500750	50
40ER0719H	36	40ER150MS	38	40ERT687	37	BBB2500875	50
40ER0719S	39	40ER160M	34	40ERT697	37	BBB2501000	50
40ER0750	35	40ER160MS	38	40ERT700	37	BBB2501250	50
40ER0750H	36	40ER170M	34	40ERT760	37	BBB2501500	50
40ER0750S	39	40ER170MS	38	40ERT800	37	BBB2501750	50
40ER0781	35	40ER180M	34	BBB1000500	50	BBB2502000	50
40ER0781H	36	40ER180MS	38	BBB1000625	50	BBB2502250	50
40ER0781S	39	40ER190M	34	BBB1000750	50	BBB250S	50
40ER080M	34	40ER190MS	38	BBB100S	50	BBC0750375	51
40ER080MS	38	40ER200M	34	BBB1250375	50	BBC0750500	51
40ER0812	35	40ER200MS	38	BBB1250500	50	BBC075S	51
40ER0812H	36	40ER210M	34	BBB1250625	50	BBC1000375	51
40ER0812S	39	40ER210MS	38	BBB1250750	50	BBC1000500	51
40ER0844	35	40ER220M	34	BBB1250875	50	BBC1000625	51
40ER0844H	36	40ER220MS	38	BBB1251000	50	BBC1000750	51
40ER0844S	39	40ER230M	34	BBB125S	50	BBC100S	51
40ER0875	35	40ER230MS	38	BBB1500375	50	BBC1250375	51
40ER0875H	36	40ER240M	34	BBB1500500	50	BBC1250500	51
40ER0875S	39	40ER240MS	38	BBB1500625	50	BBC1250625	51
40ER0906	35	40ER250M	34	BBB1500750	50	BBC1250750	51
40ER0906H	36	40ER250MS	38	BBB1500875	50	BBC1250875	51
40ER0906S	39	40ER260M	34	BBB1501000	50	BBC1251000	51
40ER090M	34	40ER260MS	38	BBB1501250	50	BBC125S	51
40ER090MS	38	40ERS000M	32	BBB150S	50	BBC1500375	51
40ER0938	35	40ERS000MSS	33	BBB1750500	50	BBC1500500	51
40ER0938H	36	40ERS000SET1	32, 57, 58, 59	BBB1750625	50	BBC1500625	51
40ER0938S	39	40ERS000SET1H	32	BBB1750750	50	BBC1500750	51
40ER0969	35	40ERS000SET1SS	33	BBB1750875	50	BBC1500875	51
40ER0969H	36	40ERT141	37	BBB1751000	50	BBC1501000	51
40ER0969S	39	40ERT168	37	BBB1751250	50	BBC1501250	51
40ER1000	35	40ERT194	37	BBB1751500	50	BBC150S	51
40ER1000H	36	40ERT220	37	BBB175S	50	BBC1750500	51

PRODUCT LOOKUP BY PART NUMBER

BBC1750625	51	BBD175S	53	BBJ1251000	54	BBV1250750	52
BBC1750750	51	BBD2000500	53	BBJ125S	54	BBV1250875	52
BBC1750875	51	BBD2000625	53	BBJ1500375	54	BBV1251000	52
BBC1751000	51	BBD2000750	53	BBJ1500500	54	BBV125S	52
BBC1751250	51	BBD2000875	53	BBJ1500625	54	BBV1500250	52
BBC1751500	51	BBD2001000	53	BBJ1500750	54	BBV1500375	52
BBC175S	51	BBD2001250	53	BBJ1500875	54	BBV1500500	52
BBC2000500	51	BBD2001500	53	BBJ1501000	54	BBV1500625	52
BBC2000625	51	BBD2001750	53	BBJ1501250	54	BBV1500750	52
BBC2000750	51	BBD200S	53	BBJ150S	54	BBV1500875	52
BBC2000875	51	BBD2500750	53	BBJ1750500	54	BBV1501000	52
BBC2001000	51	BBD2500875	53	BBJ1750625	54	BBV1501250	52
BBC2001250	51	BBD2501000	53	BBJ1750750	54	BBV150S	52
BBC2001500	51	BBD2501250	53	BBJ1750875	54	BBZ1250375	55
BBC2001750	51	BBD2501500	53	BBJ1751000	54	BBZ1250500	55
BBC200S	51	BBD2501750	53	BBJ1751250	54	BBZ1250625	55
BBC2500500	51	BBD2502000	53	BBJ1751500	54	BBZ1250750	55
BBC2500625	51	BBD2502250	53	BBJ175S	54	BBZ1250875	55
BBC2500750	51	BBD250S	53	BBJ2000500	54	BBZ1251000	55
BBC2500875	51	BBD3001000	53	BBJ2000625	54	BBZ125S	55
BBC2501000	51	BBD3001250	53	BBJ2000750	54	BBZ1500375	55
BBC2501250	51	BBD3001500	53	BBJ2000875	54	BBZ1500500	55
BBC2501500	51	BBD3001750	53	BBJ2001000	54	BBZ1500625	55
BBC2501750	51	BBD3002000	53	BBJ2001250	54	BBZ1500750	55
BBC2502000	51	BBD3002250	53	BBJ2001500	54	BBZ1500875	55
BBC2502250	51	BBD300S	53	BBJ2001750	54	BBZ1501000	55
BBC250S	51	BBD3501500	53	BBJ200S	54	BBZ1501250	55
BBD1500375	53	BBD3501750	53	BBJ2500500	54	BBZ150S	55
BBD1500500	53	BBD3502000	53	BBJ2500625	54	BBZ1750500	55
BBD1500625	53	BBD3502250	53	BBJ2500750	54	BBZ1750625	55
BBD1500750	53	BBD3502500	53	BBJ2500875	54	BBZ1750750	55
BBD1500875	53	BBD3503000	53	BBJ2501000	54	BBZ1751000	55
BBD1501000	53	BBD350S	53	BBJ2501250	54	BBZ1751250	55
BBD1501250	53	BBJ1000500	54	BBJ2501500	54	BBZ175S	55
BBD150S	53	BBJ1000625	54	BBJ2501750	54	BBZ2000500	55
BBD1750500	53	BBJ1000750	54	BBJ2502000	54	BBZ2000750	55
BBD1750625	53	BBJ100S	54	BBJ2502250	54	BBZ2000875	55
BBD1750750	53	BBJ1250375	54	BBJ250S	54	BBZ2001000	55
BBD1750875	53	BBJ1250500	54	BBV1250250	52	BBZ2001250	55
BBD1751000	53	BBJ1250625	54	BBV1250375	52	BBZ2001500	55
BBD1751250	53	BBJ1250750	54	BBV1250500	52	BBZ200S	55
BBD1751500	53	BBJ1250875	54	BBV1250625	52	BT30EM012236	25

PRODUCT LOOKUP BY PART NUMBER

BT30EM018236	25	BT40JT3318	26	BT50SM200400	29	CV40EM125625N	13
BT30EM025236	25	BT40JT4118	26	BT50TG100090M	23	CV40EM125800N	13
BT30EM031236	25	BT40JT6118	26	BT50TG100150M	23	CV40EM150462N	13
BT30EM038236	25	BT40MT1050M	27	BT50TG150100M	23	CV40EM150662N	13
BT30EM050236	25	BT40MT2050M	27	CV40BB4001200	16	CV40EM150800N	13
BT30EM062236	25	BT40MT3070M	27	CV40BB400600	16	CV40ER11250N	6
BT30EM075236	25	BT40MT4095M	27	CV40DA188300	9	CV40ER11400N	6
BT30ER16060M	21	BT40SER32035M	22	CV40DA188600	9	CV40ER11600N	6
BT30ER20060M	21	BT40SM050177	28	CV40DA208300	9	CV40ER16250N	6, 57, 58
BT30ER25060M	21	BT40SM075177	28	CV40DA208500	9	CV40ER16400N	6, 57
BT30ER32070M	21	BT40SM100177	28	CV40DC13M421	17	CV40ER16500N	6
BT30SM050118	28	BT40SM125236	28	CV40EM012450N	13	CV40ER16600N	6
BT30SM075118	28	BT40SM150236	28	CV40EM018250N	13	CV40ER16800N	6
BT30SM100177	28	BT40TG075070M	23	CV40EM018450N	13	CV40ER20250N	6, 57, 58
BT30TGO75075M	23	BT40TG100080M	23	CV40EM018600N	13	CV40ER20400N	6, 57
BT40DA188070M	24	BT40TG100100M	23	CV40EM025250N	13, 58	CV40ER20600N	6
BT40DA188100M	24	BT40TG100150M	23	CV40EM025450N	13	CV40ER20800N	6
BT40DC13096M	26	BT50DC13096M	26	CV40EM025600N	13	CV40ER25250N	6, 57, 58
BT40EM025255	25	BT50EM050295	25	CV40EM025800N	13	CV40ER25400N	6, 57
BT40EM031255	25	BT50EM075295	25	CV40EM031450N	13	CV40ER25600N	6
BT40EM038255	25	BT50EM100413	25	CV40EM031600N	13	CV40ER25800N	6
BT40EM050255	25	BT50EM100600	25	CV40EM038250N	13, 58	CV40ER32275N	6, 57, 58
BT40EM050400	25	BT50EM125413	25	CV40EM038450N	13	CV40ER32400N	6, 57
BT40EM062255	25	BT50EM125600	25	CV40EM038650N	13	CV40ER32600N	6
BT40EM075150	25	BT50EM150413	25	CV40EM038800N	13	CV40ER32800N	6
BT40EM075236	25	BT50EM200531	25	CV40EM044450N	13	CV40ER40300N	6, 57, 58
BT40EM075255	25	BT50ER16100M	21	CV40EM050262N	13, 56	CV40ER40600N	6, 57
BT40EM088335	25	BT50ER16150M	21	CV40EM050462N	13	CV40ER40800N	6
BT40EM100162	25	BT50ER32070M	21	CV40EM050662N	13	CV40JT2157A	20
BT40EM100374	25	BT50ER40080M	21	CV40EM050800N	13	CV40JT2244	20
BT40EM100500	25	BT50MT1045M	27	CV40EM062375N	13	CV40JT3157A	20
BT40EM125335	25	BT50MT3065M	27	CV40EM062575N	13	CV40JT3278	20
BT40ER16120M	21	BT50MT4095M	27	CV40EM062800N	13	CV40JT33157A	20
BT40ER20100M	21	BT50MT5105M	27	CV40EM075375N	13	CV40JT33256	20
BT40ER25070M	21	BT50SM075177	29	CV40EM075575N	13	CV40JT4157A	20
BT40ER25120M	21	BT50SM075400	29	CV40EM075800N	13	CV40JT4244	20
BT40ER32070M	21	BT50SM100177	29	CV40EM088400N	13	CV40JT6157A	20
BT40ER32120M	21	BT50SM100400	29	CV40EM088600N	13	CV40JT6244	20
BT40ER40080M	21	BT50SM125400	29	CV40EM100400N	13	CV40MT1175	16
BT40ER40120M	21	BT50SM150177	29	CV40EM100600N	13	CV40MT2244	16
BT40JT2244	26	BT50SM150400	29	CV40EM100800N	13	CV40MT3300	16
BT40JT33045M	26	BT50SM200236	29	CV40EM125425N	13	CV40MT4388	16

PRODUCT LOOKUP BY PART NUMBER

CV40SER32169	8	CV50EM025250N	15	CV50ER321200N	7	CV50TG075579G	11
CV40SM050138	18	CV50EM025450N	15	CV50ER32400N	7, 57, 59	CV50TG075600	11
CV40SM075138	18, 58	CV50EM025600N	15	CV50ER32600N	7, 57	CV50TG100300	11
CV40SM075350	18	CV50EM031450N	15	CV50ER32800N	7	CV50TG100326G	11
CV40SM100206	18, 58	CV50EM038250N	15, 59	CV50ER40400N	7, 57, 59	CV50TG100400	11
CV40SM100400	18	CV50EM038450N	15	CV50ER40600N	7, 57	CV50TG100600	11
CV40SM125212	18	CV50EM038650N	15	CV50ER40800N	7	CV50TG150488	11
CV40SM125400	18	CV50EM038800N	15	CV50JT2157A	20	CV50TG75800G	11
CV40SM150241	18	CV50EM044450N	15	CV50JT2244	20	DC-100-0250J2	44
CV40SM150400	18	CV50EM050262N	15, 59	CV50JT3157A	20	DC-100-0375J2	44
CV40TG075254G	10	CV50EM050462N	15	CV50JT3278	20	DC-100-0500J3	44
CV40TG075275	10	CV50EM050662N	15	CV50JT33157A	20	DC-100-0500J33	44
CV40TG075579G	10	CV50EM050800N	15	CV50JT33256	20	DC-100-0500J6	44
CV40TG075600	10	CV50EM062375N	15, 59	CV50JT4157A	20	DC-100-0625J3	44
CV40TG075800G	10	CV50EM062575N	15	CV50JT4325	20	DC-100-0625SJ3	44
CV40TG100276G	10	CV50EM062800N	15	CV50JT5157A	20	DC-100-0750J3	44
CV40TG100300	10	CV50EM075375N	15, 59	CV50JT5325	20	DC-100-0750J4	44
CV40TG100376G	10	CV50EM075575N	15	CV50JT6157A	20	DC-100-1000J5	44
CV40TG100400	10	CV50EM075800N	15	CV50MT1175	16	DC-200-0375J2	45
CV40TG100576G	10	CV50EM088400N	15	CV50MT2200	16	DC-200-0375TH	45
CV40TG100600	10	CV50EM088600N	15	CV50MT3250	16	DC-200-0500J2	45
CV40TG150488	10	CV50EM100400N	15, 59	CV50MT4388	16	DC-200-0500J33	45
CV40ZEM012138N	13	CV50EM100600N	15	CV50MT5375	16	DC-200-0500J6	45
CV40ZEM018138N	13	CV50EM100800N	15	CV50SER32169	8	DC-200-0625J3	45
CV40ZEM025138N	13	CV50EM125425N	15, 59	CV50SM050138	19	DC-200-0750J3	45
CV40ZEM031138N	13	CV50EM125625N	15	CV50SM050350	19	DC-200-0750J4	45
CV40ZEM038138N	13	CV50EM125800N	15	CV50SM075138	19	DC-400-0250J1	47
CV40ZEM044175N	13	CV50EM150462N	15	CV50SM075350	19	DC-400-0375J2	47
CV40ZEM050175N	13	CV50EM150662N	15	CV50SM075600	19	DC-400-0500J2	47
CV40ZEM062175N	13, 58	CV50EM150800N	15	CV50SM100206	19, 59	DC-400-0500J33	47
CV40ZEM075175N	13, 58	CV50EM200562N	15	CV50SM100400	19	DC-400-0500J6	47
CV40ZEM088175N	13	CV50EM200800N	15	CV50SM100600	19	DC-400-0625J6	47
CV40ZEM100175N	13, 58	CV50ER161200N	7	CV50SM125212	19, 59	DC-400-0750J3	47
CV40ZEM125200N	13	CV50ER16400N	7, 57, 59	CV50SM125400	19	DC-500-0250J1	46
CV50BB400120	16	CV50ER16600N	7, 57	CV50SM125600	19	DC-500-0375J2	46
CV50BB400600	16	CV50ER16800N	7	CV50SM150241	19	DC-500-0375J33	46
CV50BB600600	16	CV50ER20400N	7, 57, 59	CV50SM150400	19	DC-500-0500J2	46
CV50DA188300	9	CV50ER20600N	7, 57	CV50SM150600	19	DC-500-0500J33	46
CV50DA188600	9	CV50ER20800N	7	CV50SM200240	19	DC-500-0500J6	46
CV50DC13M421	17	CV50ER25400N	7, 57, 59	CV50TG0751000G	11	DC-500-0625J6	46
CV50EM018250N	15	CV50ER25600N	7, 57	CV50TG075254G	11	DC-500-0750J3	46
CV50EM018450N	15	CV50ER25800N	7	CV50TG075275	11	DC-700-0125J0	46

PRODUCT LOOKUP BY PART NUMBER

DC-700-0156J1	46	DCA-MT2JT3	43	ER40WM	8, 11, 22, 58, 59	R8EM125306	41
DC-700-0250J1	46	DCA-MT2JT33	43	HSW80M	11	R8SM050102	41
DC-700-0312J2	46	DCA-MT2JT4	43	LC-100-001	48	R8SM075102	41
DC-700-0375J2	46	DCA-MT2JT6	43	LC-100-002	48	R8SM100102	41
DC-700-0375J33	46	DCA-MT3JT1	43	LC-100-002K	48	R8SM125102	41
DC-700-0500J2	46	DCA-MT3JT2	43	LC-100-003	48	R8SM150175	41
DC-700-0500J33	46	DCA-MT3JT3	43	LC-100-003K	48	RK30BT1M	30
DC-700-0500J6	46	DCA-MT3JT33	43	LC-100-004	48	RK30BT2M	30
DC-700-0625J6	46	DCA-MT3JT4	43	LC-100-004K	48	RK31114	30
DC-700-0750J3	46	DCA-MT3JT5	43	LC-100-005	48	RK31114A	30
DCA-1000JT3	42	DCA-MT3JT6	43	LC-100-005K	48	RK31114B	30
DCA-1000JT33	42	DCA-MT4JT2	43	LC-100-006	48	RK31114H	30
DCA-1000JT4	42	DCA-MT4JT3	43	LC-101-001	49	RK31118	30
DCA-1000JT6	42	DCA-MT4JT33	43	LC-101-002	49	RK31118B	30
DCA-500JT0	42	DCA-MT4JT4	43	LC-101-003	49	RK31118H	30
DCA-500JT1	42	DCA-MT4JT5	43	LC-101-004	49	RK40BT1M	30
DCA-500JT2	42	DCA-MT4JT6	43	LC-101-005	49	RK40BT2M	30
DCA-500JT33	42	DCA-MT5JT3	43	LC-101-006	49	RK40BT3M	30
DCA-500JT3	42	DCA-MT5JT4	43	LC-102-002	49	RK40CV	30
DCA-500JT4	42	DCA-R8JT1	42	LC-102-003	49	RK50BT1M	30
DCA-500JT6	42	DCA-R8JT2	42	LC-102-004	49	RK50BT2M	30
DCA-625JT1	42	DCA-R8JT3	42	LC-102-005	49	RK50BT3M	30
DCA-625JT2	42	DCA-R8JT33	42	LC-102-006	49	RK50CV	30
DCA-625JT3	42	DCA-R8JT4	42	OEW050	31	SS050DA304681	31
DCA-625JT33	42	DCA-R8JT6	42	OEW075	31	SS050ER11700	31
DCA-625JT6	42	DKP-06T	47	OEW094	31	SS075DA204712	31
DCA-750JT2	42	DKP-10T	47	OEW100	9	SS075ER16700	31
DCA-750JT3	42	DKP-13T	47	OEW119	31	SS075ER32600	31
DCA-750JT33	42	DKP-16T	47	OEW150	9	SS100DA104731	31
DCA-750JT4	42	DKP-20T	47	OEW188	11	SS100ER20700	31
DCA-750JT6	42	DKP-25T	47	OEW20M	8, 22	SS100ER25750	31
DCA-MT1JT0	43	DKS-10S	47	OEW225	11	SS100ER32750	31
DCA-MT1JT1	43	DKS-13S	47	OEW25M	8, 22, 58, 59	SS100ER40238	31
DCA-MT1JT2	43	ER11WEM	31	OEW30M	8, 22, 58, 59	SS100ER40700	31
DCA-MT1JT33	43	ER16U	8, 22	OEW36M	8, 22	SS125DA184738	31
DCA-MT1JT6	43	ER16WEM	31	R8EM018112	41	SS125ER32275	31
DCA-MT20375	43	ER20U	8, 22	R8EM038100	41	SS125ER32590	31
DCA-MT20500	43	ER25U	8, 22	R8EM050122	41	SS125ER40238	31
DCA-MT20625	43	ER25WM	8, 22, 58, 59	R8EM062150	41	SS125ER40700	31
DCA-MT2JT0	43	ER32U	8, 22	R8EM075262	41		
DCA-MT2JT1	43	ER32WM	8, 11, 22, 58, 59	R8EM088306	41		
DCA-MT2JT2	43	ER40U	8, 22	R8EM100306	41		

TERMS & CONDITIONS

Terms

Net 30 subject to credit approval

Minimum Order

\$50.00 net

Pricing

Subject to change without notice

Delivery

All deliveries are F.O.B. Global Tooling Solutions warehouse

Returns

A Return Authorization Number (RMA#) is required prior to returning any product to GTS.

New product returns must be made within 30 days of original shipment.

C.O.D. returns cannot be accepted at our facility, so please do not ship returns C.O.D. as they will be refused.

Please follow these FIVE simple steps:

1. Enclose a copy of the RMA you received from us, with your return.
2. Enclose a copy of the original invoice, or packing slip, with your return.
3. Enclose any manuals and/or certifications that came with the product you are returning.
4. Pack returns in original packaging.
5. Pack well to avoid damage.

Failure to adhere to these requirements can result in the rejection of the return or credit reduction. All other returns are subject to a 15% restocking fee with a minimum fee of \$8.00.

Shipping Errors

Any shortages or discrepancies in shipment must be reported within 48 hours of receipt.

Damaged Shipments

Inspect all merchandise while the driver is present and make notes of visible damages and discrepancies. Contact your local office for UPS, FedEx, and truck shipments and file a report immediately. Keep all damaged goods in the original packaging for inspection. Do not discard any packing materials. Failure to take these actions may waive your claim. Notify us as we will be glad to assist you with your claim.

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