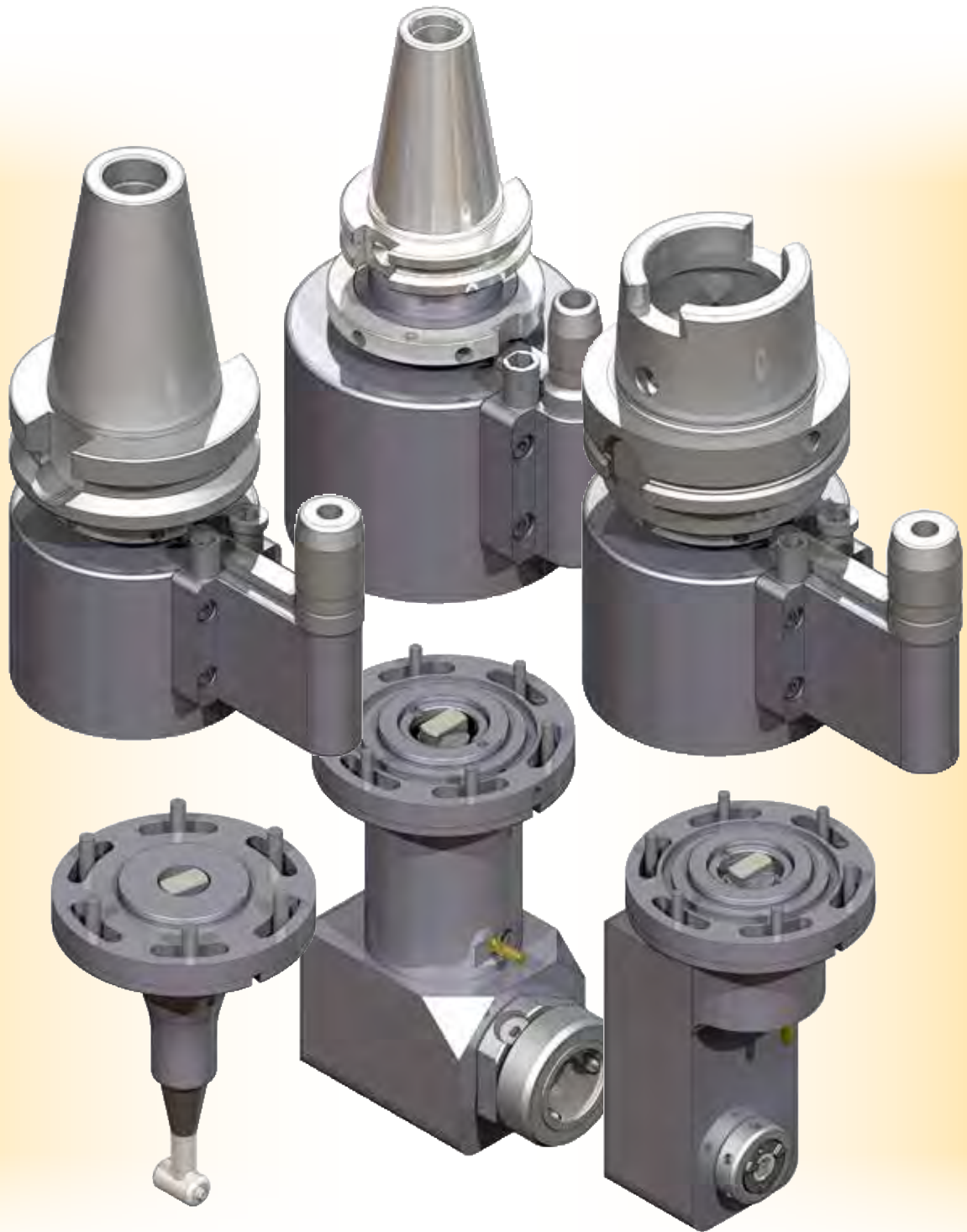
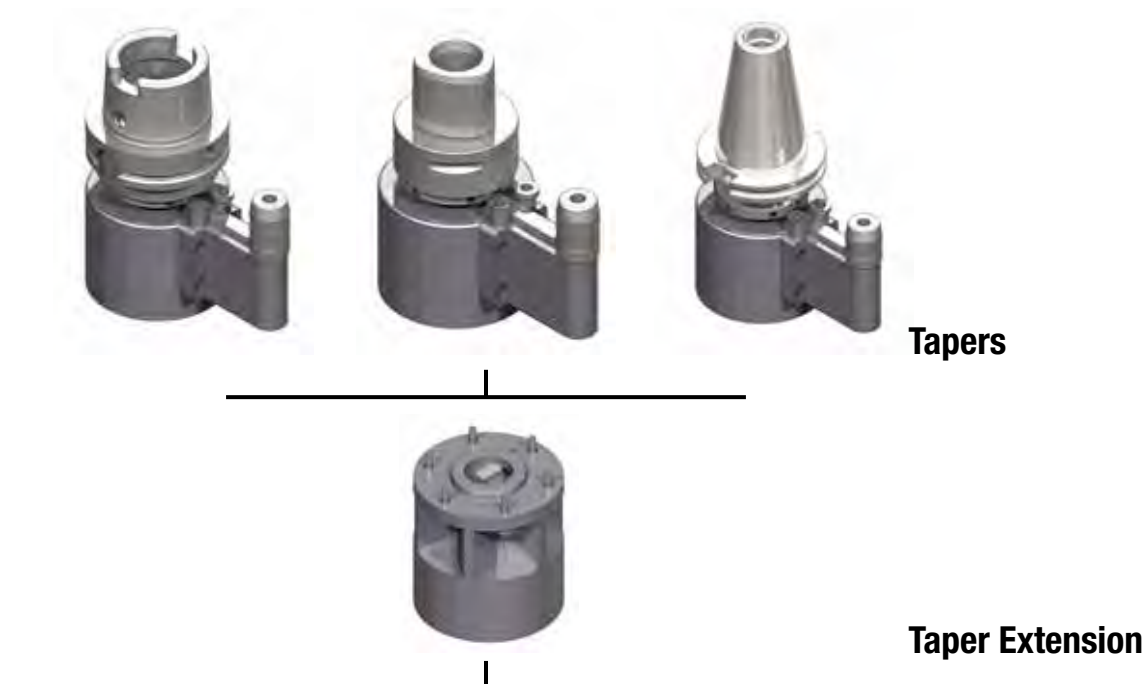




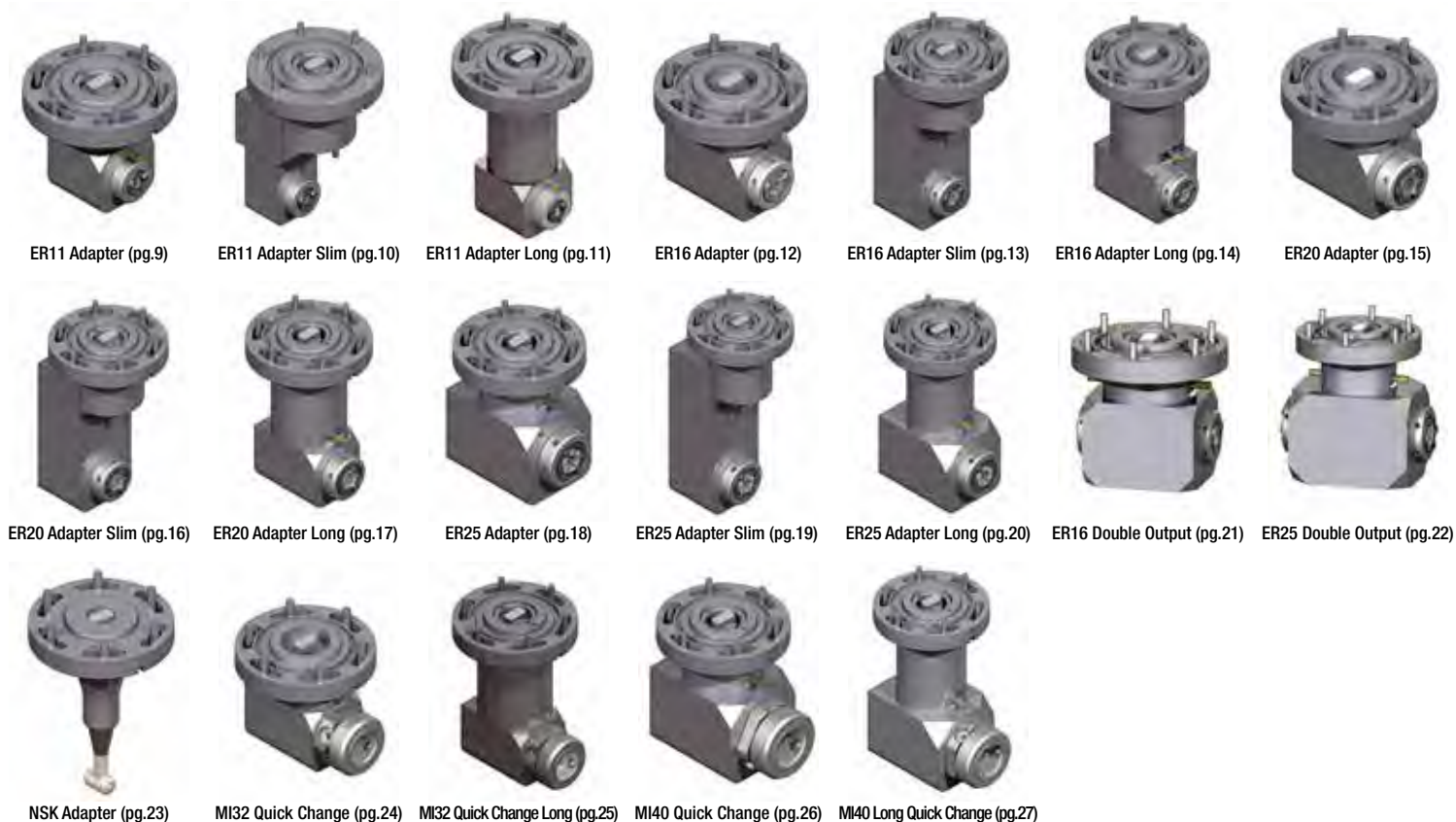
MODULAR ANGLE HEAD CATALOG



Modular Angle Head System - FOR EVERY APPLICATION!



Modular Attachments



Modular Angle Head System Features

- Flexible for a multitude of applications
- Adaptable with a wide variety of machine tapers
- Bolt Style mounting system for added rigidity
- Very cost effective when a variety of angle heads are required
- 360 degree body and head rotation
- Tapered positioning pin for alignment accuracy

Modular Attachment Features

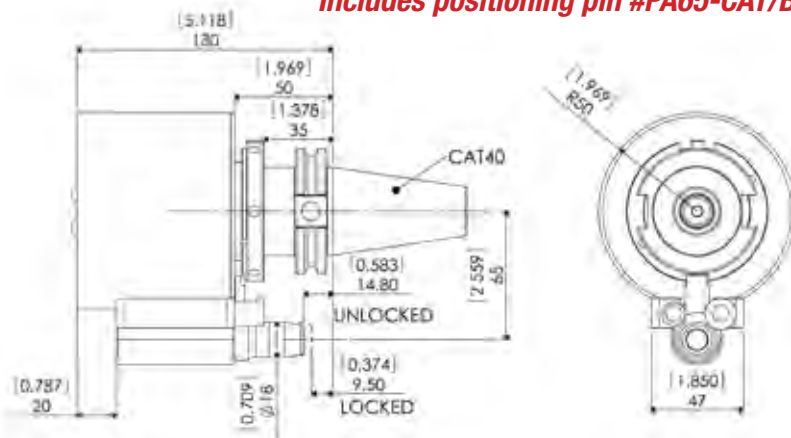
- Slim styles for inner bore work
- Stubby styles for added milling rigidity
- Extended Length style for added reach
- Quick Change system for operations involving multiple tools
- Double output style eliminates the necessity for two heads
- NSK output for small internal engraving and light duty milling

Tapers

CAT40

Part # C40-MRAM

Includes positioning pin #PA65-CAT/BT



Extensions are also available, please see page 8.

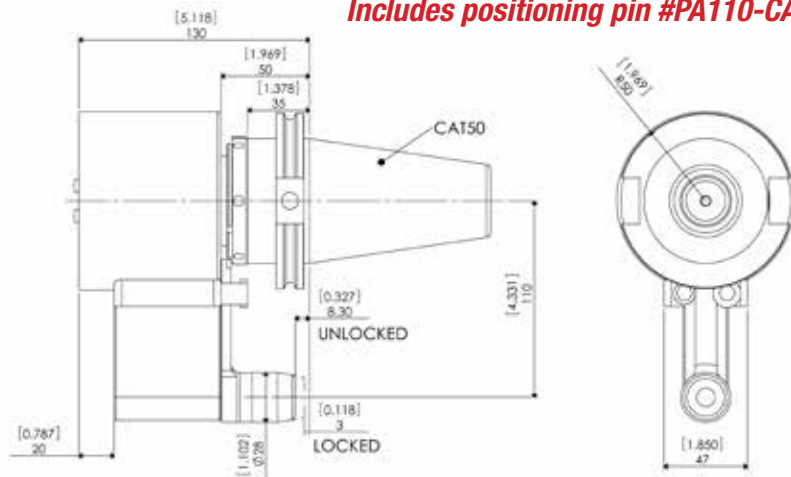


- 65mm (2.56") pitch positioning pin with 9.5mm (.374") below gage line is standard (Part #PA65-CAT/BT).
- 65mm (2.56") pitch positioning pin available in different lengths upon request.

CAT50

Part # C50-MRAM

Includes positioning pin #PA110-CAT



Extensions are also available, please see page 8.



- 110mm (4.33") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA110-CAT).
- 110mm (4.33") pitch positioning pin available in different lengths upon request.
- For spindles requiring 80mm pitch:**
- 80mm (3.15") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA80-CAT).
- 80mm (3.15") pitch positioning pin available in different lengths upon request.

Tapers

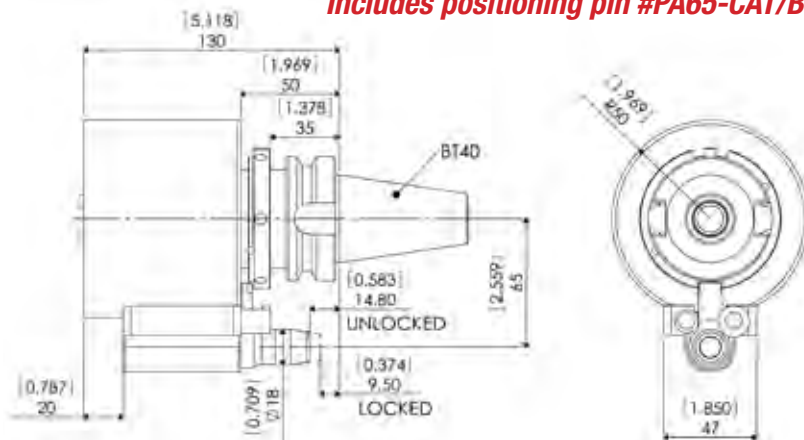
BT40



*Extensions are also available,
please see page 8.*

Part # B40-MRAM

Includes positioning pin #PA65-CAT/BT



- 65mm (2.56") pitch positioning pin with 9.5mm (.374") below gage line is standard (Part #PA65-CAT/BT).
- 65mm (2.56") pitch positioning pin available in different lengths upon request.

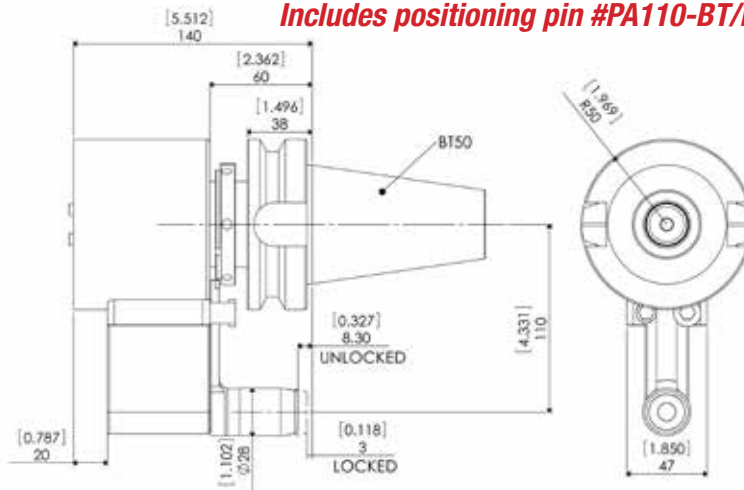
BT50



*Extensions are also available,
please see page 8.*

Part # B50-MRAM

Includes positioning pin #PA110-BT/HSK



- 110mm (4.33") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA110-BT/HSK).
- 110mm (4.33") pitch positioning pin available in different lengths upon request.
- For spindles requiring 80mm pitch:**
- 80mm (3.15") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA80-BT/HSK).
- 80mm (3.15") pitch positioning pin available in different lengths upon request.

Tapers

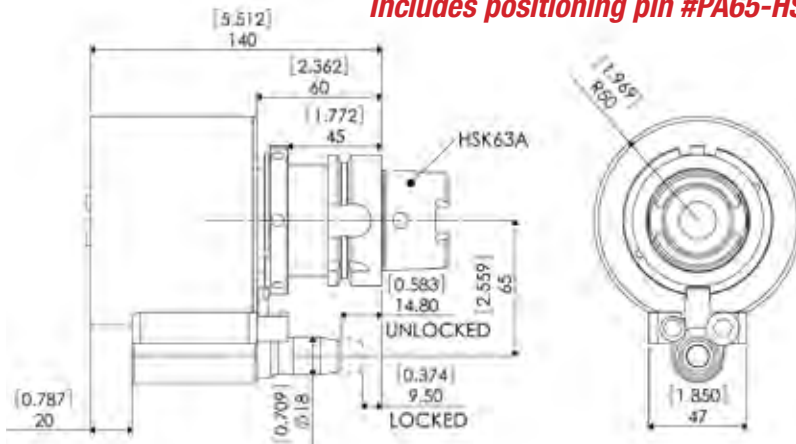
HSK63A



*Extensions are also available,
please see page 8.*

Part # H63A-MRAM

Includes positioning pin #PA65-HSK



- 65mm (2.56") pitch positioning pin with 9.5mm (.374") below gage line is standard (Part #PA65-HSK).
- 65mm (2.56") pitch positioning pin available in different lengths upon request.

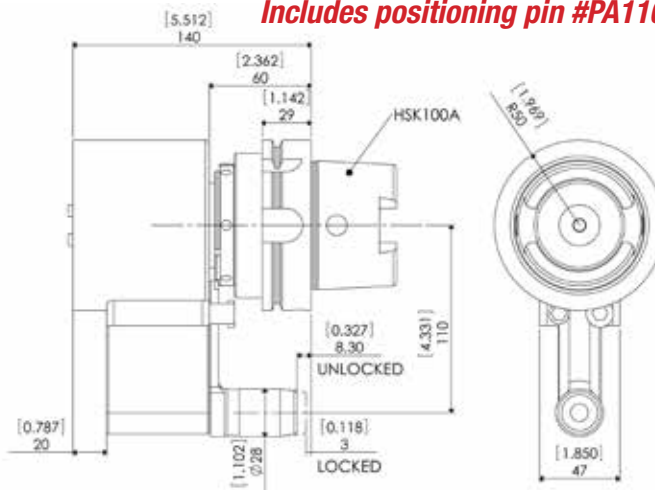
HSK100A



*Extensions are also available,
please see page 8.*

Part # H100A-MRAM

Includes positioning pin #PA110-BT/HSK



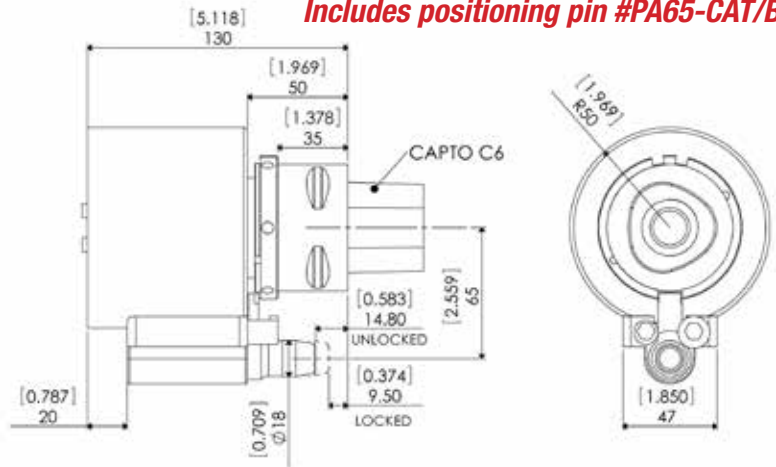
- 110mm (4.33") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA110-BT/HSK).
- 110mm (4.33") pitch positioning pin available in different lengths upon request.
- For spindles requiring 80mm pitch:**
- 80mm (3.15") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA80-BT/HSK).
- 80mm (3.15") pitch positioning pin available in different lengths upon request.

Tapers

CAPTO C6

Part # C6-MRAM

Includes positioning pin #PA65-CAT/BT



Extensions are also available, please see page 8.

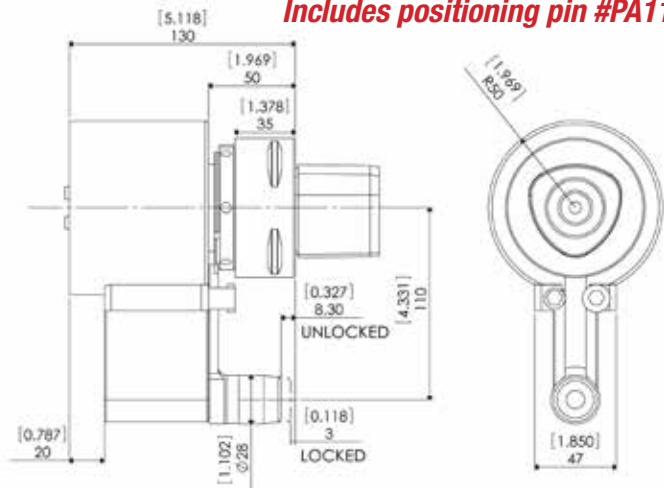


- 65mm (2.56") pitch positioning pin with 9.5mm (.374") below gage line is standard (Part #PA65-CAT/BT).
- 65mm (2.56") pitch positioning pin available in different lengths upon request.

CAPTO C8

Part # C8-MRAM

Includes positioning pin #PA110-CAT



Extensions are also available, please see page 8.



- 110mm (4.33") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA110-CAT).
- 110mm (4.33") pitch positioning pin available in different lengths upon request.
- For spindles requiring 80mm pitch:**
 - 80mm (3.15") pitch positioning pin with 3mm (.118") below gage line is standard (Part #PA80-CAT).
 - 80mm (3.15") pitch positioning pin available in different lengths upon request.

Tapers

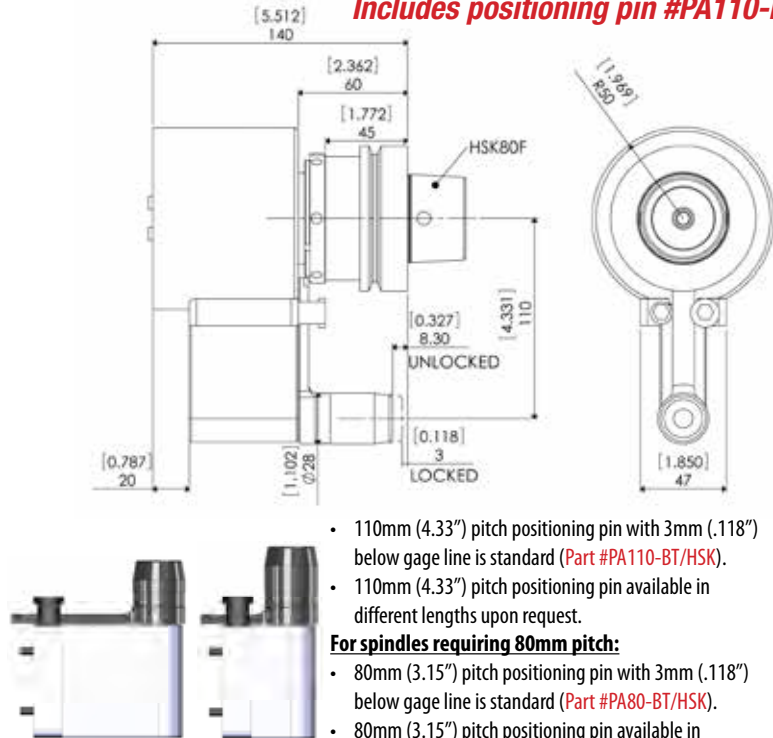
HSK80F

*Makino pin
type available
upon request.*



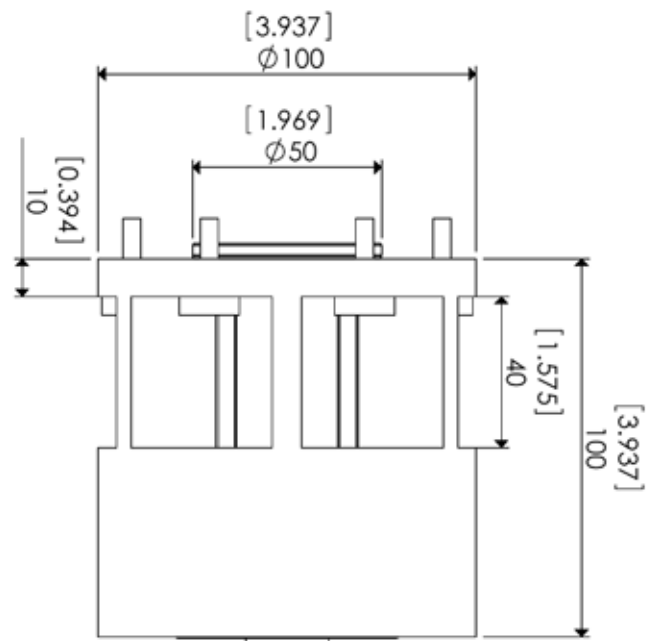
Part # H80F-MRAM

Includes positioning pin #PA110-BT/HSK



TAPER EXTENSION

Part # MRAM-EXT-100



Modular Attachment - ER11 Adapter - LN Part #MRAM-ER11



Features

- 7000 RPM
- 3 Nm Torque Capable
- .019" to .275" range capable
- Recessed ER11 Nut for added clearance
- Short design makes this ideal for light milling and drilling applications
- External Coolant standard, Internal Coolant available
- Wrenches included:

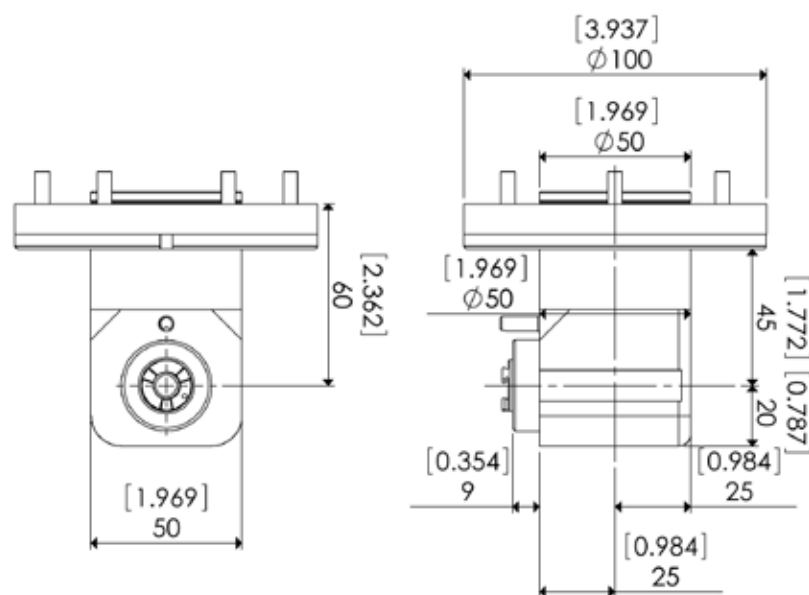
Part# 107557 Part# WRENCH-MIM-112912



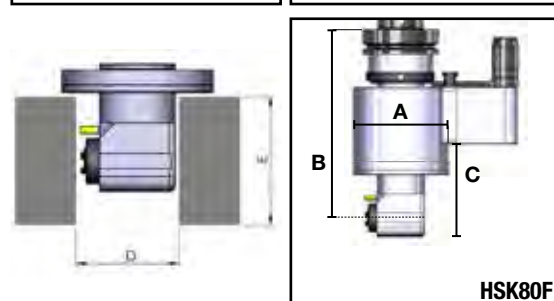
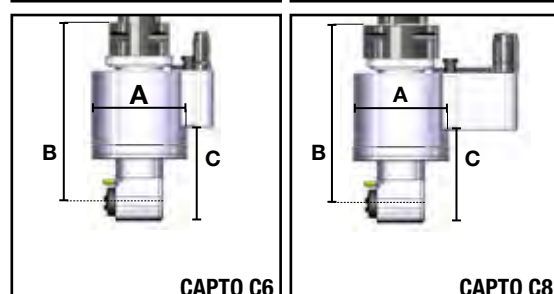
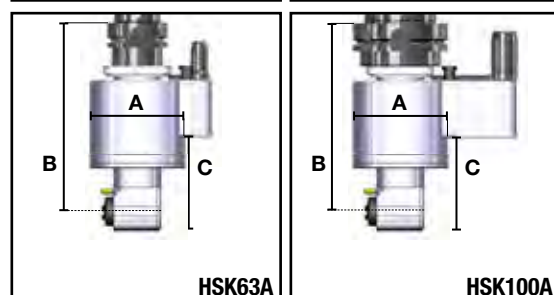
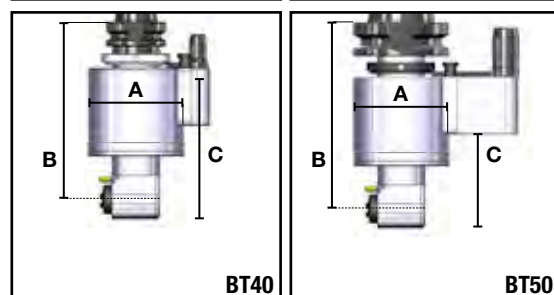
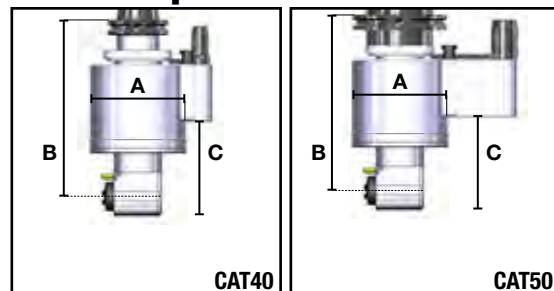
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	190 (7.48")	100 (3.94")	72 (2.83")	65 (2.56")	5.2 (11.5 lbs)
CAT50						7.6 (16.8 lbs)
BT40						5.7 (12.6 lbs)
BT50						8.6 (19.0 lbs)
HSK63A		200 (7.87")				5.4 (11.9 lbs)
HSK100A						7.5 (16.5 lbs)
CAPTO C6						5.6 (12.3 lbs)
CAPTO C8		190 (7.48")				6.7 (14.8 lbs)
HSK80F		200 (7.87")				6.4 (14.1 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 32

Modular Attachment - Slim Type ER11 Adapter - LN Part #MRAM-ER11ST



Features

- 7000 RPM
- 3 Nm Torque Capable
- .019" to .275" range capable
- Recessed ER11 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight spaces
- External Coolant as standard, Internal Coolant available
- Wrenches included:

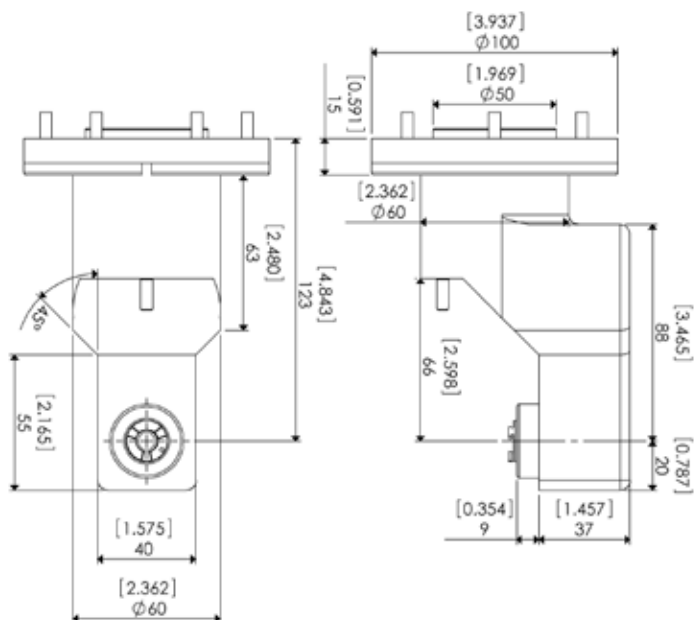
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Spindle Wrench



Collet Nut Wrench

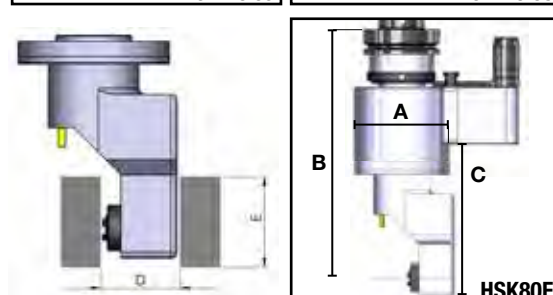
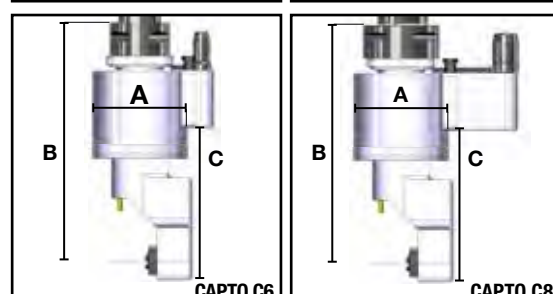
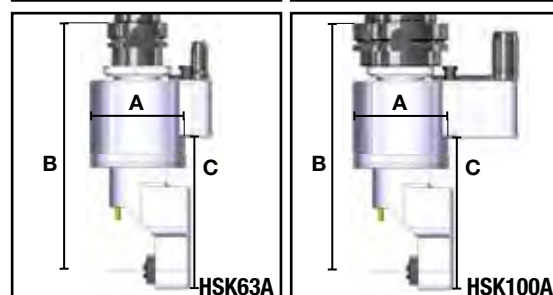
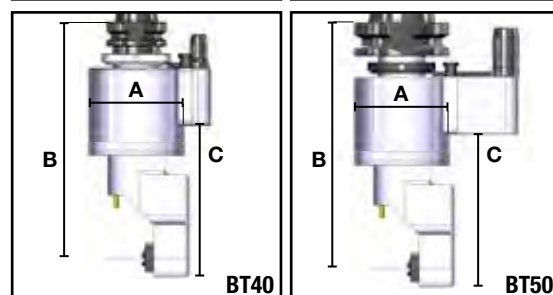
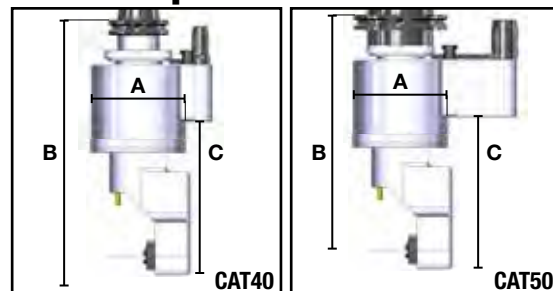


General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	253 (9.96")	163 (6.42")	57 (2.24")	55 (2.17")	5.7 (12.6 lbs)
CAT50						8.1 (17.9 lbs)
BT40						6.2 (13.7 lbs)
BT50		9.1 (20.1 lbs)				
HSK63A		263 (10.35")				5.9 (13.0 lbs)
HSK100A						8.0 (17.6 lbs)
CAPTO C6						6.1 (13.4 lbs)
CAPTO C8		253 (9.96")				7.2 (15.9 lbs)
HSK80F		263 (10.35")				6.9 (15.2 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

General Taper Reference



For ER Collets please see page 32

Modular Attachment - ER11 Adapter Long- LN Part #MRAM-ER11L



Features

- 7000 RPM
- 3 Nm Torque Capable
- .019" to .275" range capable
- Recessed ER11 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight spaces
- External Coolant as standard, Internal Coolant available
- Wrenches included:

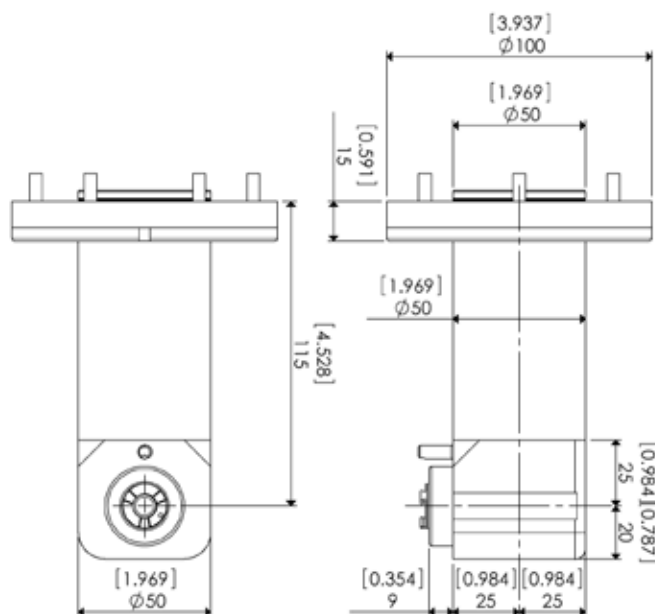
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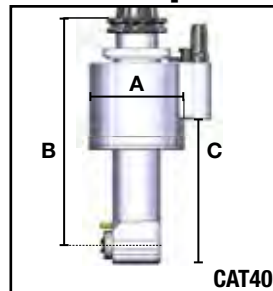
Spindle Wrench



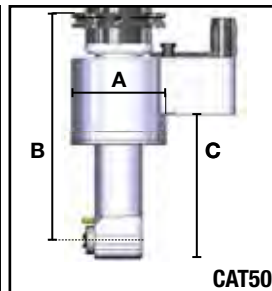
Collet Nut Wrench



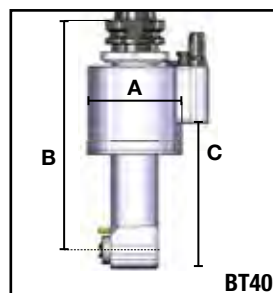
General Taper Reference



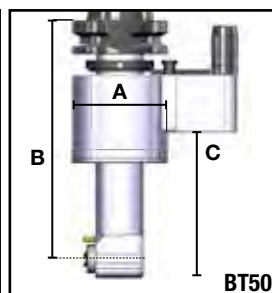
CAT40



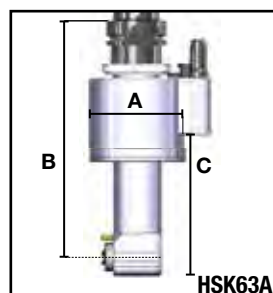
CAT50



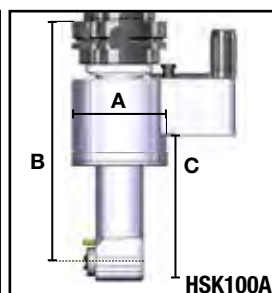
BT40



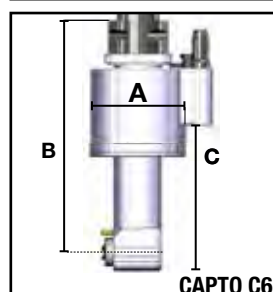
BT50



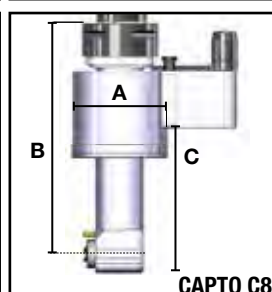
HSK63A



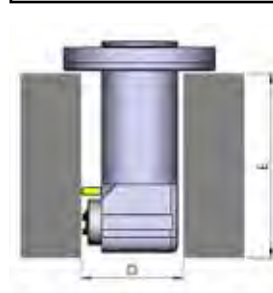
HSK100A



CAPTO C6



CAPTO C8



HSK80F

General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	245 (9.65")	155 (6.10")	72 (2.83")	120 (4.72")	5.5 (12.1 lbs)
CAT50						7.9 (17.4 lbs)
BT40						6.0 (13.2 lbs)
BT50		8.9 (19.6 lbs)				
HSK63A		255 (10.04")				5.7 (12.6 lbs)
HSK100A						7.8 (17.2 lbs)
CAPTO C6						5.9 (13.0 lbs)
CAPTO C8		245 (9.65")				7.0 (15.4 lbs)
HSK80F		255 (10.04")				6.7 (14.8 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 32

Modular Attachment - ER16 Adapter - LN Part #MRAM-ER16



Features

- 6000 RPM
- 10 Nm Torque Capable
- .039" to .393" range capable
- Recessed ER16 Nut for added clearance
- Short design makes this ideal for milling and drilling applications
- External Coolant as standard, Internal Coolant available
- Wrenches included:

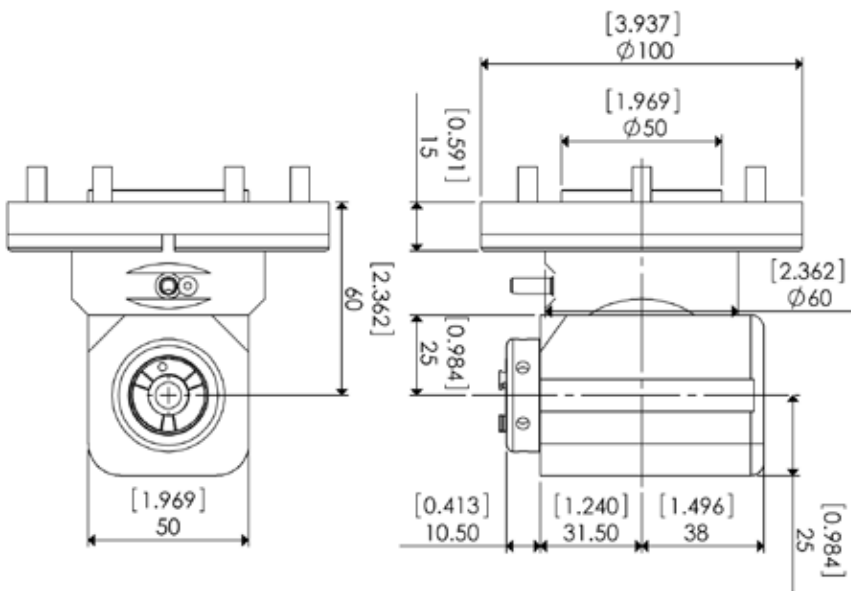
Part# 107557 Part# WRENCH-MIM-112954



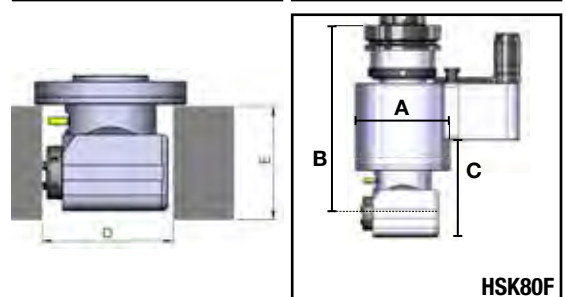
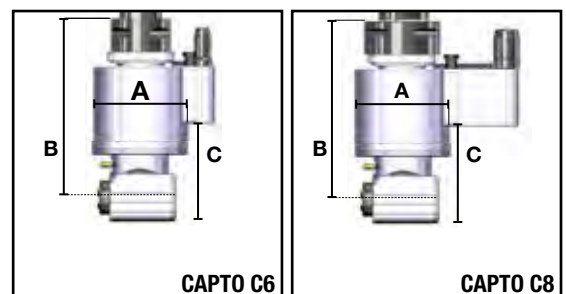
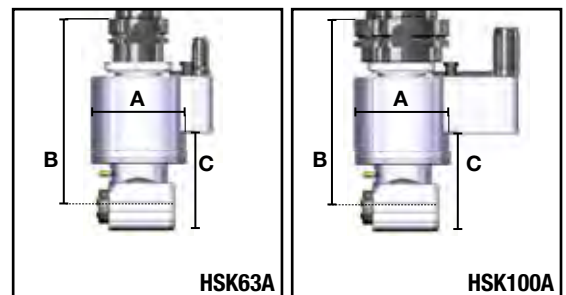
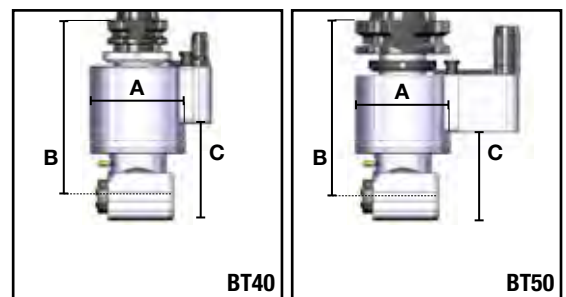
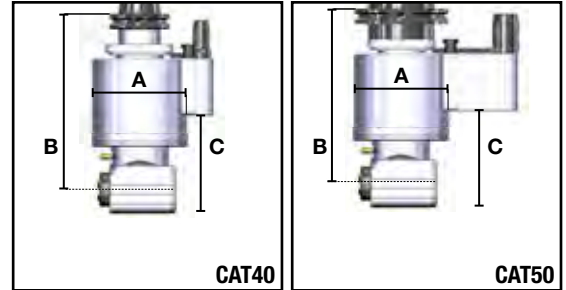
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	190 (7.48")	105 (4.13")	90 (3.54")	70 (2.76")	5.2 (11.5 lbs)
CAT50						7.6 (16.8 lbs)
BT40						5.7 (12.6 lbs)
BT50		8.6 (19.0 lbs)				
HSK63A		200 (7.87")				5.4 (11.9 lbs)
HSK100A						7.5 (16.5 lbs)
CAPTO C6						5.6 (12.3 lbs)
CAPTO C8		190 (7.48")				6.7 (14.8 lbs)
HSK80F		200 (7.87")				6.4 (14.1 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 33

Modular Attachment - Slim Type ER16 Adapter - LN Part #MRAM-ER16ST



Features

- 6000 RPM
- 10 Nm Torque Capable
- .039" to .393" range capable
- Recessed ER16 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight places
- External Coolant as standard, Internal Coolant available
- Wrenches included:

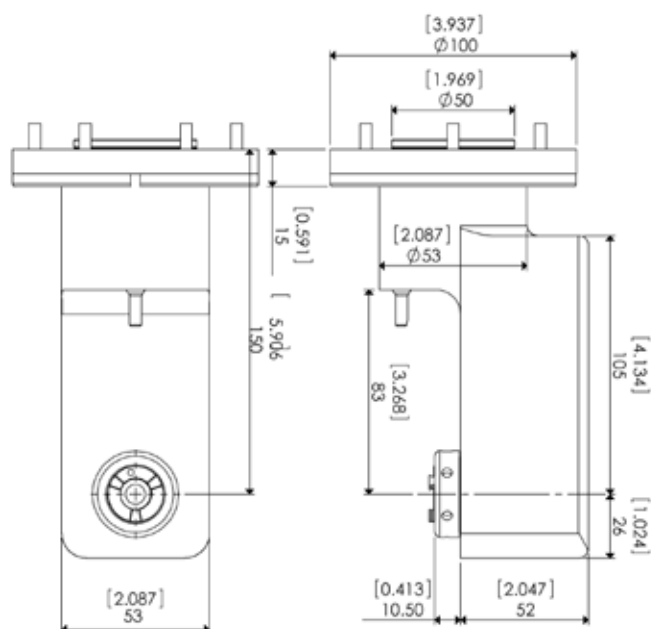
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Spindle Wrench



Collet Nut Wrench

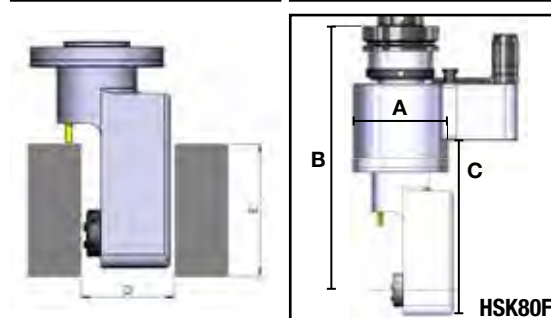
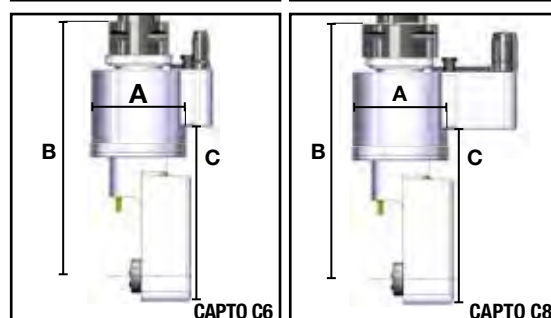
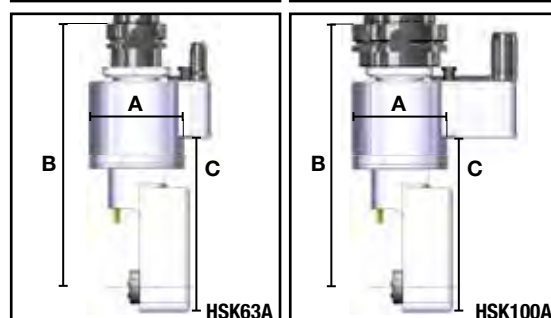
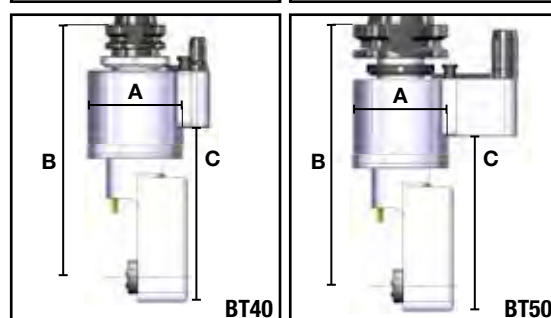
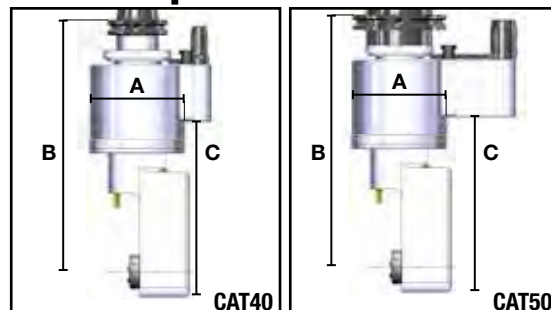


General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	270 (10.63")	186 (7.32")	78 (3.07")	99 (3.90")	6.5 (14.3 lbs)
CAT50						8.9 (19.6 lbs)
BT40						7.0 (15.4 lbs)
BT50		9.9 (21.8 lbs)				
HSK63A		280 (11.02")				6.7 (14.8 lbs)
HSK100A						8.8 (19.4 lbs)
CAPTO C6						6.9 (15.2 lbs)
CAPTO C8		270 (10.63")				8.0 (17.6 lbs)
HSK80F		280 (11.02")				7.7 (17.0 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

General Taper Reference



For ER Collets please see page 33

Modular Attachment - ER16 Adapter Long - LN Part #MRAM-ER16L



Features

- 6000 RPM
- 10 Nm Torque Capable
- .039" to .393" range capable
- Recessed ER16 Nut for added clearance
- Extended reach design is ideal for hard to reach applications around fixtures, or beyond machine table beds
- External Coolant as standard, Internal Coolant available
- Wrenches included:

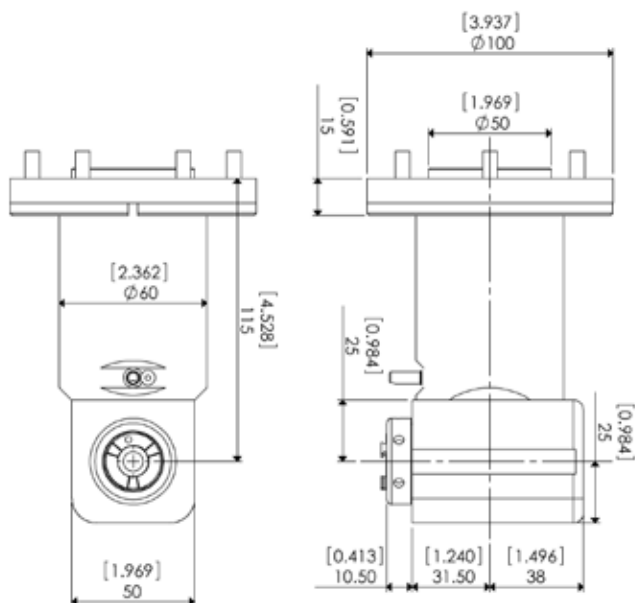
Part# 107557 Part# WRENCH-MIM-112954



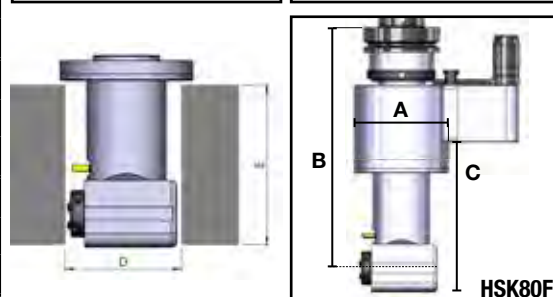
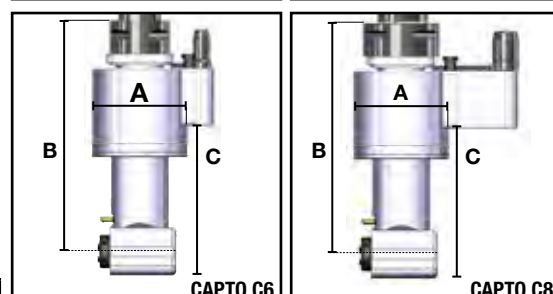
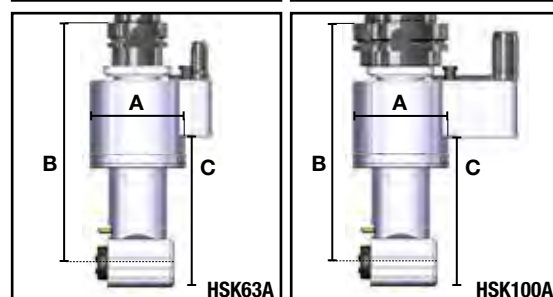
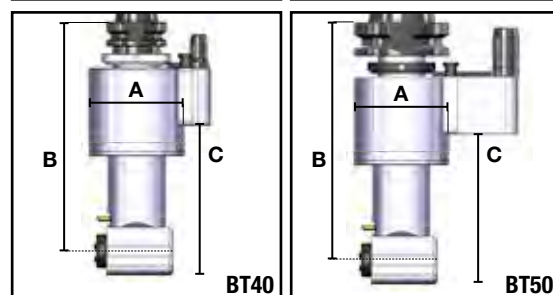
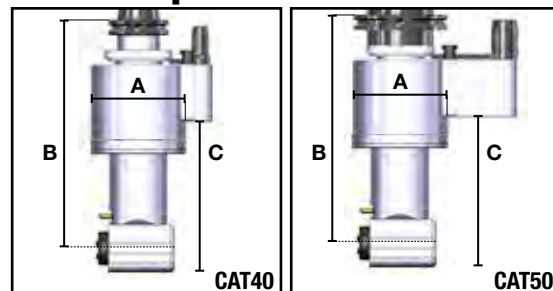
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	245 (9.65")	160 (6.30")	90 (3.54")	125 (4.92")	7.4 (16.3 lbs)
CAT50						9.8 (21.6 lbs)
BT40						7.9 (17.4 lbs)
BT50		10.8 (23.8 lbs)				
HSK63A		255 (10.04")				7.6 (16.8 lbs)
HSK100A						9.7 (21.4 lbs)
CAPTO C6		245 (9.65")				7.8 (17.2 lbs)
CAPTO C8						8.9 (19.6 lbs)
HSK80F						8.6 (19.0 lbs)
						255 (10.04")

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 33

Modular Attachment - ER20 Adapter - LN Part #MRAM-ER20



Features

- 6000 RPM
- 10 Nm Torque Capable
- .039" to .511" range capable
- Recessed ER20 Nut for added clearance
- Short design makes this ideal for milling and drilling applications
- External Coolant as standard, Internal Coolant available
- Wrenches included:

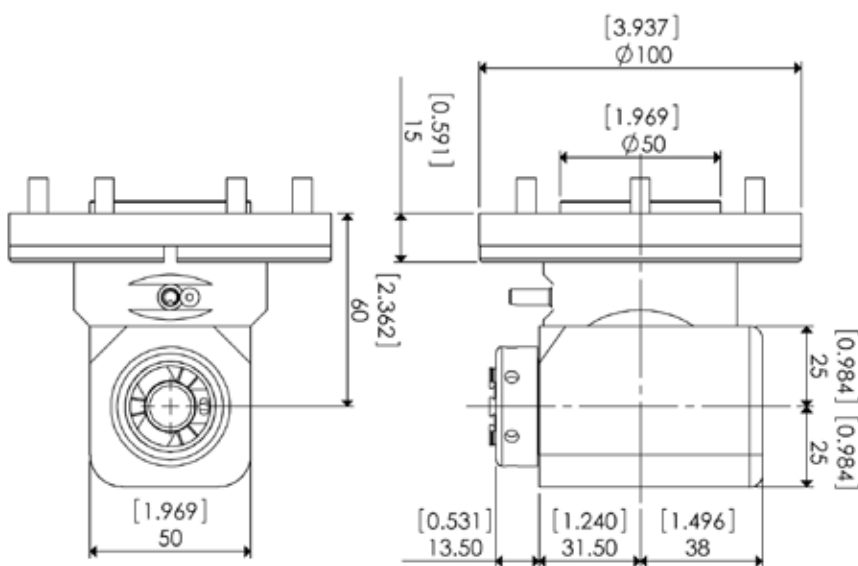
Part# 107608 Part# WRENCH-MIM-112929



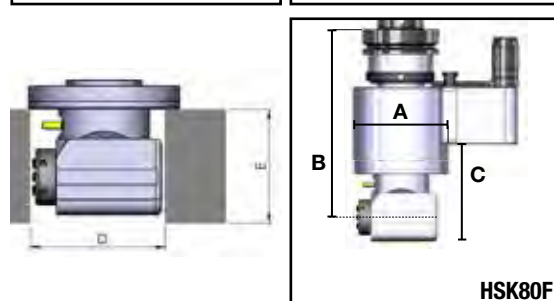
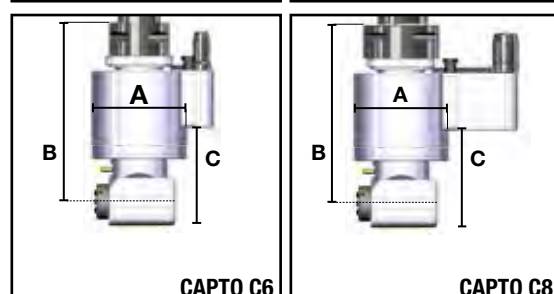
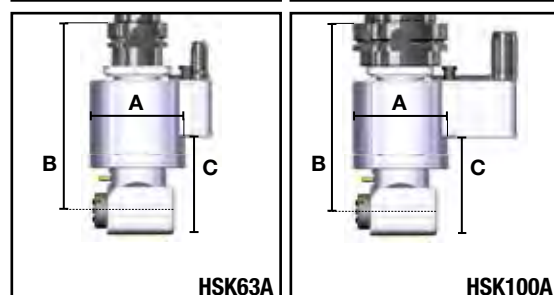
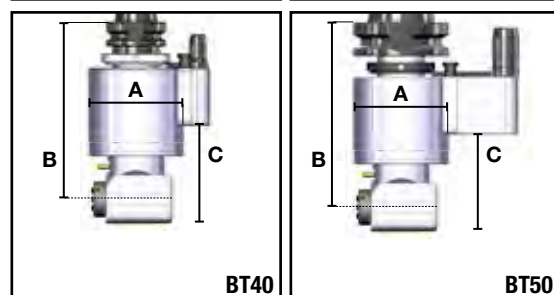
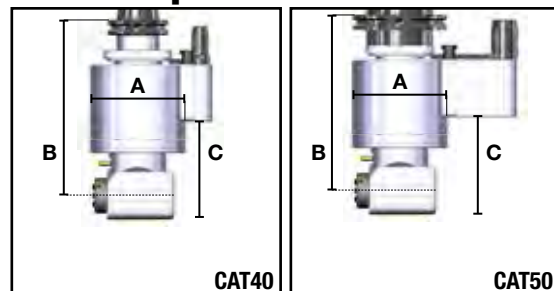
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	190 (7.48")	105 (4.13")	93 (3.66")	70 (2.76")	5.4 (11.9 lbs)
CAT50						7.8 (17.2 lbs)
BT40						5.9 (13.0 lbs)
BT50		8.8 (19.4 lbs)				
HSK63A		200 (7.87")				5.6 (12.3 lbs)
HSK100A						7.5 (16.5 lbs)
CAPTO C6						5.8 (12.8 lbs)
CAPTO C8		190 (7.48")				6.9 (15.2 lbs)
HSK80F		200 (7.87")				6.6 (14.5 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 34

Modular Attachment - Slim Type ER20 Adapter - LN Part #MRAM-ER20ST



Features

- 6000 RPM
- 10 Nm Torque Capable
- .039" to .511" range capable
- Recessed ER20 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight places
- External Coolant as standard, Internal Coolant available
- Wrenches included:

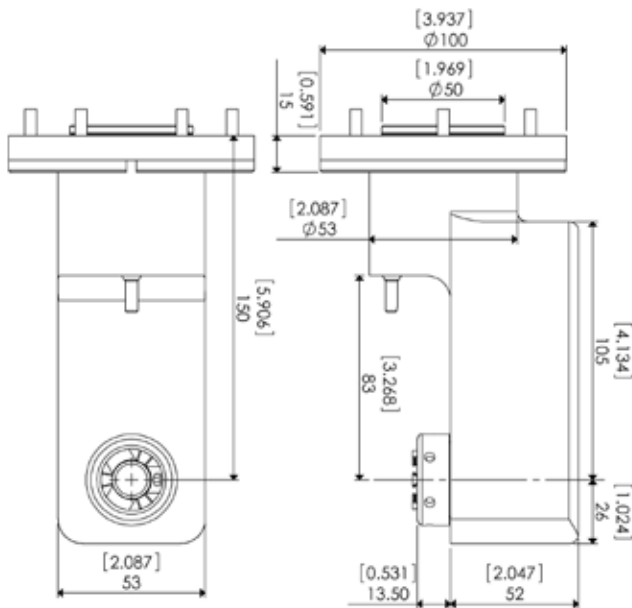
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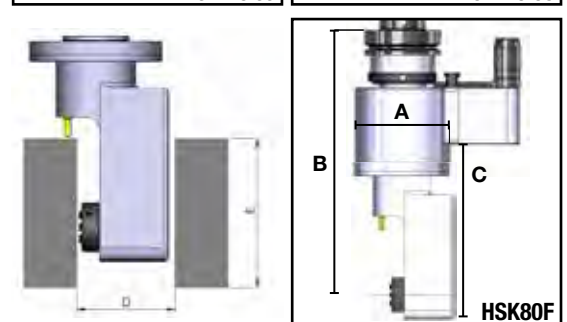
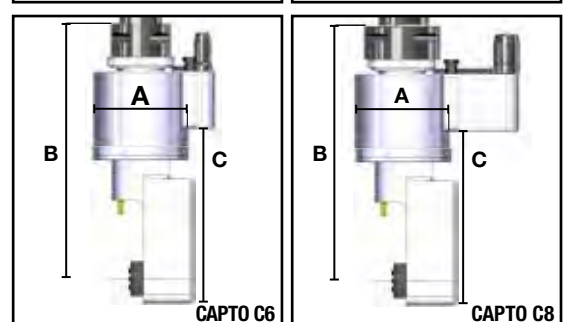
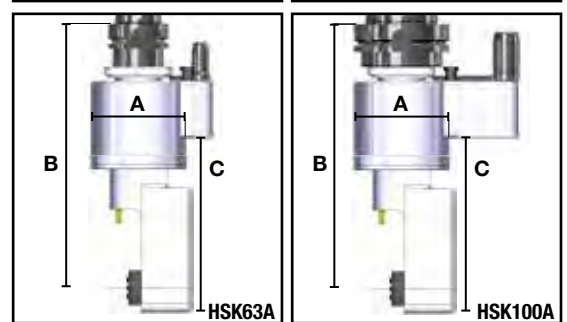
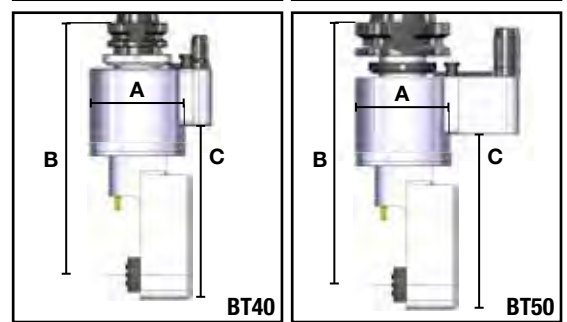
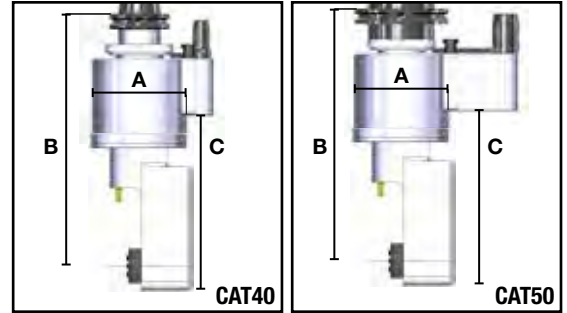
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	270 (10.63")	186 (7.32")	81 (3.19")	99 (3.90")	6.5 (14.3 lbs)
CAT50						8.9 (19.6 lbs)
BT40						7.0 (15.4 lbs)
BT50		9.9 (21.8 lbs)				
HSK63A		280 (11.02")				6.7 (14.8 lbs)
HSK100A						8.8 (19.4 lbs)
CAPTO C6						6.9 (15.2 lbs)
CAPTO C8		270 (10.63")				8.0 (17.6 lbs)
HSK80F						7.7 (17.0 lbs)
						280 (11.02")

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 34

Modular Attachment - ER20 Adapter Long - LN Part #MRAM-ER20L



Features

- 6000 RPM
- 10 Nm Torque Capable
- .039" to .511" range capable
- Recessed ER20 Nut for added clearance
- Extended reach design is ideal for hard to reach applications around fixtures, or beyond machine table beds
- External Coolant as standard, Internal Coolant available
- Wrenches included:

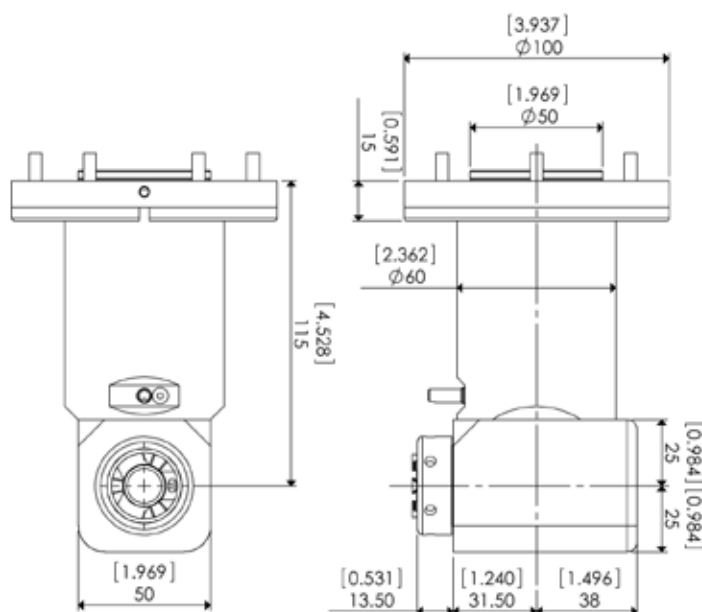
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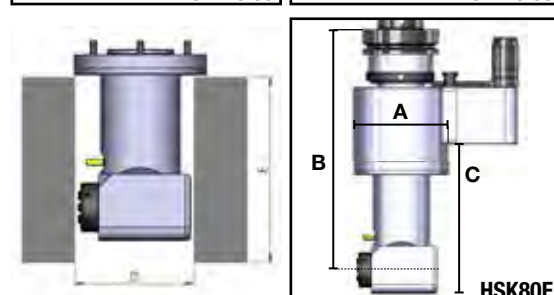
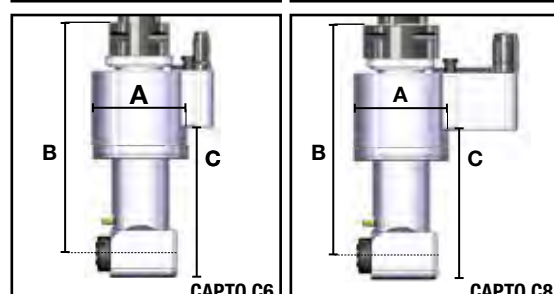
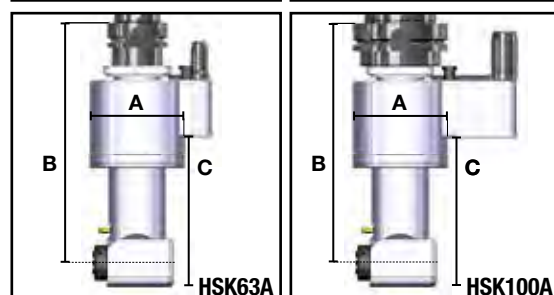
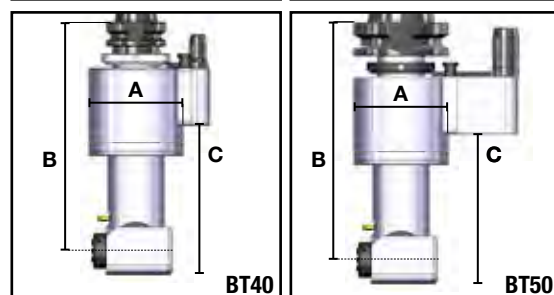
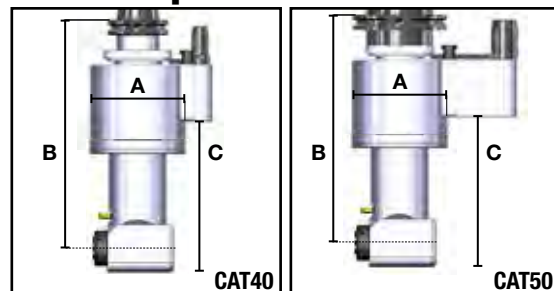
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	245 (9.65")	160 (6.30")	93 (3.66")	125 (4.92")	7.6 (16.8 lbs)
CAT50						10 (22.0 lbs)
BT40						8.1 (17.9 lbs)
BT50		11 (24.2 lbs)				
HSK63A		255 (10.04")				7.8 (17.2 lbs)
HSK100A						9.9 (21.8 lbs)
CAPTO C6						8.0 (17.6 lbs)
CAPTO C8		245 (9.65")				9.1 (20.1 lbs)
HSK80F		255 (10.04")				8.8 (19.4 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 34

Modular Attachment - ER25 Adapter - LN Part #MRAM-ER25



Features

- 5000 RPM
- 25 Nm Torque Capable
- .039" to .629" range capable
- Recessed ER25 Nut for added clearance
- Short design makes this ideal for milling and drilling applications
- External Coolant as standard, Internal Coolant available
- Wrenches included:

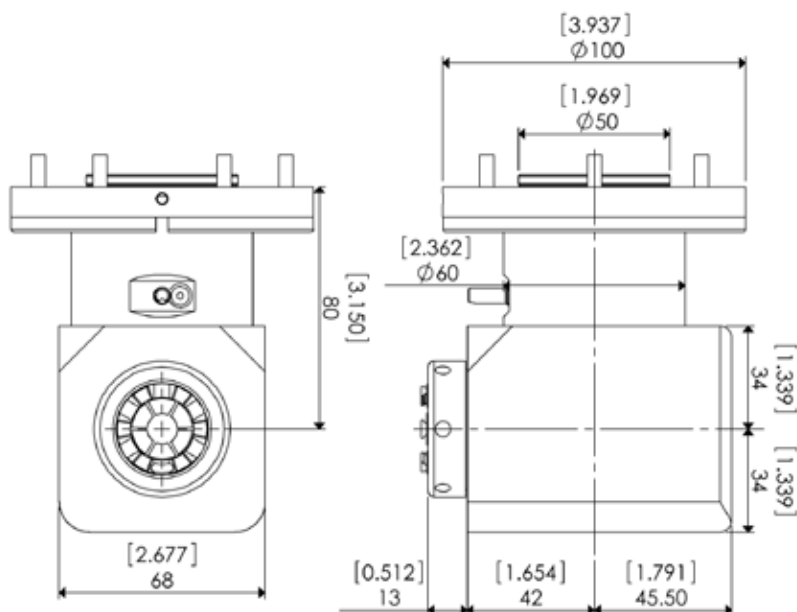
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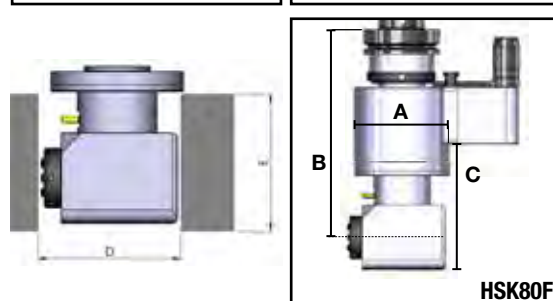
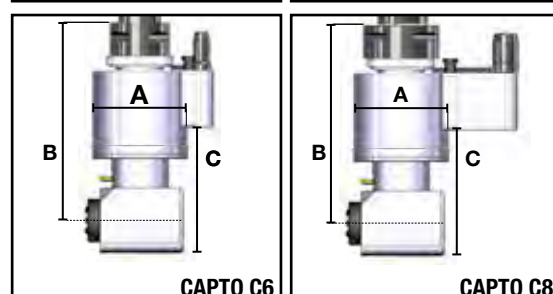
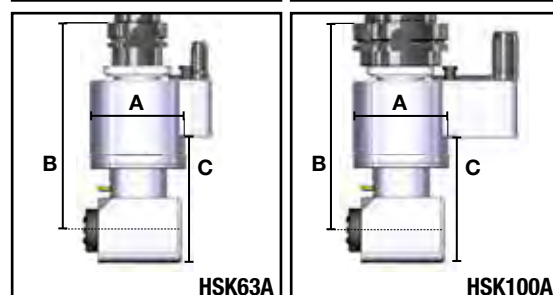
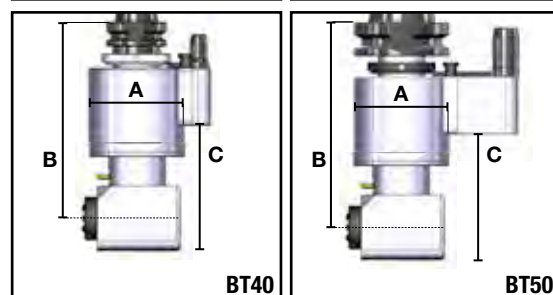
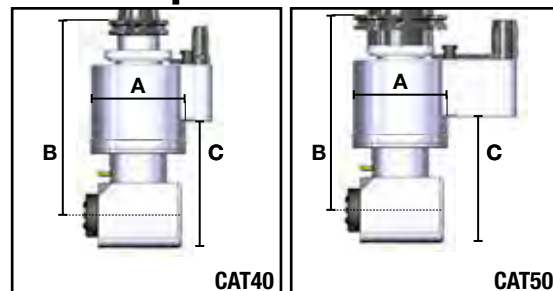
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	210 (8.27")	134 (5.28")	115 (4.53")	134 (5.28")	6.8 (15.0 lbs)
CAT50						9.2 (20.3 lbs)
BT40						7.3 (16.1 lbs)
BT50						10.2 (22.5 lbs)
HSK63A		220 (8.66")				7.0 (15.4 lbs)
HSK100A						9.1 (20.1 lbs)
CAPTO C6						7.2 (15.9 lbs)
CAPTO C8		210 (8.27")				8.3 (18.3 lbs)
HSK80F		220 (8.66")				8.0 (17.6 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 35

Modular Attachment - Slim Type ER25 Adapter - LN Part #MRAM-ER25ST



Features

- 5000 RPM
- 25 Nm Torque Capable
- .039" to .629" range capable
- Recessed ER25 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight places
- External Coolant as standard, Internal Coolant available
- Wrenches included:

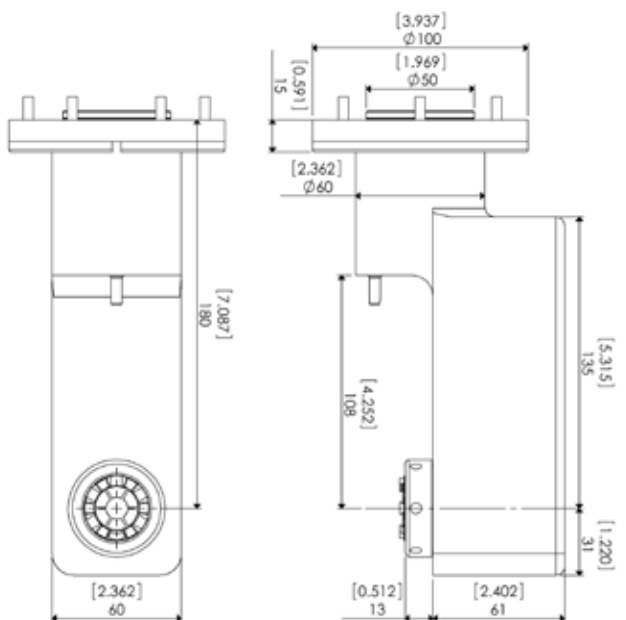
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Spindle Wrench



Collet Nut Wrench

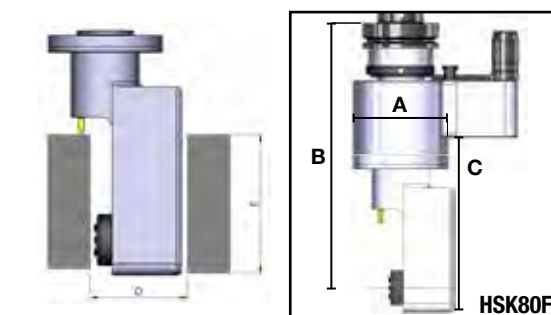
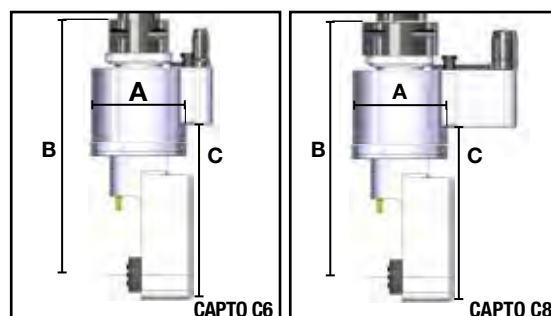
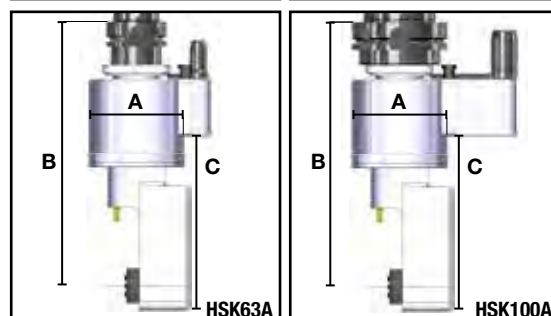
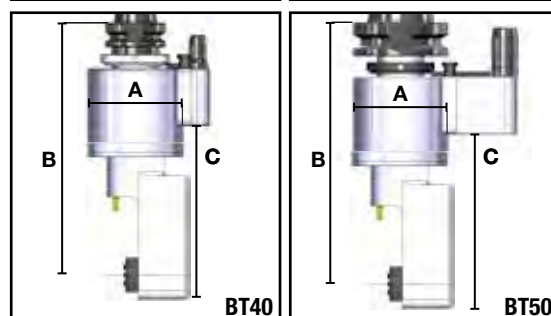
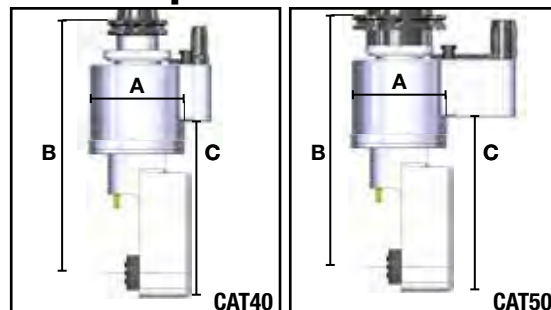


General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	310 (12.20")	231 (9.09")	90 (3.54")	129 (5.08")	7.5 (16.5 lbs)
CAT50						9.9 (21.8 lbs)
BT40						8.0 (17.6 lbs)
BT50		10.9 (24 lbs)				
HSK63A		320 (12.60")				7.7 (17.0 lbs)
HSK100A						9.8 (21.6 lbs)
CAPTO C6						7.9 (17.4 lbs)
CAPTO C8		310 (12.20")				9.0 (19.8 lbs)
HSK80F		320 (12.60")				8.7 (19.2 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

General Taper Reference



For ER Collets please see page 35

Modular Attachment - ER25 Adapter Long - LN Part #MRAM-ER25L



Features

- 5000 RPM
- 25 Nm Torque Capable
- .039" to .629" range capable
- Recessed ER25 Nut for added clearance
- Extended reach design is ideal for hard to reach applications around fixtures, or beyond machine table beds
- External Coolant as standard, Internal Coolant available
- Wrenches included:

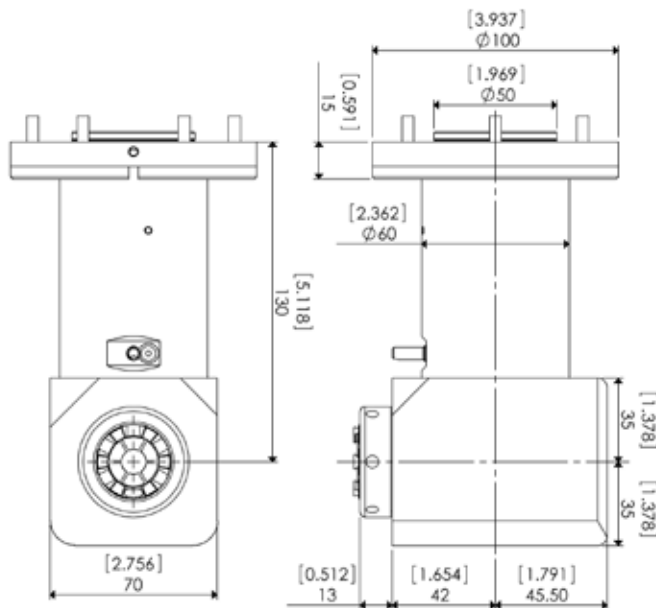
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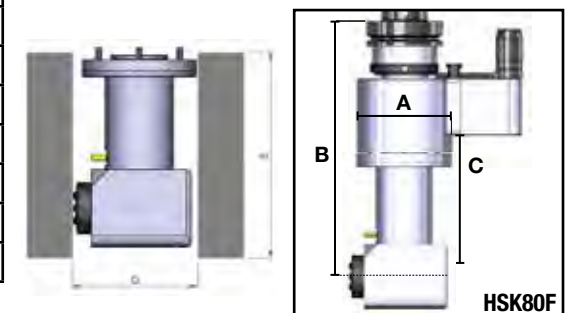
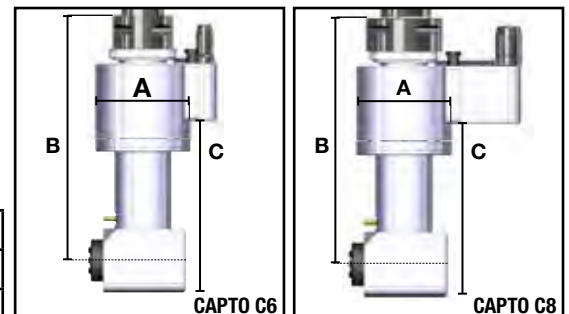
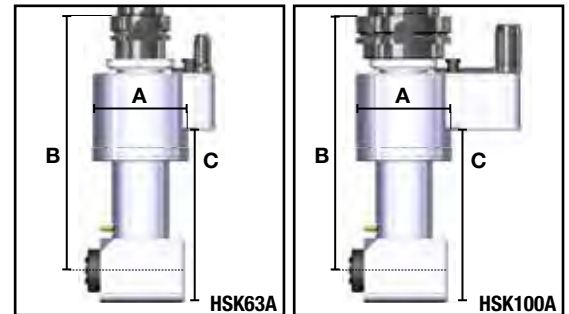
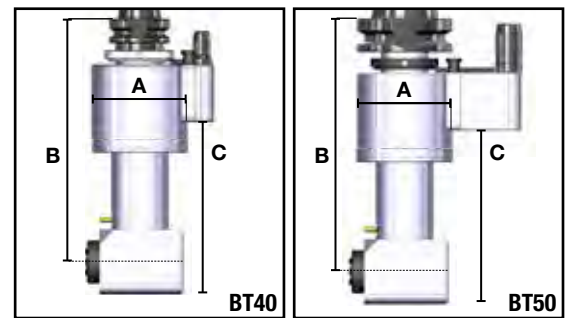
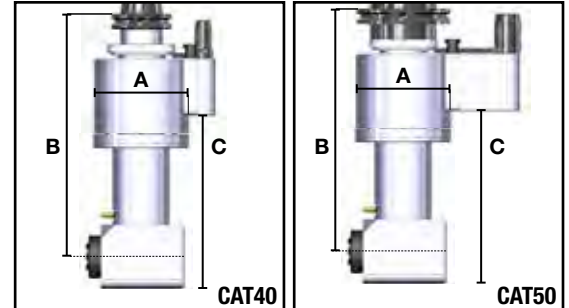
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	260 (10.24")	185 (7.28")	115 (4.53")	185 (7.28")	7.2 (15.9 lbs)
CAT50						9.6 (21.2 lbs)
BT40						7.7 (17.0 lbs)
BT50		270 (10.63")				10.6 (23.4 lbs)
HSK63A						7.4 (16.3 lbs)
HSK100A						9.5 (20.9 lbs)
CAPTO C6						7.6 (16.8 lbs)
CAPTO C8		260 (10.24")				8.7 (19.2 lbs)
HSK80F		270 (10.63")				8.4 (18.5 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 35

Modular Attachment - ER16 Adapter Double Angle Head - LN Part #MRAM-ER16TS



Features

- 6000 RPM
- 10 Nm Torque Capable
- .039" to .393" range capable
- Recessed ER16 Nut for added clearance
- Double sided angle head work for applications requiring the same machined feature on both sides of a part
- External Coolant as standard, Internal Coolant available
- Wrenches included:

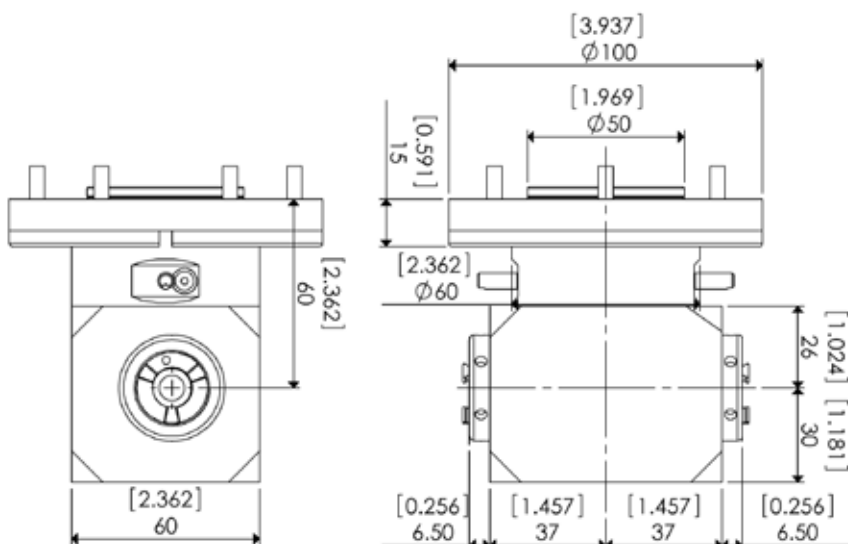
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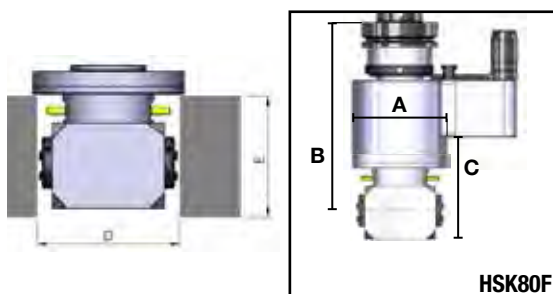
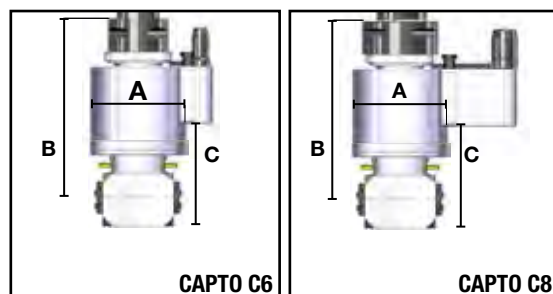
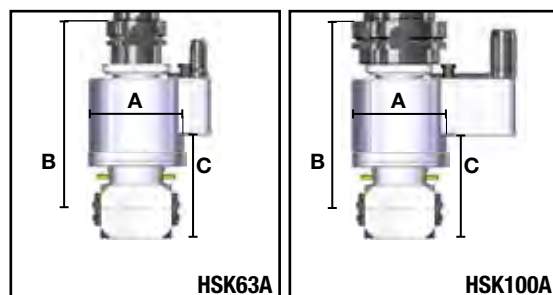
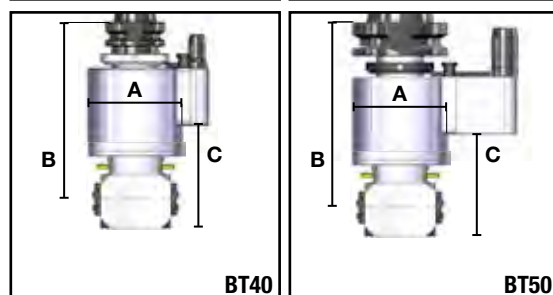
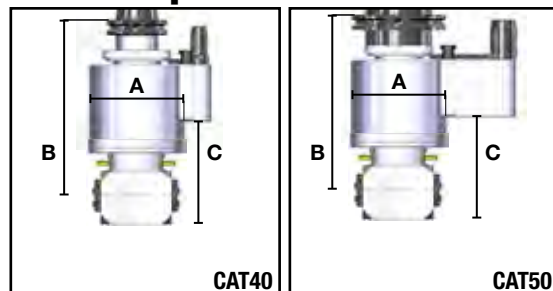
Spindle Wrench



Collet Nut Wrench



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	190 (7.48")	110 (4.33")	97 (3.82")	75 (2.95")	6.0 (13.2 lbs)
CAT50						8.4 (18.5 lbs)
BT40						6.5 (14.3 lbs)
BT50		9.4 (20.7 lbs)				
HSK63A		200 (7.87")				6.2 (13.7 lbs)
HSK100A						8.3 (18.3 lbs)
CAPTO C6						6.4 (14.1 lbs)
CAPTO C8		190 (7.48")				7.5 (16.5 lbs)
HSK80F		200 (7.87")				7.2 (15.9 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

For ER Collets please see page 33

Modular Attachment - ER25 Adapter Double Angle Head - LN Part #MRAM-ER25TS



Features

- 5000 RPM
- 25 Nm Torque Capable
- .039" to .629" range capable
- Recessed ER25 Nut for added clearance
- Double sided angle head work for applications requiring the same machined feature on both sides of a part
- External Coolant as standard, Internal Coolant available
- Wrenches included:

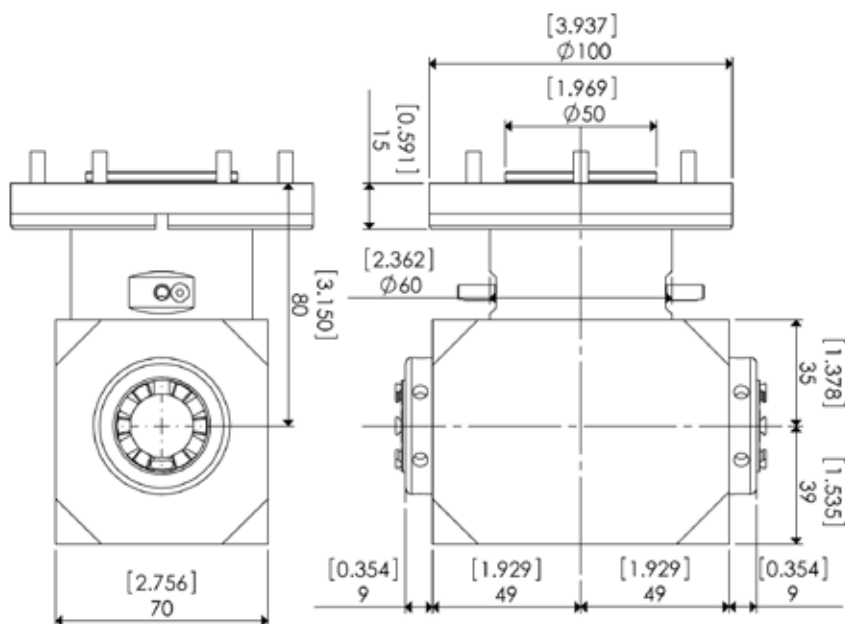
Part# 107446 Part# WRENCH-MIM-112913



Spindle Wrench



Collet Nut Wrench

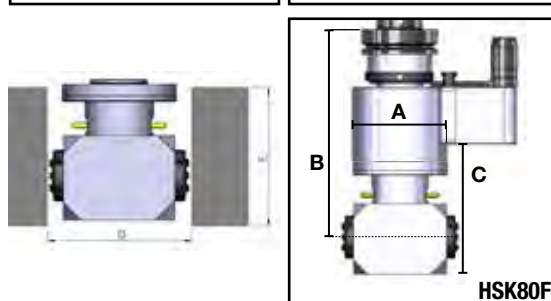
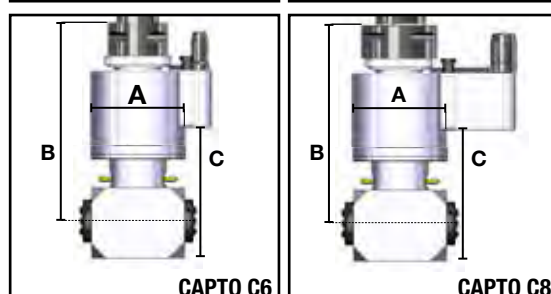
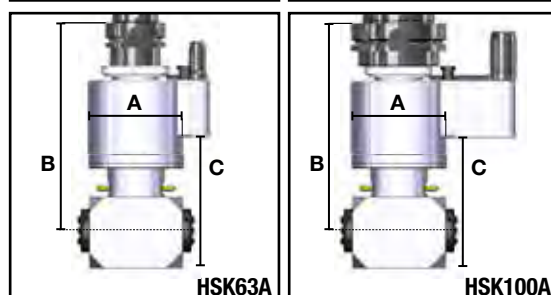
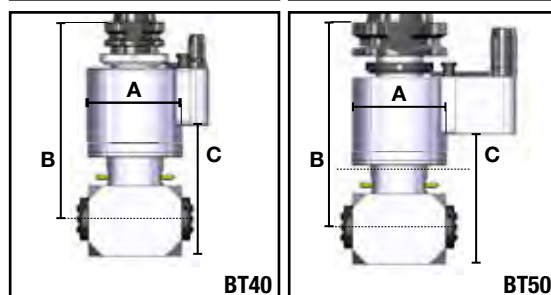
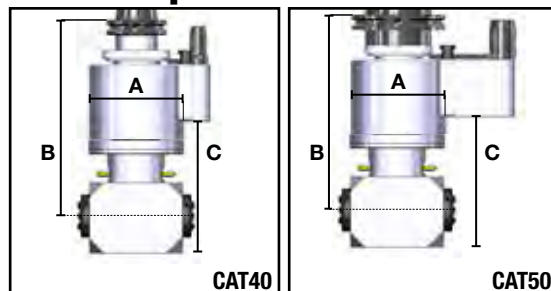


General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	210 (8.27")	139 (5.47")	125 (4.92")	139 (5.47")	7.2 (15.9 lbs)
CAT50						9.6 (21.2 lbs)
BT40						7.7 (17.0 lbs)
BT50						10.6 (23.4 lbs)
HSK63A		220 (8.66")				7.4 (16.3 lbs)
HSK100A						9.5 (20.9 lbs)
CAPT0 C6						7.6 (16.8 lbs)
CAPT0 C8						8.7 (19.2 lbs)
HSK80F		220 (8.66")				8.4 (18.5 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

General Taper Reference



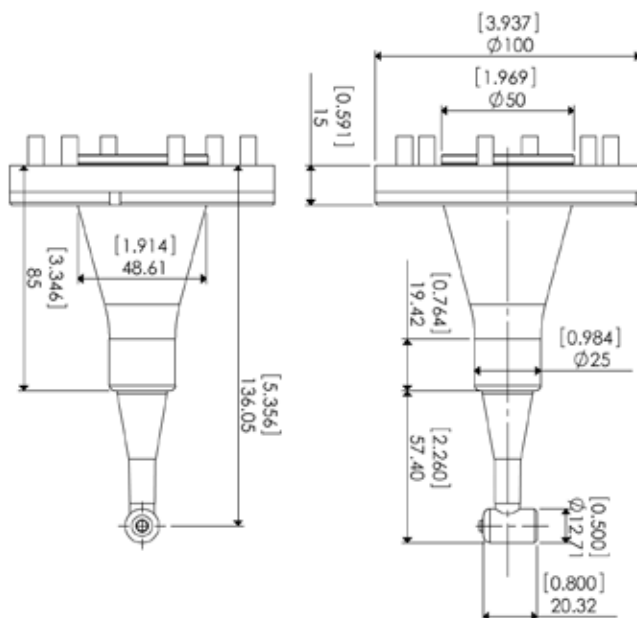
For ER Collets please see page 35

Modular Attachment - NSK Adapter - LN Part #MRAM-NSK-M17

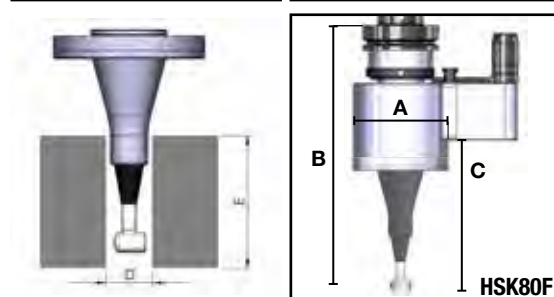
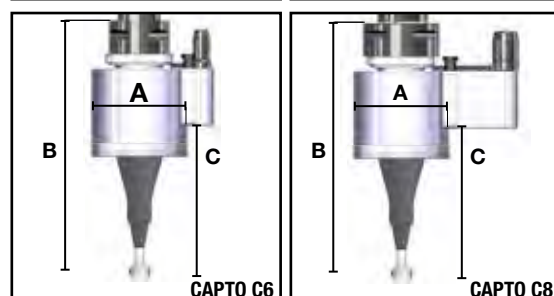
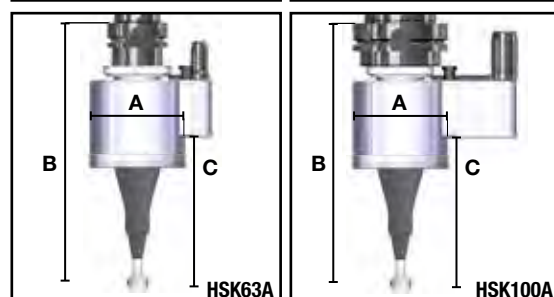
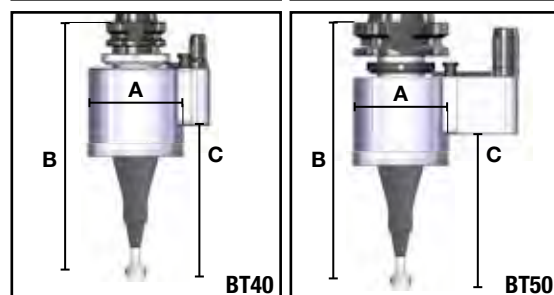
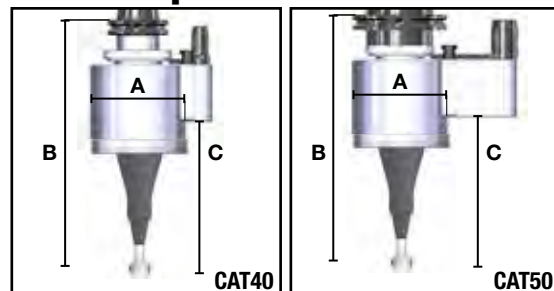


Features

- Input - 10,000 RPM
- Output - Max. 7,500 RPM
- 4:3 gear reduction ratio
- 1 Nm Torque Capable
- .039" to .629" range capable
- Collets available for 1/16", 3/32", 1/8" and 3.0mm
- Miniature head for engraving and drilling applications in very small or tight areas
- Body can accept other NSK heads with M17 thread
- **Units comes standard with NSK model # IC-300 (other options available on page 30)**



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	266.05 (10.47")	162.04 (6.38")	24 (0.95")	56.4 (2.22")	5.1 (11.2 lbs)
CAT50						7.5 (16.5 lbs)
BT40						5.6 (12.3 lbs)
BT50						8.5 (18.7 lbs)
HSK63A		276.05 (10.87")				5.3 (11.7 lbs)
HSK100A		7.4 (16.3 lbs)				
CAPTO C6		266.05 (10.47")				5.5 (12.1 lbs)
CAPTO C8		6.6 (14.5 lbs)				
HSK80F		276.05 (10.87")				6.3 (13.9 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

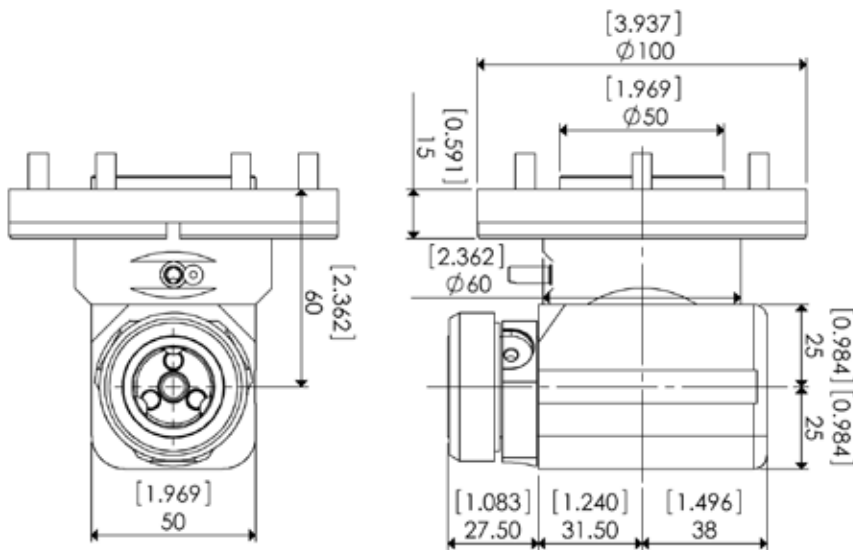
Additional NSK Attachments are available, please see page 30.

Modular Attachment - MI32 Quick Change Adapter - LN Part #MRAM-MI32

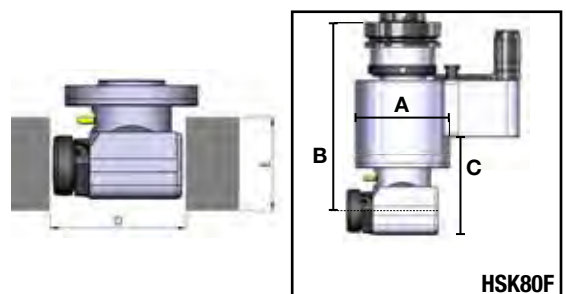
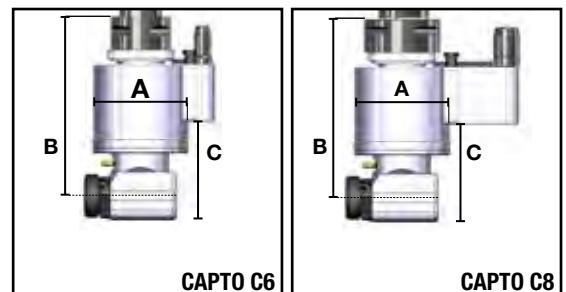
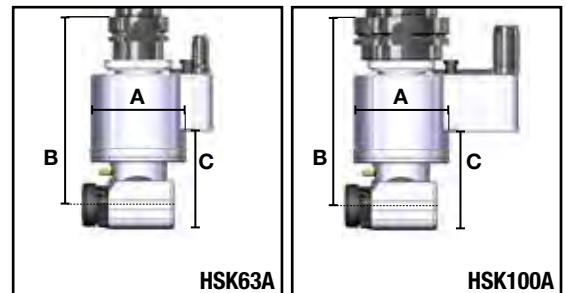
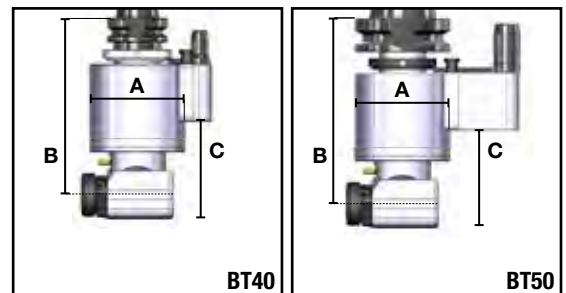
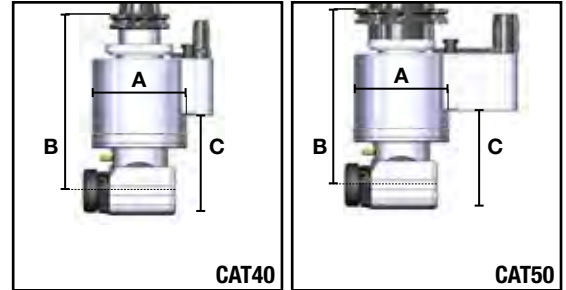


Features

- 6000 RPM
- 10 Nm Torque Capable
- Utilizes patented MI modular system
- Interchangeable front adapters allow for cost effective flexibility
- Recessed spindle design keeps the body size compact even with front adapters
- Milling, Drilling, and Tapping can all be done with one head
- External Coolant as standard, Internal Coolant available
- MI Adapter wrench (Part# 170734 included)



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	190 (7.48")	105 (4.13")	106 (4.17")	70 (2.76")	5.7 (12.6 lbs)
CAT50						8.1 (17.9 lbs)
BT40						6.2 (13.7 lbs)
BT50		9.1 (20.1 lbs)				
HSK63A		200 (7.87")				5.9 (13.0 lbs)
HSK100A						8.0 (17.6 lbs)
CAPT0 C6						6.1 (13.4 lbs)
CAPT0 C8		190 (7.48")				7.2 (15.9 lbs)
HSK80F		200 (7.87")				6.9 (15.2 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

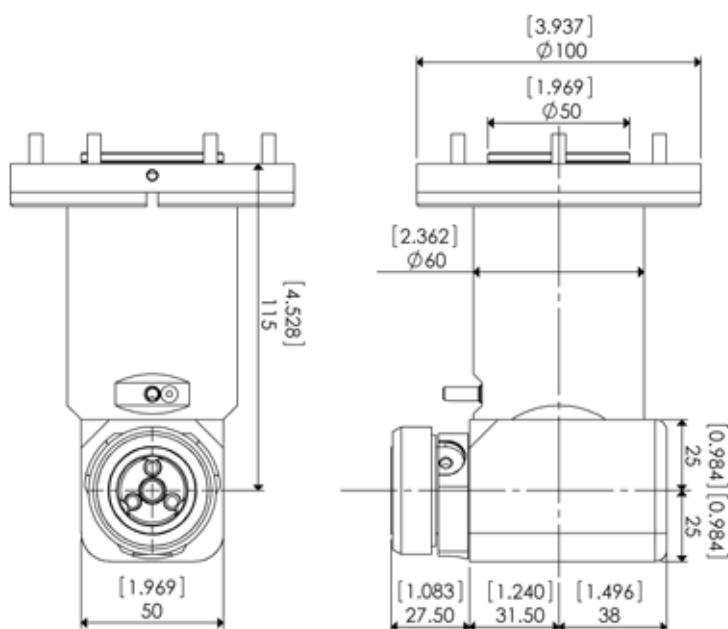
MI Attachments are available, please see pages 28-29.

Modular Attachment - MI32 Long Quick Change Adapter - LN Part #MRAM-MI32L

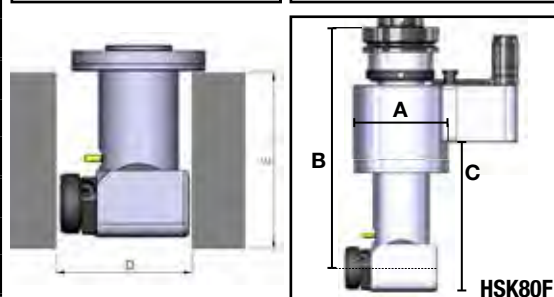
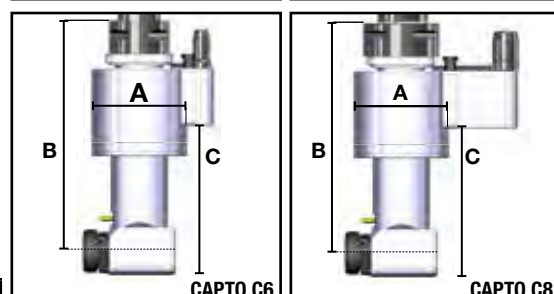
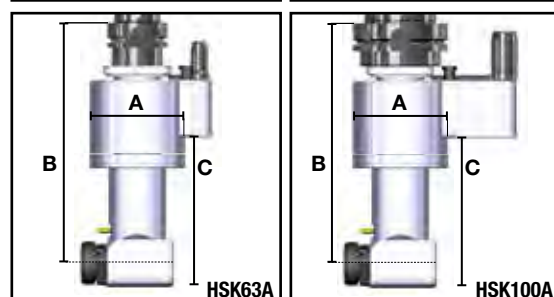
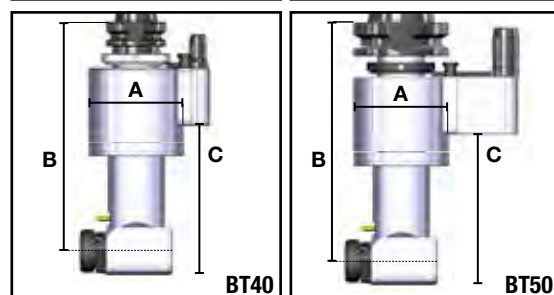
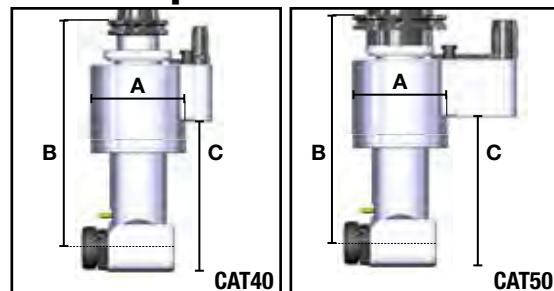


Features

- 6000 RPM
- 10 Nm Torque Capable
- Utilizes patented MI modular system
- Interchangeable front adapters allow for cost effective flexibility
- Recessed spindle design keeps the body size compact even with front adapters
- Extended reach design is ideal for hard to reach applications around fixtures, or beyond machine table beds
- Milling, Drilling, and Tapping can all be done with one head
- External Coolant as standard, Internal Coolant available
- MI Adapter wrench (Part# 170734 included)



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	245 (9.65")	160 (6.30")	106 (4.17")	125 (4.92")	7.7 (17.0 lbs)
CAT50						10.1 (22.3 lbs)
BT40						8.2 (18.1 lbs)
BT50		255 (10.04")				11.1 (24.5 lbs)
HSK63A						7.9 (17.4 lbs)
HSK100A						10.0 (22.0 lbs)
CAPTO C6		245 (9.65")				8.1 (17.9 lbs)
CAPTO C8						9.2 (20.3 lbs)
HSK80F		255 (10.04")				8.9 (19.6 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

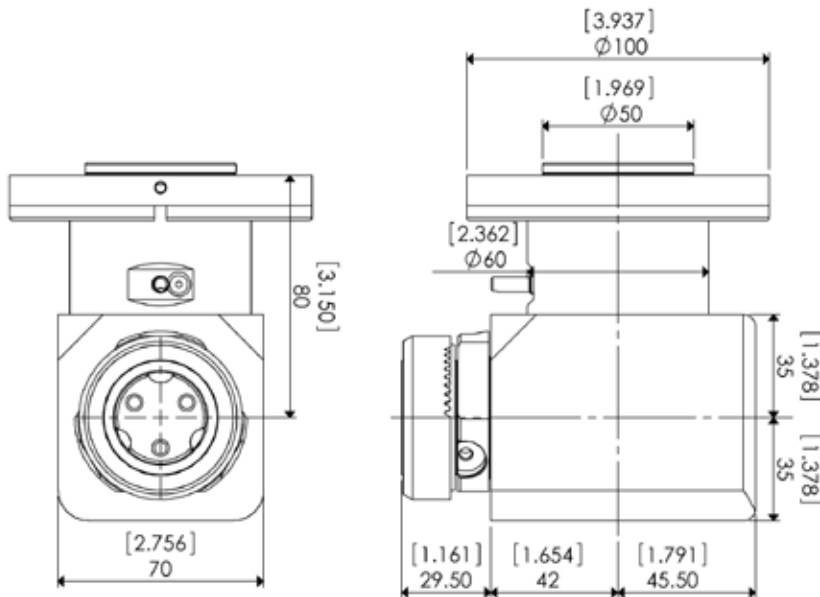
MI Attachments are available, please see pages 28-29.

Modular Attachment - MI40 Quick Change Adapter - LN Part #MRAM-MI40

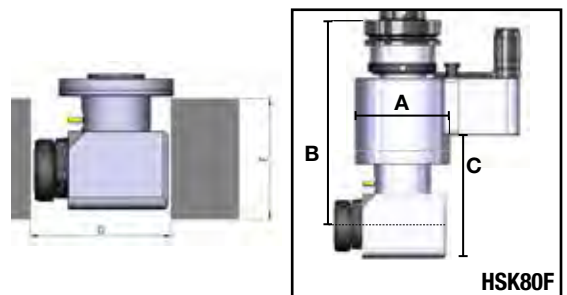
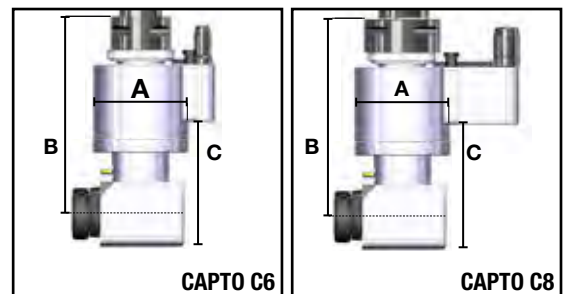
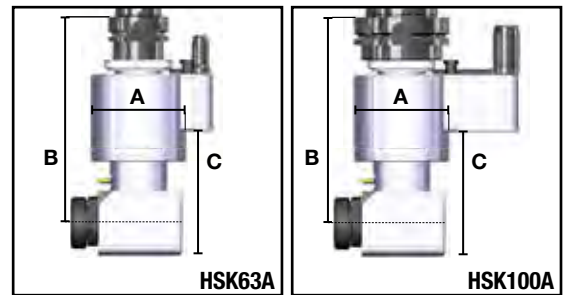
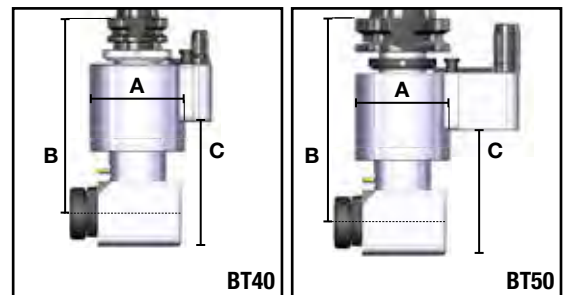
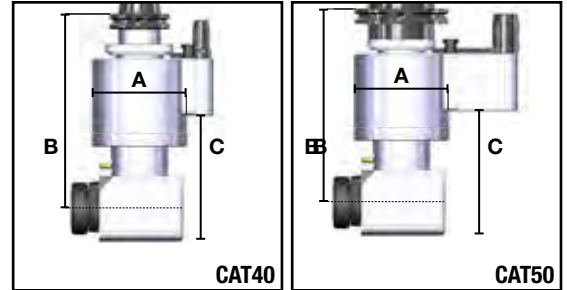


Features

- 5000 RPM
- 25 Nm Torque Capable
- Utilizes patented MI modular system
- Interchangeable front adapters allow for cost effective flexibility
- Recessed spindle design keeps the body size compact even with front adapters
- Milling, Drilling, and Tapping can all be done with one head
- External Coolant as standard, Internal Coolant available
- MI Adapter wrench (Part# 170734 included)



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	210 (8.27")	135 (5.31")	131 (5.16")	99 (3.90")	7.0 (15.4 lbs)
CAT50						9.4 (20.7 lbs)
BT40						7.5 (16.5 lbs)
BT50		220 (8.66")				10.4 (22.9 lbs)
HSK63A						7.2 (15.9 lbs)
HSK100A						9.3 (20.5 lbs)
CAPTO C6						7.4 (16.3 lbs)
CAPTO C8						8.5 (18.7 lbs)
HSK80F		220 (8.66")				8.2 (18.1 lbs)

D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

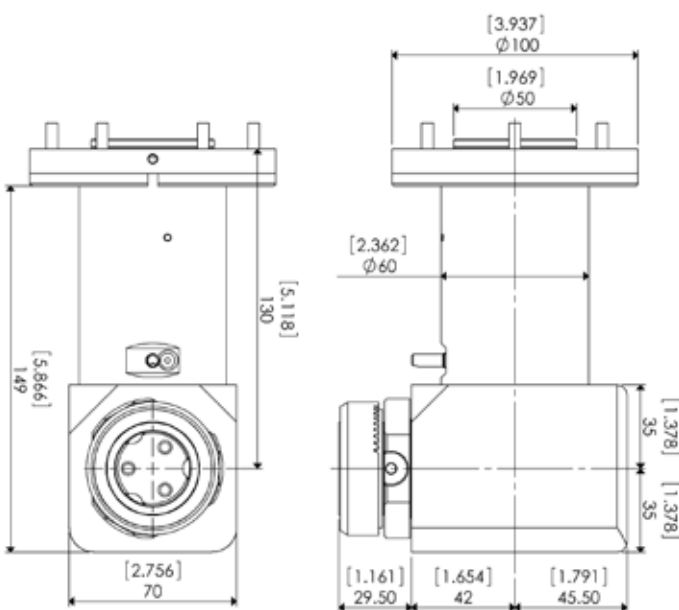
MI Attachments are available, please see pages 28-29.

Modular Attachment - MI40 Long Quick Change Adapter - LN Part #MRAM-MI40L

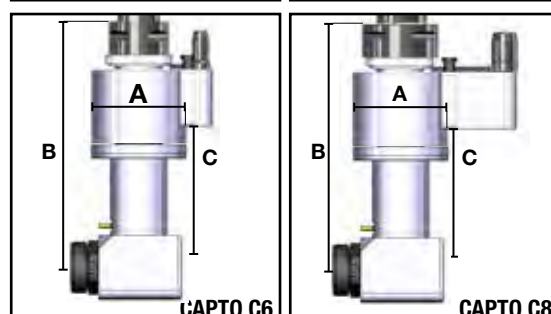
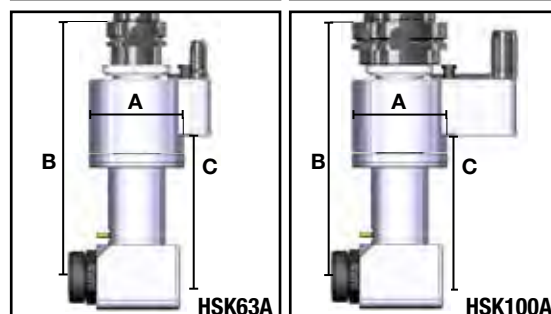
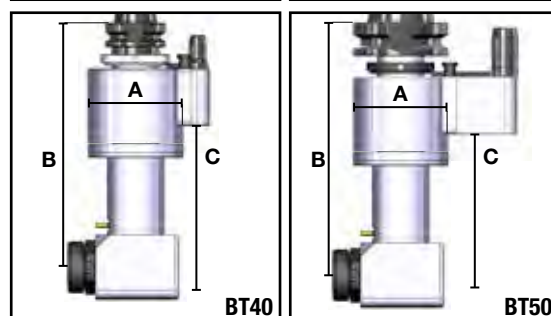
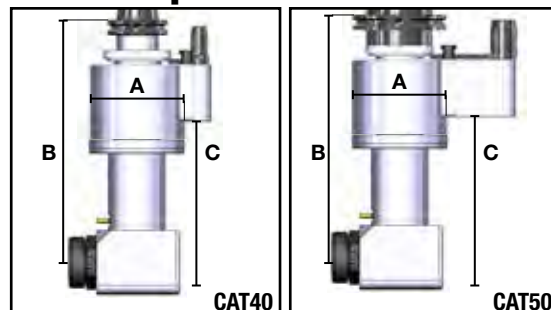


Features

- 5000 RPM
- 25 Nm Torque Capable
- Utilizes patented MI modular system
- Interchangeable front adapters allow for cost effective flexibility
- Recessed spindle design keeps the body size compact even with front adapters
- Extended reach design is ideal for hard to reach applications around fixtures, or beyond machine table beds
- Milling, Drilling, and Tapping can all be done with one head
- External Coolant as standard, Internal Coolant available
- MI Adapter wrench (Part# 170734 included)



General Taper Reference



General Taper Reference Dimensions

TAPER	A Dim (mm)	B Dim (mm)	C Dim (mm)	D Dim (mm)	E Dim (mm)	Total Weight (kg)
CAT40	100 (3.94")	260 (10.24")	185 (7.28")	131 (5.16")	149 (5.87")	7.6 (16.8 lbs)
CAT50						10 (22.0 lbs)
BT40						8.1 (17.9 lbs)
BT50		11 (24.2 lbs)				
HSK63A		7.8 (17.2 lbs)				
HSK100A		9.9 (21.8 lbs)				
CAPTO C6		8.0 (17.6 lbs)				
CAPTO C8		9.1 (20.1 lbs)				
HSK80F		8.8 (19.4 lbs)				
		270 (10.63")				

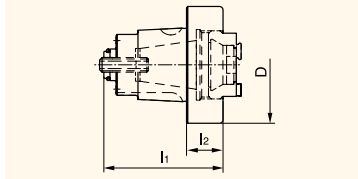
D dimension = Minimum bore diameter, E dimension = Maximum depth within bore diameter

MI Attachments are available, please see pages 28-29.

Mimatic® MI Attachments

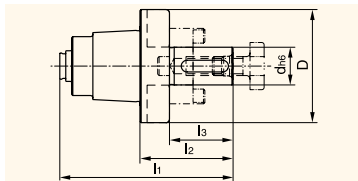
Collet Chuck DIN 6499 - Type ER

Short type, clamping nut inside



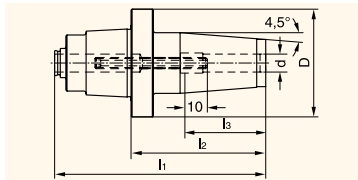
Part Number	Size	Collet	I1	I2	D
MI32-ER11I	MI32	ER11	1.634"	0.591"	1.654"
MI32-ER16I	MI32	ER16	1.634"	0.591"	1.654"
MI40-ER16I	MI40	ER16	1.772"	0.433"	1.890"
MI40-ER20I	MI40	ER20	1.929"	0.591"	1.890"
MI40-ER25I	MI40	ER25	2.165"	0.827"	1.890"

Combination Shell End Mill Arbor



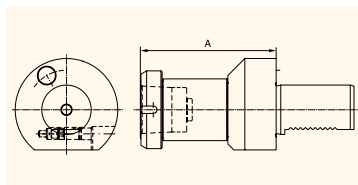
Part Number	Size	I1	I2	I3	d(h6)	D
MI32-SM16	MI32	2.598"	1.555"	1.063"	16mm (.630")	1.654"
MI40-SM16	MI40	2.894"	1.555"	0.984"	16mm (.630")	1.890"

Shrink Fit Chuck



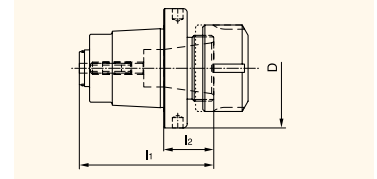
Part Number	Size	I1	I2	I3	d(h6)	D
MI40-SF8	MI40	3.701"	2.362"	1.417"	8mm (.315")	1.890"
MI40-SF10	MI40	3.701"	2.362"	1.654"	10mm (.394")	1.890"
MI40-SF12	MI40	3.898"	2.559"	1.850"	12mm (.472")	1.890"
MI40-SF16	MI40	4.094"	2.756"	1.969"	16mm (.630")	1.890"

Tool Presetting Unit



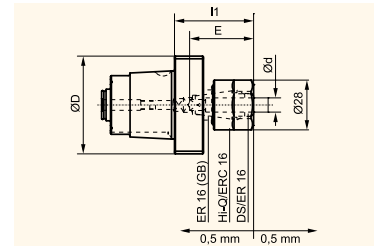
Part Number	Size	VDI	A
MI40-PRESET-VDI40	MI40	2.520"	108mm

Long type, clamping nut outside



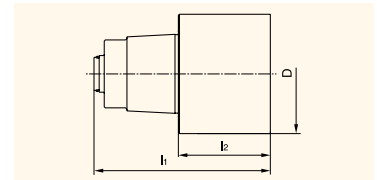
Part Number	Size	Collet	I1	I2	D
MI32-ER11	MI32	ER11	2.461"	1.417"	1.654"
MI32-ER16	MI32	ER16	1.988"	0.945"	1.654"
MI40-ER16	MI40	ER16	2.283"	0.945"	1.890"
MI40-ER20	MI40	ER20	2.520"	1.181"	1.890"

Softsynchro Chuck (Licence Emuge)

with internal coolant
with push and pull length
compensation 0.5mm


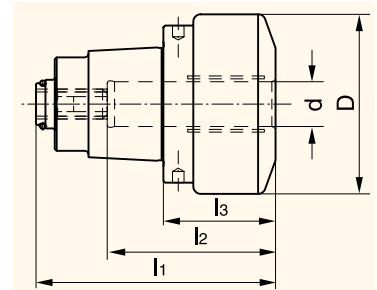
Part Number	Size	Collet	Thread	I1	I2	D
MI40-ER-GB16	MI40	ER-GB16	M4-M12	1.870"	.177-.394"	1.772"

Blank



Part Number	Size	I1	I2	D
MI32-BLANK	MI32	3.012"	1.969"	1.654"
MI40-BLANK	MI40	3.701"	2.362"	1.890"

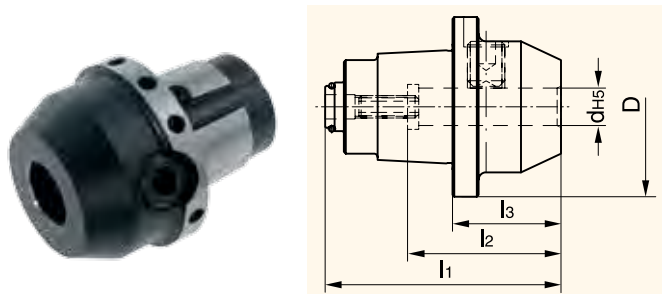
Hydraulic Chuck



Part Number	Size	I1	I2	I3	d(h6)	D
MI40-HC12	MI40	2.520"	1.772"	1.181"	12mm (.472")	1.890"

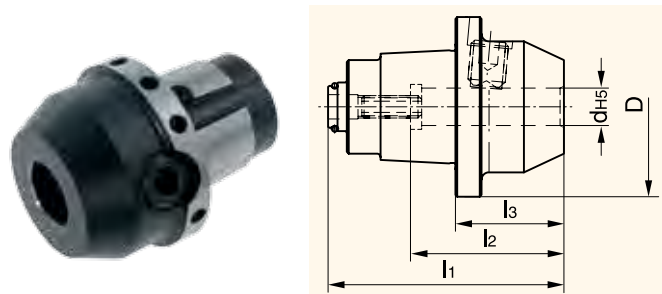
Mimatic® MI Attachments

Weldon Toolholder DIN 1835 B



Part Number	Size	l1	l2	l3	d(h5)	D
MI32-EM6	MI32	2.067"	1.457"	1.024"	6	1.654"
MI32-EM8	MI32	2.067"	1.457"	1.024"	8	1.654"
MI32-EM10	MI32	2.185"	1.614"	1.142"	10	1.654"
MI32-EM12	MI32	2.264"	1.811"	1.220"	12	1.654"
MI32-EM1/4	MI32	2.067"	1.457"	1.024"	1/4"	1.654"
MI32-EM3/8	MI32	2.185"	1.614"	1.142"	3/8"	1.654"
MI32-EM1/2	MI32	2.264"	1.811"	1.220"	1/2"	1.654"
MI40-EM6	MI40	2.362"	1.457"	1.024"	6	1.890"
MI40-EM8	MI40	2.362"	1.457"	1.024"	8	1.890"
MI40-EM10	MI40	2.480"	1.614"	1.142"	10	1.890"
MI40-EM12	MI40	2.559"	1.811"	1.220"	12	1.890"
MI40-EM14	MI40	2.559"	1.811"	1.220"	14	1.890"
MI40-EM16	MI40	2.677"	1.929"	1.339"	16	1.890"
MI40-EM1/4	MI40	2.362"	1.457"	1.024"	1/4"	1.890"
MI40-EM3/8	MI40	2.480"	1.614"	1.142"	3/8"	1.890"
MI40-EM1/2	MI40	2.559"	1.811"	1.220"	1/2"	1.890"
MI40-EM5/8	MI40	2.677"	1.929"	1.339"	5/8"	1.890"

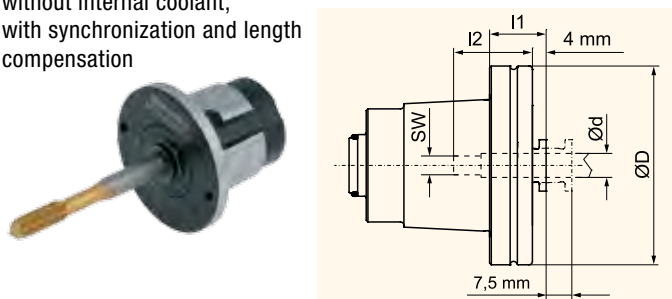
Whistle Notch Toolholder DIN 1835 E



Part Number	Size	l1	l2	l3	d(h5)	D
MI32-EM6A	MI32	2.067"	1.417"	1.024"	6	1.654"
MI32-EM8A	MI32	2.067"	1.417"	1.024"	8	1.654"
MI32-EM10A	MI32	2.185"	1.575"	1.142"	10	1.654"
MI32-EM12A	MI32	2.264"	1.772"	1.220"	12	1.654"
MI32-EM1/4A	MI32	2.067"	1.417"	1.024"	1/4"	1.654"
MI32-EM3/8A	MI32	2.185"	1.575"	1.142"	3/8"	1.654"
MI32-EM1/2A	MI32	2.264"	1.772"	1.220"	1/2"	1.654"
MI40-EM6A	MI40	2.362"	1.417"	1.024"	6	1.890"
MI40-EM8A	MI40	2.362"	1.417"	1.024"	8	1.890"
MI40-EM10A	MI40	2.480"	1.575"	1.142"	10	1.890"
MI40-EM12A	MI40	2.559"	1.772"	1.220"	12	1.890"
MI40-EM14A	MI40	2.559"	1.772"	1.220"	14	1.890"
MI40-EM16A	MI40	2.677"	1.890"	1.339"	16	1.890"
MI40-EM1/4A	MI40	2.362"	1.417"	1.024"	1/4"	1.890"
MI40-EM3/8A	MI40	2.480"	1.575"	1.142"	3/8"	1.890"
MI40-EM1/2A	MI40	2.559"	1.772"	1.220"	1/2"	1.890"
MI40-EM5/8A	MI40	2.677"	1.890"	1.339"	5/8"	1.890"

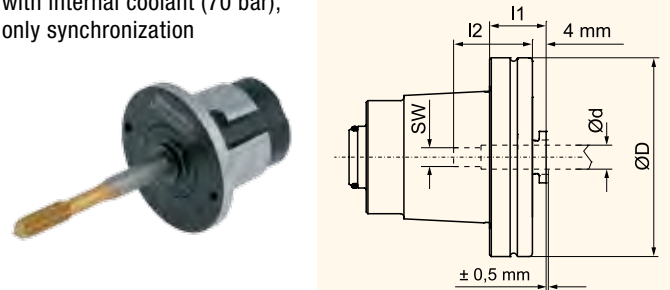
SYNAX® Tapping Quick Change Holder

without internal coolant,
with synchronization and length
compensation



Part Number	Size	l1	l2	d	D	SW
MI40-TAP3.5	MI40	0.669"	0.984"	3.5mm (.138")	1.890"	0.106"
MI40-TAP4.5	MI40	0.669"	0.984"	4.5mm (.177")	1.890"	0.134"
MI40-TAP6	MI40	0.669"	1.063"	6mm (.236")	1.890"	0.193"
MI40-TAP8	MI40	0.669"	1.063"	8mm (.315")	1.890"	0.244"
MI40-TAP9	MI40	1.496"	1.102"	9mm (.354")	1.890"	0.276"
MI40-TAP10	MI40	1.496"	1.142"	10mm (.394")	1.890"	0.315"
MI40-TAP12	MI40	1.496"	1.181"	12mm (.472")	1.890"	0.354"

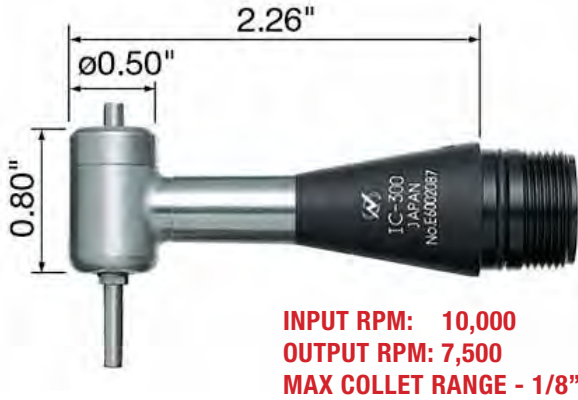
with internal coolant (70 bar),
only synchronization



Part Number	Size	l1	l2	d	D	SW
MI40-TAP6C	MI40	0.669"	1.063"	6mm (.236")	1.890"	0.193"
MI40-TAP8C	MI40	0.669"	1.063"	8mm (.315")	1.890"	0.244"
MI40-TAP9C	MI40	1.496"	1.102"	9mm (.354")	1.890"	0.276"
MI40-TAP10C	MI40	1.496"	1.142"	10mm (.394")	1.890"	0.315"
MI40-TAP12C	MI40	1.496"	1.181"	12mm (.472")	1.890"	0.354"

NSK Attachments

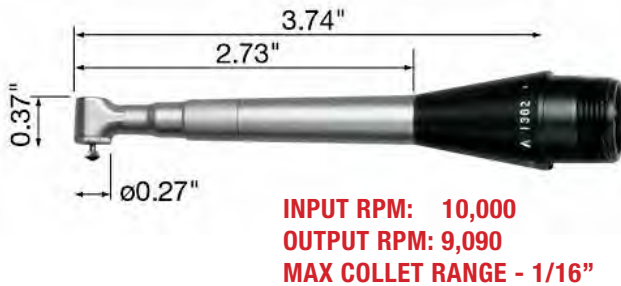
NSK IC-300 Attachment



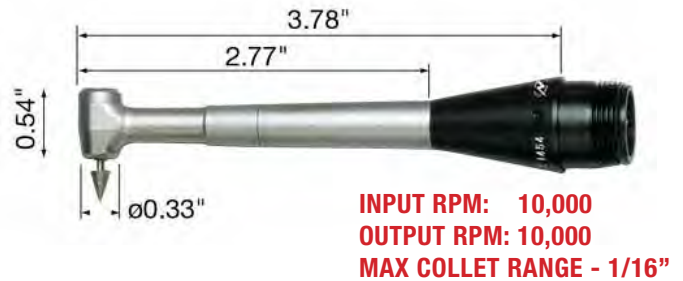
NSK KC-300 Attachment



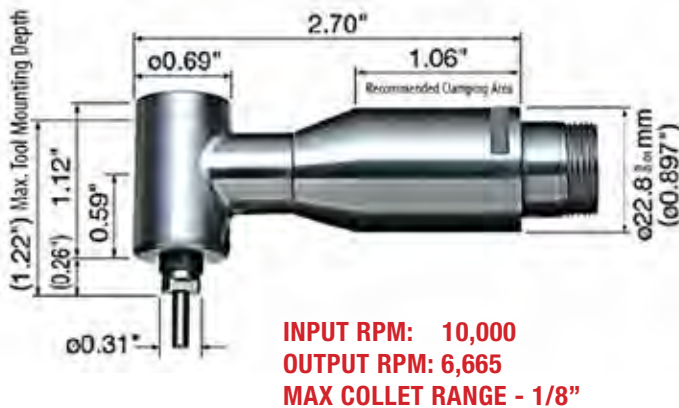
NSK MFC-300M Attachment



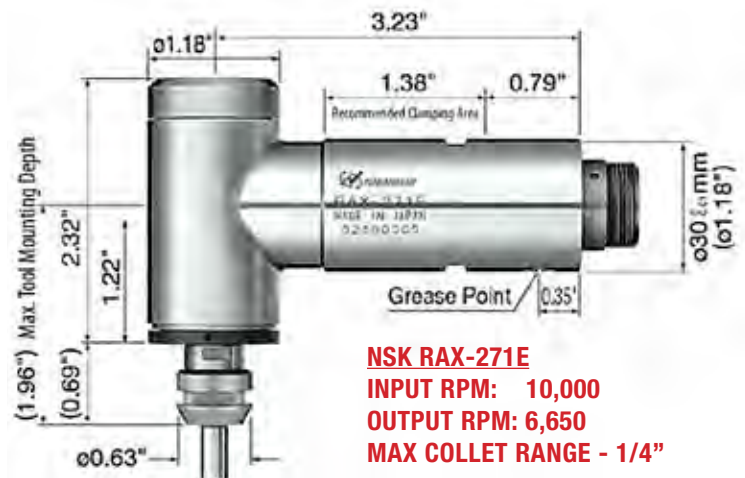
NSK MFC-300S Attachment



NSK RA-200 Attachment



NSK RAX-271E / NSK RAX-71E Attachment



NSK RAX-71E
INPUT RPM: 10,000
OUTPUT RPM: 1,650
MAX COLLET RANGE - 1/4"

Angle Head Positioning Pin and Blocks

Positioning Pin

- Securely holds the angle head in position
- Creates greater alignment accuracy for machining operations
- Provides support during heavy drilling
- Channels coolant through body for external/internal coolant

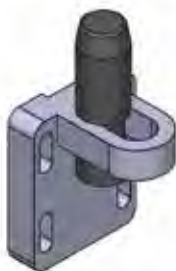
65/80mm pitch type - For CAT/BT40, HSK63A, and C6



110mm pitch - For CAT/BT50, HSK100A, C8, HSK 80F



Manual Loading Positioning Pin



Height Adjustment



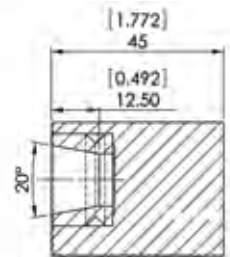
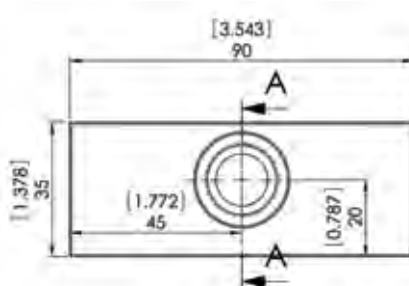
Pitch Adjustment



For all tapers:
Adjustable in
Height and Pitch

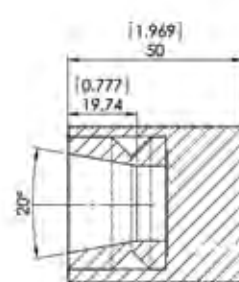
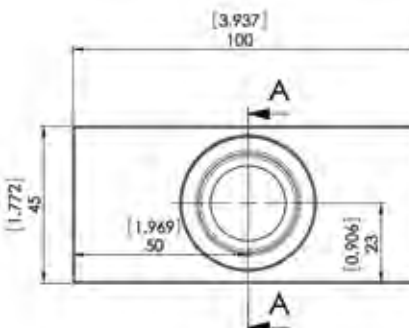
Positioning Block - Blank

PB-RAN 40 (40 Taper)



SECTION A-A

PB-RAN 50 (50 Taper)



SECTION A-A

A positioning block may require slight modifications to accommodate your particular machine.
Please contact Lyndex-Nikken for additional support to help design the Positioning Block for your machine.

ER11 Collets



Our patented Coolant Collets are designed for use with cylindrical shank tools (no flats). Cutting tool should be inserted the full length of the collet. If these conditions are not met, coolant leakage may result. Seals up to maximum coolant pressure of 1000PSI.

ER11 Collets

Size range: 1/32" - 17/64"

Size range: 1.0mm-7.0mm
(0.019"-0.275")

Size range: 3/16" - 17/64"

Size range: 4.0mm-7.0mm

INCH		
Part Number	Size	Collapse Range
E11-002	1/32"	.031-.027"
E11-003	3/64"	.047-.031"
E11-004	1/16"	.063-.047"
E11-005	5/64"	.078-.063"
E11-006	3/32"	.094-.078"
E11-007	7/64"	.109-.094"
E11-008	1/8"	.125-.109"
E11-009	9/64"	.141-.125"
E11-010	5/32"	.156-.141"
E11-011	11/64"	.172-.156"
E11-012	3/16"	.187-.172"
E11-013	13/64"	.203-.187"
E11-014	7/32"	.219-.203"
E11-015	15/64"	.234-.219"
E11-016	1/4"	.250-.234"
E11-017	17/64"	.266-.250"

METRIC		
Part Number	Size	Collapse Range
E11-039	1.0mm	1.0-0.5mm
E11-059	1.5mm	1.5-1.0mm
E11-078	2.0mm	2.0-1.5mm
E11-098	2.5mm	2.5-2.0mm
E11-118	3.0mm	3.0-2.5mm
E11-137	3.5mm	3.5-3.0mm
E11-157	4.0mm	4.0-3.5mm
E11-177	4.5mm	4.5-4.0mm
E11-196	5.0mm	5.0-4.5mm
E11-216	5.5mm	5.5-5.0mm
E11-236	6.0mm	6.0-5.5mm
E11-255	6.5mm	6.5-6.0mm
E11-275	7.0mm	7.0-6.5mm

INCH-COOLANT-THRU		
Part Number	Size	Collapse Range
-	1/32"	-
-	3/64"	-
-	1/16"	-
-	5/64"	-
-	3/32"	-
-	7/64"	-
-	1/8"	-
-	9/64"	-
-	5/32"	-
-	11/64"	-
E11-012(C)	3/16"	.187" - .183"
E11-013(C)	13/64"	.203" - .199"
E11-014(C)	7/32"	.218" - .214"
E11-015(C)	15/64"	.234" - .230"
E11-016(C)	1/4"	.250" - .246"
E11-017(C)	17/64"	.265" - .261"

METRIC-COOLANT-THRU		
Part Number	Size	Collapse Range
-	1.0mm	-
-	1.5mm	-
-	2.0mm	-
-	-	-
-	2.5mm	-
-	3.0mm	-
-	3.5mm	-
E11-157(C)	4.0mm	4.0mm - 3.5mm
E11-177(C)	4.5mm	4.5mm - 4.0mm
E11-196(C)	5.0mm	5.0mm - 4.5mm
E11-216(C)	5.5mm	5.5mm - 5.0mm
E11-236(C)	6.0mm	6.0mm - 5.5mm
E11-255(C)	6.5mm	6.5mm - 6.0mm
E11-275(C)	7.0mm	7.0mm - 6.5mm

ER11 Collets Sets

E11-14S	14 Piece Set 1/16" - 1/4" by 64ths
E11-12S	12 Piece Set 1.0mm - 7.0mm by 0.5mm

ER11 Coolant Collets Sets

E11-6S(C)	6 Piece Set 3/16" - 17/64" by 64ths
E11-7S(C)	7 Piece Set 3.9mm - 7.0mm by 0.5mm

ER16 Collets



Our patented Coolant Collets are designed for use with cylindrical shank tools (no flats). Cutting tool should be inserted the full length of the collet. If these conditions are not met, coolant leakage may result. Seals up to maximum coolant pressure of 1000PSI.

Size range: 1/32" - 13/32"

INCH		
Part Number	Size	Collapse Range
E16-002	1/32"	.031" - .027"
E16-004	1/16"	.063" - .047"
E16-006	3/32"	.094" - .078"
-	7/64"	-
E16-008	1/8"	.125" - .109"
-	9/64"	-
E16-010	5/32"	.156" - .125"
-	11/64"	-
E16-012	3/16"	.187" - .156"
-	13/64"	-
E16-014	7/32"	.219" - .187"
-	15/64"	-
E16-016	1/4"	.250" - .219"
-	17/64"	-
E16-018	9/32"	.281" - .250"
-	19/64"	-
E16-020	5/16"	.312" - .281"
-	21/64"	-
E16-022	11/32"	.344" - .312"
-	23/64"	-
E16-024	3/8"	.375" - .344"
-	25/64"	-
E16-026	13/32"	.406" - .375"

Size range: 1.0mm - 10.0mm
(0.039"-0.393")

METRIC		
Part Number	Size	Collapse Range
E16-039	1.0mm	1.0-0.5mm
E16-059	1.5mm	1.5-1.0mm
E16-078	2.0mm	2.0-1.5mm
E16-098	2.5mm	2.5-2.0mm
E16-118	3.0mm	3.0-2.5mm
E16-137	3.5mm	3.5-3.0mm
E16-157	4.0mm	4.0-3.5mm
E16-177	4.5mm	4.5-4.0mm
E16-196	5.0mm	5.0-4.5mm
E16-216	5.5mm	5.5-5.0mm
E16-236	6.0mm	6.0-5.5mm
E16-255	6.5mm	6.5-6.0mm
E16-275	7.0mm	7.0-6.5mm
E16-295	7.5mm	7.5-7.0mm
E16-314	8.0mm	8.0-7.5mm
E16-334	8.5mm	8.5-8.0mm
E16-354	9.0mm	9.0-8.5mm
E16-374	9.5mm	9.5-9.0mm
E16-393	10.0mm	10.0-9.5mm

Size range: 3/32" - 13/32"

INCH-COOLANT-THRU		
Part Number	Size	Collapse Range
-	1/32"	-
-	1/16"	-
E16-006(C)	3/32"	.094" - .089"
E16-007(C)	7/64"	.109" - .105"
E16-008(C)	1/8"	.125" - .121"
E16-009(C)	9/64"	.140" - .136"
E16-010(C)	5/32"	.156" - .152"
E16-011(C)	11/64"	.171" - .167"
E16-012(C)	3/16"	.187" - .183"
E16-013(C)	13/64"	.203" - .199"
E16-014(C)	7/32"	.219" - .203"
E16-015(C)	15/64"	.234" - .219"
E16-016(C)	1/4"	.250" - .234"
E16-017(C)	17/64"	.266" - .250"
E16-018(C)	9/32"	.281" - .266"
E16-019(C)	19/64"	.297" - .281"
E16-020(C)	5/16"	.312" - .297"
E16-021(C)	21/64"	.328" - .312"
E16-022(C)	11/32"	.344" - .328"
E16-023(C)	23/64"	.359" - .344"
E16-024(C)	3/8"	.375" - .359"
E16-025(C)	25/64"	.391" - .375"
E16-026(C)	13/32"	.406" - .391"

Size range: 4.0mm-10.0mm
(0.157"-0.393")

METRIC-COOLANT-THRU		
Part Number	Size	Collapse Range
-	1.0mm	-
-	1.5mm	-
-	2.0mm	-
-	2.5mm	-
-	3.0mm	-
-	3.5mm	-
E16-157(C)	4.0mm	4.0mm - 3.5mm
E16-177(C)	4.5mm	4.5mm - 4.0mm
E16-196(C)	5.0mm	5.0mm - 4.5mm
E16-216(C)	5.5mm	5.5mm - 5.0mm
E16-236(C)	6.0mm	6.0mm - 5.5mm
E16-255(C)	6.5mm	6.5mm - 6.0mm
E16-275(C)	7.0mm	7.0mm - 6.5mm
E16-295(C)	7.5mm	7.5mm - 7.0mm
E16-314(C)	8.0mm	8.0mm - 7.5mm
E16-334(C)	8.5mm	8.5mm - 8.0mm
E16-354(C)	9.0mm	9.0mm - 8.5mm
E16-374(C)	9.5mm	9.5mm - 9.0mm
E16-393(C)	10.0mm	10.0mm - 9.5mm

ER16 Collets Sets

E16-12S	12 Piece Set 1/32" - 13/32" by 32nds
E16-09S	9 Piece Set 1.0mm - 10.0mm by 1mm

ER16 Coolant Collets Sets

E16-11S(C)	11 Piece Set 3/32" - 13/32" by 32nds
E16-13S(C)	13 Piece Set 4.0mm - 10.0mm by 0.5mm

ER20 Collets



Size range: 1/16" - 1/2"

INCH		
Part Number	Size	Collapse Range

E20-004	1/16"	.063" - .047"
E20-006	3/32"	.094" - .078"
E20-008	1/8"	.125" - .109"
E20-010	5/32"	.156" - .125"
-	11/64"	-
E20-012	3/16"	.187" - .156"
-	13/64"	-
E20-014	7/32"	.219" - .187"
-	15/64"	-
E20-016	1/4"	.250" - .219"
-	17/64"	-
E20-018	9/32"	.281" - .250"
-	19/64"	-
E20-020	5/16"	.312" - .281"
-	21/64"	-
E20-022	11/32"	.344" - .312"
-	23/64"	-
E20-024	3/8"	.375" - .344"
-	25/64"	-
E20-026	13/32"	.406" - .375"
-	27/64"	-
E20-028	7/16"	.437" - .406"
-	29/64"	-
E20-030	15/32"	.469" - .437"
-	31/64"	-
E20-032	1/2"	.500" - .469"

Size range: 2.0mm - 13.0mm
(0.039"-0.511")

METRIC		
Part Number	Size	Collapse Range

E20-078	2.0mm	2.0-1.0mm
E20-118	3.0mm	3.0-2.5mm
E20-137	3.5mm	3.5-2.5mm
E20-157	4.0mm	4.0-3.5mm
-	4.5mm	-
E20-196	5.0mm	5.0-4.0mm
-	5.5mm	-
E20-236	6.0mm	6.0-5.0mm
-	6.5mm	-
E20-275	7.0mm	7.0-6.0mm
-	7.5mm	-
E20-314	8.0mm	8.0-7.0mm
-	8.5mm	-
E20-354	9.0mm	9.0-8.0mm
-	9.5mm	-
E20-393	10.0mm	10.0-9.0mm
-	10.5mm	-
E20-433	11.0mm	11.0-10.0mm
E20-452	11.5mm	11.5-11.0mm
E20-472	12.0mm	12.0-11.0mm
-	12.5mm	-
E20-511	13.0mm	13.0-12.0mm



Size range: 5/32" - 1/2"

INCH-COOLANT-THRU		
Part Number	Size	Collapse Range

-	1/16"	-
-	3/32"	-
-	1/8"	-
E20-010(C)	5/32"	.156" - .152"
E20-011(C)	11/64"	.172" - .167"
E20-012(C)	3/16"	.187" - .183
E20-013(C)	13/64"	.203" - .199"
E20-014(C)	7/32"	.219" - .203"
E20-015(C)	15/64"	.234" - .219"
E20-016(C)	1/4"	.250" - .234"
E20-017(C)	17/64"	.266" - .250"
E20-018(C)	9/32"	.281" - .266"
E20-019(C)	19/64"	.297" - .281"
E20-020(C)	5/16"	.312" - .297"
E20-021(C)	21/64"	.328" - .312"
E20-022(C)	11/32"	.344" - .328"
E20-023(C)	23/64"	.359" - .344"
E20-024(C)	3/8"	.375" - .359"
E20-025(C)	25/64"	.391" - .375"
E20-026(C)	13/32"	.406" - .391"
E20-027(C)	27/64"	.422" - .406"
E20-028(C)	7/16"	.437" - .422"
E20-029(C)	29/64"	.453" - .437"
E20-030(C)	15/32"	.469" - .453"
E20-031(C)	31/64"	.484" - .469"
E20-032(C)	1/2"	.500" - .484"

Our patented Coolant Collets are designed for use with cylindrical shank tools (no flats). Cutting tool should be inserted the full length of the collet. If these conditions are not met, coolant leakage may result. Seals up to maximum coolant pressure of 1000PSI.

Size range: 5.0mm-13.0mm
(0.196"-0.511")

METRIC-COOLANT-THRU		
Part Number	Size	Collapse Range

-	2.0mm	-
-	3.0mm	-
-	3.5mm	-
-	4.0mm	-
-	4.5mm	-
E20-196(C)	5.0mm	5.0mm - 4.5mm
E20-216(C)	5.5mm	5.5mm - 5.0mm
E20-236(C)	6.0mm	6.0mm - 5.5mm
E20-255(C)	6.5mm	6.5mm - 6.0mm
E20-275(C)	7.0mm	7.0mm - 6.5mm
E20-295(C)	7.5mm	7.5mm - 7.0mm
E20-314(C)	8.0mm	8.0mm - 7.5mm
E20-334(C)	8.5mm	8.5mm - 8.0mm
E20-354(C)	9.0mm	9.0mm - 8.5mm
E20-374(C)	9.5mm	9.5mm - 9.0mm
E20-393(C)	10.0mm	10.0mm - 9.5mm
E20-413(C)	10.5mm	10.5mm - 10.0mm
E20-433(C)	11.0mm	11.0mm - 10.5mm
E20-452(C)	11.5mm	11.5mm - 11.0mm
E20-472(C)	12.0mm	12.0mm - 11.5mm
E20-492(C)	12.5mm	12.5mm - 12.0mm
E20-511(C)	13.0mm	13.0mm - 12.5mm

ER20 Collets Sets

E20-15S	15 Piece Set 1/16" - 1/2" by 32nds
E20-11S	11 Piece Set 2.0mm - 13.0mm by 1mm

ER20 Coolant Collets Sets

E20-12S(C)	12 Piece Set 5/32" - 1/2" by 32nds
E20-17S(C)	17 Piece Set 5.0mm - 13.0mm by 0.5mm

ER25 Collets



Size range: 1/16" - 5/8"

INCH		
Part Number	Size	Collapse Range
E25-004	1/16"	.063" - .047"
E25-006	3/32"	.094" - .078"
E25-008	1/8"	.125" - .109"
E25-010	5/32"	.156" - .125"
E25-012	3/16"	.187" - .156"
E25-014	7/32"	.218" - .187"
-	15/64"	-
E25-016	1/4"	.250" - .219"
-	17/64"	-
E25-018	9/32"	.281" - .250"
-	19/64"	-
E25-020	5/16"	.312" - .281"
-	21/64"	-
E25-022	11/32"	.344" - .312"
-	23/64"	-
E25-024	3/8"	.375" - .344"
-	25/64"	-
E25-026	13/32"	.406" - .375"
-	27/64"	-
E25-028	7/16"	.437" - .406"
-	29/64"	-
E25-030	15/32"	.469" - .437"
-	31/64"	-
E25-032	1/2"	.500" - .469"
-	33/64"	-
E25-034	17/32"	.531" - .500"
-	35/64"	-
E25-036	9/16"	.563" - .531"
-	37/64"	-
E25-038	19/32"	.594" - .563"
-	39/64"	-
E25-040	5/8"	.625" - .594"



Our patented Coolant Collets are designed for use with cylindrical shank tools (no flats). Cutting tool should be inserted the full length of the collet. If these conditions are not met, coolant leakage may result. Seals up to maximum coolant pressure of 1000PSI.

Size range: 2.0mm - 16.0mm
(0.039"-0.629")

METRIC		
Part Number	Size	Collapse Range
E25-078	2.0mm	2.0-1.0mm
E25-118	3.0mm	3.0-2.0mm
E25-137	3.5mm	3.5-2.5mm
E25-157	4.0mm	4.0-3.0mm
E25-196	5.0mm	5.0-4.0mm
E25-236	6.0mm	6.0-5.0mm
E25-275	7.0mm	7.0-6.0mm
E25-314	8.0mm	8.0-7.0mm
E25-354	9.0mm	9.0-8.0 mm
E25-393	10.0mm	10.0-9.0mm
E25-433	11.0mm	11.0-10.0mm
E25-452	11.5mm	11.5-11.0mm
E25-472	12.0mm	12.0-11.0mm
E25-511	13.0mm	13.0-12.0mm
E25-551	14.0mm	14.0-13.0mm
E25-590	15.0mm	15.0-14.0mm
E25-629	16.0mm	16.0-15.0mm

Size range: 7/32" - 5/8"

INCH-COOLANT-THRU		
Part Number	Size	Collapse Range
-	1/16"	-
-	3/32"	-
-	1/8"	-
-	5/32"	-
-	3/16"	-
E25-014(C)	7/32"	.219" - .203"
E25-015(C)	15/64"	.234" - .219"
E25-016(C)	1/4"	.250" - .234"
E25-017(C)	17/64"	.266" - .250"
E25-018(C)	9/32"	.281" - .266"
E25-019(C)	19/64"	.297" - .281"
E25-020(C)	5/16"	.312" - .297"
E25-021(C)	21/64"	.328" - .312"
E25-022(C)	11/32"	.344" - .328"
E25-023(C)	23/64"	.359" - .344"
E25-024(C)	3/8"	.375" - .359"
E25-025(C)	25/64"	.391" - .375"
E25-026(C)	13/32"	.406" - .391"
E25-027(C)	27/64"	.422" - .406"
E25-028(C)	7/16"	.437" - .422"
E25-029(C)	29/64"	.453" - .437"
E25-030(C)	15/32"	.469" - .453"
E25-031(C)	31/64"	.484" - .469"
E25-032(C)	1/2"	.500" - .484"
E25-033(C)	33/64"	.516" - .500"
E25-034(C)	17/32"	.531" - .516"
E25-035(C)	35/64"	.547" - .531"
E25-036(C)	9/16"	.563" - .547"
E25-037(C)	37/64"	.578" - .563"
E25-038(C)	19/32"	.594" - .578"
E25-039(C)	39/64"	.609" - .594"
E25-040(C)	5/8"	.625" - .609"

Size range: 6.0mm-16.0mm
(0.236"-0.629")

METRIC-COOLANT-THRU		
Part Number	Size	Collapse Range
-	2.0mm	-
-	3.0mm	-
-	3.5mm	-
-	4.0mm	-
-	5.0mm	-
E25-236(C)	6.0mm	6.0mm - 5.5mm
E25-255(C)	6.5mm	6.5mm - 6.0mm
E25-275(C)	7.0mm	7.0mm - 6.5mm
E25-295(C)	7.5mm	7.5mm - 7.0mm
E25-314(C)	8.0mm	8.0mm - 7.5mm
E25-334(C)	8.5mm	8.5mm - 8.0mm
E25-354(C)	9.0mm	9.0mm - 8.5mm
E25-374(C)	9.5mm	9.5mm - 9.0mm
E25-393(C)	10.0mm	10.0mm - 9.5mm
E25-413(C)	10.5mm	10.5mm - 10.0mm
E25-433(C)	11.0mm	11.0mm - 10.5mm
E25-452(C)	11.5mm	11.5mm - 11.0mm
E25-472(C)	12.0mm	12.0mm - 11.5mm
E25-492(C)	12.5mm	12.5mm - 12.0mm
E25-511(C)	13.0mm	13.0mm - 12.5mm
E25-531(C)	13.5mm	13.5mm - 13.0mm
E25-551(C)	14.0mm	14.0mm - 13.5mm
E25-570(C)	14.5mm	14.5mm - 14.0mm
E25-590(C)	15.0mm	15.0mm - 14.5mm
E25-610(C)	15.5mm	15.5mm - 15.0mm
E25-629(C)	16.0mm	16.0mm - 15.5mm

ER25 Collets Sets

E25-19S	19 Piece Set 1/16" - 5/8" by 32nds
E25-14S	14 Piece Set 2.0mm - 16.0mm by 1mm

ER25 Coolant Collets Sets

E25-13S(C)	13 Piece Set 1/4" - 5/8" by 32nds
E25-21S(C)	21 Piece Set 6.0mm - 16.0mm by 0.5mm



www.lyndexnikken.com

1468 Armour Boulevard

Mundelein, IL 60060

E-mail: inquiries@lyndexnikken.com

Phone: (847) 367-4800

Fax: (847) 367-4815

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