



MODULAR ANGLE HEAD CATALOG



**FLEXIBILITY &
PERFORMANCE**



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**FLEXIBILITY &
PERFORMANCE**

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Modular Angle Head System - Flexibility for any application!



Tapers



Taper Extension

Modular Attachments



ER11 Adapter (pg.11)



ER11 Adapter Slim (pg.12)



ER11 Adapter Long (pg.13)



ER16 Adapter (pg.14)



ER16 Adapter Slim (pg.15)



ER16 Adapter Long (pg.16)



ER20 Adapter (pg.17)



ER20 Adapter Slim (pg.18)



ER20 Adapter Long (pg.19)



ER25 Adapter (pg.20)



ER25 Adapter Slim (pg.21)



ER25 Adapter Long (pg.22)



ER16 Double Output (pg.23)



ER25 Double Output (pg.24)



NSK Adapter (pg.25)



MI32 Quick Change (pg.26)



MI32 Quick Change Long (pg.27)

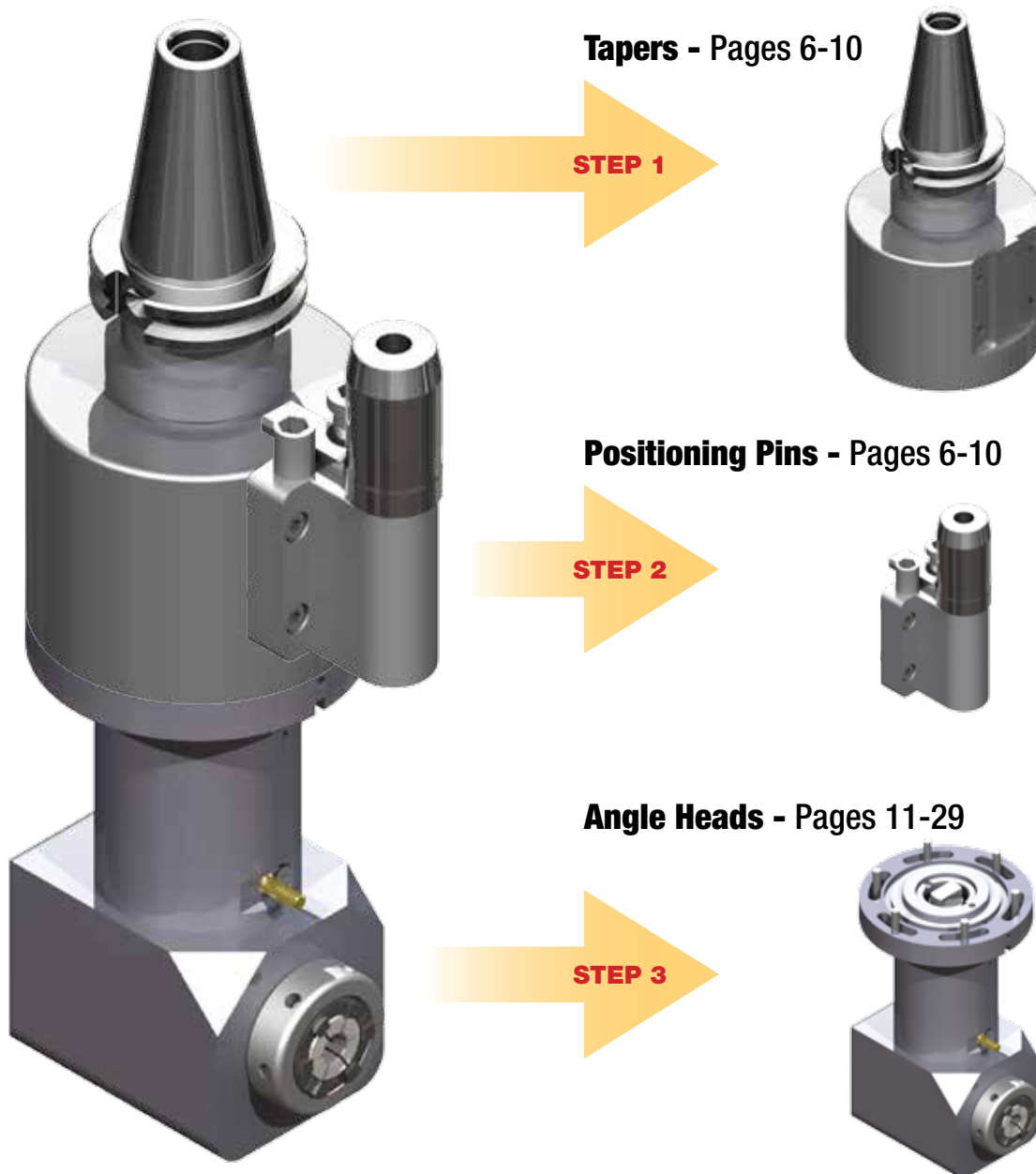


MI40 Quick Change (pg.28)



MI40 Long Quick Change (pg.29)

Constructing an Angle Head in 3 easy steps!



Modular Angle Head System Features

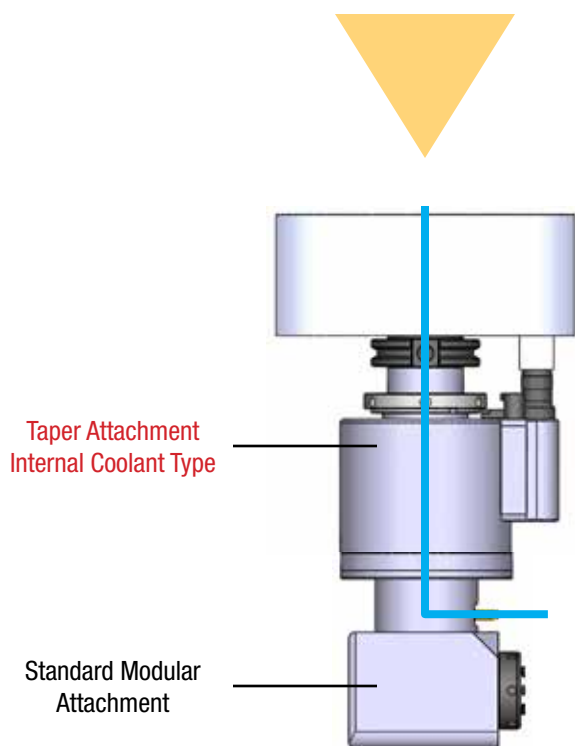
- Flexible for a multitude of applications
- Adaptable with a wide variety of machine tapers
- Bolt style mounting system between taper and modular attachment for added rigidity
- Cost effective solution when angle heads are required on machines with different tapers
- 360 degree body and head rotation
- 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 drilling

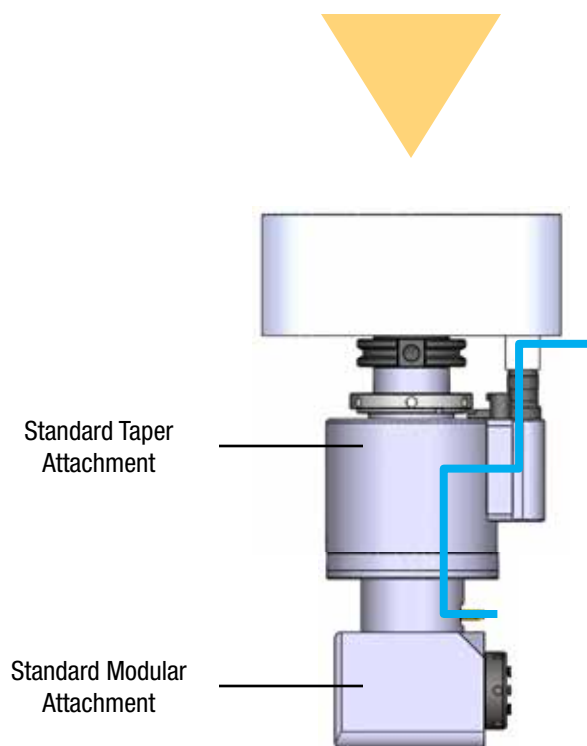
Coolant Configurations

COOLANT SUPPLY THROUGH THE SPINDLE

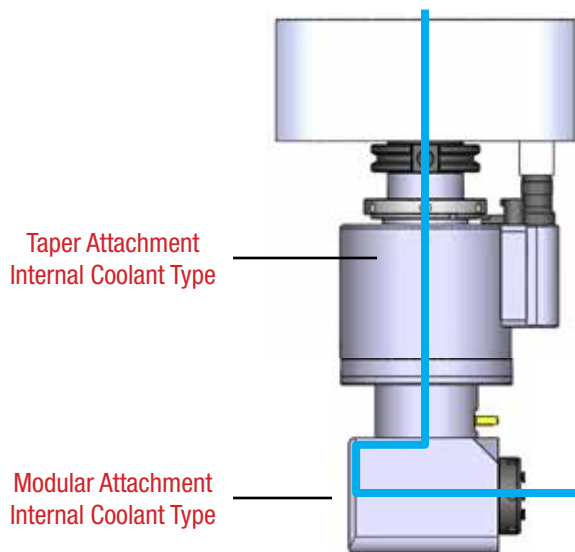


EXTERNAL COOLANT

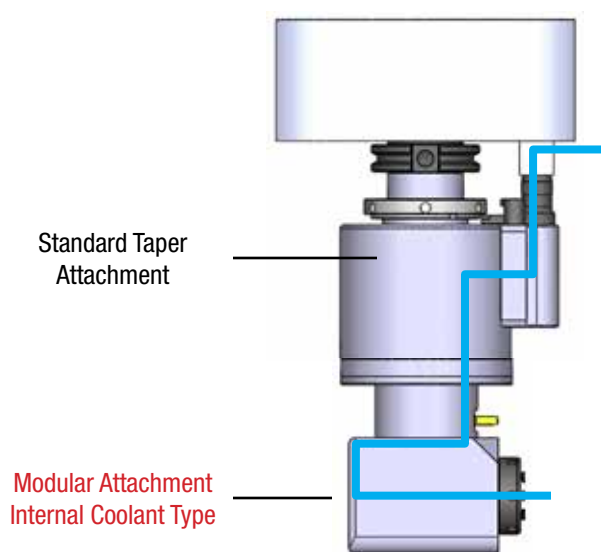
COOLANT SUPPLY THROUGH THE POSITIONING BLOCK



EXTERNAL COOLANT



INTERNAL COOLANT



INTERNAL COOLANT

Tapers

CAT40



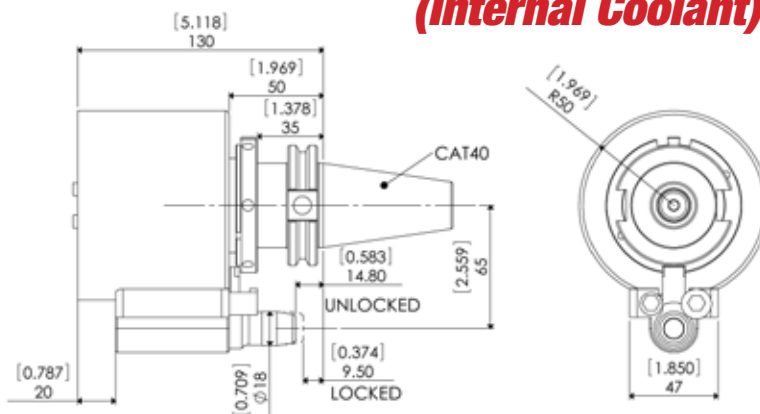
Extensions are also available, please see page 10.

Please reference page 5 for coolant configurations

Part #: C40-MRAM

C40-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: 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.

CAT50

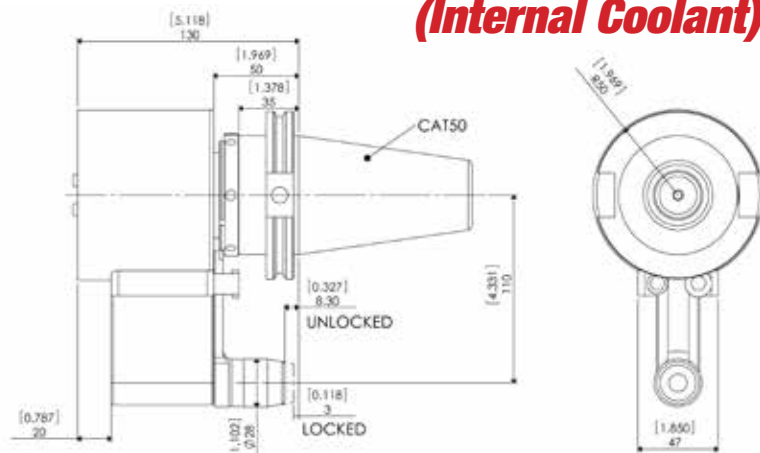


Extensions are also available, please see page 10.

Part #: C50-MRAM

C50-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: PA110-CAT



- 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 10.***

BT50



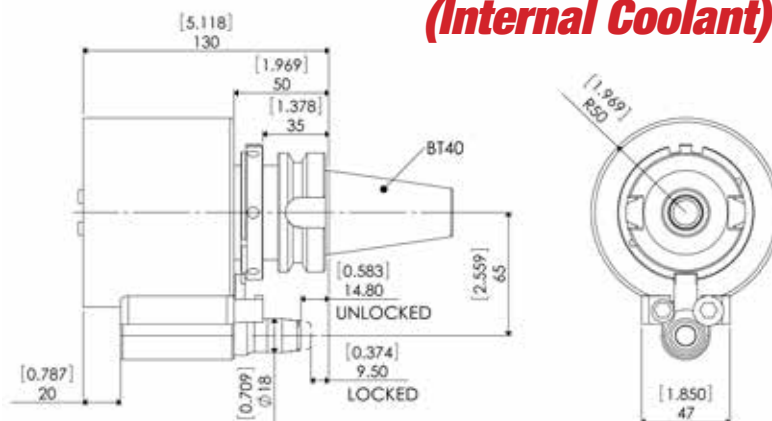
***Extensions are also available,
please see page 10.***

Please reference page 5 for coolant configurations

Part #: B40-MRAM

B40-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: PA65-CAT/BT

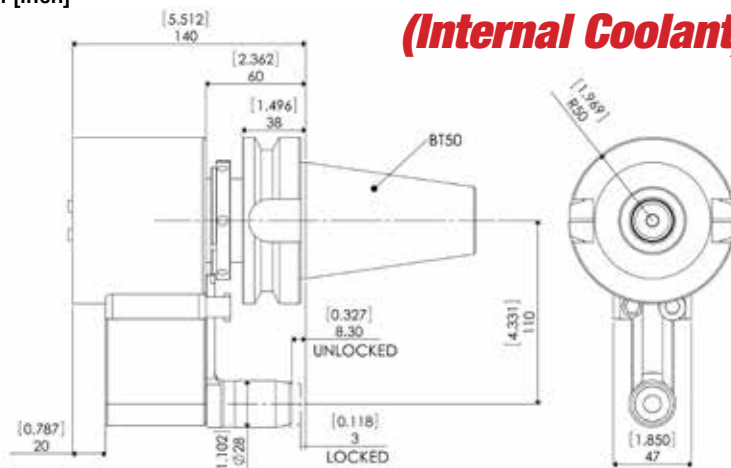


- 65mm (2.56") pitch positioning pin with 9.5mm (.374") below gage line is standard (**Part #: PA65-CAT/BT**).
- 65mm (2.56") pitch positioning pin available in different lengths upon request.

Part #: B50-MRAM

B50-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: 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



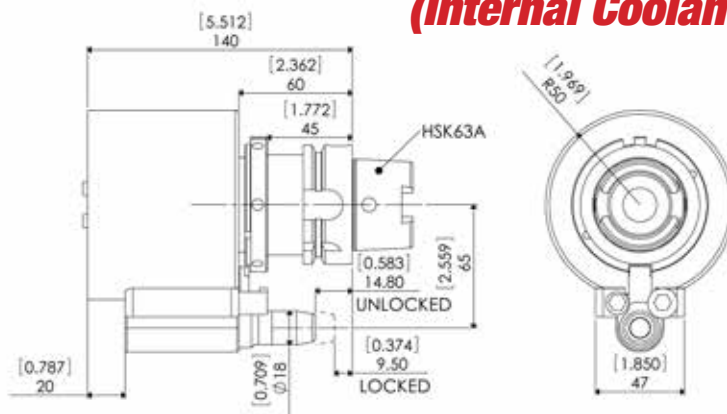
Extensions are also available, please see page 10.

Please reference page 5 for coolant configurations

Part #: H63A-MRAM

H63A-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: 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

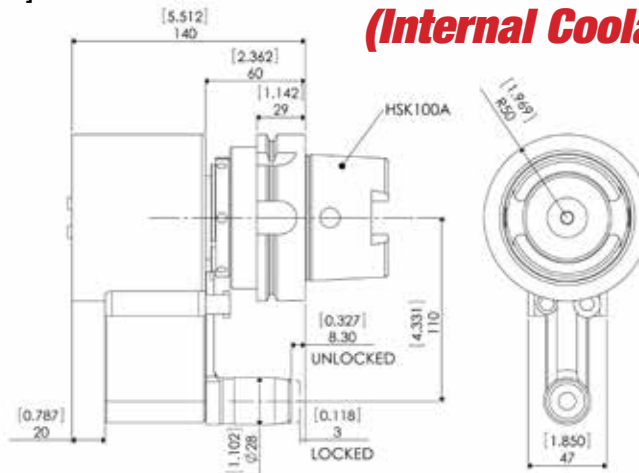


Extensions are also available, please see page 10.

Part #: H100A-MRAM

H100A-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: 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



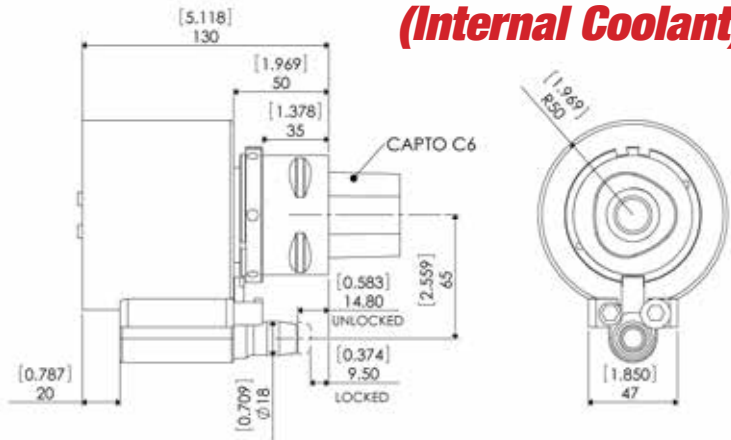
Extensions are also available, please see page 10.

Please reference page 5 for coolant configurations

Part #: C6-MRAM

C6-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: 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.

CAPTO C8

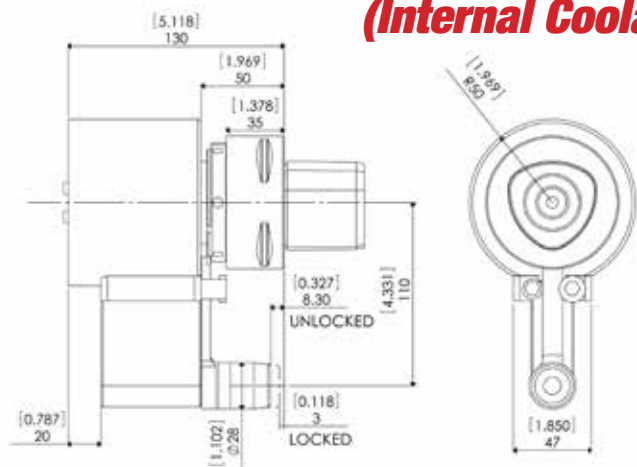


Extensions are also available, please see page 10.

Part #: C8-MRAM

C8-MRAM-IC (Internal Coolant)

mm [inch]



Requires positioning pin part #: PA110-CAT



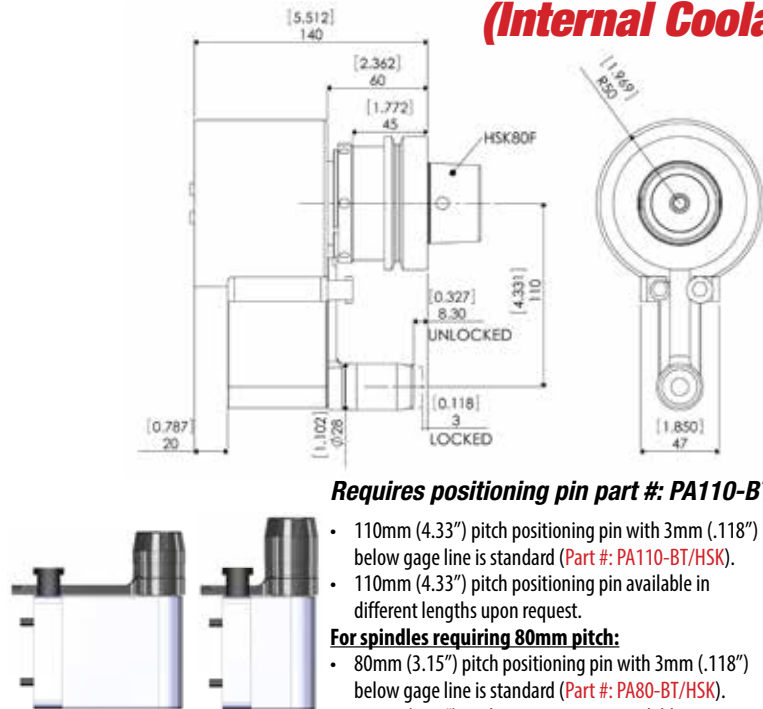
- 110mm (4.33") pitch positioning pin with 3mm (.118") below gage line is standard (Part #: PA110-CAT).
- 110mm (4.33") pitch positioning pin available in different lengths upon request.
- For spindles requiring 80mm pitch:**
 - 80mm (3.15") pitch positioning pin with 3mm (.118") below gage line is standard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

Tapers

HSK80F



mm [inch]



Requires positioning pin part #: 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.

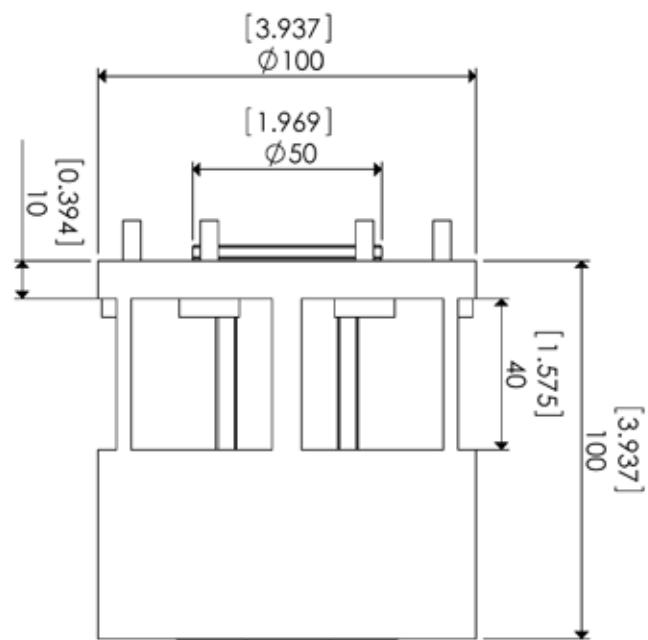
For spindles requiring 80mm pitch:

- 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.

TAPER EXTENSION

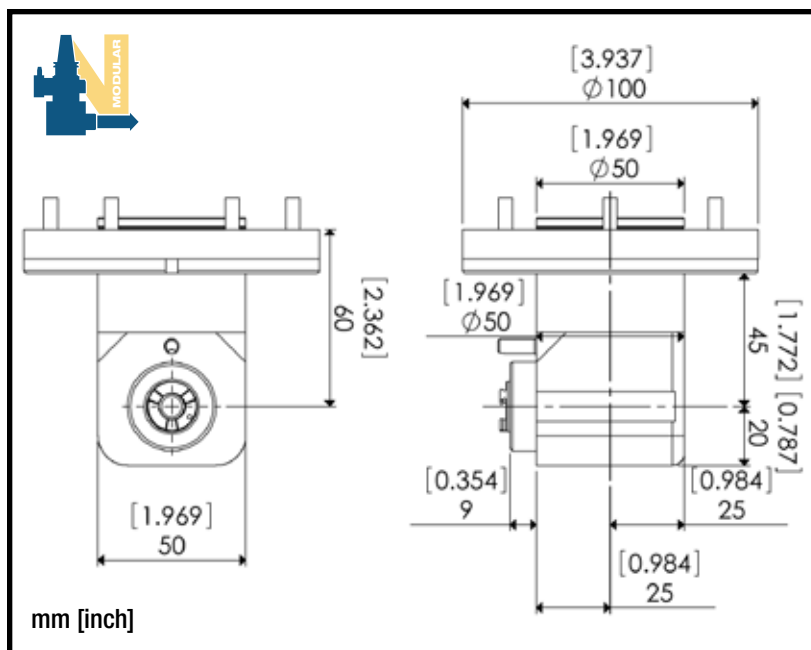


mm [inch]

**Part #: MRAM-EXT-100**

Modular Attachment - ER11 Adapter

Part #: MRAM-ER11



Features

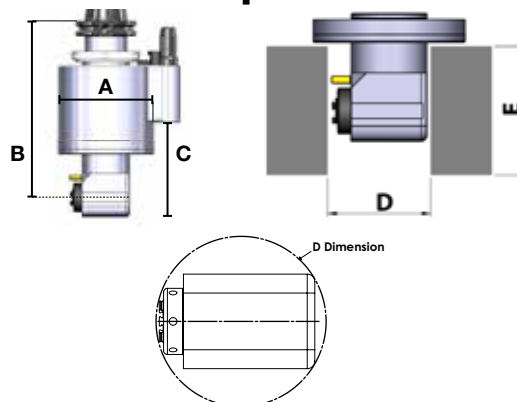
- 7000 RPM
- 3 Nm Torque capable
- .019" to .275" range capable
- Recessed ER11 Nut for added clearance
- Short design makes this ideal for light milling and drilling applications
- External Coolant standard

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		5.4 (11.9 lbs)				
HSK100A		7.5 (16.5 lbs)				
CAPTO C6		5.6 (12.3 lbs)				
CAPTO C8		6.7 (14.8 lbs)				
HSK80F		6.4 (14.1 lbs)				
		200 (7.87")				

*Total weight includes tapered positioning pin, taper body and modular attachment.

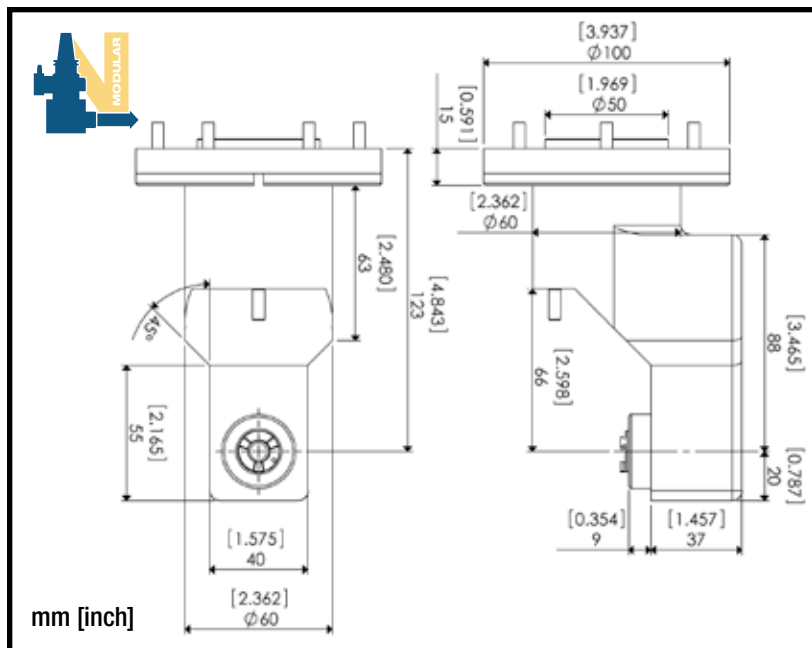
General Taper Reference



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

Modular Attachment - Slim Type ER11 Adapter

Part #: MRAM-ER11ST



Features

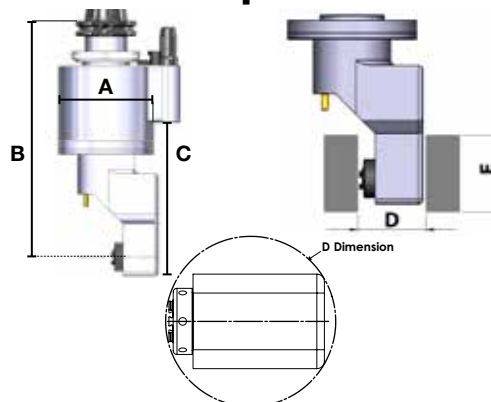
- 7000 RPM
- 3 Nm Torque Capable
- .019" to .275" range capable
- Recessed ER11 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight spaces
- External Coolant standard

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		263 (10.35")				9.1 (20.1 lbs)
HSK63A						5.9 (13.0 lbs)
HSK100A						8.0 (17.6 lbs)
CAPTO C6						6.1 (13.4 lbs)
CAPTO C8						7.2 (15.9 lbs)
HSK80F		263 (10.35")				6.9 (15.2 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

General Taper Reference



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

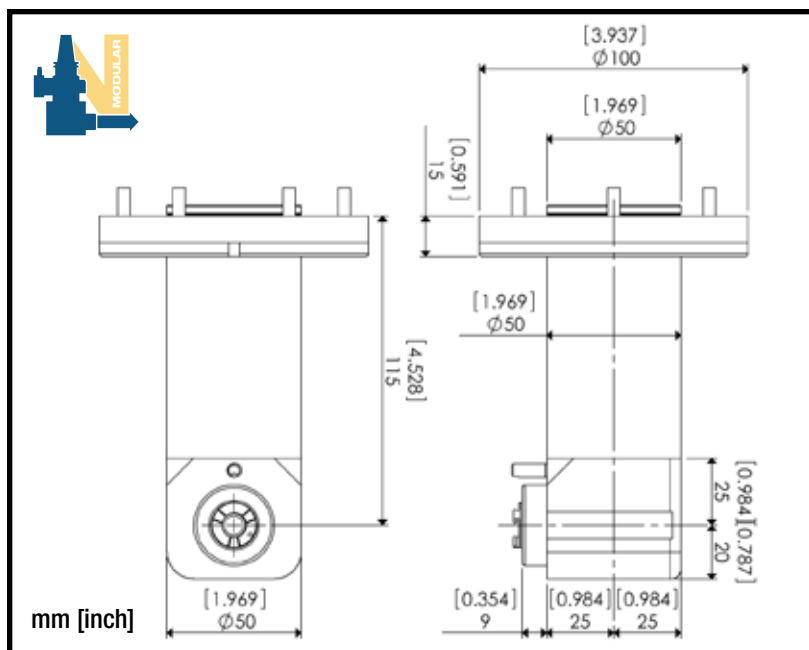
Wrenches included: Spindle Wrench - Part# 107557

Collet Nut Wrench - Part# WRENCH-MIM-112912

For ER Collets please see page 34

Modular Attachment - ER11 Adapter Long

Part #: MRAM-ER11L



Features

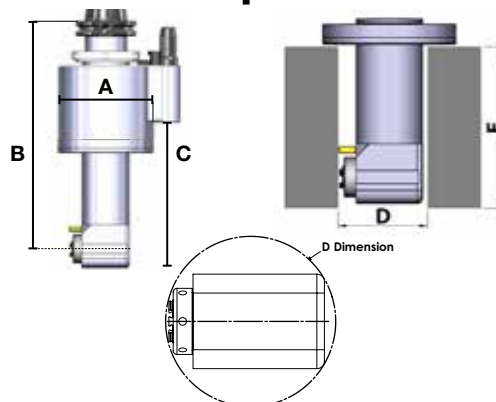
- 7000 RPM
- 3 Nm Torque Capable
- .019" to .275" range capable
- Recessed ER11 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight spaces
- External Coolant standard

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		255 (10.04")				8.9 (19.6 lbs)
HSK63A						5.7 (12.6 lbs)
HSK100A						7.8 (17.2 lbs)
CAPTO C6						5.9 (13.0 lbs)
CAPTO C8						7.0 (15.4 lbs)
HSK80F		255 (10.04")				6.7 (14.8 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

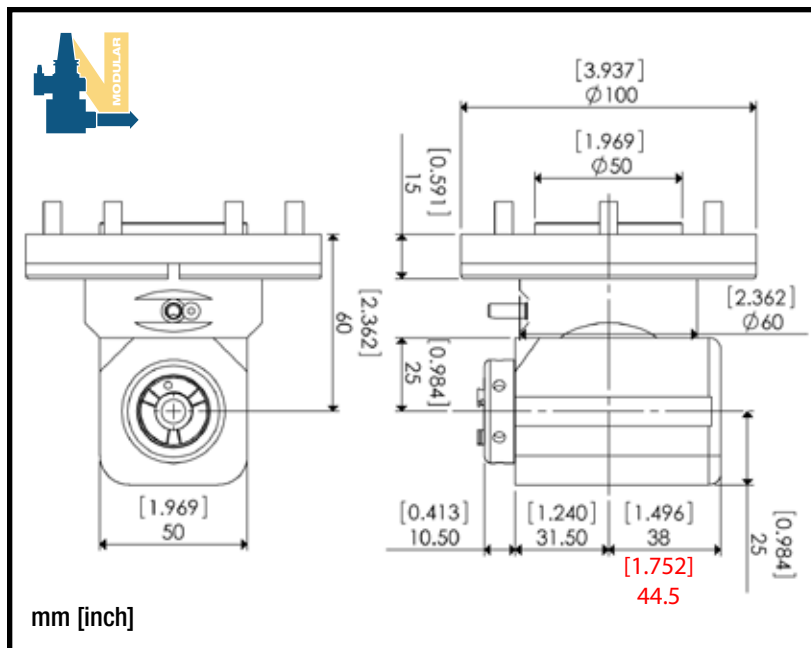
General Taper Reference



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

Modular Attachment - ER16 Adapter

Part #: MRAM-ER16 MRAM-ER16-IC *(Internal Coolant)*



Larger dimension due to coolant-thru channel plate

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 standard
- Internal Coolant available
(PART #: MRAM-ER16-IC)

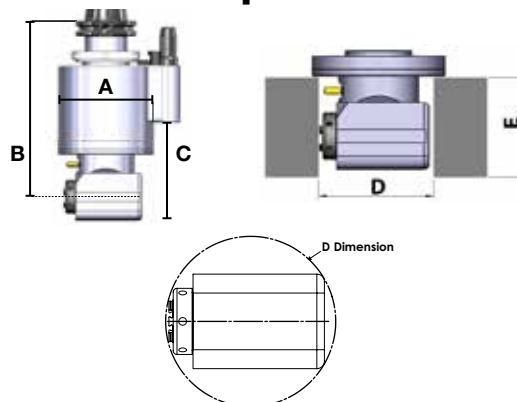
General Taper Reference Dimensions

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") 100 (3.94")*	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		5.4 (11.9 lbs)				
HSK100A		7.5 (16.5 lbs)				
CAPTO C6		5.6 (12.3 lbs)				
CAPTO C8		6.7 (14.8 lbs)				
HSK80F		200 (7.87")				6.4 (14.1 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

*Internal Coolant version

General Taper Reference



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

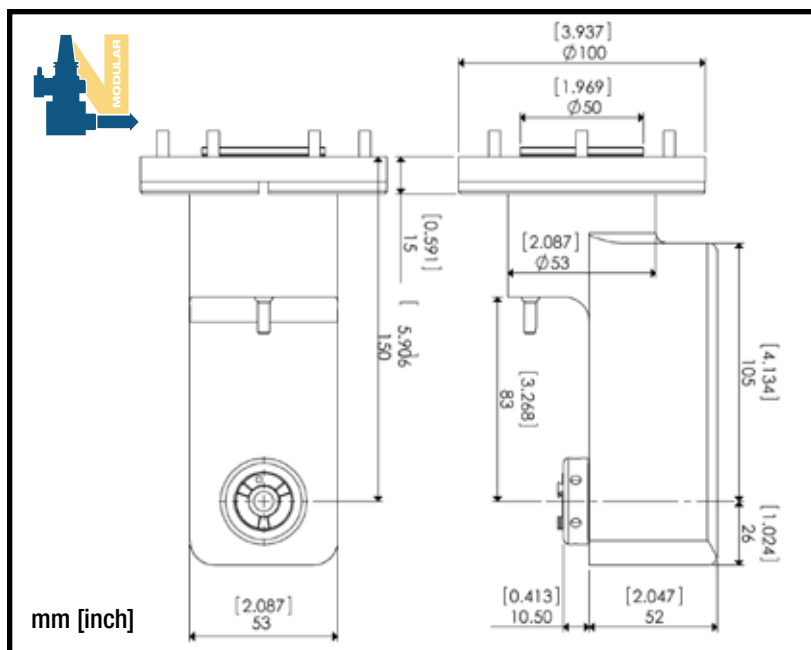
Wrenches included: Spindle Wrench - Part# 107557

Collet Nut Wrench - Part# WRENCH-MIM-112954

For ER Collets please see page 35

Modular Attachment - Slim Type ER16 Adapter

Part #: MRAM-ER16ST



Features

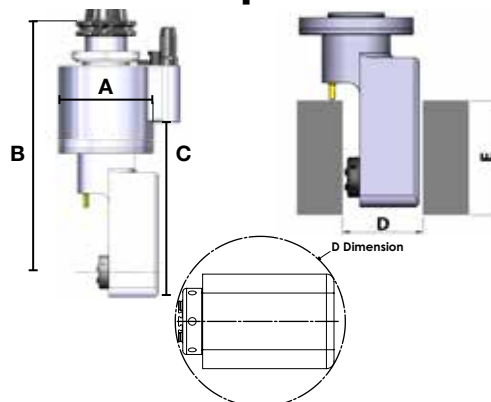
- 6000 RPM
- 10 Nm Torque Capable
- .039" to .393" range capable
- Recessed ER16 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight places
- External Coolant standard

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		6.7 (14.8 lbs)				
HSK100A		8.8 (19.4 lbs)				
CAPTO C6		6.9 (15.2 lbs)				
CAPTO C8		8.0 (17.6 lbs)				
HSK80F		280 (11.02")				7.7 (17.0 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

General Taper Reference

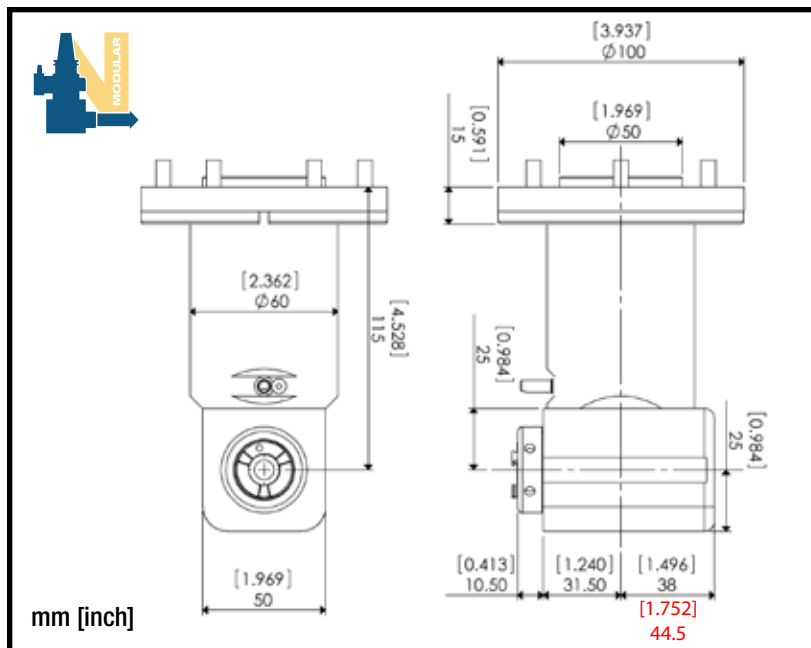


D dimension = Minimum bore diameter
E dimension = Maximum depth within bore diameter

Modular Attachment - ER16 Adapter Long

Part #: MRAM-ER16L

MRAM-ER16L-IC
(Internal Coolant)



Larger dimension due to coolant-thru channel plate

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 standard
- Internal Coolant available
(PART #: MRAM-ER16L-IC)

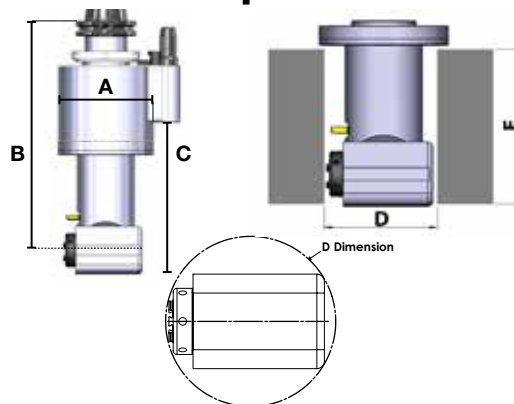
General Taper Reference Dimensions

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") 100 (3.94")*	125 (4.92")	7.4 (16.3 lbs)
CAT50						9.8 (21.6 lbs)
BT40						7.9 (17.4 lbs)
BT50		255 (10.04")				10.8 (23.8 lbs)
HSK63A						7.6 (16.8 lbs)
HSK100A						9.7 (21.4 lbs)
CAPTO C6						7.8 (17.2 lbs)
CAPTO C8						8.9 (19.6 lbs)
HSK80F		255 (10.04")				8.6 (19.0 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

*Internal Coolant version

General Taper Reference



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

Wrenches included: Spindle Wrench - Part# 107557

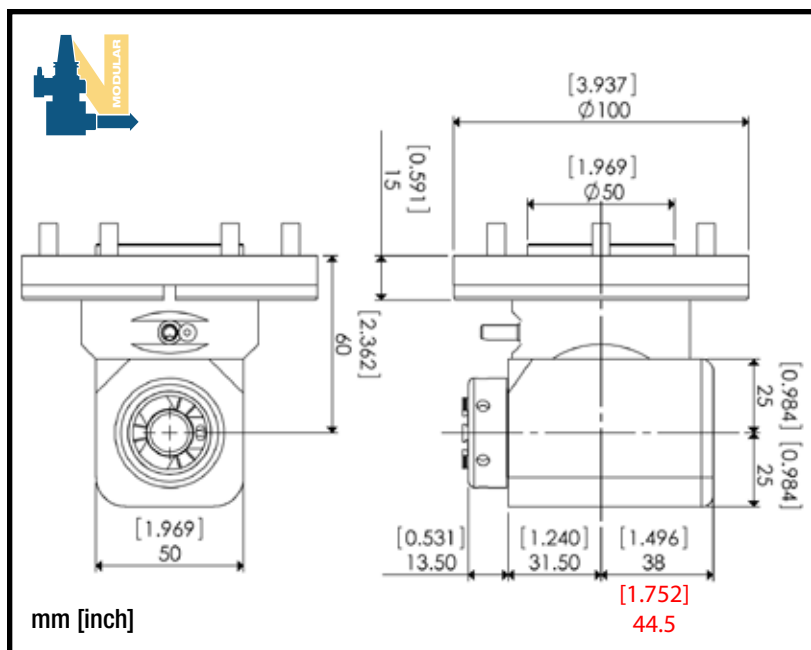
Collet Nut Wrench - Part# WRENCH-MIM-112954

For ER Collets please see page 35

Modular Attachment - ER20 Adapter

Part #: MRAM-ER20

MRAM-ER20-IC (Internal Coolant)



Larger dimension due to coolant-thru channel plate

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 standard
- Internal Coolant available
(PART #: MRAM-ER20-IC)

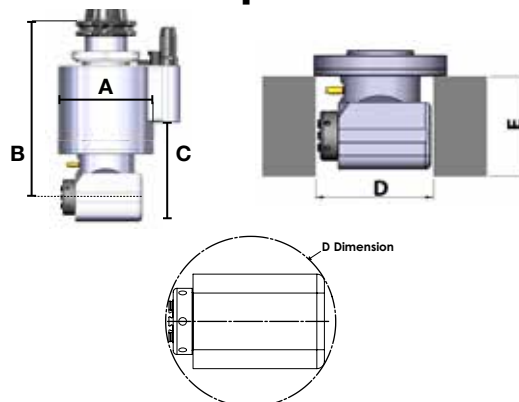
General Taper Reference Dimensions

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") 103 (4.06")*	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		5.6 (12.3 lbs)				
HSK100A		7.5 (16.5 lbs)				
CAPTO C6		5.8 (12.8 lbs)				
CAPTO C8		6.9 (15.2 lbs)				
HSK80F		200 (7.87")				6.6 (14.5 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

*Internal Coolant version

General Taper Reference



D dimension = Minimum bore diameter

E dimension = Maximum depth within bore diameter

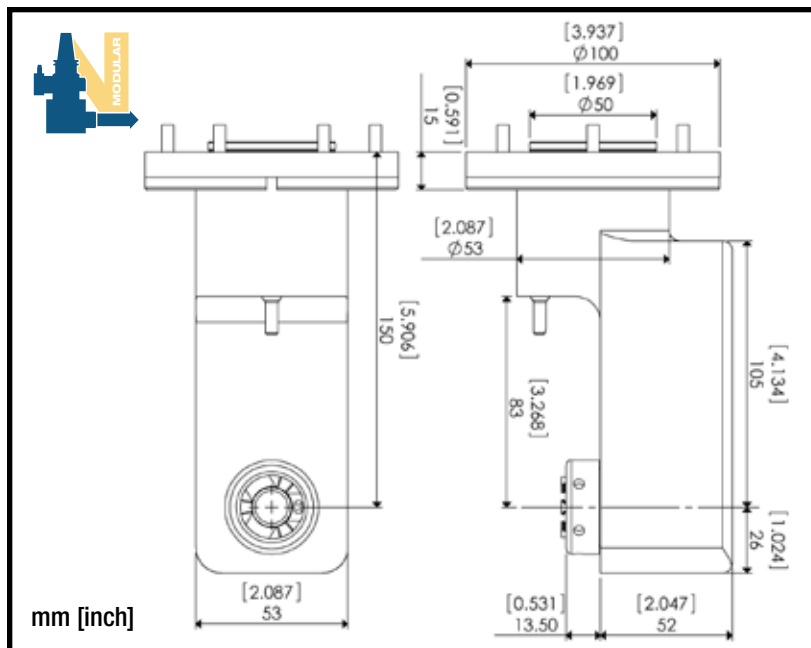
Wrenches included: Spindle Wrench - Part# 107608

Collet Nut Wrench - Part# WRENCH-MIM-112929

For ER Collets please see page 36

Modular Attachment - Slim Type ER20 Adapter

Part #: MRAM-ER20ST



Features

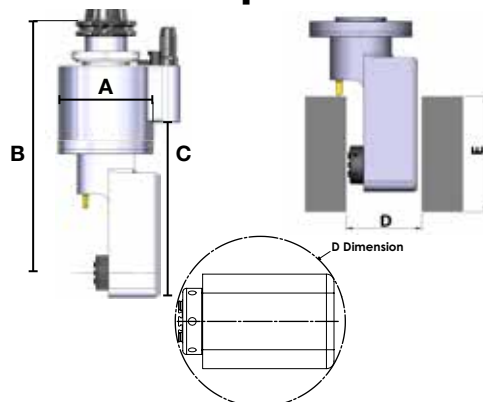
- 6000 RPM
- 10 Nm Torque Capable
- .039" to .511" range capable
- Recessed ER20 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight places
- External Coolant standard

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		280 (11.02")				9.9 (21.8 lbs)
HSK63A						6.7 (14.8 lbs)
HSK100A						8.8 (19.4 lbs)
CAPTO C6						6.9 (15.2 lbs)
CAPTO C8						8.0 (17.6 lbs)
HSK80F		280 (11.02")				7.7 (17.0 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

General Taper Reference

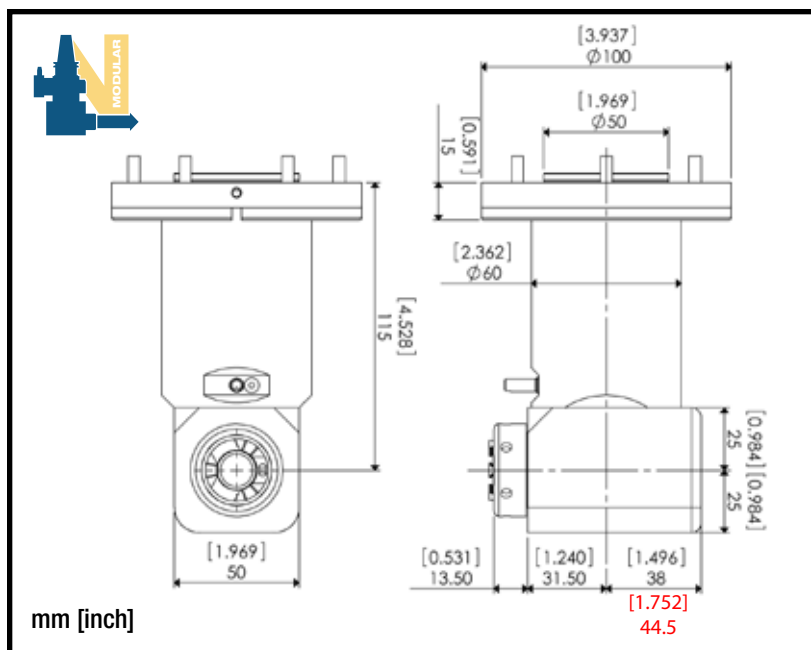


D dimension = Minimum bore diameter
E dimension = Maximum depth within bore diameter

Modular Attachment - ER20 Adapter Long

Part #: MRAM-ER20L

MRAM-ER20L-IC
(Internal Coolant)



Larger dimension due to coolant-thru channel plate

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 standard
- Internal Coolant available
(PART #: MRAM-ER20L-IC)

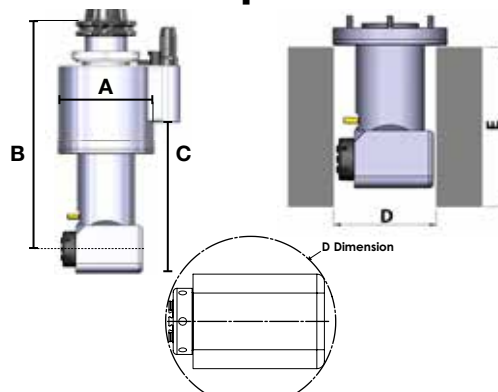
General Taper Reference Dimensions

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") 103 (4.06")*	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		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		255 (10.04")				8.8 (19.4 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

*Internal Coolant version

General Taper Reference



D dimension = Minimum bore diameter

E dimension = Maximum depth within bore diameter

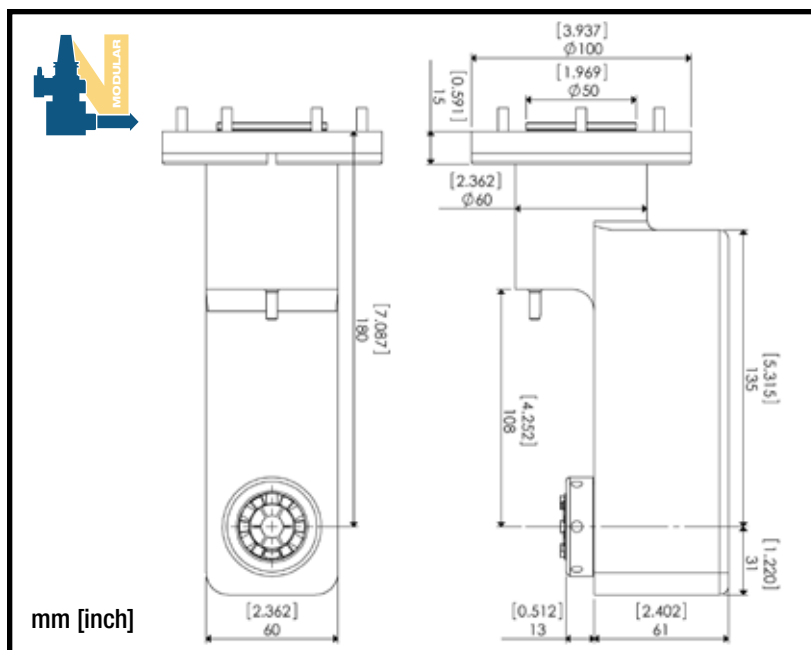
Wrenches included: Spindle Wrench - Part# 107608

Collet Nut Wrench - Part# WRENCH-MIM-112929

For ER Collets please see page 36

Modular Attachment - Slim Type ER25 Adapter

Part #: MRAM-ER25ST



Features

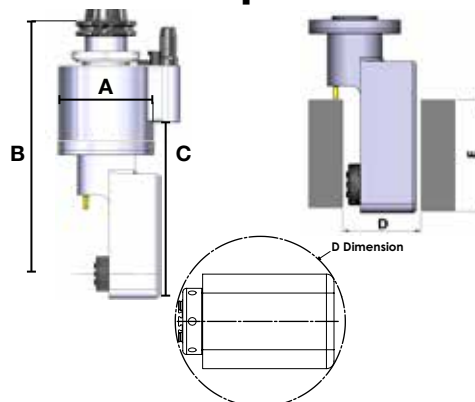
- 5000 RPM
- 25 Nm Torque Capable
- .039" to .629" range capable
- Recessed ER25 Nut for added clearance
- Slim design makes this ideal for applications in internal bores or tight places
- External Coolant standard

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		7.7 (17.0 lbs)				
HSK100A		9.8 (21.6 lbs)				
CAPTO C6		7.9 (17.4 lbs)				
CAPTO C8		9.0 (19.8 lbs)				
HSK80F		320 (12.60")				8.7 (19.2 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

General Taper Reference

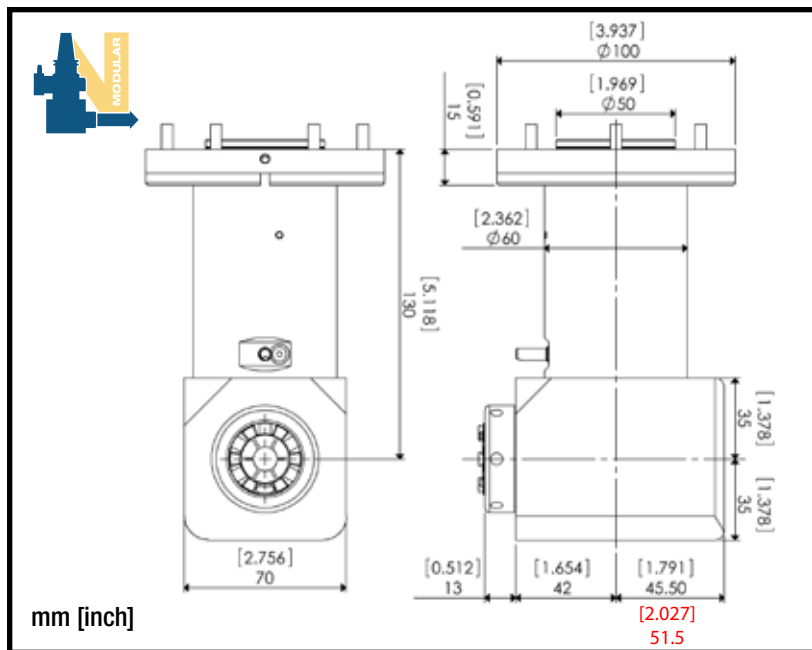


D dimension = Minimum bore diameter
E dimension = Maximum depth within bore diameter

Modular Attachment - ER25 Adapter Long

Part #: MRAM-ER25L

MRAM-ER25L-IC
(Internal Coolant)



Larger dimension due to coolant-thru channel plate

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 standard
- Internal Coolant available
(PART #: MRAM-ER25L-IC)

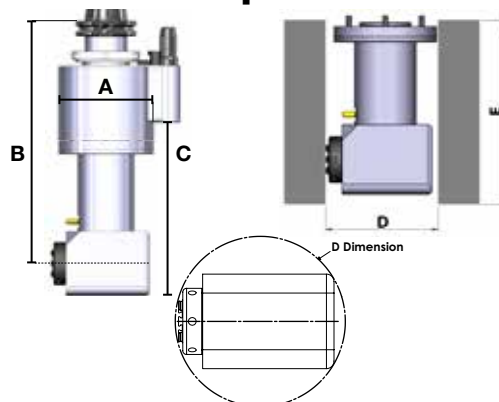
General Taper Reference Dimensions

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") 130 (5.12")*	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						8.7 (19.2 lbs)
HSK80F		270 (10.63")				8.4 (18.5 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

*Internal Coolant version

General Taper Reference



D dimension = Minimum bore diameter

E dimension = Maximum depth within bore diameter

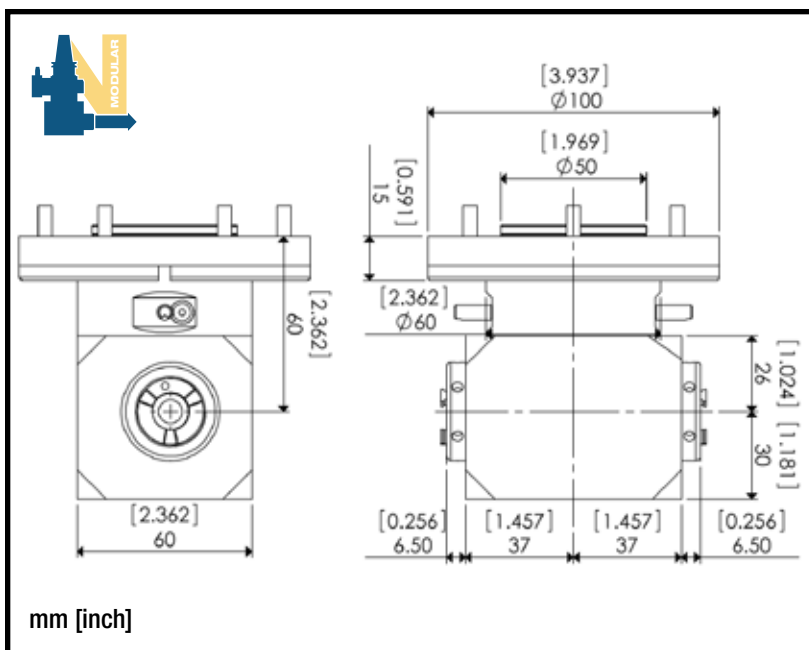
Wrenches included: Spindle Wrench - Part# 107446

Collet Nut Wrench - Part# WRENCH-MIM-112913

For ER Collets please see page 37

Modular Attachment - ER16 Adapter Double Angle Head

Part #: MRAM-ER16TS



Features

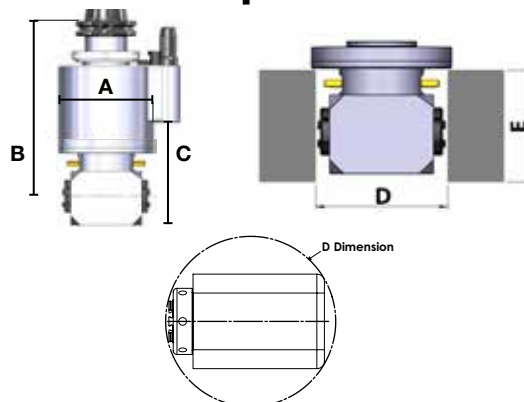
- 6000 RPM
- 10 Nm Torque Capable
- .039" to .393" range capable
- Recessed ER16 Nut for added clearance
- Double sided angle head work for applications requiring the same machined feature on both sides of a part
- External Coolant standard

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		200 (7.87")				9.4 (20.7 lbs)
HSK63A						6.2 (13.7 lbs)
HSK100A						8.3 (18.3 lbs)
CAPTO C6						6.4 (14.1 lbs)
CAPTO C8						7.5 (16.5 lbs)
HSK80F						7.2 (15.9 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

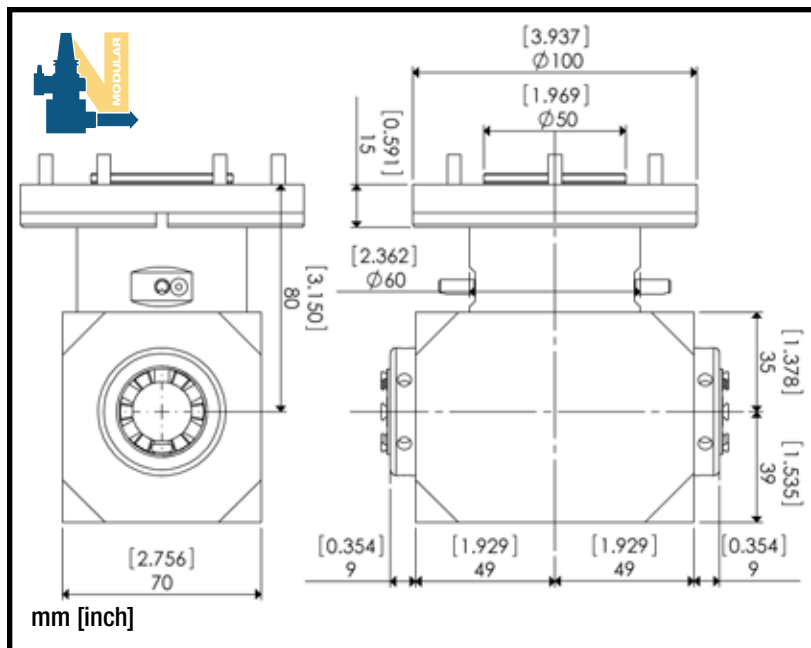
General Taper Reference



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

Modular Attachment - ER25 Adapter Double Angle Head

Part #: MRAM-ER25TS



Features

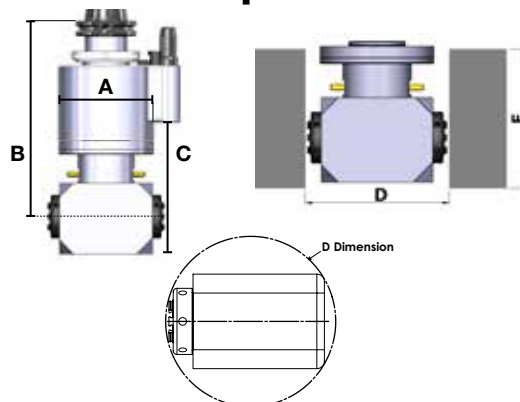
- 5000 RPM
- 25 Nm Torque Capable
- .039" to .629" range capable
- Recessed ER25 Nut for added clearance
- Double sided angle head work for applications requiring the same machined feature on both sides of a part
- External Coolant standard

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		220 (8.66")				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						8.7 (19.2 lbs)
HSK80F						8.4 (18.5 lbs)

*Total weight includes tapered positioning pin, taper body and modular attachment.

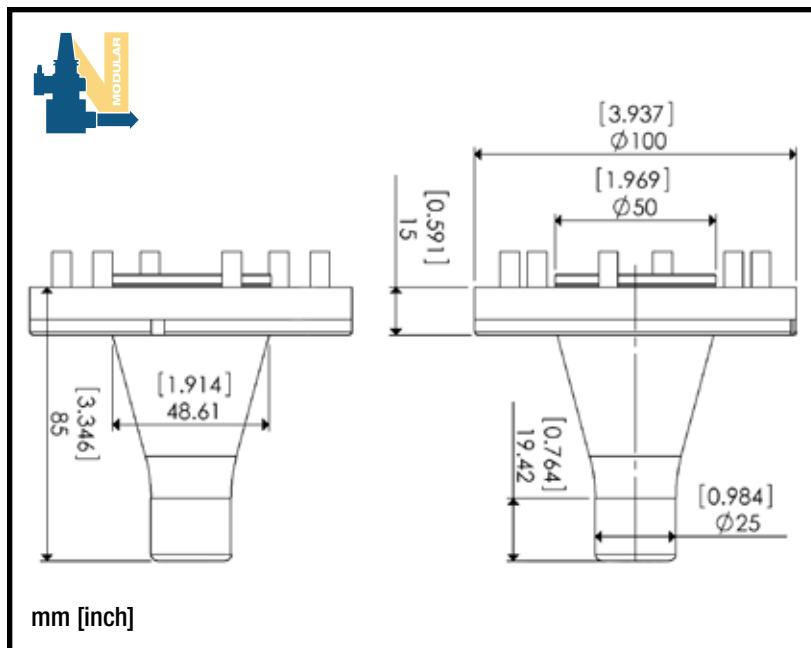
General Taper Reference



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

Modular Attachment - NSK Adapter

Part #: MRAM-NSK-M17



Features

- Input - 10,000 RPM
- Output - Max. 7,500 RPM
- 4:3 gear reduction ratio
- 1 Nm Torque Capable
- Miniature head for engraving and drilling applications in very small or tight areas
- Body can accept other NSK heads with M17 thread
- Additional NSK Attachments are available, please see page 32

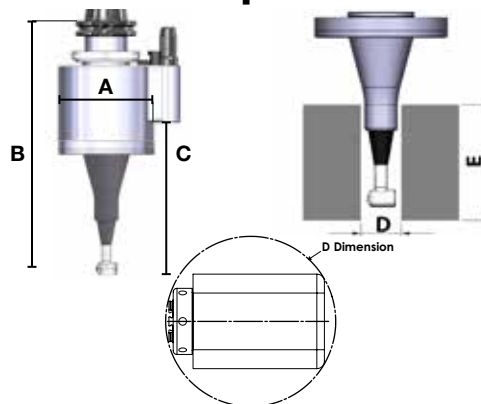
General Taper Reference Dimensions

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)

*Total weight includes tapered positioning pin, taper body and modular attachment.

Dimensions shown include the MRAM-NSK-M17 attachment with the NSK IC-300 adapter.

General Taper Reference



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

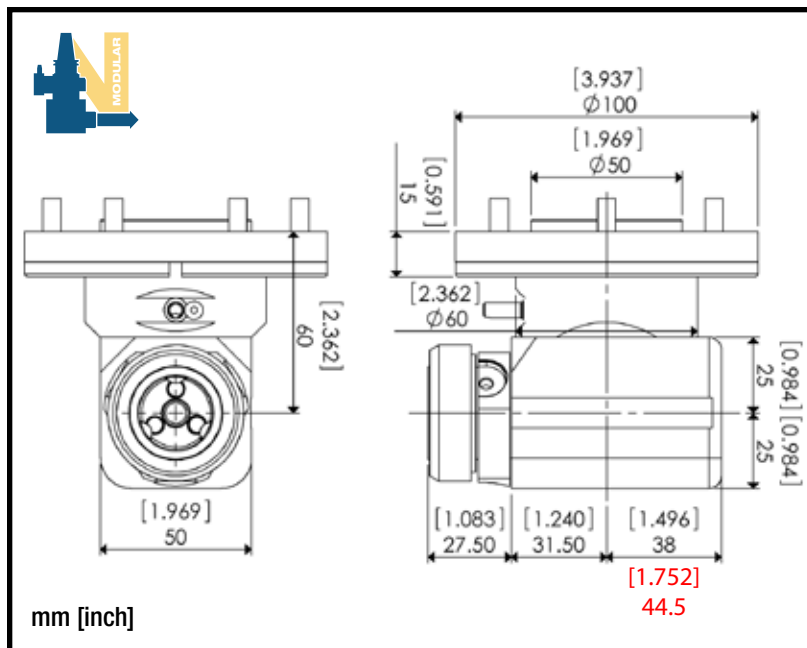
Additional NSK Attachments are available, please see page 32.



Modular Attachment - MI32 Quick Change Adapter

Part #: MRAM-MI32

MRAM-MI32-IC (Internal Coolant)



Larger dimension due to coolant-thru channel plate

Features

- ## **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 standard
 - Internal Coolant available
- (PART #: MRAM-MI32-IC)**

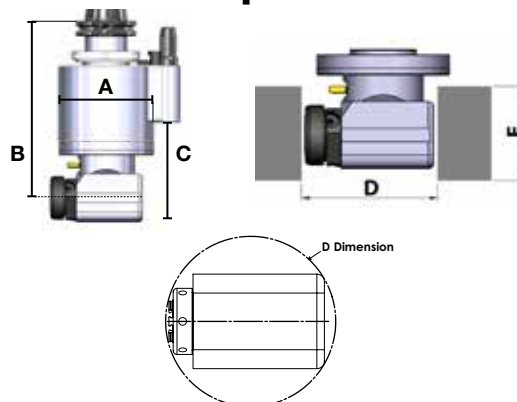
General Taper Reference Dimensions

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") 116 (4.57")*	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)
CAPTO C6						6.1 (13.4 lbs)
CAPTO C8		190 (7.48")				7.2 (15.9 lbs)
HSK80F		200 (7.87")				6.9 (15.2 lbs)

***Total weight includes tapered positioning pin, taper body and modular attachment.**

D dimension does not include front attachment. *Internal Coolant version

General Taper Reference



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

MI Adapter Wrench included: Part# 170734



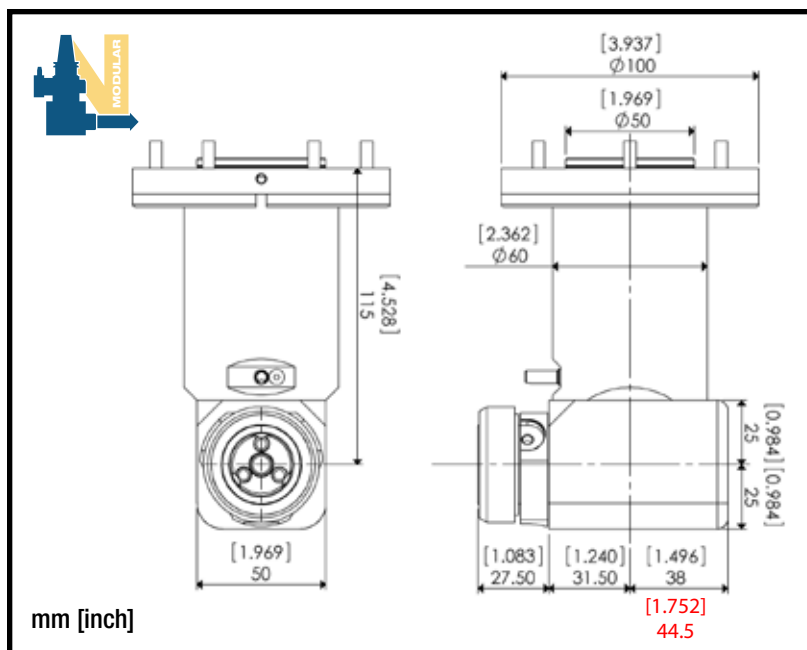
MI Attachments are available, please see pages 30-31.



Modular Attachment - MI32 Long Quick Change Adapter

Part #: MRAM-MI32L

MRAM-MI32L-IC (Internal Coolant)



Larger dimension due to coolant-thru channel plate

Features

- ## **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 standard
 - Internal Coolant available

(PART #: MRAM-MI32L-IC)

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") 116 (4.57")*	125 (4.92")	7.7 (17.0 lbs)
CAT50						10.1 (22.3 lbs)
BT40						8.2 (18.1 lbs)
BT50		11.1 (24.5 lbs)				
HSK63A		7.9 (17.4 lbs)				
HSK100A		10.0 (22.0 lbs)				
CAPTO C6		8.1 (17.9 lbs)				
CAPTO C8		9.2 (20.3 lbs)				
HSK80F		8.9 (19.6 lbs)				

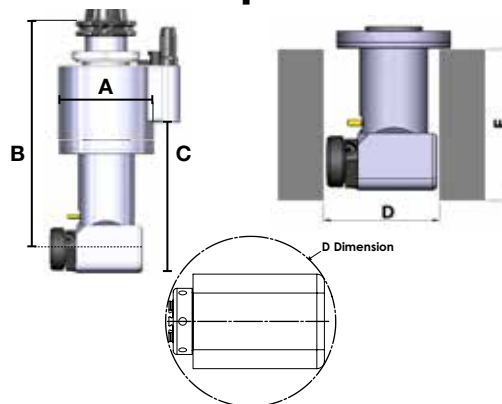
***Total weight includes tapered positioning pin, taper body and modular attachment.**

D dimension does not include front attachment. *Internal Coolant version



MI Adapter Wrench included: Part# 170734

General Taper Reference



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

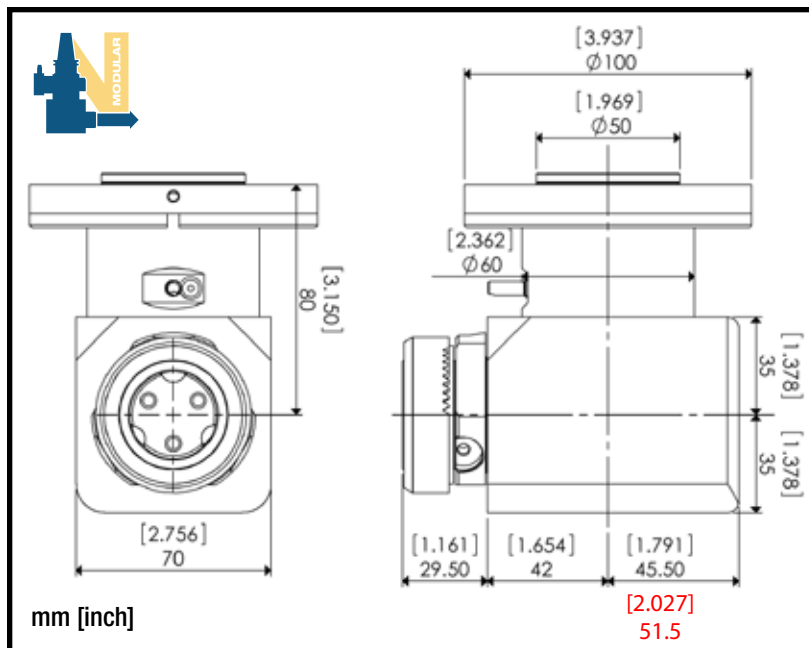
MI Attachments are available, please see pages 30-31.



Modular Attachment - MI40 Quick Change Adapter

Part #: MRAM-MI40

MRAM-MI40-IC
(Internal Coolant)



Larger dimension due to coolant-thru channel plate

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 standard
- Internal Coolant available
(PART #: MRAM-MI40-IC)

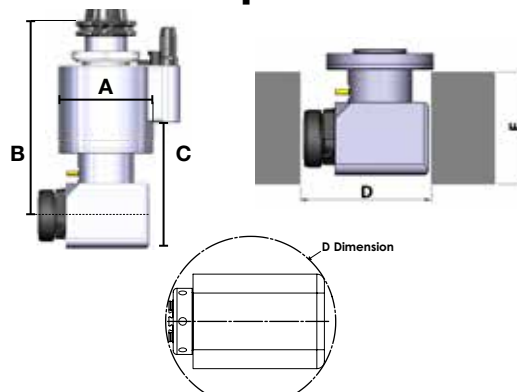
General Taper Reference Dimensions

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") 142 (5.59")*	99 (3.90")	7.0 (15.4 lbs)
CAT50						9.4 (20.7 lbs)
BT40						7.5 (16.5 lbs)
BT50		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)

*Total weight includes tapered positioning pin, taper body and modular attachment.

D dimension does not include front attachment. *Internal Coolant version

General Taper Reference



D dimension = Minimum bore diameter

E dimension = Maximum depth within bore diameter

MI Adapter Wrench included: Part# 170734



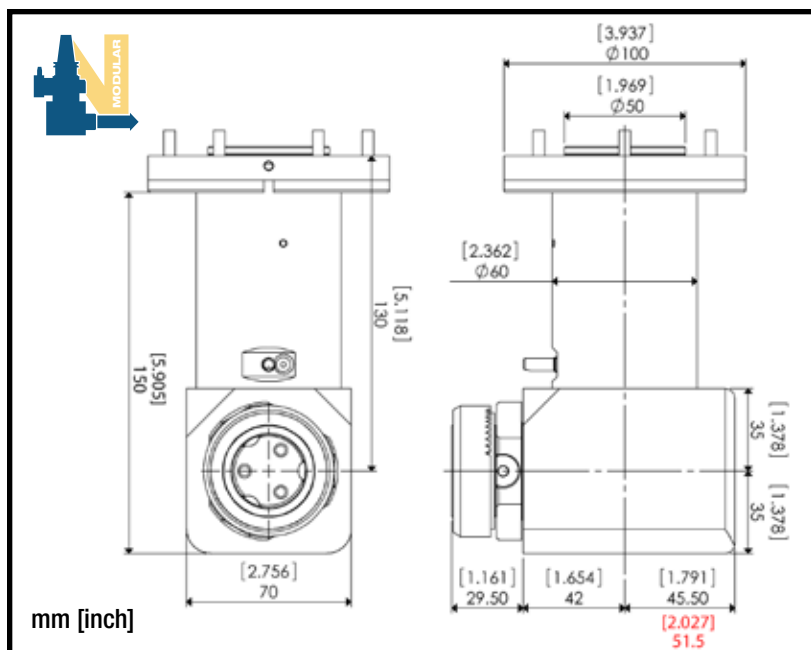
MI Attachments are available, please see pages 30-31.



Modular Attachment - MI40 Long Quick Change Adapter

Part #: MRAM-MI40L

MRAM-MI40L-IC
(Internal Coolant)



Larger dimension due to coolant-thru channel plate

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 standard
- Internal Coolant available **(PART #: MRAM-MI40L-IC)**

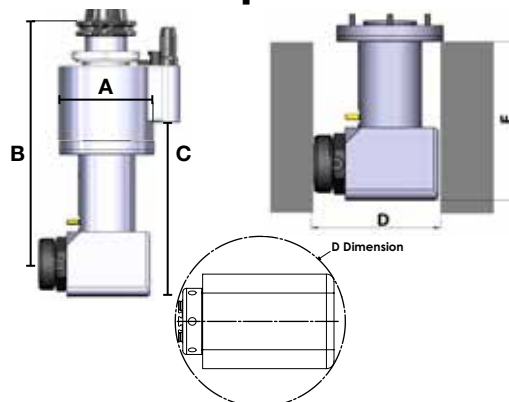
General Taper Reference Dimensions

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") 142 (5.59")*	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)				

*Total weight includes tapered positioning pin, taper body and modular attachment.

D dimension does not include front attachment. *Internal Coolant version

General Taper Reference



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

MI Adapter Wrench included: Part# 170734



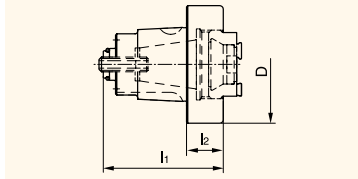
MI Attachments are available, please see pages 30-31.



Mimatic® MI Attachments

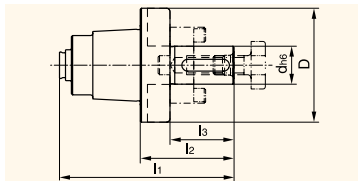
Collet Chuck DIN 6499 - Type ER

Short type, clamping nut inside



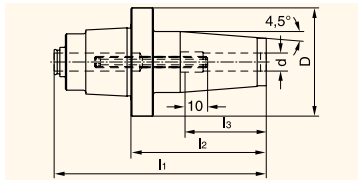
Part Number	Size	Collet	I1	I2	D
MI32-ER11I	MI32	ER11	1.634"	0.591"	1.654"
MI32-ER16I	MI32	ER16	1.634"	0.591"	1.654"
MI40-ER16I	MI40	ER16	1.772"	0.433"	1.890"
MI40-ER20I	MI40	ER20	1.929"	0.591"	1.890"
MI40-ER25I	MI40	ER25	2.165"	0.827"	1.890"

Combination Shell End Mill Arbor



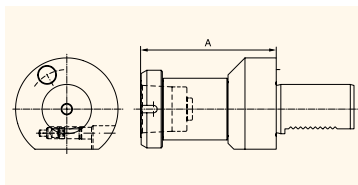
Part Number	Size	I1	I2	I3	d(h6)	D
MI32-SM16	MI32	2.598"	1.555"	1.063"	16mm (.630")	1.654"
MI40-SM16	MI40	2.894"	1.555"	0.984"	16mm (.630")	1.890"

Shrink Fit Chuck



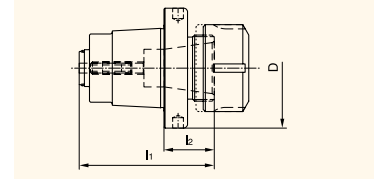
Part Number	Size	I1	I2	I3	d(h6)	D
MI40-SF8	MI40	3.701"	2.362"	1.417"	8mm (.315")	1.890"
MI40-SF10	MI40	3.701"	2.362"	1.654"	10mm (.394")	1.890"
MI40-SF12	MI40	3.898"	2.559"	1.850"	12mm (.472")	1.890"
MI40-SF16	MI40	4.094"	2.756"	1.969"	16mm (.630")	1.890"

Tool Presetting Unit



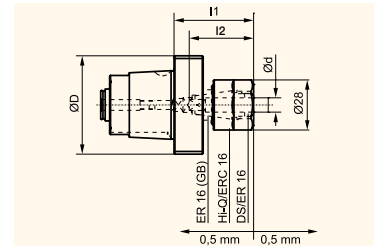
Part Number	Size	VDI	A
MI40-PRESET-VDI40	MI40	2.520"	108mm

Long type, clamping nut outside



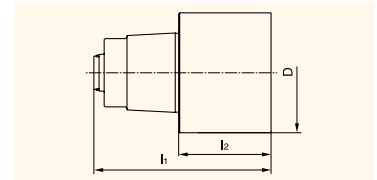
Part Number	Size	Collet	I1	I2	D
MI32-ER11	MI32	ER11	2.461"	1.417"	1.654"
MI32-ER16	MI32	ER16	1.988"	0.945"	1.654"
MI40-ER16	MI40	ER16	2.283"	0.945"	1.890"
MI40-ER20	MI40	ER20	2.520"	1.181"	1.890"

Softsynchro Chuck (Licence Emuge)

with internal coolant
with push and pull length
compensation 0.5mm


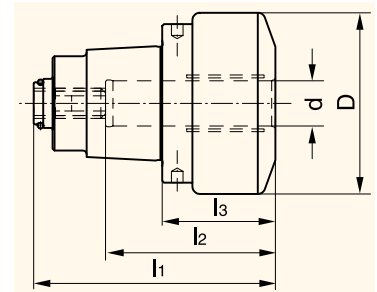
Part Number	Size	Collet	Thread	I1	I2	D
MI40-ER-GB16	MI40	ER-GB16	M4-M12	1.870"	.177-.394"	1.772"

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"

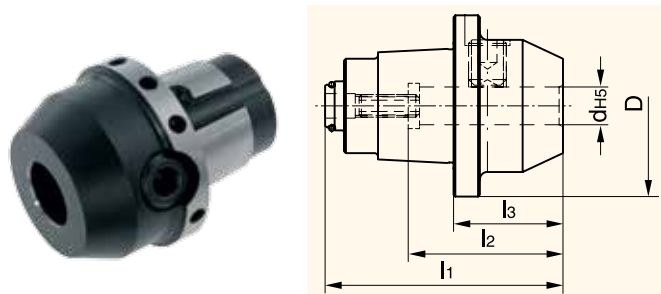
Hydraulic Chuck



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

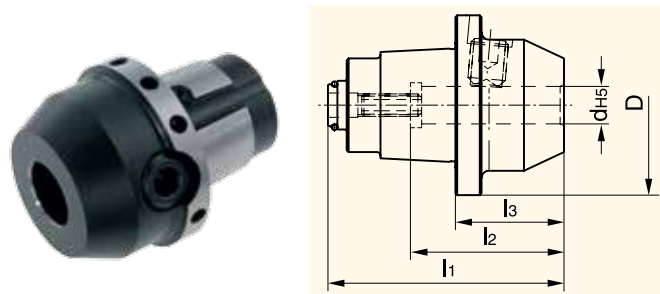
Mimatic® MI Attachments

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"

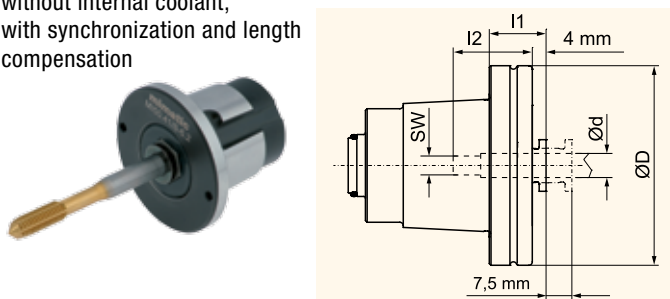
Whistle Notch Toolholder DIN 1835 E



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"

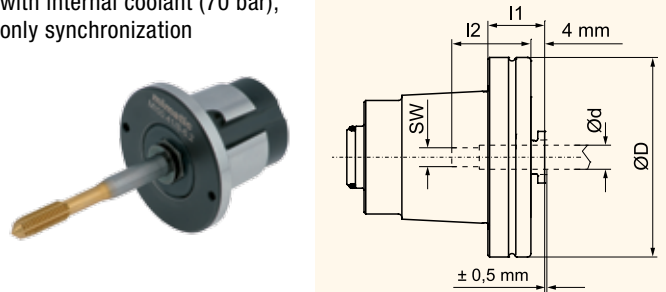
SYNAX® Tapping Quick Change Holder

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"

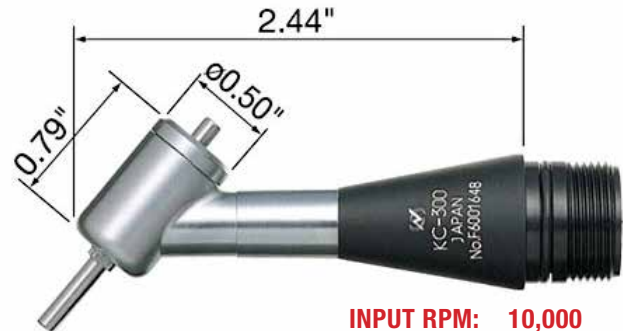
NSK Attachments

NSK IC-300 Attachment



INPUT RPM: 10,000
OUTPUT RPM: 7,500
MAX COLLET RANGE - 1/8"
Includes 1/8" collet with purchase

NSK KC-300 Attachment



INPUT RPM: 10,000
OUTPUT RPM: 7,500
MAX COLLET RANGE - 1/8"

NSK MFC-300M Attachment



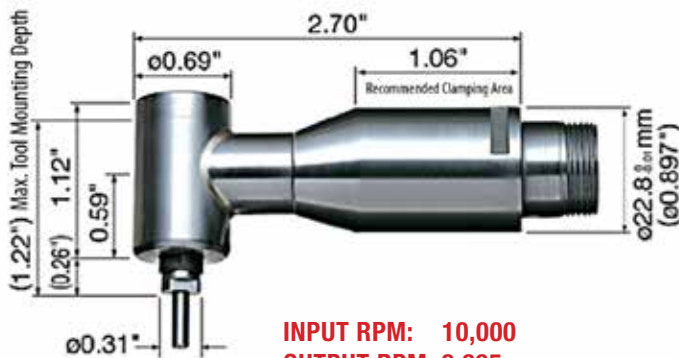
INPUT RPM: 10,000
OUTPUT RPM: 9,090
MAX COLLET RANGE - 1/16"

NSK MFC-300S Attachment



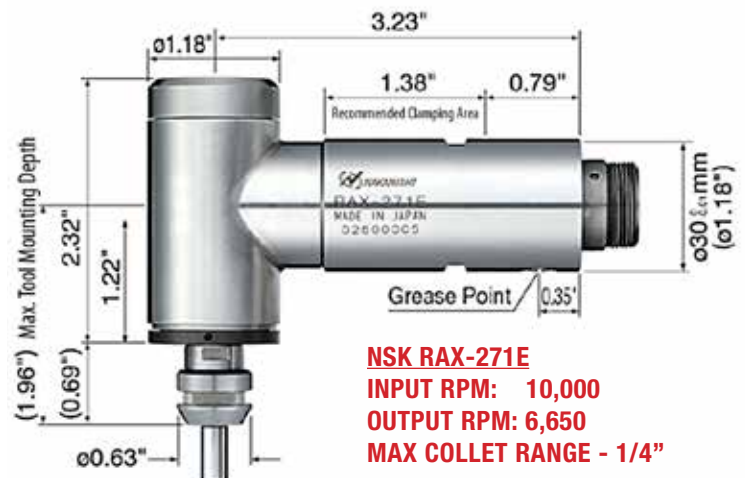
INPUT RPM: 10,000
OUTPUT RPM: 10,000
MAX COLLET RANGE - 1/16"

NSK RA-200 Attachment



INPUT RPM: 10,000
OUTPUT RPM: 6,665
MAX COLLET RANGE - 1/8"

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



NSK RAX-271E
INPUT RPM: 10,000
OUTPUT RPM: 6,650
MAX COLLET RANGE - 1/4"

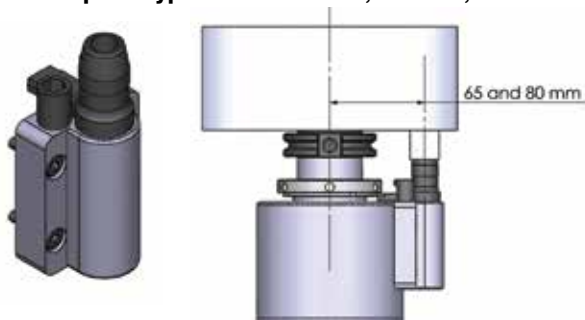
NSK RAX-71E
INPUT RPM: 10,000
OUTPUT RPM: 1,650
MAX COLLET RANGE - 1/4"

Angle Head Positioning Pins and Blocks

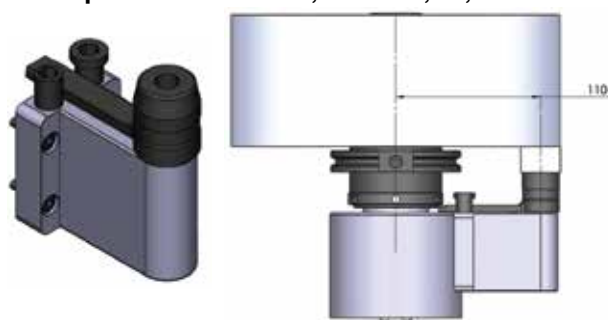
Positioning Pin

- 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

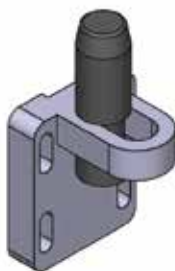
65/80mm pitch type - For CAT/BT40, HSK63A, and C6



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

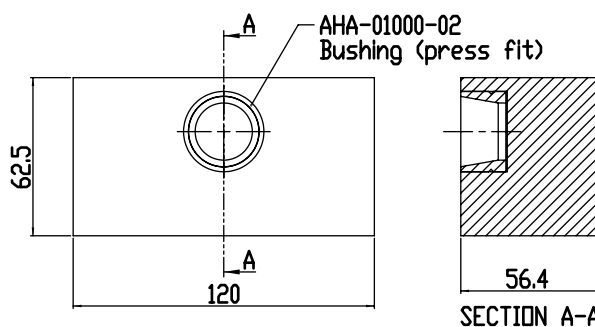
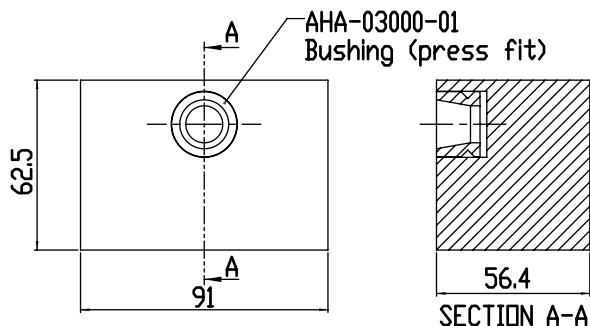
Part #: PB-RAN40-BLANK (40 Taper)



Part #: PB-RAN50-BLANK (50 Taper)



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"



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"

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: 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

FREQUENTLY ASKED QUESTIONS

• How do I assemble the unit?

Each Modular Attachment has a locating pilot and a drive tang to help align the unit. 6 cap screws secure the Modular Attachment to the Taper Attachment. It's that simple.

• Does the unit come with a positioning block?

Position blocks are not included. Our technical department can help select a positioning block for your machine.

• Can I make my own positioning block?

Yes and we can assist you if needed. 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.

• How do I determine where to mount the positioning block?

The positioning block must be located where the Automatic Tool Change arm won't interfere with it and where there are mounting hole locations.

• Can I tool change the angle head?

Yes, however check the weight and clearance restrictions on your machine.

• How fast can I run the angle head?

We have a posted maximum RPM in the catalog. Feed rates depend on the type of application and tooling. Please call our technical department to review.

• Can I tap with this unit?

Yes, but you will need an axial compensating tap collet.

• How do I align or indicate the angle head?

The most accurate way is to dial in a chucked pin gage. The side of the attachment can be used to get close, but fine adjustments should be made with a pin afterwards.

• How do I know how to choose the best angle head for my application?

Please fill out our angle head questionnaire and we will review your application. We will then help select the best product for you.

• Will this angle head fit into my work piece?

We can design a full layout for you. All we need is a part drawing or some measurements from you. We can provide a solid model or a drawing to show the clearances needed.

• What type of maintenance procedures do I need to follow?

Besides keeping the unit clean, there is no need to take the unit apart, or to re-grease. If you have unusual sounds or performance issues please contact our technical department for review. We offer a full evaluation/repair program for your unit.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.



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CAT2014-MRAM

