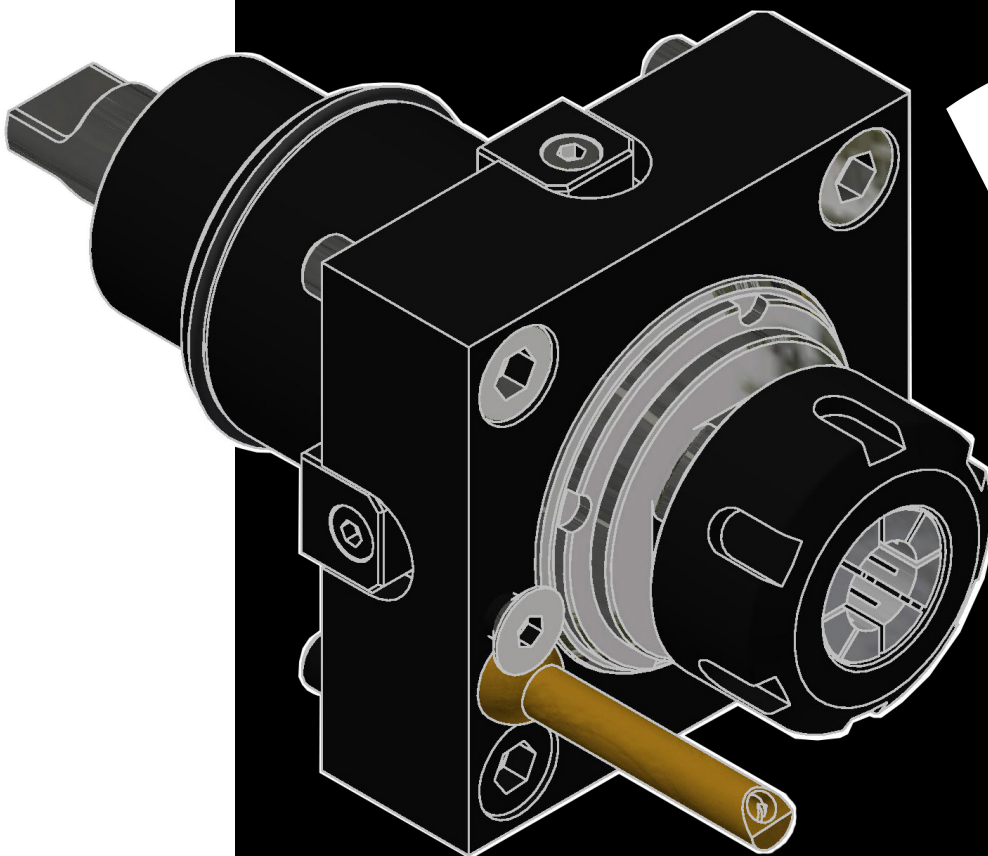


RedLine® Tools
PERFORMANCE MATTERS

Lathe Tool Selection Guide

BMT45 & BMT65
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BMT45 & BMT65 Turret Tooling

Fits Haas & Other Brand Lathes

Our RedLine Tools lathe tooling catalog is your comprehensive guide to product selection for live tools, toolholder blocks & accessories for lathes.

BMT45 Live Tools

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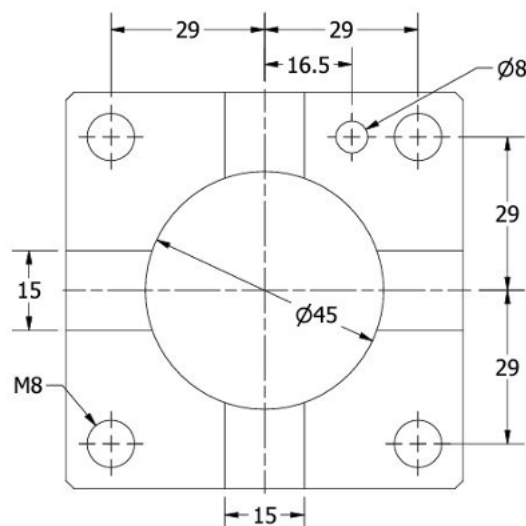
Toolholder Accessories

BMT45 & BMT65 Hardware.....[16-17](#)

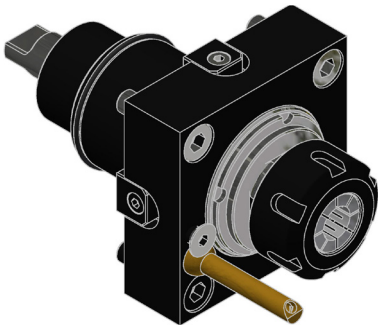
Reduction Sleeves[18-19](#)

BMT45 LIVE & STATIC TOOL FITMENT LIST

Brand	Models
DMC	DL 6TM
Doosan	Lynx 220 M/LM Lynx 220 LMS/LY/LSY Lynx 2100 M/MS/LY/LSY Puma MX1600 ST (BMT45) Puma TT1300 SY/SYY
Duplomatic	DM-TR-16-D12-290-BMT45/10
Focus CNC	FNL-160, 220LSY
Ganesh	Genturn 52/65 MSY
Hardinge	H51, TT-42/51 (BMT45-16T) T42/51 (BMT45-12T) T42/51 (BMT45-16T)
Hwacheon	Cutex 180 MC/SMC/YMC/YSMC (16ST) Hi-Tech 230 YSMC (20ST, BMT45)
Haas	ST-10/15Y (BMT45)
Hyundai/ Wia	SE2200 M/MS/LSY (BMT45)
Jyoti	AX 200 (BMT45) TMC250, 350 (BMT45)
Romi	GL 250Y/S
SMEC	PL 1600 2000M
Spinner	Microturn 36, 52 (BMT45) TC300, TTC300 SMMCY (BMT45) TC600 MCY/SMCY (BMT45) TTS 42, 65 (BMT45)
Toronos	Swiss DECO 36 TB
Victor	Vturn-NP16CM



BMT45 Live Tools - ER25 Spindle

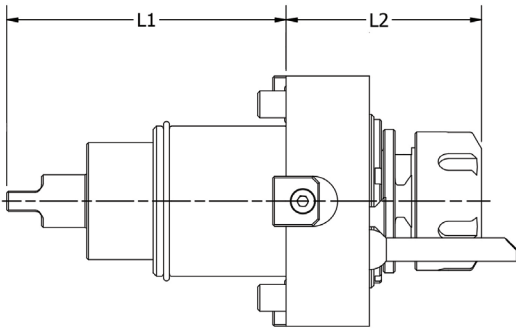


External Nut



Internal Nut

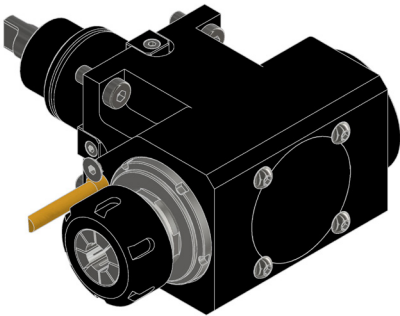
Axial



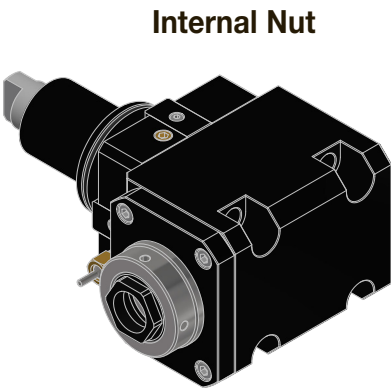
BMT45 Axial Live Tools

Item #	Nut	Collet Size	Spindle Lock Wrench	Collet Nut Wrench	L1	L2	Max RPM	Drive Ratio	Runout	Coolant	Nut Torque
R2341001	Internal	ER25	R233043	R233044	3.307	2.661	6,000	1:1	.0001-.00015	Ext	37 ft-lbs
R2341002	External	ER25	R233043	R233016	3.307	2.661	6,000	1:1	.0001-.00015	Ext/Intl	37 ft-lbs

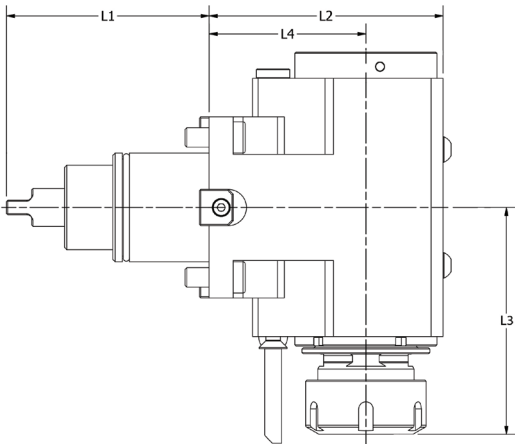
Wrenches included.



External Nut



Internal Nut



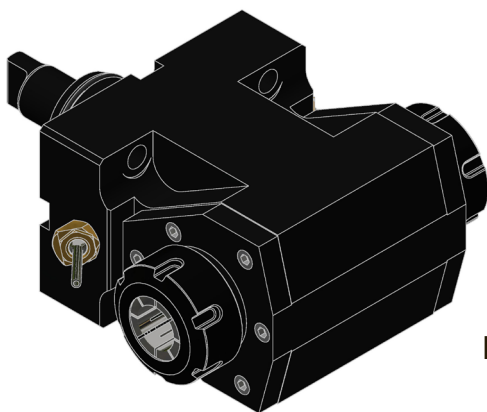
BMT45 Radial Live Tools

Item #	Nut	Collet Size	Spindle Lock Wrench	Collet Nut Wrench	L1	L2	L3	L4	Max RPM	Drive Ratio	Runout	Coolant	Nut Torque
R2341003	Int	ER25	R233043	R233044	3.307	3.996	3.843	2.559	6,000	1:1	.0001-.00015	Ext	37 ft-lbs
R2341004	Ext	ER25	R233043	R233016	3.307	3.996	3.843	2.559	6,000	1:1	.0001-.00015	Ext/Int	37 ft-lbs

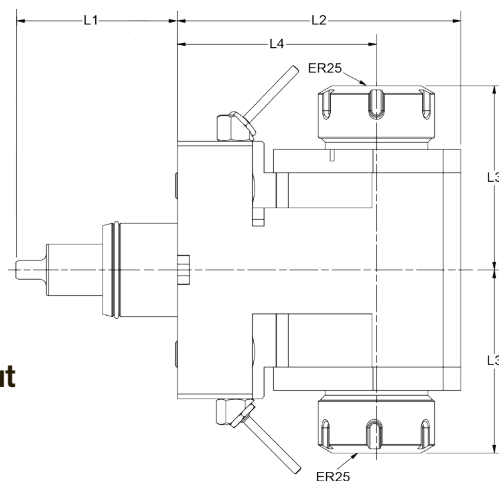
Wrenches included.

For hardware visit pages 16 and 17.

BMT45 Live Tools - 90° Dual Spindle



External Nut



BMT45 Radial Live Tool

Item #	Nut	Collet Size	Spindle Lock Wrench	Collet Nut Wrench	L1	L2	L3	L4	Max RPM	Drive Ratio	Runout	Coolant	Nut Torque
R2341005	Ext	2x - ER25	R233043	R233016	3.307	3.740	3.268	2.559	8,000	1:1	.0001-.00015	Ext	37 ft-lbs

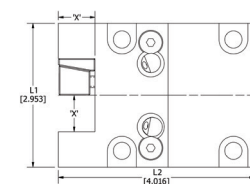
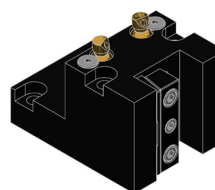
Wrenches included.

For hardware visit pages 16 and 17.

BMT45 Toolholder Blocks - OD

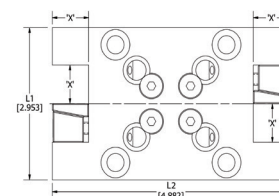
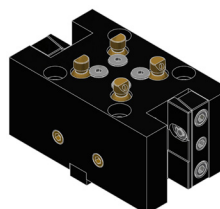
Turning Toolholder

Item #	X	L1	L2
R2342001	3/4"	2.953	4.016



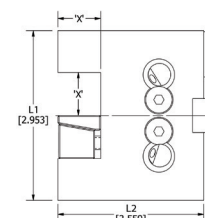
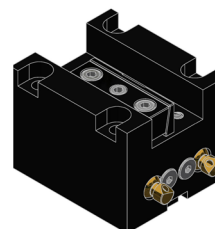
Double Sided Turning Toolholder

Item #	X	L1	L2
R2342006	3/4"	2.953	4.882



Facing Toolholder

Item #	X	L1	L2
R2342002	3/4"	2.953	2.559

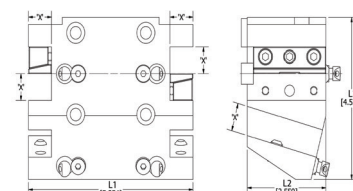
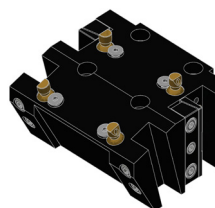


BMT45 Half-Index Turret Toolholder Blocks - OD

Machine must be capable of half-index to use these tools.

Double Sided Turning Toolholder

Item #	X	L1	L2	L3	L4
R2342008	3/4"	5.354	2.559	4.528	2.953

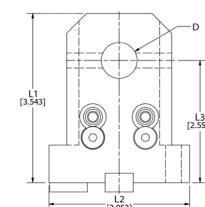
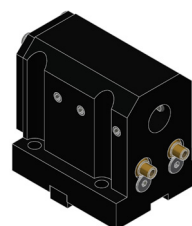


BMT45 Toolholder Blocks - ID

Boring Bar Toolholders

Item #	D	L1	L2	L3
R2342011	3/4"	3.543	2.953	2.559
R2342003	1"	3.543	2.953	2.559
R2342004	1-1/4"	3.543	2.953	2.559
R2342005	1-1/2"	3.543	2.953	2.559

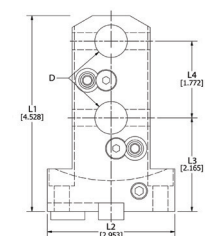
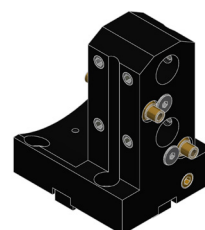
For internal coolant, Item # [R233001](#) is required as shown on page 17.



Double Sided Boring Bar Toolholder

Item #	D	L1	L2	L3	L4
R2342007	3/4"	4.528	2.953	2.165	1.772

For internal coolant, Item # [R233001](#) is required as shown on page 17.

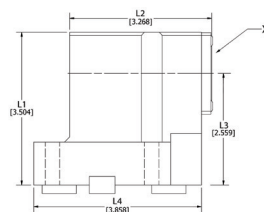
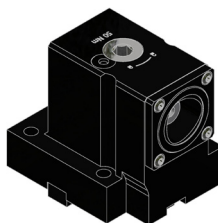


BMT45 Toolholder Blocks

with Size 4 Polygon Shank Coupling Connection

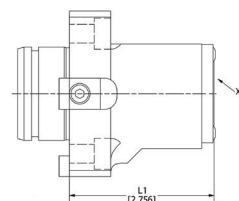
Single ID Toolholder

Item #	X	L1	L2	L3	L4
R2342009	PSC4	3.504	3.268	2.559	3.858



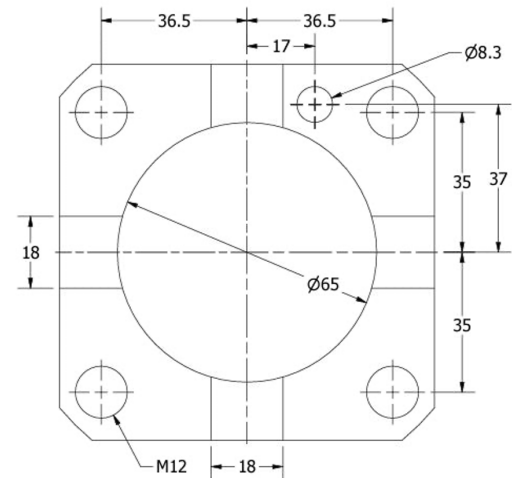
Single OD Toolholder

Item #	X	L1
R2342010	PSC4	2.756



BMT65 LIVE TOOL FITMENT LIST

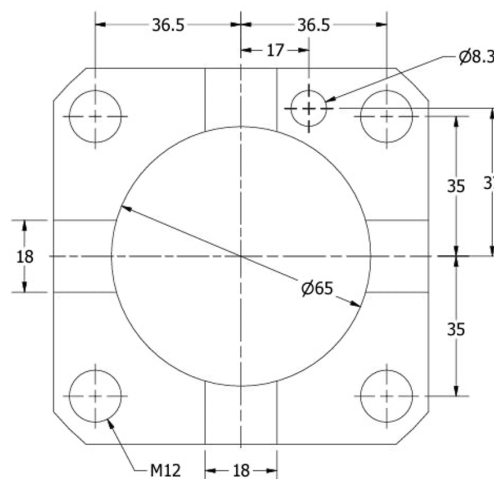
Brand	Models
Accuway	UT-300 M/SM (BMT65) UT-300 Y (BMT65) UZ-2000 T2Y (BMT65)
DMC	DMC DL 35-40 M
Doosan	Puma GT3100 M Puma 2100, 2600(II) M/MS/Y/SY (BMT65) Puma 3100 M/Y Puma SMX2600, 3100 ST Puma 300 M/MS Puma V400 M Puma VT450 M, VT450 MS/SY Puma TT2000, 2500 MS/SY
Duplomatic	DM-TR-20-D12-380-BMT65/10
Ecoca	MT-3/MT-4 MC/MCSY
EMCO	Hyperturn 95/110 SMB/SM2Y (BMT65) Hyperturn 100 Powermill (BMT65) Maxxturn 110 (BMT65)
Focus CNC	FBL-300MC
Ganesh	ASL-15 MY (BMT65) ASL-78/105 TTM Y (BMT65)
Goodway	GLS-2800-3300 M/Y/MS/YS GMS-2000 ST (15ST) GMT-2000 GS-2000-3300 M/Y/MS/YS (16ST) GTH-2000, 2600 M GTX/GTZ-2000, 2600 M/Y (12ST)
Haas	ST-20/25/28/30/35 DS-30 (12/24ST BMT65)
Hardinge	Elite 65 M Ultra
Headman	Hi6000M T65 M/MS
Hurco	TMX 8, TMX10 MY/MYS (BMT65)



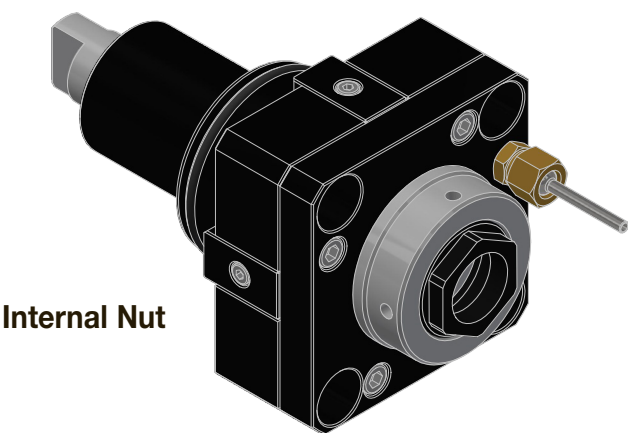
BMT65 LIVE TOOL FITMENT LIST

(continued)

Brand	Models
Hwacheon	240 MC/SMC Hi-Tech 200 MC Hi-Tech 230 MC/YMC Hi-Tech 230 SMC/YSMC Hi-Tech 350, 450 MC/SMC/YMC/YSMC VT 450 MC (BMT65)
Hyundai/Wia	L300MA/MC/LMA/LMC/MSA/MS/LMSA L2000, 2600, 3000Y/LY/SY/LSY HD2600, 3100M/Y/YA/SY/SYA (BMT65) LV450RM/LM SKT200, 250TTM/MS/SY SKT250, 300M/MS L2100Y/SY
Johnford	SL-60, 65 (BMT65)
Leadwell	LTC-25iM (BMT65)
Smart	NL 2500, 3000 M/BM
SMEC	SL2500, 3000M/Y/SY, PL2000, 2500Y/SY SL3500M/Y, PL20-35M, 2000-2500MS SLV 500M
Spinner	TC 800 SMCY (BMT65)
Takisawa	LA-250 YS II T15 (BMT65) NEX-T10Y (BMT65)
Tongtai	TD-2000, 2500Y (12ST BMT65) TMT2000 (BMT65, Turret 2) TNL-120T
Victor	Vturn-A26SCM, YSCM Vturn-S26CM
Wele	HL-200YS

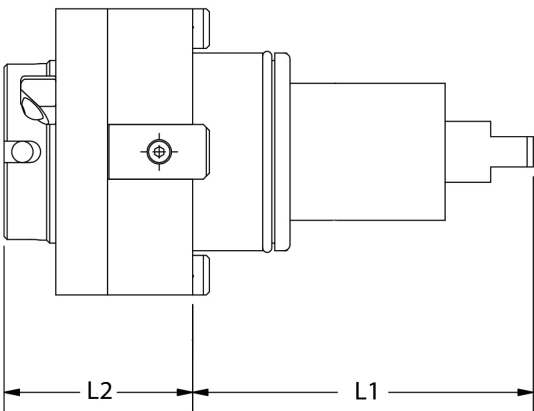


BMT65 Live Tools - ER32 Spindle



Internal Nut

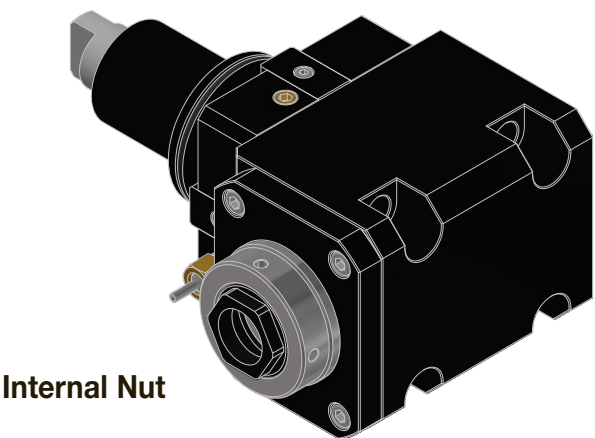
Axial



BMT65 Axial Live Tool

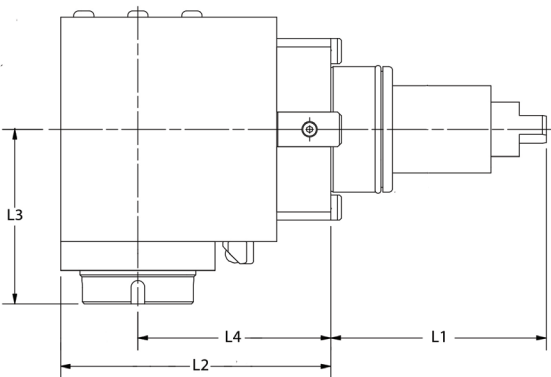
Item #	Nut	Collet	Spindle Lock Wrench	Collet Nut Wrench	LI	L2	Max RPM	Drive Ratio	Runout	Coolant	Nut Torque
R2361005	Int	ER32	R233020	R233028	4.409	3.004	6,000	1:1	.0001-.00015	Ext	51 ft-lbs

Wrenches included.



Internal Nut

Radial



BMT65 Radial Live Tool

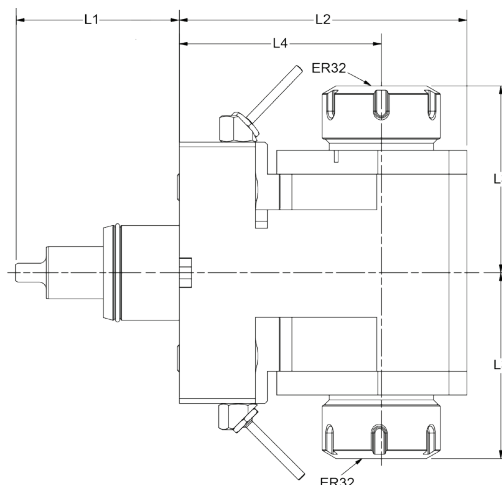
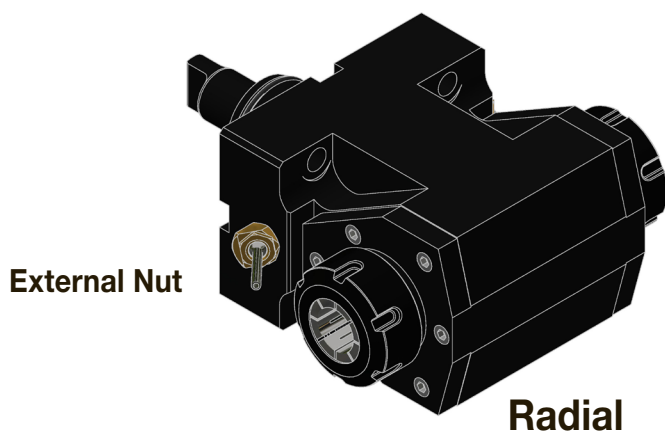
Item #	Nut	Collet	Spindle Lock Wrench	Collet Nut Wrench	LI	L2	L3	L4	Max RPM	Drive Ratio	Runout	Coolant	Nut Torque
R2361006	Int	ER32	R233020	R233028	4.409	4.331	4.382	2.835	6,000	1:1	.0001-.00015	Ext	51 ft-lbs

Wrenches included.

For hardware visit page 16 and 17.

BMT65 Live Tools

BMT65 Live Tools - 90° Dual Spindle



BMT65 Radial Live Tool

Item #	Nut	Collet	Spindle Lock Wrench	Collet Nut Wrench	L1	L2	L3	L4	Max RPM	Drive Ratio	Runout	Coolant	Nut Torque
R2361007	Ext	2x-ER32	R233020	R233028	4.409	4.094	3.661	2.835	6,000	1:1	.0001-.00015	Ext	51 ft-lbs

Wrenches included.

For hardware visit page [16](#) and [17](#).

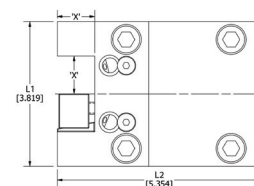
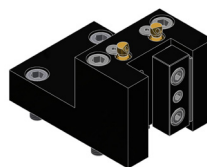
BNT65

<u>R2362011</u>	HAAS BMT65 Turret	1" OD Turning Toolholder
<u>R2362012</u>	HAAS BMT65 Turret	1" ID Toolholder
<u>R2362013</u>	HAAS BMT65 Turret	1-1/4" ID Toolholder
<u>R2362014</u>	HAAS BMT65 Turret	1-1/2" ID Toolholder
<u>R2362015</u>	HAAS BMT65 Turret	1" OD Face Turning Toolholder
<u>R2362016</u>	HAAS BMT65 Turret	1" Split ID Toolholder
<u>R2362017</u>	HAAS BMT65 Turret	1-1/2" Split ID Toolholder
<u>R2362018</u>	HAAS BMT65 Turret	2" Split ID Toolholder
<u>R2362019</u>	HAAS BMT65 Turret	1" Extended ID Toolholder
<u>R2362020</u>	HAAS BMT65 Turret	1-1/4" Extended ID Toolholder
<u>R2362021</u>	HAAS BMT65 Turret	1" Double OD Turning Toolholder
<u>R2362022</u>	HAAS BMT65 Turret	1" Double Offset OD Turning Toolholder
<u>R2362023</u>	HAAS BMT65 Turret	1" Triple ID Toolholder
<u>R2362024</u>	HAAS BMT65 Turret	3/4" & 1" OD Half Index Double Sided Turning Toolholder
<u>R2362025</u>	HAAS BMT65 Turret	1" Extended Triple ID Toolholder
<u>R2362026</u>	HAAS BMT65 Turret	CAPTO C4 OD Toolholder
<u>R2362027</u>	HAAS BMT65 Turret	CAPTO C4 ID Toolholder
<u>R2362028</u>	HAAS BMT65 Turret	CAPTO C4 Double OD Toolholder

BMT65 Toolholder Blocks - OD

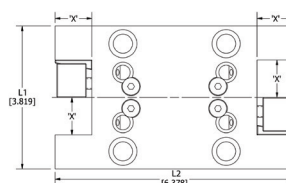
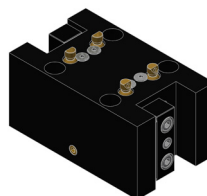
Turning Toolholder

Item #	X	L1	L2
R2362011	1"	3.819	5.354



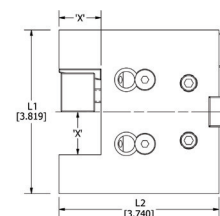
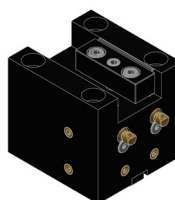
Double Sided Turning Toolholder

Item #	X	L1	L2
R2362021	1"	3.819	6.378



Facing Toolholder

Item #	X	L1	L2
R2362015	1"	3.819	3.740

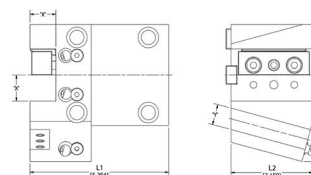


BMT65 Half-Index Turret Toolholder Blocks - OD

Machine must be capable of half-index to use these tools.

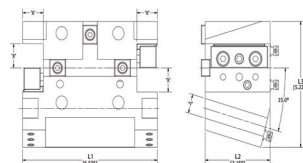
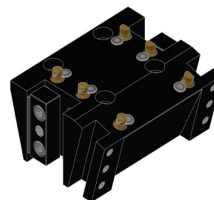
Double Sided Facing Toolholder

Item #	X	L1	L2	L3	L4
R2362022	1"	5.354	3.150	5.236	5.118



Double Sided Turning Toolholder

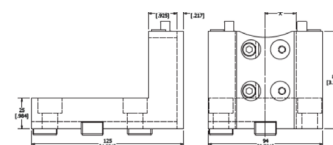
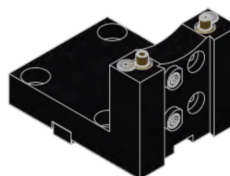
Item #	X	L1	L2	L3
R2342024	1"	6.535	3.150	5.226



BMT65 Cut-Off Blade Toolholders

Cut-Off Blade Toolholders

Item #	X
R2362029	1"
R2362030	1-1/4"

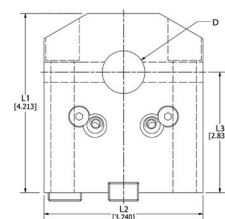
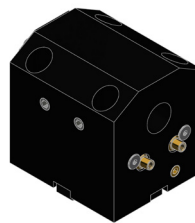


BMT65 Toolholder Blocks - ID

Boring Bar Toolholders

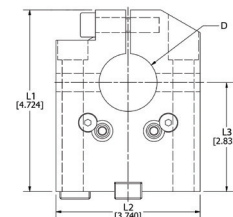
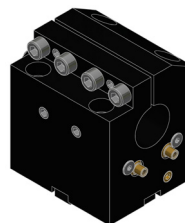
Item #	D	L1	L2	L3
R2362012	1"	4.213	3.740	2.835
R2362013	1-1/4"	4.213	3.740	2.835
R2362014	1-1/2"	4.213	3.740	2.835

For internal coolant, Item # [R233001](#) is required as shown on page 17.



Double Sided Boring Bar Toolholders

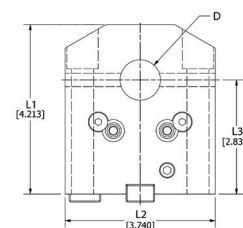
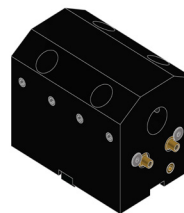
Item #	D	L1	L2	L3	L4
R2362016	1"	4.724	3.740	2.835	4.331
R2362017	1-1/2"	4.724	3.740	2.835	4.331
R2362018	2"	4.724	3.740	2.835	4.331



Extended Boring Bar Toolholders

Item #	D	L1	L2	L3
R2362019	1"	4.213	3.740	2.835
R2362020	1-1/2"	4.213	3.740	2.835

For internal coolant, Item # [R233001](#) is required as shown on page 17.

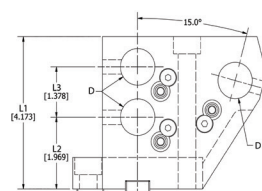
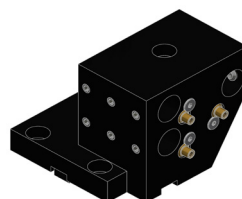


BMT65 Half-Index Turret Toolholder Blocks - ID

Machine must be capable of half-index to use these tools.

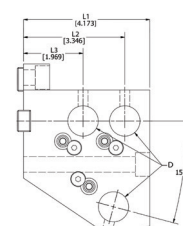
Triple Boring Bar Toolholder

Item #	D	L1	L2	L3
R2362023	1"	4.173	1.969	1.378



Extended Triple Boring Bar Toolholder

Item #	D	L1	L2	L3
R2362025	1"	4.173	3.346	1.969

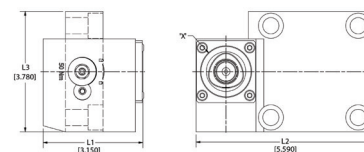


BMT65 Toolholder Blocks

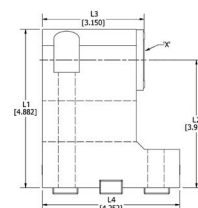
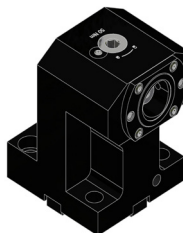
with Size 4 Polygon Shank Coupling Connection

PSC 4 OD Toolholder

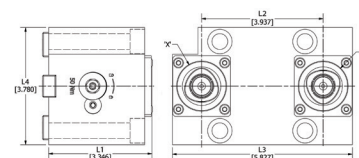
Item #	X	L1	L2	L3	L4
R2362026	PSC4	3.150	5.590	3.780	5.590

**PSC 4 ID Toolholder**

Item #	X	L1	L2	L3	L4
R2362027	PSC4	4.882	3.937	3.150	4.252

**PSC 4 Double OD Toolholder**

Item #	X	L1	L2	L3	L4
R2362028	PSC4	3.346	3.937	5.827	3.780

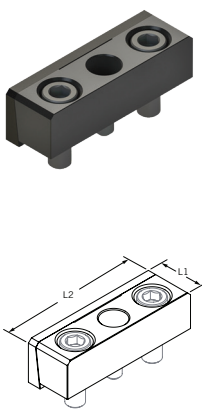


BMT45 and BMT65 Hardware

Bolt-On Tool Accessories

Accessory	Size	Photo	Item #
10mm Coolant Ball	-		R233030
Coolant Nozzle Straight	1/16 NPT - .110 ID		R233031
Coolant Nozzle Right Angle	1/8 NPT - .117 ID		R233032
Copper Coolant Extension Tube	M3.5x.6 - .125 ID		R233033
Copper Coolant Extension Tube	M4x.7 - .125 ID		R233034
Copper Coolant Extension Tube	M5x.8 - .187 ID		R233035
Copper Coolant Extension Tube	M6x1.0 - .187 ID		R233036
Brass Coolant Extension Tube	M3.5x.6, 2mm ID		R233038
Brass Coolant Extension Tube	M4x.7, 2mm ID		R233037
Brass Coolant Extension Tube	M5x.8, 3mm ID		R233039
Brass Coolant Extension Tube	M6x1.0, 4mm ID		R233040

Bolt-On Wedge Clamps

Turret	Width (L1)	Length (L2)	Photo	Item #
BMT45/65	3/4"	2.36		R233009
BMT45/65	1"	2.67		R233010
BMT45/65	1"	2.83		R233012
BMT45/65	1"	2.75		R233014
BMT45/65	1-1/4"	3.94		R233013

BMT45 and BMT65 Hardware

Wrenches

Accessory	Photo	Item #
ER25 Spanner Wrench		R233016
ER32 Spanner Wrench		R233020
ER25 Spindle Lock Wrench		R233043
ER25 Internal Collet Nut Wrench		R233044
ER32 Internal Collet Nut Wrench		R233028

Collet Nuts

Accessory	Photo	Item #
ER25 Internal Collet Nut		R233023
ER32 Internal Collet Nut		R233022
ER25 Standard Collet Nut		R233027
ER32 Standard Collet Nut		R233026

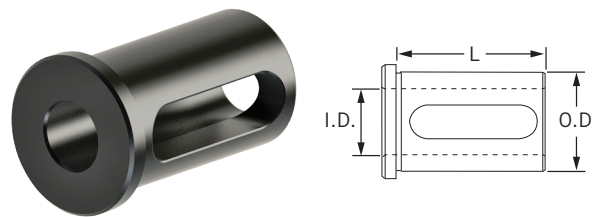
Alignment Keys

Accessory	Photo	Item #
BMT45 Alignment Key (3 Pack)		R233033
BMT65 Alignment Key (3 Pack)		R233032

Back Plates

Accessory	Photo	Item #
BMT45 Internal Coolant		R233001
BMT65 Internal Coolant		R233005
Haas/BMT65 Internal Coolant		R233008

Reduction Sleeves



Slotted

3/4" OD Reduction Sleeves - Long

ID (Inch)	OD (Inch)	L (Inch)	Type	Number of Slots	Length of Slots	Item #
1/4	3/4	2	Slotted-Long	1	1-1/2	RS07500250LY
5/16	3/4	2	Slotted-Long	1	1-1/2	RS07500312LY
3/8	3/4	2	Slotted-Long	1	1-1/2	RS07500375LY
1/2	3/4	2	Slotted-Long	1	1-1/2	RS07500500LY

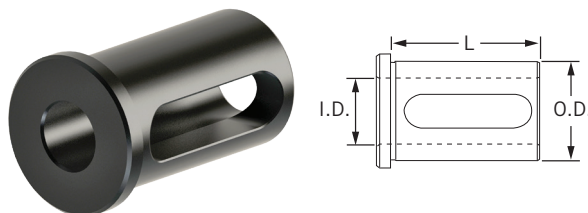
1" OD Reduction Sleeves - Short

ID (Inch)	OD (Inch)	L (Inch)	Type	Number of Slots	Length of Slots	Item #
1/4	1	1-3/4	Slotted-Short	1	1-3/8	RS10000250SY
5/16	1	1-3/4	Slotted-Short	1	1-3/8	RS10000312SY
3/8	1	1-3/4	Slotted-Short	1	1-3/8	RS10000375SY
1/2	1	1-3/4	Slotted-Short	1	1-3/8	RS10000500SY
5/8	1	1-3/4	Slotted-Short	1	1-3/8	RS10000625SY
3/4	1	1-3/4	Slotted-Short	1	1-3/8	RS10000750SY

1" OD Reduction Sleeves - Long

ID (Inch)	OD (Inch)	L (Inch)	Type	Number of Slots	Length of Slots	Item #
1/4	1	2-3/4	Slotted-Long	1	2-3/8	RS10000250LY
5/16	1	2-3/4	Slotted-Long	1	2-3/8	RS10000312LY
3/8	1	2-3/4	Slotted-Long	1	2-3/8	RS10000375LY
1/2	1	2-3/4	Slotted-Long	1	2-3/8	RS10000500LY
5/8	1	2-3/4	Slotted-Long	1	2-3/8	RS10000625LY
3/4	1	2-3/4	Slotted-Long	1	2-3/8	RS10000750LY

Reduction Sleeves



Slotted

1-1/4" OD Reduction Sleeves - Short

ID (Inch)	OD (Inch)	L (Inch)	Type	Number of Slots	Length of Slots	Item #
3/8	1-1/4	2-1/8	Slotted-Short	1	1-3/4	RS12500375SY
1/2	1-1/4	2-1/8	Slotted-Short	1	1-3/4	RS12500500SY
5/8	1-1/4	2-1/8	Slotted-Short	1	1-3/4	RS12500625SY
3/4	1-1/4	2-1/8	Slotted-Short	1	1-3/4	RS12500750SY
1	1-1/4	2-1/8	Slotted-Short	1	1-3/4	RS12501000SY

1-1/4" OD Reduction Sleeves - Long

ID (Inch)	OD (Inch)	L (Inch)	Type	Number of Slots	Length of Slots	Item #
3/8	1-1/4	3-1/4	Slotted-Long	1	2-3/4	RS12500375LY
1/2	1-1/4	3-1/4	Slotted-Long	1	2-3/4	RS12500500LY
5/8	1-1/4	3-1/4	Slotted-Long	1	2-3/4	RS12500625LY
3/4	1-1/4	3-1/4	Slotted-Long	1	2-3/4	RS12500750LY
7/8	1-1/4	3-1/4	Slotted-Long	1	2-3/4	RS12500875LY
1	1-1/4	3-1/4	Slotted-Long	1	2-3/4	RS12501000LY

1-1/2" OD Reduction Sleeves - Short

ID (Inch)	OD (Inch)	L (Inch)	Type	Number of Slots	Length of Slots	Item #
3/8	1-1/2	2-1/2	Slotted-Short	1	2-1/8	RS15000375SY
1/2	1-1/2	2-1/2	Slotted-Short	1	2-1/8	RS15000500SY
5/8	1-1/2	2-1/2	Slotted-Short	1	2-1/8	RS15000625SY
3/4	1-1/2	2-1/2	Slotted-Short	1	2-1/8	RS15000750SY
1	1-1/2	2-1/2	Slotted-Short	1	2-1/8	RS15001000SY
1-1/4	1-1/2	2-1/2	Slotted-Short	1	2-1/8	RS15001250SY

1-1/2" OD Reduction Sleeves - Long

ID (Inch)	OD (Inch)	L (Inch)	Type	Number of Slots	Length of Slots	Item #
3/8	1-1/2	3-3/8	Slotted-Long	1	3	RS15000375LY
1/2	1-1/2	3-3/8	Slotted-Long	1	3	RS15000500LY
5/8	1-1/2	3-3/8	Slotted-Long	1	3	RS15000625LY
3/4	1-1/2	3-3/8	Slotted-Long	1	3	RS15000750LY
7/8	1-1/2	3-3/8	Slotted-Long	1	3	RS15000875LY
1	1-1/2	3-3/8	Slotted-Long	1	3	RS15001000LY
1-1/4	1-1/2	3-3/8	Slotted-Long	1	3	RS15001250LY

RedLine® Tools

PERFORMANCE MATTERS



0.1mm .0039	#41 .0960	15/64 .2344	13.0mm .5118
0.2mm .0079	#40 .0980	6.0mm .2362	33/64 .5156
0.3mm .0118	2.5mm .0984	B .2380	17/32 .5313
#80 .0135	#39 .0995	C .2420	13.5mm .5315
#79 .0145	#38 .1015	D .2460	35/64 .5469
1/64 .0156	#37 .1040	E .2500	14.0mm .5512
0.4mm .0157	#36 .1065	1/4 .2500	9/16 .5625
#78 .0160	7/64 .1094	6.5mm .2559	14.5mm .5709
#77 .0180	#35 .1100	F .2570	37/64 .5781
0.5mm .0197	#34 .1110	G .2610	15.0mm .5906
#76 .0200	#33 .1130	17/64 .2656	19/32 .5938
#75 .0210	#32 .1160	H .2660	39/64 .6094
#74 .0225	3.0mm .1181	I .2720	15.5mm .6102
0.6mm .0236	#31 .1200	7.0mm .2756	5/8 .6250
#73 .0240	1/8 .1250	J .2770	16.0mm .6299
#72 .0250	#30 .1285	K .2810	41/64 .6406
#71 .0260	#29 .1360	9/32 .2812	16.5mm .6496
0.7mm .0276	3.5mm .1378	L .2900	21/32 .6562
#70 .0280	#28 .1405	M .2950	17.0mm .6693
#69 .0292	9/64 .1406	7.5mm .2953	43/64 .6719
#68 .0310	#27 .1440	19/64 .2969	11/16 .6875
1/32 .0312	#26 .1470	N .3020	17.5mm .6890
0.8mm .0315	#25 .1495	5/16 .3125	45/64 .7031
#67 .0320	#24 .1520	8.0mm .3150	18.0mm .7087
#66 .0330	#23 .1540	O .3160	23/32 .7188
#65 .0350	5/32 .1562	P .3230	18.5mm .7283
0.9mm .0354	#22 .1570	21/64 .3281	47/64 .7344
#64 .0360	4.0mm .1575	Q .3320	19.0mm .7480
#63 .0370	#21 .1590	8.5mm .3346	3/4 .7500
#62 .0380	#20 .1610	R .3390	49/64 .7656
#61 .0390	#19 .1660	11/32 .3438	19.5mm .7677
1.0mm .0394	#18 .1695	S .3480	25/32 .7812
#60 .0400	11/64 .1719	9.0mm .3543	20.0mm .7874
#59 .0410	#17 .1730	T .3580	51/64 .7969
#58 .0420	#16 .1770	23/64 .3594	20.5mm .8071
#57 .0430	4.5mm .1772	U .3680	13/16 .8125
#56 .0465	#15 .1800	9.5mm .3740	21.0mm .8268
3/64 .0469	#14 .1820	3/8 .3750	53/64 .8281
#55 .0520	#13 .1850	V .3770	27/32 .8438
#54 .0550	3/16 .1875	W .3860	21.5mm .8465
1.5mm .0591	#12 .1890	25/64 .3906	55/64 .8594
#53 .0595	#11 .1910	10.0mm .3937	22.0mm .8661
1/16 .0625	#10 .1935	X .3970	7/8 .8750
#52 .0635	#9 .1960	Y .4040	22.5mm .8858
#51 .0670	5.0mm .1969	13/32 .4062	57/64 .8906
#50 .0700	#8 .1990	Z .4130	23.0mm .9055
#49 .0730	#7 .2010	10.5mm .4134	29/32 .9062
#48 .0760	13/64 .2031	27/64 .4219	59/64 .9219
5/64 .0781	#6 .2040	11.0mm .4331	23.5mm .9252
#47 .0785	#5 .2055	7/16 .4375	15/16 .9375
2.0mm .0787	#4 .2090	11.5mm .4528	24.0mm .9449
#46 .0810	#3 .2130	29/64 .4531	61/64 .9531
#45 .0820	5.5mm .2165	15/32 .4688	24.5mm .9646
#44 .0860	7/32 .2188	12.0mm .4724	31/32 .9688
#43 .0890	#2 .2210	31/64 .4844	25.0mm .9843
#42 .0935	#1 .2280	12.5mm .4921	63/64 .9844
3/32 .0938	A .2340	1/2 .5000	1 1.000

Tap Drill Sizes

Tap Size	Cutting Tap Drill Size	Roll Form Tap Drill Size	Tap Size (Metric)	Cutting Tap Drill Size	Roll Form Tap Drill Size
Cutting taps based on Approx 75% Full Thread		Roll form taps based on Approx 65% Thread		Recommended Drill Sizes Suitable for 6H Tolerance	
0-80	3/64	54	M1.6 x 0.35	1.25mm	-
1-64	53	1.65mm	M1.8 x 0.35	1.45mm	-
1-72	53	1.70mm	M2 x 0.4	1.60mm	-
2-56	50	5/64	M2.2 x 0.45	1.75mm	-
2-64	50	2mm	M2.5 x 0.45	2.05mm	-
3-48	47	43	M3 x 0.5	2.50mm	7/64
3-56	46	2.30mm	M3.5 x .06	2.90mm	3.20mm
4-40	43	39	M4 x 0.7	3.30mm	#27
4-48	42	2.60mm	M4.5 x 0.75	3.75mm	4.10mm
5-40	39	33	M5 x 0.8	#19	4.60mm
5-44	38	2.90mm	M6 x 1	5mm	5.50mm
6-32	36	1/8	M7 x 1	6mm	6.50mm
6-40	33	3.20mm	M8 x 1.25	H	L
8-32	29	25	M8 x 1	J	7.50mm
8-36	29	24	M10 x 1.5	8.50mm	9.20mm
10-24	25	11/64	M10 x 1.25	8.75mm	U
10-32	21	16	M12 x 1.75	13/32	7/16
12-24	17	5mm	M12 x 1.25	10.75mm	.447*
12-28	15	8	M14 x 2	12mm	13mm
1/4-20	7	1	M14 x 1.5	12.50mm	13.20mm
1/4-28	3	A	M16 x 2	14mm	15mm
5/16-18	F	7.30mm	M16 x 1.5	14.50mm	15.25mm
5/16-24	I	M	M18 x 2.5	15.50mm	16.25mm
3/8-16	5/16	8.80mm	M18 x 1.5	16.50mm	17.25mm
3/8-24	Q	T	M20 x 2.5	17.50mm	47/64
7/16-14	U	Y	M20 x 1.5	18.50mm	.757*
7/16-20	W	10.50mm	M22 x 2.5	19.50mm	-
1/2-13	27/64	11.80mm	M22 x 1.5	20.50mm	-
1/2-20	29/64	12.00mm	M24 x 3	53/64	-
9/16-12	31/64	17/32	M24 x 2	22mm	-
9/16-18	33/64	13.50mm	M27 x 3	24mm	-
5/8-11	17/32	14.75mm	M27 x 2	63/64	-
5/8-18	37/64	15.25mm	M30 x 3.5	1-3/64*	-
3/4-10	21/32	45/64	M30 x 2	1-7/64*	-
3/4-16	11/16	23/32	M33 x 3.5	1-11/64*	-
7/8-9	49/64	-	M33 x 2	31mm*	-
7/8-14	13/16	-	M36 x 4	32mm*	-
1-8	7/8	-	M36 x 3	33mm*	-
1-12	59/64	-	M39 x 4	35mm*	-
1-14	15/16	-	M39 x 3	36mm*	-

Tap Drill Sizes

Tap Size	NPT** Tap Drill	NPTF** Tap Drill	NPS Tap Drill	NPSF Tap Drill
1/16	D	C	1/4	D
1/8	Q	Q	11/32	R
1/4	7/16	7/16	7/16	7/16
3/8	9/16	9/16	37/64	37/64
1/2	45/64	45/64	23/32	45/64
3/4	29/32	29/32	59/64	59/64
1	1-9/64	1-9/64	1-5/32	1-5/32
1-1/4	1-31/64	1-31/64	1-1/2	-
1-1/2	1-47/64	1-23/32	1-3/4	-
2	2-13/64	2-3/16	2-7/32	-
2-1/2	2-5/8	2-39/64	2-21/32	-
3	3-1/4	3-15/64	3-9/32	-

**For Tapping Without Reaming

Helpful Formulas

Surface Feet Per Minute
 $.262 \times \text{Diameter of Cutter} \times \text{RPM}$

Feed Rate (Inches Per Minute)
 $\text{Feed (Inches Per Tooth)} \times \text{\# of Teeth in Cutter} \times \text{RPM}$

RPM
 $\frac{3.82 \times \text{Surface Feet Per Minute}}{\text{Diameter}}$

Metal Removal Rate
 $\text{Width of Cut} \times \text{Depth} \times \text{Cut} \times \text{Feedrate (Inches Per Minute)}$

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