

Holemaking Solutions for Today's Manufacturing





Reaming



Burnishing



Threading





Wohlhaupter®

▶ BORING

UPA Facing and Boring Heads



WOHLHAUPTER®



SECTION

B10-J

UPA Versatile Boring Heads

Wohlhaupter® UPA Versatile Boring Heads

UPA 3 | UPA 4 | UPA 5-S 6

Diameter Range: 0.000" - 24.409" (0.00mm - 620.00mm)



Operation Facing and Boring

In 1936, the first model of the Wohlhaupter Universal Facing and Boring head was developed to launch the start of Wohlhaupter boring products. It became a staple to the boring industry.

Universal Facing and Boring heads are used on universal milling and boring machines, boring mills, and jig boring machines for machining stationary workpieces in individual and batch productions.

Your safety and the safety of others is very important. This catalog contains important safety messages. Always read and follow all safety precautions.



This triangle is a safety hazard symbol. It alerts you to potential safety hazards that can cause tool failure and serious injury.

When you see this symbol in the catalog, look for a related safety message that may be near this triangle or referred to in the nearby text.

There are safety signal words also used in the catalog. Safety messages follow these words.

⚠ WARNING

WARNING (shown above) means that failure to follow the precautions in this message could result in tool failure and serious injury.

NOTICE means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.

NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

Visit www.alliedmachine.com for the most up-to-date information and procedures.

Applicable Industries













Machining





Renewabl Energy

Reference Icons

The following icons will appear throughout the catalog to help you navigate between products.



Setup / Assembly Information
Detailed instructions and informati

Detailed instructions and information regarding the corresponding part(s)

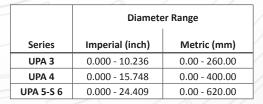


Recommended Cutting Data Speed and feed recommendations for optimum and safe drilling

Universal Versatile Boring Heads Table of Contents

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UPA 4 and 5-S 6 Shanks
echnical Data and Chip Production Values



UPA Product Overview



Universal Facing and Boring Heads

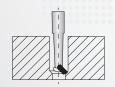
The versatile Wohlhaupter UPA boring heads can be used for facing, boring, and taper turning. They can also be used for right- or left-handed turning.

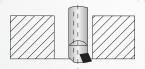
Precise and versatile boring heads.

- Diameter range: 0.000" 24.409" (0.00mm 620.00mm)
- Slide adjustment up to 4.410" (112.00mm)
- Can be used in a variety of operations

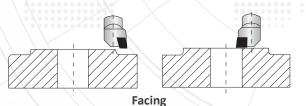
UNIVERSAL

FACING & BORING Applications





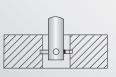




Boring with different tools

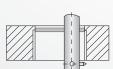
From inside outward

From outside inward

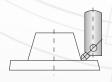












Recessing

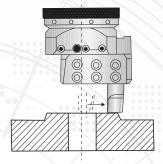
Outside Turning

Thread Cutting

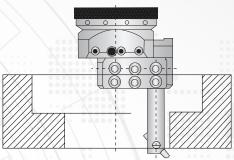
Taper Turning

UNIVERSAL

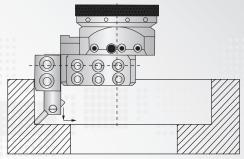
FACING & BORING Application Examples



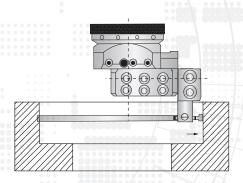
Facing with boring bar directly in slide



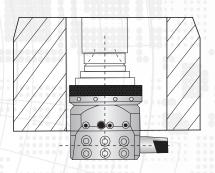
Boring with long boring bar



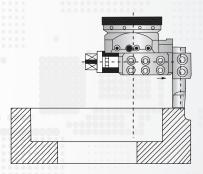
Boring and facing with short boring bar holder and a boring bar



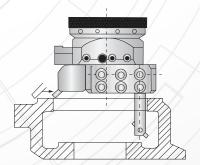
Recessing with short boring bar holder and a boring bar



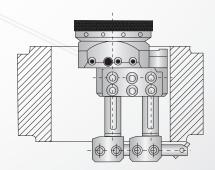
Deep hole boring with boring bar directly in slide



Large diameter facing with a long boring bar holder



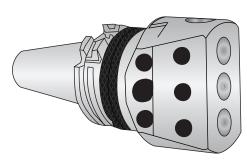
Facing in two areas with one boring bar and a boring bar holder

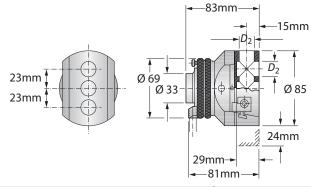


Facing the reverse side by using boring bar holders contained in attachment

UPA 3 Boring Heads and Accessories

Diameter Range: 0.000" - 10.236" (0.00mm - 260.00mm)





UPA 3 Boring Heads

Α

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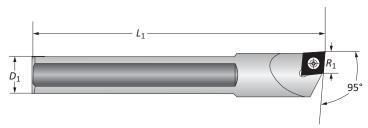
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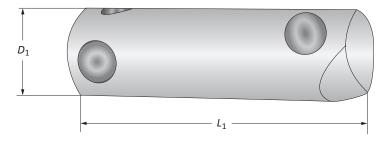
G

		Boring			
	Boring Range	D_2	Weight	Part No.	
0	0.000 - 10.234	0.750	4.629 (lbs)	006020	
0	0.00 - 260.00	18.00	2.10 (kg)	005020	



UPA 3 Boring Bars

		Borin	g Bar				
	D_1	L ₁	R ₁	Weight	Cutting Direction	Insert Form	Part No.
0	0.750	3.149	0.531	0.220 (lbs)	R	103	0750BFBR
U	0.750	3.149	0.531	0.220 (lbs)	L	103	0750BFBL
m	18.00	80.00	13.50	0.10 (kg)	R	103	081087
_	18.00	80.00	13.50	0.10 (kg)	L	103	218088



UPA 3 Boring Bars

Boring Bar					
	D_1	L ₁	Boring Depth	Designation	Part No.
	0.750	2.362	1.181	В 306	074003
0	0.750	3.543	2.362	В 309	074004
	0.750	4.724	3.543	B 312	074005
	18.00	60.00	30.00	В 306	073003
(1)	18.00	90.00	60.00	В 309	073004
	18.00	120.00	90.00	B 312	073005





= Imperial (in)

m = Metric (mm)

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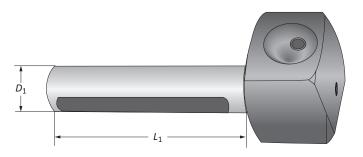
UPA 3 Accessories

Reducing Sleeves | Boring Bar Holders



UPA 3 Reducing Sleeves

Reducing Sleeve				
	D_2	D_1	Weight	Part No.
	0.750	0.313	0.220 (lbs)	072104
0	0.750	0.375	0.220 (lbs)	072105
U	0.750	0.500	0.220 (lbs)	072106
	0.750	0.625	0.220 (lbs)	072107
	18.00	8.00	0.10 (kg)	071103
6	18.00	10.00	0.10 (kg)	071104
0	18.00	12.00	0.10 (kg)	071105
	18.00	14.00	0.10 (kg)	071106

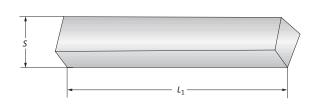


UPA 3 Boring Bar Holders

Boring Bar Holder					
	D_1	L ₁	Working Diameter Range	Designation	Part No.
<u> </u>	0.750	3.228	3.346 - 7.480	BH 308	076001
U	0.750	4.724	6.299 - 10.236	BH 312	076002
(18.00	82.00	85.00 - 190.00	BH 308	075001
W	18.00	120.00	160.00 - 260.00	BH 312	075002

UPA 3 Square Turning Bit

Square Turning Bit				
	D_1	<i>L</i> ₁	Weight	Part No.
0	0.236	1.574	0.035 (oz)	089001
0	6.00	40.00	11 (g)	089001







i = Imperial (in)i = Metric (mm)

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UPA 3 Master Shanks

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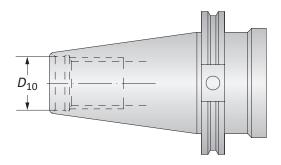
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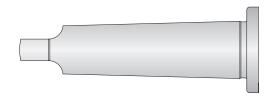
Н

CAT 40/50 | Morse Taper 40/50



CAT 40/50 Shanks

	Style	D ₁₀	Weight	Part No.
	CAT 40	⁵⁄s - 11	2.336 (lbs)	130001T013939
0	CAT 50	1 - 8	7.054 (lbs)	130001T011624
•	CAT 40	M16 x 2	1.06 (kg)	130001T016960
	CAT 50	M24 x 3	3.20 (kg)	130001T016962



Morse Taper Shanks

	Sha		
	Style	Weight	Part No.
	MT 3	0.661 (lbs)	130001T004509
0	MT 4	1.212 (lbs)	130001T003590
	MT 5	2.976 (lbs)	130001T003920
	MT 3	0.30 (kg)	130001T004509
(1)	MT 4	0.55 (kg)	130001T003590
	MT 5	1.35 (kg)	130001T003920

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B10-M: 12-15



i = Imperial (in)i = Metric (mm)



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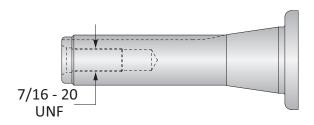
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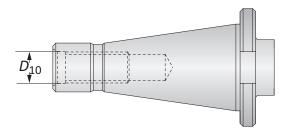
UPA 3 Master Shanks

R-8 | NMTB 40/50



R-8 Shanks

Shank	
Weight	Part No.
1.058 (lbs)	130001T007166
0.48 (kg)	130001T007166



NMTB 40/50 Shanks

	Shank					
	Style	D ₁₀	Weight	Part No.		
•	NMTB40	5⁄8 - 11	1.984 (lbs)	130001T004498		
U	NMTB50	1 - 8	5.798 (lbs)	130001T004480		
m	NMTB40	% - 11	0.90 (kg)	130001T004498		
•	NMTB50	1 - 8	2.63 (kg)	130001T004480		

Differential Screw

	Thread	Weight	Part No.
0	M16 x 2	0.066 (lbs)	KW9208
0	M16 x 2	0.03 (lbs)	KW9208





i = Imperial (in)i = Metric (mm)

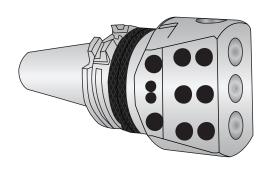
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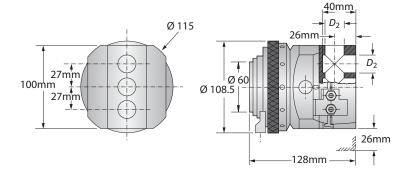
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UPA 4 Boring Heads and Accessories

Diameter Range: 0.000" - 15.748" (0.00mm - 400.00mm)





UPA 4 Boring Heads

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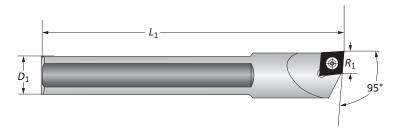
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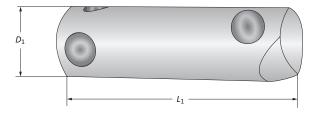
K

	Boring		
Boring Range	D ₂	Weight	Part No.
0.000 - 15.748	0.875	14.330 (lbs)	008020
0.00 400.00	22.00	6 50 (kg)	007020
		Boring Range D2 0.000 - 15.748 0.875	0.000 - 15.748 0.875 14.330 (lbs)



UPA 4 Boring Bars

	Boring Bar						
	D_1	L ₁	R ₁	Weight	Cutting Direction	Insert Form	Part No.
0	0.875	3.937	0.531	0.220 (lbs)	R	103	0875BFBR
U	0.875	3.937	0.531	0.220 (lbs)	L	103	0875BFBL
(1)	22.00	100.00	13.50	0.10 (kg)	R	103	081092
W	22.00	100.00	13.50	0.10 (kg)	L	103	218089



UPA 4 Boring Bars

	4 Dornig Burs				
	Boring Bar				
	D_1	L ₁	Boring Depth	Designation	Part No.
	0.875	3.346	1.771	B 408	074006
0	0.875	4.921	3.346	B 412	074007
	0.875	6.496	4.921	B 416	074008
	22.00	85.00	45.00	В 408	073006
0	22.00	125.00	85.00	B 412	073007
	22.00	165.00	125.00	B 416	073008

B10-M: 12-15



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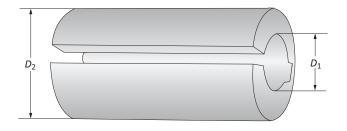
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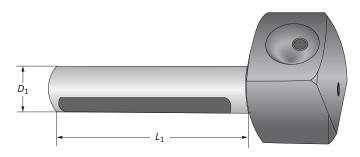
UPA 4 Accessories

Reducing Sleeves | Boring Bar Holders



UPA 4 Reducing Sleeves

	D_2	D_1	Weight	Part No.
	0.875	0.312	0.220 (lbs)	072108
	0.875	0.375	0.220 (lbs)	072109
0	0.875	0.500	0.220 (lbs)	072110
	0.875	0.625	0.176 (lbs)	072111
	0.875	0.750	0.176 (lbs)	072112
	22.00	8.00	0.10 (kg)	071107
	22.00	10.00	0.10 (kg)	071108
(1)	22.00	12.00	0.10 (kg)	071109
	22.00	14.00	0.08 (kg)	071110
	22.00	18.00	0.08 (kg)	071111

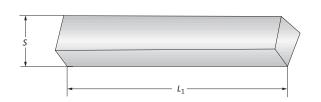


UPA 4 Boring Bar Holders

Boring Bar Holder					
	D_1	L_1	Designation	Working Diameter Range	Part No.
<u> </u>	0.875	3.858	BH 410	4.527 - 9.448	076003
U	0.875	7.086	BH 418	8.661 - 15.748	076004
		I			
(1)	22.00	98.00	BH 410	115.00 - 240.00	075003
•	22.00	180.00	BH 418	220.00 - 400.00	075004

UPA 4 Square Turning Bit

Square Turning Bit				
	D_1	L_1	Weight	Part No.
0	0.236	1.574	0.035 (oz)	089001
0	6.00	40.00	11 (g)	089001



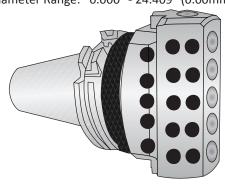


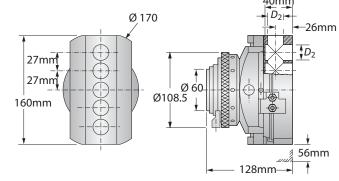


i = Imperial (in)i = Metric (mm)

UPA 5-S 6 Boring Heads and Accessories

Diameter Range: 0.000" - 24.409" (0.00mm - 620.00mm)





UPA 5-S 6 Boring Heads

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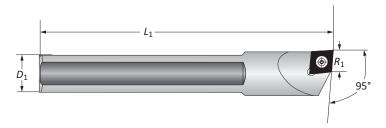
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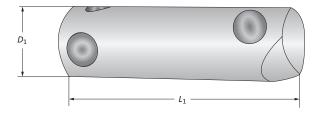
K

		Boring		
	Boring Range	D_2	Weight	Part No.
0	0.000 - 24.409	0.875	17.416 (lbs)	014020
0	0.00 - 620.00	22.00	7.90 (kg)	013020



UPA 5-S 6 Boring Bars

	Boring Bar						
	D_1	L ₁	R ₁	Weight	Cutting Direction	Insert Form	Part No.
0	0.875	3.937	0.531	0.220 (lbs)	R	103	0875BFBR
U	0.875	3.937	0.531	0.220 (lbs)	L	103	0875BFBL
m	22.00	100.00	13.50	0.10 (kg)	R	103	081092
•	22.00	100.00	13.50	0.10 (kg)	L	103	218089



UPA 5-S 6 Boring Bars

Boring Bar					
	D_1	L ₁	Boring Depth	Designation	Part No.
	0.875	3.346	1.771	B 408	074006
0	0.875	4.921	3.346	B 412	074007
	0.875	6.496	4.921	B 416	074008
	22.00	85.00	45.00	B 408	073006
(1)	22.00	125.00	85.00	B 412	073007
	22.00	165.00	125.00	B 416	073008





Imperial (in)

m = Metric (mm)

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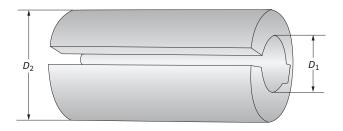
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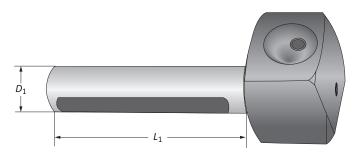
UPA 5-S 6 Accessories

Reducing Sleeves | Boring Bar Holders



UPA 5-S 6 Reducing Sleeves

		Reducing Sleeve		
	D_2	D_1	Weight	Part No.
	0.875	0.312	0.220 (lbs)	072108
	0.875	0.375	0.220 (lbs)	072109
0	0.875	0.500	0.220 (lbs)	072110
	0.875	0.625	0.176 (lbs)	072111
	0.875	0.750	0.176 (lbs)	072112
	22.00	8.00	0.10 (kg)	071107
	22.00	10.00	0.10 (kg)	071108
(ii)	22.00	12.00	0.10 (kg)	071109
	22.00	14.00	0.08 (kg)	071110
	22.00	18.00	0.08 (kg)	071111

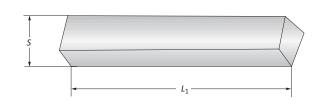


UPA 5-S 6 Boring Bar Holders

Boring Bar Holder					
	D_1	L ₁	Designation	Working Diameter Range	Part No.
A	0.875	5.039	BH 513	4.724 - 15.748	076003
U	0.875	9.055	BH 523	10.630 - 24.408	076004
			Г	T	
	22.00	228.00	BH 513	120.00 - 400.00	075003
@	22.00	230.00	BH 523	270.00 - 620.00	075004

UPA 5-S 6 Square Turning Bit

Square Turning Bit				
	D_1	L_1	Weight	Part No.
0	0.236	1.574	0.035 (oz)	089001
0	6.00	40.00	11 (g)	089001



B10-M: 12-15



i = Imperial (in)i = Metric (mm)

UPA 4 and 5-S 6 Master Shanks

CAT 40/50 | Morse Taper | NMTB 40/50

CAT 40/50 Shanks

Α

В

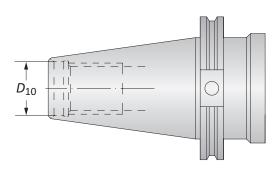
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	Style	D ₁₀	Weight	Part No.
0	CAT 40	5⁄8 - 11	3.196 (lbs)	130005T013939
U	CAT 50	1 - 8	7.054 (lbs)	130005T011624
@	CAT 40	M16 x 2	1.45 (kg)	130005T016960
w	CAT 50	M24 x 3	3.20 (kg)	130005T016962



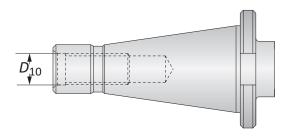
Morse Taper Shanks

	Sha		
	Style	Weight	Part No.
0	MT 4	1.895 (lbs)	130005T003590
U	MT 5	3.639 (lbs)	130005T003920
@	MT 4	0.86 (kg)	130005T003590
W	MT 5	1.65 (kg)	130005T003920



NMTB 40/50 Shanks

		Shank				
	Style	D ₁₀	Weight	Part No.		
0	NMTB40	5⁄8 - 11	2.866 (lbs)	130005T004498		
U	NMTB50	1 - 8	6.393 (lbs)	130005T004480		
@	NMTB40	5⁄8 - 11	1.30 (kg)	130005T004498		
	NMTB50	1 - 8	2.90 (kg)	130005T004480		

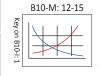


Differential Screw

	Thread	Weight	Part No.
0	M20 x 2.5	0.154 (lbs)	KW9209
0	M20 x 2.5	0.07 (lbs)	KW9209

M

K



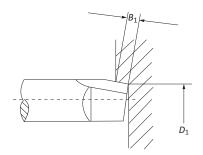


i = Imperial (in)i = Metric (mm)

Technical Information | Chip Production Values

Technical Data

	Туре	UPA 3	UPA 4	UPA 5-S 6	
	Working accuracy	±0.005	±0.005	±0.005	
	Diameter range	25.00	35.00	45.00	
	MT shank	3.00	4.00	5.00	
	ISO shank	30.00	40.00	40.00	
	Facing and boring range	0.00 - 260.00	0.00 - 400.00	0.00 - 620.00	
	Adjustment of slide (max)	48.00	52.00	112.00	
	Self-activated feed of slide per revolution	0.05	0.02, 0.04, 0.06, 0.08, 0.10, 0.12, 0.14, 0.16, 0.18, 0.20, 0.22, 0.24	0.02, 0.04, 0.06, 0.08, 0.10, 0.12, 0.14, 0.16, 0.18, 0.20, 0.22, 0.24	
0	Fine adjustment of one division	0.01	0.01	0.01	
	Fine adjustment of one revolution	1.00	0.40	0.40	
	Rapid return per revolution	1.00	-	-	
	Rapid return setting per revolution	-	6.00	6.00	
	Largest diameter of slide	85.00	115.00	170.00	
	Height of boring head without shank	81.00	128.00	128.00	
	Tool locations in slide	18.00	22.00	22.00	
	Max permissible revolutions	1000	600	600	
	End cut off accuracy	±0.05	±0.05	±0.05	



Chip Production Values

	Chip Cutting Guide	Туре	UPA 3	UPA 4	UPA 5-S 6
	Max load	KW	2.50	7.00	9.50
	With slide feed	mm/rev.	0.050	0.08, 0.12, 0.24	0.08, 0.12, 0.24
	For smaller working Ø	D_1	60.00	150.00	200.00
(1)	Maximum width of chip	B_1	4.00	7.00, 6.00, 4.00	8.00, 7.00, 5.00
	Maximum working Ø	D_1	260.00	400.00	500.00 / 620.00
	Without reinforcement rings	B ₁	2.00	2.20, 2.00, 1.50	2.50, 2.00, 1.50
	With reinforcement rings	B ₁	_	4.50, 4.00, 3.00	5.00, 4.00, 3.00

B10-M: 12-15



i = Imperial (in)i = Metric (mm)

В

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UPA 3 Boring Head Diagram

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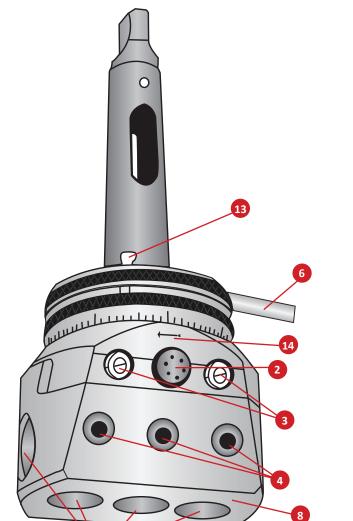
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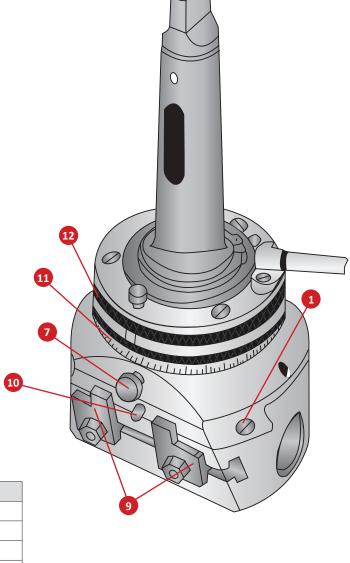
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No.	Part	No.	Part
1	Regulating screw	8	Slide
2	Locking screw	9	Stop
3	Setting screws	10	Fixed pin
4	Fastening screw	11	Scale ring
5	Tool post holes	12	Holding ring
6	Stop rod	13	Button for return movement
7	Feed button	14	Arrow

M

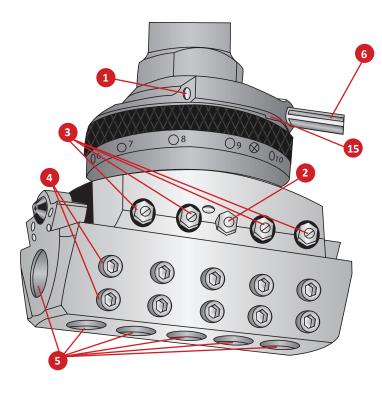
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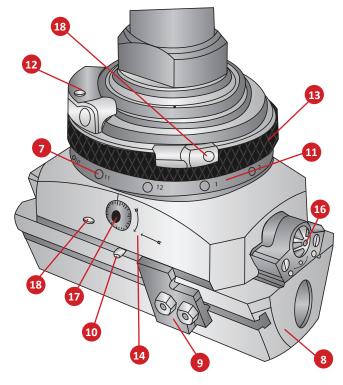
B10-M: 12-15 Key on B10-I:

B10-J: 14

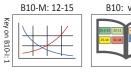








No.	Part	No.	Part
1	Regulating screw	10	Fixed pin
2	Locking screw	11	Scale ring
3	Setting screws	12	Retaining ring
4	Fastening screws	13	Feed ring
5	Tool post holes	14	Arrow
6	Stop rod	15	Recess
7	Feed buttons	16	Quick setting dial
8	Slide with rotation bores	17	Fine setting dial
9	Stop	18	Release ring



B10: vi-vii

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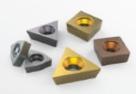
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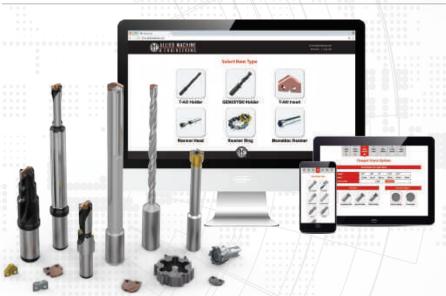
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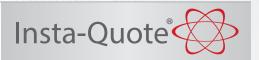
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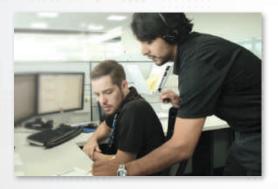
1

Inside Sales Support

Our inside sales team is trained to handle your account information and general inquiries. We are happy to assist you and find the answers to your questions.

- \$\ 1.330.343.4283 ext. 8610
- 📞 1.800.321.5537 (toll free United States and Canada)
- insidesales@alliedmachine.com





2

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Our highly trained and skilled Application Engineers are here to assist you. If you are experiencing technical difficulties, our engineers will recommend the best solutions to the problem. Speeds and feeds, coolant pressure, and other machining components all affect the performance of our tooling. Our AEs are experienced in working with difficult materials in many different environments. Give us a call and put our knowledge to the test.

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3

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- Training Lab: In-depth training at the spindle allows you to choose speeds and feeds
- Learning Lab: Quick, brief sessions provide basic knowledge of our products
- Facility Tours: Take guided tours of our two manufacturing facilities located in Dover,
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Guaranteed Test / Demo Application Form

Distributor PO#

The following must be filled out completely before your test will be considered

IMPORTANT: For processing, send Purchase Order to your Allied Field Sales Engineer (FSE). Please clearly mark the paperwork as "Test Order."

Distributor Infor Company Name: _ Contact: _ Account Number: _ Phone: _ Email: _ Current Process				End User Information Company Name: Contact: Industry: Phone: Email: ool life, and any problems you are experiencing					
Test Objective	List what would mak	e this a suc	cessful test (i.e. penetration	n rate, finish, tool life,	hole size, etc.)			
Application Info	rmation								
Hole Diameter:		in/mm	Tolerance	2:		Material:	(4150 / A36	/ Cast Iron / etc.)	
Preexisting Diamet	ter:	in/mm	Depth of	Cut:	in/mm	Hardness:	(Ri	HN / Rc)	
Required Finish:		RMS				State:		t rolled / Forging)	
Machine Inform	ation								
Machine Type:	(Lathe / Screw machine /	Machine cen	ter / etc.)	Builder:	(Haas, Mori Seiki, e		Model #:		
Shank Required:	(CAT50 / Morse	taper, etc.)					Power:	HP/KW	
Rigidity: Excellent Good Poor	Orientation: Vertical Horizontal		l Rotating: Yes No				Thrust:	lbs/N	
Coolant Informa	tion								
Coolant Delivery:		hrough tool /	[/] Flood)		Coolant Pressure	e:		PSI / bar	
Coolant Type:			-		Coolant Volume	:		GPM / LPM	

Requested Tooling

QTY	Item Number	QTY

QTY	Item Number



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