

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" (0.00 mm - 620.00 mm)



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







6-6

Automotive





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 information regarding the corresponding part(s)

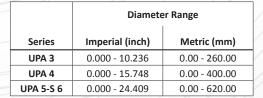


Recommended Cutting Data Speed and feed recommendations for optimum and safe drilling

Universal Versatile Boring Heads Table of Contents

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



UPA Product Overview



Universal Facing and Boring Heads

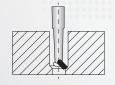
The versatile Wohlhaupter UPA boring heads can be used for facing, boring, and taper turning. They can also be used for right- or left-handed turning.

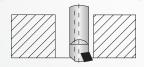
Precise and versatile boring heads.

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

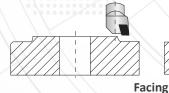
UNIVERSAL

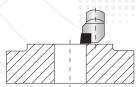
FACING and BORING Applications







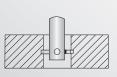




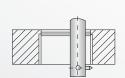
Boring with different tools

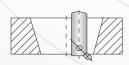
From inside outward

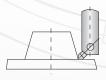
From outside inward











Recessing

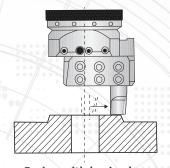
Outside Turning

Thread Cutting

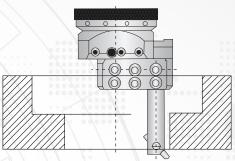
Taper Turning

UNIVERSAL

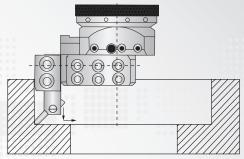
FACING and BORING Application Examples



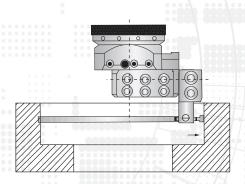
Facing with boring bar directly in slide



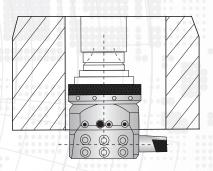
Boring with long boring bar



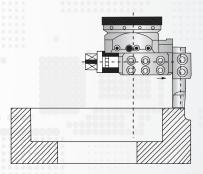
Boring and facing with short boring bar holder and a boring bar



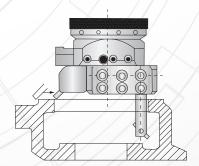
Recessing with short boring bar holder and a boring bar



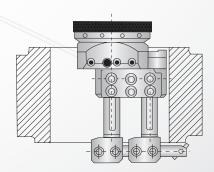
Deep hole boring with boring bar directly in slide



Large diameter facing with a long boring bar holder



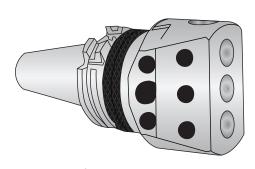
Facing in two areas with one boring bar and a boring bar holder

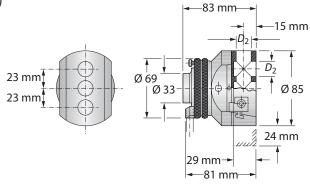


Facing the reverse side by using boring bar holders contained in attachment

UPA 3 Boring Heads and Accessories

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





UPA 3 Boring Heads

Α

В

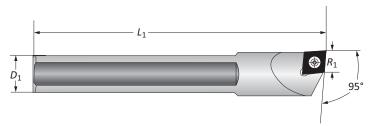
 C

D

Ε

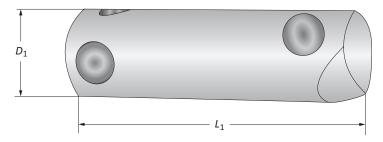
G

		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	<i>L</i> 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
	T	T	1		1
	18.00	60.00	30.00	B 306	073003
0	18.00	90.00	60.00	В 309	073004
	18.00	120.00	90.00	B 312	073005

B10-M: 12-15



Imperial (in)

m = Metric (mm)

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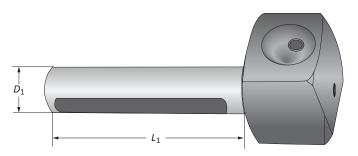
UPA 3 Accessories

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

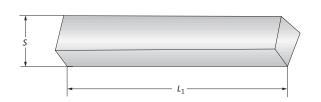


UPA 3 Boring Bar Holders

Boring Bar Holder					
	D_1	L ₁	Working Diameter Range	Designation	Part No.
•	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
•	18.00	120.00	160.00 - 260.00	BH 312	075002

UPA 3 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	







UPA 3 Master Shanks

Α

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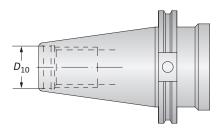
D

G

Н

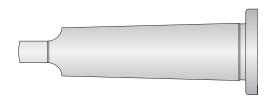
CAT 40/50 | Morse Taper 40/50

В



CAT 40/50 Shanks

	Style	D ₁₀	Weight	Part No.
•	CAT 40	5⁄8 - 11	2.336 (lbs)	130001T013939
0	CAT 50	1 - 8	7.054 (lbs)	130001T011624
	T	T		
•	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

M

K

B10-M: 12-15





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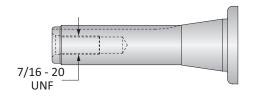
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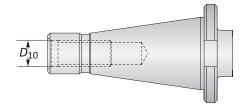
UPA 3 Master Shanks

R-8 | NMTB 40/50



R-8 Shanks

	Shank	
	Weight	Part No.
0	1.058 (lbs)	130001T007166
0	0.48 (kg)	130001T007166



NMTB 40/50 Shanks

	Shank					
	Style	D ₁₀	Weight	Part No.		
<u> </u>	NMTB40	% - 11	1.984 (lbs)	130001T004498		
U	NMTB50	1 - 8	5.798 (lbs)	130001T004480		
m	NMTB40	% - 11	0.90 (kg)	130001T004498		
W	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 (kg)	KW9208





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

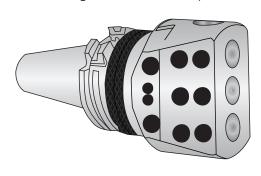
K

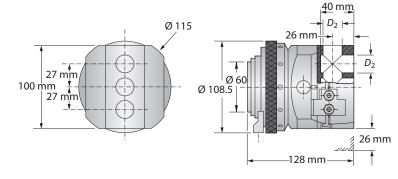
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UPA 4 Boring Heads and Accessories

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





UPA 4 Boring Heads

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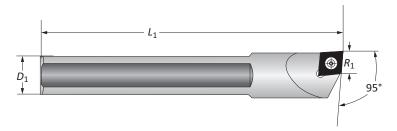
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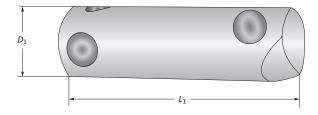
K

		Boring		
	Boring Range	D ₂	Weight	Part No.
0	0.000 - 15.748	0.875	14.330 (lbs)	008020
0	0.00 - 400.00	22.00	6.50 (kg)	007020



UPA 4 Boring Bars

		Borin	g 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
_	0.875	3.937	0.531	0.220 (lbs)	L	103	0875BFBL
	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 4 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	В 408	073006
0	22.00	125.00	85.00	B 412	073007
	22.00	165.00	125.00	B 416	073008



B10-J: 8



= Imperial (in)

m = Metric (mm)

M



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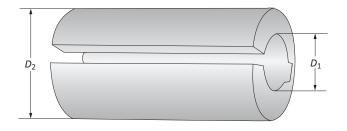
Н

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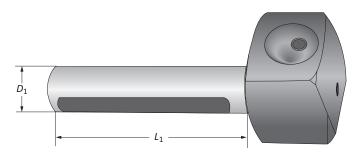
UPA 4 Accessories

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

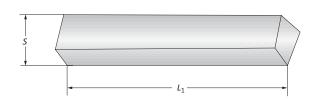


UPA 4 Boring Bar Holders

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

UPA 4 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

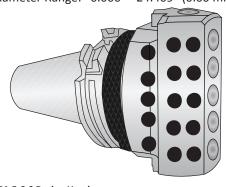


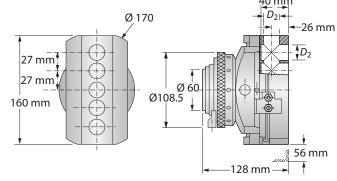




UPA 5-S 6 Boring Heads and Accessories

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





UPA 5-S 6 Boring Heads

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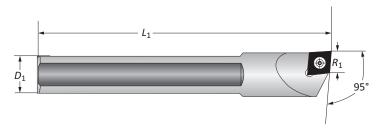
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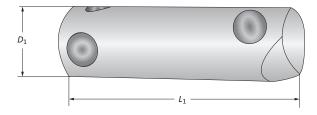
K

		Boring		
	Boring Range	D ₂	Weight	Part No.
0	0.000 - 24.409	0.875	17.416 (lbs)	014020
	0.00 500.00		7.00 (1.)	0.0000
©	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
(1)	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

	Borin	ng 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
		1		1	
	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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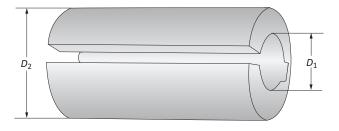
K

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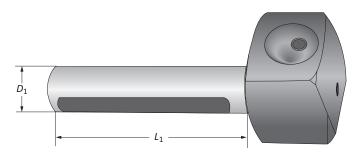
UPA 5-S 6 Accessories

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
		T		
	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

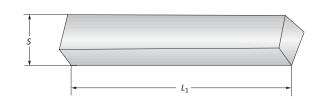


UPA 5-S 6 Boring Bar Holders

Boring Bar Holder					
	D_1	L ₁	Designation	Working Diameter Range	Part No.
<u> </u>	0.875	5.039	BH 513	4.724 - 15.748	076003
U	0.875	9.055	BH 523	10.630 - 24.408	076004
(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







UPA 4 and 5-S 6 Master Shanks

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

CAT 40/50 Shanks

Α

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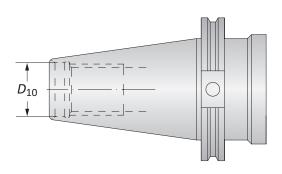
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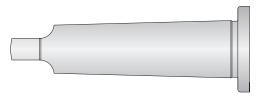
G

Style	D ₁₀	Weight	Part No.
CAT 40	5⁄8 - 11	3.196 (lbs)	130005T013939
CAT 50	1 - 8	7.054 (lbs)	130005T011624
CAT 40	M16 x 2	1.45 (kg)	130005T016960
CAT 50	M24 x 3	3.20 (kg)	130005T016962
	CAT 40 CAT 50	CAT 40	Style D₁0 Weight CAT 40 5/8 - 11 3.196 (lbs) CAT 50 1 - 8 7.054 (lbs) CAT 40 M16 x 2 1.45 (kg)



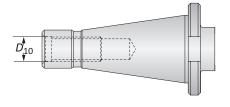
Morse Taper Shanks

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



NMTB 40/50 Shanks

	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

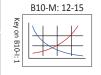


Differential Screw

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

M

K

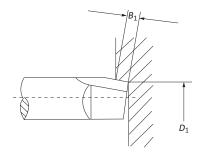




Technical Information | Chip Production Values

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	
(1)	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
	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

Α

C

D

Ε

G

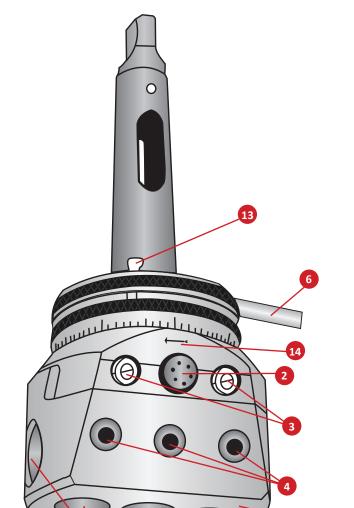
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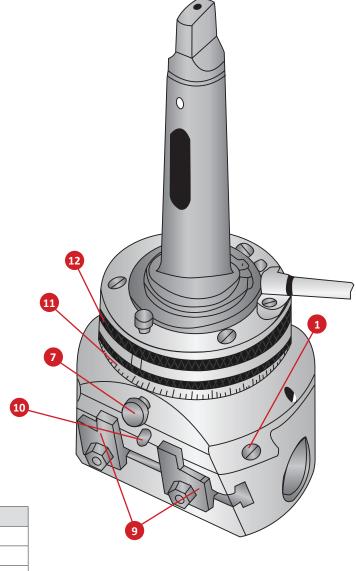
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M

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UPA 3 Boring Head Diagram

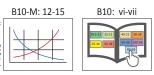




1 Description courses	
1 Regulating screw 8 Slide	
2 Locking screw 9 Stop	
3 Setting screws 10 Fixed pin	
4 Fastening screw 11 Scale ring	
5 Tool post holes 12 Holding ring	
6 Stop rod 13 Button for return move	ement
7 Feed button 14 Arrow	

M

B10-J: 14



В

Α

C

D

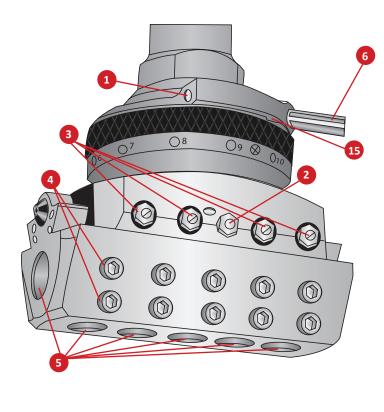
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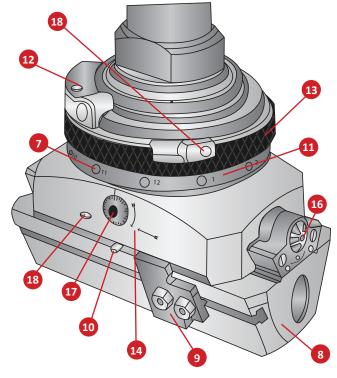
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Н

K







No.	Part	No.	Part
1	Regulating screw	10	Fixed pin
2	Locking screw	11	Scale ring
3	3 Setting screws		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





В

 C

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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 Inform Company Name: Contact: Industry: Phone: Email: Life, and any problem		riencing	
Test Objective	List what would mak	e this a succ	cessful test (i	i.e. penetratior	rate, finish, tool life,	hole size, etc.)		
Application Info	rmation							
Hole Diameter:		in/mm	Tolerance	:: <u> </u>		Material:	(4150 / A36	/ Cast Iron / etc.)
Preexisting Diamet	ter:	in/mm	Depth of	Cut:	in/mm	Hardness:		HN / Rc)
Required Finish:		RMS				State:		t rolled / Forging)
Machine Inform	ation							
Machine Type:	(Lathe / Screw machine /	Machine cent	ter / etc.)	Builder:	(Haas, Mori Seiki, e		Model #:	
Shank Required:	(CAT50 / Morse	taper, etc.)					Power:	HP/KW
Rigidity: Excellent Good Poor	Orientation: Vertical Horizontal	Tool	Rotating: Yes No				Thrust:	lbs/N
Coolant Informa	ition							
Coolant Delivery:		hrough tool /	Flood)		Coolant Pressure	e:		PSI / bar
Coolant Type:	(Air mist, oil				Coolant Volume	: <u> </u>		GPM / LPM

Requested Tooling

QTY	Item Number	QTY

QTY	Item Number



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Warranty Information

• • • • •

Allied Machine & Engineering ("Allied Machine") warrants to original equipment manufacturers, distributors, industrial and commercial users of its products for one year from the original date of sale that each new product manufactured or supplied by Allied Machine shall be free from defects in material and workmanship.

Allied Machine's sole and exclusive obligation under this warranty is limited to, at its option, without additional charge, replacing or repairing this product or issuing a credit. For this warranty to be applied, the product must be returned freight prepaid to the plant designated by an Allied Machine representative and which, upon inspection, is determined by Allied Machine to be defective in material and workmanship.

Complete information as to operating conditions, machine, setup, and the application of cutting fluid should accompany any product returned for inspection. This warranty shall not apply to any Allied Machine products which have been subjected to misuse, abuse, improper operating conditions, improper machine setup or improper application of cutting fluid or which have been repaired or altered if such repair or alteration, in the judgement of Allied Machine, would adversely affect the performance of the product.

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