



ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing



Drilling



Reaming



Burnishing



Threading



Specials



Wohlhaupter®

► *BORING*

Intermediate Modules



Cobalt Outils Coupants

WOHLHAUPTER®



SECTION

B10-E

Intermediate Modules



Cobalt Outils Coupants

Wohlhaupter® Intermediate Modules

NOVITECH® | Reducers | Extensions



Increase Tool Stability with Intermediate Modules

- Allow for expanded use of existing components
- Add flexibility to setups
- Reduce need for specials and their associated cost and lead time
- Each component individually balanced

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



Aerospace



Agriculture



Automotive



Firearms



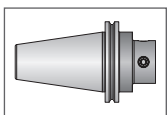
General
Machining



Cobalt Outils Coupants

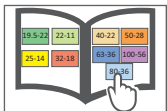
Reference Icons

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



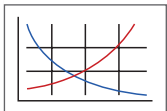
Shanks

A variety of shanks for different machines



MVS Connection Color Guide

Detailed instructions and information regarding the MVS connection(s)



Recommended Cutting Data

Speed and feed recommendations for optimum and safe boring



Coolant-Through Option

Indicates that the product is coolant through

Intermediate Modules Table of Contents

Introduction

Product Overview 2 - 3

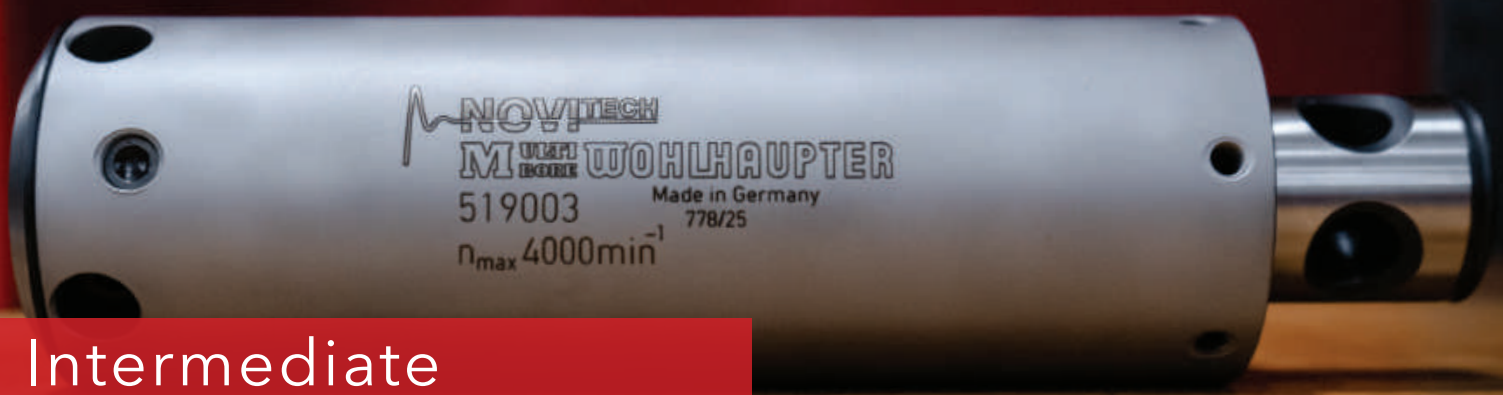
NOVI^{TECH}® Vibration Damping Modules 4 - 5

249 (248) Adapters 6 - 7

Reducers 8 - 13

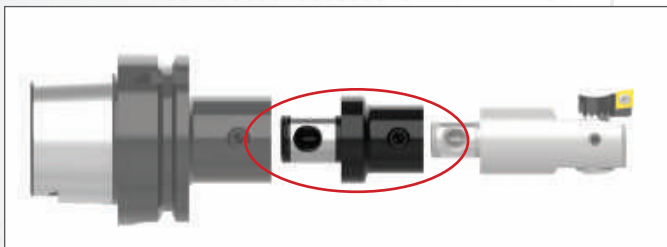
Extensions 14 - 16

Intermediate Modules Product Overview



Intermediate MODULES

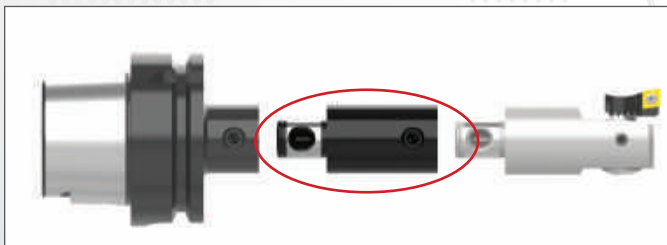
Reducers



Features:

- ▶ Improves rigidity by stepping-down to smaller MVS connection sizes
- ▶ Connects quickly and easily with the MVS connection
- ▶ Accommodates smaller diameter applications

Extensions



Features:

- ▶ Used to increase bore depth
- ▶ Connects quickly and easily with the MVS connection
- ▶ Aluminum components available to reduce stress on the spindle

WOHLHAUPTER® FINE BORING HEAD with NOVI^{TECH}®

Are you looking for more from your tooling?

After facing problems with chatter and chipping inserts, our customer, who machines fueling machine head rotors from ASTM A276 - 304L in the nuclear power industry, sought a better solution to their machining process.

The customer turned to Allied for help finding a new solution. Once the causes of insert failure and chatter were identified, our experienced team was able to create the best assembly suitable for the application. Using **Wohlhaupter's analog balanced fine boring head** paired with the **NOVI^{TECH} vibration damper module**, they were able to eliminate the issues our customers were facing.

With the previous tooling, the customer achieved only 12 minutes of tool life, but with Allied's Wohlhaupter assembly, they achieved more than four times the life for 65 minutes!

Allied's Wohlhaupter assembly improved the machining process by making it more consistent and saved the customer money by reducing cost per hole. If you are looking to save time and money, **give us a call, and we will help you find the right solution.**



Product: Wohlhaupter analog balanced fine boring head with NOVI ^{TECH} Objectives: (1) Decrease cycle time (2) Improve process Industry: Renewable energy/energy Part: Nuclear fueling machine head rotor Material: ASTM A276-304L Hole Ø: 4.7244" (120 mm) Hole Depth: 40.9449" (1040 mm)	Measure	Competitor Boring Head	Wohlhaupter Fine Boring Head with NOVI ^{TECH}
	RPM	106	372
	Speed Rate	131.234 SFM (40 M/min)	459.318 SFM (140 M/min)
	Feed Rate	0.003 IPR (0.076 mm/rev)	0.006 IPR (0.16 mm/rev)
	Penetration Rate	0.315 IPM (8 mm/min)	2.362 IPM (60 mm/min)
	Cycle Time	2 hr 10 min	17 min
	Tool Life	12 min	65 min
	Wohlhaupter offered 93.32% cost per hole savings over the competitor tooling.		

- ▶ Analog balanced fine boring head
- ▶ Boring insert
Item No. 297994WHC111
- ▶ NOVI^{TECH} vibration damper intermediate module
Item No. 519004



86.92%
cycle time reduction

The Wohlhaupter boring head with the NOVI^{TECH} vibration damper module provided:

- ✓ Increased penetration rate
- ✓ Decreased cycle time
- ✓ Increased tool life
- ✓ Decreased cost per hole

NOVI^{TECH}® Vibration Damping Intermediate Modules Overview

THE DEEP HOLE

10xD BORING SOLUTION

YOU'VE BEEN LOOKING FOR



OUR SOLUTION

- ▶ Machine up to **10xD**
- ▶ Connect quickly and easily with the **MVS connection**
- ▶ Utilize existing **Wohlhaupter® components**
- ▶ **Increase** your productivity, surface quality, and process reliability
- ▶ **Increase** your tool and spindle life

YOUR ADVANTAGE

Damper module with viscoelastic bearing

Absorber mass

THE SURFACE QUALITY TELLS IT ALL

When our customer was machining alloy steel to 9xD, the NOVI^{TECH} provided reliable machining, which achieved high surface quality (Ra = 32).

Wohlhaupter NOVI^{TECH} with VarioBore precision boring head

Standard tool construction with steel extension

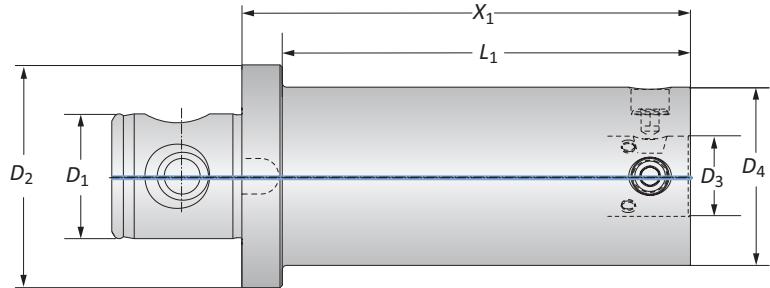
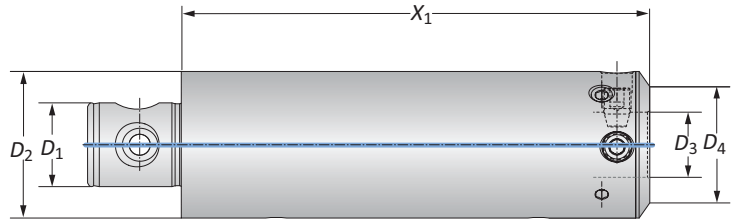


Cobalt Outils Coupants

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NOVI^{TECH}® Vibration Damping Intermediate Modules

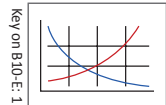
Machining Diameter: 1.969" - 8.071" (50.00mm - 205.00mm)



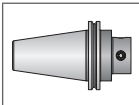
MVS Connection		NOVI ^{TECH}		Weight	Part No.
$D_2 D_1$	$D_4 D_3$	X_1	L_1		
50 - 28*	40 - 22	7.874	—	6.172 (lbs)	519002
63 - 36	50 - 28	7.874	—	12.560 (lbs)	519003
80 - 36	63 - 36	7.874	—	16.530 (lbs)	519004
80 - 36	80 - 36	7.874	—	16.530 (lbs)	519005
100 - 56	80 - 36	7.874	7.165	21.825 (lbs)	519006
50 - 28	40 - 22	200.00	—	2.80 (kg)	519002
63 - 36	50 - 28	200.00	—	5.70 (kg)	519003
80 - 36	63 - 36	200.00	—	7.50 (kg)	519004
80 - 36	80 - 36	200.00	—	7.50 (kg)	519005
100 - 56	80 - 36	200.00	182.00	9.90 (kg)	519006

* D_2 = 49.50mm

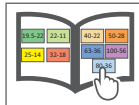
B10-M: 12-15



B10-F



B10: vi-vii



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

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.
ext: 7611 | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

- Consult machine tool builder for machine's weight limitations.
- Refer to example on page B10-M: 11 for calculating tool assembly weight
- Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

- Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)
- When using tool steel components, do not exceed recommended 6xD length to diameter ratio
- When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio
- When using a carbide shank, do not exceed recommended 9xD length to diameter ratio
- When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio
- Refer to examples on pages B10-M: 8-10 for calculating length to diameter
- Factory technical assistance is available for your specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com



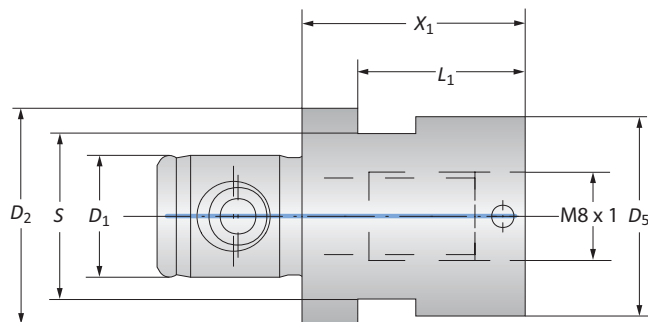
Cobalt Outlets Coupants

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B10-E: 5

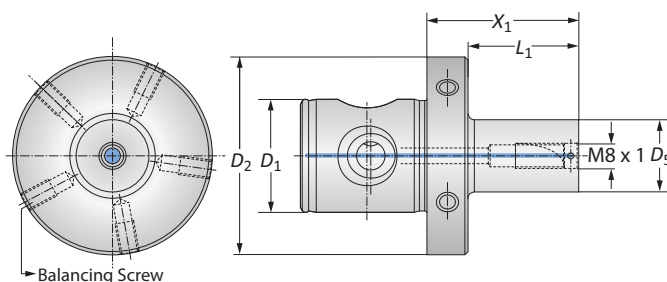
249 (248) Adapters

Adapters | Balanced Adapters



Adapters

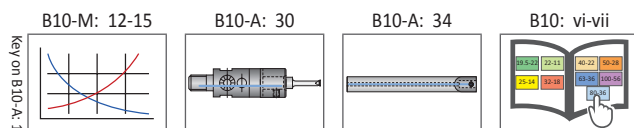
MVS Connection	Boring Connection	Adapter				Weight	Service Key	Part No.
$D_2 D_1$		X_1	L_1	S	D_5			
19.5 - 11	M8 x 1	0.787	0.590	15/P	0.708	0.110 (lbs)	15 S / P	219168
23 - 11	M8 x 1	0.787	–	19/P	0.905	0.154 (lbs)	19 S / P	219169
19.5 - 11	M8 x 1	20.00	15.00	15/P	18.00	0.05 (kg)	15 S / P	219168
23 - 11	M8 x 1	20.00	–	19/P	23.00	0.07 (kg)	19 S / P	219169



Balanced Adapters

MVS Connection			Adapter					
$D_2 \mid D_1$		Boring Connection	X_1	L_1	D_5	Weight	Balancing Screw	Part No.
i	50 - 28	M8 x 1	1.259	0.748	0.590	0.771 (lbs)	M6 x 1 x 10	219185
	50 - 28	M8 x 1	1.890	1.377	0.708	0.881 (lbs)	M6 x 1 x 10	219176
	50 - 28	M8 x 1	1.890	1.377	0.905	0.992 (lbs)	M6 x 1 x 10	219177
m	50 - 28	M8 x 1	32.00	19.00	15.00	0.35 (kg)	M6 x 1 x 10	219185
	50 - 28	M8 x 1	48.00	35.00	18.00	0.40 (kg)	M6 x 1 x 10	219176
	50 - 28	M8 x 1	48.00	35.00	23.00	0.45 (kg)	M6 x 1 x 10	219177

NOTE: Balance refers to a specific residual imbalance of $\leq 10 \text{ g mm/kg}$



= Imperial (in)
 = Metric (mm)

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 ext: 7611 | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

-Consult machine tool builder for machine's weight limitations.

-Refer to example on page B10-M: 11 for calculating tool assembly weight

Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)

-When using tool steel components, do not exceed recommended 6xD length to diameter ratio

-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio

-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio

-When using a NOVI^{TECH} module, do not exceed recommended 10xD length to diameter ratio

-Refer to examples on pages B10-M: 8-10 for calculating length to diameter ratio

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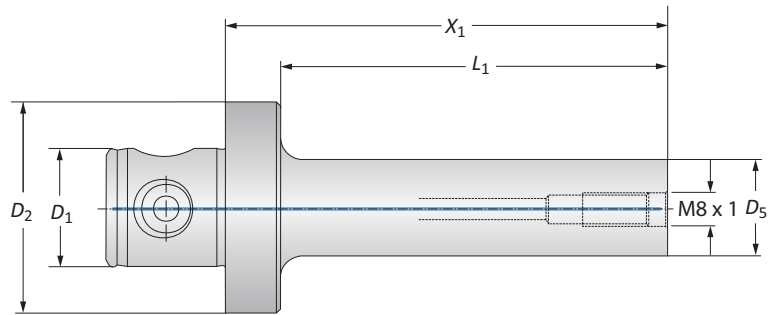
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Cobalt Outils Coupants



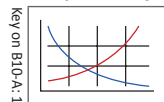
249 (248) Adapters

Heavy Metal Adapters

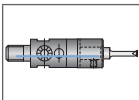


	MVS Connection	Boring Connection	Adapter			Weight	Part No.
	$D_2 \mid D_1$		X_1	L_1	D_5		
i	50 - 28	M8 x 1	2.677	2.165	0.590	1.763 (lbs)	248147
	50 - 28	M8 x 1	3.307	2.795	0.748	2.204 (lbs)	248148
	50 - 28	M8 x 1	4.094	3.582	0.905	2.866 (lbs)	248149
m	50 - 28	M8 x 1	68.00	55.00	15.00	0.80 (kg)	248147
	50 - 28	M8 x 1	84.00	71.00	19.00	1.00 (kg)	248148
	50 - 28	M8 x 1	104.00	91.00	23.00	1.30 (kg)	248149

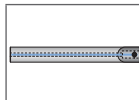
B10-M: 12-15



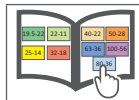
B10-A: 30



B10-A: 34



B10: vi-vii



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

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.
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WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

- Consult machine tool builder for machine's weight limitations.
 - Refer to example on page B10-M: 11 for calculating tool assembly weight
- Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

- Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)
 - When using tool steel components, do not exceed recommended 6xD length to diameter ratio
 - When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio
 - When using a carbide shank, do not exceed recommended 9xD length to diameter ratio
 - When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio
 - Refer to examples on pages B10-M: 8-10 for calculating length to diameter ratio
- Factory technical assistance is available for your specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com



Cobalt Outils Coupants

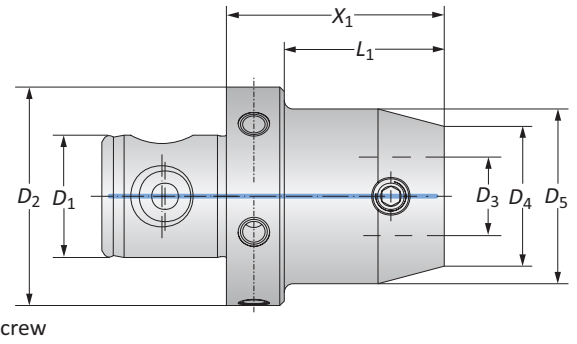
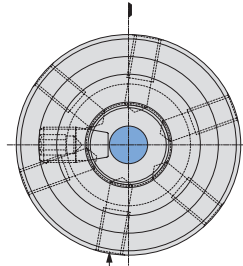
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B10-E: 7

A
B
C
D
E
F
G
H
I
J
K
L
M
INDEX

Reducers

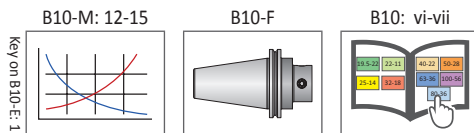
Imperial | Balanced



MVS Connection		Reducer				Weight	Balancing Screw	Part No.
$D_2 D_1$	$D_4 D_3$	X_1	L_1	D_5				
25 - 14	19.5 - 11	1.181	0.827	—	0.220 (lbs)	—	—	219034
25 - 14	22 - 11	1.181	0.827	—	0.440 (lbs)	—	—	219035
32 - 18	22 - 11	0.472	0.020	—	0.220 (lbs)	—	—	219036
32 - 18	25 - 14	1.181	0.827	—	0.220 (lbs)	—	—	219037
40 - 22	22 - 11	0.472	0.020	—	0.440 (lbs)	—	—	219038
40 - 22	25 - 14	1.181	0.827	—	0.440 (lbs)	—	—	219039
40 - 22	32 - 18	1.181	—	1.575	1.102 (lbs)	—	—	219040
50 - 28	19.5 - 11	2.126	1.614	—	0.881 (lbs)	M6 x 1 x 10	—	219051
50 - 28	22 - 11	0.551	0.020	—	0.661 (lbs)	M6 x 1 x 10	—	219041
50 - 28	22 - 11	2.126	1.614	—	0.881 (lbs)	M6 x 1 x 10	—	219052
50 - 28	25 - 14	0.551	0.020	—	0.661 (lbs)	M6 x 1 x 7	—	119094
50 - 28	25 - 14	2.323	1.811	—	0.881 (lbs)	M6 x 1 x 10	—	119054
50 - 28	25 - 14	2.323	1.811	1.260	1.102 (lbs)	M6 x 1 x 10	—	119055
50 - 28	25 - 14	4.685	4.173	1.260	1.984 (lbs)	M6 x 1 x 10	—	119010
50 - 28	25 - 14	4.685	4.173	1.417	2.204 (lbs)	M6 x 1 x 10	—	219030*
50 - 28	32 - 18	1.929	1.417	1.378	1.984 (lbs)	M6 x 1 x 10	—	219085
50 - 28	32 - 18	4.291	3.780	1.378	2.204 (lbs)	M6 x 1 x 10	—	219086
50 - 28	32 - 18	4.291	3.780	1.575	2.425 (lbs)	M6 x 1 x 10	—	119012
50 - 28	32 - 18	4.291	3.780	1.811	2.866 (lbs)	M6 x 1 x 10	—	219032*
50 - 28	40 - 22	1.575	1.063	—	1.102 (lbs)	M6 x 1 x 10	—	219087
50 - 28	40 - 22	3.937	3.425	1.850	2.866 (lbs)	M6 x 1 x 10	—	219088
50 - 28	63 - 36	1.969	—	—	2.204 (lbs)	M6 x 1 x 10	—	119059

*Reinforced reducer

NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg



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

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WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

-Consult machine tool builder for machine's weight limitations.

-Refer to example on page B10-M: 11 for calculating tool assembly weight

Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)

-When using tool steel components, do not exceed recommended 6xD length to diameter ratio

-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio

-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio

-When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio

-Refer to examples on pages B10-M: 8-10 for calculating length to diameter r

Factory technical assistance is available for your specific applications through

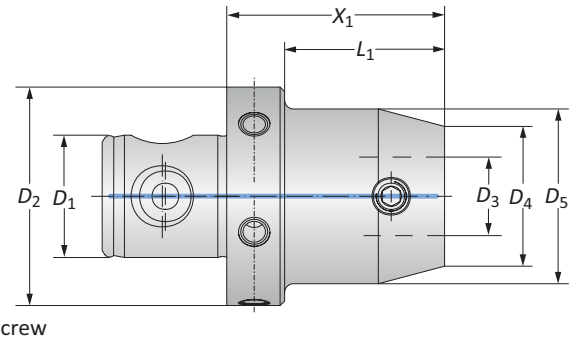
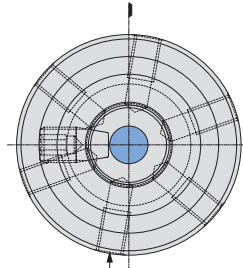


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Cobalt Outils Coupants

Reducers

Metric | Balanced

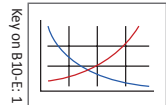


MVS Connection		Reducer			Weight	Balancing Screw	Part No.
$D_2 D_1$	$D_4 D_3$	X_1	L_1	D_5			
25 - 14	19.5 - 11	30.00	21.00	—	0.10 (kg)	—	219034
25 - 14	22 - 11	30.00	21.00	—	0.20 (kg)	—	219035
32 - 18	22 - 11	12.00	0.50	—	0.10 (kg)	—	219036
32 - 18	25 - 14	30.00	21.00	—	0.10 (kg)	—	219037
40 - 22	22 - 11	12.00	0.50	—	0.20 (kg)	—	219038
40 - 22	25 - 14	30.00	21.00	—	0.20 (kg)	—	219039
40 - 22	32 - 18	30.00	—	40.00	0.50 (kg)	—	219040
50 - 28	19.5 - 11	54.00	41.00	—	0.40 (kg)	M6 x 1 x 10	219051
50 - 28	22 - 11	14.00	0.50	—	0.30 (kg)	M6 x 1 x 10	219041
50 - 28	22 - 11	54.00	41.00	—	0.40 (kg)	M6 x 1 x 10	219052
50 - 28	25 - 14	14.00	0.50	—	0.30 (kg)	M6 x 1 x 7	119094
50 - 28	25 - 14	59.00	46.00	—	0.40 (kg)	M6 x 1 x 10	119054
50 - 28	25 - 14	59.00	46.00	32.00	0.50 (kg)	M6 x 1 x 10	119055
50 - 28	25 - 14	119.00	106.00	32.00	0.90 (kg)	M6 x 1 x 10	119010
50 - 28	25 - 14	119.00	106.00	36.00	1.00 (kg)	M6 x 1 x 10	219030*
50 - 28	32 - 18	49.00	36.00	35.00	0.90 (kg)	M6 x 1 x 10	219085
50 - 28	32 - 18	109.00	96.00	35.00	1.00 (kg)	M6 x 1 x 10	219086
50 - 28	32 - 18	109.00	96.00	40.00	1.10 (kg)	M6 x 1 x 10	119012
50 - 28	32 - 18	109.00	96.00	46.00	1.30 (kg)	M6 x 1 x 10	219032*
50 - 28	40 - 22	40.00	27.00	—	0.50 (kg)	M6 x 1 x 10	219087
50 - 28	40 - 22	100.00	87.00	47.00	1.30 (kg)	M6 x 1 x 10	219088
50 - 28	63 - 36	50.00	—	—	1.00 (kg)	M6 x 1 x 10	119059

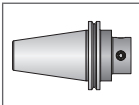
*Reinforced reducer

NOTE: Balance refers to a specific residual imbalance of $\leq 10 \text{ g mm/kg}$

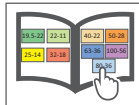
B10-M: 12-15



B10-F



B10: vi-vii


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

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.

ext: 7611 | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

-Consult machine tool builder for machine's weight limitations.

-Refer to example on page B10-M: 11 for calculating tool assembly weight

Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

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-When using tool steel components, do not exceed recommended 6xD length to diameter ratio

-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio

-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio

-When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio

-Refer to examples on pages B10-M: 8-10 for calculating length to diameter ratio

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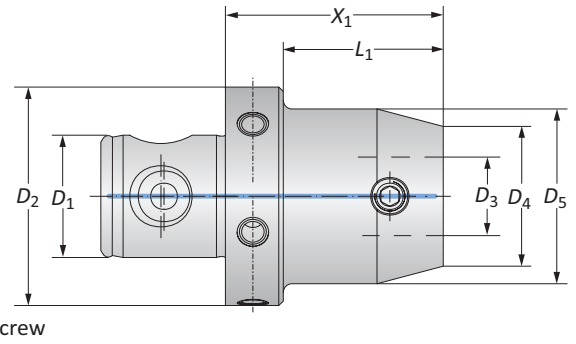
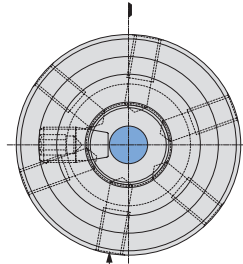
Cobalt Outils Coupants

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B10-E: 9

Reducers

Imperial | Balanced



Balancing Screw

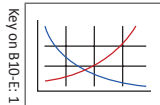
MVS Connection		Reducer			Weight	Balancing Screw	Part No.
D ₂ D ₁	D ₄ D ₃	X ₁	L ₁	D ₅			
63 - 36	19.5 - 11	2.126	1.614	—	1.322 (lbs)	M6 x 1 x 10	219053
63 - 36	22 - 11	0.551	0.020	—	1.322 (lbs)	M6 x 1 x 10	219042
63 - 36	22 - 11	2.126	1.614	—	1.543 (lbs)	M6 x 1 x 10	219054
63 - 36	25 - 14	0.551	0.020	—	1.322 (lbs)	M6 x 1 x 10	119095
63 - 36	25 - 14	2.323	1.811	—	1.543 (lbs)	M6 x 1 x 10	119060
63 - 36	25 - 14	2.323	1.811	1.260	1.763 (lbs)	M6 x 1 x 10	119061
63 - 36	25 - 14	4.685	4.173	1.260	2.425 (lbs)	M6 x 1 x 15	119019
63 - 36	25 - 14	4.685	4.173	1.417	2.866 (lbs)	M6 x 1 x 10	219031*
63 - 36	32 - 18	1.929	1.417	1.378	1.543 (lbs)	M6 x 1 x 10	219089
63 - 36	32 - 18	4.291	3.780	1.378	2.645 (lbs)	M6 x 1 x 10	219090
63 - 36	32 - 18	4.291	3.780	1.575	3.086 (lbs)	M6 x 1 x 10	119021
63 - 36	32 - 18	4.291	3.780	1.811	3.527 (lbs)	M6 x 1 x 10	219033*
63 - 36	40 - 22	1.575	1.063	—	1.763 (lbs)	M6 x 1 x 10	219091
63 - 36	40 - 22	3.937	3.425	1.850	3.527 (lbs)	M6 x 1 x 15	219092
63 - 36	40 - 22	5.906	5.394	1.969	5.291 (lbs)	M6 x 1 x 15	119067
63 - 36	50 - 28	1.575	—	2.480	2.204 (lbs)	M6 x 1 x 10	119064
63 - 36	50 - 28	1.575	1.063	—	1.763 (lbs)	M6 x 1 x 10	119096**
63 - 36	50 - 28	3.937	—	2.480	5.291 (lbs)	M6 x 1 x 15	119025
63 - 36	50 - 28	3.937	3.425	—	3.747 (lbs)	M6 x 1 x 10	119097**
80 - 36	63 - 36	1.969	—	3.150	3.527 (lbs)	M6 x 1 x 15	119098
100 - 56	80 - 36	2.756	2.047	—	7.936 (lbs)	M8 x 1.25 x 20	219066

* Reinforced reducer

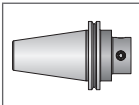
**For milling applications

NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg

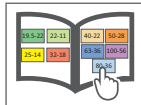
B10-M: 12-15



B10-F



B10: vi-vii



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

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.
ext: 7611 | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

-Consult machine tool builder for machine's weight limitations.

-Refer to example on page B10-M: 11 for calculating tool assembly weight

Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)

-When using tool steel components, do not exceed recommended 6xD length to diameter ratio

-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio

-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio

-When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio

-Refer to examples on pages B10-M: 8-10 for calculating length to diameter ratio

Factory technical assistance is available for your specific applications through

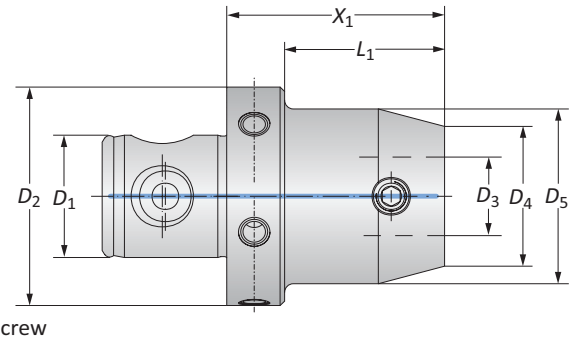
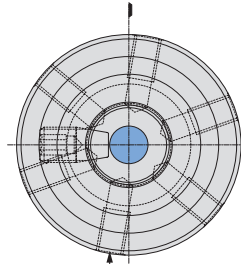


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Cobalt Outils Coupants

Reducers

Metric | Balanced



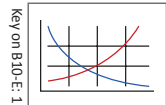
	MVS Connection		Reducer			Weight	Balancing Screw	Part No.
	$D_2 D_1$	$D_4 D_3$	X_1	L_1	D_5			
	63 - 36	19.5 - 11	54.00	41.00	—	0.60 (kg)	M6 x 1 x 10	219053
	63 - 36	22 - 11	14.00	0.50	—	0.60 (kg)	M6 x 1 x 10	219042
	63 - 36	22 - 11	54.00	41.00	—	0.70 (kg)	M6 x 1 x 10	219054
	63 - 36	25 - 14	14.00	0.50	—	0.60 (kg)	M6 x 1 x 10	219095
	63 - 36	25 - 14	59.00	46.00	—	0.70 (kg)	M6 x 1 x 10	219060
	63 - 36	25 - 14	59.00	46.00	32.00	0.80 (kg)	M6 x 1 x 10	219061
	63 - 36	25 - 14	119.00	106.00	32.00	1.10 (kg)	M6 x 1 x 15	219019
	63 - 36	25 - 14	119.00	106.00	36.00	1.30 (kg)	M6 x 1 x 10	219031*
	63 - 36	32 - 18	49.00	36.00	35.00	0.70 (kg)	M6 x 1 x 10	219089
	63 - 36	32 - 18	109.00	96.00	35.00	1.20 (kg)	M6 x 1 x 10	219090
m	63 - 36	32 - 18	109.00	96.00	40.00	1.40 (kg)	M6 x 1 x 10	219021
	63 - 36	32 - 18	109.00	96.00	46.00	1.60 (kg)	M6 x 1 x 10	219033*
	63 - 36	40 - 22	40.00	27.00	—	0.80 (kg)	M6 x 1 x 10	219091
	63 - 36	40 - 22	100.00	87.00	47.00	1.60 (kg)	M6 x 1 x 15	219092
	63 - 36	40 - 22	150.00	137.00	50.00	2.40 (kg)	M6 x 1 x 15	219067
	63 - 36	50 - 28	40.00	—	63.00	1.00 (kg)	M6 x 1 x 10	219064
	63 - 36	50 - 28	40.00	27.00	—	0.80 (kg)	M6 x 1 x 10	219096**
	63 - 36	50 - 28	100.00	—	63.00	2.40 (kg)	M6 x 1 x 15	219025
	63 - 36	50 - 28	100.00	87.00	—	1.70 (kg)	M6 x 1 x 10	219097**
	80 - 36	63 - 36	50.00	—	80.00	1.60 (kg)	M6 x 1 x 15	219098
	100 - 56	80 - 36	70.00	52.00	—	3.60 (kg)	M8 x 1.25 x 20	219066

* Reinforced reducer

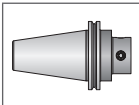
**For milling applications

NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg

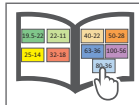
B10-M: 12-15



B10-F



B10: vi-vii



i = Imperial (in)

m = Metric (mm)

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.

ext: 7611 | email: appeng@alliedmachine.com
WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

-Consult machine tool builder for machine's weight limitations.

-Refer to example on page B10-M: 11 for calculating tool assembly weight

Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com
WARNING Tool failure can cause serious injury. To prevent:

-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)

-When using tool steel components, do not exceed recommended 6xD length to diameter ratio

-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio

-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio

-When using a NOVI^{TECH} module, do not exceed recommended 10xD length to diameter ratio

-Refer to examples on pages B10-M: 8-10 for calculating length to diameter ratio

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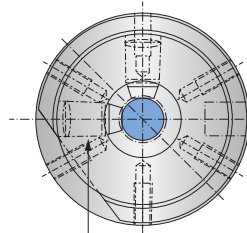
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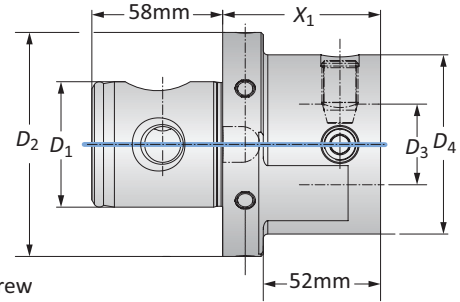
B10-E: 11

Reducer

Balanced Alu-Line

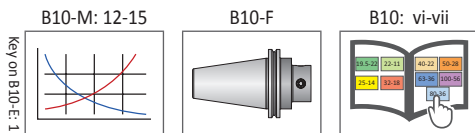


Balancing Screw



MVS Connection		Reducer		Weight	Balancing Screw	Part No.
$D_2 \mid D_1$	$D_4 \mid D_3$	X_1	L_1			
i 100 - 56	80 - 36	2.756	2.047	2.866 (lbs)	M8 x 1.25 x 20	319013
m 100 - 56	80 - 36	70.00	52.00	1.30 (kg)	M8 x 1.25 x 20	319013

NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg



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

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.
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 -Consult machine tool builder for machine's weight limitations.
 -Refer to example on page B10-M: 11 for calculating tool assembly weight
 Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

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 -When using a carbide shank, do not exceed recommended 9xD length to diameter ratio
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 -Refer to examples on pages B10-M: 8-10 for calculating length to diameter r
 Factory technical assistance is available for your specific applications through



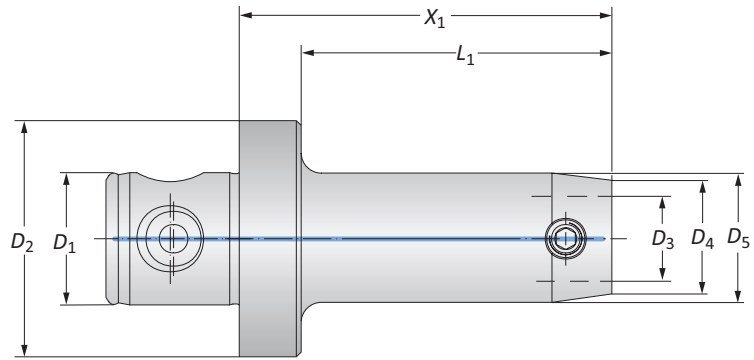
partment. ext: 7611 | email: appeng@alliedmachine.com

Cobalt Outils Coupants

A
 B
 C
 D
 E
 F
 G
 H
 I
 J
 K
 L
 M
 INDEX

Heavy Metal Reducers

Vibration Reduction



MVS Connection		Heavy Metal Reducer			Weight	Part No.
$D_2 \mid D_1$	$D_4 \mid D_3$	X_1	L_1	D_5		
50 - 28	19.5 - 11	3.543	3.031	–	2.204 (lbs)	219055
50 - 28	22 - 11	4.331	3.819	0.906	2.866 (lbs)	219056
50 - 28	25 - 14	4.882	4.370	1.102	3.747 (lbs)	219057
i 50 - 28	25 - 14	5.669	5.157	1.260	5.070 (lbs)	219058
50 - 28	25 - 14	6.457	5.945	1.378	6.393 (lbs)	219059
50 - 28	32 - 18	6.063	5.551	1.457	6.393 (lbs)	219093
50 - 28	32 - 18	6.063	5.551	1.654	8.157 (lbs)	219060
50 - 28	19.5 - 11	90.00	77.00	–	1.00 (kg)	219055
50 - 28	22 - 11	110.00	97.00	23.00	1.30 (kg)	219056
50 - 28	25 - 14	124.00	111.00	28.00	1.70 (kg)	219057
m 50 - 28	25 - 14	144.00	131.00	32.00	2.30 (kg)	219058
50 - 28	25 - 14	164.00	151.00	35.00	2.90 (kg)	219059
50 - 28	32 - 18	154.00	141.00	37.00	2.90 (kg)	219093
50 - 28	32 - 18	154.00	141.00	42.00	3.70 (kg)	219060

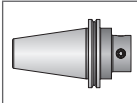
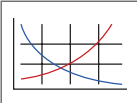
NOTE: Heavy metal reducers are used to reduce vibration when machining deep boring applications. When using heavy metal reducers, the maximum cutting speed (V_c) is 200 m/min. If steel extensions are also used, reduce the cutting speed by 50% and use replaceable inserts where $r = 0.10\text{mm}$.

B10-M: 12-15

B10-F

B10: vi-vii

Key on B10-E: 1



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

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ext: **7611** | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

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 - Refer to example on page B10-M: 11 for calculating tool assembly weight
- Factory technical assistance is also available for specific applications through our Application Engineering department. ext: **7611** | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

- Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)
 - When using tool steel components, do not exceed recommended 6xD length to diameter ratio
 - When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio
 - When using a carbide shank, do not exceed recommended 9xD length to diameter ratio
 - When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio
 - Refer to examples on pages B10-M: 8-10 for calculating length to diameter
- Factory technical assistance is available for your specific applications through our Application Engineering department. ext: **7611** | email: appeng@alliedmachine.com



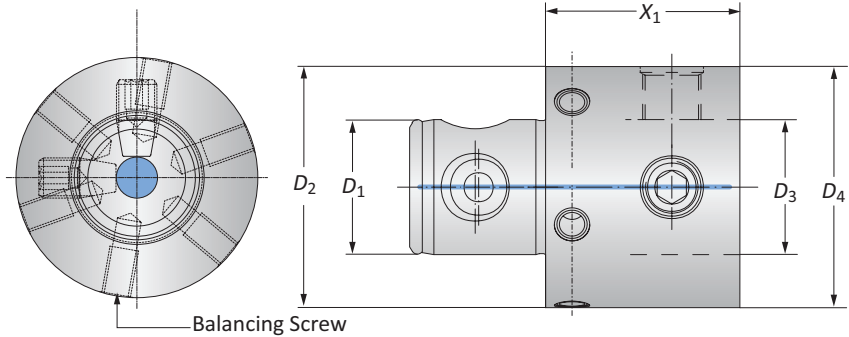
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B10-E: 13

Extensions

Imperial | Balanced



MVS Connection		Extension		Weight	Balancing Screw	Part No.
$D_2 D_1$	$D_4 D_3$	X_1				
19.5 - 11	19.5 - 11	1.575	0.220 (lbs)	—		219043
22 - 11	22 - 11	1.575	0.220 (lbs)	—		219044
25 - 14	25 - 14	0.984	0.220 (lbs)	—		219068
25 - 14	25 - 14	1.575	0.220 (lbs)	—		119001
32 - 18	32 - 18	1.575	0.440 (lbs)	—		119002
40 - 22	40 - 22	1.575	0.881 (lbs)	—		119003
50 - 28	50 - 28	1.575	1.322 (lbs)	M6 x 1 x 10		119004
50 - 28*	50 - 28*	2.953	2.425 (lbs)	M6 x 1 x 10		219097
50 - 28	50 - 28	2.953	2.425 (lbs)	M6 x 1 x 10		219082
50 - 28	50 - 28	3.937	3.306 (lbs)	M6 x 1 x 10		119058
63 - 36	63 - 36	1.969	2.425 (lbs)	M6 x 1 x 10		119005
63 - 36	63 - 36	2.953	3.747 (lbs)	M6 x 1 x 15		219083
63 - 36	63 - 36	4.921	6.393 (lbs)	M6 x 1 x 15		119065
80 - 36	80 - 36	1.969	4.188 (lbs)	M6 x 1 x 15		119006
80 - 36	80 - 36	2.953	6.172 (lbs)	M6 x 1 x 15		219084
80 - 36	80 - 36	4.921	10.580 (lbs)	M6 x 1 x 15		119066
80 - 36	80 - 36	7.874	16.310 (lbs)	M8 x 1.25 x 21		219094
80 - 36	80 - 36	10.827	22.260 (lbs)	M8 x 1.25 x 21		119069
100 - 56	100 - 56	2.953	9.479 (lbs)	M8 x 1.25 x 20		219095
100 - 56	100 - 56	3.937	12.340 (lbs)	M8 x 1.25 x 20		219061
100 - 56	100 - 56	5.906	17.850 (lbs)	M8 x 1.25 x 20		219096
100 - 56	100 - 56	7.874	22.480 (lbs)	M8 x 1.25 x 20		219062
100 - 56	100 - 56	11.811	32.180 (lbs)	M8 x 1.25 x 20		219063

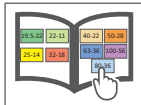
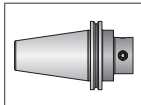
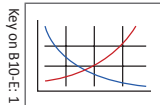
* $D_2 / D_4 = 1.949"$ (49.50mm) for boring 1.969" (50.00mm) diameter applications

NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg

B10-M: 12-15

B10-F

B10: vi-vii



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

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.
ext: 7611 | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

-Consult machine tool builder for machine's weight limitations.

-Refer to example on pages B10-M: 8-10 for calculating length to diameter ratio

Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)

-When using tool steel components, do not exceed recommended 6xD length to diameter ratio

-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio

-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio

-When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio

-Refer to examples on pages B10-M: 8-10 for calculating length to diameter ratio

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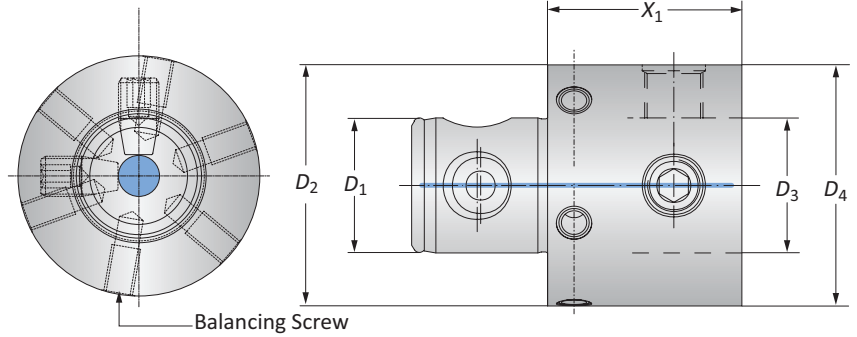




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Cobalt Outils Coupants

Extensions

Metric | Balanced

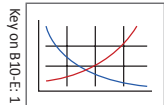


MVS Connection		Extension	Weight	Balancing Screw	Part No.
$D_2 D_1$	$D_4 D_3$	X_1			
19.5 - 11	19.5 - 11	40.00	0.10 (kg)	—	219043
22 - 11	22 - 11	40.00	0.10 (kg)	—	219044
25 - 14	25 - 14	25.00	0.10 (kg)	—	219068
25 - 14	25 - 14	40.00	0.10 (kg)	—	119001
32 - 18	32 - 18	40.00	0.20 (kg)	—	119002
40 - 22	40 - 22	40.00	0.40 (kg)	—	119003
50 - 28	50 - 28	40.00	0.60 (kg)	M6 x 1 x 10	119004
50 - 28*	50 - 28*	75.00	1.10 (kg)	M6 x 1 x 10	219097
50 - 28	50 - 28	75.00	1.10 (kg)	M6 x 1 x 10	219082
50 - 28	50 - 28	100.00	1.50 (kg)	M6 x 1 x 10	119058
	63 - 36	63 - 36	50.00	M6 x 1 x 10	119005
	63 - 36	63 - 36	75.00	M6 x 1 x 15	219083
	63 - 36	63 - 36	125.00	M6 x 1 x 15	119065
	80 - 36	80 - 36	50.00	M6 x 1 x 15	119006
	80 - 36	80 - 36	75.00	M6 x 1 x 15	219084
	80 - 36	80 - 36	125.00	M6 x 1 x 15	119066
	80 - 36	80 - 36	200.00	M8 x 1.25 x 21	219094
	80 - 36	80 - 36	275.00	M8 x 1.25 x 21	119069
	100 - 56	100 - 56	75.00	M8 x 1.25 x 20	219095
	100 - 56	100 - 56	100.00	M8 x 1.25 x 20	219061
	100 - 56	100 - 56	150.00	M8 x 1.25 x 20	219096
	100 - 56	100 - 56	200.00	M8 x 1.25 x 20	219062
	100 - 56	100 - 56	300.00	M8 x 1.25 x 20	219063

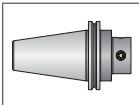
* $D_2 / D_4 = 1.949"$ (49.50mm) for boring 1.969" (50.00mm) diameter applications

NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg

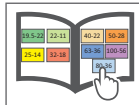
B10-M: 12-15



B10-F



B10: vi-vii



 = Imperial (in)
 = Metric (mm)

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.

ext: 7611 | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

-Consult machine tool builder for machine's weight limitations.

-Refer to example on page B10-M: 11 for calculating tool assembly weight

Factory technical assistance is also available for specific applications through our Application Engineering department. ext: 7611 | email: appeng@alliedmachine.com

WARNING Tool failure can cause serious injury. To prevent:

-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank)

-When using tool steel components, do not exceed recommended 6xD length to diameter ratio

-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio

-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio

-When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio

-Refer to examples on pages B10-M: 8-10 for calculating length to diameter

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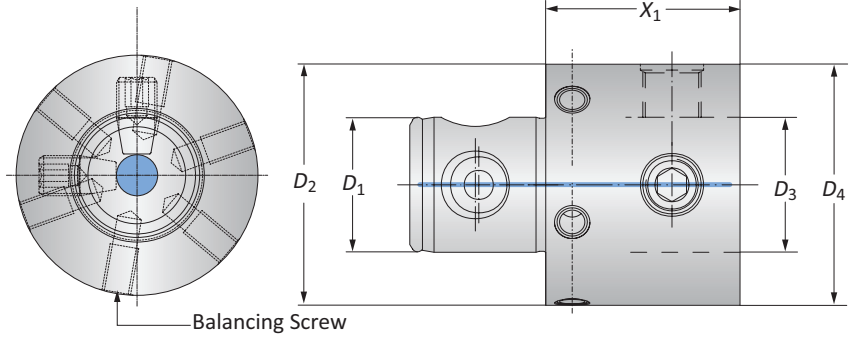
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B10-E: 15

Extensions

Balanced Alu-Line



MVS Connection		Modules		Weight	Balancing Screw	Part No.
$D_2 D_1$	$D_4 D_3$	X_1				
50 - 28	50 - 28	1.575		0.440 (lbs)	M6 x 1 x 8	319021
50 - 28	50 - 28	2.953		0.881 (lbs)	M6 x 1 x 10	319022
50 - 28	50 - 28	3.937		1.322 (lbs)	M6 x 1 x 10	319023
63 - 36	63 - 36	1.969		0.881 (lbs)	M6 x 1 x 8	319002
63 - 36	63 - 36	4.921		2.425 (lbs)	M6 x 1 x 10	319003
80 - 36	80 - 36	1.969		1.543 (lbs)	M6 x 1 x 10	319004
80 - 36	80 - 36	2.953		2.204 (lbs)	M6 x 1 x 10	319016
80 - 36	80 - 36	4.921		3.968 (lbs)	M6 x 1 x 10	319005
80 - 36	80 - 36	7.874		5.952 (lbs)	M6 x 1 x 10	319017
80 - 36	80 - 36	10.827		8.157 (lbs)	M6 x 1 x 10	319006
100 - 56	100 - 56	2.953		3.306 (lbs)	M8 x 1.25 x 20	319019
100 - 56	100 - 56	3.937		4.850 (lbs)	M8 x 1.25 x 20	319007
100 - 56	100 - 56	5.906		6.613 (lbs)	M8 x 1.25 x 20	319018
100 - 56	100 - 56	7.874		8.377 (lbs)	M8 x 1.25 x 20	319008
100 - 56	100 - 56	11.811		11.900 (lbs)	M8 x 1.25 x 20	319009
50 - 28	50 - 28	40.00		0.20 (kg)	M6 x 1 x 8	319021
50 - 28	50 - 28	75.00		0.40 (kg)	M6 x 1 x 10	319022
50 - 28	50 - 28	100.00		0.60 (kg)	M6 x 1 x 10	319023
63 - 36	63 - 36	50.00		0.40 (kg)	M6 x 1 x 8	319002
63 - 36	63 - 36	125.00		1.10 (kg)	M6 x 1 x 10	319003
80 - 36	80 - 36	50.00		0.70 (kg)	M6 x 1 x 10	319004
80 - 36	80 - 36	75.00		1.00 (kg)	M6 x 1 x 10	319016
80 - 36	80 - 36	125.00		1.80 (kg)	M6 x 1 x 10	319005
80 - 36	80 - 36	200.00		2.70 (kg)	M6 x 1 x 10	319017
80 - 36	80 - 36	275.00		3.70 (kg)	M6 x 1 x 10	319006
100 - 56	100 - 56	75.00		1.50 (kg)	M8 x 1.25 x 20	319019
100 - 56	100 - 56	100.00		2.20 (kg)	M8 x 1.25 x 20	319007
100 - 56	100 - 56	150.00		3.00 (kg)	M8 x 1.25 x 20	319018
100 - 56	100 - 56	200.00		3.80 (kg)	M8 x 1.25 x 20	319008
100 - 56	100 - 56	300.00		5.40 (kg)	M8 x 1.25 x 20	319009

NOTE: Balance refers to a specific residual imbalance of $\leq 10 \text{ g mm/kg}$

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

IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering department.
ext: 7611 | email: appeng@alliedmachine.com

WARNING Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:

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-Refer to example on page B10-M: 11 for calculating tool assembly weight
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WARNING Tool failure can cause serious injury. To prevent:

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-When using tool steel components, do not exceed recommended 6xD length to diameter ratio
-When using a heavy metal reducer, do not exceed recommended 8xD length to diameter ratio
-When using a carbide shank, do not exceed recommended 9xD length to diameter ratio
-When using a NOVITECH module, do not exceed recommended 10xD length to diameter ratio
-Refer to examples on pages B10-M: 8-10 for calculating length to diameter ratio
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A

B

C

D

E

F

G

H

1

J

K

L

M

INDEX



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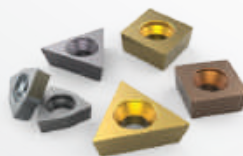
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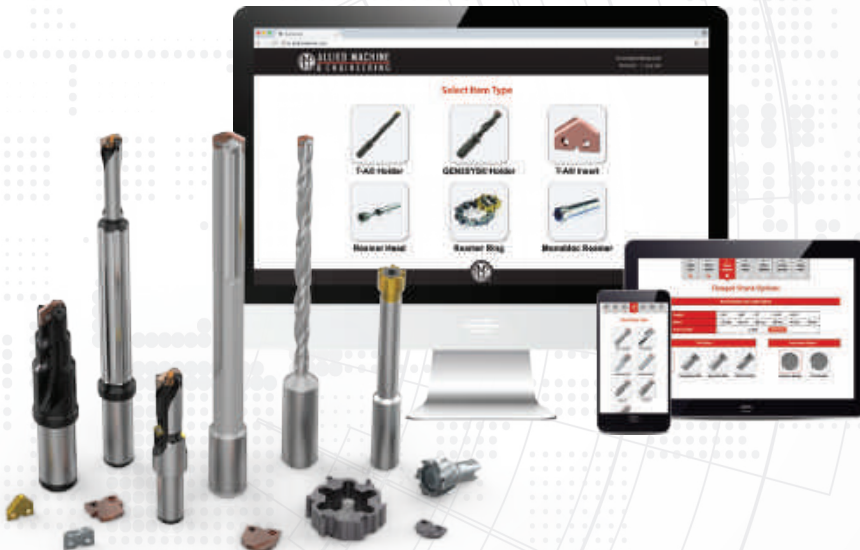


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Allied Machine has many lines of support to ensure we're available to assist you at all times. It's important to establish relationships with new customers, but we also know it's equally important to strengthen and support relationships with existing customers. Whether you need help with an order or you need someone to come assist you at the spindle, we have the right people to get you what you need.



1

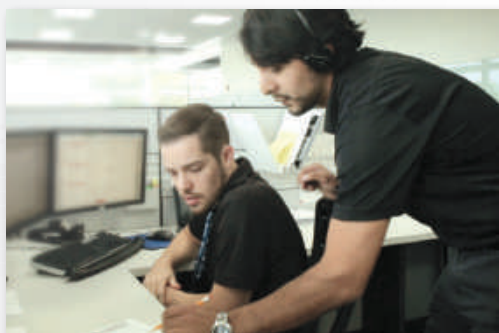
Inside Sales Support

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

Engineering Support

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.

☎ 1.330.343.4283 ext. 7611

☎ 1.800.321.5537 (toll free United States and Canada)

✉ appeng@alliedmachine.com

3

Field Support

Allied Machine provides local engineering support all over the world. Our Field Sales Engineers (FSEs) spend months training in-house before going to the field. This support line allows us to provide assistance to our customers right at the spindle. They are available to visit your facility, run demos and tests, and work hand-in-hand with machine operators and engineers to find the best possible tooling solutions.

Visit www.alliedmachine.com/fse to get in touch with your local Field Sales Engineer.

☎ 1.330.343.4283

☎ 1.800.321.5537 (toll free United States and Canada)

✉ info@alliedmachine.com





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Allied Machine's **Technical Education Seminar (TES)** puts the attendees in front of the machines. When you attend our three day TES program, you'll gain first-hand experience in **real-life** application situations. Test and experiment with different speeds and feeds, observe the results, and discover the best solution.

- 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, Ohio



Register online today:
www.alliedmachine.com/TES



Allied Machine
Training Facility
485 West 3rd Street
Dover, OH 44622



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 Information

Company Name: _____
Contact: _____
Account Number: _____
Phone: _____
Email: _____

End User Information

Company Name: _____
Contact: _____
Industry: _____
Phone: _____
Email: _____

Current Process List all tooling, coatings, substrates, speeds and feeds, tool life, and any problems you are experiencing

Test Objective List what would make this a successful test (i.e. penetration rate, finish, tool life, hole size, etc.)

Application Information

Hole Diameter: _____ in/mm Tolerance: _____ Material: _____
(4150 / A36 / Cast Iron / etc.)
Preexisting Diameter: _____ in/mm Depth of Cut: _____ in/mm Hardness: _____
(BHN / Rc)
Required Finish: _____ RMS State: _____
(Casting / Hot rolled / Forging)

Machine Information

Machine Type: _____ Builder: _____ Model #: _____
(Lathe / Screw machine / Machine center / etc.) (Haas, Mori Seiki, etc.)
Shank Required: _____ Power: _____ HP/KW
(CAT50 / Morse taper, etc.)
Rigidity: Orientation: Tool Rotating: Thrust: _____ lbs/N
☐ Excellent ☐ Vertical ☐ Yes
☐ Good ☐ Horizontal ☐ No
☐ Poor

Coolant Information

Coolant Delivery: _____ Coolant Pressure: _____ PSI / bar
(Through tool / Flood)
Coolant Type: _____ Coolant Volume: _____ GPM / LPM
(Air mist, oil, synthetic, water soluble, etc.)

Requested Tooling

QTY	Item Number

QTY	Item Number


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**ALLIED MACHINE
& ENGINEERING**

Allied Machine & Engineering
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Dover, OH 44622

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Email: info@alliedmachine.com

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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