ALLIED MACHINE & ENGINEERING | WOHLHAUPTER®

Holemaking Solutions for Today's Manufacturing

Maanterä

METALLITEOLLISUUDEN TYÖKALUT

WOHLHAUPTER HINNASTO LUETTELO

Drilling

Boring

Reaming

Burnishing

Threading

Specials

www.alliedmachine.com

Who is **Allied Machine**

Allied Machine & Engineering is a leading manufacturer of holemaking and finishing cutting tool systems. Allied devotes its advanced engineering and manufacturing capabilities to creating the widest selection of value-added tooling available to metal-cutting industries around the world.

Our tooling solutions deliver the lowest cost per hole in a wide range of drilling, reaming, burnishing, threading, and boring applications.

Manufactured in Germany, the Wohlhaupter® product line provides high precision boring tools customized to your needs. These solutions are ideal for high-volume jobs that require repeated precision over the length of the entire operation.

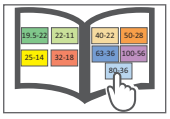
Who is **Maanterä**

Maanterä Oy represents several top-quality brands in Finland, focused on various areas of metalworking. The solutions are used, among other things, in metal industry manufacturing and subcontracting to increase productivity during work or in otherwise challenging projects. The range includes cutting tools, grinding products and machines, saw blades and equipment that promotes the cleanliness of the work environment.

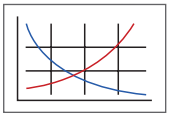
With its own expertise and the advanced know-how of its suppliers, Maanterän is able to offer its customers solutions for both individual parts of the process and larger entities.

Maanterä Oy was founded in 1941 and is part of the Swedish Indutrade Group , which includes over 200 companies importing and selling components and systems in over 30 different countries. The group has over 9,300 employees.

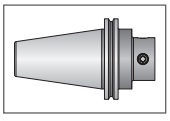
Reference Icons
The following icons will appear throughout the catalogue to help you navigate between products.



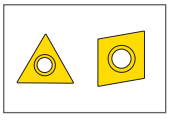
MVS Connection Colour Guide
Detailed instructions and information regarding the MVS connection(s) in the main Wohlhaupter Catalogue



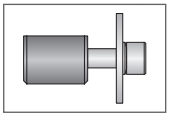
Recommended Cutting Data
Speed and feed recommendations for optimum and safe boring in the main Wohlhaupter Catalogue



Shanks
A variety of shanks for different machines can be found in the main Wohlhaupter Catalogue



Inserts
For use with insert holder boring heads and boring bars using indexable inserts



Clamping Elements
For use with insert holders and boring heads

Through Coolant Option
Indicates that the product is through coolant

Table of Contents

WOHLHAUPTER® 410 and 464 DIGITAL 3E^{TECH+} ***BORING HEADS***

Wohlhaupter 3E^{TECH+}

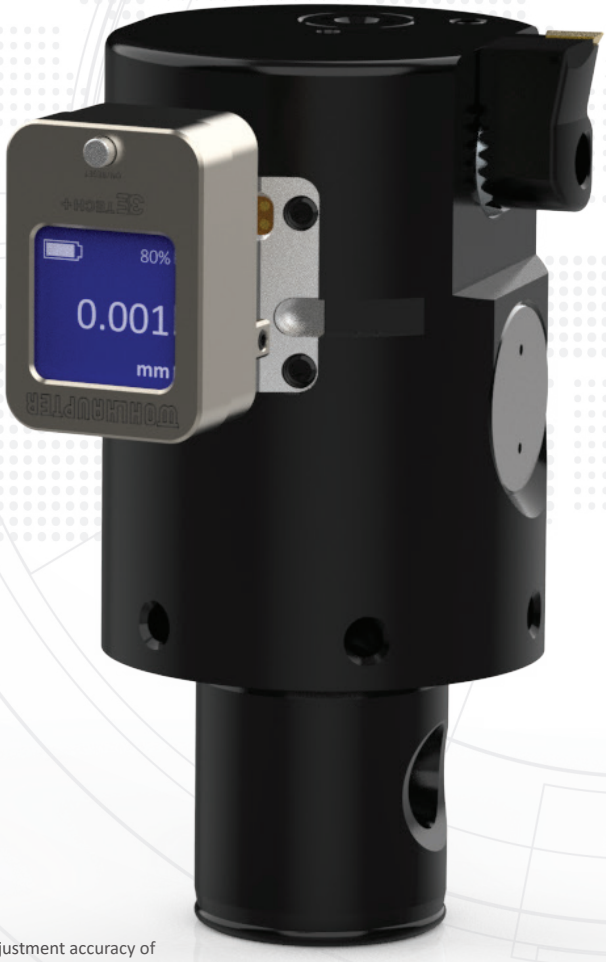
Improve productivity and quality with the Wohlhaupter 3E^{TECH+} external digital readout module. The 3E^{TECH+} docks onto boring heads and cassettes that offer the 3E^{TECH+} port to make easy diameter adjustments at the machine.

- Make quick and easy micron-accurate diameter adjustments.
- Easy-to-read digital display shows exact diameter adjustments.
- 3E^{TECH+} screen will auto-rotate to match orientation of the display module.
- Toggle between imperial and metric to accommodate all applications.
- Adjustments of 0.002 mm on diameter.
- Designed to be removed from boring tool before operation (if forgotten 3E^{TECH+} will fall off at 500 RPM).
- Water and dust resistent IP 56.
- Coolant and chip resistant.
- 3E^{TECH+} will automatically turn off after 30 seconds of not using.
- Adjustment setting is saved directly in the respective tool, even if the digital display is removed.
- WEEE-Reg.-Nr. DE 15820388.

410 & 464 BORING HEADS WITH 3E^{TECH+}

	Diameter Range	Part No.
Ⓜ	20.00 - 24.50	410001
	24.50 - 29.00	410002
	29.00 - 38.00	464003
	38.00 - 50.00	464004
	50.00 - 65.50	464005
	65.00 - 83.00	464006
	82.00 - 103.00	464007
	100.00 - 130.00	464008
	125.00 - 167.50	464009
	162.50 - 205.00	464010

- ✓ High-production fine boring
- ✓ Easy diameter adjustment with 3E^{TECH+}
- ✓ Self-balancing 464 boring heads



NOTE: 3E^{TECH+} adjustment accuracy of 0.001 mm on diameter.

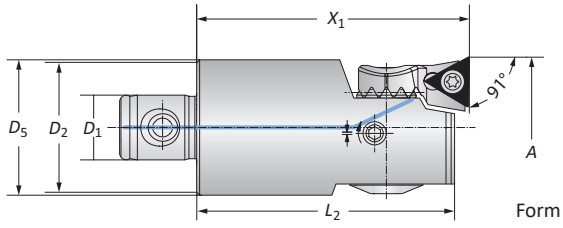
NOTE: Vernier adjustment accuracy of 0.002 mm on diameter.

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.
email: **engineering.eu@alliedmachine.com**

410 Digital 3E^{TECH+} Boring Heads

Diameter Range: 20.00 mm - 29.00 mm

Form 101



Form 20

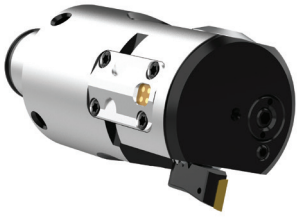
410 Digital 3E^{TECH+} Boring Heads

	MVS Connection $D_2 \mid D_1$	Boring Range A	Boring Head X_1	L_2	D_5	Weight	Insert Form	Insert Holder Part No.	Insert Holder Price	Boring Head Part No.	Boring Head Price
m	19 - 11	20.00 - 24.50	46.00	43.00	–	0.09 (kg)	20*	**364077**	**262.00 €**	**410001**	**2,676.00 €**
m	22 - 11	24.50 - 29.00	46.00	43.50	23.00	0.13 (kg)	20	**210059**	**231.00 €**	**410002**	**2,767.00 €**
	22 - 11	24.50 - 29.00	46.00	43.50	23.00	0.13 (kg)	101	**210069**	**238.00 €**	**410002**	**2,767.00 €**

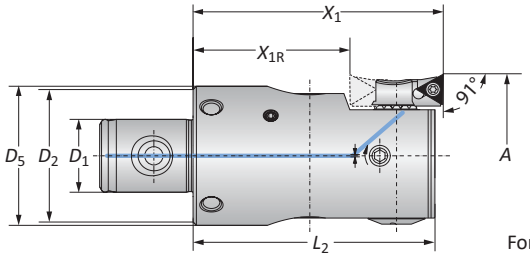
***Not suitable for indexable inserts with a radius of 0.80 mm.**
NOTE: 3E^{TECH+} module, charging unit, insert holders, and inserts sold separately.

464 Balance Digital 3E^{TECH+} Boring Heads

Diameter Range: 29.00 mm - 65.50 mm



Form 101



Form 20

464 Balance Digital 3E^{TECH+} Boring Heads

	MVS Connection $D_2 \mid D_1$	Boring Range A	Boring Head X_1	X_{1R}	L_2	D_5	Weight	Insert Form	Insert Holder Part No.	Insert Holder Price	Boring Head Part No.	Boring Head Price
	25 - 14	29.00 - 38.00	56.00	–	53.50	27.00	0.21 (kg)	20	**210059**	**231.00 €**	**464003**	**2,683.00 €**
	25 - 14	29.00 - 38.00	56.00	–	53.50	27.00	0.21 (kg)	101	**210069**	**238.00 €**	**464003**	**2,683.00 €**
m	32 - 18	38.00 - 50.00	66.00	38.00	63.50	34.00	0.41 (kg)	20	**264051**	**251.00 €**	**464004**	**2,892.00 €**
	32 - 18	38.00 - 50.00	66.00	38.00	63.50	34.00	0.41 (kg)	101	**264077**	**257.00 €**	**464004**	**2,892.00 €**
	40 - 22	50.00 - 65.50	75.00	47.00	72.50	42.00	0.80 (kg)	20	**210052**	**251.00 €**	**464005**	**3,451.00 €**
	40 - 22	50.00 - 65.50	75.00	47.00	72.50	42.00	0.80 (kg)	101	**210062**	**257.00 €**	**464005**	**3,451.00 €**

NOTE: X_{1R} = rotated insert holder for reverse machining.
NOTE: 3E^{TECH+} module, charging unit, insert holders, and inserts sold separately.

3E^{TECH+} Digital Readout Module

Part No.	Price	Charging Unit*	Price
536015	**1,255.00 €**	**536016**	**221.00 €**

NOTE: WEEE-Reg.-Nr. DE 15820388
*Charging unit sold separately.

NOTE: 3E^{TECH+} adjustment accuracy of 0.001 mm on diameter.

B10-M: 12-13
Key on B10-B: 1
B10-F
B10: VI-VII

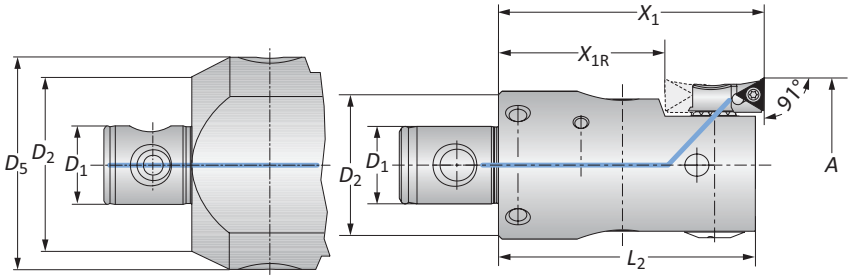
m = Metric (mm)

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.
email: **engineering.eu@alliedmachine.com**

464 Balance Digital Boring Heads with 3E^{TECH+}

Alu-Line | Diameter Range: 65.00 mm - 205.00 mm

Form 101



Form 20

464 Balance Alu-Line Digital 3E^{TECH+} Boring Heads

	MVS Connection $D_2 \mid D_1$	Boring Range A	Boring Head X_1	X_{1R}	L_2	D_5	Weight	Insert Form	Insert Holder Part No.	Insert Holder Price	Boring Head Part No.	Boring Head Price
	50 - 28	65.00 - 83.00	75.00	39.00	73.00	–	0.60 (kg)	20	**210020**	**307.00 €**	**464006**	**3,586.00 €**
	50 - 28	65.00 - 83.00	75.00	39.00	73.00	–	0.60 (kg)	101	**210063**	**307.00 €**	**464006**	**3,586.00 €**
	50 - 28	65.00 - 83.00	75.00	39.00	73.00	–	0.60 (kg)	103	**210064**	**305.00 €**	**464006**	**3,586.00 €**
	63 - 36	82.00 - 103.00	90.00	54.00	88.00	–	1.00 (kg)	20	**210020**	**307.00 €**	**464007**	**3,718.00 €**
	63 - 36	82.00 - 103.00	90.00	54.00	88.00	–	1.00 (kg)	101	**210063**	**307.00 €**	**464007**	**3,718.00 €**
	63 - 36	82.00 - 103.00	90.00	54.00	88.00	–	1.00 (kg)	103	**210064**	**305.00 €**	**464007**	**3,718.00 €**
	80 - 36	100.00 - 130.00	90.00	54.00	88.00	–	1.50 (kg)	20	**210020**	**307.00 €**	**464008**	**3,849.00 €**
Ⓜ	80 - 36	100.00 - 130.00	90.00	54.00	88.00	–	1.50 (kg)	101	**210063**	**307.00 €**	**464008**	**3,849.00 €**
	80 - 36	100.00 - 130.00	90.00	54.00	88.00	–	1.50 (kg)	103	**210064**	**305.00 €**	**464008**	**3,849.00 €**
	80 - 36	125.00 - 167.50	90.00	54.00	88.00	100.00	1.90 (kg)	20	**210020**	**307.00 €**	**464009**	**3,985.00 €**
	80 - 36	125.00 - 167.50	90.00	54.00	88.00	100.00	1.90 (kg)	101	**210063**	**307.00 €**	**464009**	**3,985.00 €**
	80 - 36	125.00 - 167.50	90.00	54.00	88.00	100.00	1.90 (kg)	103	**210064**	**305.00 €**	**464009**	**3,985.00 €**
	80 - 36	162.50 - 205.00	90.00	54.00	88.00	135.00	2.50 (kg)	20	**210020**	**307.00 €**	**464010**	**4,115.00 €**
	80 - 36	162.50 - 205.00	90.00	54.00	88.00	135.00	2.50 (kg)	101	**210063**	**307.00 €**	**464010**	**4,115.00 €**
	80 - 36	162.50 - 205.00	90.00	54.00	88.00	135.00	2.50 (kg)	103	**210064**	**305.00 €**	**464010**	**4,115.00 €**

NOTE: X_{1R} = rotated insert holder for reverse machining.
NOTE: 3E^{TECH+} module, insert holders, and inserts sold separately.

3E^{TECH+} Digital Readout Module

Part No.	Price	Charging Unit*	Price
536015	**1.255,00 €**	**536016**	**221,00 €**

NOTE: WEEE-Reg.-Nr. DE 15820388
*Charging unit sold separately.

NOTE: 3E^{TECH+} adjustment accuracy of 0.001 mm on diameter.

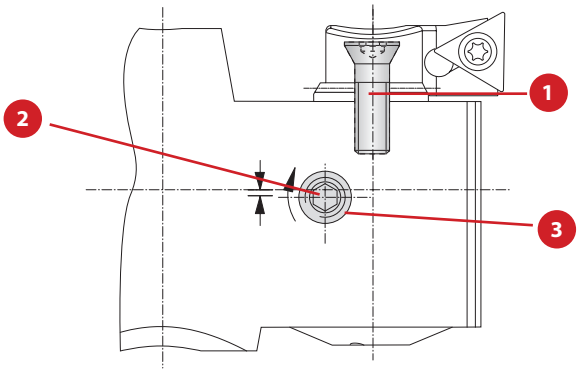
B10-M: 12-13
B10-F
B10: VI-VII
Key on B10-B: 1

Ⓜ = 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.
email: **engineering.eu@alliedmachine.com**

Accessories

Screws | 3E[TECH+] Accessories



Screws

Boring Head	1 Countersunk Screw		2 Clamping Screw		3 Ball	
	Part No.	Price	Part No.	Price	Part No.	Price
410001	**215323**	**7,16 €**	**410151**	**10,75 €**	364270	**16,15 €**
410002	**215338**	**8,17 €**	**410152**	**16,10 €**	364270	**16,15 €**
464003	**215338**	**8,17 €**	**364138**	**7,60 €**	364139	**23,37 €**
464004	**215338**	**8,17 €**	**115180**	**8,74 €**	–	
464005	**215338**	**8,17 €**	**115505**	**7,60 €**	–	
464006	**215462**	**8,17 €**	**315943**	**10,64 €**	–	
464007	**215462**	**8,17 €**	**515178**	**30,96 €**	–	
464008	**215462**	**8,17 €**	**515178**	**30,96 €**	–	
464009	**215462**	**8,17 €**	**515178**	**30,96 €**	–	
464010	**215462**	**8,17 €**	**515178**	**30,96 €**	–	

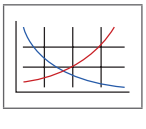
3E[TECH+] Accessories

1 Charging Unit	
Part No.	Price
536016	**221,00 €**

NOTE: Charging unit sold separately from 3E[TECH+].

NOTE: 3E[TECH+] adjustment accuracy of 0.001 mm on diameter.

B10-M: 12-13



B10: VI-VII

Key on B10-B:1

310 Analogue Product Overview

310 Analogue
FINE BORING

Engineered with wear and tear in mind.

310 Wohlhaupter boring heads are made from steel for Ø 20.00 mm - 103.00 mm and coated Alu-Line material for Ø 100.00 mm - 205.00 mm boring heads to protect against corrosion and wear. The insert holder can be rotated quickly for reverse machining.

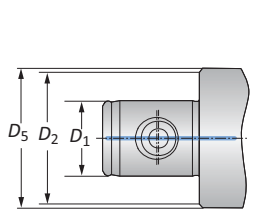
- Diameter range: 20.00 mm - 205.00 mm.
- Alu-Line diameter range: 100.00 mm - 205.00 mm.
  - Special coating on Alu-Line provides hard, durable surface.
  - Alu-Line body reduces tool weight by 50%, reducing stress on the spindle.
- Through coolant.
- Vernier diameter adjustment of 0.002 mm.
- Max cutting speed: 1,000 M/min.

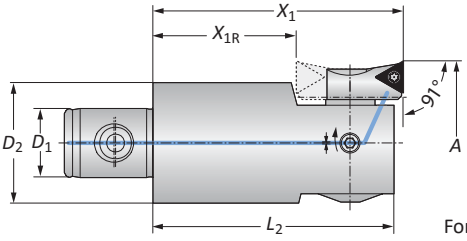
IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering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

310 Analogue Boring Heads

Diameter Range: 20.00 mm - 103.00 mm

Form 101 / 103





Form 20

310 Analogue Boring Heads

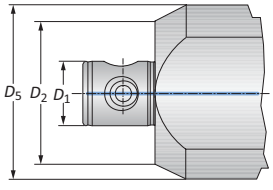
	MVS Connection	Boring Range	Boring Head						Insert Holder		Boring Head	
	D_2 | D_1	A	X_1	X_{1R}	L_2	D_5	Weight	Insert Form	Part No.	Price	Part No.	Price
	19 - 11	20.00 - 24.50	46.00	–	43.00	–	0.10 (kg)	20*	**364077**	**262.00 €**	**310010**	**1,396.00 €**
	22 - 11	24.50 - 29.50	46.00	–	43.50	23.00	0.15 (kg)	20	**210059**	**231.00 €**	**310020**	**1,422.00 €**
	22 - 11	24.50 - 29.50	46.00	–	43.50	23.00	0.15 (kg)	101	**210069**	**238.00 €**	**310020**	**1,422.00 €**
	25 - 14	29.00 - 37.00	56.00	–	53.50	26.00	0.20 (kg)	20	**210059**	**231.00 €**	**310001**	**1,422.00 €**
	25 - 14	29.00 - 37.00	56.00	–	53.50	26.00	0.20 (kg)	101	**210069**	**238.00 €**	**310001**	**1,422.00 €**
	25 - 14	36.00 - 44.00	56.00	28.00	53.50	26.00	0.20 (kg)	20	**210052**	**251.00 €**	**310001**	**1,422.00 €**
	25 - 14	36.00 - 44.00	56.00	28.00	53.50	26.00	0.20 (kg)	101	**210062**	**257.00 €**	**310001**	**1,422.00 €**
	32 - 18	43.00 - 54.00	66.00	38.00	63.50	–	0.40 (kg)	20	**210052**	**251.00 €**	**310003**	**1,508.00 €**
m	32 - 18	43.00 - 54.00	66.00	38.00	63.50	–	0.40 (kg)	101	**210062**	**257.00 €**	**310003**	**1,508.00 €**
	40 - 22	53.00 - 66.00	75.00	39.00	72.50	–	0.70 (kg)	20	**210020**	**307.00 €**	**310004**	**1,557.00 €**
	40 - 22	53.00 - 66.00	75.00	39.00	72.50	–	0.70 (kg)	101	**210063**	**307.00 €**	**310004**	**1,557.00 €**
	40 - 22	53.00 - 66.00	75.00	39.00	72.50	–	0.70 (kg)	103	**210064**	**305.00 €**	**310004**	**1,557.00 €**
	50 - 28	65.00 - 83.00	75.00	39.00	72.50	–	1.20 (kg)	20	**210020**	**307.00 €**	**310005**	**1,642.00 €**
	50 - 28	65.00 - 83.00	75.00	39.00	72.50	–	1.20 (kg)	101	**210063**	**307.00 €**	**310005**	**1,642.00 €**
	50 - 28	65.00 - 83.00	75.00	39.00	72.50	–	1.20 (kg)	103	**210064**	**305.00 €**	**310005**	**1,642.00 €**
	63 - 36	82.00 - 103.00	90.00	54.00	87.50	–	2.20 (kg)	20	**210020**	**307.00 €**	**310006**	**1,726.00 €**
	63 - 36	82.00 - 103.00	90.00	54.00	87.50	–	2.20 (kg)	101	**210063**	**307.00 €**	**310006**	**1,726.00 €**
	63 - 36	82.00 - 103.00	90.00	54.00	87.50	–	2.20 (kg)	103	**210064**	**305.00 €**	**310006**	**1,726.00 €**

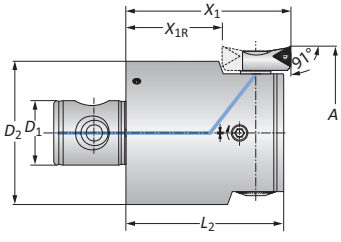
*Not suitable for indexable inserts with a radius of 0.80 mm. **NOTE**: X_{1R} = rotated insert holder for reverse machining. **NOTE**: Insert holders and inserts sold separately.

310 Analogue Boring Heads

Alu-Line | Diameter Range: 100.00 mm - 205.00 mm

Form 101 / 103



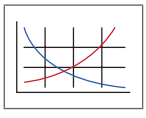


310 Analogue Alu-Line Boring Heads

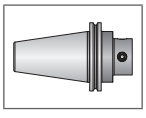
	MVS Connection	Boring Range	Boring Head					Insert Form	Insert Holder		Boring Head	
	D_2 | D_1	A	X_1	X_{1R}	L_2	D_5	Weight		Part No.	Price	Part No.	Price
	80 - 36	100.00 - 130.00	90.00	54.00	87.50	–	1.40 (kg)	20	**210020**	**307,00 €**	**310007**	**1.823,00 €**
	80 - 36	100.00 - 130.00	90.00	54.00	87.50	–	1.40 (kg)	101	**210063**	**307,00 €**	**310007**	**1.823,00 €**
	80 - 36	100.00 - 130.00	90.00	54.00	87.50	–	1.40 (kg)	103	**210064**	**305,00 €**	**310007**	**1.823,00 €**
	80 - 36	125.00 - 167.50	90.00	54.00	87.50	100.00	1.80 (kg)	20	**210020**	**307,00 €**	**310008**	**2.125,00 €**
m	80 - 36	125.00 - 167.50	90.00	54.00	87.50	100.00	1.80 (kg)	101	**210063**	**307,00 €**	**310008**	**2.125,00 €**
	80 - 36	125.00 - 167.50	90.00	54.00	87.50	100.00	1.80 (kg)	103	**210064**	**305,00 €**	**310008**	**2.125,00 €**
	80 - 36	162.50 - 205.00	90.00	54.00	87.50	135.00	2.40 (kg)	20	**210020**	**307,00 €**	**310009**	**2.457,00 €**
	80 - 36	162.50 - 205.00	90.00	54.00	87.50	135.00	2.40 (kg)	101	**210063**	**307,00 €**	**310009**	**2.457,00 €**
	80 - 36	162.50 - 205.00	90.00	54.00	87.50	135.00	2.40 (kg)	103	**210064**	**305,00 €**	**310009**	**2.457,00 €**

NOTE: X_{1R} = rotated insert holder for reverse machining.
NOTE: Insert holders and inserts sold separately.

B10-M: 12-13
Key on B10-B: 1



B10-F



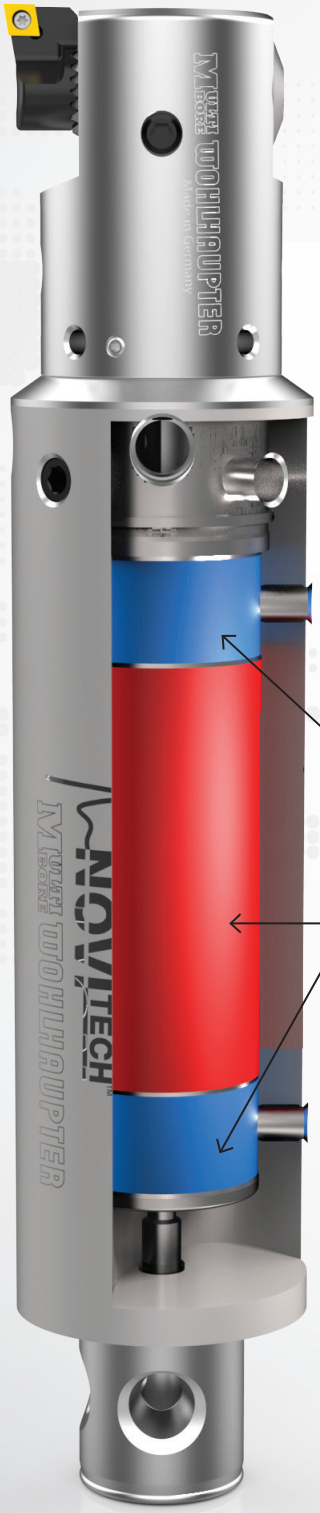
B10: VI-VII

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.
email: **engineering.eu@alliedmachine.com**

NOVI[TECH®] Vibration Damping Intermediate Modules Overview

NOVITECH®
Vibration Damping Intermediate Module

THE **DEEP** HOLE
10xD BORING *SOLUTION*
YOU'VE BEEN LOOKING FOR

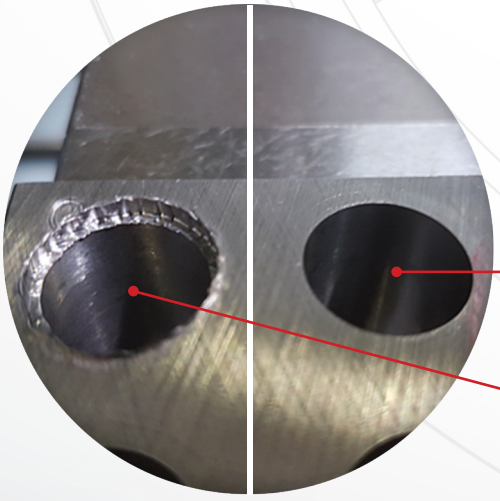


OUR ***SOLUTION***

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

YOUR ***ADVANTAGE***

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 = 1 µm).

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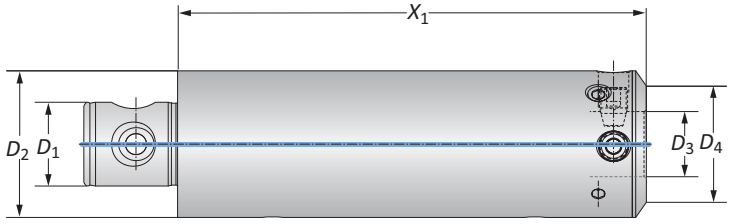
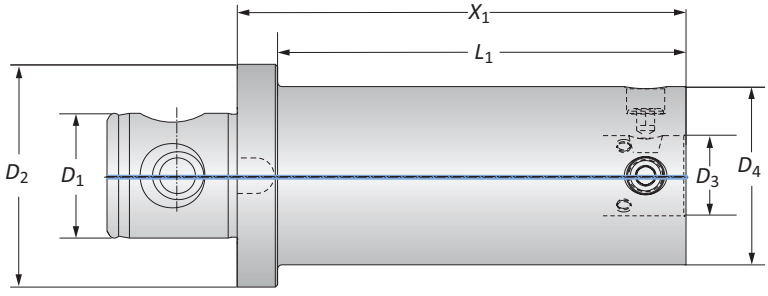
NOVI[TECH®] Vibration Damping Intermediate Modules

Machining Diameter: 50.00 mm - 205.00 mm





	MVS Connection		NOVI[TECH]				
	D_2 | D_1	D_4 | D_3	X_1	L_1	Weight	Part No.	Price
	50 - 28*	40 - 22	200.00	–	2.80 (kg)	**519002**	**Price on Request**
	63 - 36	50 - 28	200.00	–	5.70 (kg)	**519003**	**Price on Request**
ⓜ	80 - 36	63 - 36	200.00	–	7.50 (kg)	**519004**	**Price on Request**
	80 - 36	80 - 36	200.00	–	7.50 (kg)	**519005**	**Price on Request**
	100 - 56	80 - 36	200.00	182.00	9.90 (kg)	**519006**	**Price on Request**

*D_2=49.50 mm

B10-M: 12-13 | B10-F | B10: VI-VII

Key on B10-E: 1

ⓜ = 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. *email:* **engineering.eu@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. *email:* **engineering.eu@alliedmachine.com**

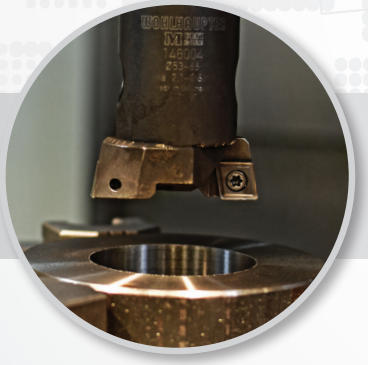
⚠ WARNING **Tool failure can cause serious injury. To prevent:**
-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank).
-When using Alu-Line® components, do not exceed recommended 5xD length-to-diameter ratio.
-When using tool steel components, do not exceed recommended 6xD length-to-diameter ratio.
-When using heavy metal components, 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.
Factory technical assistance is available for your specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

Roughing Tools
ROUGH MACHINING

Versatile tools for a variety of applications.

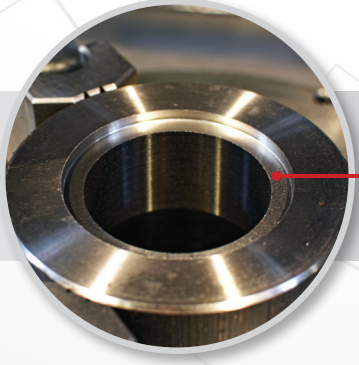
- Diameter range: 19.50 mm - 245.00 mm.
- Tangential inserts and insert holders also available.
- Serrated tool bodies can be used for multiple applications including rough boring, chamfering, back boring, and axial grooving.
- Insert holders can be used on large diameter Alu-Line serrated tool bodies and slides located in section G: 100.00 mm - 3255.00 mm.

Roughing Applications



▸ Twin Cutter Assembly:
(1) Reducer: 219087
(2) Serrated tool body: 148004
(3) Insert holders: 151004
(4) Inserts: 10408M158HC79

▸ Tangential Cutter Assembly:
(1) Shank: 353007
(2) Serrated tool body: 148005
(3) Insert holders: 151043
(4) Inserts: 00508M880HC198



First Tangential Cut

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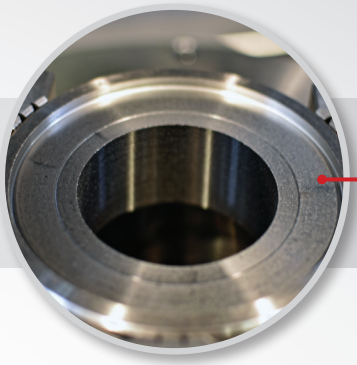
Tangential Cutter Assembly:

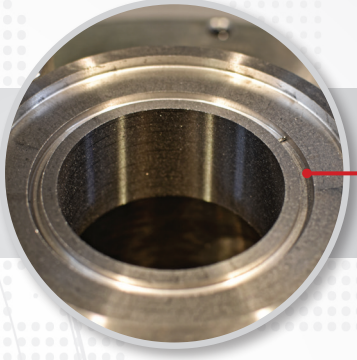
(1) Shank: 353008
(2) Serrated tool body: 148006
(3) Insert holders: 151035
(4) Inserts: 397594WHC198



Second Tangential Cut

Axial Grooving Assembly:

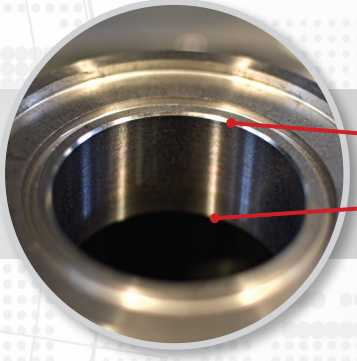
(1) Shank: 353009
(2) Serrated tool body: 148007
(3) Support block: 226011
(4) Insert holder: 226010
(5) Insert: 297978WCH136



Axial Groove Cut

Chamfer Assembly:

(1) Shank: 353003
(2) Serrated tool body: 148004
(3) Insert holder: 201009
(4) Inserts: 297497WHC79

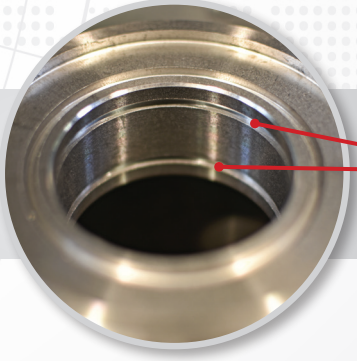


Top Chamfer

Bottom Chamfer

Radial Grooving Assembly:

(1) Shank: 353007
(2) Grooving tool: 143055
(3) Inserts: 097254WCH136

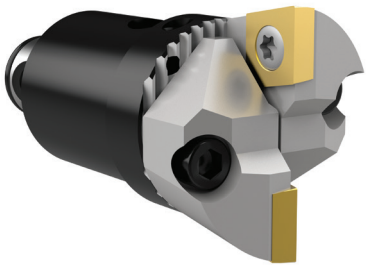


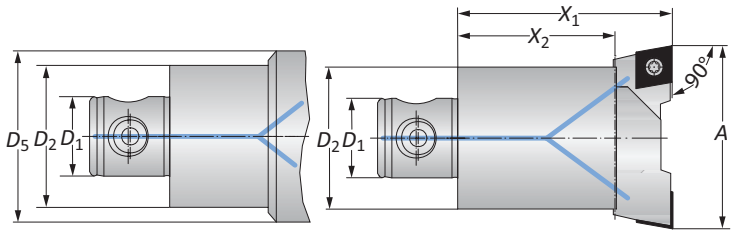
Grooves

Finished Application

Twin Cutters Same Level

90° | Diameter Range: 29.00 mm - 103.00 mm





	Connection	Boring Range	Twin Cutter					Insert		Serrated Body	
	$D_2 \mid D_1$	A	X_1	X_2	D_5	Weight	Insert Form	Part No.	Price	Part No.	Price
	25 - 14	29.00 - 37.00	56.00	42.00	–	0.20 (kg)	103	**151001**	**315.00 €**	**148001**	**475,00 €**
	25 - 14	36.00 - 44.00	56.00	42.00	30.00	0.20 (kg)	103	**151002**	**380.00 €**	**148002**	**548,00 €**
	32 - 18	36.00 - 44.00	56.00	42.00	30.00	0.40 (kg)	103	**151002**	**380.00 €**	**148017**	**704,00 €**
	32 - 18	43.00 - 54.00	66.00	46.00	36.00	0.40 (kg)	103	**151023**	**416.00 €**	**148003**	**669,00 €**
	32 - 18	43.00 - 54.00	66.00	46.00	36.00	0.40 (kg)	104	**151003**	**416.00 €**	**148003**	**669,00 €**
	40 - 22	43.00 - 54.00	66.00	46.00	36.00	0.70 (kg)	103	**151023**	**416.00 €**	**148018**	**787,00 €**
Ⓜ	40 - 22	43.00 - 54.00	66.00	46.00	36.00	0.70 (kg)	104	**151003**	**416.00 €**	**148018**	**787,00 €**
	40 - 22	53.00 - 66.00	75.00	55.00	–	0.70 (kg)	103	**151024**	**447.00 €**	**148004**	**736,00 €**
	40 - 22	53.00 - 66.00	75.00	55.00	–	0.70 (kg)	104	**151004**	**447.00 €**	**148004**	**736,00 €**
	50 - 28	65.00 - 83.00	75.00	55.00	–	1.10 (kg)	103	**151025**	**455.00 €**	**148005**	**787,00 €**
	50 - 28	65.00 - 83.00	75.00	55.00	–	1.10 (kg)	104	**151005**	**455.00 €**	**148005**	**787,00 €**
	63 - 36	82.00 - 103.00	90.00	60.00	–	1.90 (kg)	103	**151026**	**509.00 €**	**148006**	**868,00 €**
	63 - 36	82.00 - 103.00	90.00	60.00	–	1.90 (kg)	104	**151086**	**509.00 €**	**148006**	**868,00 €**
	63 - 36	82.00 - 103.00	90.00	60.00	–	1.90 (kg)	105	**151006**	**524.00 €**	**148006**	**868,00 €**

NOTE: Insert holders sold in quantities of 1, and inserts sold separately.

B10-M: 12-13 | B10-D: 23 | B10-F | B10-H | B10: VI-VII

Key on B10-D: 1

Ⓜ = Metric (mm)

Inserts sold separately

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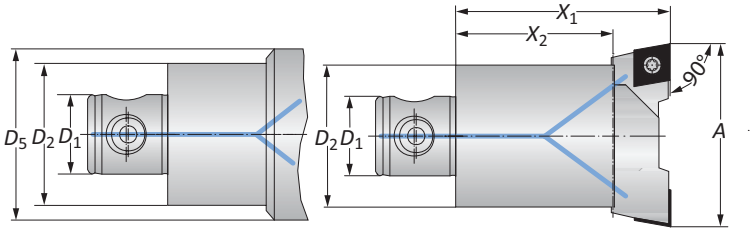
email: **engineering.eu@alliedmachine.com**

Twin Cutters Same Level

90° | Diameter Range: 100.00 mm - 205.00 mm



	Connection	Boring Range	Twin Cutter					Insert		Serrated Body	
	$D_2 \mid D_1$	A	X_1	X_2	D_5	Weight	Insert Form	Part No.	Price	Part No.	Price
	80 - 36	100.00 - 130.00	90.00	60.00	–	3.00 (kg)	103	**151027**	**532.00 €**	**148007**	**1.005,00 €**
	80 - 36	100.00 - 130.00	90.00	60.00	–	3.00 (kg)	104	**151087**	**532.00 €**	**148007**	**1.005,00 €**
	80 - 36	100.00 - 130.00	90.00	60.00	–	3.00 (kg)	105	**151007**	**546.00 €**	**148007**	**1.005,00 €**
	80 - 36	125.00 - 155.00	90.00	60.00	–	3.20 (kg)	103	**151028**	**582.00 €**	**148007**	**1.005,00 €**
Ⓜ	80 - 36	125.00 - 155.00	90.00	60.00	–	3.20 (kg)	104	**151088**	**582.00 €**	**148007**	**1.005,00 €**
	80 - 36	125.00 - 155.00	90.00	60.00	–	3.20 (kg)	105	**151008**	**596.00 €**	**148007**	**1.005,00 €**
	80 - 36	150.00 - 205.00	90.00	60.00	125.00	4.00 (kg)	103	**151028**	**582.00 €**	**148009**	**1.327,00 €**
	80 - 36	150.00 - 205.00	90.00	60.00	125.00	4.00 (kg)	104	**151088**	**582.00 €**	**148009**	**1.327,00 €**
	80 - 36	150.00 - 205.00	90.00	60.00	125.00	4.00 (kg)	105	**151008**	**596.00 €**	**148009**	**1.327,00 €**

NOTE: Insert holders sold in quantities of 1, and inserts sold separately.

Key on B10-D: 1

B10-M: 12-13 | B10-D: 23 | B10-F | B10-H | B10: VI-VII

Ⓜ = Metric (mm)

Inserts sold separately

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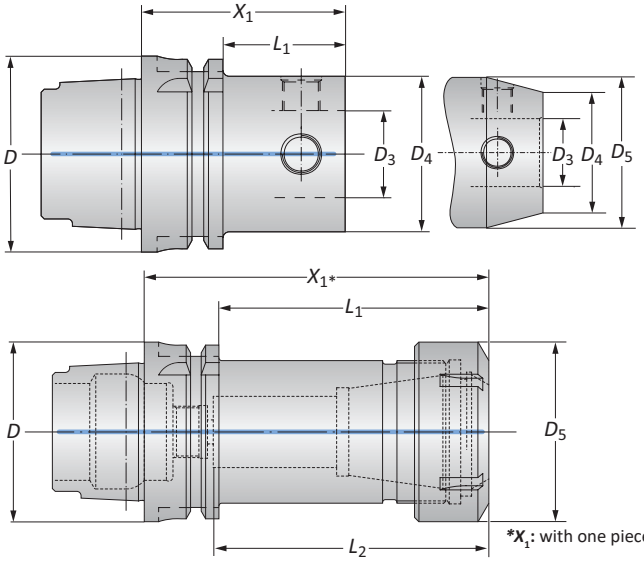
email: **engineering.eu@alliedmachine.com**

HSK Master Shanks (DIN 69893)

Balanced

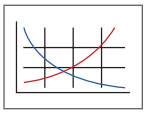


*X_1: with one piece clamping nut

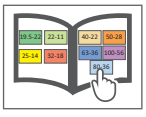
Taper Size	Connection	Shank						
D	D_4 | D_3	X_1	L_1	L_2	D_5	Weight	Part No.	Price
40	40 - 22	56.00	–	–	–	0.40 (kg)	**246016**	**578.00 €**
40	50 - 28	70.00	–	–	–	0.70 (kg)	**246004**	**635.00 €**
50	40 - 22	56.00	30.00	–	–	0.60 (kg)	**246015**	**503.00 €**
50	50 - 28	65.00	–	–	–	0.80 (kg)	**245011**	**447.00 €**
63	25 - 14	46.00	20.00	–	–	0.70 (kg)	**246012**	**443.00 €**
63	32 - 18	56.00	30.00	–	–	0.80 (kg)	**246013**	**443.00 €**
63	40 - 22	56.00	30.00	–	–	0.80 (kg)	**246014**	**443.00 €**
63	50 - 28	65.00	39.00	–	–	1.10 (kg)	**245012**	**441.00 €**
63	63 - 36	80.00	–	–	–	1.50 (kg)	**245013**	**466.00 €**
63	80 - 36	80.00	–	–	–	2.10 (kg)	**246009**	**555.00 €**
63	ER 40	120.00	94.00	95.00	63.00	1.70 (kg)	**252090****	**426.00 €**
100	50 - 28	65.00	36.00	–	–	2.40 (kg)	**245014**	**743.00 €**
100	50 - 28	180.00	151.00	–	60.00	5.00 (kg)	**246020**	**1,057.00 €**
100	50 - 28*	180.00	151.00	–	–	4.00 (kg)	**246021**	**1,057.00 €**
100	63 - 36	80.00	51.00	–	–	2.90 (kg)	**245015**	**758.00 €**
100	63 - 36	205.00	176.00	–	78.00	7.80 (kg)	**246019**	**1,156.00 €**
100	63 - 36	205.00	176.00	–	–	7.80 (kg)	**246022**	**1,156.00 €**
100	80 - 36	80.00	51.00	–	–	3.70 (kg)	**245016**	**764.00 €**
100	80 - 36	255.00	226.00	–	90.00	12.60 (kg)	**246018**	**1,297.00 €**
100	80 - 36	255.00	226.00	–	–	10.40 (kg)	**246023**	**1,297.00 €**
100	100 - 56	100.00	–	–	–	5.00 (kg)	**246010**	**980.00 €**
100	100 - 56	300.00	221.00	–	–	17.50 (kg)	**246017**	**1,935.00 €**
100	ER 40	120.00	91.00	88.00	63.00	3.50 (kg)	**252091****	**569.20 €**

NOTE: Balanced refers to a specific residual imbalance of ≤4.00 gmm/kg.
*D_4 = 49.50 mm
**Balanced without clamping nut.

B10-M: 12-13



B10: VI-VII



Key on B10-F: 1

Ⓜ = Metric (mm)

⚠ 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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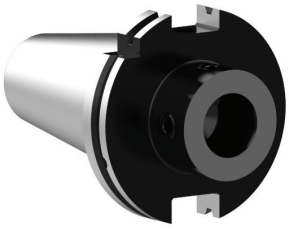
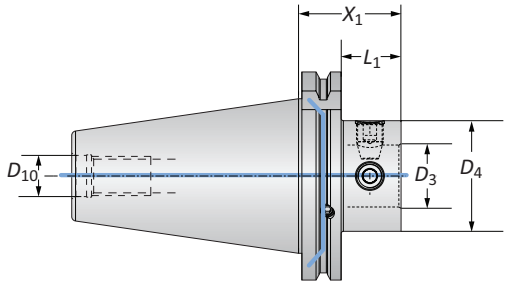
⚠ WARNING **Tool failure can cause serious injury. To prevent:**
-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank).
-When using Alu-Line® components, do not exceed recommended 5xD length-to-diameter ratio.
-When using tool steel components, do not exceed recommended 6xD length-to-diameter ratio.
-When using heavy metal components, 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.
Factory technical assistance is available for your specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

Dual Contact SK Master Shanks (DIN 69871-AD / B -D)

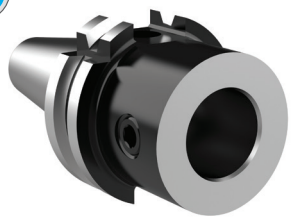


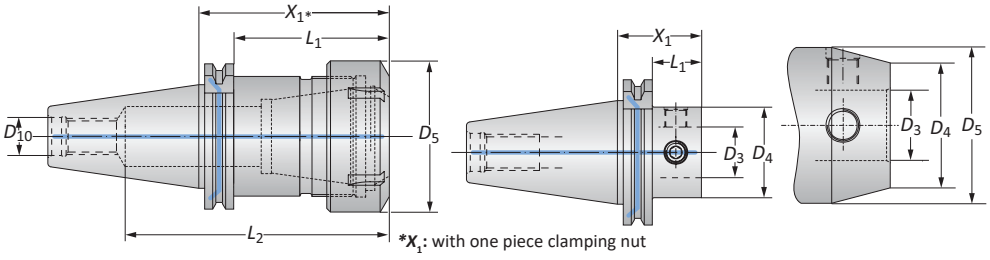


	Taper Size	Connection D_4 | D_3	Shank X_1	L_1	D_{10}	Weight	Part No.	Price
	40	50 - 28	46.00	26.90	M16 x 2	1.10 (kg)	**353064**	**787,00 €**
	40	63 - 36	66.00	46.90	M16 x 2	1.50 (kg)	**353065**	**801,00 €**
m	50	50 - 28	46.00	26.90	M24 x 3	2.90 (kg)	**353066**	**1.129,00 €**
	50	63 - 36	56.00	36.90	M24 x 3	3.20 (kg)	**353067**	**1.143,00 €**
	50	80 - 36	56.00	36.90	M24 x 3	3.70 (kg)	**353068**	**1.129,00 €**
	50	100 - 56	90.00	70.90	M24 x 3	5.30 (kg)	**353069**	**1.485,00 €**

SK Master Shanks (DIN 69871-AD / B -D)

Balanced





***X_1**: with one piece clamping nut

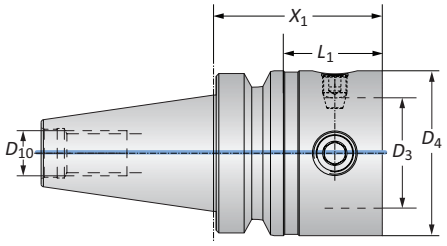
	Taper Size	Connection D_4 | D_3	Shank X_1	L_1	L_2	D_5	D_{10}	Weight	Part No.	Price
	30	40 - 22	46.00	26.90	–	–	M12 x 1.75	0.50 (kg)	**327001**	**499.00 €**
	30	50 - 28	58.00	–	–	–	M12 x 1.75	0.80 (kg)	**327002**	**635.00 €**
	40	32 - 18	55.00	35.90	–	40.00	M16 x 2	1.10 (kg)	**327003**	**441.00 €**
	40	40 - 22	46.00	26.90	–	–	M16 x 2	1.00 (kg)	**327004**	**441.00 €**
	40	50 - 28	46.00	26.90	–	–	M16 x 2	1.10 (kg)	**327005**	**391.00 €**
	40	63 - 36	66.00	46.90	–	–	M16 x 2	1.40 (kg)	**327006**	**404.00 €**
	40	80 - 36	66.00	–	–	–	M16 x 2	1.90 (kg)	**327007**	**507.00 €**
	40	ER 40	80.00	60.90	116.00	63.00	M16 x 2	1.30 (kg)	**259079****	**251.00 €**
	50	50 - 28	46.00	26.90	–	–	M24 x 3	2.90 (kg)	**327017**	**520.00 €**
m	50	50 - 28	186.00	166.90	–	60.00	M24 x 3	6.00 (kg)	**327025**	**939.00 €**
	50	50 - 28*	186.00	166.90	–	–	M24 x 3	4.90 (kg)	**327033**	**939.00 €**
	50	63 - 36	56.00	36.90	–	–	M24 x 3	3.20 (kg)	**327018**	**520.00 €**
	50	63 - 36	206.00	186.90	–	78.00	M24 x 3	8.90 (kg)	**327026**	**1,021.00 €**
	50	63 - 36	206.00	186.90	–	–	M24 x 3	6.90 (kg)	**327034**	**1,021.00 €**
	50	80 - 36	56.00	36.90	–	–	M24 x 3	3.70 (kg)	**327010**	**520.00 €**
	50	80 - 36	256.00	236.90	–	90.00	M24 x 3	13.60 (kg)	**327027**	**1,230.00 €**
	50	80 - 36	256.00	236.90	–	–	M24 x 3	11.50 (kg)	**327027**	**1,230.00 €**
	50	100 - 56	90.00	–	–	–	M24 x 3	5.30 (kg)	**327011**	**932.00 €**
	50	100 - 56	290.00	270.90	–	–	M24 x 3	17.10 (kg)	**327028**	**1,644.00 €**
	50	ER 40	80.00	55.20	134.00	63.00	M24 x 3	3.10 (kg)	**259080****	**344.00 €**

NOTE: Balanced refers to a specific residual imbalance of ≤4.00 gmm/kg. * D_4 = (49.50 mm) **Balanced without clamping nut.

m = Metric (mm)

⚠ 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 Alu-Line® components, do not exceed recommended 5xD length-to-diameter ratio.
-When using tool steel components, do not exceed recommended 6xD length-to-diameter ratio.
-When using heavy metal components, 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.
Factory technical assistance is available for your specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

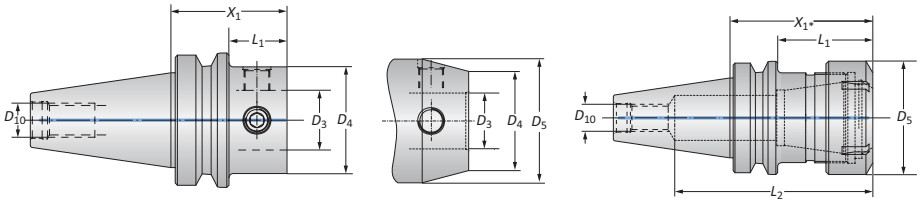
Dual Contact BT Master Shanks (JIS B 6339)



	Taper Size	Connection $D_4 \mid D_3$	Shank X_1	L_1	D_{10}	Weight	Part No.	Price
	40	50 - 28	54.00	27.00	M16 x 2	1.20 (kg)	**353070**	**745.00 €**
	40	63 - 36	64.00	37.00	M16 x 2	1.50 (kg)	**353071**	**770.00 €**
m	50	50 - 28	65.00	26.80	M24 x 3	4.00 (kg)	**353072**	**1,096.00 €**
	50	63 - 36	75.00	36.80	M24 x 3	4.20 (kg)	**353073**	**1,118.00 €**
	50	80 - 36	75.00	36.80	M24 x 3	4.80 (kg)	**353074**	**1,137.00 €**
	50	100 - 56	90.00	51.80	M24 x 3	5.50 (kg)	**353075**	**TBD**

BT Master Shanks (JIS B 6339)

Balanced



***X_1:** with one piece clamping nut

	Taper Size	Connection $D_4 \mid D_3$	Shank X_1	L_1	L_2	D_5	D_{10}	Weight	Part No.	Price
	30	40 - 22	40.00	18.00	–	–	M12 x 1.75	0.50 (kg)	**327012**	**514.00 €**
	30	50 - 28	46.00	–	–	–	M12 x 1.75	0.60 (kg)	**327013**	**652.00 €**
	40	40 - 22	46.00	19.00	–	–	M16 x 2	1.10 (kg)	**327016**	**397.00 €**
	40	50 - 28	54.00	27.00	–	–	M16 x 2	1.20 (kg)	**327019**	**380.00 €**
	40	63 - 36	64.00	–	–	–	M16 x 2	1.50 (kg)	**327020**	**380.00 €**
	40	ER 40	70.00	43.00	104.00	63.00	M16 x 2	1.20 (kg)	**259081***	**TBD**
	50	50 - 28	65.00	26.80	–	–	M24 x 3	3.90 (kg)	**327021**	**505.00 €**
	50	50 - 28	205.00	166.80	–	60.00	M24 x 3	7.00 (kg)	**327029****	**TBD**
m	50	50 - 28	205.00	166.80	–	49.50	M24 x 3	5.90 (kg)	**327036****	**906.00 €**
	50	63 - 36	75.00	36.80	–	–	M24 x 3	4.20 (kg)	**327022**	**505.00 €**
	50	63 - 36	225.00	186.80	–	78.00	M24 x 3	9.90 (kg)	**327030****	**982.00 €**
	50	63 - 36	225.00	186.80	–	–	M24 x 3	7.80 (kg)	**327037****	**982.00 €**
	50	80 - 36	75.00	36.80	–	–	M24 x 3	4.70 (kg)	**327023**	**505.00 €**
	50	80 - 36	275.00	236.80	–	90.00	M24 x 3	14.80 (kg)	**327031****	**1,193.00 €**
	50	80 - 36	275.00	236.80	–	–	M24 x 3	14.80 (kg)	**327038****	**1,193.00 €**
	50	100 - 56	90.00	–	–	–	M24 x 3	5.50 (kg)	**327024**	**967.00 €**
	50	100 - 56	290.00	251.80	–	–	M24 x 3	17.30 (kg)	**327032****	**1,794.00 €**
	50	ER 40	80.00	41.80	135.00	63.00	M24 x 3	3.80 (kg)	**259082***	**TBD**

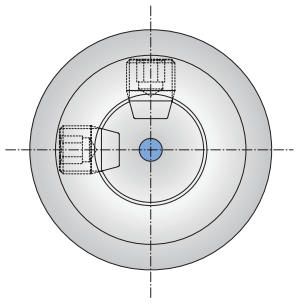
NOTE: Balanced refers to a specific residual imbalance of ≤4.00 gmm/kg. *Balanced without clamping nut. **Available upon request.

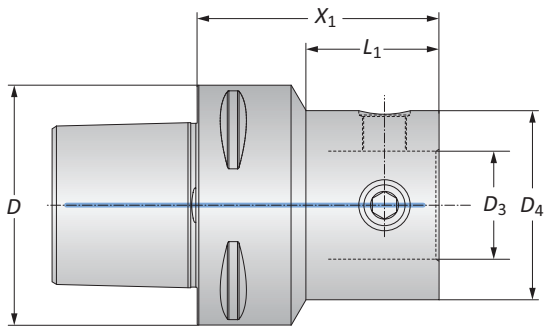
B10-M: 12-13
Key on B10-F.1
B10: VI-VII

⚠ 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. *email:* **engineering.eu@alliedmachine.com**

Polygon Shaft Master Shanks (PSC) (ISO 26623-1)

Balanced



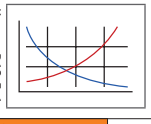


Form 20

	PSC	Connection	Shank				
	D	D_4 | D_3	X_1	L_1	Weight	Part No.	Price
	50	40 - 22	54.00	31.10	0.70 (kg)	**227014**	**1,228.00 €**
	50	50 - 28	65.00	–	1.00 (kg)	**227001**	**1,111.00 €**
	50	63 - 36	80.00	–	1.50 (kg)	**227002**	**1,111.00 €**
	50	80 - 36	80.00	–	2.50 (kg)	**227012**	**TBD**
	63	25 - 14	54.00	21.10	0.90 (kg)	**227010**	**1,228.00 €**
	63	32 - 18	54.00	23.00	1.00 (kg)	**227009**	**1,228.00 €**
Ⓜ	63	40 - 22	65.00	36.40	1.10 (kg)	**227008**	**1,228.00 €**
	63	50 - 28	65.00	39.00	1.30 (kg)	**227003**	**1,111.00 €**
	63	63 - 36	80.00	–	1.80 (kg)	**227004**	**1,111.00 €**
	63	80 - 36	80.00	–	2.60 (kg)	**227005**	**1,111.00 €**
	80	50 - 28	65.00	25.00	2.20 (kg)	**227011**	**1,240.00 €**
	80	63 - 36	80.00	45.10	2.60 (kg)	**227006**	**1,240.00 €**
	80	80 - 36	80.00	–	3.30 (kg)	**227007**	**1,228.00 €**
	80	100 - 56	80.00	–	4.88 (kg)	**227013**	**TBD**

NOTE: Balanced refers to a specific residual imbalance of ≤4.00 gmm/kg.

B10-M: 12-13



Key on B10-F: 1

B10: VI-VII

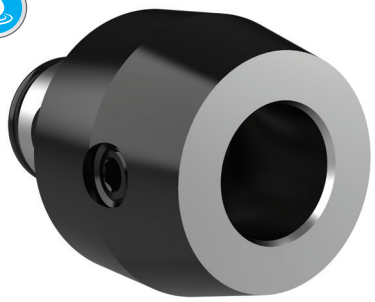
Ⓜ = Metric (mm)

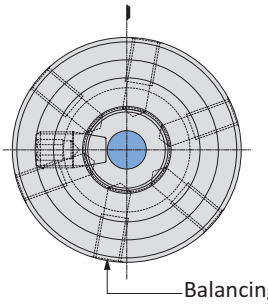
⚠ WARNING **Exceeding weight capacity for machine tool spindle and tool changer can cause machine damage and/or serious injury. To prevent:**
-Consult machine tool builder for machine's weight limitations.
-Refer to example on page B10-M: 11 for calculating tool assembly weight.
Factory technical assistance is also available for specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

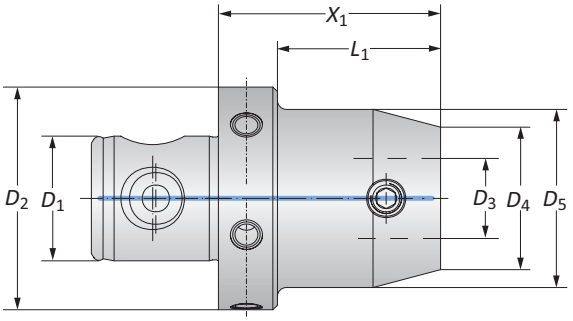
⚠ WARNING **Tool failure can cause serious injury. To prevent:**
-Do not exceed recommended 10xD length-to-diameter ratio or exceed 4 total components (including shank).
-When using Alu-Line® components, do not exceed recommended 5xD length-to-diameter ratio.
-When using tool steel components, do not exceed recommended 6xD length-to-diameter ratio.
-When using heavy metal components, 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.
Factory technical assistance is available for your specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

Reducers

Balanced



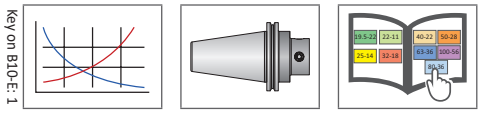




	MVS Connection		Reducer						
	$D_2 \mid D_1$	$D_4 \mid D_3$	X_1	L_1	D_5	Weight	Balancing Screw	Part No.	Price
	25 - 14	19.5 - 11	30.00	21.00	–	0.10 (kg)	–	**219034**	**351.00 €**
	25 - 14	22 - 11	30.00	21.00	–	0.20 (kg)	–	**219035**	**351.00 €**
	32 - 18	22 - 11	12.00	0.50	–	0.10 (kg)	–	**219036**	**351.00 €**
	32 - 18	25 - 14	30.00	21.00	–	0.10 (kg)	–	**219037**	**345.00 €**
	40 - 22	22 - 11	12.00	0.50	–	0.20 (kg)	–	**219038**	**388.00 €**
	40 - 22	25 - 14	30.00	21.00	–	0.20 (kg)	–	**219039**	**345.00 €**
	40 - 22	32 - 18	30.00	–	40.00	0.50 (kg)	–	**219040**	**345.00 €**
	50 - 28	19.5 - 11	54.00	41.00	–	0.40 (kg)	M6 x 1 x 10	**219051**	**503.00 €**
	50 - 28	22 - 11	14.00	0.50	–	0.30 (kg)	M6 x 1 x 10	**219041**	**388.00 €**
	50 - 28	22 - 11	54.00	41.00	–	0.40 (kg)	M6 x 1 x 10	**219052**	**503.00 €**
	50 - 28	25 - 14	14.00	0.50	–	0.30 (kg)	M6 x 1 x 7	**119094**	**380.00 €**
	50 - 28	25 - 14	59.00	46.00	–	0.40 (kg)	M6 x 1 x 10	**119054**	**451.00 €**
	50 - 28	25 - 14	59.00	46.00	32.00	0.50 (kg)	M6 x 1 x 10	**119055**	**451.00 €**
	50 - 28	25 - 14	119.00	106.00	32.00	0.90 (kg)	M6 x 1 x 10	**119010**	**493.00 €**
	50 - 28	25 - 14	119.00	106.00	36.00	1.00 (kg)	M6 x 1 x 10	**219030***	**493.00 €**
	50 - 28	32 - 18	49.00	36.00	35.00	0.90 (kg)	M6 x 1 x 10	**219085**	**451.00 €**
	50 - 28	32 - 18	109.00	96.00	35.00	1.00 (kg)	M6 x 1 x 10	**219086**	**493.00 €**
	50 - 28	32 - 18	109.00	96.00	40.00	1.10 (kg)	M6 x 1 x 10	**119012**	**493.00 €**
	50 - 28	32 - 18	109.00	96.00	46.00	1.30 (kg)	M6 x 1 x 10	**219032***	**493.00 €**
	50 - 28	40 - 22	40.00	27.00	–	0.50 (kg)	M6 x 1 x 10	**219087**	**451.00 €**
	50 - 28	40 - 22	100.00	87.00	47.00	1.30 (kg)	M6 x 1 x 10	**219088**	**493.00 €**
ⓜ	50 - 28	63 - 36	50.00	–	–	1.00 (kg)	M6 x 1 x 10	**119059**	**513.00 €**
	63 - 36	19.5 - 11	54.00	41.00	–	0.60 (kg)	M6 x 1 x 10	**219053**	**503.00 €**
	63 - 36	22 - 11	14.00	0.50	–	0.60 (kg)	M6 x 1 x 10	**219042**	**388.00 €**
	63 - 36	22 - 11	54.00	41.00	–	0.70 (kg)	M6 x 1 x 10	**219054**	**503.00 €**
	63 - 36	25 - 14	14.00	0.50	–	0.60 (kg)	M6 x 1 x 10	**119095**	**388.00 €**
	63 - 36	25 - 14	59.00	46.00	–	0.70 (kg)	M6 x 1 x 10	**119060**	**451.00 €**
	63 - 36	25 - 14	59.00	46.00	32.00	0.80 (kg)	M6 x 1 x 10	**119061**	**451.00 €**
	63 - 36	25 - 14	119.00	106.00	32.00	1.10 (kg)	M6 x 1 x 15	**119019**	**493.00 €**
	63 - 36	25 - 14	119.00	106.00	36.00	1.30 (kg)	M6 x 1 x 10	**219031***	**485.00 €**
	63 - 36	32 - 18	49.00	36.00	35.00	0.70 (kg)	M6 x 1 x 10	**219089**	**451.00 €**
	63 - 36	32 - 18	109.00	96.00	35.00	1.20 (kg)	M6 x 1 x 10	**219090**	**493.00 €**
	63 - 36	32 - 18	109.00	96.00	40.00	1.40 (kg)	M6 x 1 x 10	**119021**	**493.00 €**
	63 - 36	32 - 18	109.00	96.00	46.00	1.60 (kg)	M6 x 1 x 10	**219033***	**493.00 €**
	63 - 36	40 - 22	40.00	27.00	–	0.80 (kg)	M6 x 1 x 10	**219091**	**451.00 €**
	63 - 36	40 - 22	100.00	87.00	47.00	1.60 (kg)	M6 x 1 x 15	**219092**	**493.00 €**
	63 - 36	40 - 22	150.00	137.00	50.00	2.40 (kg)	M6 x 1 x 15	**119067**	**839.00 €**
	63 - 36	50 - 28	40.00	–	63.00	1.00 (kg)	M6 x 1 x 10	**119064**	**451.00 €**
	63 - 36	50 - 28	40.00	27.00	–	0.80 (kg)	M6 x 1 x 10	**119096****	**463.00 €**
	63 - 36	50 - 28	100.00	–	63.00	2.40 (kg)	M6 x 1 x 15	**119025**	**493.00 €**
	63 - 36	50 - 28	100.00	87.00	–	1.70 (kg)	M6 x 1 x 10	**119097****	**503.00 €**
	80 - 36	63 - 36	50.00	–	80.00	1.60 (kg)	M6 x 1 x 15	**119098**	**693.00 €**
	100 - 56	80 - 36	70.00	52.00	–	3.60 (kg)	M8 x 1.25 x 20	**219066**	**1,313.00 €**

* Reinforced reducer.
**For milling applications.
NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg.

B10-M: 12-13 | B10-F | B10: VI-VII

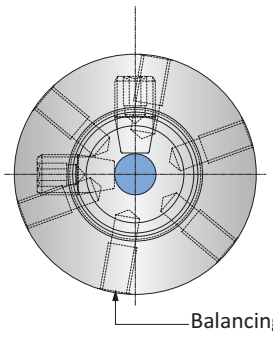


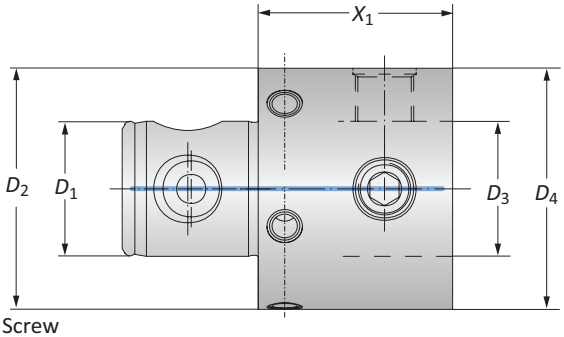
Key on B10-E: 1

ⓜ = Metric (mm)

Extensions

Balanced

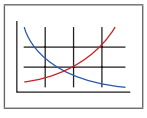


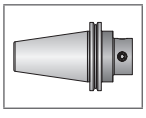


	MVS Connection		Extension				
	D_2 | D_1	D_4 | D_3	X_1	Weight	Balancing Screw	Part No.	Price
	19.5 - 11	19.5 - 11	40.00	0.10 (kg)	–	**219043**	**351.00 €**
	22 - 11	22 - 11	40.00	0.10 (kg)	–	**219044**	**351.00 €**
	25 - 14	25 - 14	25.00	0.10 (kg)	–	**219068**	**341.00 €**
	25 - 14	25 - 14	40.00	0.10 (kg)	–	**119001**	**341.00 €**
	32 - 18	32 - 18	40.00	0.20 (kg)	–	**119002**	**341.00 €**
	40 - 22	40 - 22	40.00	0.40 (kg)	–	**119003**	**341.00 €**
	50 - 28	50 - 28	40.00	0.60 (kg)	M6 x 1 x 10	**119004**	**341.00 €**
	50 - 28*	50 - 28*	75.00	1.10 (kg)	M6 x 1 x 10	**219097**	**418.00 €**
	50 - 28	50 - 28	75.00	1.10 (kg)	M6 x 1 x 10	**219082**	**418.00 €**
	50 - 28	50 - 28	100.00	1.50 (kg)	M6 x 1 x 10	**119058**	**493.00 €**
	63 - 36	63 - 36	50.00	1.10 (kg)	M6 x 1 x 10	**119005**	**412.00 €**
Ⓜ	63 - 36	63 - 36	75.00	1.70 (kg)	M6 x 1 x 15	**219083**	**461.00 €**
	63 - 36	63 - 36	125.00	2.90 (kg)	M6 x 1 x 15	**119065**	**517.00 €**
	80 - 36	80 - 36	50.00	1.90 (kg)	M6 x 1 x 15	**119006**	**451.00 €**
	80 - 36	80 - 36	75.00	2.80 (kg)	M6 x 1 x 15	**219084**	**503.00 €**
	80 - 36	80 - 36	125.00	4.80 (kg)	M6 x 1 x 15	**119066**	**550.00 €**
	80 - 36	80 - 36	200.00	7.40 (kg)	M8 x 1.25 x 21	**219094**	**918.00 €**
	80 - 36	80 - 36	275.00	10.10 (kg)	M8 x 1.25 x 21	**119069**	**1,084.00 €**
	100 - 56	100 - 56	75.00	4.30 (kg)	M8 x 1.25 x 20	**219095**	**1,317.00 €**
	100 - 56	100 - 56	100.00	5.60 (kg)	M8 x 1.25 x 20	**219061**	**1,400.00 €**
	100 - 56	100 - 56	150.00	8.10 (kg)	M8 x 1.25 x 20	**219096**	**1,479.00 €**
	100 - 56	100 - 56	200.00	10.20 (kg)	M8 x 1.25 x 20	**219062**	**1,562.00 €**
	100 - 56	100 - 56	300.00	14.60 (kg)	M8 x 1.25 x 20	**219063**	**1,706.00 €**

*D_2 / D_4 = 49.50 mm for boring 50.00 mm diameter applications.
NOTE: Balance refers to a specific residual imbalance of ≤ 10 g mm/kg.

B10-M: 12-13
B10-F
B10: VI-VII
Key on B10-E: 1





Ⓜ = 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.
email: **engineering.eu@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. *email:* **engineering.eu@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 Alu-Line® components, do not exceed recommended 5xD length-to-diameter ratio.
-When using tool steel components, do not exceed recommended 6xD length-to-diameter ratio.
-When using heavy metal components, 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.
Factory technical assistance is available for your specific applications through our Application Engineering department. *email:* **engineering.eu@alliedmachine.com**

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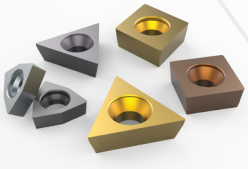

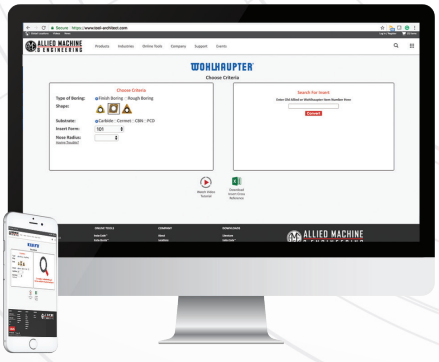

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Guaranteed Test / Demo Application Form

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 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.)

Pre-existing Diameter: _____ in/mm

Depth of Cut: _____ in/mm

Hardness: _____ (BHN, Rc)

Required Finish: _____ RMS

State: _____ (Casting, hot rolled, forging)

Machine Information

Machine Type: _____ (Lathe, screw machine, machine center, etc.)

Builder: _____ (Haas, Mori Seiki, etc.)

Model #: _____

Shank Required: _____ (CAT50, Morse taper, etc.)

Power: _____ HP/KW

Thrust: _____ lbs/N

Rigidity:
- ☐ Excellent
- ☐ Good
- ☐ Poor

Orientation:
- ☐ Vertical
- ☐ Horizontal

Tool Rotating:
- ☐ Yes
- ☐ No

Coolant Information

Coolant Delivery: _____ (Through tool, flood)

Coolant Pressure: _____ PSI / bar

Coolant Type: _____ (Air mist, oil, synthetic, water soluble, etc.)

Coolant Volume: _____ GPM / LPM

Requested Tooling

QTY	Item Number

QTY	Item Number

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