



**ALLIED MACHINE
& ENGINEERING**

WOHLHAUPTER®

Holemaking Solutions for Today's Manufacturing



Drilling



Reaming



Burnishing



Threading



Specials



Wohlhaupter®

► **BORING**

Lay Down Cartridges

WOHLHAUPTER®

SECTION

B10-L

Lay Down Cartridges

Wohlhaupter® Lay Down Cartridges

Holders for Pre-Machining | Holders for Compact Boring Bars | Short Clamp Holders | Fine Boring Holders



Robust. Powerful. Versatile. Engineered Solutions.

From pre-machining holes with heavy stock removal to finish machining with tight tolerances and excellent surface finish, Wohlhaupter's extensive range of lay down cartridges can help you achieve specific boring solutions. Wohlhaupter's lay down cartridges bring innovative concepts designed to improve productivity, reduce scrap, and reduce the cost per part.

Your safety and the safety of others is very important. This catalogue 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 catalogue, 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 catalogue. 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



Oil & Gas

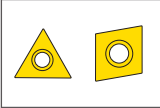


Renewable
Energy

Lay Down Cartridges Table of Contents

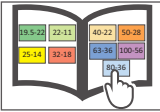
Reference Icons

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



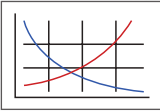
Inserts

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



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

ES-Bore Lay Down Cartridges

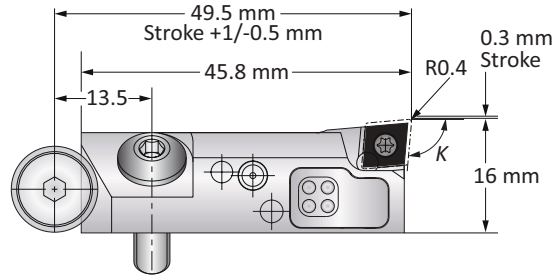
Digital 3E ^{TECH+} Insert Forms 101 and 20.	2
Analogue Insert Forms 101 and 20.	3
Mounting Dimensions.	4
Accessories.	5

Compact Lay Down Cartridges

Insert Forms 101, 103, 104 and 105.	6
Insert Form 112.	7
Insert Forms 04 and 05.	8
Mounting Dimensions.	9
Accessories.	10

ES-Bore Digital 3E^{TECH+} Fine Boring Cartridges | Insert Forms 101 and 20

Diameter Range: ≥1.102" (28.00 mm)



Holder Type	K	ISO	Minimum Boring Diameter	Cutting Direction	Insert Form	Weight	Part No.
	90°	CC.. 0602..	28.00	Right	101	0.06 (kg)	345032
	90°	CC.. 0602..	28.00	Left	101	0.06 (kg)	345033
	90°	TOGX 0802..	28.00	Right	20	0.06 (kg)	345042
	90°	TOGX 0802..	28.00	Left	20	0.06 (kg)	345043
	95°	CC.. 0602..	28.00	Right	101	0.06 (kg)	345030
	95°	CC.. 0602..	28.00	Left	101	0.06 (kg)	345031
	95°	TOGX 0802..	28.00	Right	20	0.06 (kg)	345040
	95°	TOGX 0802..	28.00	Left	20	0.06 (kg)	345041

NOTE: ES-Bore digital fine boring cartridges must be used with the new 3E^{TECH+} and adapter plate. The ES-Bore cannot be used with 3E^{TECH}.
NOTE: 3E^{TECH+} module, adapter, and charging unit sold separately.

3E^{TECH+} Digital Readout Module

Part No.	Charging Unit*
536015	536016

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



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

Adapter Plate for 3E^{TECH+}

Cutting Direction	Part No.
Right	536017
Left	536018

NOTE: Adapter sold separately.



B10-M: 12-13

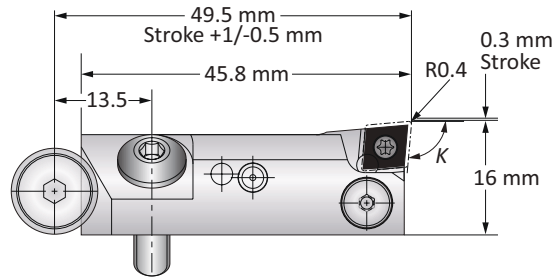
B10-H


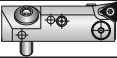


B10: VI-VII

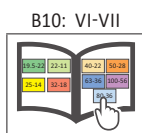
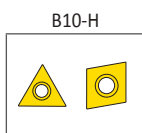
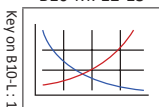
m = Metric (mm)
 Inserts sold separately

ES-Bore Analogue Fine Boring Cartridges | Insert Forms 101 and 20

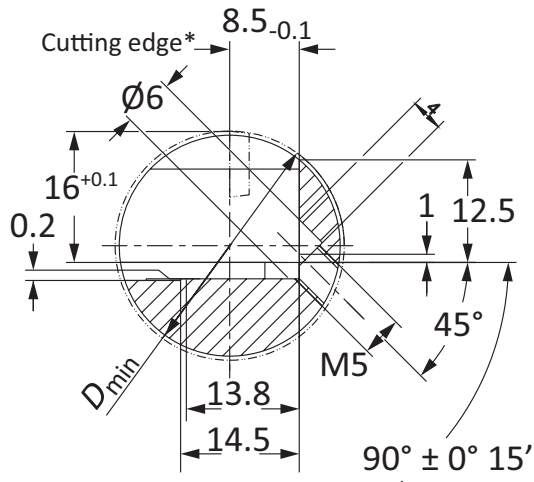
Diameter Range: $\geq 1.102''$ (28.00 mm)



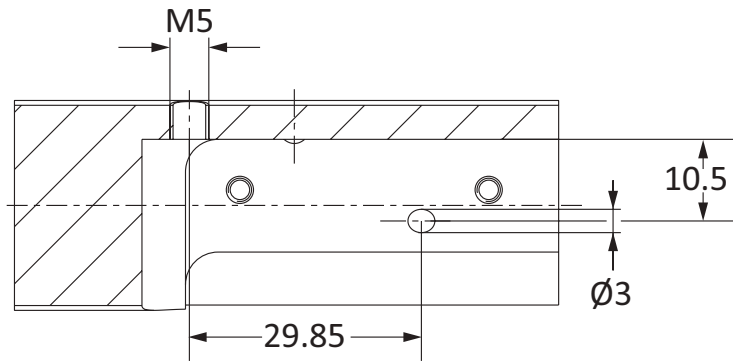
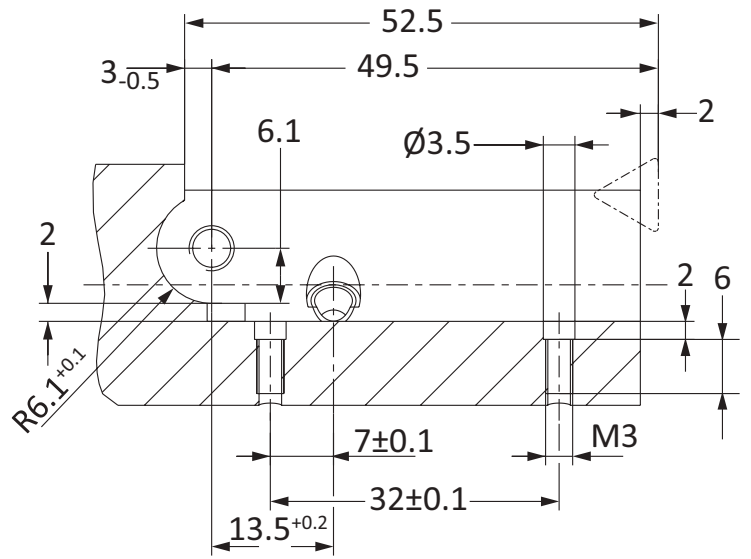
Holder Type	K	ISO	Minimum Boring Diameter	Cutting Direction	Insert Form	Weight	Part No.
	90°	CC.. 0602..	28.00	Right	101	0.06 (kg)	345036
	90°	CC.. 0602..	28.00	Left	101	0.06 (kg)	345037
	90°	TOGX 0802..	28.00	Right	20	0.06 (kg)	345046
	90°	TOGX 0802..	28.00	Left	20	0.06 (kg)	345047
	95°	CC.. 0602..	28.00	Right	101	0.06 (kg)	345034
	95°	CC.. 0602..	28.00	Left	101	0.06 (kg)	345035
	95°	TOGX 0802..	28.00	Right	20	0.06 (kg)	345044
	95°	TOGX 0802..	28.00	Left	20	0.06 (kg)	345045



ES-Bore Mounting Dimensions



*For D ≤ 32 mm cutting edge 1 mm before center



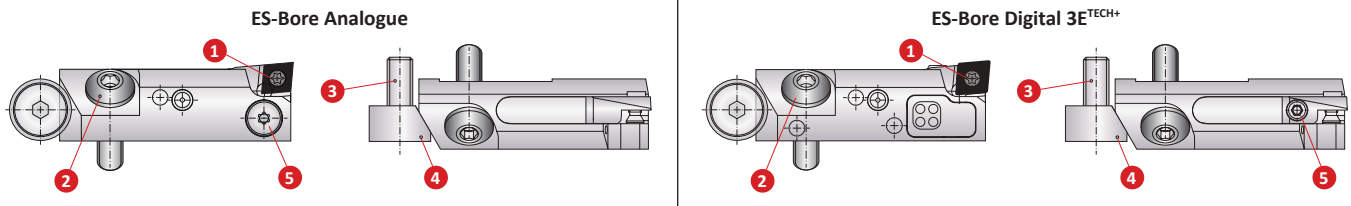
B10-M: 12-13 B10-H B10: VI-VII

Key on B10-L: 1

m = Metric (mm)
Inserts sold separately

ES-Bore Accessories

Screws | Service Keys | 3E^{TECH+} Accessories



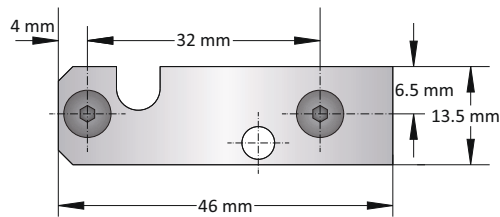
	1 Insert Screw		2 Mounting Screw	3 Height Adjusting Screw	4 Height Adjusting Wedge	5 Diameter Adjusting Screw*
	Insert Form 101	Insert Form 20				
Screw	115676 (T8)	115535 (T7)	515632 (s3)	115466 (s3)	415721	–
Service Key	115590	115591	051110	051110	–	115590

*Diameter adjusting screw must not be removed from the fine boring cartridge.

ES-Bore Shim Assembly (Unfinished)

	Part No
Shim Assembly (Shim with 2 Screws)	345048
Replacement Screw	116438

NOTE: Shim can be used for both RH and LH cutting to achieve desired diameter for insert with alternative nose radius. Face grinding and screw hole countersinking will be required.



3E^{TECH+} Accessories

1 Charging Unit
Part No.
536016

NOTE: Charging unit sold separately from 3E^{TECH+}.

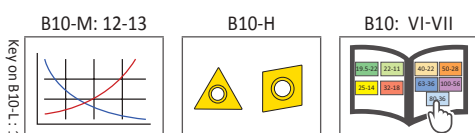



NOTE: 3E^{TECH+} adjustment accuracy of 0.001 mm on diameter.

Adapter Plate for 3E^{TECH+}

Cutting Direction	Part No.
Right	536017
Left	536018

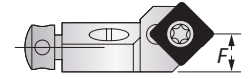
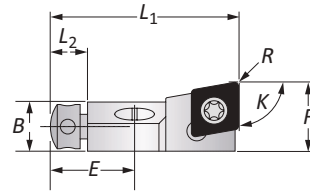
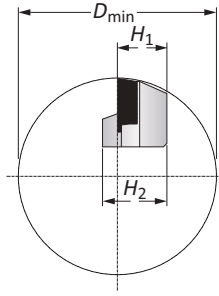
NOTE: Adapter sold separately.



 = Metric (mm)
Inserts sold separately

Compact Lay Down Cartridges | Insert Forms 101, 103, 104 & 105

Diameter Range: ≥ 25.00 mm

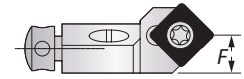
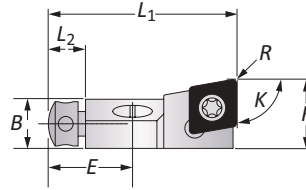
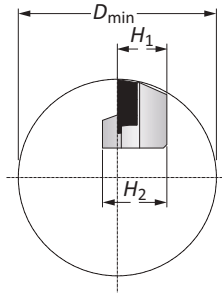







Holder Type	K	ISO	D _{min} Boring Range	Designation	Insert Holder								Insert Form	Part No.
					L ₁	L ₂	B	H ₁	H ₂	F	R Radius	E		
	90°	CC..0602..	25.00	SCFCR08CK-06	28.00	6.00	6.50	8.00	10.00	10.00	0.40	13.00	101	345001
	90°	CC..09T3..	40.00	SCFCR10CK-09	38.00	7.50	10.00	10.00	13.00	14.00	0.80	17.00	103	345002
	90°	CC..1204..	50.00	SCFCR12CK-12	45.00	8.00	14.00	12.00	16.00	20.00	0.80	20.00	104	345003
	90°	CC..1605..	55.00	SCFCR14CK-16	54.00	8.00	16.00	14.00	18.00	23.00	0.80	23.50	105	345004
	80°	CC..0602..	25.00	SCOCR08CK-06	28.00	6.00	6.50	8.00	10.00	9.00	0.40	13.00	101	345014
	80°	CC..09T3..	40.00	SCOCR10CK-09	38.00	7.50	10.00	10.00	13.00	12.50	0.80	17.00	103	345009
	75°	CC..0602..	25.00	SCR08CK-06	28.00	6.00	6.50	8.00	10.00	8.50	0.40	13.00	101	345013
	75°	CC..09T3..	40.00	SCR10CK-09	38.00	7.50	10.00	10.00	13.00	11.70	0.80	17.00	103	345008
	70°	CC..0602..	25.00	SCPCR08CK-06	28.00	6.00	6.50	8.00	10.00	8.00	0.40	13.00	101	345012
	70°	CC..09T3..	40.00	SCPCR10CK-09	38.00	7.50	10.00	10.00	13.00	11.00	0.80	17.00	103	345007
	60°	CC..0602..	25.00	SCTCR08CK-06	28.00	6.00	6.50	8.00	10.00	7.00	0.40	13.00	101	345011
	60°	CC..09T3..	40.00	SCTCR10CK-09	38.00	7.50	10.00	10.00	13.00	9.70	0.80	17.00	103	345006
	45°	CC..0602..	25.00	SCSCR08CK-06	24.00	6.00	6.50	8.00	10.00	10.00	0.40	13.00	101	345010
	45°	CC..09T3..	40.00	SCSCR10CK-09	32.00	7.50	10.00	10.00	13.00	14.50	0.80	17.00	103	345005

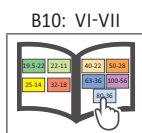
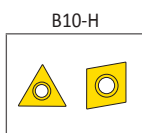
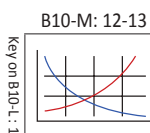
B10-M: 12-13 B10-H B10: VI-VII

Compact Lay Down Cartridges | Insert Form 112

Diameter Range: ≥ 40.00 mm

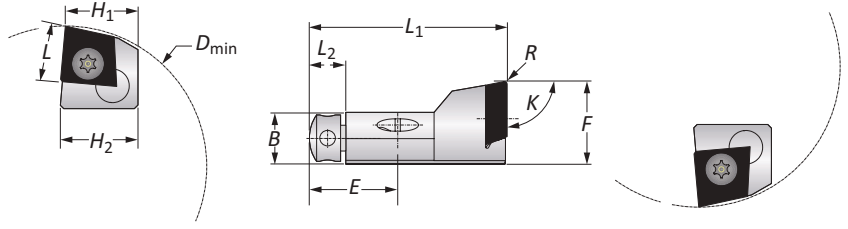


Holder Type	K	ISO	D _{min} Boring Range	Designation	Insert Holder								Insert Form	Part No.
					L ₁	L ₂	B	H ₁	H ₂	F	R Radius	E		
	80°	SC..09T3..	40.00	SSOCR10CK-09	38.00	7.50	10.00	10.00	13.00	12.50	0.80	17.00	112	345019
	75°	SC..09T3..	40.00	SSRCR10CK-09	38.00	7.50	10.00	10.00	13.00	11.70	0.80	17.00	112	345018
	70°	SC..09T3..	40.00	SSPCR10CK-09	38.00	7.50	10.00	10.00	13.00	11.00	0.80	17.00	112	345017
	60°	SC..09T3..	40.00	SSTCR10CK-09	38.00	7.50	10.00	10.00	13.00	9.70	0.80	17.00	112	345016
	45°	SC..09T3..	40.00	SSSCR10CK-09	32.00	7.50	10.00	10.00	13.00	14.00	0.80	17.00	112	345015



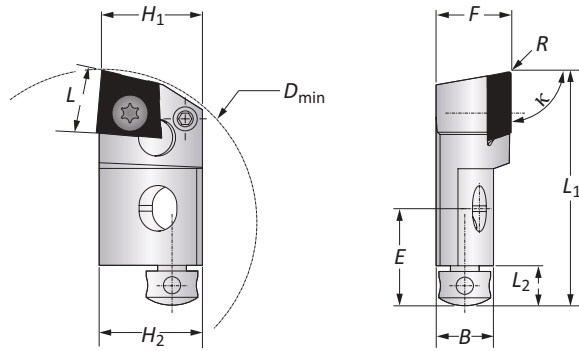
Tangential Compact Lay Down Cartridges | Insert Forms 04 & 05

Diameter Range: $\geq 2.125''$ (54.00 mm)



Insert Form 04, 05 Insert Holders

Holder Type	K	D _{min} Boring Range	Insert Holder								Type	L	Insert Form	Part No.
			L ₁	L ₂	B	H ₁	H ₂	F	R Radius	E				
	90°	54.00	38.00	7.50	10.00	14.00	15.00	16.00	0.50	17.00	Right	10.50	04	345023
	90°	54.00	38.00	7.50	10.00	14.00	15.00	16.00	0.50	17.00	Left	10.50	04	345025
	90°	70.00	45.00	8.00	14.00	19.00	20.00	22.00	0.50	20.00	Right	14.50	05	345020
	90°	70.00	45.00	8.00	14.00	19.00	20.00	22.00	0.50	20.00	Left	14.50	05	345022



Insert Form 04, 05 Radial Cutting Insert Holders

Holder Type	K	D _{min} Boring Range	Insert Holder								Type	L	Insert Form	Part No.
			L ₁	L ₂	B	H ₁	H ₂	F	R Radius	E				
	90°	54.00	41.00	7.50	10.00	17.00	18.00	13.00	0.50	17.00	Right	10.50	04	345024
	90°	70.00	50.00	8.00	14.00	21.00	22.00	17.00	0.50	20.00	Right	14.50	05	345021

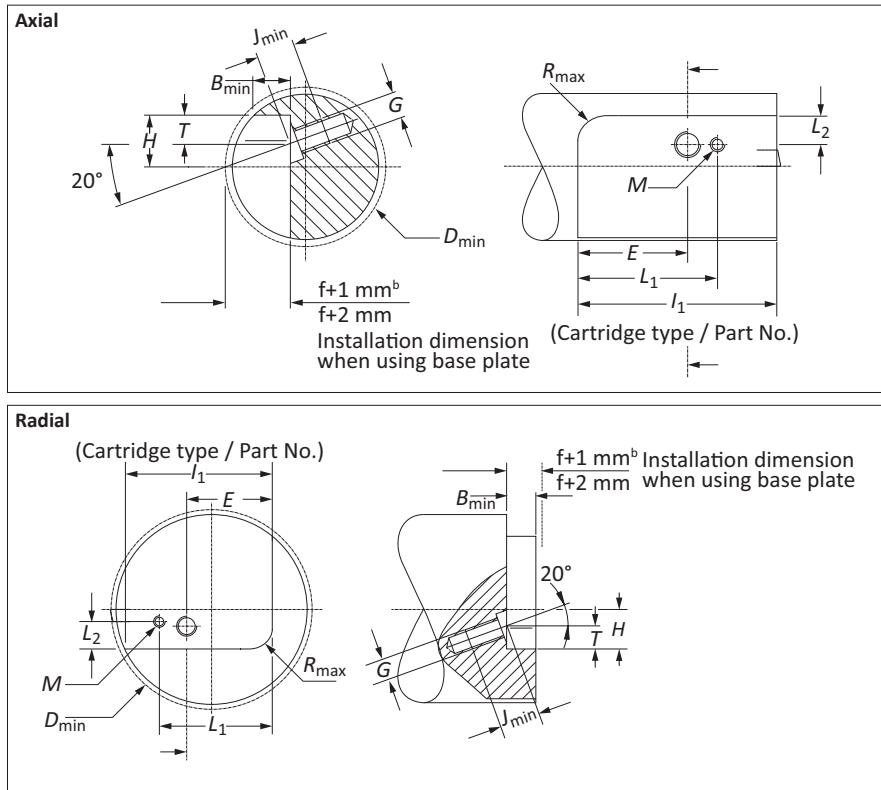
B10-M: 12-13 B10-H B10: VI-VII

Key on B10-L: 1

m = Metric (mm)
Inserts sold separately



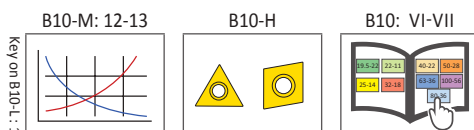
Compact Lay Down Cartridge Mounting Dimensions



	Installation Dimensions				Mounting Thread and Base Plate							Cartridge Type
	D_{min}	H	R_{max}	B_{min}	E	L_1	T	L_2	G	M	J_{min}	
m	25.00	8.00	2.00	6.50	13.00	18.50	4.50	4.20	M4	M2	8.00	XXXXX 08CK ^{1,2}
	40.00	10.00	2.50	10.00	17.00	24.50	5.00	4.70	M6	M3	11.00	XXXXX 10CK
	50.00	12.00	5.50	14.00	20.00	28.00	6.00	5.70	M6	M3	12.00	XXXXX 12CK
	55.00	14.00	5.50	16.00	23.50	33.00	6.00	7.20	M8	M3	13.00	XXXXX 14CK
	70.00	20.00	6.50	14.00	20.00	27.50	6.00	11.20	M8	M3	15.00	345020
	70.00	22.00	6.50	14.00	20.00	28.00	6.00	11.20	M8	M3	15.00	345021*
	70.00	20.00	6.50	14.00	20.00	27.50	6.00	11.20	M8	M3	15.00	345022
	54.00	15.00	3.00	10.00	17.00	23.50	5.00	9.70	M6	M3	11.00	345023
	54.00	18.00	3.00	10.00	17.00	24.00	5.00	9.20	M6	M3	11.00	345024*
	54.00	15.00	3.00	10.00	17.00	23.50	5.00	9.70	M6	M3	11.00	345025

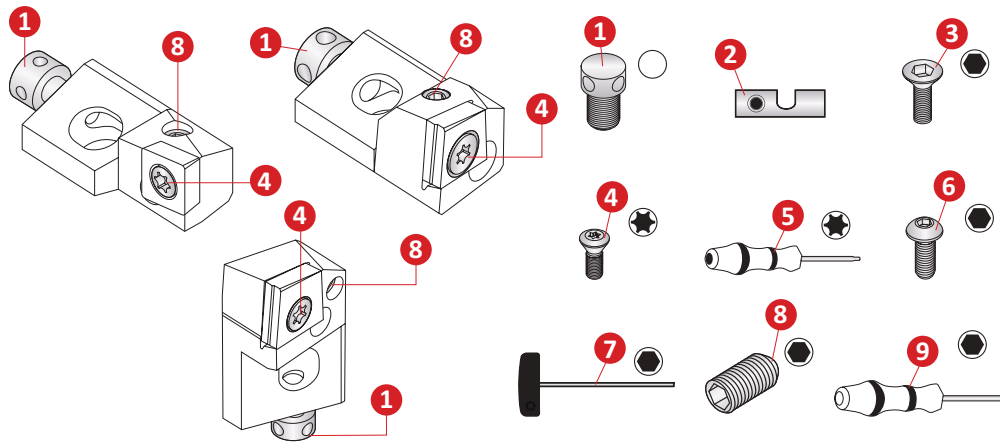
*Radial

1. From D_{min} 25 mm - 32 mm, the short clamp holder is 0.5 mm from the middle.
2. Installation with base plate.

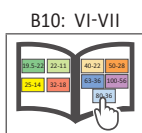
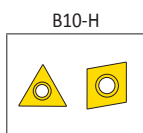
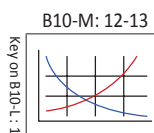


m = Metric (mm)
Inserts sold separately

Compact Lay Down Cartridges Accessories



Insert Holder Part No.	1 Axial Barrel Screw	2 Shim	3 Insert Screw	4 Insert Screw	5 Torx Driver	6 Holder Fixing Screw	7 Hex Driver	8 Radial Set Screw	9 Hex Driver
345001	215742	345201	215461	115676	115590	215343	415577	114224	215472
345002	415299	345202	116433	115673	115664	215634	415164	070161	215473
345003	215250	345203	116433	415298	215150	215431	415164	215467	115575
345004	215265	345204	116433	215149	215150	315476	415165	215467	115575
345005	415299	345216	116433	115673	115664	215634	415164	070161	215473
345006	415299	345218	116433	115673	115664	215634	415164	070161	215473
345007	415299	345208	116433	115673	115664	215634	415164	070161	215473
345008	415299	345208	116433	115673	115664	215634	415164	070161	215473
345009	415299	345202	116433	115673	115664	215634	415164	070161	215473
345010	215742	345211	215461	115676	115590	215343	415577	114224	215472
345011	215742	345211	215461	115676	115590	215343	415577	114224	215472
345012	215742	345213	215461	115676	115590	215343	415577	114224	215472
345013	215742	345213	215461	115676	115590	215343	415577	114224	215472
345014	215742	345201	215461	115676	115590	215343	415577	114224	215472
345015	415299	345215	116433	115673	115664	215634	415164	070161	215473
345016	415299	345216	116433	115673	115664	215634	415164	070161	215473
345017	415299	345218	116433	115673	115664	215634	415164	070161	215473
345018	415299	345218	116433	115673	115664	215634	415164	070161	215473
345019	415299	345208	116433	115673	115664	215634	415164	070161	215473
345020	215250	345220	116433	415949	215150	315476	415165	215467	115575
345021	215250	345221	116433	415949	215150	315476	415165	215104	115575
345022	215250	345222	116433	415949	215150	315476	415165	215467	115575
345023	415299	345223	116433	415977	115664	215634	415164	415280	215473
345024	415299	345224	116433	415977	115664	215634	415164	070161	215473
345025	415299	345225	116433	415977	115664	215634	415164	415280	215473



m = Metric (mm)
Inserts sold separately

Guaranteed Test / Demo Application Form

Distributor PO #	
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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
Rigidity: _____	Orientation: _____	Tool Rotating: _____
<input type="checkbox"/> Excellent	<input type="checkbox"/> Vertical	<input type="checkbox"/> Yes
<input type="checkbox"/> Good	<input type="checkbox"/> Horizontal	<input type="checkbox"/> No
<input type="checkbox"/> Poor		Thrust: _____ lbs/N

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

engineering.eu@alliedmachine.com

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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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