

Digital 511 (510) Product Overview



Digital 511 (510) VERSATILE FINE BORING

Improve your boring job with the Digital 511 (510) boring head.

The Wohlhaupter® Digital 511 (510) boring head offers precision, quality, and efficiency. Our integrated digital display makes the 511 (510) the smallest precision boring tool available and allows for easy optoelectronic adjusting.

Experience *precision boring* for yourself.

- Diameter range: 0.016" - 1.339" (0.40 mm - 12.00 mm)
- Easy-to-read digital display
- Coolant through
- External counterweight for balancing
- Protected against coolant and dust according to IP65
- Fine adjustments of 0.0001" (0.002 mm)
- Ideal for CAT40, BT30, HSK40
- 511001 (510001) max spindle speed: 35,000 RPM
- 511021 max spindle speed: 30,000 RPM



NOTE: Imperial item pictured

NOTE: Adjustment accuracy of 0.0001"
or 0.002 mm on diameter

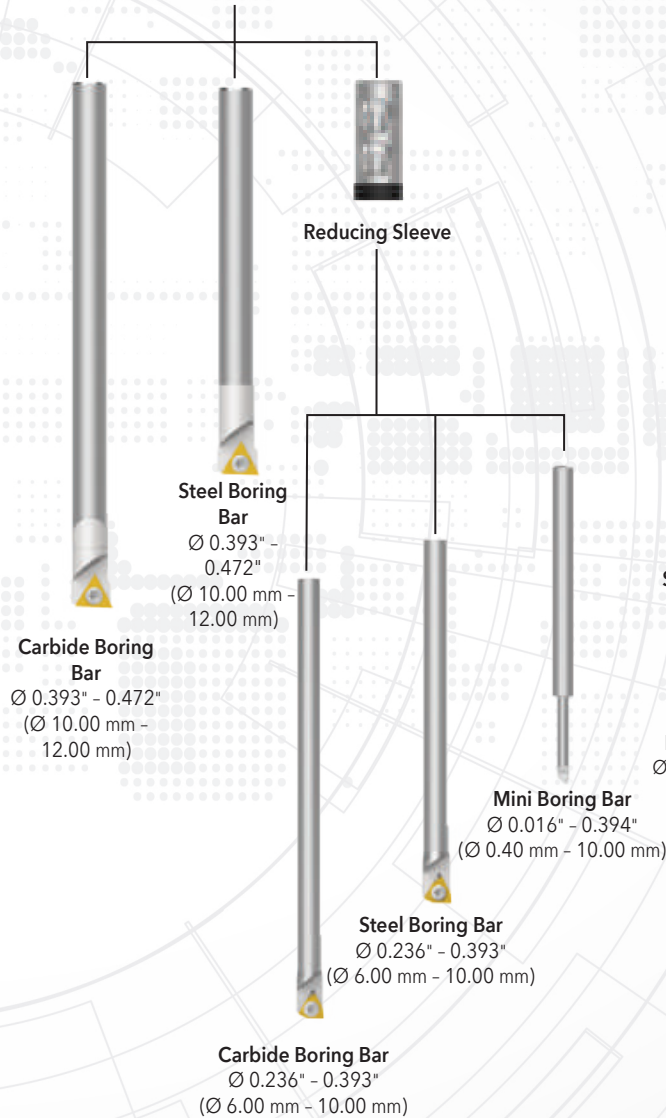
IMPORTANT: Max spindle speed refers to maximum possible speed for an individual boring head and is not a recommended parameter. Refer to page B10-M: 12 for recommended application-specific parameters. Factory technical assistance is available for your specific applications through our Application Engineering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

DIGITAL



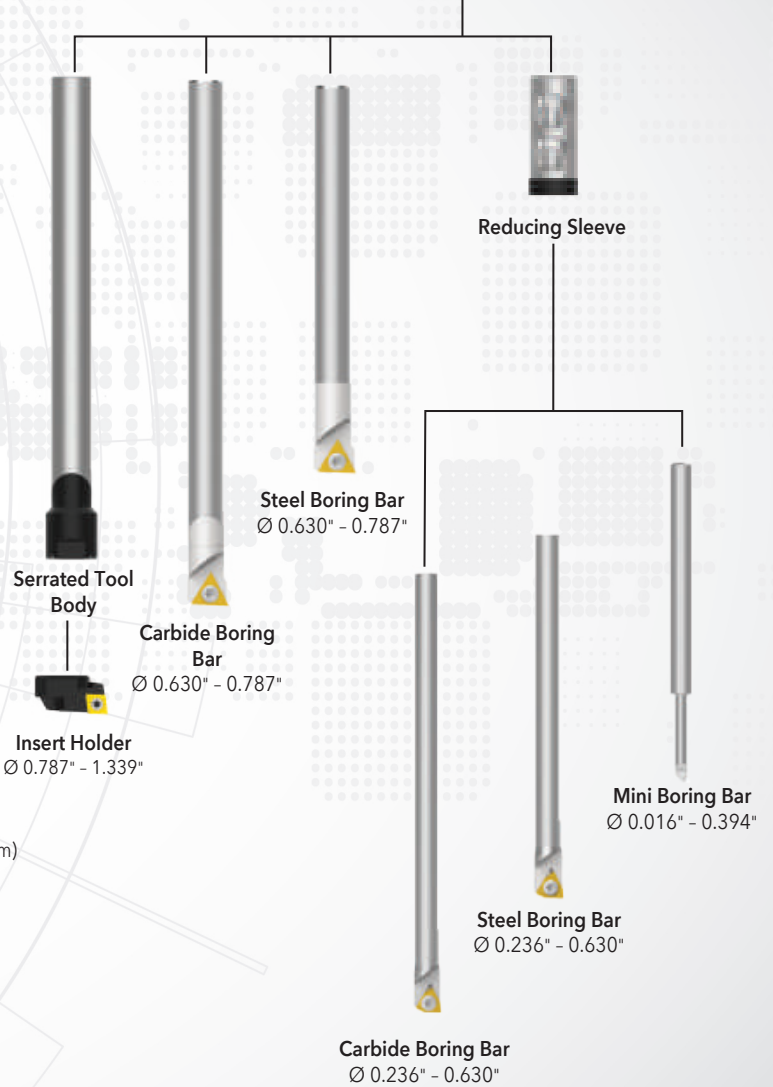
NOTE: Imperial item pictured
NOTE: Adjustment accuracy of 0.0001" or 0.002 mm on diameter

Digital 511001 (510001) Boring Head
Ø 0.016" - 0.472" (0.40 mm - 12.00 mm)



NOTE: Imperial item pictured
NOTE: Adjustment accuracy of 0.0001" or 0.002 mm on diameter

Digital 511021 Boring Head
Ø 0.016" - 1.339"

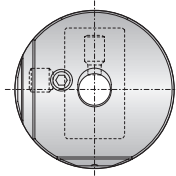


OPERATION **VERSATILITY**

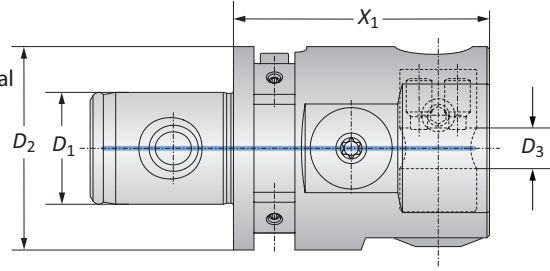
from **0.016"** to **1.339"** (0.40 mm to 12.00 mm)

Boring Heads

Diameter Range: 0.016" - 1.339" (0.40 mm - 12.00 mm)



Fine Radial Stroke
+1.1 mm
-0.1 mm



NOTE: Imperial item pictured

NOTE: Adjustment accuracy of 0.0001" or 0.002 mm on diameter

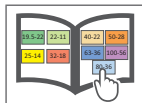
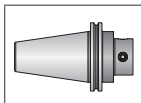
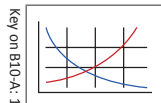
Boring Heads

	MVS Connection	Boring Range	Boring Head		Weight	Part No.
	D_2 D_1		D_3	X_1		
i	40 - 22	0.016 - 0.472	0.315	1.969	0.926 (lbs)	511001
	50 - 28	0.016 - 1.339	0.551	2.165	1.565 (lbs)	511021
m	40 - 22	0.40 - 12.00	8.00	50.00	0.42 (kg)	510001

B10-M: 12-15

B10-F

B10: vi-vii

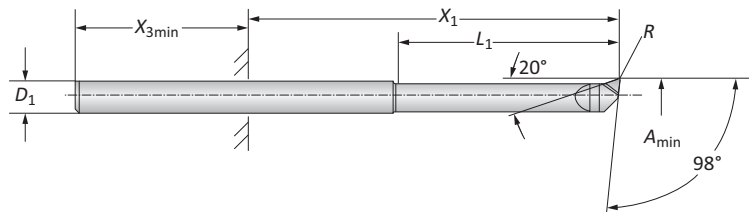


i = Imperial (in)
m = Metric (mm)

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

Mini Boring Bars

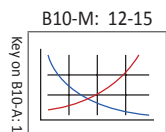
Diameter Range: 0.016" - 0.197" (0.40 mm - 5.00 mm)



Mini Boring Bars

Boring Head	Boring Range	Boring Bar					Part No.	
		A_{min}	D_1	X_1	$X_{3\ min}$	L_1		R
i	511001	0.016	0.157*	0.118 - 1.042	0.630	0.079	0.001	081401WHC126
		0.024	0.157*	0.157 - 1.063	0.630	0.118	0.002	081402WHC126
		0.031	0.157*	0.197 - 1.102	0.630	0.157	0.002	081403WHC126
		0.039	0.157*	0.236 - 1.142	0.630	0.197	0.002	081404WHC126
		0.059	0.157*	0.335 - 1.220	0.630	0.295	0.002	081405WHC126
		0.079	0.157*	0.433 - 1.339	0.630	0.394	0.002	081406WHC126
		0.098	0.157*	0.531 - 1.437	0.630	0.492	0.002	081407WHC126
		0.110	0.157*	0.591 - 1.496	0.630	0.551	0.003	081408WHC126
i	511021	0.016	0.157*	0.118 - 0.669	0.980	0.079	0.001	081401WHC126
		0.024	0.157*	0.157 - 0.709	0.980	0.118	0.002	081402WHC126
		0.031	0.157*	0.197 - 0.748	0.980	0.157	0.002	081403WHC126
		0.039	0.157*	0.236 - 0.787	0.980	0.197	0.002	081404WHC126
		0.059	0.157*	0.335 - 0.886	0.980	0.295	0.002	081405WHC126
		0.079	0.157*	0.433 - 0.984	0.980	0.394	0.002	081406WHC126
		0.098	0.157*	0.531 - 1.083	0.980	0.492	0.002	081407WHC126
		0.110	0.157*	0.591 - 1.142	0.980	0.551	0.003	081408WHC126
m	510001	0.40	4.00*	3.00 - 26.00	16.00	2.00	0.03	081401WHC126
		0.60	4.00*	4.00 - 27.00	16.00	3.00	0.04	081402WHC126
		0.80	4.00*	5.00 - 28.00	16.00	4.00	0.04	081403WHC126
		1.00	4.00*	6.00 - 29.00	16.00	5.00	0.05	081404WHC126
		1.50	4.00*	8.50 - 31.50	16.00	7.50	0.05	081405WHC126
		2.00	4.00*	11.00 - 34.00	16.00	10.00	0.05	081406WHC126
		2.50	4.00*	13.50 - 36.50	16.00	12.50	0.05	081407WHC126
		2.80	4.00*	15.00 - 38.00	16.00	14.00	0.07	081408WHC126

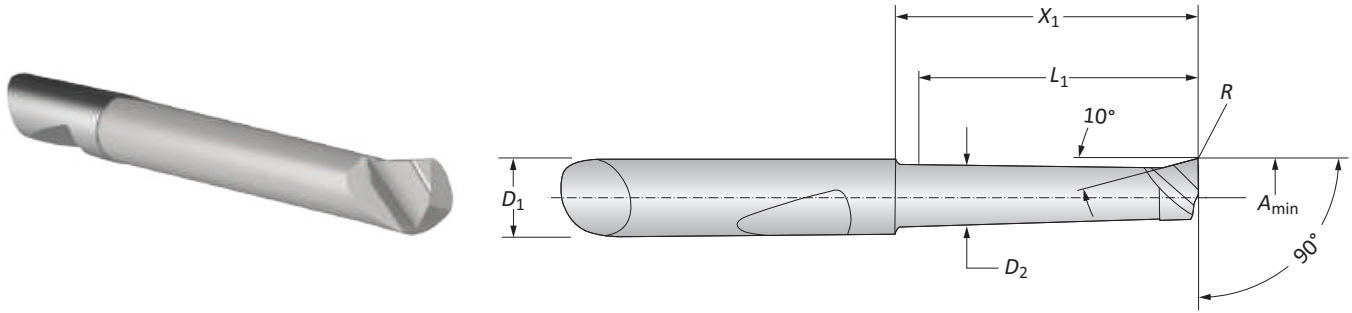
*Fixture-through reducing sleeve required (B10-A: 50)



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

Mini Boring Bars

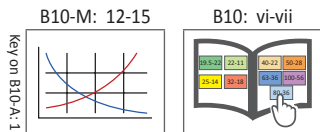
WHC05 | WHW04 | WBN150 | Diameter Range: 0.118" - 0.394" (3.00 mm - 10.00 mm)



Boring Range	Boring Bar						Part No.		
	A_{min}	D_1	D_2	X_1	L_1	R	Coated Carbide	Uncoated Carbide	CBN
	0.118	0.236*	0.102	0.452	0.393	0.003	081306WHC05	-	081322WBN150
	0.118	0.236*	0.102	0.649	0.590	0.003	081307WHC05	081307WHW04	-
	0.157	0.236*	0.141	0.472	0.393	0.007	081308WHC05	-	081317WBN150
	0.157	0.236*	0.141	0.669	0.590	0.007	081309WHC05	-	081341WBN150
	0.157	0.236*	0.141	0.866	0.787	0.007	081310WHC05	081310WHW04	-
	0.196	0.236*	0.181	0.472	0.393	0.007	081311WHC05	-	081318WBN150
i	0.196	0.236*	0.181	0.866	0.787	0.007	081312WHC05	-	081319WBN150
	0.196	0.236*	0.181	1.259	1.181	0.007	081313WHC05	081313WHW04	-
	0.236	0.236*	0.220	0.866	0.787	0.007	081314WHC05	-	081320WBN150
	0.236	0.236*	0.220	1.259	1.181	0.007	081315WHC05	-	081321WBN150
	0.236	0.236*	0.220	1.653	1.574	0.007	081316WHC05	081316WHW04	-
	0.315	0.315**	0.229	0.984	0.905	0.007	081323WHC05	-	-
	0.315	0.315**	0.229	1.968	1.889	0.007	081324WHC05	-	-
	3.00	6.00*	2.60	11.50	10.00	0.10	081306WHC05	-	081322WBN150
	3.00	6.00*	2.60	16.50	15.00	0.10	081307WHC05	081307WHW04	-
	4.00	6.00*	3.60	12.00	10.00	0.20	081308WHC05	-	081317WBN150
	4.00	6.00*	3.60	17.00	15.00	0.20	081309WHC05	-	081341WBN150
	4.00	6.00*	3.60	22.00	20.00	0.20	081310WHC05	081310WHW04	-
	5.00	6.00*	4.60	12.00	10.00	0.20	081311WHC05	-	081318WBN150
m	5.00	6.00*	4.60	22.00	20.00	0.20	081312WHC05	-	081319WBN150
	5.00	6.00*	4.60	32.00	30.00	0.20	081313WHC05	081313WHW04	-
	6.00	6.00*	5.60	22.00	20.00	0.20	081314WHC05	-	081320WBN150
	6.00	6.00*	5.60	32.00	30.00	0.20	081315WHC05	-	081321WBN150
	6.00	6.00*	5.60	42.00	40.00	0.20	081316WHC05	081316WHW04	-
	8.00	8.00**	7.60	25.00	23.00	0.20	081323WHC05	-	-
	8.00	8.00**	7.60	50.00	48.00	0.20	081324WHC05	-	-

*Fixture-through reducing sleeve required (B10-A: 58)

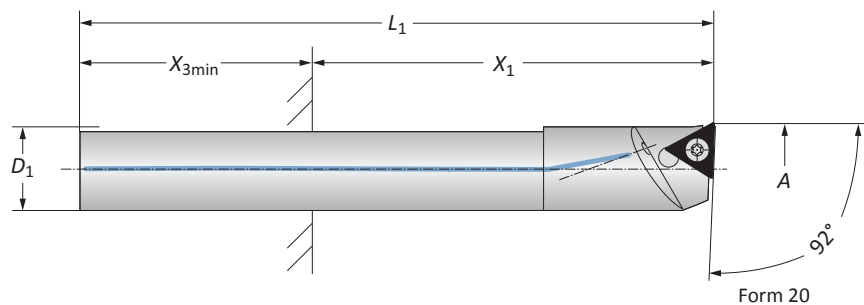
**For 511021 fixture-through reducing sleeve required



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

Boring Bars

Steel | Diameter Range: 0.236" - 0.787" (6.00 mm - 12.00 mm)



Form 101

Form 20

Boring Head	Boring Range	Boring Bar				Weight	Part No.			
		A	D ₁	X ₁	X _{3 min}		L ₁	Insert Form	Boring Bar	Insert Form
511001	0.236 - 0.315	0.197*	0.492 - 0.984	0.63	2.756	0.022 (lbs)	211**	514032	-	-
	0.315 - 0.394	0.276*	0.689 - 1.378	0.63	3.189	0.044 (lbs)	211**	514033	-	-
	0.394 - 0.472	0.315	0.787 - 1.575	0.748	3.346	0.066 (lbs)	101	514003	20**	514004
511021	0.236 - 0.315	0.197*	0.492 - 0.984	0.984	2.756	0.022 (lbs)	211**	514032	-	-
	0.315 - 0.394	0.276*	0.689 - 1.378	0.984	3.189	0.044 (lbs)	211**	514033	-	-
	0.394 - 0.472	0.315*	0.787 - 1.575	0.984	3.346	0.066 (lbs)	101	514003	20**	514004
	0.472 - 0.551	0.394*	0.984 - 1.969	0.984	3.937	0.110 (lbs)	101	514005	20**	514006
	0.551 - 0.630	0.472*	1.181 - 2.362	1.181	4.488	0.198 (lbs)	101	514007	20**	514008
	0.630 - 0.709	0.551	2.205 - 2.756	1.181	4.764	0.287 (lbs)	101	514009	20**	514010
	0.709 - 0.787	0.551	2.205 - 2.756	1.181	4.764	0.287 (lbs)	101	514011	20**	514012
510001	6.00 - 8.00	5.00*	12.50 - 25.00	16.00	70.00	0.01 (kg)	211**	514032	-	-
	8.00 - 10.00	7.00*	17.50 - 35.00	16.00	81.00	0.02 (kg)	211**	514033	-	-
	10.00 - 12.00	8.00	20.00 - 40.00	19.00	85.00	0.03 (kg)	101	514003	20**	514004

*Fixture-through reducing sleeve required (B10-A: 58)

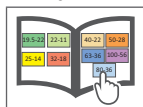
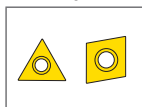
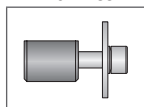
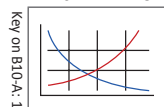
**Not suitable for indexable inserts with a radius of 0.031" (0.8 mm)

B10-M: 12-15

B10-A: 59

B10-H

B10: vi-vii



i = Imperial (in)
m = Metric (mm)
 Inserts sold separately

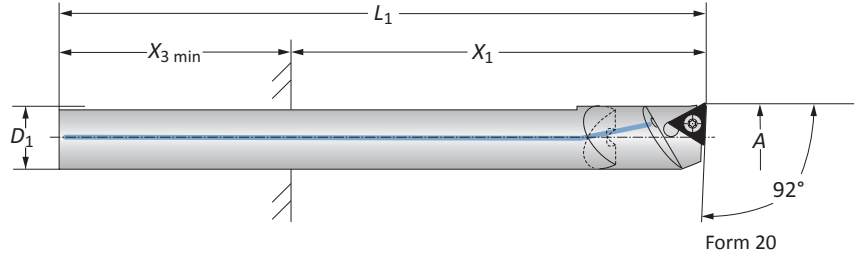
A
B
C
D
E
F
G
H
I
J
K
L
M
INDEX

Boring Bars

Carbide | Diameter Range: 0.236" - 0.787" (6.00 mm - 12.00 mm)



Form 101



Form 20

Boring Head	Boring Range	Boring Bar					Weight	Part No.			
		A	D ₁	X ₁	X _{3 min}	L ₁		Insert Form	Boring Bar	Insert Form	Boring Bar
511001	0.236 - 0.315	0.197*	0.492 - 1.575	0.63	3.543	0.044 (lbs)	211**	514034	-	-	
	0.315 - 0.394	0.276*	0.827 - 2.205	0.63	4.291	0.110 (lbs)	211**	514035	-	-	
	0.394 - 0.472	0.315	0.866 - 2.520	0.748	4.606	0.154 (lbs)	101	514015	20**	514016	
511021	0.236 - 0.315	0.197*	0.492 - 1.575	0.984	3.543	0.044 (lbs)	211**	514034	-	-	
	0.315 - 0.394	0.276*	0.827 - 2.205	0.984	4.291	0.110 (lbs)	211**	514035	-	-	
	0.394 - 0.472	0.315*	0.866 - 2.520	0.984	4.606	0.154 (lbs)	101	514015	20**	514016	
	0.472 - 0.551	0.394*	2.008 - 3.150	1.181	5.512	0.287 (lbs)	101	514017	20**	514018	
	0.551 - 0.630	0.472*	2.677 - 3.780	1.181	6.378	0.485 (lbs)	101	514019	20**	514020	
	0.630 - 0.709	0.551	3.031 - 4.409	1.181	5.591	0.573 (lbs)	101	514021	20**	514022	
	0.630 - 0.709	0.551	4.409 - 5.787	1.181	6.969	0.728 (lbs)	101	514023	20**	514024	
	0.709 - 0.787	0.551	3.031 - 4.409	1.181	5.591	0.573 (lbs)	101	514025	20**	514026	
0.709 - 0.787	0.551	4.409 - 5.787	1.181	6.969	0.728 (lbs)	101	514027	20**	514028		
510001	6.00 - 8.00	5.00*	12.50 - 40.00	16.00	90.00	0.02 (kg)	211**	514034	-	-	
	8.00 - 10.00	7.00*	21.00 - 56.00	16.00	109.00	0.05 (kg)	211**	514035	-	-	
	10.00 - 12.00	8.00	22.00 - 64.00	19.00	117.00	0.07 (kg)	101	514015	20**	514016	

*Fixture-through reducing sleeve required (B10-A: 58)

**Not suitable for indexable inserts with a radius of 0.031" (0.80 mm)

B10-M: 12-15

B10-A: 59

B10-H

B10: vi-vii

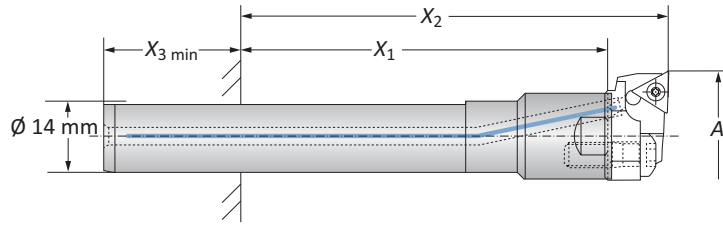
Key on B10-A: 1

i = Imperial (in)
m = Metric (mm)
Inserts sold separately

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

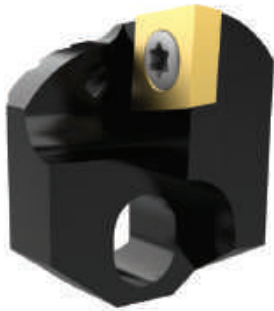
Serrated Tool Bodies | Insert Holders

Diameter Range: 0.787" - 1.339"

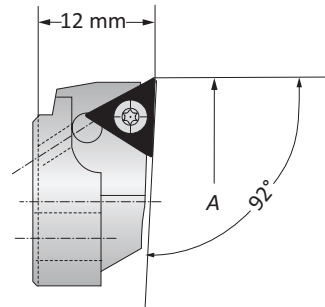


Serrated Tool Bodies

	Substrate	Boring Range	Serrated Tool Body			Weight	Part No.
		A	X ₁	X ₂	X _{3 min}		
i	Steel	0.787 - 1.339	1.457 - 2.835	1.929 - 3.307	1.181	0.287 (lbs)	514029
	Carbide	0.787 - 1.339	2.550 - 3.937	3.031 - 4.409	1.181	0.551 (lbs)	514030
	Carbide	0.787 - 1.339	3.937 - 5.315	4.409 - 5.787	1.181	0.728 (lbs)	514031



Form 101



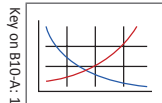
Form 20

Insert Holders

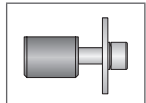
	Boring Range		Insert Form	Part No.	Insert Form	Part No.
	A	Weight				
i	0.787 - 0.866	0.022 (lbs)	101	502052	20*	502046
	0.866 - 0.945	0.022 (lbs)	101	502053	20*	502047
	0.945 - 1.024	0.022 (lbs)	101	502054	20*	502048
	1.024 - 1.102	0.022 (lbs)	101	502055	20*	502049
	1.102 - 1.181	0.022 (lbs)	101	502056	20*	502050
	1.181 - 1.260	0.022 (lbs)	101	502057	20*	502051

*Not suitable for indexable inserts with a radius of 0.031" (0.80 mm)

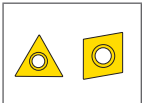
B10-M: 12-15



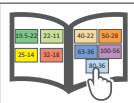
B10-A: 59



B10-H



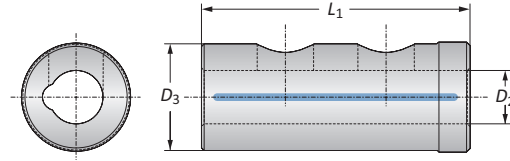
B10: vi-vii



i = Imperial (in)
m = Metric (mm)
Inserts sold separately

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

Reducing Sleeves



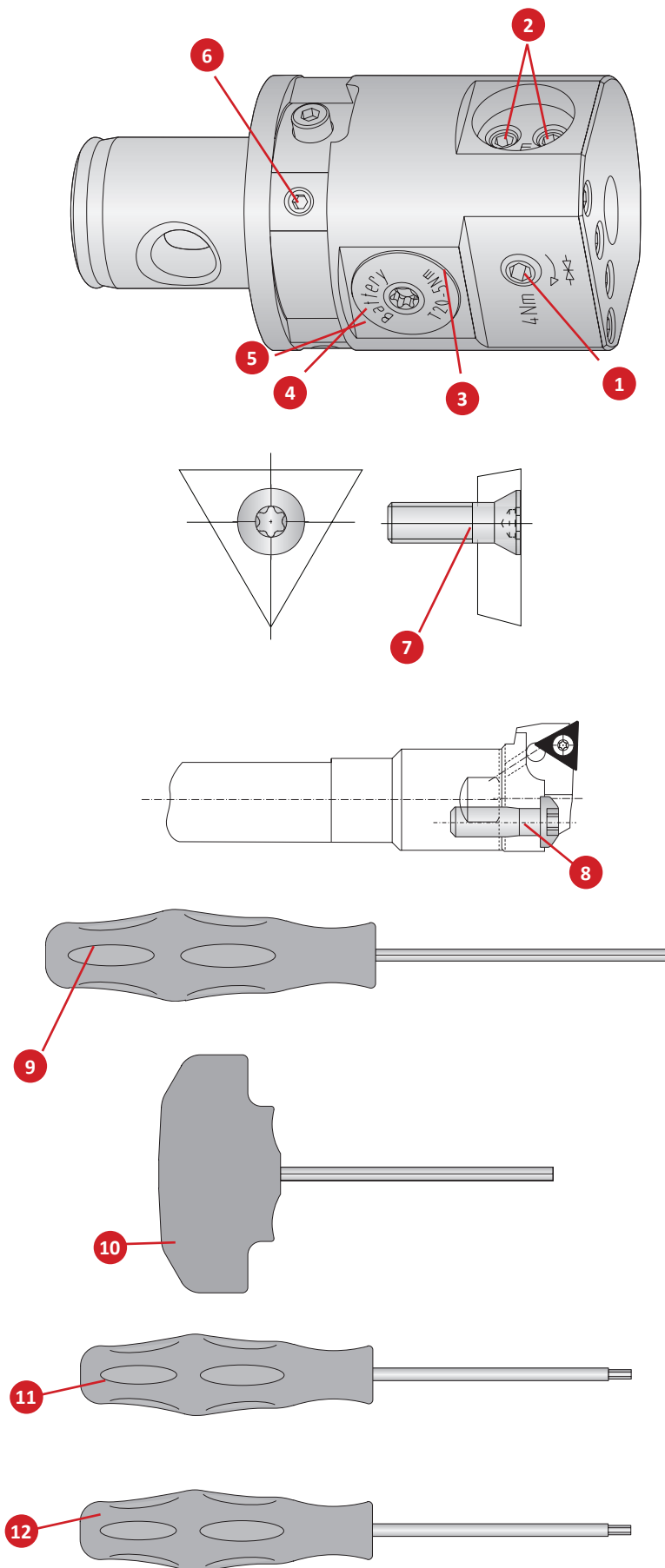
Metric Reducing Sleeves

Reducing Sleeve				Part No.
D_3	D_2	L_1		
8.00	4.00	20.00	514201	
8.00	5.00	20.00	514202	
8.00	6.00	20.00	514210	
8.00	7.00	20.00	514203	
14.00	4.00	32.00	514204	
14.00	5.00	32.00	514205	
14.00	6.00	32.00	514211	
14.00	7.00	32.00	514206	
14.00	8.00	32.00	514207	
14.00	10.00	32.00	514208	
14.00	12.00	32.00	514209	

Boring Head Accessories

No.	Part	Insert Form	Size	Part No.	
				511001 (510001)	511021
1	Clamping screw	-	-	115985	315943
2	Thread pin for tool clamping	-	-	070333	115181
3	Sealing ring for battery cover	-	-	415895	415895
4	Battery*	-	-	415896	415896
5	Battery cover with sealing ring	-	-	501016	501016
6	Thread pin	-	-	510114	510114
7	Insert screws	Form 20	T7	115535	115535
		Form 101	T8	115676	115676
		Form 211	T6	515286	515286
8	Clamping Screw	-	T25	-	415112
9	Hex wrench	-	s2	215473	215473
10	Hex wrench	-	s2.5	415577	415577
		-	s3.0	415578	415578
		-	s4.0	115576	115576
11	Torx driver	-	T6	115537	115537
		-	T7	115591	115591
		-	T8	115590	115590
		-	T20	215150	215150
12	Torx screw-driver	Form 211	T6	415507	415507
		Form 20	T7	415508	415508
		Form 101	T8	415514	415514

*Always change two batteries
NOTE: Please use VARTA batteries



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