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Standard Boring Bars

with boring units for roughing & finishing

Product Range:

ANSI (B5-50) CAT

ISO 7388 (DIN 69871)

BT (MAS 403)

DIN 2080

NMTB

Straight Shank

Weldon

Parallel



RIGIBORE® Innovation Technology and Quality in **Design and Manufacture**

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Welcome to Rigibore®

Manufacturers of high quality tooling for precision hole boring

Rigibore’s use of technology in manufacturing means we deliver our products, even complex multi-edge cutting tools, quicker than the competition.

We pride ourselves on our enquiry response time, our attention to detail, product quality and our commitment to customer satisfaction.

Our bespoke design and manufacturing system delivers high quality boring tools in the shortest delivery times.

Rigibore® is an award winning company recognised for its use of technology and commitment to customer focus.

Innovation, technology and quality in design and manufacture

What our customers say about us...

- “Rigibore’s quality and on-time delivery performance is outstanding and considered to be Best-in-Class.”
- “The product, coupled with their knowledge of difficult boring applications has proven to be the perfect partner for a world class metalworking solutions provider.”
- “Rigibore® has customised their software and manufacturing services to fit our every need (and more importantly our customer’s needs). Their flexibility is unparalleled.”

Experience Matters

Our design experience guarantees that we can offer you the best tool solution for your boring application



Hayle, UK

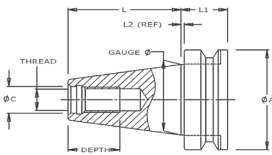


Mukwonago, USA

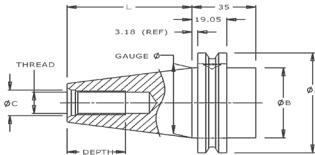


Bangalore, India

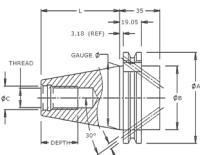
TOOL SHANK DIMENSIONS
for Rigibore® Boring Bars



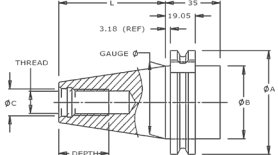
Taper	Ø A	Ø B	Ø C	Ø GAUGE	L	L1	L2	THREAD	DEPTH
BT-MAS403	mm	mm	mm	mm	mm	mm	mm		mm
BT40	63.00	N/A	17.00	44.45	65.40	27.00	2.0	M16-2.0	30.0
BT50	100.00	N/A	25.40	69.85	101.60	38.00	3.0	M24-3.0	47.0



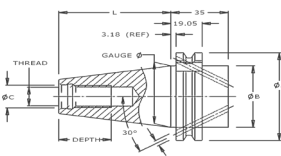
Taper	Ø A	Ø B	Ø C	Ø GAUGE	L	THREAD	DEPTH	THREAD	DEPTH
DIN 69871 / ISO 7388	mm	mm	mm	mm	mm				mm
7388-40	63.50	44.45	17.00	44.45	68.25	M16-2.0	32.0	M16-2.0	30.0
7388-50	97.45	70.00	25.00	69.85	101.60	M24-3.0	47.0	M24-3.0	47.0



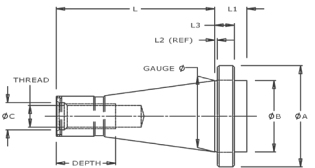
Taper	Ø A	Ø B	Ø C	Ø D	Ø GAUGE	L	THREAD	DEPTH	DEPTH
DIN 69871B / ISO 7388 FORM B	mm	mm	mm	mm	mm	mm	mm		mm
7388-40	63.50	44.45	17.00	4.20	44.45	68.25	M16-2.0	32	30.0
7388-50	97.45	70.00	25.00	5.00	69.85	101.60	M24-3.0	47	47.0



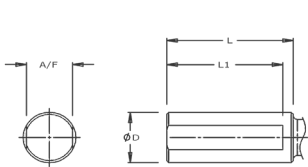
Taper	Ø A	Ø B	Ø C	Ø GAUGE	L	THREAD	DEPTH
CATERPILLAR (Imperial Thread)	mm	mm	mm	mm	mm	mm	mm
CAT40	63.50	44.45	16.40	44.45	68.25	5/8-11	32.0
CAT50	98.42	70.00	25.40	69.85	101.60	1.0-8	47.0



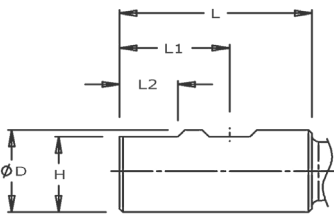
Taper	Ø A	Ø B	Ø C	Ø GAUGE	L	L1	L2	L3	THREAD	DEPTH
ISO/DIN2080 (Metric Thread)										
2080-40	63.50	44.45	17.00	44.45	93.30	19.00	1.6	11.70	M16-2.0	35.00
2080-50	97.40	70.00	26.10	69.85	126.70	30.20	3.2	12.00	M24-3.0	47.00



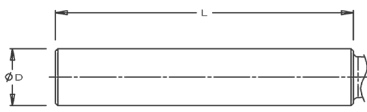
Taper	Ø A	Ø B	Ø C	Ø GAUGE	L	L1	L2	L3	THREAD	DEPTH
NMTB (ANSI B5-18 STANDARD)										
NMTB-40	63.50	44.45	17.00	44.45	93.30	19.00	1.60	11.70	5/8-11	35.00
NMTB-50	97.40	70.00	26.10	69.85	126.70	30.20	3.20	12.00	1.0-8	47.00



Taper	SIZE	Ø D (g6)	L
STRAIGHT SHANK	25SS	25	125
	32SS	32	125
	40SS	40	125
	50SS	50	125



Taper	SIZE	Ø D (g6)	L ± 1	L1 ± 0.5	L2 ± 1	H
WELDON	W25SS	25	56	32	17	23
	W32SS	32	60	36	19	30
	W40SS	40	70	40	19	38
	W50SS	50	80	45	23	47.8

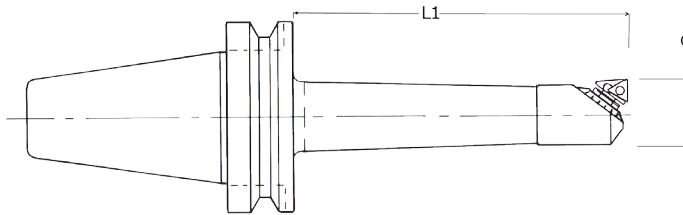


Taper	SIZE	Ø D (g6)	L	L1 ± 0.5	A/F
MBX	25	25	60	55	22
	32	32	60	55	29.5
	40	40	70	65	37
	50	50	80	75	47

STANDARD BORING BARS
TYPE BT (MAS 403)

with standard R unit for
roughing & semi-finishing

BT40



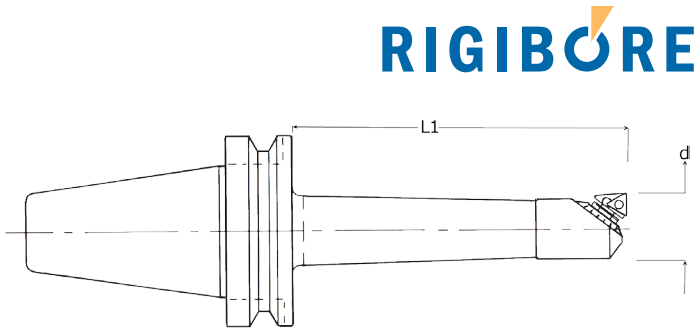
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert	
mm	ins	mm	ins		90°	75°	95°		
15.875-17.40	.625-.685	83	3.268	BT40-1535	R2B2S			TC__06T1__	
16.67-18.25	.656-.718			BT40-1536	R2B2S				
17.40-19.00	.685-.748			BT40-1537	R2B2S				
19.00-23.00	.748-.905	87	3.425	BT40-154	R2B2	R2B2L			
23.00-27.00	.905-1.062								
23.00-31.00	.905-2.200								
24.00-32.00	.945-1.260	107	4.212	BT40-155	R3B1	R3B2L	R3B295	CC__0602__	
27.00-35.00	1.062-1.378				R3B2			TC__0902__	
28.00-42.00	1.103-1.654				R3A2C			CC__0602__	
31.00-45.00	1.220-1.771	117	4.606	BT40-156	R3A2	R3A2L	R3A295	TC__0902__	
28.00-42.00	1.103-1.654				R3A2C	CC__0602__			
31.00-45.00	1.220-1.771				R3A2	R3A2L	R3A295	TC__0902__	
37.50-48.70	1.476-1.917	116	4.567	BT40-158	R5B2C	R5B2L	R5B295	CC__0602__	
38.00-49.20	1.496-1.937				R5B2			TC__1102__	
37.50-48.70	1.476-1.917				173			6.811	BT40-159
38.00-49.20	1.496-1.937	R5B2	TC__1102__						
46.50-67.80	1.831-2.673	116	4.567	BT40-160		R5A2C	R5A2L		
47.00-68.30	1.850-2.689				R5A2	R5A295		TC__1102__	
46.50-67.80	1.831-2.673				186	7.323		BT40-161	R5A2C
47.00-68.30		R5A2	R5A295	TC__1102__					
46.50-67.80		1.850-2.689							
60.50-86.10	2.375-3.383	128	5.039	BT40-163	R7A2C		R7A295C	CC__09T3__	
					R7A2	R7A2L	R7A295	TC__16T3__	
		185	7.283	BT40-164	R7A2C		R7A295C	CC__09T3__	
					R7A2	R7A2L	R7A295	TC__16T3__	
79.50-105.10	3.130-4.138	119	4.685	BT40-167	R7A2C		R7A295C	CC__09T3__	
					R7A2	R7A2L	R7A295	TC__16T3__	
		199	7.835	BT40-168	R7A2C		R7A295C	CC__09T3__	
					R7A2	R7A2L	R7A295	TC__16T3__	
96.00-142.00	3.780-5.590	118	4.645	BT40-170	R10A2C		R10A295C	CC__1204__	
					R10A2	R10A2L	R10A295	TC__16T3__	

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE BT (MAS 403)

with standard R unit for
roughing & semi-finishing

BT50



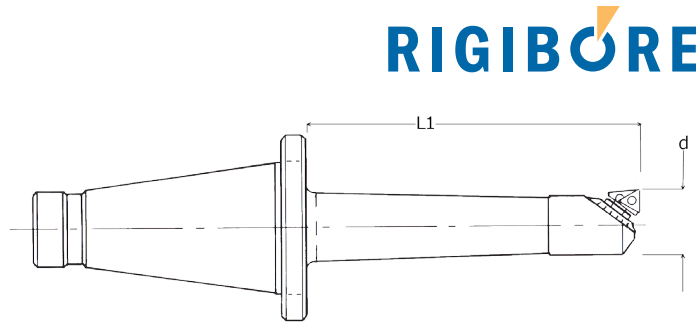
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
15.875-17.40	.625-.685	83	3.268	BT50-1535	R2B2S			TC__06T1__
16.67-18.25	.656-.718			BT50-1536				
17.40-19.00	.685-.748			BT50-1537				
19.00-23.00	.748-.905	87	3.425	BT50-154	R2B2	R2B2L		
23.00-27.00	.905-1.062							
23.00-31.00	.905-1.220				R3B1			
24.00-32.00	.945-1.260	107	4.212	BT50-155	R3B2C	R3B2L	R3B29S	CC__0602__
27.00-35.00	1.062-1.378				R3B2			TC__0902__
28.00-42.00	1.103-1.654				R3A2C			CC__0602__
31.00-45.00	1.220-1.771	117	4.606	BT50-156	R3A2	R3A2L	R3A29S	TC__0902__
28.00-42.00	1.103-1.654				R3A2C			CC__0602__
31.00-45.00	1.220-1.771				R3A2			TC__0902__
37.50-48.70	1.476-1.917	116	4.567	BT50-157	R3A2C	R3A2L	R3A29S	CC__0602__
38.00-49.20	1.496-1.937				R5B2C			CC__0602__
37.50-48.70	1.476-1.917				R5B2			TC__1102__
38.00-49.20	1.496-1.937	173	6.811	BT50-158		R5B2L		
37.50-48.70	1.476-1.917				R5B2C			
38.00-49.20	1.496-1.937				R5B2			
46.50-67.80	1.831-2.673	116	4.567	BT50-159		R5B2L		
47.00-68.30	1.850-2.689				R5B2C			
46.50-67.80	1.831-2.673				R5B2			
47.00-68.30	1.850-2.689	186	7.323	BT50-160		R5B2L		
46.50-67.80	1.831-2.673				R5A2C			
47.00-68.30	1.850-2.689				R5A2			
46.50-67.80	1.831-2.673	208	8.187	BT50-161		R5A2L		
47.00-68.30	1.850-2.689				R5A2C			
46.50-67.80	1.831-2.673				R5A2			
47.00-68.30	1.850-2.689	128	5.039	BT50-162		R5A2L		
46.50-67.80	1.831-2.673				R5A2C			
47.00-68.30	1.850-2.689				R5A2			
60.50-86.10	2.375-3.383	128	5.039	BT50-163		R7A2L		
60.50-86.10	2.375-3.383				R7A2C			
60.50-86.10	2.375-3.383				R7A2			
60.50-86.10	2.375-3.383	185	7.283	BT50-164		R7A2L		
60.50-86.10	2.375-3.383				R7A2C			
60.50-86.10	2.375-3.383				R7A2			
60.50-86.10	2.375-3.383	280	11.025	BT50-165		R7A2L		
60.50-86.10	2.375-3.383				R7A2C			
60.50-86.10	2.375-3.383				R7A2			
79.50-105.10	3.130-4.138	119	4.685	BT50-166		R7A2L		
79.50-105.10	3.130-4.138				R7A2C			
79.50-105.10	3.130-4.138				R7A2			
79.50-105.10	3.130-4.138	199	7.835	BT50-167		R7A2L		
79.50-105.10	3.130-4.138				R7A2C			
79.50-105.10	3.130-4.138				R7A2			
79.50-105.10	3.130-4.138	297	11.693	BT50-168		R7A2L		
79.50-105.10	3.130-4.138				R7A2C			
79.50-105.10	3.130-4.138				R7A2			
96.00-142.00	3.780-5.590	118	4.645	BT50-169		R7A2L		
96.00-142.00	3.780-5.590				R7A2C			
96.00-142.00	3.780-5.590				R7A2			
96.00-142.00	3.780-5.590	296	11.653	BT50-170		R10A2L		
96.00-142.00	3.780-5.590				R10A2C			
96.00-142.00	3.780-5.590				R10A2			
96.00-142.00	3.780-5.590	296	11.653	BT50-171		R10A2L		
96.00-142.00	3.780-5.590				R10A2C			
96.00-142.00	3.780-5.590				R10A2			

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE DIN2080

with standard R unit for
roughing & semi-finishing

2080-40

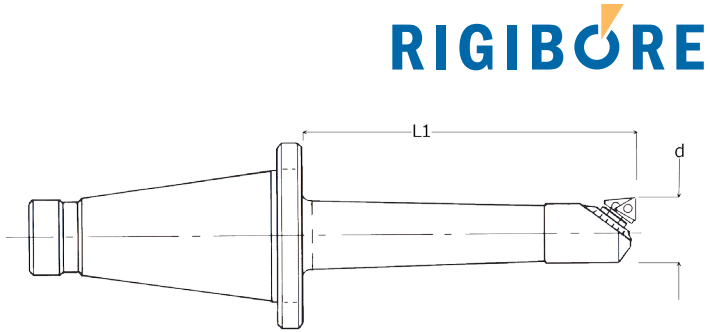


Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert		
mm	ins	mm	ins		90°	75°	95°			
15.875-17.40	.625-.685	83	3.268	2080-40-1535	R2B2S			TC__06T1__		
16.67-18.25	.656-.718			2080-40-1536						
17.40-19.00	.685-.748			2080-40-1537						
19.00-23.00	.748-.905	87	3.425	2080-40-154	R2B2	R2B2L				
23.00-27.00	.905-1.062									
23.00-31.00	.905-1.220			R3B1						
24.00-32.00	.945-1.260	107	4.212	2080-40-155	R3B2C	R3B2L	R3B295	CC__0602__		
27.00-35.00	1.062-1.378			R3B2	TC__0902__					
28.00-42.00	1.103-1.654			R3A2C	CC__0602__					
31.00-45.00	1.220-1.771	117	4.606	2080-40-156	R3A2	R3A2L	R3A295	TC__0902__		
28.00-42.00	1.103-1.654			R3A2C	CC__0602__					
31.00-45.00	1.220-1.771			R3A2	TC__0902__					
37.50-48.70	1.476-1.917	116	4.567	2080-40-158	R5B2C	R5B2L	R5B295	CC__0602__		
38.00-49.20	1.496-1.937			R5B2	TC__1102__					
37.50-48.70	1.476-1.917			173	6.811			2080-40-159	R5B2C	R5B2L
38.00-49.20	1.496-1.937	R5B2	TC__1102__							
46.50-67.80	1.831-2.673	116	4.567			2080-40-160	R5A2C	R5A2L	R5A295C	
47.00-68.30	1.850-2.689			R5A2	R5A295	TC__1102__				
46.50-67.80	1.831-2.673			186	7.323	2080-40-161	R5A2C		R5A2L	R5A295C
47.00-68.30	1.850-2.689	R5A2	R5A295			TC__1102__				
60.50-86.10	2.375-3.383	128	5.039			2080-40-163	R7A2C	R7A2L		R7A295C
60.50-86.10	2.375-3.383			185	7.283	2080-40-164	R7A2		R7A295	TC__16T3__
						R7A2C	R7A295C		CC__09T3__	
		R7A2	R7A295			TC__16T3__				
79.50-105.10	3.130-4.138	280	11.025	2080-40-165	R7A2C	R7A2L	R7A295C	CC__09T3__		
				R7A2	R7A295		TC__16T3__			
				R7A2C	R7A295C		CC__09T3__			
		119	4.685	2080-40-167	R7A2C	R7A2L	R7A295C	CC__09T3__		
				R7A2	R7A295		TC__16T3__			
				R7A2C	R7A295C		CC__09T3__			
199	7.835	2080-40-168	R7A2	R7A2L	R7A295	TC__16T3__				
		R7A2C	R7A295C		CC__09T3__					
		R7A2	R7A295		TC__16T3__					
96.00-142.00	3.780-5.590	118	4.645	2080-40-170	R10A2C	R10A2L	R10A295C	CC__1204__		
				R10A2	R10A295		TC__16T3__			
		296	11.653	2080-40-171	R10A2C	R10A2L	R10A295C	CC__1204__		
				R10A2	R10A295		TC__16T3__			

STANDARD BORING BARS
TYPE DIN2080

with standard R unit for
roughing & semi-finishing

2080-50



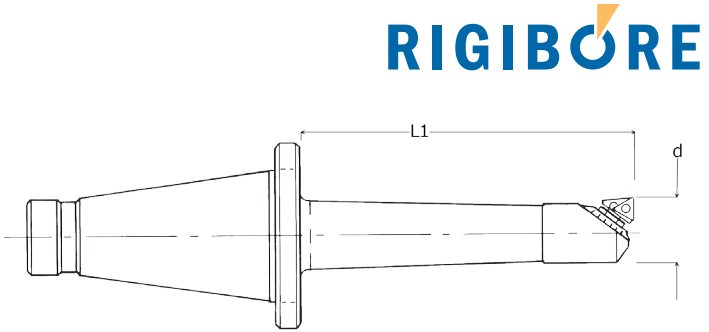
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert	
mm	ins	mm	ins		90°	75°	95°		
15.875-17.40	.625-.685	83	3.268	2080-50-1535	R2B2S			TC__06T1__	
16.67-18.25	.656-.718			2080-50-1536					
17.40-19.00	.685-.748			2080-50-1537					
19.00-23.00	.748-.905	87	3.425	2080-50-154	R2B2	R2B2L			
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220								
24.00-32.00	.945-1.260	107	4.212	2080-50-155	R3B1		R3B295		CC__0602__
27.00-35.00	1.062-1.378			R3B2C	TC__0902__				
28.00-42.00	1.103-1.654			R3B2	CC__0602__				
31.00-45.00	1.220-1.771	117	4.606	2080-50-156	R3A2C	R3A2L	R3A295		TC__0902__
28.00-42.00	1.103-1.654			R3A2	CC__0602__				
31.00-45.00	1.220-1.771			R3A2C	TC__0902__				
37.50-48.70	1.476-1.917	116	4.567	2080-50-157	R3A2	R3A2L	R3A295	TC__0902__	
				R5B2C				CC__0602__	
				R5B2				R5B295	TC__1102__
38.00-49.20	1.496-1.937	173	6.811	2080-50-158		R5B2L		CC__0602__	
37.50-48.70	1.476-1.917			R5B2C	R5B2L	R5A295C		TC__1102__	
38.00-49.20	1.496-1.937			R5B2					
46.50-67.80	1.831-2.673	116	4.567	2080-50-159	R5A2C	R5A2L	R5A295C	CC__0602__	
47.00-68.30	1.850-2.689			2080-50-160	R5A2		R5A295	TC__1102__	
46.50-67.80	1.831-2.673								
47.00-68.30	1.850-2.689	186	7.323	2080-50-161	R5A2C	R5A2L	R5A295C	CC__0602__	
46.50-67.80	1.831-2.673			2080-50-162	R5A2		R5A295	TC__1102__	
47.00-68.30	1.850-2.689								
60.50-86.10	2.375-3.383	128	5.039	2080-50-163	R7A2C		R7A295C	CC__09T3__	
					R7A2		R7A295	TC__16T3__	
		185	7.283	2080-50-164	R7A2C	R7A2L	R7A295C	CC__09T3__	
					R7A2		R7A295	TC__16T3__	
		280	11.025	2080-50-165	R7A2C		R7A295C	CC__09T3__	
					R7A2		R7A295	TC__16T3__	
79.50-105.10	3.130-4.138	119	4.685	2080-50-167	R7A2C		R7A295C	CC__09T3__	
					R7A2		R7A295	TC__16T3__	
		199	7.835	2080-50-168	R7A2C	R7A2L	R7A295C	CC__09T3__	
					R7A2		R7A295	TC__16T3__	
		297	11.693	2080-50-169	R7A2C		R7A295C	CC__09T3__	
					R7A2		R7A295	TC__16T3__	
96.00-142.00	3.780-5.590	118	4.645	2080-50-170	R10A2C		R10A295C	CC__1204__	
				R10A2	R10A2L		R10A295	TC__16T3__	
		296	11.653	2080-50-171	R10A2C		R10A295C	CC__1204__	
					R10A2		R10A2L	R10A295	TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE NMTB

with standard R unit for
roughing & semi-finishing

NMTB40



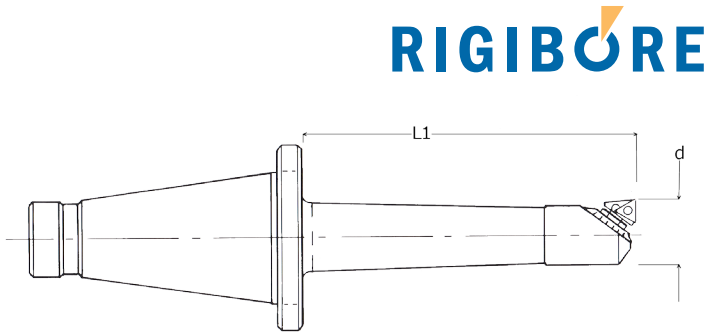
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
15.875-17.40	.625-.685	83	3.268	NMTB40-1535	R2B2S			TC__06T1__
16.67-18.25	.656-.718			NMTB40-1536				
17.40-19.00	.685-.748			NMTB40-1537				
19.00-23.00	.748-.905	87	3.425	NMTB40-154	R2B2	R2B2L		
23.00-27.00	.905-1.062							
23.00-31.00	.905-1.220	107	4.212	NMTB40-155	R3B1		R3B295	CC__0602__
24.00-32.00	.945-1.260				R3B2C			TC__0902__
27.00-35.00	1.062-1.378				R3B2			CC__0602__
28.00-42.00	1.103-1.654	117	4.606	NMTB40-156	R3A2C	R3A2L	R3A295	TC__0902__
31.00-45.00	1.220-1.771				R3A2			CC__0602__
28.00-42.00	1.103-1.654	132	5.197	NMTB40-157	R3A2C	R3A2L	R3A295	TC__0902__
31.00-45.00	1.220-1.771				R3A2			CC__0602__
37.50-48.70	1.476-1.917	116	4.567	NMTB40-158	R5B2C		R5B295	TC__1102__
38.00-49.20	1.496-1.937				R5B2			CC__0602__
37.50-48.70	1.476-1.917	173	6.811	NMTB40-159	R5B2C		R5B295	TC__1102__
38.00-49.20	1.496-1.937				R5B2			CC__0602__
46.50-67.80	1.831-2.673	116	4.567	NMTB40-160	R5A2C		R5A295C	TC__1102__
47.00-68.30	1.850-2.689				R5A2			CC__0602__
46.50-67.80	1.831-2.673	186	7.323	NMTB40-161	R5A2C		R5A295C	TC__1102__
47.00-68.30	1.850-2.689				R5A2			CC__0602__
60.50-86.10	2.375-3.383	128	5.039	NMTB40-163	R7A2C		R7A295C	CC__09T3__
					R7A2			R7A2L
		185	7.283	NMTB40-164	R7A2C		R7A295C	CC__09T3__
					R7A2			R7A2L
		280	11.025	NMTB40-165	R7A2C		R7A295C	CC__09T3__
					R7A2			R7A2L
79.50-105.10	3.130-4.138	119	4.685	NMTB40-167	R7A2C		R7A295C	CC__09T3__
					R7A2			R7A2L
		199	7.835	NMTB40-168	R7A2C		R7A295C	CC__09T3__
					R7A2			R7A2L
		297	11.693	NMTB40-169	R7A2C		R7A295C	CC__09T3__
					R7A2			R7A2L
96.00-142.00	3.780-5.590	118	4.645	NMTB40-170	R10A2C		R10A295C	CC__1204__
					R10A2			R10A2L
		296	11.693	NMTB40-171	R10A2C		R10A295C	CC__1204__
					R10A2			R10A2L

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE NMTB

with standard R unit for
roughing & semi-finishing

NMTB50



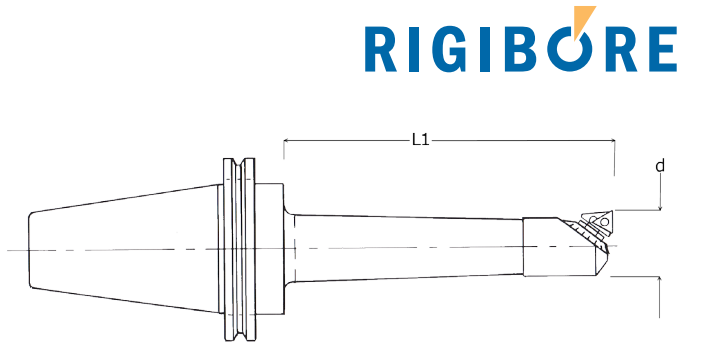
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
15.875-17.40	.625-.685	83	3.268	NMTB50-1535	R2B2S			TC__06T1__
16.67-18.25	.656-.718			NMTB50-1536				
17.40-19.00	.685-.748			NMTB50-1537				
19.00-23.00	.748-.905	87	3.425	NMTB50-154	R2B2	R2B2L		
23.00-27.00	.905-1.062							
23.00-31.00	.905-1.220							
24.00-32.00	.945-1.260	107	4.212	NMTB50-155	R3B1		R3B295	CC__0602__
27.00-35.00	1.062-1.378				R3B2C			TC__0902__
27.00-35.00	1.062-1.378				R3B2			CC__0602__
28.00-42.00	1.103-1.654	117	4.606	NMTB50-156	R3A2C	R3A2L	R3A295	TC__0902__
31.00-45.00	1.220-1.771				R3A2			CC__0602__
28.00-42.00	1.103-1.654				R3A2C			TC__0902__
31.00-45.00	1.220-1.771	132	5.197	NMTB50-157	R3A2	R3A2L	R3A295	CC__0602__
31.00-45.00	1.220-1.771							TC__0902__
31.00-45.00	1.220-1.771							CC__0602__
37.50-48.70	1.476-1.917	116	4.567	NMTB50-158	R5B2C		R5B295	TC__1102__
38.00-49.20	1.496-1.937				R5B2			CC__0602__
38.00-49.20	1.496-1.937							TC__1102__
37.50-48.70	1.476-1.917	173	6.811	NMTB50-159	R5B2C	R5B2L		CC__0602__
38.00-49.20	1.496-1.917				R5B2			TC__1102__
38.00-49.20	1.496-1.917							CC__0602__
46.50-67.80	1.831-2.673	116	4.567	NMTB50-160	R5A2C	R5A2L	R5A295C	CC__0602__
47.00-68.30	1.850-2.689				R5A2			TC__1102__
47.00-68.30	1.850-2.689							CC__0602__
46.50-67.80	1.831-2.673	186	7.323	NMTB50-161	R5A2C	R5A2L	R5A295C	TC__1102__
47.00-68.30	1.850-2.689				R5A2			CC__0602__
47.00-68.30	1.850-2.689							TC__1102__
46.50-67.80	1.831-2.673	208	8.187	NMTB50-162	R5A2C	R5A2L	R5A295C	CC__0602__
45.60-67.80	1.831-2.673				R5A2			TC__1102__
47.00-68.30	1.850-2.689							CC__0602__
60.50-86.10	2.375-3.383	128	5.039	NMTB50-163	R7A2C	R7A2L	R7A295C	CC__09T3__
					R7A2			TC__16T3__
		185	7.283	NMTB50-164	R7A2C	R7A2L	R7A295C	CC__09T3__
					R7A2			TC__16T3__
		280	11.025	NMTB50-165	R7A2C	R7A2L	R7A295C	CC__09T3__
					R7A2			TC__16T3__
79.50-105.10	3.130-4.138	119	4.685	NMTB50-167	R7A2C	R7A2L	R7A295C	CC__09T3__
					R7A2			TC__16T3__
		199	7.835	NMTB50-168	R7A2C	R7A2L	R7A295C	CC__09T3__
					R7A2			TC__16T3__
		297	11.693	NMTB50-169	R7A2C	R7A2L	R7A295C	CC__09T3__
					R7A2			TC__16T3__
96.00-142.00	3.780-5.590	118	4.645	NMTB50-170	R10A2C	R10A2L	R10A295C	CC__1204__
					R10A2			TC__16T3__
		296	11.653	NMTB50-171	R10A2C	R10A2L	R10A295C	CC__1204__
					R10A2			TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE ISO7388 (DIN 69871A)

with standard R unit for
roughing & semi-finishing

7388-40



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert		
mm	ins	mm	ins		90°	75°	95°			
15.875-17.40	.625-.685	83	3.268	7388-40-1535	R2B2S			TC__06T1__		
16.67-18.25	.656-.718			7388-40-1536						
17.40-19.00	.685-.748			7388-40-1537						
19.00-23.00	.748-.905	87	3.425	7388-40-154	R2B2	R2B2L				
23.00-27.00	.905-1.062			107	4.212				7388-40-155	R3B1
23.00-31.00	.905-1.220									R3B2C
24.00-32.00	.945-1.260	R3B2	R3B2L			TC__0902__				
27.00-35.00	1.062-1.378	117	4.606	7388-40-156	R3A2C	CC__0602__				
28.00-42.00	1.103-1.654				R3A2	R3A2L	R3A295	TC__0902__		
31.00-45.00	1.220-1.771				132	5.197	7388-40-157	R3A2C	CC__0602__	
28.00-42.00	1.103-1.654	R3A2	R3A2L	R3A295				TC__0902__		
31.00-45.00	1.220-1.771	116	4.567	7388-40-158				R5B2C	CC__0602__	
37.50-48.70	1.476-1.917				R5B2	R5B295	TC__1102__			
38.00-49.20	1.496-1.937							R5B2L		
37.50-48.70	1.476-1.917	173	6.811	7388-40-159	R5B2C			CC__0602__		
38.00-49.20	1.496-1.937				R5B2	R5B2L	TC__1102__			
38.00-49.20	1.496-1.937									
46.50-67.80	1.831-2.673	116	4.567	7388-40-160	R5A2C			CC__0602__		
47.00-68.30	1.850-2.689				R5A2	R5A2L	R5A295C	TC__1102__		
47.00-68.30	1.850-2.689						R5A295			
46.50-67.80	1.831-2.673	186	7.323	7388-40-161	R5A2C		R5A295C	CC__0602__		
47.00-68.30	1.850-2.689				R5A2	R5A295		TC__1102__		
47.00-68.30	1.850-2.689					R5A2L				
60.50-86.10	2.375-3.383	128	5.039	7388-40-163	R7A2C	R7A2L	R7A295C	CC__09T3__		
					R7A2		R7A295	TC__16T3__		
		185	7.283	7388-40-164	R7A2C	R7A2L	R7A295C	CC__09T3__		
					R7A2		R7A295	TC__16T3__		
79.50-105.10	3.130-4.138	119	4.685	7388-40-167	R7A2C	R7A2L	R7A295C	CC__09T3__		
					R7A2		R7A295	TC__16T3__		
		199	7.835	7388-40-168	R7A2C	R7A2L	R7A295C	CC__09T3__		
					R7A2		R7A295	TC__16T3__		
96.00-142.00	3.780-5.590	118	4.645	7388-40-170	R10A2C	R10A2L	R10A295C	CC__1204__		
					R10A2		R10A295	TC__16T3__		

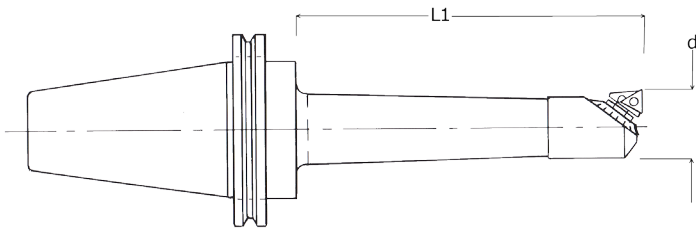
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE ISO7388 (DIN 69871A)

with standard R unit for
roughing & semi-finishing

7388-50

RIGIBORE

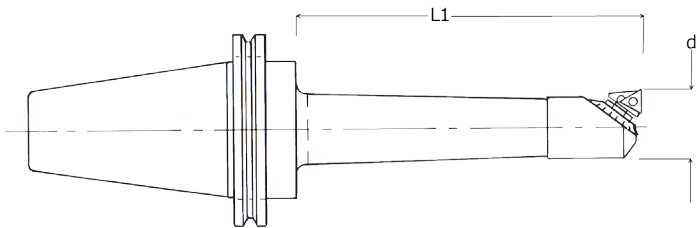


STANDARD BORING BARS
TYPE ANSI B5-50 (1985)

with standard R unit for
roughing & semi-finishing

ANSI50

RIGIBORE



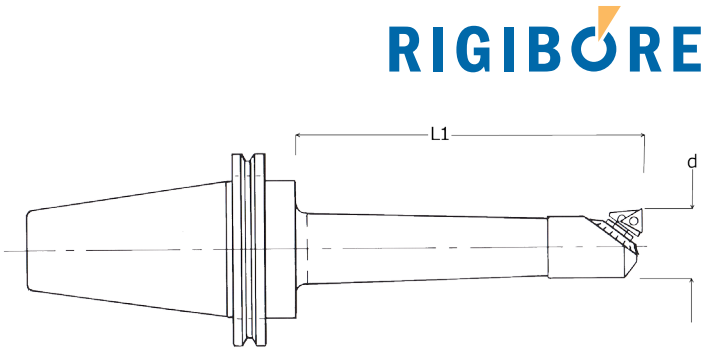
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert			
mm	ins	mm	ins		90°	75°	95°				
15.875-17.40	.625-.685	83	3.268	7388-50-1535	R2B2S			TC__06T1__			
16.67-18.25	.656-.718			7388-50-1536							
17.40-19.00	.685-.748			7388-50-1537							
19.00-23.00	.748-.905	87	3.425	7388-50-154	R2B2	R2B2L					
23.00-27.00	.905-1.062			107	4.212				7388-50-155	R3B1	
23.00-31.00	.905-1.220								R3B2C	R3B295	TC__0902__
24.00-32.00	.945-1.260	R3B2	R3B2L			CC__0602__					
27.00-35.00	1.062-1.378	117	4.606	7388-50-156	R3A2C	CC__0602__					
28.00-42.00	1.103-1.654			R3A2	R3A2L	TC__0902__					
31.00-45.00	1.220-1.771			132	5.197	7388-50-157	R3A2C	CC__0602__			
		R3A2	R3A2L			TC__0902__					
		116	4.567			7388-50-158	R5B2C	CC__0602__			
37.50-48.70	1.476-1.917			R5B2	R5B295		TC__1102__				
38.00-49.20	1.496-1.937							R5B2L	CC__0602__		
37.50-48.70	1.476-1.917	173	6.811	7388-50-159				R5B2C	TC__1102__		
38.00-49.20	1.496-1.937			R5B2	R5B2L	CC__0602__					
46.50-67.80	1.831-2.673	116	4.567	7388-50-160	R5A2C	R5A295C	R5A295	CC__0602__			
47.00-68.30	1.850-2.689				R5A2			R5A2L	R5A295C	R5A295	TC__1102__
46.50-67.80	1.831-2.673	186	7.323	7388-50-161	R5A2C	R5A295C	R5A295				CC__0602__
47.00-68.30	1.850-2.689				R5A2			R5A2L	R5A295C	R5A295	TC__1102__
46.50-67.80	1.831-2.673	208	8.187	7388-50-162	R5A2C	R5A295C	R5A295				CC__0602__
47.00-68.30	1.850-2.689				R5A2			R5A2L	R5A295C	R5A295	TC__1102__
60.50-86.10	2.375-3.383	128	5.039	7388-50-163	R7A2C	R7A295C	R7A295				CC__09T3__
		185	7.283	7388-50-164	R7A2			R7A2L	R7A295C	TC__16T3__	
					R7A2C						R7A295C
					R7A2	R7A295C	CC__09T3__				
		119	4.685	7388-50-167	R7A2C	R7A295C	R7A295	CC__09T3__			
					R7A2			R7A295C	R7A295	TC__16T3__	
					R7A2C						R7A295C
		199	7.835	7388-50-168	R7A2	R7A295C	R7A295				CC__09T3__
96.00-142.00	3.780-5.590	118	4.645	7388-50-170	R10A2C		R10A295C	CC__1204__			
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.											

Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert		
mm	ins	mm	ins		90°	75°	95°			
15.875-17.40	.625-.685	83	3.268	ANSI50-1535	R2B2S			TC__06T1__		
16.67-18.25	.656-.718			ANSI50-1536						
17.40-19.00	.685-.748			ANSI50-1537						
19.00-23.00	.748-.905	87	3.425	ANSI50-154	R2B2	R2B2L				
23.00-27.00	.905-1.062									
23.00-31.00	.905-1.220									
24.00-32.00	.945-1.260	107	4.212	ANSI50-155	R3B1			CC__0602__		
27.00-35.00	1.062-1.378				R3B2C			R3B2L	R3B295	TC__0902__
28.00-42.00	1.103-1.654				R3B2					CC__0602__
31.00-45.00	1.220-1.771	117	4.606	ANSI50-156	R3A2C		TC__0902__			
28.00-42.00	1.103-1.654				R3A2		R3A2L	R3A295	TC__0902__	
31.00-45.00	1.220-1.771				R3A2C		R3A2L	R3A295	CC__0602__	
		R3A2	TC__0902__							
		R5B2C		R5B295	CC__0602__					
37.50-48.70	1.476-1.917	116			4.567	ANSI50-158	R5B2	R5B2L	TC__1102__	
38.00-49.20	1.496-1.937									
			R5B2C				R5B2L		CC__0602__	
37.50-48.70	1.476-1.917	173	6.811		ANSI50-159	R5B2		R5B2L	TC__1102__	
38.00-49.20	1.496-1.937									
				R5A2C		R5A2L	R5A295C		CC__0602__	
46.50-67.80	1.831-2.673	116	4.567	ANSI50-160	R5A2			R5A295	TC__1102__	
47.00-68.30	1.850-2.689									
					R5A2C	R5A2L	R5A295C		CC__0602__	
46.50-67.80	1.831-2.673	186	7.323	ANSI50-161	R5A2			R5A295	TC__1102__	
47.00-68.30	1.850-2.689									
					R5A2C	R5A2L	R5A295C		CC__0602__	
46.50-67.80	1.831-2.673	208	8.187	ANSI50-162	R5A2			R5A295	TC__1102__	
47.00-68.30	1.850-2.689									
					R7A2C	R5A2L	R7A295C		CC__09T3__	
60.50-86.10	2.375-3.383	128	5.039	ANSI50-163	R7A2			R7A2L	R7A295	TC__16T3__
					R7A2C				R7A295C	CC__09T3__
		185	7.283	ANSI50-164	R7A2	R7A2L	R7A295	TC__16T3__		
					R7A2C		R7A295C	CC__09T3__		
		280	11.025	ANSI50-165	R7A2	R7A2L	R7A295	TC__16T3__		
					R7A2C		R7A295C	CC__09T3__		
79.50-105.10	3.130-4.138	119	4.685	ANSI50-167	R7A2C	R7A2L	R7A295C	CC__09T3__		
					R7A2		R7A295	TC__16T3__		
		199	7.835	ANSI50-168	R7A2C	R7A2L	R7A295C	CC__09T3__		
					R7A2		R7A295	TC__16T3__		
		297	11.693	ANSI50-169	R7A2C	R7A2L	R7A295C	CC__09T3__		
					R7A2		R7A295	TC__16T3__		
96.00-142.00	3.780-5.590	118	4.645	ANSI50-170	R10A2C	R10A2L	R10A295C	CC__1204__		
					R10A2		R10A295	TC__16T3__		
		296	11.653	ANSI50-171	R10A2C	R10A2L	R10A295C	CC__1204__		
					R10A2		R10A295	TC__16T3__		
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.										

STANDARD BORING BARS
TYPE CAT

with standard R unit for
roughing & semi-finishing

CAT40

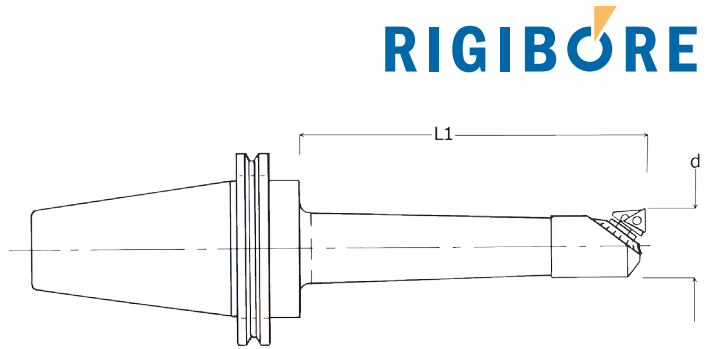


Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert		
mm	ins	mm	ins		90°	75°	95°			
15.875-17.40	.625-.685	83	3.268	CAT40-1535	R2B2S			TC__06T1__		
16.67-18.25	.656-.718			CAT40-1536						
17.40-19.00	.685-.748			CAT40-1537						
19.00-23.00	.748-.905	87	3.425	CAT40-154	R2B2	R2B2L	CC__0602__			
23.00-27.00	.905-1.062									
23.00-31.00	.905-1.220				R3B1					
24.00-32.00	.945-1.260	107	4.212	CAT40-155	R3B2C	R3B2L		R3B295		
27.00-35.00	1.062-1.378				R3B2					
28.00-42.00	1.103-1.654				R3A2C					
31.00-45.00	1.220-1.771	117	4.606	CAT40-156	R3A2	R3A2L	R3A295	TC__0902__		
28.00-42.00	1.103-1.654				CAT40-157			R3A2C	CC__0602__	
31.00-45.00	1.220-1.771							R3A2	R3A2L	R3A295
37.50-48.70	1.476-1.917	116	4.567	CAT40-158	R5B2C		R5B295	CC__0602__		
38.00-49.20	1.496-1.937				R5B2			R5B2L	TC__1102__	
37.50-48.70	1.476-1.917	173	6.811	CAT40-159	R5B2C	R5B2L	CC__0602__			
38.00-49.20	1.496-1.937				R5B2			R5B2L	TC__1102__	
46.50-67.80	1.831-2.673	116	4.567	CAT40-160	R5A2C		R5A295C			CC__0602__
47.00-68.30	1.850-2.689				R5A2			R5A2L	R5A295	TC__1102__
46.50-67.80	1.831-2.673	186	7.323	CAT40-161	R5A2C	R5A295C	CC__0602__			
47.00-68.30	1.850-2.689				R5A2		R5A2L	R5A295	TC__1102__	
60.50-86.10	2.375-3.383	128	5.039	CAT40-163	R7A2C					R7A295C
					R7A2		R7A2L	R7A295	TC__16T3__	
		185	7.283	CAT40-164	R7A2C	R7A2L	R7A295	R7A295C	CC__09T3__	
R7A2	R7A2L				R7A295				TC__16T3__	
79.50-105.10	3.130-4.138	119	4.685	CAT40-167	R7A2C	R7A2L	R7A295	CC__09T3__		
					R7A2			R7A2L	R7A295	TC__16T3__
96.00-142.00	3.780-5.590	118	4.645	CAT40-168	R7A2C	R7A2L	R7A295	CC__09T3__		
					R7A2			R7A2L	R7A295	TC__16T3__
96.00-142.00	3.780-5.590	118	4.645	CAT40-170	R10A2C	R10A2L	R10A295C	CC__1204__		
					R10A2			R10A2L	R10A295	TC__16T3__
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.										

STANDARD BORING BARS
TYPE CAT

with standard R unit for
roughing & semi-finishing

CAT50

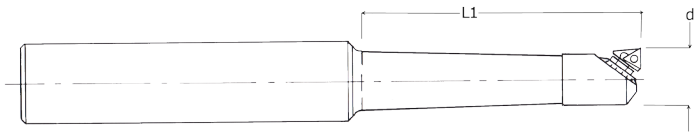


Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert	
mm	ins	mm	ins		90°	75°	95°		
15.875-17.40	.625-.685	83	3.268	CAT50-1535	R2B2S			TC__06T1__	
16.67-18.25	.656-.718			CAT50-1536					
17.40-19.00	.685-.748			CAT50-1537					
19.00-23.00	.748-.905	87	3.425	CAT50-154	R2B2	R2B2L			
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220			R3B1					
24.00-32.00	.945-1.260	107	4.212	CAT50-155	R3B2C	R3B2L	R3B295		CC__0602__
27.00-35.00	1.062-1.378			R3B2					
28.00-42.00	1.103-1.654			R3A2C					
31.00-45.00	1.220-1.771	117	4.606	CAT50-156	R3A2	R3A2L	R3A295		TC__0902__
28.00-42.00	1.103-1.654			R3A2C		CC__0602__			
31.00-45.00	1.220-1.771			R3A2	R3A2L	R3A295	TC__0902__		
37.50-48.70	1.476-1.917	116	4.567	CAT50-158	R5B2C		R5B295	CC__0602__	
38.00-49.20	1.496-1.937			R5B2			TC__1102__		
					R5B2L				
37.50-48.70	1.476-1.917	173	6.811	CAT50-159	R5B2C			CC__0602__	
38.00-49.20	1.496-1.937			R5B2			TC__1102__		
					R5B2L				
46.50-67.80	1.831-2.673	116	4.567	CAT50-160	R5A2C		R5A295C	CC__0602__	
47.00-68.30	1.850-2.689			R5A2			R5A295	TC__1102__	
					R5A2L				
46.50-67.80	1.831-2.673	186	7.323	CAT50-161	R5A2C		R5A295C	CC__0602__	
47.00-68.30	1.850-2.689			R5A2			R5A295	TC__1102__	
					R5A2L				
46.50-67.80	1.831-2.673	208	8.187	CAT50-162	R5A2C		R5A295C	CC__0602__	
47.00-68.30	1.850-2.689			R5A2			R5A295	TC__1102__	
					R5A2L				
60.50-86.10	2.375-3.383	128	5.039	CAT50-163	R7A2C		R7A295C	CC__09T3__	
				R7A2	R7A2L	R7A295	TC__16T3__		
		185	7.283	CAT50-164	R7A2C		R7A295C	CC__09T3__	
				R7A2	R7A2L	R7A295	TC__16T3__		
		280	11.025	CAT50-165	R7A2C		R7A295C	CC__09T3__	
				R7A2	R7A2L	R7A295	TC__16T3__		
79.50-105.10	3.130-4.138	119	4.685	CAT50-167	R7A2C		R7A295C	CC__09T3__	
				R7A2	R7A2L	R7A295	TC__16T3__		
		199	7.835	CAT50-168	R7A2C		R7A295C	CC__09T3__	
				R7A2	R7A2L	R7A295	TC__16T3__		
		297	11.693	CAT50-169	R7A2C		R7A295C	CC__09T3__	
				R7A2	R7A2L	R7A295	TC__16T3__		
96.00-142.00	3.780-5.590	118	4.645	CAT50-170	R10A2C		R10A295C	CC__1204__	
				R10A2	R10A2L	R10A295	TC__16T3__		
		296	11.653	CAT50-171	R10A2C		R10A295C	CC__1204__	
				R10A2	R10A2L	R10A295	TC__16T3__		
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.									

STANDARD BORING BARS
PLAIN STRAIGHT SHANK

with standard R unit for
roughing & semi-finishing

25SS / 1.00SS



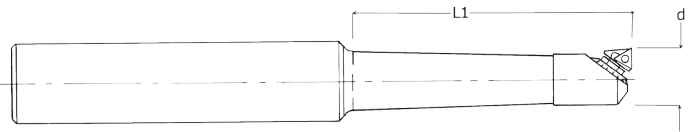
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
15.875-17.40	.625-.685	83	3.268	25SS-1535	1.00SS-1535	R2B2S			TC__06T1__
16.67-18.25	.656-.718			25SS-1536	1.00SS-1536				
17.40-19.00	.685-.748			25SS-1537	1.00SS-1537				
19.00-23.00	.748-.905	87	3.425	25SS-154	1.00SS-154	R2B2	R2B2L		
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220								
24.00-32.00	.945-1.260	107	4.212	25SS-155	1.00SS-155	R3B1		R3B295	CC__0602__
27.00-35.00	1.062-1.378					R3B2C			TC__0902__
28.00-42.00	1.103-1.654					R3B2			CC__0602__
31.00-45.00	1.220-1.771	117	4.606	25SS-156	1.00SS-156	R3A2C	R3A2L	R3A295	TC__0902__
37.50-48.70	1.476-1.917					R3A2			CC__0602__
38.00-49.20	1.496-1.937					R5B2C			TC__1102__
46.50-67.80	1.831-2.673	116	4.567	25SS-158	1.00SS-158	R5B2	R5B2L	R5B295	CC__0602__
47.00-68.30	1.850-2.689					R5A2C			TC__1102__
60.50-86.10	2.375-3.383					R5A2			CC__0902__
79.50-105.10	3.130-4.138	128	5.039	25SS-163	1.00SS-163	R7A2C	R7A2L	R7A295	CC__0902__
						R7A2			TC__16T3__
						R7A2C			CC__0902__
		119	4.685	25SS-167	1.00SS-167	R7A2	R7A2L	R7A295	TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
PLAIN STRAIGHT SHANK

with standard R unit for
roughing & semi-finishing

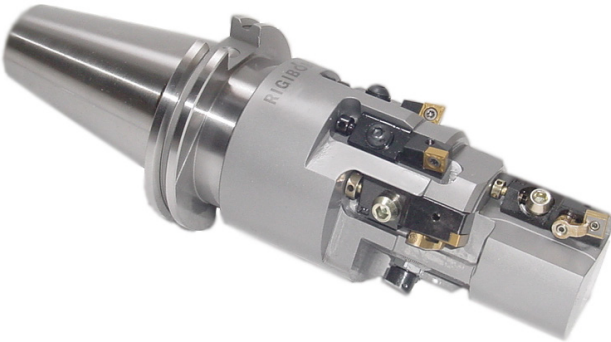
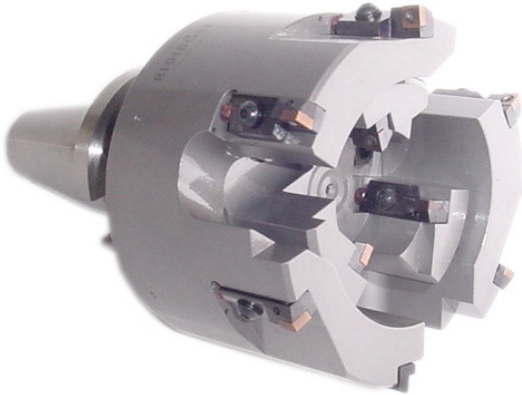
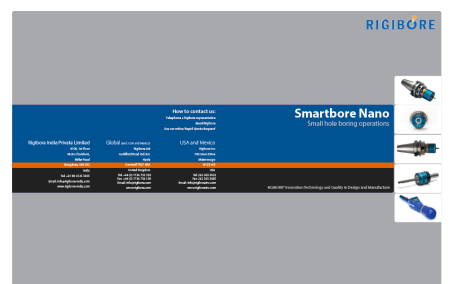
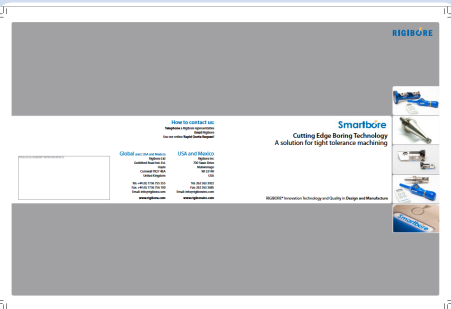
32SS / 1.25SS



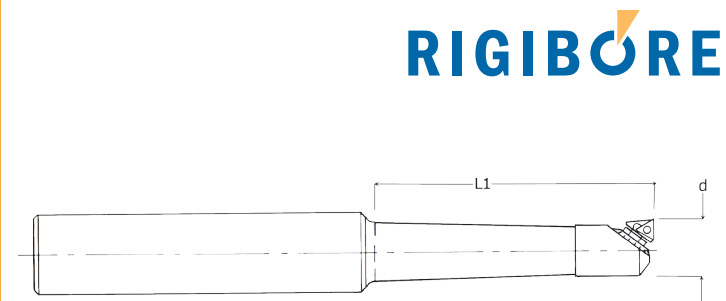
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
19.00-23.00	.748-.905	87	3.425	32SS-154	1.25SS-154	R2B2	R2B2L		TC__06T1__
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220								
24.00-32.00	.945-1.260	107	4.212	32SS-155	1.25SS-155	R3B1	R3B2L	R3B295	CC__0602__
27.00-35.00	1.062-1.378					R3B2C			
						R3B2			
28.00-42.00	1.103-1.654	117	4.606	32SS-156	1.25SS-156	R3A2C	R3A2L	R3A295	CC__0602__
31.00-45.00	1.220-1.771					R3A2			TC__0902__
						R5B2C			CC__0602__
37.50-48.70	1.476-1.917	116	4.567	32SS-158	1.25SS-158	R5B2	R5B2L	R5B295	TC__1102__
38.00-49.20	1.496-1.937								
46.50-67.80	1.831-2.673			32SS-160	1.25SS-160	R5A2C	R5A2L	R5A295C	CC__0602__
47.00-68.30	1.850-2.689					R5A2		R5A295	TC__1102__
60.50-86.10	2.375-3.383	128	5.039	32SS-163	1.25SS-163	R7A2C	R7A2L	R7A295C	CC__09T3__
						R7A2			R7A295
79.50-105.10	3.130-4.138	119	4.685	32SS-167	1.25SS-167	R7A2C	R7A2L	R7A295C	CC__09T3__
						R7A2			R7A295

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

Smartbore & Smartbore Nano

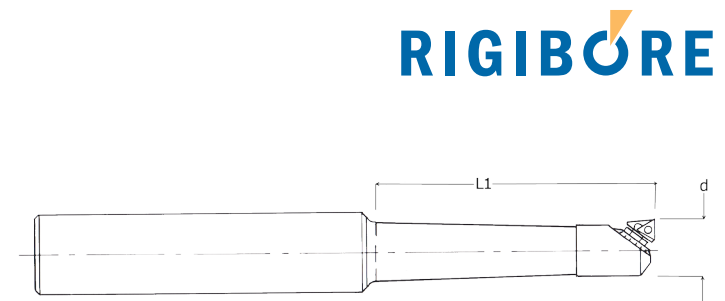


40SS / 1.50SS



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert	
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°		
19.00-23.00	.748-.905	87	3.425	40SS-154	1.50SS-154	R2B2			TC__06T1__	
23.00-27.00	.905-1.062						R2B2L			
23.00-31.00	.905-1.220									
24.00-32.00	.945-1.260	107	4.212	40SS-155	1.50SS-155	R3B1		R3B295	CC__0602__	
27.00-35.00	1.062-1.378					R3B2C			TC__0902__	
28.00-42.00	1.103-1.654					R3B2	R3B2L			
31.00-45.00	1.220-1.771	117	4.606	40SS-156	1.50SS-156	R3A2C			CC__0602__	
28.00-42.00	1.103-1.654					R3A2	R3A2L	R3A295	TC__0902__	
31.00-45.00	1.220-1.771					R3A2C			CC__0602__	
37.50-48.70	1.476-1.917	116	4.567	40SS-158	1.50SS-158	R5B2C		R5B295	CC__0602__	
38.00-49.20	1.496-1.937					R5B2				TC__1102__
							R5B2L			
37.50-48.70	1.476-1.917	173	6.811	40SS-159	1.50SS-159	R5B2C		R5B295	CC__0602__	
38.00-49.20	1.496-1.937					R5B2				TC__1102__
							R5B2L			
46.50-67.80	1.831-2.673	116	4.567	40SS-160	1.50SS-160	R5A2C		R5A295C	CC__0602__	
47.00-68.30	1.850-2.689					R5A2		R5A295	TC__1102__	
							R5A2L			
46.50-67.80	1.831-2.673	186	7.323	40SS-161	1.50SS-161	R5A2C		R5A295C	CC__0602__	
47.00-68.30	1.850-2.689					R5A2		R5A295	TC__1102__	
							R5A2L			
60.50-86.10	2.375-3.383	128	5.039	40SS-163	1.50SS-163	R7A2C		R7A295C	CC__09T3__	
						R7A2	R7A2L	R7A295	TC__16T3__	
		186	7.283	40SS-164	1.50SS-164	R7A2C		R7A295C	CC__09T3__	
						R7A2	R7A2L	R7A295	TC__16T3__	
79.50-105.10	3.130-4.138	119	4.685	40SS-167	1.50SS-167	R7A2C		R7A295C	CC__09T3__	
						R7A2	R7A2L	R7A295	TC__16T3__	
		199	7.835	40SS-168	1.50SS-168	R7A2C		R7A295C	CC__09T3__	
						R7A2	R7A2L	R7A295	TC__16T3__	
96.00-142.00	3.780-5.590	118	4.645	40SS-170	1.50SS-170	R10A2C		R10A295C	CC__1204__	
						R10A2	R10A2L	R10A295	TC__16T3__	
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.										

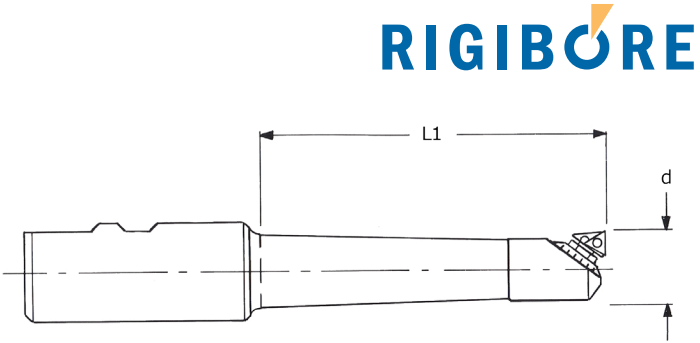
50SS / 2.00SS



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
19.00-23.00	.748-.905	87	3.425	50SS-154	2.00SS-154	R2B2			TC__06T1__
23.00-27.00	.905-1.062						R2B2L		
23.00-31.00	.905-1.220					R3B1			
24.00-32.00	.945-1.260	107	4.212	50SS-155	2.00SS-155	R3B2C			CC__0602__
27.00-35.00	1.062-1.378					R3B2	R3B2L	R3B295	TC__0902__
28.00-42.00	1.103-1.654					R3A2C			CC__0602__
31.00-45.00	1.220-1.771	117	4.606	50SS-156	2.00SS-156	R3A2	R3A2L	R3A295	TC__0902__
28.00-42.00	1.103-1.654					R3A2C			CC__0602__
31.00-45.00	1.220-1.771					R3A2	R3A2L	R3A295	TC__0902__
37.50-48.70	1.476-1.917	116	4.567	50SS-158	2.00SS-158	R5B2C			CC__0602__
38.00-49.20	1.496-1.937					R5B2		R5B295	TC__1102__
							R5B2L		
37.50-48.70	1.476-1.917	173	6.811	50SS-159	2.00SS-159	R5B2C			CC__0602__
38.00-49.20	1.496-1.937					R5B2			TC__1102__
							R5B2L		
46.50-67.80	1.831-2.673	116	4.567	50SS-160	2.00SS-160	R5A2C		R5A295C	CC__0602__
47.00-68.30	1.850-2.689					R5A2		R5A295	TC__1102__
							R5A2L		
46.50-67.80	1.831-2.673	186	7.323	50SS-161	2.00SS-161	R5A2C		R5A295C	CC__0602__
47.00-68.30	1.850-2.689					R5A2		R5A295	TC__1102__
							R5A2L		
60.50-86.10	2.375-3.383	128	5.039	50SS-163	2.00SS-163	R7A2C		R7A295C	CC__09T3__
						R7A2	R7A2L	R7A295	TC__16T3__
		186	7.283	50SS-164	2.00SS-164	R7A2C		R7A295C	CC__09T3__
						R7A2	R7A2L	R7A295	TC__16T3__
79.50-105.10	3.130-4.138	119	4.685	50SS-167	2.00SS-167	R7A2C		R7A295C	CC__09T3__
						R7A2	R7A2L	R7A295	TC__16T3__
		199	7.835	50SS-168	2.00SS-168	R7A2C		R7A295C	CC__09T3__
						R7A2	R7A2L	R7A295	TC__16T3__
96.00-142.00	3.780-5.590	118	4.645	50SS-170	2.00SS-170	R10A2C		R10A295C	CC__1204__
						R10A2	R10A2L	R10A295	TC__16T3__
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.									

STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

with standard R unit for
roughing & semi-finishing
W25SS / W1.00SS

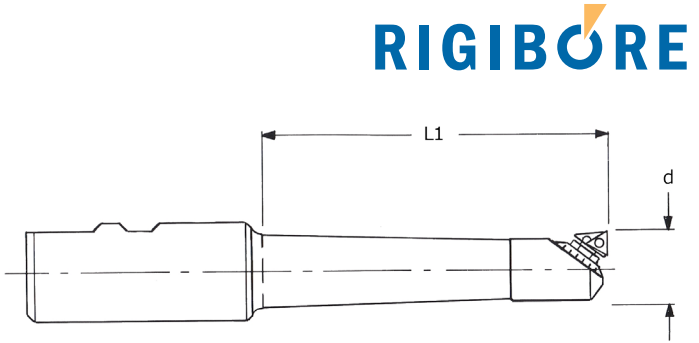


Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
15.875-17.40	.625-.685	83	3.268	W25SS-1535	W1.00SS-1535	R2B2S			TC__06T1__
16.67-18.25	.685-718			W25SS-1536	W1.00SS-1536				
17.40-19.00	.685-.748			W25SS-1537	W1.00SS-1537				
19.00-23.00	.748-.905	87	3.425	W25SS-154	W1.00SS-154	R2B2	R2B2L		
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220								
24.00-32.00	.945-1.260	107	4.212	W25SS-155	W1.00SS-155	R3B1		R3B29S	CC__0602__
27.00-35.00	1.062-1.378					R3B2C			TC__0902__
28.00-42.00	1.103-1.654					R3B2			CC__0602__
31.00-45.00	1.220-1.771	117	4.606	W25SS-156	W1.00SS-156	R3A2C	R3A2L	R3A29S	CC__0602__
						R3A2			TC__0902__
						R5B2C			CC__0602__
37.50-48.70	1.476-1.917	116	4.567	W25SS-158	W1.00SS-158	R5B2	R5B2L	R5B29S	TC__1102__
	1.496-1.937								CC__0602__
46.50-67.80	1.831-2.673					R5A2C			TC__1102__
47.00-68.30	1.850-2.689	128	5.039	W25SS-160	W1.00SS-160	R5A2	R5A2L	R5A29S	CC__09T3__
60.50-86.10	2.375-3.383								TC__16T3__
						R7A2C			CC__09T3__
79.50-105.10	3.130-4.138	119	4.685	W25SS-163	W1.00SS-163	R7A2	R7A2L	R7A29S	TC__16T3__
						R7A2C			CC__09T3__
						R7A2			TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

with standard R unit for
roughing & semi-finishing
W32SS / W1.25SS



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
19.00-23.00	.748-.905	87	3.425	W32SS-154	W1.25SS-154	R2B2	R2B2L		TC__06T1__
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220					R3B1			
24.00-32.00	.945-1.260	107	4.212	W32SS-155	W1.25SS-155	R3B2C	R3B2L	R3B29S	CC__0602__
27.00-35.00	1.062-1.378					R3B2			TC__0902__
28.00-42.00	1.103-1.654					R3A2C			CC__0602__
31.00-45.00	1.220-1.771	117	4.606	W32SS-156	W1.25SS-156	R3A2	R3A2L	R3A29S	TC__0902__
						R5B2C			CC__0602__
						R5B2			TC__1102__
37.50-48.70	1.476-1.917	116	4.567	W32SS-158	W1.25SS-158		R5B2L	R5B29S	CC__0602__
38.00-49.20	1.496-1.937					R5A2C			TC__1102__
46.50-67.80	1.831-2.673					R5A2			CC__09T3__
47.00-68.30	1.850-2.689	128	5.039	W32SS-160	W1.25SS-160		R5A2L	R5A29S	TC__16T3__
60.50-86.10	2.375-3.383					R7A2C			CC__09T3__
						R7A2			TC__16T3__
79.50-105.10	3.130-4.138	119	4.685	W32SS-163	W1.25SS-163	R7A2C	R7A2L	R7A29S	CC__09T3__
						R7A2			TC__16T3__
						R7A2C			CC__09T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

Specialists In Special Tools



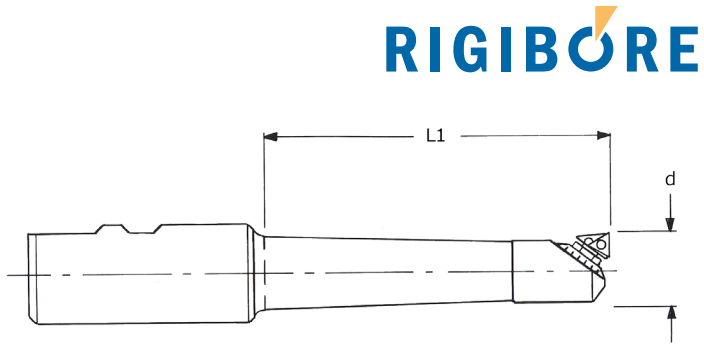
UFP Cartridges



STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

with standard R unit for
roughing & semi-finishing

W40SS / W1.50SS



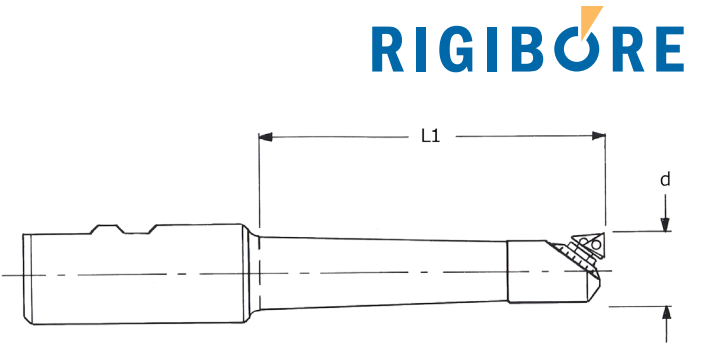
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	Ins	Mm	ins	METRIC	IMPERIAL	90°	75°	95°	
19.00-23.00	.748-.905	87	3.425	W40SS-154	W1.50SS-154	R2B2	R2B2L		TC__06T1__
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220					R3B1			
24.00-32.00	.945-1.260	107	4.212	W40SS-155	W1.50SS-155	R3B2C	R3B2L	R3B295	CC__0602__
27.00-35.00	1.062-1.378					R3B2			TC__0902__
28.00-42.00	1.103-1.654					R3A2C			CC__0602__
31.00-45.00	1.220-1.771	117	4.606	W40SS-156	W1.50SS-156	R3A2	R3A2L	R3A295	TC__0902__
28.00-42.00	1.103-1.654					R3A2C			CC__0602__
31.00-45.00	1.220-1.771					R3A2			TC__1102__
37.50-48.70	1.476-1.917	116	4.567	W40SS-157	W1.50SS-157	R5B2C		R5B295	CC__0602__
						R5B2			TC__1102__
									CC__0602__
38.00-49.20	1.496-1.937	173	6.811	W40SS-158	W1.50SS-158		R5B2L		TC__1102__
37.50-48.70	1.476-1.917					R5B2C			CC__0602__
38.00-49.20	1.496-1.937					R5B2			TC__1102__
46.50-67.80	1.831-2.673	116	4.567	W40SS-159	W1.50SS-159		R5A2L	R5A295C	CC__0602__
						R5A2C			TC__1102__
						R5A2			CC__0602__
47.00-68.30	1.850-2.689	186	7.323	W40SS-160	W1.50SS-160		R5A2L	R5A295	TC__1102__
46.50-67.80	1.831-2.673					R5A2C			CC__0602__
47.00-68.30	1.850-2.689					R5A2			TC__1102__
60.50-86.10	2.375-3.383	128	5.039	W40SS-161	W1.50SS-161		R7A2L	R7A295C	CC__09T3__
						R7A2C			TC__16T3__
						R7A2			CC__09T3__
79.50-105.10	3.130-4.138	119	4.685	W40SS-162	W1.50SS-162		R7A2L	R7A295	TC__16T3__
						R7A2C			CC__09T3__
						R7A2			TC__16T3__
96.00-142.00	3.780-5.590	118	4.645	W40SS-163	W1.50SS-163		R10A2L	R10A295C	CC__1204__
						R10A2C			TC__16T3__
						R10A2			TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

with standard R unit for
roughing & semi-finishing

W50SS / W2.00SS



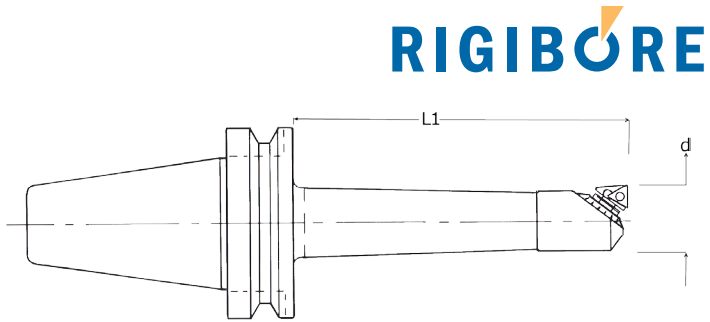
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
19.00-23.00	.748-.905	87	3.425	W50SS-154	W2.00SS-154	R2B2	R2B2L		TC__06T1__
23.00-27.00	.905-1.062								
23.00-31.00	.905-1.220					R3B1			
24.00-32.00	.945-1.260	107	4.212	W50SS-155	W2.00SS-155	R3B2C	R3B2L	R3B295	CC__0602__
27.00-35.00	1.062-1.378					R3B2			TC__0902__
28.00-42.00	1.103-1.654					R3A2C			CC__0602__
31.00-45.00	1.220-1.771	117	4.606	W50SS-156	W2.00SS-156	R3A2	R3A2L	R3A295	TC__0902__
28.00-42.00	1.103-1.654					R3A2C			CC__0602__
31.00-45.00	1.220-1.771					R3A2			TC__1102__
37.50-48.70	1.476-1.917	116	4.567	W50SS-157	W2.00SS-157	R5B2C		R5B295	CC__0602__
						R5B2			TC__1102__
									CC__0602__
38.00-49.20	1.496-1.937	173	6.811	W50SS-158	W2.00SS-158		R5B2L		TC__1102__
37.50-48.70	1.476-1.917					R5B2C			CC__0602__
38.00-49.20	1.496-1.937					R5B2			TC__1102__
46.50-67.80	1.831-2.673	116	4.567	W50SS-159	W2.00SS-159		R5A2L	R5A295C	CC__0602__
						R5A2C			TC__1102__
						R5A2			CC__0602__
47.00-68.30	1.850-2.689	186	7.323	W50SS-160	W2.00SS-160		R5A2L	R5A295	TC__1102__
46.50-67.80	1.831-2.673					R5A2C			CC__0602__
47.00-68.30	1.850-2.689					R5A2			TC__1102__
60.50-86.10	2.375-3.383	128	5.039	W50SS-161	W2.00SS-161		R7A2L	R7A295C	CC__09T3__
						R7A2C			TC__16T3__
						R7A2			CC__09T3__
79.50-105.10	3.130-4.138	119	4.685	W50SS-162	W2.00SS-162		R7A2L	R7A295	TC__16T3__
						R7A2C			CC__09T3__
						R7A2			TC__16T3__
96.00-142.00	3.780-5.590	118	4.645	W50SS-163	W2.00SS-163		R10A2L	R10A295C	CC__1204__
						R10A2C			TC__16T3__
						R10A2			TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE BT40 (MAS 403)

with standard TR (Top-adjusting)
unit for finish boring

BT40



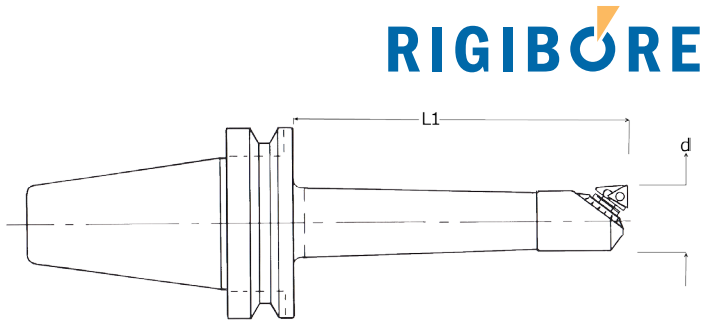
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	BT40-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	BT40-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	BT40-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771				TR3A2			TC__0902__
31.0-45.0	1.220-1.771				TR3A2			CC__0602__
37.5-48.7	1.476-1.917	116	4.567	BT40-158	TR5B2C		TR5B295	CC__0602__
38.0-49.2	1.496-1.937				TR5B2			TC__1102__
								CC__0602__
37.5-48.7	1.476-1.917	173	6.811	BT40-159	TR5B2C	TR5B2L	TR5B295	TC__1102__
38.0-49.2	1.496-1.937				TR5B2			CC__0602__
								TC__1102__
46.5-67.8	1.831-2.673	116	4.567	BT40-160	TR5A2C		TR5A295C	CC__0602__
47.0-68.3	1.850-2.659				TR5A2			TC__1102__
								CC__0602__
46.5-67.8	1.831-2.673	186	7.323	BT40-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.689				TR5A2			TC__1102__
								CC__0602__
61.5-85.6	2.422-3.370	128	5.039	BT40-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
								TC__16T3__
61.5-85.6	2.422-3.370	185	7.283	BT40-164	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
								TC__16T3__
79.5-104.6	3.130-4.118	119	4.685	BT40-167	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
								TC__16T3__
79.5-104.6	3.130-4.118	199	7.835	BT40-168	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
								TC__16T3__
95.3-141.3	3.752-5.562	118	4.645	BT40-170	TR10A2C	TR10A2L	TR10A295	CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__
								CC__1204__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE BT50 (MAS 403)

with standard TR (Top-adjusting) unit for
finish boring

BT50



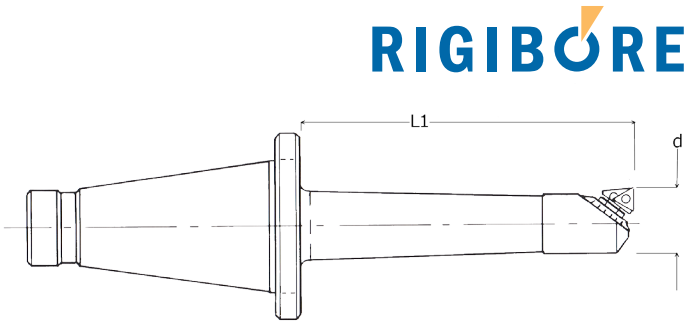
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	BT50-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	BT50-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	BT50-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771				TR3A2			TC__0902__
31.0-45.0	1.220-1.771				TR3A2			CC__0602__
37.5-48.7	1.476-1.917	116	4.567	BT50-158	TR5B2C		TR5B295	CC__0602__
38.0-49.2	1.496-1.937				TR5B2			TC__1102__
								CC__0602__
37.5-48.7	1.476-1.917	173	6.811	BT50-159	TR5B2C	TR5B2L	TR5B295	TC__1102__
38.0-49.2	1.496-1.937				TR5B2			CC__0602__
								TC__1102__
46.5-67.8	1.831-2.673	116	4.567	BT50-160	TR5A2C		TR5A295C	CC__0602__
47.0-68.3	1.850-2.659				TR5A2			TC__1102__
								CC__0602__
46.5-67.8	1.831-2.673	186	7.323	BT50-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.689				TR5A2			TC__1102__
								CC__0602__
46.5-67.8	1.831-2.673	208	8.187	BT50-162	TR5A2C		TR5A295C	CC__0602__
47.0-68.3	1.850-2.689				TR5A2			TC__1102__
								CC__0602__
61.5-85.6	2.422-3.370	128	5.039	BT50-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
								TC__16T3__
61.5-85.6	2.422-3.370	185	7.283	BT50-164	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
								TC__16T3__
79.5-104.6	3.130-4.118	119	4.685	BT50-167	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
								TC__16T3__
79.5-104.6	3.130-4.118	199	7.835	BT50-168	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
								TC__16T3__
95.3-141.3	3.752-5.562	118	4.645	BT50-170	TR10A2C	TR10A2L	TR10A295	CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__
								CC__1204__
95.3-141.3	3.752-5.562	296	11.653	BT50-171	TR10A2C	TR10A2L	TR10A295	CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__
								CC__1204__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE DIN 2080-40

with standard TR (Top-adjusting)
unit for finish boring

2080-40



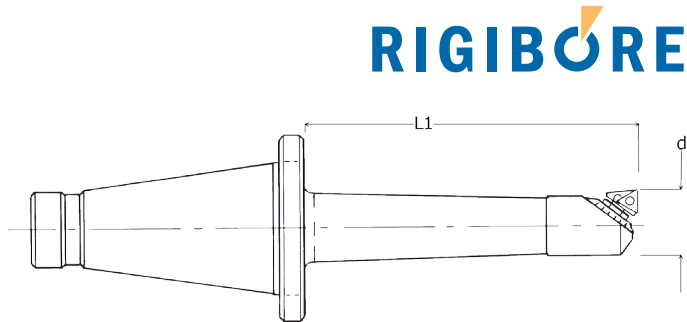
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	2080-40-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	2080-40-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	2080-40-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771				TR3A2			TC__0902__
37.5-48.7	1.476-1.917	116	4.567	2080-40-158	TR5B2C		TR5B295	CC__0602__
38.0-49.2	1.496-1.937				TR5B2			TC__1102__
37.5-48.7	1.476-1.917							CC__0602__
38.0-49.2	1.496-1.937	173	6.811	2080-40-159	TR5B2C	TR5B2L	TR5B295	TC__1102__
37.5-48.7	1.476-1.917				TR5B2			CC__0602__
38.0-49.2	1.496-1.937							TC__1102__
46.5-67.8	1.831-2.673	116	4.567	2080-40-160	TR5A2C		TR5A295C	CC__0602__
47.0-68.3	1.850-2.659				TR5A2			TC__1102__
46.5-67.8	1.831-2.673							CC__0602__
47.0-68.3	1.850-2.659	186	7.323	2080-40-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
46.5-67.8	1.831-2.673				TR5A2			TC__1102__
47.0-68.3	1.850-2.689							CC__0602__
46.5-67.8	1.831-2.673	208	8.187	2080-40-162	TR5A2C		TR5A295C	CC__0602__
47.0-68.3	1.850-2.689				TR5A2			TC__1102__
61.5-85.6	2.422-3.370							CC__0602__
61.5-85.6	2.422-3.370	128	5.039	2080-40-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
61.5-85.6	2.422-3.370				TR7A2			TC__16T3__
62.2-87.8	2.450-3.455	185	7.283	2080-40-164	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
61.5-85.6	2.422-3.370				TR7A2			TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
61.5-85.6	2.422-3.370	280	11.025	2080-40-165	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	119	4.685	2080-40-167	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	199	7.835	2080-40-168	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	297	11.693	2080-40-169	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
95.3-141.3	3.752-5.562				TR10A2C			CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__
95.3-141.3	3.752-5.562	296	11.653	2080-40-171	TR10A2C	TR10A2L	TR10A295C	CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE DIN 2080-50

with standard TR (Top-adjusting)
unit for finish boring

2080-50



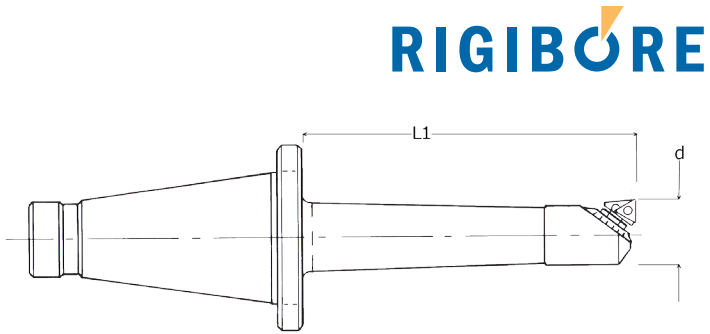
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	2080-50-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	2080-50-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	2080-50-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771				TR3A2			TC__0902__
37.5-48.7	1.476-1.917	116	4.567	2080-50-158	TR5B2C		TR5B295	CC__0602__
38.0-49.2	1.496-1.937				TR5B2			TC__1102__
37.5-48.7	1.476-1.917							CC__0602__
38.0-49.2	1.496-1.937	173	6.811	2080-50-159	TR5B2C	TR5B2L	TR5B295	TC__1102__
37.5-48.7	1.476-1.917				TR5B2			CC__0602__
38.0-49.2	1.496-1.937							TC__1102__
46.5-67.8	1.831-2.673	116	4.567	2080-50-160	TR5A2C		TR5A295C	CC__0602__
47.0-68.3	1.850-2.659				TR5A2			TC__1102__
46.5-67.8	1.831-2.673							CC__0602__
47.0-68.3	1.850-2.689	186	7.323	2080-50-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
46.5-67.8	1.831-2.673				TR5A2			TC__1102__
47.0-68.3	1.850-2.689							CC__0602__
46.5-67.8	1.831-2.673	208	8.187	2080-50-162	TR5A2C		TR5A295C	CC__0602__
47.0-68.3	1.850-2.689				TR5A2			TC__1102__
61.5-85.6	2.422-3.370							CC__0602__
61.5-85.6	2.422-3.370	128	5.039	2080-50-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
61.5-85.6	2.422-3.370				TR7A2			TC__16T3__
62.2-87.8	2.450-3.455	185	7.283	2080-50-164	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
61.5-85.6	2.422-3.370				TR7A2			TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
61.5-85.6	2.422-3.370	280	11.025	2080-50-165	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	119	4.685	2080-50-167	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	199	7.835	2080-50-168	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	297	11.693	2080-50-169	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
95.3-141.3	3.752-5.562				TR10A2C			CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__
95.3-141.3	3.752-5.562	118	4.645	2080-50-170	TR10A2C	TR10A2L	TR10A295C	CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE NMTB40

with standard TR (Top-adjusting) unit for
finish boring

NMTB40



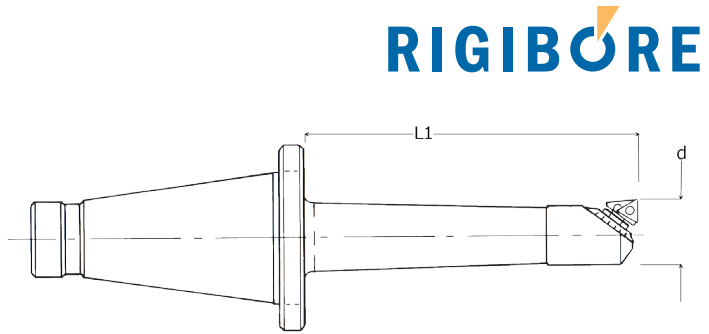
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	NMTB40-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087							
28.0-31.0	1.103-1.220							
28.0-32.0	1.103-1.260	107	4.212	NMTB40-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378							
31.0-42.0	1.220-1.654							
31.0-45.0	1.220-1.771	117	4.606	NMTB40-156	TR3A2C	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654							
31.0-45.0	1.220-1.771							
37.5-48.7	1.476-1.917	116	4.567	NMTB40-157	TR3A2C	TR3A2L	TR3A295	CC__0602__
38.0-49.2	1.496-1.937							
37.5-48.7	1.476-1.917							
38.0-49.2	1.496-1.937	173	6.811	NMTB40-158	TR5B2C	TR5B2L	TR5B295	TC__1102__
37.5-48.7	1.476-1.917							
38.0-49.2	1.496-1.937							
46.5-67.8	1.831-2.673	116	4.567	NMTB40-159	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.659							
46.5-67.8	1.831-2.673							
47.0-68.3	1.850-2.689	186	7.323	NMTB40-160	TR5A2C	TR5A2L	TR5A295C	TC__1102__
46.5-67.8	1.831-2.673							
47.0-68.3	1.850-2.689							
46.5-67.8	1.831-2.673	208	8.187	NMTB40-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.689							
46.5-67.8	1.831-2.673							
47.0-68.3	1.850-2.689	128	5.039	NMTB40-162	TR5A2C	TR5A2L	TR5A295C	TC__1102__
61.5-85.6	2.422-3.370							
62.2-87.8	2.450-3.455							
61.5-85.6	2.422-3.370	185	7.283	NMTB40-163	TR7A2C	TR7A2L	TR7A295C	TC__16T3__
62.2-87.8	2.450-3.455							
61.5-85.6	2.422-3.370							
62.2-87.8	2.450-3.455	280	11.025	NMTB40-164	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
61.5-85.6	2.422-3.370							
62.2-87.8	2.450-3.455							
79.5-104.6	3.130-4.118	119	4.685	NMTB40-165	TR7A2C	TR7A2L	TR7A295C	TC__16T3__
81.2-106.8	3.197-4.204							
79.5-104.6	3.130-4.118							
81.2-106.8	3.197-4.204	199	7.835	NMTB40-166	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118							
81.2-106.8	3.197-4.204							
79.5-104.6	3.130-4.118	297	11.693	NMTB40-167	TR7A2C	TR7A2L	TR7A295C	TC__16T3__
81.2-106.8	3.197-4.204							
79.5-104.6	3.130-4.118							
81.2-106.8	3.197-4.204	118	4.645	NMTB40-168	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
95.3-141.3	3.752-5.562							
96.0-141.5	3.780-5.570							
95.3-141.3	3.752-5.562	296	11.653	NMTB40-169	TR10A2C	TR10A2L	TR10A295C	CC__1204__
96.0-141.5	3.780-5.570							
95.3-141.3	3.752-5.562							
96.0-141.5	3.780-5.570	118	4.645	NMTB40-170	TR10A2C	TR10A2L	TR10A295C	TC__16T3__
95.3-141.3	3.752-5.562							
96.0-141.5	3.780-5.570							
95.3-141.3	3.752-5.562	296	11.653	NMTB40-171	TR10A2C	TR10A2L	TR10A295C	CC__1204__
96.0-141.5	3.780-5.570							
95.3-141.3	3.752-5.562							
96.0-141.5	3.780-5.570	296	11.653	NMTB40-172	TR10A2C	TR10A2L	TR10A295C	TC__16T3__
95.3-141.3	3.752-5.562							
96.0-141.5	3.780-5.570							

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE NMTB50

with standard TR (Top-adjusting) unit for
finish boring

NMTB50

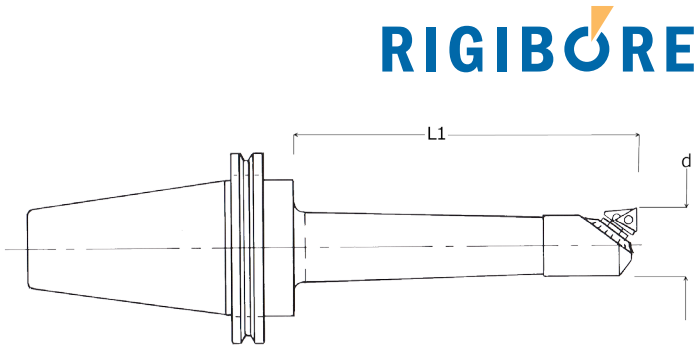


Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert	
mm	ins	mm	ins		90°	75°	95°		
23.0-27.0	.905-1.062	87	3.425	NMTB50-154		TR2B2L		TC__06T1__	
23.6-27.6	.930-1.087				TR2B3				
28.0-31.0	1.103-1.220				TR3B1				
28.0-32.0	1.103-1.260	107	4.212	NMTB50-155	TR3B2C	TR3B2L	TR3B295	CC__0602__	
28.0-35.0	1.103-1.378				TR3B2				
31.0-42.0	1.220-1.654				TR3A2C				
31.0-45.0	1.220-1.771	117	4.606	NMTB50-156	TR3A2	TR3A2L	TR3A295	CC__0602__	
31.0-42.0	1.220-1.654				TR3A2C				
31.0-45.0	1.220-1.771				TR3A2		TR3A295	TC__0902__	
37.5-48.7	1.476-1.917	116	4.567	NMTB50-158	TR5B2C	TR5B2L	TR5B295	CC__0602__	
38.0-49.2	1.496-1.937				TR5B2				TC__1102__
37.5-48.7	1.476-1.917								CC__0602__
38.0-49.2	1.496-1.937	173	6.811	NMTB50-159	TR5B2C	TR5B2L	TR5B295	TC__1102__	
37.5-48.7	1.476-1.917				TR5B2				CC__0602__
38.0-49.2	1.496-1.937								TC__1102__
46.5-67.8	1.831-2.673	116	4.567	NMTB50-160	TR5A2C	TR5A2L	TR5A295C	CC__0602__	
47.0-68.3	1.850-2.659				TR5A2		TR5A295	TC__1102__	
46.5-67.8	1.831-2.673								
47.0-68.3	1.850-2.689	186	7.323	NMTB50-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__	
46.5-67.8	1.831-2.673				TR5A2		TR5A295	TC__1102__	
47.0-68.3	1.850-2.689								
46.5-67.8	1.831-2.673	208	8.187	NMTB50-162	TR5A2C	TR5A2L	TR5A295C	CC__0602__	
47.0-68.3	1.850-2.689				TR5A2		TR5A295	TC__1102__	
61.5-85.6	2.422-3.370								
62.2-87.8	2.450-3.455	128	5.039	NMTB50-163	TR7A2	TR7A2L	TR7A295	TC__16T3__	
61.5-85.6	2.422-3.370				TR7A2C		TR7A295C	CC__09T3__	
62.2-87.8	2.450-3.455								
61.5-85.6	2.422-3.370	185	7.283	NMTB50-164	TR7A2	TR7A2L	TR7A295	TC__16T3__	
62.2-87.8	2.450-3.455				TR7A2C		TR7A295C	CC__09T3__	
61.5-85.6	2.422-3.370								
62.2-87.8	2.450-3.455	280	11.025	NMTB50-165	TR7A2	TR7A2L	TR7A295	TC__16T3__	
79.5-104.6	3.130-4.118				TR7A2C		TR7A295C	CC__09T3__	
81.2-106.8	3.197-4.204								
79.5-104.6	3.130-4.118	119	4.685	NMTB50-167	TR7A2	TR7A2L	TR7A295	TC__16T3__	
81.2-106.8	3.197-4.204				TR7A2C		TR7A295C	CC__09T3__	
79.5-104.6	3.130-4.118								
81.2-106.8	3.197-4.204	199	7.835	NMTB50-168	TR7A2	TR7A2L	TR7A295	TC__16T3__	
79.5-104.6	3.130-4.118				TR7A2C		TR7A295C	CC__09T3__	
81.2-106.8	3.197-4.204								
95.3-141.3	3.752-5.562	118	4.645	NMTB50-170	TR10A2C	TR10A2L	TR10A295C	CC__1204__	
96.0-141.5	3.780-5.570				TR10A2		TR10A295	TC__16T3__	
95.3-141.3	3.752-5.562								
96.0-141.5	3.780-5.570	296	11.653	NMTB50-171	TR10A2C	TR10A2L	TR10A295C	CC__1204__	
					TR10A2		TR10A295	TC__16T3__	

STANDARD BORING BARS
TYPE ISO7388 (DIN 69871A)

with standard TR (Top-adjusting) unit for
finish boring

7388-40



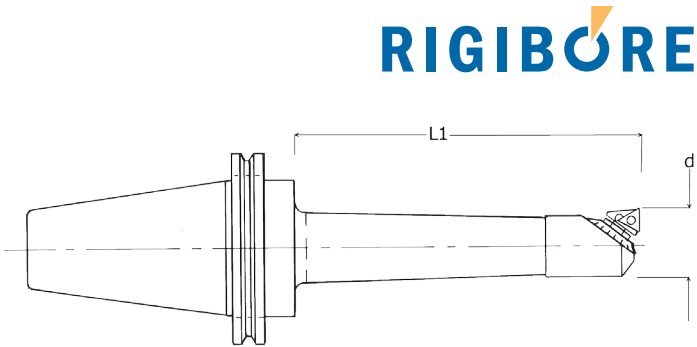
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert	
mm	ins	mm	ins		90°	75°	95°		
23.0-27.0	.905-1.062	87	3.425	7388-40-154		TR2B2L		TC__06T1__	
23.6-27.6	.930-1.087				TR2B3				
28.0-31.0	1.103-1.220				TR3B1				
28.0-32.0	1.103-1.260	107	4.212	7388-40-155	TR3B2C	TR3B2L	TR3B295	CC__0602__	
28.0-35.0	1.103-1.378				TR3B2			TC__0902__	
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__	
31.0-45.0	1.220-1.771	117	4.606	7388-40-156	TR3A2	TR3A2L	TR3A295	TC__0902__	
31.0-42.0	1.220-1.654				TR3A2C	CC__0602__			
31.0-45.0	1.220-1.771				TR3A2	TR3A2L	TR3A295	TC__0902__	
37.5-48.7	1.476-1.917	116	4.567	7388-40-158	TR5B2C		TR5B295	CC__0602__	
					TR5B2			TR5B2L	TC__1102__
38.0-49.2	1.496-1.937	173	6.811	7388-40-159	TR5B2C	TR5B2L	TR5B295	CC__0602__	
37.5-48.7	1.476-1.917				TR5B2			TC__1102__	
38.0-49.2	1.496-1.937								
46.5-67.8	1.831-2.673	116	4.567	7388-40-160	TR5A2C		TR5A295C	CC__0602__	
					TR5A2		TR5A295	TC__1102__	
					47.0-68.3		1.850-2.689	TR5A2L	
46.5-67.8	1.831-2.673	186	7.323	7388-40-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__	
47.0-68.3	1.850-2.689				TR5A2		TR5A295	TC__1102__	
61.5-85.6	2.422-3.370	128	5.039	7388-40-163	TR5A2C		TR5A295C	CC__0602__	
62.2-87.8	2.450-3.455				TR7A2C		TR7A295C	CC__09T3__	
61.5-85.6	2.422-3.370				TR7A2		TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455	185	7.283	7388-40-164	TR7A2C	TR7A2L	TR7A295C	CC__09T3__	
79.5-104.6	3.130-4.118				TR7A2		TR7A295	TC__16T3__	
81.2-106.8	3.197-4.204				TR7A2C		TR7A295C	CC__09T3__	
79.5-104.6	3.130-4.118	199	7.835	7388-40-168	TR7A2	TR7A2L	TR7A295	TC__16T3__	
81.2-106.8	3.197-4.204				TR7A2C	TR7A295	CC__09T3__		
95.3-141.3	3.752-5.562	118	4.645	7388-40-170	TR10A2C	TR10A2L	TR10A295C	CC__1204__	
96.0-141.5	3.780-5.570				TR10A2		TR10A295	TC__16T3__	
95.3-141.3	3.752-5.562				TR10A2C		TR10A295C	CC__1204__	
96.0-141.5	3.780-5.570	296	11.653	7388-40-171	TR10A2	TR10A2L	TR10A295	TC__16T3__	

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE ISO7388 (DIN 69871A)

with standard TR (Top-adjusting) unit for
finish boring

7388-50



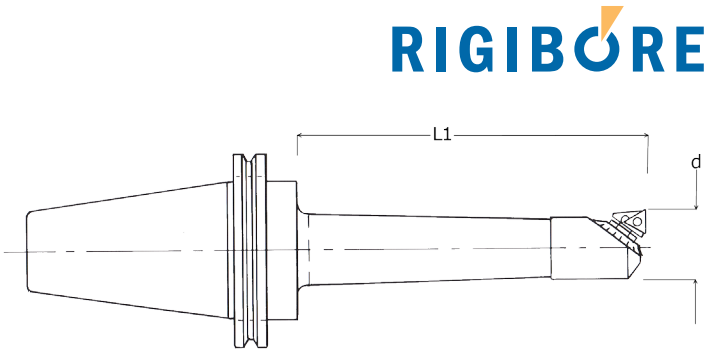
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	7388-50-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	7388-50-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	7388-50-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C		CC__0602__	
31.0-45.0	1.220-1.771				TR3A2	TR3A2L	TR3A295	TC__0902__
37.5-48.7	1.476-1.917	116	4.567	7388-50-158	TR5B2C		TR5B295	CC__0602__
					TR5B2			TC__1102__
								CC__0602__
38.0-49.2	1.496-1.937	173	6.811	7388-50-159		TR5B2L	TR5B295	TC__1102__
37.5-48.7	1.476-1.917				TR5B2C			CC__0602__
38.0-49.2	1.496-1.937				TR5B2			TC__1102__
46.5-67.8	1.831-2.673	116	4.567	7388-50-160	TR5A2C	TR5A2L	TR5A295C	CC__0602__
					TR5A2		TR5A295	TC__1102__
47.0-68.3	1.850-2.689	186	7.323	7388-50-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
46.5-67.8	1.831-2.673				TR5A2		TR5A295	TC__1102__
47.0-68.3	1.850-2.689							
46.5-67.8	1.831-2.673	208	8.187	7388-50-162	TR5A2C		TR5A295C	CC__0602__
					TR5A2		TR5A295	TC__1102__
					47.0-68.3		1.850-2.689	
61.5-85.6	2.422-3.370	128	5.039	7388-50-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C		TR7A295C	CC__09T3__
61.5-85.6	2.422-3.370				185	7.283	7388-50-164	TR7A2
62.2-87.8	2.450-3.455	TR7A2C		TR7A295C				CC__09T3__
79.5-104.6	3.130-4.118	119	4.685	7388-50-167				TR7A2
81.2-106.8	3.197-4.204				TR7A2C		TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118				199	7.835	7388-50-168	TR7A2
81.2-106.8	3.197-4.204	TR7A2C		TR7A295C				CC__09T3__
79.5-104.6	3.130-4.118	297	11.693	7388-50-169				TR7A2
81.2-106.8	3.197-4.204				TR7A2C		TR7A295C	CC__09T3__
95.3-141.3	3.752-5.562				118	4.645	7388-50-170	TR10A2C
96.0-141.5	3.780-5.570	TR10A2	TR10A2L	TR10A295				TC__16T3__
95.3-141.3	3.752-5.562	296	11.653	7388-50-171				TR10A2C
96.0-141.5	3.780-5.570				TR10A2	TR10A2L	TR10A295	TC__16T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS TYPE
ANSI B5-50 (1985)

with standard TR (Top-adjusting)
unit for finish boring

ANSI50



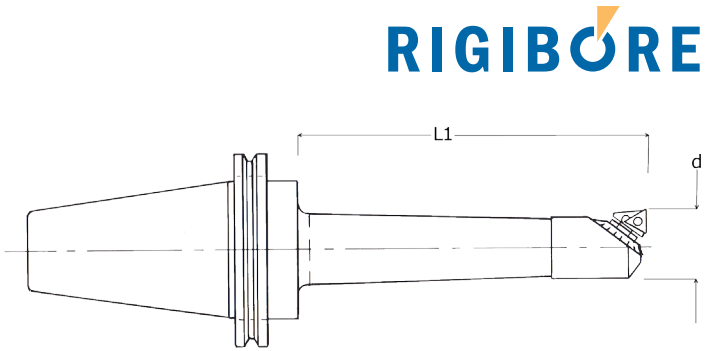
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	ANSI-50-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	ANSI-50-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	ANSI-50-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771				TR3A2			TC__0902__
					TR3A2			CC__0602__
37.5-48.7	1.476-1.917	116	4.567	ANSI-50-158	TR5B2C		TR5B295	CC__0602__
					TR5B2			TC__1102__
								CC__0602__
38.0-49.2	1.496-1.937	173	6.811	ANSI-50-159		TR5B2L	TR5B295	TC__1102__
					TR5B2C			CC__0602__
					TR5B2			TC__1102__
								CC__0602__
46.5-67.8	1.831-2.673	116	4.567	ANSI-50-160	TR5A2C		TR5A295C	CC__0602__
					TR5A2			TC__1102__
								CC__0602__
47.0-68.3	1.850-2.689	186	7.323	ANSI-50-161		TR5A2L	TR5A295C	TC__1102__
					TR5A2C			CC__0602__
					TR5A2			TC__1102__
								CC__0602__
46.5-67.8	1.831-2.673	208	8.187	ANSI-50-162	TR5A2C		TR5A295C	CC__0602__
					TR5A2			TC__1102__
								CC__0602__
47.0-68.3	1.850-2.689	128	5.039	ANSI-50-163		TR5A2L	TR5A295C	TC__1102__
					TR7A2			CC__09T3__
					TR7A2C			TC__16T3__
61.5-85.6	2.422-3.370	185	7.283	ANSI-50-164	TR7A2	TR7A2L	TR7A295	TC__16T3__
					TR7A2C			CC__09T3__
					TR7A2			TC__16T3__
62.2-87.8	2.450-3.455	280	11.025	ANSI-50-165	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
					TR7A2			TC__16T3__
					TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	119	4.685	ANSI-50-167	TR7A2	TR7A2L	TR7A295	TC__16T3__
					TR7A2C			CC__09T3__
					TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	199	7.835	ANSI-50-168	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
					TR7A2			TC__16T3__
					TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	297	11.693	ANSI-50-169	TR7A2	TR7A2L	TR7A295	TC__16T3__
					TR7A2C			CC__09T3__
					TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	118	4.645	ANSI-50-170	TR10A2C	TR10A2L	TR10A295C	CC__1204__
					TR10A2			TC__16T3__
					TR10A2C			CC__1204__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE CAT40

with standard TR
(Top-adjusting) unit for finish boring

CAT40



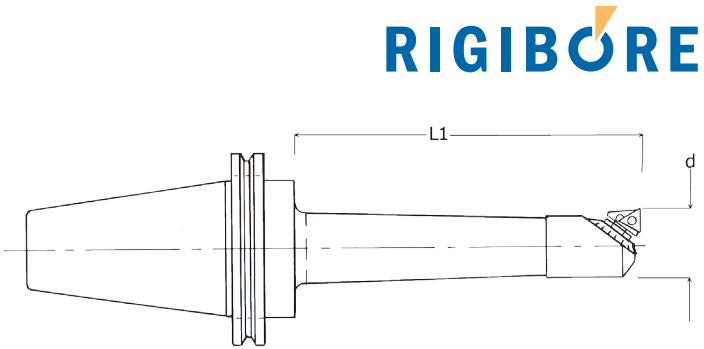
Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	CAT40-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	CAT40-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	CAT40-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771				TR3A2			TC__0902__
					TR3A2			CC__0602__
37.5-48.7	1.476-1.917	116	4.567	CAT40-158	TR5B2C		TR5B295	CC__0602__
					TR5B2			TC__1102__
								CC__0602__
38.0-49.2	1.496-1.937	173	6.811	CAT40-159		TR5B2L	TR5B295	TC__1102__
					TR5B2C			CC__0602__
					TR5B2			TC__1102__
								CC__0602__
46.5-67.8	1.831-2.673	116	4.567	CAT40-160	TR5A2C		TR5A295C	CC__0602__
					TR5A2			TC__1102__
								CC__0602__
47.0-68.3	1.850-2.689	186	7.323	CAT40-161		TR5A2L	TR5A295C	TC__1102__
					TR5A2C			CC__0602__
					TR5A2			TC__1102__
								CC__0602__
46.5-67.8	1.831-2.673	128	5.039	CAT40-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
					TR7A2C			CC__09T3__
								CC__09T3__
61.5-85.6	2.422-3.370	185	7.283	CAT40-164	TR7A2	TR7A2L	TR7A295	TC__16T3__
					TR7A2C			CC__09T3__
					TR7A2			TC__16T3__
62.2-87.8	2.450-3.455	119	4.685	CAT40-167	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
					TR7A2			TC__16T3__
					TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	199	7.835	CAT40-168	TR7A2	TR7A2L	TR7A295	TC__16T3__
					TR7A2C			CC__09T3__
					TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	118	4.645	CAT40-170	TR10A2C	TR10A2L	TR10A295C	CC__1204__
					TR10A2			TC__16T3__
					TR10A2C			CC__1204__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
TYPE CAT

with standard TR (Top-adjusting) unit for
finish boring

CAT50



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins		90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	CAT50-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087				TR2B3			
28.0-31.0	1.103-1.220				TR3B1			
28.0-32.0	1.103-1.260	107	4.212	CAT50-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378				TR3B2			TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	CAT50-156	TR3A2	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654				TR3A2C			CC__0602__
31.0-45.0	1.220-1.771				TR3A2			TC__0902__
37.5-48.7	1.476-1.917	116	4.567	CAT50-157	TR3A2C	TR3A2L	TR3A295	CC__0602__
					TR5B2C			CC__0602__
					TR5B2			TC__1102__
38.0-49.2	1.496-1.937	173	6.811	CAT50-158		TR5B2L	TR5B295	CC__0602__
37.5-48.7	1.476-1.917				TR5B2C			TC__1102__
38.0-49.2	1.496-1.937				TR5B2			CC__0602__
46.5-67.8	1.831-2.673	116	4.567	CAT50-159	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.689				TR5A2			TC__1102__
46.5-67.8	1.831-2.673				TR5A2C			CC__0602__
47.0-68.3	1.850-2.689	186	7.323	CAT50-160	TR5A2	TR5A2L	TR5A295C	CC__0602__
46.5-67.8	1.831-2.673				TR5A2C			TC__1102__
47.0-68.3	1.850-2.689				TR5A2			CC__0602__
46.5-67.8	1.831-2.673	208	8.187	CAT50-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.689				TR5A2			TC__1102__
46.5-67.8	1.831-2.673				TR5A2C			CC__0602__
47.0-68.3	1.850-2.689	128	5.039	CAT50-162	TR5A2	TR5A2L	TR5A295C	CC__0602__
61.5-85.6	2.422-3.370				TR7A2			TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
61.5-85.6	2.422-3.370	185	7.283	CAT50-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
61.5-85.6	2.422-3.370				TR7A2			TC__16T3__
62.2-87.8	2.450-3.455	280	11.025	CAT50-164	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
61.5-85.6	2.422-3.370				TR7A2			TC__16T3__
62.2-87.8	2.450-3.455				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	119	4.685	CAT50-165	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	199	7.835	CAT50-166	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	297	11.693	CAT50-167	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204				TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118				TR7A2			TC__16T3__
95.3-141.3	3.752-5.562	118	4.645	CAT50-168	TR10A2C	TR10A2L	TR10A295C	CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__
95.3-141.3	3.752-5.562				TR10A2C			CC__1204__
96.0-141.5	3.780-5.570	296	11.653	CAT50-169	TR10A2	TR10A2L	TR10A295	TC__16T3__
95.3-141.3	3.752-5.562				TR10A2C			CC__1204__
96.0-141.5	3.780-5.570				TR10A2			TC__16T3__

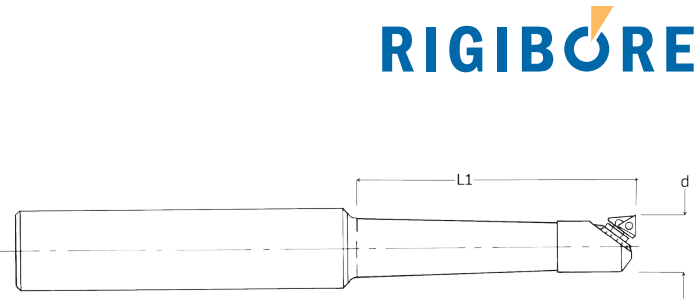
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

RIGIBORE

STANDARD BORING BARS
PLAIN STRAIGHT SHANK

with standard TR (Top-adjusting) unit for
finish boring

25SS / 1.00SS



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	25SS-154	1.00SS-154		TR2B2L		TC__06T1__
23.6-27.6	.930-1.087					TR2B3			
28.0-31.0	1.103-1.220					TR3B1			
28.0-32.0	1.103-1.260	107	4.212	25SS-155	1.00SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378					TR3B2			TC__0902__
31.0-42.0	1.220-1.654					TR3A2C			CC__0602__
31.0-45.0	1.220-1.771	117	4.606	25SS-156	1.00SS-156	TR3A2	TR3A2L	TR3A295	TC__0902__
37.5-48.7	1.476-1.917					TR5B2C			CC__0602__
38.0-49.2	1.496-1.937					TR5B2			TC__1102__
46.5-67.8	1.831-2.673	116	4.567	25SS-158	1.00SS-158		TR5B2L	TR5B295	CC__0602__
47.0-68.3	1.850-2.689					TR5A2C			CC__0602__
61.5-85.6	2.422-3.370					TR5A2			TC__1102__
62.2-87.8	2.450-3.455	128	5.039	25SS-160	1.00SS-160		TR5A2L	TR5A295C	CC__0602__
79.5-104.6	3.130-4.118					TR7A2			TC__16T3__
81.2-106.8	3.197-4.204					TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118	119	4.685	25SS-163	1.00SS-163	TR7A2	TR7A2L	TR7A295	TC__16T3__
81.2-106.8	3.197-4.204					TR7A2C			CC__09T3__
79.5-104.6	3.130-4.118					TR7A2			TC__16T3__
81.2-106.8	3.197-4.204	199	7.835	25SS-167	1.00SS-167	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118					TR7A2			TC__16T3__
81.2-106.8	3.197-4.204					TR7A2C			CC__09T3__

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

Specialists In Special Tools

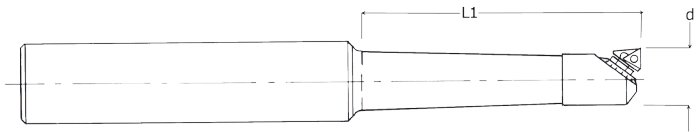


STANDARD BORING BARS
PLAIN STRAIGHT SHANK

with standard TR (Top-adjusting) unit for
finish boring

32SS / 1.25SS

RIGIBORE



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	32SS-154	1.25SS-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087								
28.0-31.0	1.103-1.220								
28.0-32.0	1.103-1.260	107	4.212	32SS-155	1.25SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378								
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771	117	4.606	32SS-156	1.25SS-156	TR3A2C	TR3A2L	TR3A295	TC__0902__
37.5-48.7	1.476-1.917								
38.0-49.2	1.496-1.937								
46.5-67.8	1.831-2.673	116	4.567	32SS-158	1.25SS-158	TR5B2C	TR5B2L	TR5B295	TC__1102__
47.0-68.3	1.850-2.689								
61.5-85.6	2.422-3.370								
62.2-87.8	2.450-3.455	128	5.039	32SS-163	1.25SS-163	TR7A2C	TR7A2L	TR7A295	TC__16T3__
79.5-104.6	3.130-4.118								
81.2-106.8	3.197-4.204								

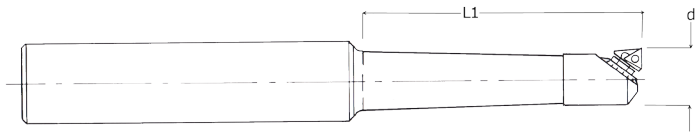
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
PLAIN STRAIGHT SHANK

with standard TR (Top-adjusting) unit for
finish boring

40SS / 1.50SS

RIGIBORE



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	40SS-154	1.50SS-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087								
28.0-31.0	1.103-1.220								
28.0-32.0	1.103-1.260	107	4.212	40SS-155	1.50SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378								
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771	117	4.606	40SS-156	1.50SS-156	TR3A2C	TR3A2L	TR3A295	TC__0902__
37.5-48.7	1.476-1.917								
38.0-49.2	1.496-1.937								
46.5-67.8	1.831-2.673	116	4.567	40SS-157	1.50SS-157	TR5B2C	TR5B2L	TR5B295	TC__1102__
47.0-68.3	1.850-2.689								
61.5-85.6	2.422-3.370								
62.2-87.8	2.450-3.455	128	5.039	40SS-158	1.50SS-158	TR7A2C	TR7A2L	TR7A295	TC__16T3__
79.5-104.6	3.130-4.118								
81.2-106.8	3.197-4.204								

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

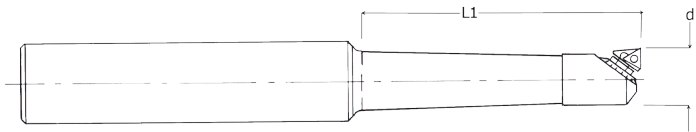


STANDARD BORING BARS
PLAIN STRAIGHT SHANK

with standard TR (Top-adjusting) unit for
finish boring

50SS / 2.00SS

RIGIBORE



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	50SS-154	2.00SS-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087								
28.0-31.0	1.103-1.220								
28.0-32.0	1.103-1.260	107	4.212	50SS-155	2.00SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378								
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771	117	4.606	50SS-156	2.00SS-156	TR3A2C	TR3A2L	TR3A295	TC__0902__
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771								
37.5-48.7	1.476-1.917	132	5.197	50SS-157	2.00SS-157	TR3A2C	TR3A2L	TR3A295	TC__0902__
38.0-49.2	1.496-1.937	116	4.567	50SS-158	2.00SS-158	TR5B2C	TR5B2L	TR5B295	CC__0602__
37.5-48.7	1.476-1.917	173	6.811	50SS-159	2.00SS-159	TR5B2C	TR5B2L	TR5B295	TC__1102__
38.0-49.2	1.496-1.937	116	4.567	50SS-160	2.00SS-160	TR5A2C	TR5A2L	TR5A295C	CC__0602__
46.5-67.8	1.831-2.673	116	4.567	50SS-161	2.00SS-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.689	186	7.323	50SS-162	2.00SS-162	TR5A2C	TR5A2L	TR5A295C	CC__0602__
46.5-67.8	1.831-2.673	128	5.039	50SS-163	2.00SS-163	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
47.0-68.3	1.850-2.689	185	7.283	50SS-164	2.00SS-164	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
61.5-85.6	2.422-3.370	119	4.685	50SS-167	2.00SS-167	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
62.2-87.8	2.450-3.455	199	7.835	50SS-168	2.00SS-168	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118	118	4.645	50SS-170	2.00SS-170	TR10A2C	TR10A2L	TR10A295C	CC__1204__
81.2-106.8	3.197-4.204					TR10A2	TR10A2L	TR10A295	TC__16T3__

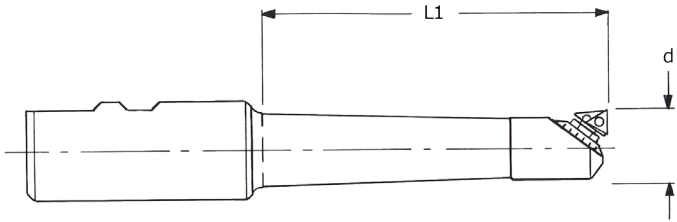
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

with standard TR (Top-adjusting) unit for
finish boring

W25SS / W1.00SS

RIGIBORE



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	W25SS-154	W1.00SS-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087								
28.0-31.0	1.103-1.220								
28.0-32.0	1.103-1.260	107	4.212	W25SS-155	W1.00SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378								
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771	117	4.606	W25SS-156	W1.00SS-156	TR3A2C	TR3A2L	TR3A295	TC__0902__
37.5-48.7	1.476-1.917								
38.0-49.2	1.496-1.937								
46.5-67.8	1.831-2.673	116	4.567	W25SS-158	W1.00SS-158	TR5B2C	TR5B2L	TR5B295	CC__0602__
47.0-68.3	1.850-2.689	128	5.039	W25SS-160	W1.00SS-160	TR5A2C	TR5A2L	TR5A295C	CC__0602__
61.5-85.6	2.422-3.370	119	4.685	W25SS-163	W1.00SS-163	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
79.5-104.6	3.130-4.118	119	4.685	W25SS-167	W1.00SS-167	TR7A2C	TR7A2L	TR7A295C	CC__09T3__
81.2-106.8	3.197-4.204					TR7A2C	TR7A2L	TR7A295C	CC__09T3__

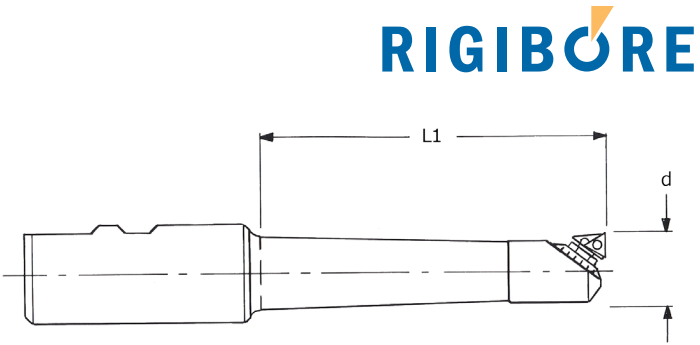
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.



STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

with standard TR (Top-adjusting) unit for finish boring

W32SS / W1.25SS



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	W32SS-154	W1.25SS-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087								
28.0-31.0	1.103-1.220								
28.0-32.0	1.103-1.260	107	4.212	W32SS-155	W1.25SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378								
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771	117	4.606	W32SS-156	W1.25SS-156	TR3A2C	TR3A2L	TR3A295	TC__0902__
37.5-48.7	1.476-1.917								
38.0-49.2	1.496-1.937								
46.5-67.8	1.831-2.673	116	4.567	W32SS-158	W1.25SS-158	TR5B2C	TR5B2L	TR5B295	TC__1102__
47.0-68.3	1.850-2.689								
61.5-85.6	2.422-3.370								
62.2-87.8	2.450-3.455	128	5.039	W32SS-163	W1.25SS-163	TR7A2C	TR7A2L	TR7A295	TC__16T3__
79.5-104.6	3.130-4.118								
81.2-106.8	3.197-4.204								

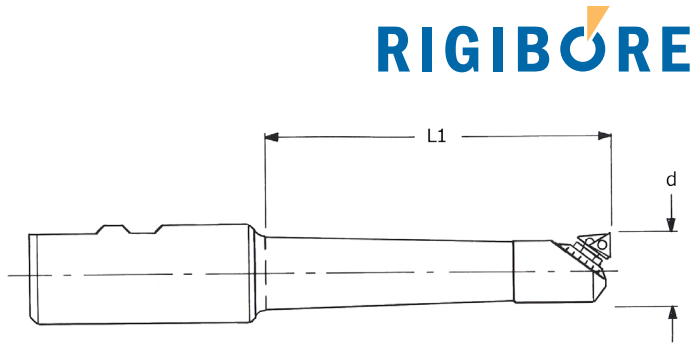
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

Please Contact Us For Other Product Information

STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

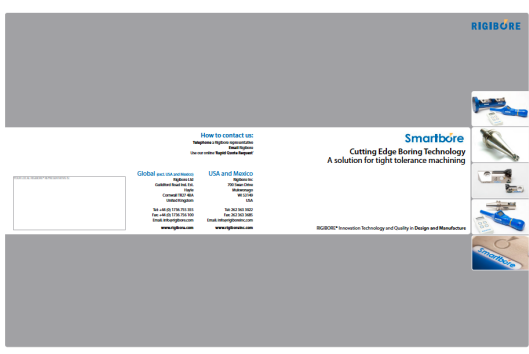
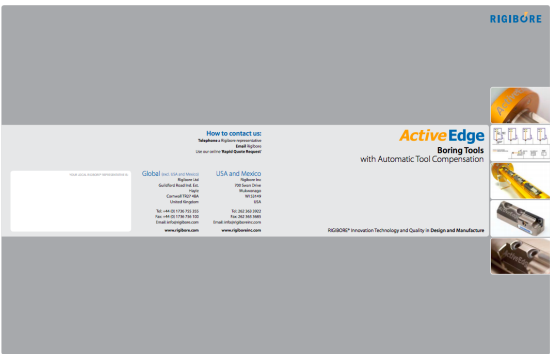
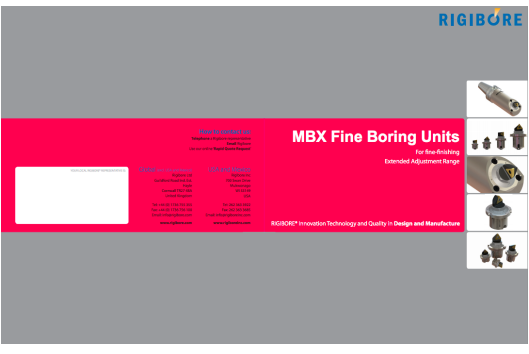
with standard TR (Top-adjusting) unit for finish boring

W40SS / W1.50SS



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	W40SS-154	W1.50SS-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087								
28.0-31.0	1.103-1.220								
28.0-32.0	1.103-1.260	107	4.212	W40SS-155	W1.50SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.375								
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771	117	4.606	W40SS-156	W1.50SS-156	TR3A2C	TR3A2L	TR3A29	TC__0902__
37.5-48.7	1.476-1.917								
38.0-49.2	1.496-1.937								
46.5-67.8	1.831-2.673	132	5.197	W40SS-157	W1.50SS-157	TR5B2C	TR5B2L	TR5B295	TC__1102__
47.0-68.3	1.850-2.689								
61.5-85.6	2.422-3.370								
62.2-87.8	2.450-3.455	116	4.567	W40SS-158	W1.50SS-158	TR7A2C	TR7A2L	TR7A295	TC__16T3__
79.5-104.6	3.130-4.118								
81.2-106.8	3.197-4.204								
95.3-141.03	3.520-5.562	118	4.645	W40SS-160	W1.50SS-160	TR10A2C	TR10A2L	TR10A295	CC__1204__
96.0-141.05	3.780-5.570								

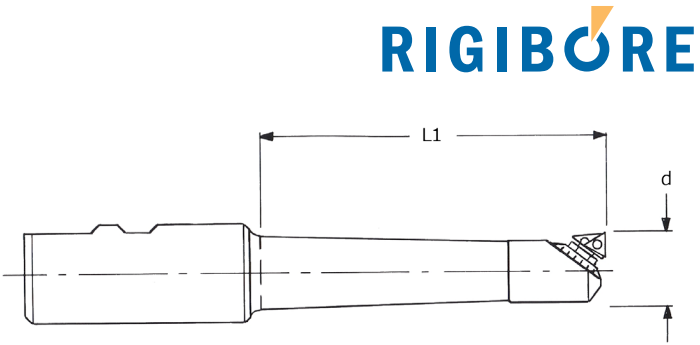
Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.



STANDARD BORING BARS
WELDON (DIN 1835B/ANSI B94-19)

with standard TR (Top-adjusting) unit for finish boring

W50SS / W2.00SS



Boring Range d		Bore Depth L1		Boring Bar Ordering Code	Boring Bar Ordering Code	Boring Unit & Approach Angle			Insert
mm	ins	mm	ins	METRIC	IMPERIAL	90°	75°	95°	
23.0-27.0	.905-1.062	87	3.425	W50SS-154	W2.00SS-154	TR2B3	TR2B2L		TC__06T1__
23.6-27.6	.930-1.087								
28.0-31.0	1.103-1.220								
28.0-32.0	1.103-1.260	107	4.212	W50SS-155	W2.00SS-155	TR3B2C	TR3B2L	TR3B295	CC__0602__
28.0-35.0	1.103-1.378								
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771	117	4.606	W50SS-156	W2.00SS-156	TR3A2C	TR3A2L	TR3A29	TC__0902__
31.0-42.0	1.220-1.654								
31.0-45.0	1.220-1.771								
37.5-48.7	1.476-1.917	116	4.567	W50SS-157	W2.00SS-157	TR3A2C	TR3A2L	TR3A29	CC__0602__
38.0-49.2	1.496-1.937								
37.5-48.7	1.476-1.917								
38.0-49.2	1.496-1.937	173	6.811	W50SS-158	W2.00SS-158	TR5B2C	TR5B2L	TR5B295	TC__1102__
46.5-67.8	1.831-2.673								
47.0-68.3	1.850-2.689								
46.5-67.8	1.831-2.673	186	7.323	W50SS-159	W2.00SS-159	TR5A2C	TR5A2L	TR5A295C	CC__0602__
47.0-68.3	1.850-2.689								
61.5-85.6	2.422-3.870								
62.2-87.8	2.450-3.455	128	5.039	W50SS-160	W2.00SS-160	TR5B2	TR5B2L	TR5B295	TC__1102__
61.5-85.6	2.422-3.870								
62.2-87.8	2.450-3.455								
79.5-104.6	3.130-4.118	185	7.283	W50SS-161	W2.00SS-161	TR5A2C	TR5A2L	TR5A295C	CC__0602__
81.2-106.8	3.197-4.204								
79.5-104.6	3.130-4.118								
81.2-106.8	3.197-4.204	119	4.685	W50SS-162	W2.00SS-162	TR7A2	TR7A2L	TR7A295	TC__16T3__
95.3-141.3	3.752-5.562								
96.0-141.5	3.780-5.570								

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS
PARALLEL BORING BARS
(METRIC)

with standard R unit for roughing & semi-finishing



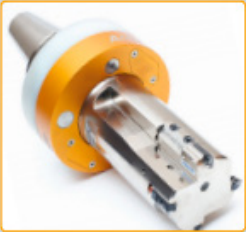
Boring Range D (mm)	Boring Unit & Approach Angle			Boring Bar Ordering Code	A dia	B	Insert		
	90 °	75 °	95 °						
16.70-18.25	R2B2S			16PAR-536	16	145	TC__06T102		
17.40-19.00				16PAR-537					
19.00-23.00				R2B2		160			
23.00-27.00	R2B2L	20PAR-550	20	170					
23.00-31.00	R3B1								
24.00-32.00	R3B2C				R3B2L	R3B295	25PAR-560	25	185
27.00-35.00	R3B2	R3A2L	R3A295	32PAR-580					32
28.00-42.00	R3A2C								
31.00-45.00	R3A2				R5B2C	R5B295	245		
37.50-48.70	R5B2	R5A2L	R5A295C	40PAR-600				40	
38.00-49.20									R5A295
46.50-67.80	R5A2C				R5A2L	R5A295	40PAR-600		
47.00-68.30	R5A2	R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L
					R5A2L	R5A295	40PAR-600		
		R5A2L	R5A295	40PAR-600				40	
									R5A2L

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

ActiveEdge

Fully Automatic Boring Bar Compensation

- Automatic bore sizing
- Increase in cell productivity and throughput efficiency
- Consistent bore size control
- Increase in spindle utilisation
- Multiple edges with individual adjustment
- Reduces scrap
- Simple to set up



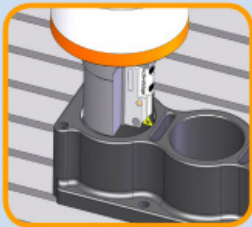
ActiveEdge

Remotely Adjustable Boring Bars

Adjust boring tools from hand held device without entering the machine.

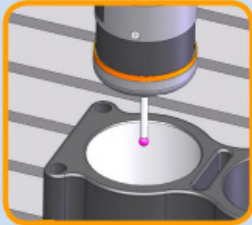
Reduces health and safety risks

Accurate adjustments without presetter



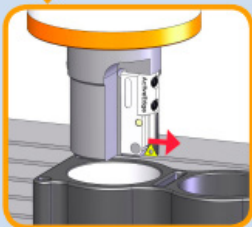
Bore

Pre-set tool bores hole on CNC Machine Tool.



Measure

Bored hole is measured with dedicated gauge or probe.



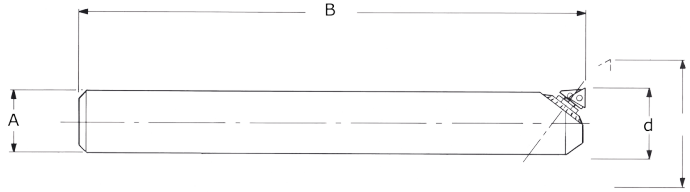
Automatic Adjust

Measurement is used to calculate adjustment for tool. Boring tool is wirelessly adjusted.

STANDARD BORING
BARS – PARALLEL BORING BARS
(METRIC)

with standard TR (Top-adjusting) unit for
finish boring

RIGIBORE



Boring Range D (mm)	Boring Unit & Approach Angle			Boring Bar Ordering Code	A dia	B	Insert				
	90 °	75 °	95 °								
23.00-27.00		TR2B2L		16PAR-540	16	160	TC__ 06T102				
23.60-27.60	TR2B3										
28.00-31.00	TR3B1			20PAR-550	20	170	CC__ 060204				
28.00-32.00	TR3B2C	TR3B2L									
28.00-35.00	TR3B2	TR3B2L	TR3B295	25PAR-560	25	185	TC__ 090204				
31.00-42.00	TR3A2C						CC__ 060204				
31.00-45.00	TR3A2	TR3A2L					TR3A295				TC__ 090204
37.50-48.70	TR5B2C		32PAR-580	32	245	CC__ 060204					
	TR5B2					TR5B295				TC__ 110204	
38.00-49.20		TR5B2L								TC__ 110204	
46.50-67.80	TR5A2C	TR5A295C	TR5A295	40PAR-600		40	CC__ 060204				
	TR5A2						TC__ 110204				
47.00-68.30							TR5A2L				

Boring bar, unit and inserts are ordered separately. Adjusting wrench is included with the boring unit.

STANDARD BORING BARS

With ‘F’ Style Units

- Standard ‘R’ Units For Roughing & Semi-Finishing
- Top-adjusting ‘TR’ units for fine-finishing

RIGIBORE

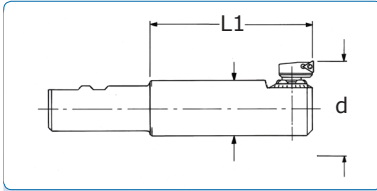


To order, specify the shank type with the boring bar reference

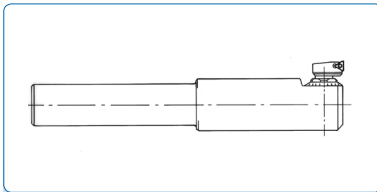
For example: BT40-260-098, W25SS-495-191

*LH (Left Hand Units) are available for back boring

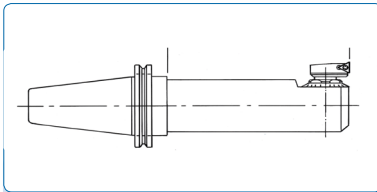
Standard boring bars with ‘F’ style units - Top-adjusting ‘TR’ units for
finishing



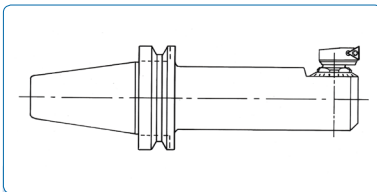
DIN 1835 Weldon mm/inch



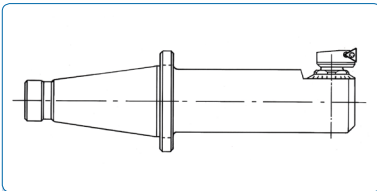
Straight Shank mm/inch



ANSIB550 / CAT / ISO7388



BT (MAS 403)



DIN 2080 / NMTB

Boring Range ‘d’		Boring Depth L1		Boring Unit & Approach Angle			Insert	Boring Bar Order Reference
mm	inch	mm	inch	90 °	75 °	95 °		
26.0-37.0	1.024-1.457	98	3.858	R2F5			TC__06T1__	SHANK TYPE-260-098
36.3-54.5	1.429-2.145	114	4.488	R3F5			TC__0902__	SHANK TYPE-363-114
49.5-76.3	1.949-3.004	151	5.945	R5F5*		R5F595	TC__1102__	SHANK TYPE-495-151
				R5F5C*			CC__0602__	
66.5-98.5	2.618-3.878	215	8.465	R7F5*	R7F5L	R7F595	TC__16T3__	SHANK TYPE-665-215
			8.645	R7F5C*		R7F595C	CC__09T3__	SHANK TYPE-662-215
97.0-154.4	3.819-6.079	217	8.543	R10F5	R10F5L	R10F595	TC__16T3__	SHANK TYPE-970-217
				R10F5C		R10F595C	CC__1204__	

Boring Range ‘d’		Boring Depth L1		Boring Unit & Approach Angle			Insert	Boring Bar Order Reference
mm	inch	mm	inch	90 °	75 °	95 °		
30.0-37.0	1.181-1.457	98	3.858	TR2F5			TC__06T1__	SHANK TYPE-260-098
36.3-54.5	1.429-2.145	114	4.488	TR3F5			TC__0902__	SHANK TYPE-363-114
49.5-76.3	1.949-3.004	151	5.945	TR5F5*		TR5F595	TC__1102__	SHANK TYPE-495-151
				TR5F5C*			CC__0602__	
74.0-98.5	2.913-3.878	215	8.465	TR7F5*	TR7F5L	TR7F595	TC__16T3__	SHANK TYPE-665-215
				TR7F5C*		TR7F595C	CC__09T3__	
97.0-154.4	3.819-6.079	217	8.543	TR10F5*	TR10F5L	TR10F595	TC__16T3__	SHANK TYPE-970-217
				TR10F5C*		TR10F595C	CC__1204__	

Top adjustment for units

TR2	0.25mm / .010 inch
TR3	0.35mm / .014 inch
TR5	0.5mm / .020 inch
TR7	0.75mm / .030 inch
TR10	0.87mm / .034 inch

STANDARD BORING BARS AND FLANGES

Boring flange adaptors are available on most shanks

RIGIBORE



RIGIBORE

To order, specify:

1. Flange Adaptor by Shank e.g BT50 x type e.g. F300 x Length (L) e.g. 150.

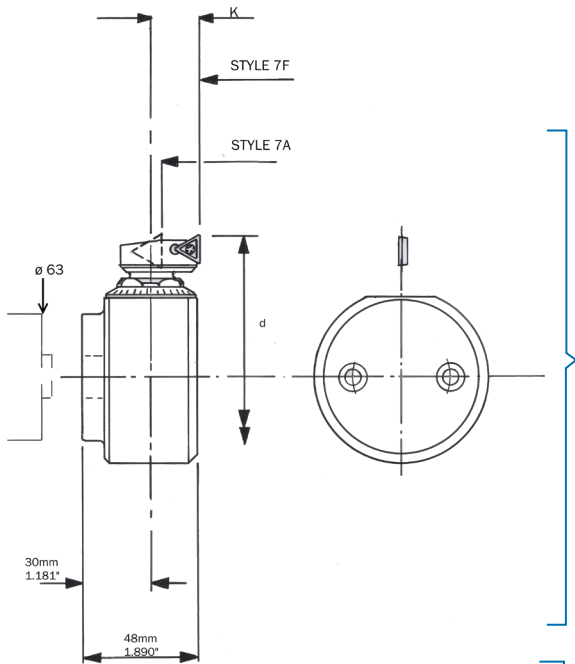
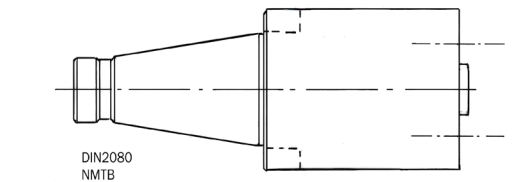
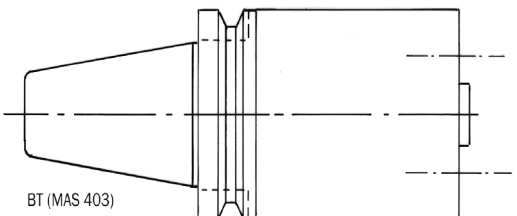
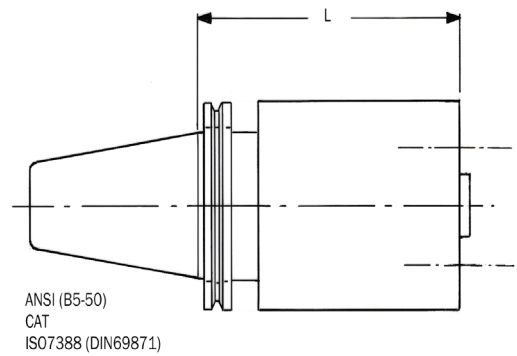
Order Reference - BT50-F300x150

2. Ring/Flange e.g F308S (Steel)

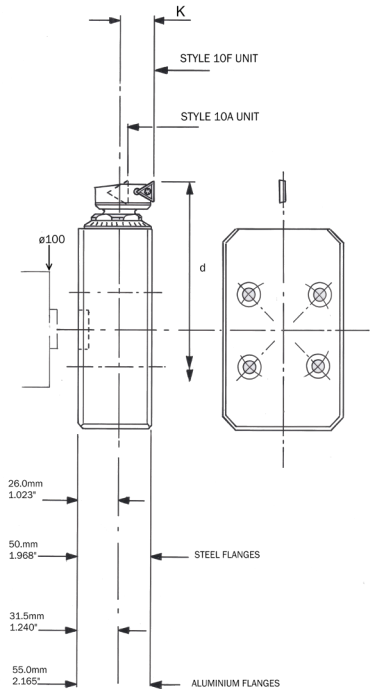
3. Boring Unit e.g. R10F5

Please note that adaptors, rings and flanges are sold separately

Type 500 Boring Rings



Type 300 Boring Flanges



Type 500 Boring Rings

Boring Bar Order Reference	Boring Range 'd'			Boring Unit & Approach Angle			Boring Range 'd'		B	
	mm	inch	}	'R' Units	90°	75°	95°	mm	inch	
F502	80-111	3.150-4.370			R7A5	R7A5L	R7A595	8.35	0.328	TC__ 16 T3 __
					R7F5	R7F5L	R7F595	20.00	0.787	
F504	97-129	3.819-5.079			R7A5C			6.35	0.250	CC__ 09 T3 __
				R7F5C		R7F595C	20.00	0.787		
F506	115-146	4.528-5.748		'TR' Units	TR7A5	TR7A5L	TR7A595	8.35	0.328	TC__ 16 T3 __
					TR7F5	TR7F5L	TR7F595	20.00	0.787	
F508	132-164	5.197-6.457			TR7A5C		TR7F595C	6.35	0.250	CC__ 09 T3 __
			TR7F5C			TR7F595C	20.00	0.787		

Type 300 Boring Flanges

Boring Bar Order Reference	Boring Range 'd'			Boring Unit & Approach Angle			Boring Range 'd'		B	
	mm	inch		90°	75°	95°	mm	inch		
F302S	142-198	5.590-7.795	}							
F303S	163-220	6.417-8.661								
F304S	191-248	7.520-9.764								
F304AL										
F305S	221-278	8.700-10.945		'R' Units	R10A5	R10A5L		9.5	.375	TC__ 16T3 __
F305AL					R10F5	R10F5L	R10F595	25.4	1.000	
F306S	241-298	9.488-11.732			R10A5C		R10A595C	9.5	.375	CC__ 1204 __
F306AL					R10F5C		R10F595C	25.4	1.000	
F307S	263-320	10.354-12.598		'TR' Units	TR10A5	TR10A5L		9.5	.375	TC__ 16T3 __
F307AL					TR10F5	TR10F5L	TR10F595	25.4	1.000	
F308S	292-349	11.496-13.740			TR10A5C		TR10A595C	9.5	.375	CC__ 1204 __
F308AL					TR10F5C		TR10F595C	25.4	1.000	
F309AL	323-380	12.716-14.960								
F310AL	343-400	13.504-15.748								
F311AL	373-430	14.685-16.929								
F312AL	394-450	15.512-17.717								

Rigibore Units

Accuracy through Rigidity
A wide range of boring units

Type 'R' for roughing/semi-finishing
Type 'TR' for fine-finishing
Minimum bore 15.87mm
5 different sizes available in right and left hand

Key Features

- Unique Design incorporating a precision ground collet
- Split collet clamps to ACME type thread for accuracy and strength
- Separate graduated dial seated on top face of hole
- Rigidity maintained throughout full adjustment of unit

Key Benefits

- No deflection under load on uneven or intermittent cutting
- Greater repeatability
- Longer Insert Life
- Most positive direct adjustment, high degree of rigidity, no dial slip when adjusting



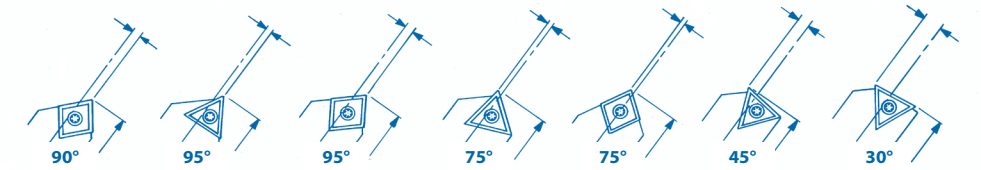
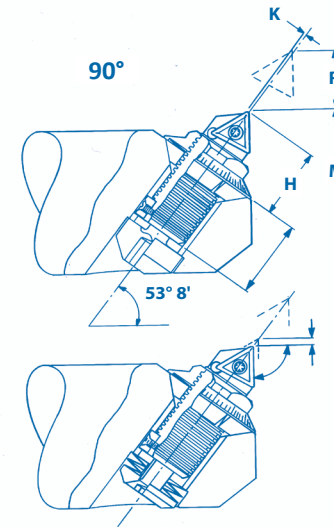
Rigibore Units built into special tools



Rigibore Units in Standard Boring Bars

'R' Units - Angular Mounted - Size 2 Units (R for roughing/semi-finishing)

Technical Specification



Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

Notes:

1. 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
2. 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number		
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
90°	20.9	0.823	0.2	0.008	4.5	0.177	9.4	0.37	1.35	0.053	TC__06T1 (02)	R2A2		
														R2A2-LH
	18.2	0.716			2.0	0.079								R2B2
									R2B2-LH					
	15.87	0.625			0.75	0.029			R2B2S					
									R2B2S-LH					
20.9	0.823	2.0			0.079	12.6	0.496			R2B3				
75°	23.0	0.905			4.5	0.177	10.0	0.393	-1.5	-0.059		R2A2L		
														R2A2L-LH
	20.4	0.803			2.0	0.079								R2B2L
						R2B2L-LH								
45°	22.8	0.897	4.5	0.177					-1.6	-0.063	R2A245			
	20.2	0.795	2.0	0.079							R2B245			

'R' Units - Angular Mounted - Size 3 Units (R for roughing/semi-finishing)

Technical Specification

Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	28.0	1.102	0.28	0.011	7.3	0.290	13.45	0.529	0.8	0.031	TC__0902 (04)	R3A2
	25.0	0.984			4.0	0.157	11.25	0.443	1.32	0.051		R3A2-LH
	23.0	0.905			7.3	0.290	11.1	0.437	0.2	0.008		R3B2
	26.8	1.055			4.0	0.157	10.47	0.412	-0.33	-0.84	TC__06T1 (02)	R3B2-LH
	23.7	0.933			1.5	0.059	14.5	0.571	-1.6	-0.063		R3B1
	21.0	0.827			4.0	0.157	14.5	0.571	-1.6	-0.063		R3B1-LH
	95°	25.0			4.0	0.157	13.45	0.530	0.036	0.92	CC__0602 (04)	R3A2C
	75°	28			7.3	0.290	13.55	0.533	1.1	0.036		R3A2C-LH
	45°	30.4			7.3	0.287	14.5	0.571	-1.6	-0.063		R3B2C
95°	25.0	0.984			4.0	0.157	13.45	0.530	0.036	0.92	TC__0902 (04)	R3B2C-LH
	75°	25			4.0	0.157	10.47	0.412	-0.33	-0.84		R3B2CS
	45°	27.1			7.3	0.287	14.5	0.571	-1.6	-0.063		R3A2L
	30°	29.6			7.3	0.287	14.5	0.571	-1.6	-0.063		R3A2L-LH
75°	28	1.102			7.3	0.290	13.55	0.533	1.1	0.036	TC__0902 (04)	R3B2L
	25	0.984			4.0	0.157	10.47	0.412	-0.33	-0.84		R3B2L-LH
	21	0.827			1.5	0.059	10.47	0.412	-0.33	-0.84		R3B2LCS
	45°	30.4			7.3	0.287	14.5	0.571	-1.6	-0.063		R3A245
45°	30.4	1.197			7.3	0.287	14.5	0.571	-1.6	-0.063	TC__0902 (04)	R3A245-LH
	27.1	1.067			4.0	0.157	10.47	0.412	-0.33	-0.84		R3B245
30°	29.6	1.165			7.3	0.287	14.5	0.571	-1.6	-0.063	TC__0902 (04)	R3A230

'R' Units - Angular Mounted - Size 5 Units (R for roughing/semi-finishing)

Technical Specification

Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

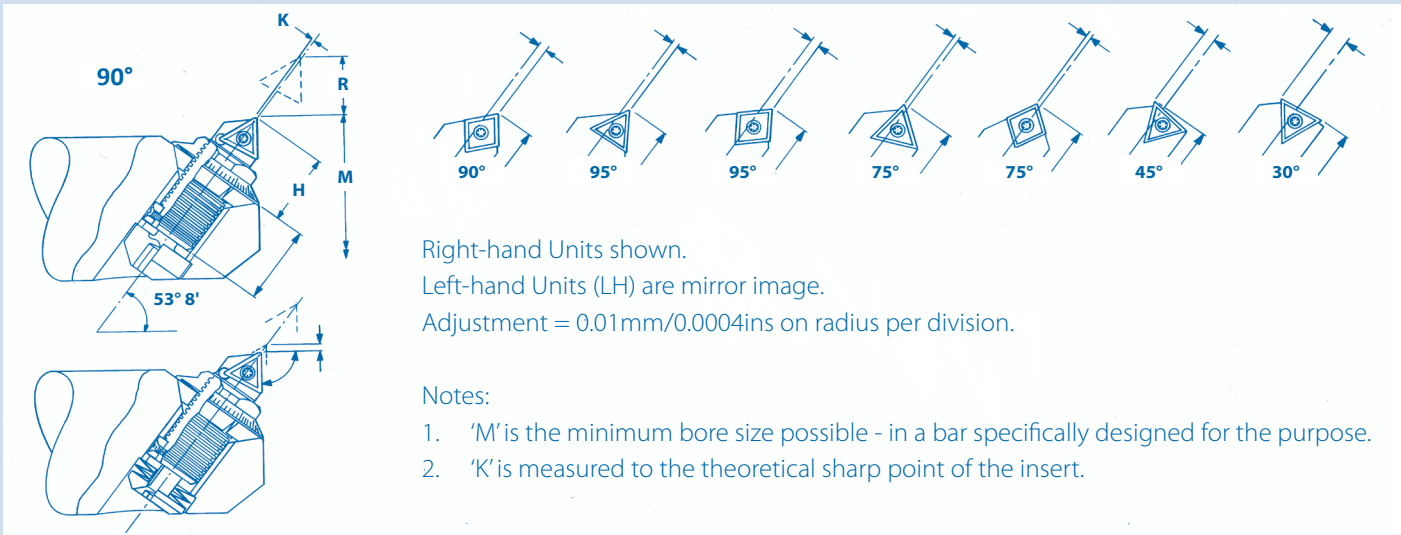
Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	41.0	1.614	0.4	0.016	10.7	0.421	16.95	0.667	2.3	0.09	TC__1102 (04)	R5A2
	36.0	1.417			5.6	0.220	15.9	0.626	1.2	0.047		R5A2-LH
	40.5	1.575			10.7	0.421	15.6	0.614	1.2	0.047		R5B2
	35.4	1.394			5.6	0.220	16.55	0.625	1.3	0.051	CC__0602 (04)	R5B2-LH
	95°	41.0			10.7	0.421	15.6	0.614	1.2	0.047		R5A2C
	36.0	1.417			5.6	0.220	17.0	0.669	-1.6	-0.063		R5A2C-LH
95°	36.0	1.417			10.7	0.421	16.95	0.667	2.3	0.09	TC__1102 (04)	R5B2C
	40.5	1.595			5.6	0.220	16.30	0.641	-1.6	-0.063		R5B2C-LH
	41.0	1.614			10.7	0.421	16.30	0.641	-1.6	-0.063		R5A295
75°	41.0	1.614			10.7	0.421	16.95	0.667	2.3	0.09	TC__1102 (04)	R5B295
	36.0	1.417			5.6	0.220	16.55	0.625	1.3	0.051		R5A295C
45°	43.0	1.693			10.7	0.421	17.0	0.669	-1.6	-0.063	TC__1102 (04)	R5A2L
	38.0	1.496			5.6	0.220	16.30	0.641	-1.6	-0.063		R5B2L
	41.4	1.630			10.7	0.421	16.30	0.641	-1.6	-0.063		R5B2L-LH
30°	36.2	1.425			5.6	0.220	16.30	0.641	-1.6	-0.063		R5A245
												R5A245-LH
												R5B245
												R5B245-LH
												R5A230
												R5B230

'R' Units - Angular Mounted - Size 7 Units (R for roughing/semi-finishing)

Technical Specification



Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

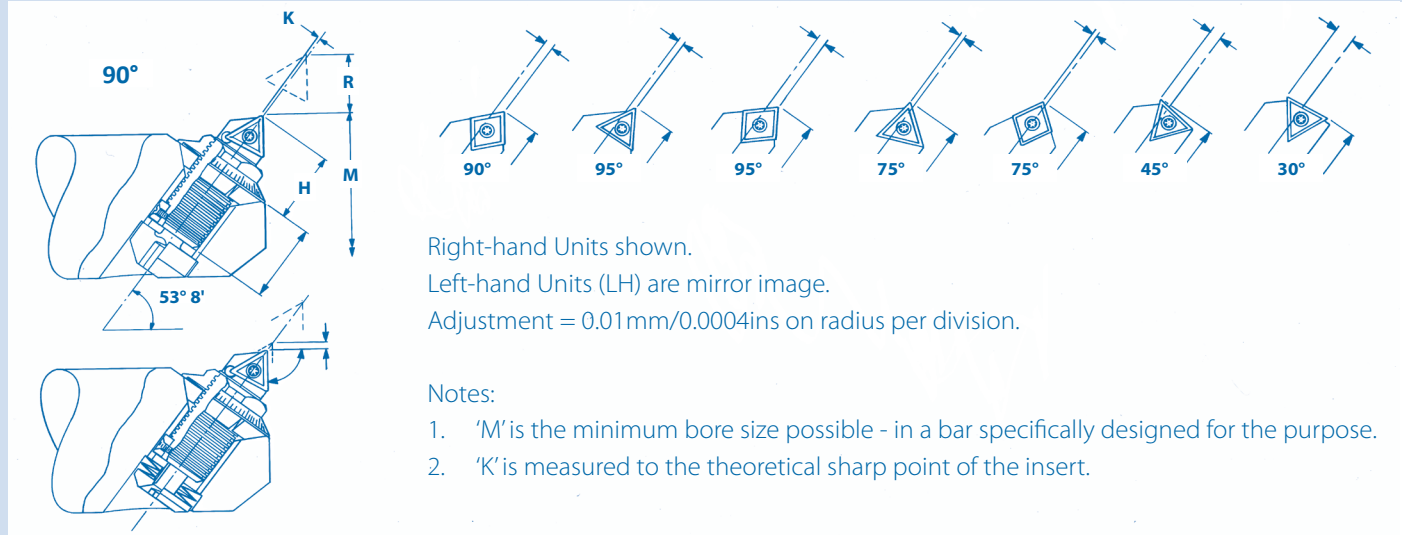
Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	58.0	2.283	0.6	0.024	12.8	0.504	25.55	1.006	-0.40	-0.016	TC__16T3 (08)	R7A2
												R7A2-LH
	53.0	2.087			8.0	0.315						R7B2
							26.57	1.046	-1.58	-0.062	CC__09T3 (04)	R7B2-LH
	59.5	2.343			12.8	0.504						R7A2C
	51.5	2.027			8.0	0.315						R7A2C-LH
95°	58.0	2.283	0.6	0.024	12.8	0.504	25.55	1.006	-0.26	-0.010	TC__16T3 (08)	R7B2C
	59.5	2.343					26.57	1.046	-1.60	-0.063	CC__09T3 (04)	R7B2C-LH
75°	58.0	2.283	0.6	0.024	12.8	0.504	23.40	0.921	-3.20	-0.126	TC__16T3 (08)	R7A2L
					8.0	0.315						R7A2L-LH
	53.0	2.087										R7B2L
45°	63.5	2.460	0.6	0.024	12.8	0.504	25.50	1.004	-6.50	-0.256	TC__16T3 (08)	R7B2L-LH
	57.4	2.260			8.0	0.315						R7A245

'R' Units - Angular Mounted - Size 10 Units (R for roughing/semi-finishing)

Technical Specification



Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

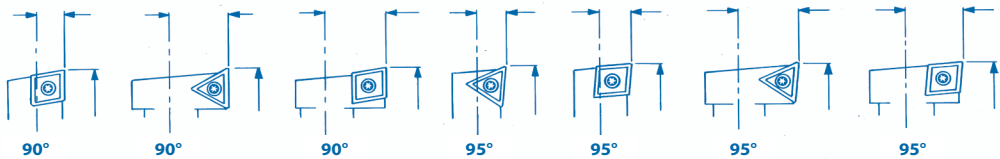
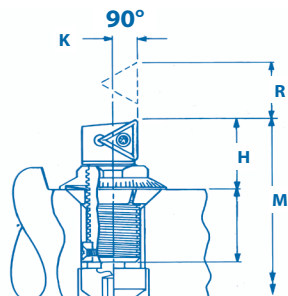
Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

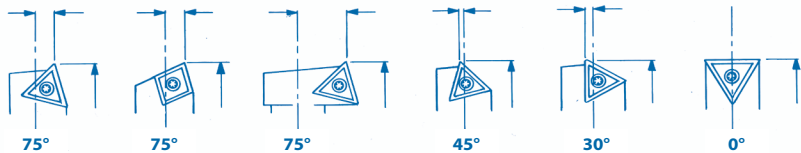
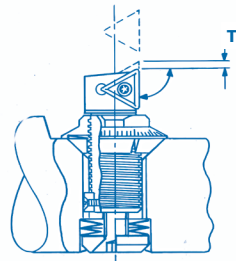
Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
90°	79.0	3.110	0.7	0.027	23.0	0.906	31.7	1.248	-0.4	-0.016	TC__ 16T3 (08)	R10A2	
												R10A2-LH	
	69.0	2.717			12.8	0.504	31.24	1.23	0.79	0.031		CC__ 1204 (04)	R10B2
													R10B2-LH
	79.0	3.110			23.0	0.906	31.24	1.23	0.79	0.031	CC__ 1204 (04)	R10A2C	
95°	79.0	3.110					31.7	1.248	-0.26	-0.01	TC__ 16T3 (08)	R10A295	
	69.0	2.717			12.8	0.504						R10B295	
75°	79.0	3.110			23.0	0.906	31.1	1.224	-0.9	-0.035		R10A2L	
												R10A2L-LH	
	69.0	2.717			12.8	0.504						R10B2L	
										R10B2L-LH			
45°	81.0	3.189	23.0	0.906	31.8	1.252	-3.2	-0.126		R10A245			

'R' Units - Square Mounted - Size 2 Units (R for roughing/semi-finishing)

Technical Specification



Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01 mm/0.0004ins on radius per division.

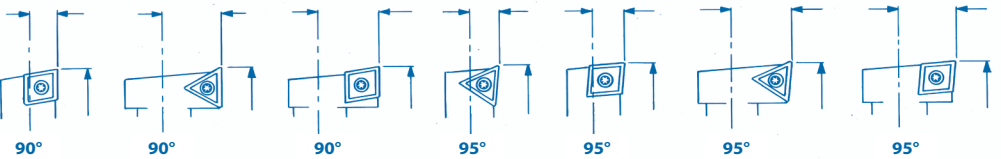
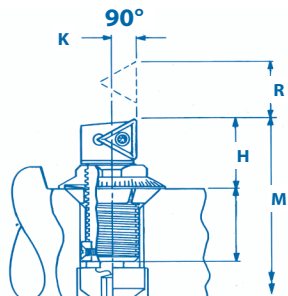


- Notes:
- 1. 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
 - 2. 'K' is measured to the theoretical sharp point of the insert.

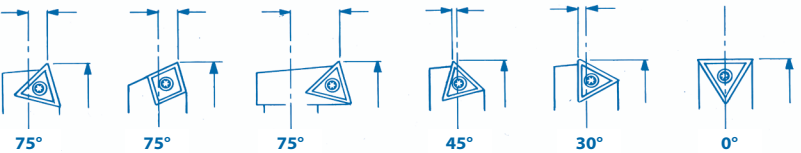
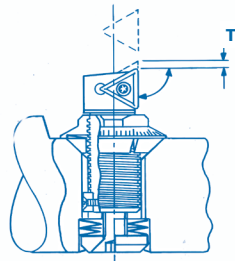
Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	24.3	0.957	0.25	0.010	5.5	0.216	9.40	0.370	2.00	0.078	TC__ 06T1 (02)	R2A5
	24.3	0.957										R2A5-LH
	21.1	0.831			2.5	0.098						R2B5
	21.1	0.831										R2B5-LH
	24.3	0.957			5.5	0.216			7.50	0.295		R2F5
	21.1	0.831										R2F5S
75°	24.3	0.957			5.5	0.216			2.00	0.078		R2A5L
	24.3	0.957										R2A5L-LH
	21.1	0.831			2.5	0.098						R2B5L
	21.1	0.831										R2B5L-LH
45°	25.2	0.992			5.5	0.216	10.00	0.393	-0.80	-0.031		R2A245
	22.0	0.886										R2B245
0°	25.0	0.984			5.5	0.216	9.50	0.374				R2A90
	21.5	0.846										R2B90

'R' Units - Square Mounted - Size 3 Units (R for roughing/semi-finishing)

Technical Specification



Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01 mm/0.0004ins on radius per division.

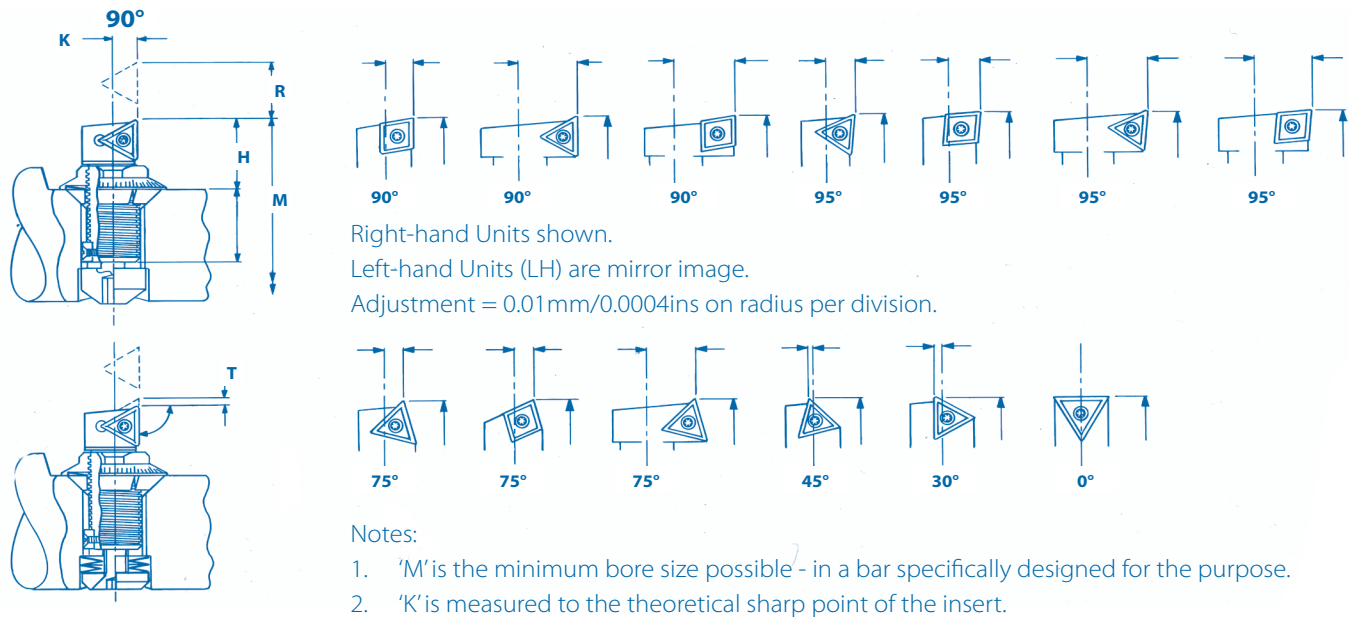


- Notes:
- 1. 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
 - 2. 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number			
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch					
90°	32.5	1.280	0.35	0.014	9.1	0.359	12.30	0.484	3.00	0.118	TC__0902 (04)	R3A5			
														R3A5-LH	
	28.5	1.122			5.0	0.197						R3B5			
												R3B5-LH			
	31.4	1.236			9.1	0.359	11.10	0.437	4.00	0.158	CC__0602 (04)	R3A5C			
	27.7	1.090			5.0	0.197								R3B5C	
														R3B5C-LH	
34.0	1.279	9.1			0.359	12.90	0.508	9.40	0.370		R3F5				
30.0	1.181	5.0			0.197										R3F5S
75°															R3F5S-LH
	32.5	1.279			9.1	0.359	12.30	0.484	2.00		0.079	TC__0902 (04)	R3A5L		
	28.5	1.122			5.0	0.197							R3B5L		
											R3B5L-LH				
45°	34.7	1.367			9.1	0.358	14.50	0.571	-0.80	-0.310		R3A545			
	30.7	0.827	5.0	0.197										R3B545	
0°	34.0	1.338	9.1	0.358	14.00	0.551			R3A90						
	30.0	1.181	5.0	0.197					R3B90						

'R' Units - Square Mounted - Size 5 Units (R for roughing/semi-finishing)

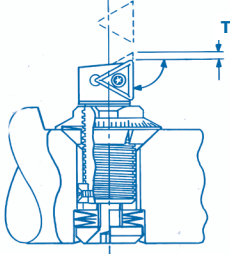
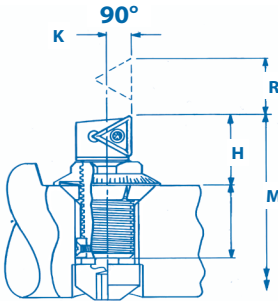
Technical Specification

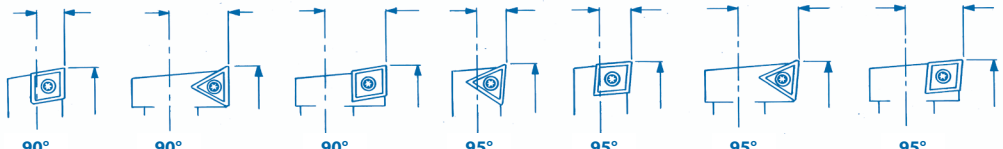


Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number				
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch						
90°	48.5	1.909	0.5	0.020	13.4	0.528	16.10	0.634	5.40	0.213	TC__1102 (04)	RSA5				
	42.5	1.673			7.0	0.276						RSA5-LH				
	49.4	1.965			13.4	0.528	15.90	0.628				CC__0602 (04)	R5B5			
	43.0	1.693			7.0	0.276							R5B5-LH			
	48.5	1.906			13.4	0.528	16.10	0.634	15.00	0.591	TC__1102 (04)	R5A5C				
	42.5	1.673			7.0	0.276						R5A5C-LH				
	49.4	1.965			13.4	0.528	15.90	0.628				15.00	0.591	TC__1102 (04)	R5B5C	
					7.0	0.276									R5F5	
									CC__0602 (04)	R5F5-LH						
										R5F5S						
95°					13.4	0.528	16.10	0.634			TC__1102 (04)	R5F5C				
												R5F5C-LH				
75°	48.5	1.910					16.10	0.634	3.20	0.126			R5F595			
	42.5	1.673														R5A5L
	49.6		7.0	0.276												R5A5L-LH
45°	49.6	1.953			13.4	0.528			-1.60	-0.063			R5B5L			
	43.2	1.819			7.0	0.275							R5B5L-LH			
														R5A545		
0°	49.5	1.949			13.4	0.528						R5A545-LH				
	43.1	1.697			7.0	0.276						R5B545				
												R5A90				
												R5B90				

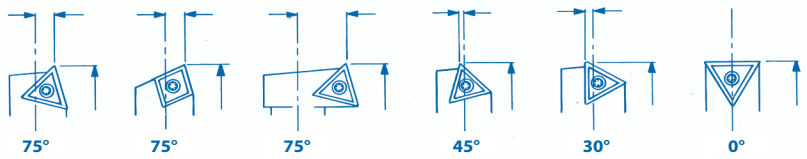
'R' Units - Square Mounted - Size 10 Units (R for roughing/semi-finishing)

Technical Specification





Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01 mm/0.0004ins on radius per division.



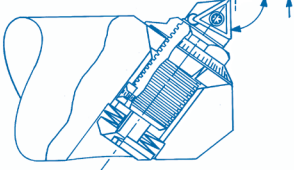
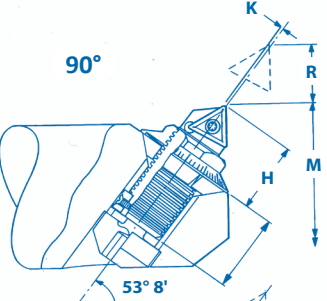
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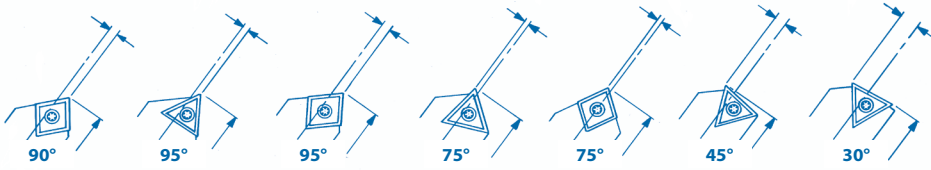
- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number					
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch							
90°	96.0	3.780	0.87	0.034	28.7	1.130	31.80	1.252	9.50	0.374	TC__ 16T3 (08)	R10A5					
	83.5	3.287			16.0	0.630						R10A5-LH					
	96.0	3.780			28.7	1.130	31.75	1.250				CC__ 1204 (04)	R10B5				
	83.5	3.287			16.0	0.630					R10B5-LH						
	95°	96.0			3.780	28.7	1.130	31.80	1.252	25.40	1.000	TC__ 16T3 (08)	R10F5				
												CC__ 1204 (04)	R10F5-LH				
75°								83.5	3.287	16.0	0.630	31.75	1.250	9.54	0.376	TC__ 16T3 (08)	R10A595C
														25.52	1.005	R10F595	
														25.44	1.002	CC__ 1204 (04)	R10F595C
																	R10F595C-LH
45°	97.0	3.819			28.7	1.130	31.80	1.252	4.80	0.189	TC__ 16T3 (08)	R10A5L					
												83.5	3.287	16.0	0.630	R10A5L-LH	
			96.0	3.780								28.7	1.130	20.35	0.801	R10B5L	
0°	93.0	3.660	16.0	0.630	28.60	1.126			R10B5L-LH								
									84.0	3.307		28.7	1.130	R10F5L			
									80.5	3.170		16.0	0.630	R10A545			
										R10A545-LH							
											R10B545						
												R10A90					
												R10B90					

'TR' Units - Angular Mounted - Size 2 Units (TR for fine-finishing)

Technical Specification





Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01 mm/0.0004ins on radius per division.

Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number		
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
90°	23.60	0.930	0.2	0.008	4.5	0.177	9.4	0.370	1.35	0.053	TC__ 06T1 (02)	TR2A2		
														TR2A2-LH
	20.90	0.823			2.0	0.079								TR2B2
														TR2B2-LH
	18.57	0.731			0.75	0.029			TR2B2S					
									TR2B2S-LH					
23.60	0.929	2.0			0.079	12.6	0.496						TR2B3	
75°	25.70	1.011			4.5	0.177	10.0	0.394	-1.50	-0.059			TR2A2L	
														TR2A2L-LH
	23.10	0.909			2.0	0.079								TR2B2L
														TR2B2L-LH
45°	25.30	0.995			4.5	0.177			-1.60	-0.063			TR2A245	
	22.80	0.897			2.0	0.079						TR2B245		

'TR' Units - Angular Mounted - Size 3 Units (TR for fine-finishing)

Technical Specification

Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number		
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
90°	30.8	1.212	0.28	0.011	7.3	0.290	13.45	0.529	0.8	0.031	TC__ 0902 (04)	TR3A2		
	27.6	1.087			4.0	0.157						11.25	0.443	1.32
	25.6	1.008					TR3B2							
	29.2	1.149					7.3	0.290	11.10	0.437		0.2	0.008	CC__ 0602 (04)
	26.1	1.027			4.0	0.157	TR3B1							
	26.25	1.033			1.5	0.059	13.55	0.533	1.1	0.036	TC__ 0902 (04)	TR3B1-LH		
	30.7	1.209			7.3	0.290						TR3A2C		
	27.5	1.083			4.0	0.157						10.47	0.412	-0.33
26.25	1.033	1.5	0.059	TR3B2C										
45°	32.9	1.295	0.28	0.011	7.3	0.287	14.50	0.571	-1.6	-0.063	TC__ 0902 (04)	TR3B2C-LH		
	29.6	1.165			4.0	0.157						TR3B2C-LH		
	30°	32.2			1.268	7.3	0.287							TR3B2CS
												TR3A2L		
												TR3A2L-LH		
												TR3B2L		
												TR3B2L-LH		
												TR3B2LSC		
												TR3A245		
												TR3A245-LH		
												TR3B245		
												TR3A230		

'TR' Units - Angular Mounted - Size 5 Units (TR for fine-finishing)

Technical Specification

Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

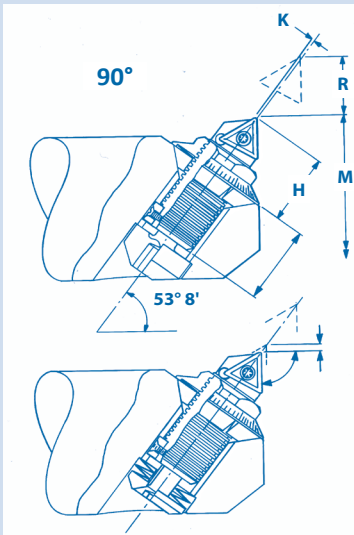
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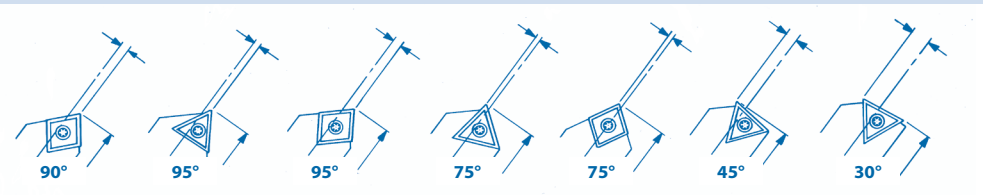
- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number		
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
90°	41.5	1.634	0.4	0.016	10.7	0.421	16.95	0.667	2.3	0.090	TC__ 1102 (04)	TR5A2		
												TR5A2-LH		
	36.5	1.437			5.6	0.220					TR5B2			
											TR5B2-LH			
	41.0	1.614			10.7	0.421	15.90	0.626	1.2	0.047	CC__ 0602 (04)	TR5A2C		
												TR5A2C-LH		
35.9	1.413	5.6			0.220					TR5B2C				
										TR5B2C-LH				
95°	41.5	1.634					10.7	0.421	16.95	0.667	2.3	0.090	TC__ 1102 (04)	TR5A295
							5.6	0.220						
	36.5	1.437			10.7	0.421	15.60	0.614	1.2	0.047	CC__ 0602 (04)	TR5A295C		
75°	41.5	1.634					10.7	0.421	16.55	0.625	1.3	0.051	TC__ 1102 (04)	TR5A2L
					5.6	0.220								TR5B2L
45°											TR5B2L-LH			
	43.5	1.712	10.7	0.421	17.00	0.669	-1.6	-0.063	TR5A245					
									TR5A245-LH					
	38.5	1.516	5.6	0.220					TR5B245					
											TR5B245-LH			
30°	42.0	1.654			10.7	0.421	16.30	0.641	-1.6	-0.063		TR5A230		
					5.6	0.220								TR5B230

'TR' Units - Angular Mounted - Size 7 Units (TR for fine-finishing)

Technical Specification





Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

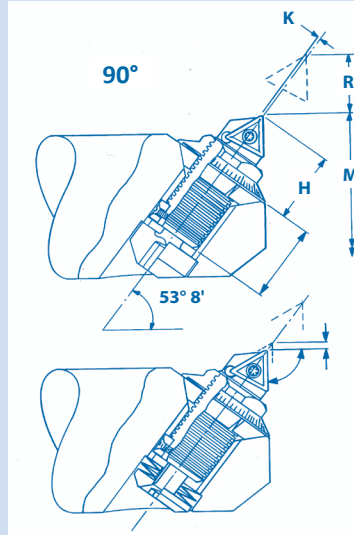
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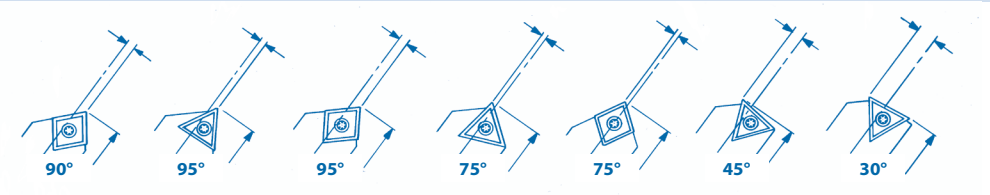
- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
90°	61.5	2.421	0.6	0.024	12.8	0.504	25.55	1.006	-0.40	-0.016	TC__16T3 (08)	TR7A2	
	57.0	2.244			8.0	0.315					TR7B2		
											TR7B2-LH		
	61.0	2.401			12.8	0.504	26.57	1.046	-1.58	-0.062	CC__09T3(04)	TR7A2C	
	55.9	2.201			8.0	0.315							TR7B2C
													TR7B2C-LH
95°	59.5	2.343			12.8	0.504	25.55	1.006	-0.26	-0.010	TC__16T3 (08)	TR7A295	
	61.0	2.401					26.57	1.046	-1.60	-0.063	CC__09T3 (04)	TR7A295C	
75°	61.5	2.421			12.8	0.504	23.40	0.921	-3.20	-0.126	TC__16T3 (08)	TR7A2L	
	57.0	2.244	8.0	0.315								TR7B2L	
45°	63.9	2.516			12.8	0.504	25.50	1.004	-6.50	-0.256			TR7A245
	58.8	2.315			8.0	0.315							

'TR' Units - Angular Mounted - Size 10 Units (TR for fine-finishing)

Technical Specification





Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	81.5	3.209	0.7	0.027	23.0	0.906	31.70	1.248	-0.40	-0.016	TC__ 16T3 (08)	TR10A2
	71.5	2.815			12.8	0.504						TR10B2
												TR10B2-LH
	81.5	3.209			23.0	0.906	31.24	1.230	0.79	0.031	CC__ 1204 (04)	TR10A2C
95°	81.5	3.209			23.0	0.906	31.70	1.248	-0.26	-0.010	TC__ 16T3 (08)	TR10A295
	71.5	2.815			12.8	0.504						TR10B295
75°	81.5	3.209			23.0	0.906	31.10	1.224	-0.90	-0.035		TR10A2L
	71.5	2.815			12.8	0.504						TR10B2L
												TR10B2L-LH
45°	84.0	3.307			23.0	0.906	31.80	1.252	-3.20	-0.126		TR10A245

'TR' Units - Square Mounted - Size 2 Units (TR for fine-finishing)

Technical Specification

90°

90° 90° 90° 95° 95° 95° 95°

75° 75° 75° 45° 30° 0°

Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01 mm/0.0004ins on radius per division.

Notes:
1. 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
2. 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number		
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
90°	27.60	1.087	0.25	0.010	5.5	0.216	9.40	0.370	2.0	0.078	TC__06T1 (02)	TR2A5		
	24.40	0.961			2.5	0.098						7.5	0.295	TR2A5-LH
														TR2B5
									TR2B5-LH					
									TR2F5					
	27.60	1.087			5.5	0.216			9.40	0.370		2.0	0.078	TR2F5S
24.40	0.961	2.5			0.098	TR2A5L								
75°	27.60	1.087			5.5	0.216	9.40	0.370	2.0	0.078		TR2A5L-LH		
	24.40	0.961										2.5	0.098	TR2B5L
														TR2B5L-LH
														TR2A245
45°	28.40	1.118			5.5	0.216	10.00	0.393	-0.8	-0.031		TR2B245		
	25.20	0.992	2.5	0.098										
0°	28.00	1.102	5.5	0.216	9.50	0.374			TR2A90					
	25.00	0.984							2.5	0.098	TR2B90			

'TR' Units - Square Mounted - Size 3 Units (TR for fine-finishing)

Technical Specification

90°

90° 90° 90° 95° 95° 95° 95°

75° 75° 75° 45° 30° 0°

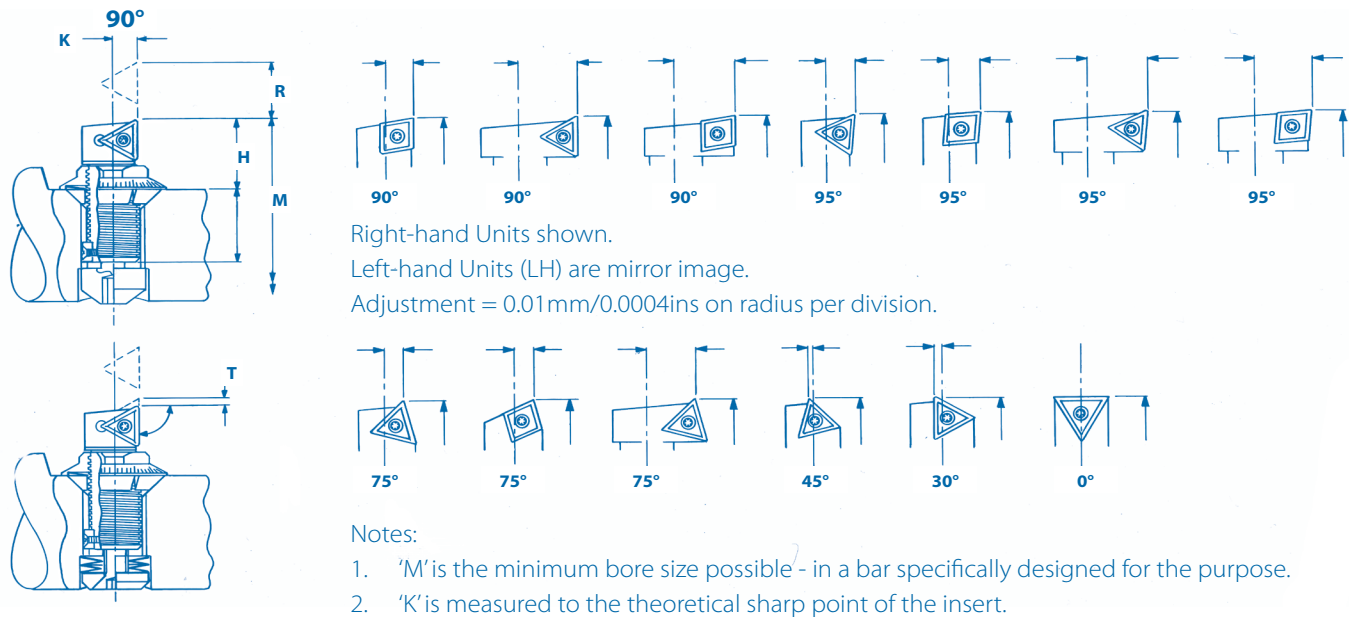
Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01 mm/0.0004ins on radius per division.

Notes:
1. 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
2. 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number				
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch						
90°	35.1	1.382	0.35	0.014	9.1	0.359	12.3	0.484	3.0	0.118	TC__ 0902 (04)	TR3A5				
	31.1	1.224			5.0	0.197						TR3A5-LH				
												TR3B5				
	34.0	1.338			9.1	0.359	11.1	0.437	4.0	0.158	CC__ 0602 (04)	TR3B5-LH				
	30.0	1.181										5.0	0.197	TR3A5C		
					TR3A5C-LH											
	36.5	1.437			9.1	0.359	12.9	0.508	9.4	0.370			TR3B5C			
													32.5	1.279	5.0	0.197
75°	35.1	1.381			9.1	0.359	12.3	0.484	2.0	0.079	TC__ 0902 (04)			TR3F5S		
	31.1	1.224												5.0	0.197	TR3F5S-LH
45°	37.2	1.465			9.1	0.358	14.5	0.571	-0.8	-0.310				TR3B5L		
	33.2	1.307	5.0	0.197										TR3B5L-LH		
0°	36.5	1.437			9.1	0.358	14.0	0.551						TR3A545		
	32.5	1.279	5.0	0.197										TR3B545		
														TR3A90		
													TR3B90			

'TR' Units - Square Mounted - Size 5 Units (TR for fine-finishing)

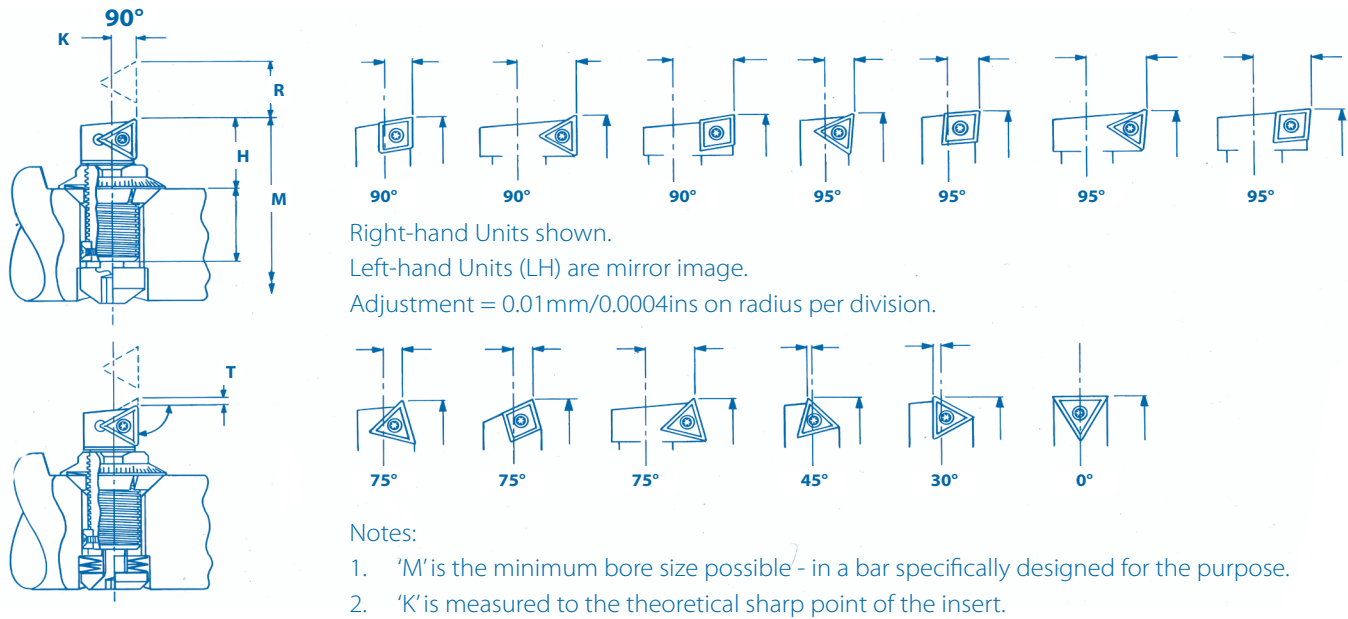
Technical Specification



Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	48.0	1.890	0.50	0.020	13.4	0.528	16.1	0.634	5.4	0.213	TC__ 1102 (04)	TR5A5
	41.5	1.634			7.0	0.276						TR5A5-LH
	49.4	1.965			13.4	0.528	15.9	0.628			CC__ 0602 (04)	TR5B5
	43.0	1.693			7.0	0.276						TR5B5-LH
	48.0	1.890			13.4	0.528	16.1	0.634	15.0	0.591	TC__ 1102 (04)	TR5A5C
	41.5	1.634			7.0	0.276						TR5A5C-LH
	49.4	1.965			13.4	0.528	15.9	0.626			CC__ 0602 (04)	TR5B5C
												TR5F5
95°	48.0	1.890			13.4	0.528	16.1	0.634	3.2	0.126	TC__ 1102 (04)	TR5F5-LH
75°	48.0	1.890			13.4	0.528						TR5F5S
	41.5	1.634			7.0	0.275						TR5F5C
45°	48.8	1.921			13.4	0.528						TR5F5C-LH
	42.4	1.661			7.0	0.275						TR5F595
0°	48.7	1.917			13.4	0.528						TR5A5L
	42.3	1.665			7.0	0.275						TR5A5L-LH
												TR5B5L
												TR5B5L-LH
												TR5A545
												TR5A545-LH
												TR5B545
												TR5A90
												TR5B90

'TR' Units - Square Mounted - Size 7 Units (TR for fine-finishing)

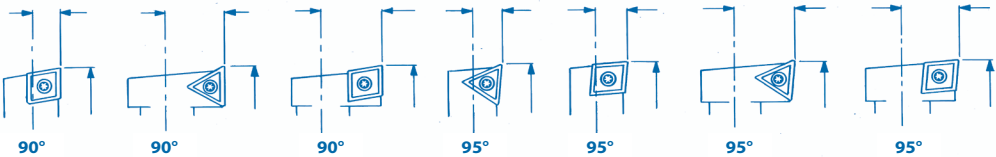
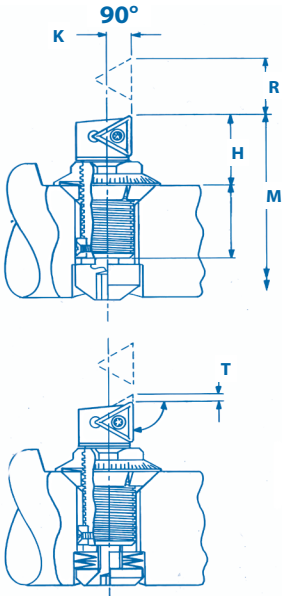
Technical Specification



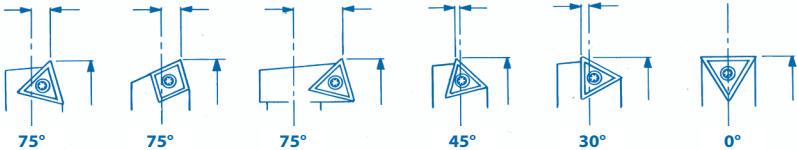
Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	70.5	2.775	0.75	0.030	16.0	0.630	25.5	1.004	8.35	0.329	TC__ 16T3 (08)	TR7A5
	64.0	2.250			10.0	0.394						TR7A5-LH
					16.0	0.630	25.4	1.000	6.35	0.250	CC__ 09T3 (04)	TR7B5
					10.0	0.394						TR7B5-LH
	70.5	2.775			16.0	0.630	25.5	1.004	20.00	0.787	TC__ 16T3 (08)	TR7A5C
												TR7B5C
							25.4	1.000			CC__ 09T3 (04)	TR7F5
												TR7F5-LH
95°	70.5	2.775			16.0	0.630	25.5	1.004	8.47	0.333	TC__ 16T3 (08)	TR7F5C
75°	64.0	2.520			10.0	0.394						TR7F5C-LH
	70.5	2.775			16.0	0.630						TR7A595
45°	69.2	2.724			16.0	0.630						TR7A5L
	62.8	2.472			100	0.393	23.0	0.920				TR7A5L-LH
30°	70.5	2.775			16.0	0.630						TR7B5L
0°	66.0	2.600			16.0	0.630						TR7B5L-LH
	59.5	2.342			100	0.394						TR7F5L
												TR7A545
												TR7B545
												TR7A530
												TR7A590
												TR7A590

'TR' Units - Square Mounted - Size 10 Units (TR for fine-finishing)

Technical Specification



Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01 mm/0.0004ins on radius per division.



- Notes:
- 1. 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
 - 2. 'K' is measured to the theoretical sharp point of the insert.

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adjustment		H Min Height		K Tool Point Offset		Insert & Datum Rad	Part Number		
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
90°	96.0	3.780	0.87	0.034	28.7	1.130	31.80	1.252	9.5	0.374	TC__ 16T3 (08)	TR10A5		
	83.5	3.287			16.0	0.630						TR10A5-LH		
	96.0	3.780			28.7	1.130	31.75	1.250				CC__ 1204 (04)	TR10B5	
	83.5	2.87			16.0	0.630							TR10B5-LH	
	96.0	3.780			31.80	1.252	25.4	1.000	TC__ 16T3 (08)	TR10A5C				
										TR10B5C-LH				
							CC__ 1204 (04)	TR10F5						
								TR10F5-LH						
95°	96.0	3.780			28.7	1.130	31.75	1.250	9.54	0.376	CC__ 1204 (04)	TR10A595C		
									25.52	1.005	TC__ 16T3 (08)	TR10F595		
									25.44	1.002	CC__ 1204 (04)	TR10F595C		
											TR10F595C-LH			
75°	96.0	3.780			16.0	0.630	31.80	1.252	4.8	0.189	TC__ 16T3 (08)	TR10A5L		
	83.5	3.287										TR10A5L-LH		
	96.0	3.780							20.35	0.801		TR10B5L		
												TR10B5L-LH		
45°	95.0	3.740	28.7	1.130			31.80	1.252	-1.6	-0.063		TR10F5L		
	84.0	3.307										TR10A545		
												TR10A545-LH		
0°	80.5	3.170	16.0	0.630			28.60	1.126				TR10B545		
			28.7	1.130								TR10A90		
			16.0	0.630			TR10B90							

Rigibore Units

Spares and Accessories



DIAL



COLLET



COLLET SPRING



KEY & SCREW



ADJUSTING WRENCH



HEXAGON WRENCH



TORX WRENCH



TORX DRIVER



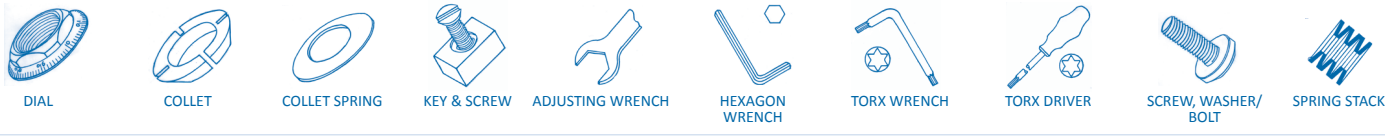
SCREW, WASHER/ BOLT



SPRING STACK

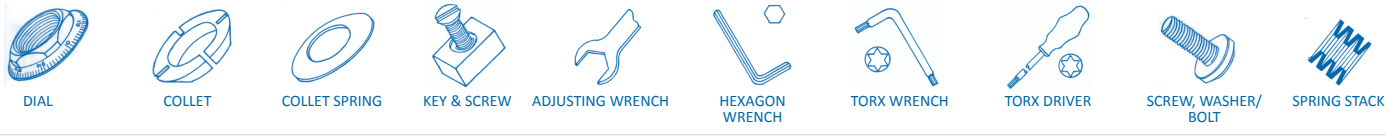
Spares and Accessories - Size 2 Units - Angular Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
R2A2	R20A2	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A2	R20A2	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2A2-LH	R20A2-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A2-LH	R20A2-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2B2	R20B2	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B2	R20B2	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2B2-LH	R20B2-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B2-LH	R20B2-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2B2S	R20B2S	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23BS	
TR2B2S	R20B2S	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BS		R29
R2B2S-LH	R20B2S-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23BS	
TR2B2S-LH	R20B2S-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BS		R29
R2B3	R20B3	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B3	R20B3	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2A2L	R20A2L	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A2L	R20A2L	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2A2L-LH	R20A2L-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A2L-LH	R20A2L-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2B2L	R20B2L	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B2L	R20B2L	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2B2L-LH	R20B2L-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B2L-LH	R20B2L-LH	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2A245	R20A245	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A245	R20A245	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2B245	R20B245	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B245	R20B245	R212	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29



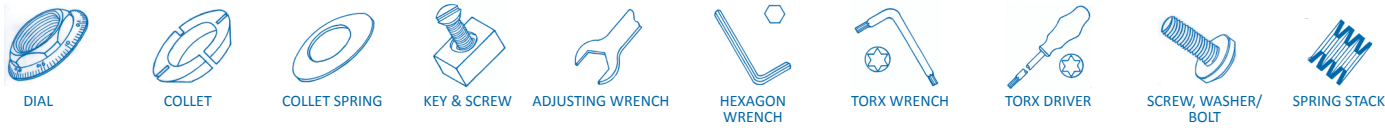
Spares and Accessories - Size 3 Units - Angular Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
R3A2	R30A2	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A2	R30A2	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3A2-LH	R30A2-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A2-LH	R30A2-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3B2	R30B2	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B2	R30B2	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3B2-LH	R30B2-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B2-LH	R30B2-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3B1	R30B1	R312	R32	R35	R34	R36	R38	R37	R37D	RS2045		R33B	
TR3B1	R30B1	R312	R32	R35	R34	R36	R38	R37	R37D	RS2045	R33BT		R39
R3B1-LH	R30B1-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2045		R33B	
TR3B1-LH	R30B1-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2045	R33BT		R39
R3A2C	R30A2C	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33A	
TR3A2C	R30A2C	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33AT		R39
R3A2C-LH	R30A2C-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33A	
TR3A2C-LH	R30A2C-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33AT		R39
R3B2C	R30B2C	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33B	
TR3B2C	R30B2C	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33BT		R39
R3B2C-LH	R30B2C-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33B	
TR3B2C-LH	R30B2C-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33BT		R39
R3B2CS	R30B2CS	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33B	
TR3B2CS	R30B2CS	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33BT		R39
R3B295	R30B295	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33B	
TR3B295	R30B295	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3A2L	R30A2L	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A2L	R30A2L	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3A2L-LH	R30A2L-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A2L-LH	R30A2L-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3B2L	R30B2L	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B2L	R30B2L	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3B2L-LH	R30B2L-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B2L-LH	R30B3L-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3B2LSC	R30B2LSC	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33B	
TR3B2LSC	R30B2LSC	R312	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33BT		R39
R3A245	R30A245	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A245	R30A245	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3A245-LH	R30A245-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A245-LH	R30A245-LH	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3B245	R30B245	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B245	R30B245	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3A230	R30A230	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A230	R30A230	R312	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39



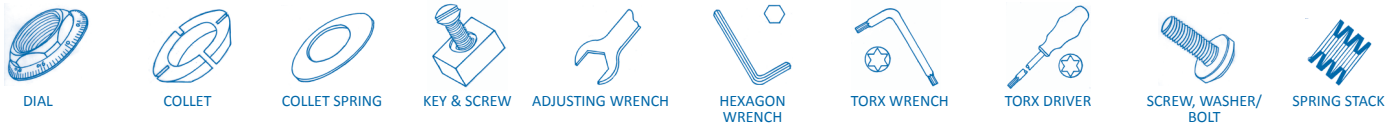
Spares and Accessories - Size 5 Units - Angular Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
R5A2	R50A2	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A2	R50A2	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5A2-LH	R50A2-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A2-LH	R50A2-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5B2	R50B2	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B2	R50B2	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5B2-LH	R50B2-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B2-LH	R50B2-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5A2C	R50A2C	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A2C	R50A2C	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5A2C-LH	R50A2C-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A2C-LH	R50A2C-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5B2C	R50B2C	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B2C	R50B2C	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5B2C-LH	R50B2C-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B2C-LH	R50B2C-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5A295	R50A295	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A295	R50A295	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5B295	R50B295	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B295	R50B295	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5A295C	R50A295C	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A295C	R50A295C	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5A2L	R50A2L	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A2L	R50A2L	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5B2L	R50B2L	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B2L	R50B2L	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5B2L-LH	R50B2L-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B2L-LH	R50B2L-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5A245	R50A245	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A245	R50A245	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5A245-LH	R50A245-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A245-LH	R50A245-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5B245	R50B245	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B245	R50B245	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5B245-LH	R50B245-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B245-LH	R50B245-LH	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
R5A230	R50A230	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55A	
TR5A230	R50A230	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
R5B230	R50B230	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560		R55B	
TR5B230	R50B230	R512	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59



Spares and Accessories - Size 7 Units - Angular Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
R7A2	R70A2	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A2	R70A2	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7A2-LH	R70A2-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A2-LH	R70A2-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7B2	R70B2	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7B2	R70B2	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7B2-LH	R70B2-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7B2-LH	R70B2-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7A2C	R70A2C	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A2C	R70A2C	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7A2C-LH	R70A2C-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A2C-LH	R70A2C-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7B2C	R70B2C	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7B2C	R70B2C	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7B2C-LH	R70B2C-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7B2C-LH	R70B2C-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7A295	R70A295	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A295	R70A295	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7A295C	R70A295C	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A295C	R70A295C	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7A2L	R70A2L	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A2L	R70A2L	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7A2L-LH	R70A2L-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A2L-LH	R70A2L-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7B2L	R70B2L	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7B2L	R70B2L	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7B2L-LH	R70B2L-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7B2L-LH	R70B2L-LH	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7A245	R70A245	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7A245	R70A245	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7B245	R70B245	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7B245	R70B245	R712	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79

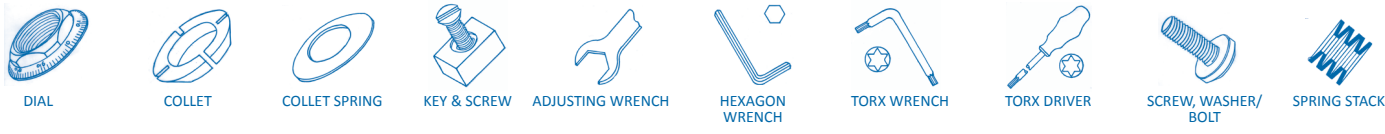


Spares and Accessories - Size 10 Units - Angular Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)	Shim Screw Wrench (Size 10)
R10A2	R100A2	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A2	R100A2	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A2-LH	R100A2-LH	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		R118
TR10A2-LH	R100A2-LH	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	R118
R10B2	R100B2	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		
TR10B2	R100B2	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10B2-LH	R100B2-LH	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		R118
TR10B2-LH	R100B2-LH	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	R118
R10A2C	R100A2C	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A2C	R100A2C	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A295	R100A295	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		R118
TR10A295	R100A295	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	R118
R10B295	R100B295	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		
TR10B295	R100B295	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10A2L	R100A2L	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		R118
TR10A2L	R100A2L	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	R118
R10B2L	R100B2L	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		
TR10B2L	R100B2L	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10B2L-LH	R100B2L-LH	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		R118
TR10B2L-LH	R100B2L-LH	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	R118
R10A295	R100A295	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A295	R100A295	R112	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	

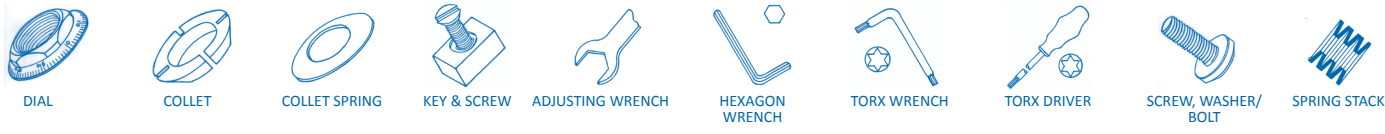
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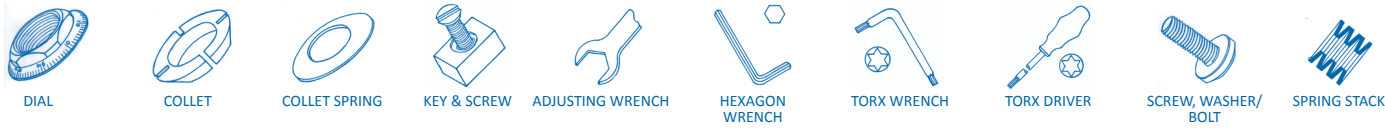
Spares and Accessories - Size 2 Units - Square Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
R2A5	R20A5	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A5	R20A5	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2A5-LH	R20A5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A5-LH	R20A5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2B5	R20B5	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B5	R20B5	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2B5-LH	R20B5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B5-LH	R20B5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2F5	R20F5	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2F5	R20F5	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2F5S	R20F5S	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2F5S	R20F5S	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2A5L	R20A5L	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A5L	R20A5L	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2A5-LH	R20A5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A5-LH	R20A5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2B5L	R20B5L	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B5L	R20B5L	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2B5-LH	R20B5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B5-LH	R20B5-LH	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2A545	R20A545	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A545	R20A545	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2B545	R20B545	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B545	R20B545	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29
R2A90	R20A90	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23A	
TR2A90	R20A90	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23AT		R29
R2B90	R20B90	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045		R23B	
TR2B90	R20B90	R215	R22	R25	R24	R26	R28	R27	R27D	RS2045	R23BT		R29



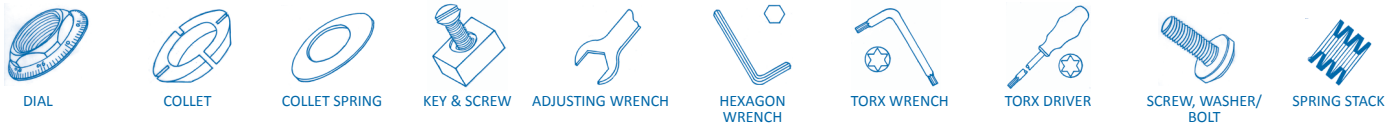
Spares and Accessories - Size 3 Units - Square Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
R3A5	R30A5	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A5	R30A5	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3A5-LH	R30A5-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A5-LH	R30A5-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3B5	R30B5	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B5	R30B5	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3B5-LH	R30B5-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B5-LH	R30B5-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3A5C	R30A5C	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33A	
TR3A5C	R30A5C	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33AT		R39
R3A5C-LH	R30A5C-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33A	
TR3A5C-LH	R30A5C-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33AT		R39
R3B5C	R30B5C	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33B	
TR3B5C	R30B5C	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33BT		R39
R3B5C-LH	R30B5C-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560		R33B	
TR3B5C-LH	R30B5C-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2560	R33BT		R39
R3F5	R30F5	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3F5	R30F5	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3F5S	R30F5S	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3F5S	R30F5S	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3F5S-LH	R30F5S-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3F5S-LH	R30F5S-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3A5L	R30A5L	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A5L	R30A5L	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3A5L-LH	R30A5L-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A5L-LH	R30A5L-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3B5L	R30B5L	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B5L	R30B5L	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3B5L-LH	R30B5L-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B5L-LH	R30B5L-LH	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3A545	R30A545	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A545	R30A545	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3B545	R30B545	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B545	R30B545	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39
R3A90	R30A90	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33A	
TR3A90	R30A90	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33AT		R39
R3B90	R30B90	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263		R33B	
TR3B90	R30B90	R315	R32	R35	R34	R36	R38	R37	R37D	RS2263	R33BT		R39



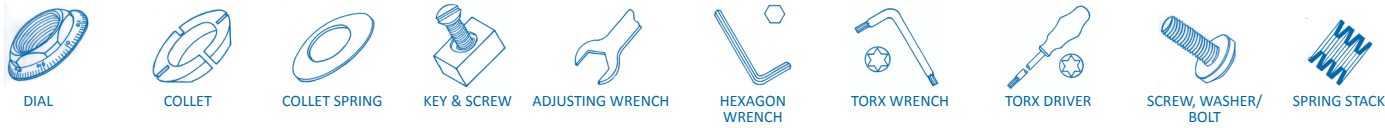
Spares and Accessories - Size 5 Units - Square Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
RSAS	R50AS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSAS	R50AS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSAS-LH	R50AS-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSAS-LH	R50AS-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSBS	R50BS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSBBS	R50BS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
RSBS-LH	R50BS-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSBBS-LH	R50BS-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
RSASC	R50ASC	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSASC	R50ASC	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSASC-LH	R50ASC-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSASC-LH	R50ASC-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSBSC	R50BSC	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSBSC	R50BSC	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
RSFS	R50FS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSFBS	R50FS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSFS-LH	R50FS-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSFBS-LH	R50FS-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
RSFSS	R50FSS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSFSS	R50FSS	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
RSFSC	R50FSC	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSFSC	R50FSC	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSFSC-LH	R50FSC-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSFSC-LH	R50FSC-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSF595	R50F595	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRSF595	R50F595	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSASL	R50ASL	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRASASL	R50ASL	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSASL-LH	R50ASL-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRASASL-LH	R50ASL-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSBSL	R50BSL	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSBBSL	R50BSL	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
RSBSL-LH	R50BSL-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSBBSL-LH	R50BSL-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSAS45	R50AS45	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRASAS45	R50AS45	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSAS45-LH	R50AS45-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRASAS45-LH	R50AS45-LH	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSBS45	R50BS45	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSBBS45	R50BS45	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59
RSAS90	R50AS90	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53A	
TRASAS90	R50AS90	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53AT		R59
RSBS90	R50BS90	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560		R53B	
TRSBBS90	R50BS90	R515	R52	R55	R54	R36	R58	R37	R37D	RS2560	R53BT		R59



Spares and Accessories - Size 7 Units - Square Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)
R7AS	R70AS	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7AS	R70AS	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7AS-LH	R70AS-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7AS-LH	R70AS-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7BS	R70BS	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7BS	R70BS	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7BS-LH	R70BS-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7BS-LH	R70BS-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7ASC	R70ASC	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7ASC	R70ASC	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7BSC	R70BSC	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7BSC	R70BSC	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7F5	R70F5	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7F5	R70F5	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7F5-LH	R70F5-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7F5-LH	R70F5-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7AS95	R70AS95	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7AS95	R70AS95	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7F595	R70F595	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7F595	R70F595	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7F595C	R70F595C	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7F595C	R70F595C	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7ASL	R70ASL	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7ASL	R70ASL	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7ASL-LH	R70ASL-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7ASL-LH	R70ASL-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7BSL	R70BSL	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7BSL	R70BSL	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7BSL-LH	R70BSL-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7BSL-LH	R70BSL-LH	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7F5L	R70F5L	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7F5L	R70F5L	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7AS45	R70AS45	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7AS45	R70AS45	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7BS45	R70BS45	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73B	
TR7BS45	R70BS45	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		R79
R7AS30	R70AS30	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7AS30	R70AS30	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7AS90	R70AS90	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084		R73A	
TR7AS90	R70AS90	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73AT		R79
R7B90	R70B90	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084			
TR7B90	R70B90	R715	R72	R75	R74	R76	R78	R77	R77D	RS4084	R73BT		

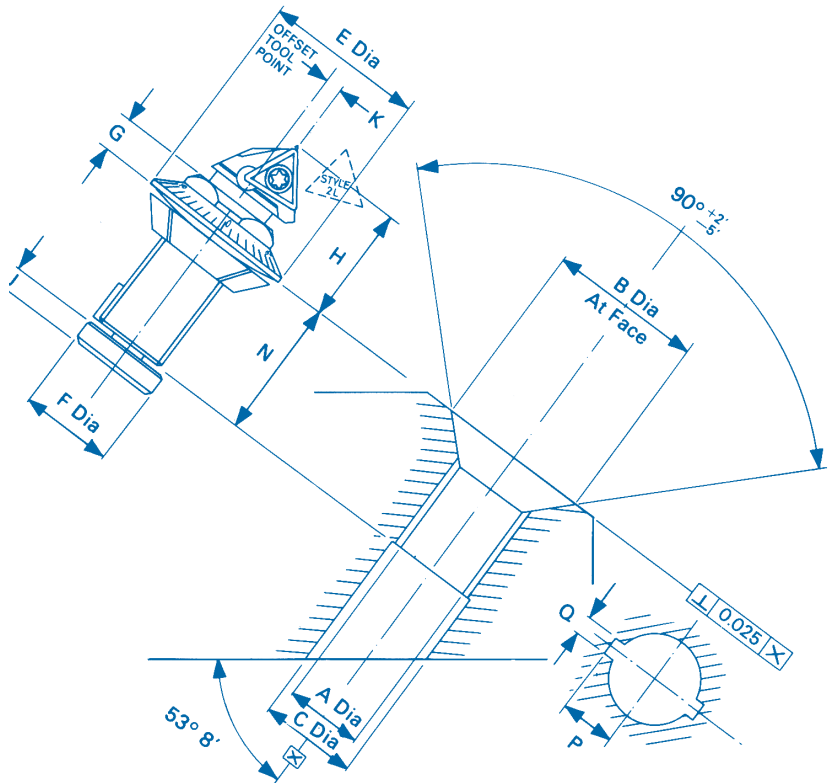


Spares and Accessories - Size 10 Units - Square Mounted

Tool	Tool Body	Dial	Collet	Collet Spring	Key	Adjusting Wrench	Hexagon Wrench	Torx Wrench	Torx Driver	Insert Screw	Screw & Washer (TR Unit)	Bolt (R Unit)	Adjusting Spring Stack (TR Unit)	Shim Screw Wrench (Size 10)
R10A5	R100A5	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		R118
TR10A5	R100A5	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A5-LH	R100A5-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A5-LH	R100A5-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10B5	R100B5	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		
TR10B5	R100B5	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10B5-LH	R100B5-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		R118
TR10B5-LH	R100B5-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10A5C	R100A5C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A5C	R100A5C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A5C-LH	R100A5C-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A5C-LH	R100A5C-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10F5	R100F5	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10F5	R100F5	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	R118
R10F5-LH	R100F5-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10F5-LH	R100F5-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10F5C	R100F5C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10F5C	R100F5C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A595C	R100A595C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A595C	R100A595C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A595C-LH	R100A595C-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		R118
TR10A595C-LH	R100A595C-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10F595	R100F595	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10F595	R100F595	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10F595C	R100F595C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10F595C	R100F595C	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10F595C-LH	R100F595C-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10F595C-LH	R100F595C-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	R118
R10A5L	R100A5L	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A5L	R100A5L	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A5L-LH	R100A5L-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A5L-LH	R100A5L-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10B5L	R100B5L	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		
TR10B5L	R100B5L	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10B5L-LH	R100B5L-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		R118
TR10B5L-LH	R100B5L-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10F5L	R100F5L	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10F5L	R100F5L	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A545	R100A545	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A545	R100A545	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10A545-LH	R100A545-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		R118
TR10A545-LH	R100A545-LH	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10B545	R100B545	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		
TR10B545	R100B545	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	
R10A90	R100A90	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103A		
TR10A90	R100A90	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103AT		R109	
R10B90	R100B90	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120		R103B		R118
TR10B90	R100B90	R115	R102	R105	R104	R76	R108	R77	R77D	RS35120	R103BT		R109	

N.B
'H' – over datum rad
'K' – to sharp point
For 'H' & 'K' please see
Rigibore Unit Section

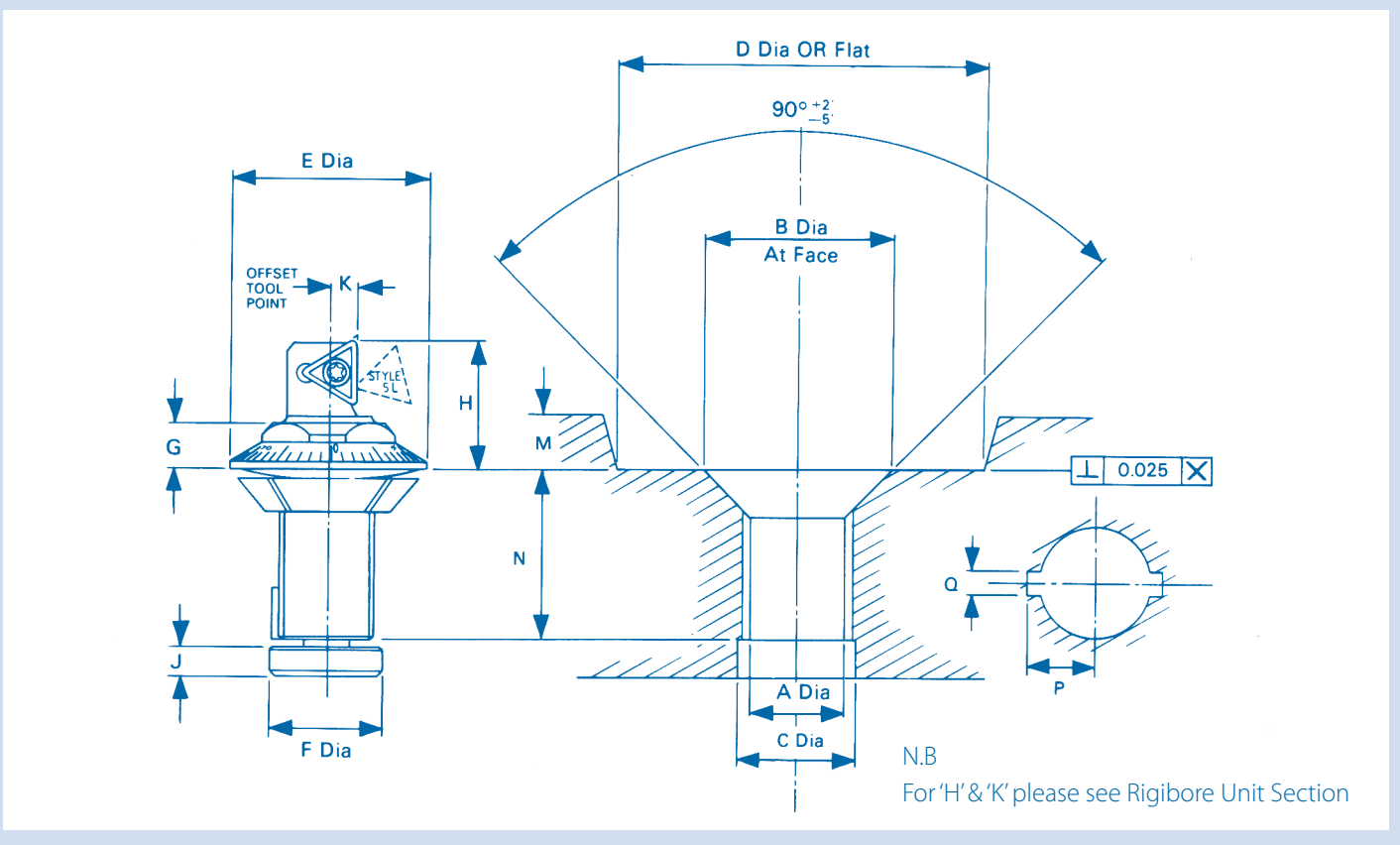
Mounting Dimensions Angular Mounted Units - R & TR Units



Technical Data – Hole Dimensions for Standard Rigibore Units – Metric

UNIT PREFIX	A +.013 -0 Ø	B +.13 -0 Ø	C +.25 -0 Ø	D +/- .25	E +/- .05	F +/- .01	G +0 -.02	J +0.1 -0	M (Std)	N + .25 - 0	P + .05 - 0	Q + .02 - 0
R2BS	6.35	12.80	8.00	19.00	13.70	7.80	3.00	1.85	4.00	6.35	3.80	1.60
R2B_/TR2B_										9.50		
R2A_/TR2A_										12.70		
R2F_/TR2F_										12.70		
R3B_/TR3B_	7.937	16.00	11.30	26.00	18.00	11.00	4.00	4.00	5.50	11.90	5.05	2.34
R3A_/TR3A_										15.90		
R3F_/TR3F_										15.90		
R5B_/TR5B_										19.00		
R5A_/TR5A_	12.70	25.66	16.00	38.00	27.00	15.60	5.60	7.00	5.50	25.40	7.55	3.155
R5F_/TR5F_										25.40		
R7B_/TR7B_										25.40		
R7A_/TR7A_										31.75		
R7F_/TR7F_	19.05	35.20	24.00	48.00	37.50	23.70	8.70	13.00	11.00	31.75	11.35	4.76
R10B_/TR10B_										35.00		
R10A_/TR10A_										47.60		
R10F_/TR10F_										47.60		

Mounting Dimensions Square Mounted Units



Technical Data – Mounting Dimensions for Standard Rigibore Units – Imperial

UNIT PREFIX	A +.0005 -0 Ø	B +.005 -0 Ø	C +.010 -0 Ø	D +.01	E +/- .002 Ø	F +/- .004 Ø	G +0 -.008	J +.004 -0	M (Std)	N +.010 -0 B/A	P +.002 -0	Q +.001 -0
R2B_S					.2500					.2500		
R2B_/TR2B_					.3750							
R2A_/TR2A_	.2500	.5040	.3150	.7500	.5400	.3070	.1180	.1180	.1570		.1500	.0630
R2F_/TR2F_					.5000							
R3B_/TR3B_					.4690							
R3A_/TR3A_	.3125	.6300	.4450	1.030	.7090	.4330	.1580	.1580	.2170	.6250	.1990	.0920
R3F_/TR3F_												
R5B_/TR5B_					.7500							
R5A_/TR5A_	.5000	1.010	.6300	1.500	1.063	.6100	.2200	.2760	.2170	1.000	.2970	.1240
R5F_/TR5F_												
R7B_/TR7B_					1.000							
R7A_/TR7A_	.7500	1.386	.9450	1.870	1.476	.9330	.3430	.5120	.4330	1.250	.4470	.1870
R7F_/TR7F_												
R10B_/TR10B_					1.375							
R10A_/TR10A_	1.000	1.760	1.260	2.250	1.890	1.240	.3700	.6500	.5710	1.875	.5890	.2490
R10F_/TR10F_												

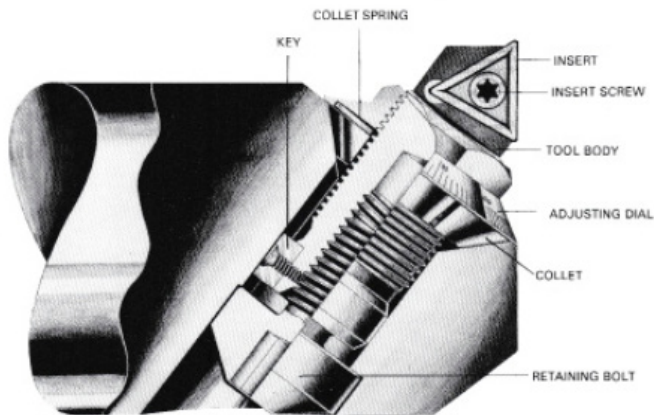
Rigibore Units

INSTRUCTIONS FOR USE

Type 'R' for roughing and semi-finish boring type

'TR' for finish boring

'F' for larger diameter boring



The collet clamping system of Rigibore units offers substantial advantages over similar units by firmly clamping the tool when the assembly is tensioned. The collet spring also keeps the dial in place when the retaining bolt is released for adjustment.

Dial graduations are easily read and each produces an adjustment of 0.01mm/.0004in on radius (0.02mm/.0008in on diameter). Graduations can be readily split to provide and even finer setting capability.

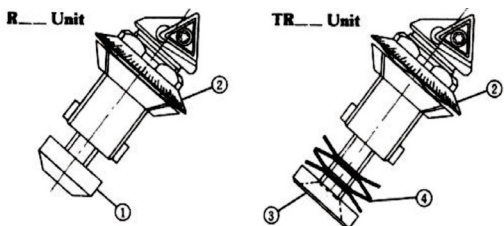
On top-adjusting (TR) units, modified components and additional spring washers at the back provide fine adjustment without releasing the retaining bolt.

Operating Instructions - The Standard Unit - Type 'R' - For Roughing & Semi-Finishing

Torque values for bolt (1) on Rigibore 'R' Units		
Unit Size	Min	Max
R2_	7 inch lbs / 0.8Nm	10 inch lbs / 1.1Nm
R3_	12 inch lbs / 1.4Nm	16 inch lbs / 1.8Nm
R5_	30 inch lbs / 4.3Nm	45 inch lbs / 5.1Nm
R7_	75 inch lbs / 8.5Nm	90 inch lbs / 10.2Nm
R10_	130 inch lb s/ 14.7Nm	150 inch lbs / 17.0Nm

Note: minimum torque value is that at which the unit effectively clamps, maximum torque value is that at which the unit becomes difficult to unclamp

In roughing applications, at speeds in the region of 350 / 360 ft/min or 105 / 110 meters/min depths of cut of .125"/ 5mm on size 5 units and .400"/ 10mm on size 7 and 10 units have been recorded at feeds up to .008"/ 0.2mm (These figures will vary depending on material and other cutting conditions).



1. Insert the Rigibore Unit into the boring bar & screw in the bolt (1). Roughly adjust the tool by turning the dial (2) - clockwise to increase diameter / anticlockwise to decrease diameter - to the approximate diameter required - with the retaining bolt (1) tightened only sufficiently to tension the assembly.
2. Using the correct spanner/wrench lightly tighten the dial (2) onto the bar flat and check for size
3. To re-adjust, release the retaining bolt (1) approximately one-quarter turn. **Note:** care should be taken in releasing the retaining bolt to retain tension in the assembly. Adjust with spanner/wrench, the desired graduation and firmly tighten the retaining bolt.

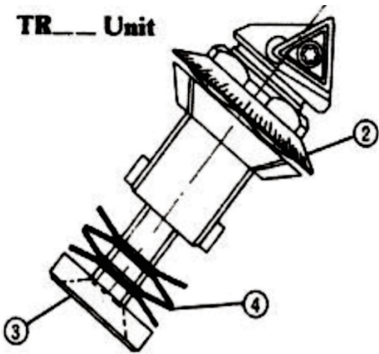
Do not over tighten. Each graduation on the dial adjusts. 0004"/ 0.01mm on radius. For adjustments finer than one graduation, use the Vernier scale marked on the boring bar.

Operating Instructions - Top Adjusting Units - Type 'TR' - For Fine Boring/Finishing

Recommended for depths of cut up to .010"/ 0.25mm

- 1. Insert the unit and roughly adjust as for type 'R'
- 2. Using a hexagon wrench, tighten the retaining screw (3) to fully compress the spring stack (4) and back-off ½ turn max.
- 3. Obtain final size by adjusting the dial (2) only. Do not change the retaining screw setting.

Note: When adjusting for a smaller diameter, always adjust under-size and then adjust clockwise to size.
'TR' units are supplied with retaining screw and spring stack assembled in the correct order.



In the event that the spring stack becomes separated from the retaining screw and needs to be fitted, always remember that the disc spring nearest the unit should be with its outer rim towards the unit and other disc springs alternating as illustrated.

- 4. This will ensure that the outer rim of the disc spring seats against the counterbore in the back of the boring bar (note: the number of disc springs varies with the unit size).

In extreme cutting conditions i.e. interrupted cuts etc. the action of the 'TR' unit can be made more rigid by re-stacking these disc springs as shown in illustration (5) i.e. double stacking, but note that this will halve the adjustment range and must be pre-loaded by backing off the retaining screw only ¼ turn (or less).
Additional disc springs may have to be purchased to achieve this.

'TR' Units, as supplied, are fitted with:	
Unit	Disc Springs
Size 2	6
Size 3	5
Size 5	3
Size 7	4
Size 10	4

For flexibility of use, the 'TR' unit can be used as for the standard 'R' unit, i.e. by fully tightening the retaining screw. In this way, the 'TR' unit becomes only marginally less rigid than the standard 'R' unit but will reduce the effective life of the disc springs that lose their spring characteristics after sustained full compression.

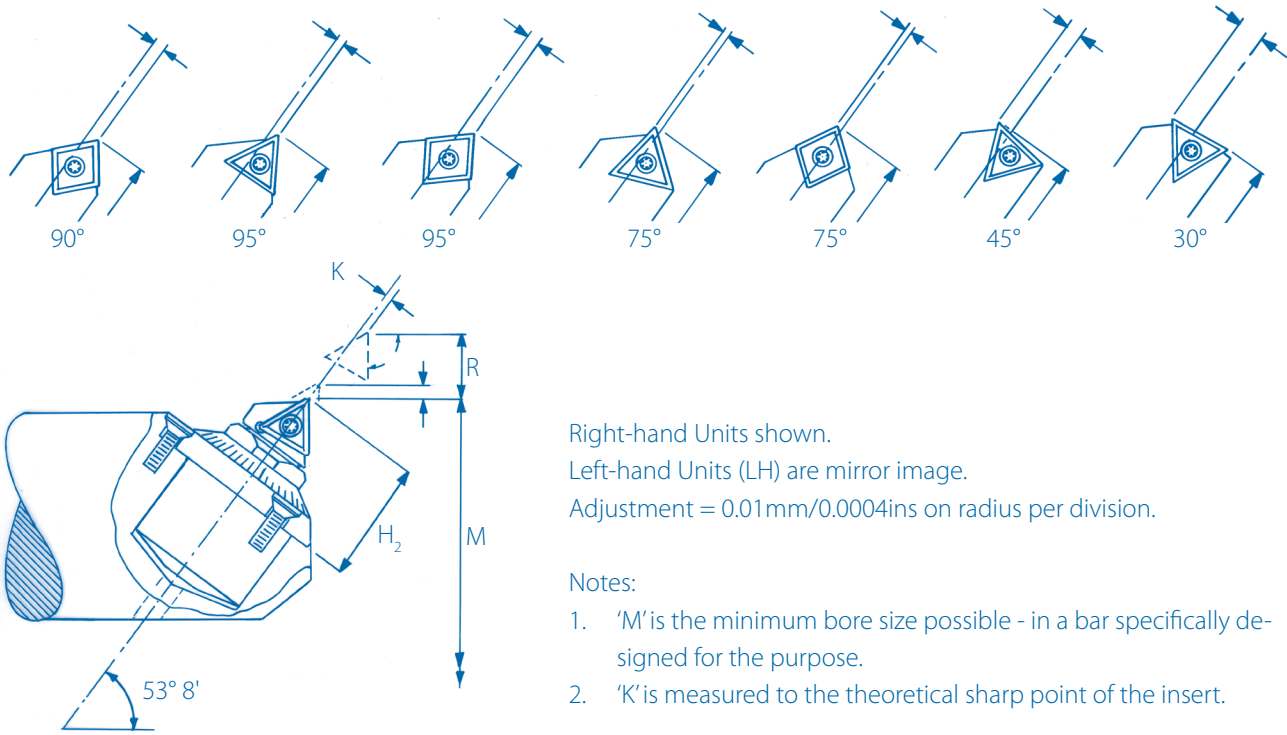
Operating Instructions - Bush Mounted Units - Type 'BTR/MBTR'

Bush units are offered in both 2 screw and 3 screw types to interchange with most other units of this type.
The common feature of all bush units is that they are constructed of a bush plus a 'TR' unit.

All instructions applicable to 'TR' units also apply to MBTR/BTR bush units.

MBTR/SAB Bush Units – For Fine-Finishing

Technical Specification



MBTR/SAB Bush Units – Angular Mounted - Size 1 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	24.00	.945	0.20	.008	2.00	.079	13.10	.516	1.35	.053	TC__06T1 (02)	MBTR/SAB1-2B2
												MBTR/SAB1-2B2-LH
75°							13.70	.539	-1.50	-.059		MBTR/SAB1-2B2L
45°							13.70	.539	-1.60	-.063		MBTR/SAB1-2B2L-LH
												MBTR/SAB1-2B245

MBTR/SAB Bush Units – Angular Mounted – Size 2 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	30.00	1.181	0.28	.011	4.00	.157	16.50	0.650	1.32	.052	MBTR/SAB2-3B1	TC__06T1 (02)
											MBTR/SAB2-3B1-LH	
							18.70	.736	0.80	.031	MBTR/SAB2-3B2	TC__0902 (04)
											MBTR/SAB2-3B2-LH	
							16.35	.644	0.20	.031	MBTR/SAB2-3B2C	CC__0602 (04)
											MBTR/SAB2-3B2C-LH	
75°							18.80	.740	1.10	.043	MBTR/SAB2-3B2L	TC__0902 (04)
											MBTR/SAB2-3B2L-LH	
45°							19.75	.778	-1.60	-.063	MBTR/SAB2-3B245	

MBTR/SAB Bush Units – Angular Mounted - Size 3 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code							
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch									
90°	40.00	1.575	0.40	0.16	5.60	.220	22.80	.898	2.30	.091	TC__ 1102 (04)	MBTR/SAB3-5B2M							
														MBTR/SAB3-5B2LH-M					
							21.75	.856	1.20	.047	CC__ 0602 (04)	MBTR/SAB3-5B2CM							
														MBTR/SAB3-5B2CLH-M					
75°														22.40	.882	1.30	.051	TC__ 1102 (04)	MBTR/SAB3-5B2LM
									MBTR/SAB3-5B2L-LHM										
45°														22.85	.900	-1.60	-.063		MBTR/SAB3-5B245M
									MBTR/SAB3-5B245-LH										
0°								16.30	.642				MBTR/SAB3-5B230M						

MBTR/SAB Bush Units – Angular Mounted - Size 4 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code		
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch				
90°	58.0	2.283	0.60	.024	8.00	.315	31.55	1.242	-.040	-.016	TC__ 16T3 (08)	MBTR/SAB4-7B2		
														MBTR/SAB4-7B2-LH
							32.57	1.282	1.60	.063	CC__ 09T3 (04)	MBTR/SAB4-7B2C		
														MBTR/SAB4-7B2C-LH
75°							29.40	1.157	-3.20	-.126	TC__ 16T3 (08)	MBTR/SAB4-7B2L		
45°								31.50				1.240		MBTR/SAB4-7B2L-LH
									MBTR/SAB4-7B245					

For operating instructions please see page 80

Spares and Accessories - MBTR/SAB Bush Units - Angular Mounted

Tool	Insert Screw	Retaining Screw & Wrench Kit	Adjusting Wrench	Torx Wrench	Torx Driver				
MBTR/SAB1-2B2	RS2045	BTR001/10/3	R26	R27	R27D				
MBTR/SAB1-2B2LH									
MBTR/SAB1-2B2L									
MBTR/SAB1-2B245									
MBTR/SAB2-3B1									
MBTR/SAB2-3B1-LH	RS2263	BTR001/10/3	R36	R37	R37D				
MBTR/SAB2-3B2									
MBTR/SAB2-3B2-LH									
MBTR/SAB2-3B2C	RS2560								
MBTR/SAB2-3B2C-LH									
MBTR/SAB2-3B2L									
MBTR/SAB2-3B2L-LH									
MBTR/SAB2-3B245	RS2263								
MBTR/SAB3-5B2M	RS2560					BTR001/7/3			
MBTR/SAB3-5B2LH-M									
MBTR/SAB3-5B2CM									
MBTR/SAB3-5B2CLH-M									
MBTR/SAB3-5B2LM									
MBTR/SAB3-5B2L-LHM									
MBTR/SAB3-5B245M									
MBTR/SAB3-5B245-LH									
MBTR/SAB3-5B230M									
MBTR/SAB4-7B2	RS4084	BTR001/8/3	R76	R77	R77D				
MBTR/SAB4-7B2-LH									
MBTR/SAB4-7B2C									
MBTR/SAB4-7B2C-LH									
MBTR/SAB4-7B2L									
MBTR/SAB4-7B2L-LH									
MBTR/SAB4-7B245									

MBTR/SAB Bush Units – For Fine-Finishing

Technical Specification

Right-hand Units shown.
Left-hand Units (LH) are mirror image.
Adjustment = 0.01mm/0.0004ins on radius per division.

Notes:

- 'M' is the minimum bore size possible - in a bar specifically designed for the purpose.
- 'K' is measured to the theoretical sharp point of the insert.

MBTR/SAB Bush Units – Square Mounted - Size 1 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	25.0	.984	0.25	.010	2.50	.098	13.10	.516	2.00	.079	TC__06T1 (02)	MBTR/SAB1-2B5
									7.50	.295		MBTR/SAB1-2B5-LH
									2.00	.079		MBTR/SAB1-2F5S
75°							13.70	.539	-0.80	-.031		MBTR/SAB1-2B5L
												MBTR/SAB1-2B5L-LH
												MBTR/SAB1-2B545
45°	13.20	.520	-	-	MBTR/SAB1-2B90							
0°												

MBTR/SAB Bush Units – Square Mounted - Size 2 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
90°	33.0	1.300	0.35	.014	5.00	.197	17.55	.691	3.00	.118	TC__0902 (04)	MBTR/SAB2-3B5	
													MBTR/SAB2-.B5-LH
							16.35	.644	4.00	.157	CC__0602 (04)	MBTR/SAB2-3B5C	
													MBTR/SAB2-3B5C-LH
18.15							.715	9.40	.370	TC__0902 (04)	MBTR/SAB2-3B5S		
											MBTR/SAB2-3B5S-LH		
75°							17.55	.691	2.00		.079	MBTR/SAB2-3B5S	
													MBTR/SAB2-3B5L-LH
45°						19.75	.778	-0.80	-.031		MBTR/SAB2-3B545		
0°								-	-		MBTR/SAB2-3B90		

MBTR/SAB Bush Units – Square Mounted - Size 3 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	45.0	1.770	0.50	.020	7.00	.276	21.95	.864	5.40	.213	TC__1102 (04)	MBTR/SAB3-5B5M
							21.75	.864	5.40	.213		MBTR/SAB3-5B5-LHM
							21.95	.864	15.00	.591		MBTR/SAB3-5B5CM
75°									3.20	.126		MBTR/SAB3-5B5C-LHM
45°									-1.60	-.063		MBTR/SAB3-5F5SM
0°							21.85	.860	-	-		MBTR/SAB3-5B5LM
												MBTR/SAB3-5B5L-LHM
												MBTR/SAB3-5B545M
												MBTR/SAB3-5B90M

MBTR/SAB Bush Units – Square Mounted - Size 4 Units (for fine-finishing)

Approach Angle	Min Bore Possible		T Top Adj		R Total Radial Adj		H2 Min Height		K Tool Point Offset		Insert	Unit Code
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
90°	63.0	2.480	0.75	.030	10.0	.394	31.50	1.240	8.35	.329	TC__16T3 (08)	MBTR/SAB4-7B5
							31.40	1.236	6.35	.250		MBTR/SAB2-7B5-LH
							31.50	1.240	6.20	.244		MBTR/SAB4-7B5C
75°									-1.60	-.630		MBTR/SAB4-7B5L
45°									-	-		MBTR/SAB4-7B5L-LH
0°							29.00	1.142	-	-		MBTR/SAB4-7B545
												MBTR/SAB4-7B90

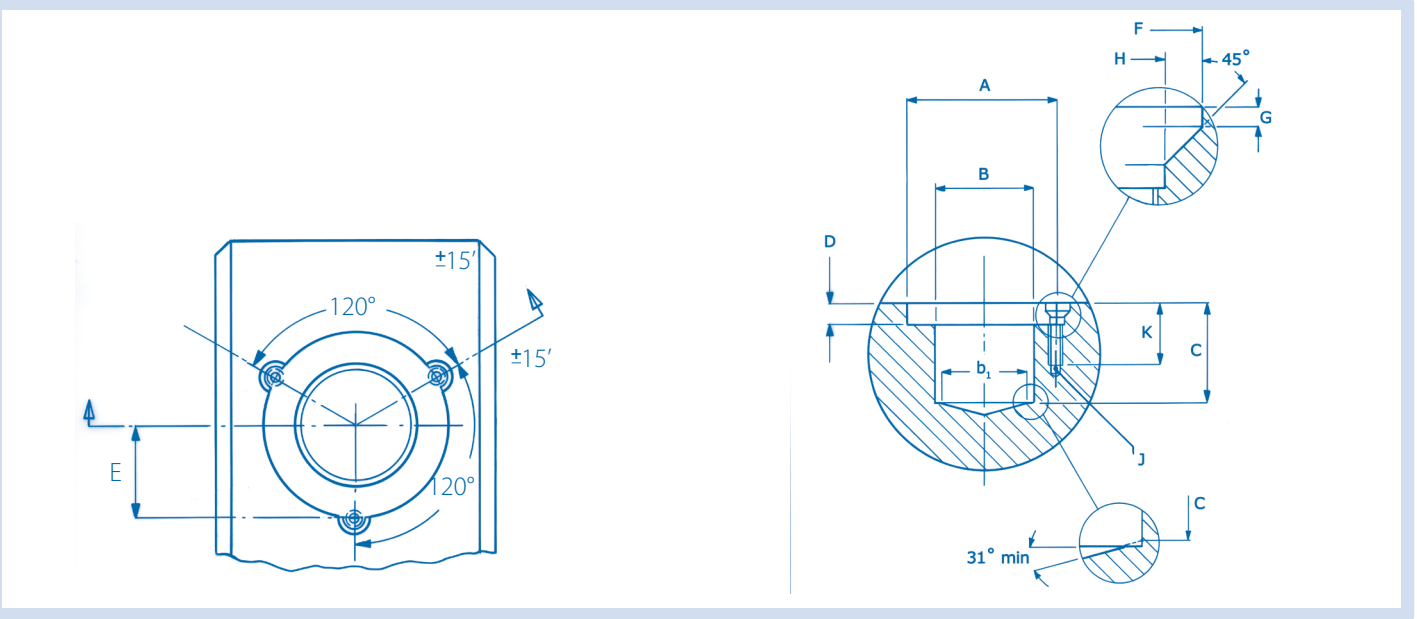
For operating instructions please see page 80

Spares and Accessories - MBTR/SAB Bush Units - Square Mounted

Tool	Insert Screw	Retaining Screw & Wrench Kit	Adjusting Wrench	Torx Wrench	Torx Driver
MBTR/SAB1-2B5	RS2045	BTR001/10/3	R26	R27	R27D
MBTR/SAB1-2B5-LH					
MBTR/SAB1-2B5L					
MBTR/SAB1-2B5L-LH					
MBTR/SAB1-2B545					
MBTR/SAB1-2F5S					
MBTR/SAB1-2B90					
MBTR/SAB2-3B5	RS2263	BTR001/10/3	R36	R37	R37D
MBTR/SAB2-3B5-LH	RS2560				
MBTR/SAB2-3B5C					
MBTR/SAB2-3B5C-LH	RS2263				
MBTR/SAB2-3B5S					
MBTR/SAB2-3B5S-LH					
MBTR/SAB2-3B5S					
MBTR/SAB2-3B5L-LH					
MBTR/SAB2-3B545					
MBTR/SAB2-3B90					
MBTR/SAB3-5B5M	RS2560	BTR001/7/3	R36	R37	R37D
MBTR/SAB3-5B5-LHM					
MBTR/SAB3-5B5CM					
MBTR/SAB3-5B5C-LHM					
MBTR/SAB3-5F5SM					
MBTR/SAB3-5B5LM					
MBTR/SAB3-5B5L-LHM					
MBTR/SAB3-5B545M					
MBTR/SAB3-5B90M					
MBTR/SAB4-7B5	RS4084	BTR001/8/3	R76	R77	R77D
MBTR/SAB2-7B5-LH					
MBTR/SAB4-7B5C					
MBTR/SAB4-7B5L					
MBTR/SAB4-7B5L-LH					
MBTR/SAB4-7B545					
MBTR/SAB4-7B90					



Mounting Dimensions For MBTR/SAB Units



Dimension	Tolerance		MBU1 MBTR/SAB1		MBU2 MBTR/SAB2		MBU3 MBTR/SAB3		MBU4 MBTR/SAB4	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
A	+0.2	+0.008	19.0	.7480	25.0	.9843	30.0	1.1811	46.0	1.8110
Ø	-0	-0								
B H7			16.0	.6299	20.0	.7874	22.0	.8661	32.0	1.2598
Ø										
b1	Drill point min		14.50	.571	18.50	.728	20.50	.807	30.50	1.200
C	+0.2	+0.008	12.50	.492	15.50	.610	24.00	.945	36.00	1.417
	-0	-0								
D	+/-0.05	+/-0.002	3.70	.146	4.00	.157	5.00	.197	6.30	.248
E			9.65	.380	12.5	.492	15.4	.606	23.0	.906
F	+0.1	+0.004	4.6	.181	4.6	.181	6.5	.256	11.6	.457
Ø	-0	-0								
G			2.5	.098	1.6	.063	1.8	.071	0	0
H			3.2	.126	3.2	.126	4.3	.169	5.4	.213
Ø										
J			M3X0.5		M3X0.5		M4X0.7		M5X0.8	
K			10.0	.393	9.0	.354	13.0	.512	16.0	.630

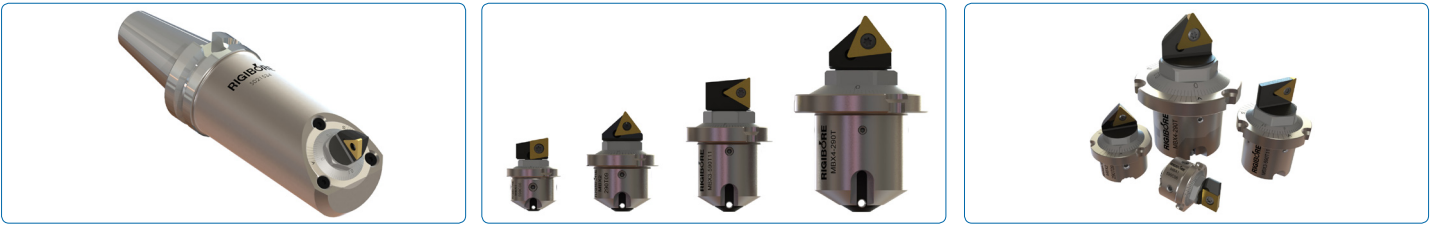
For operating instructions please see page 80

MBX Units

Accuracy through rigidity
for fine-finishing

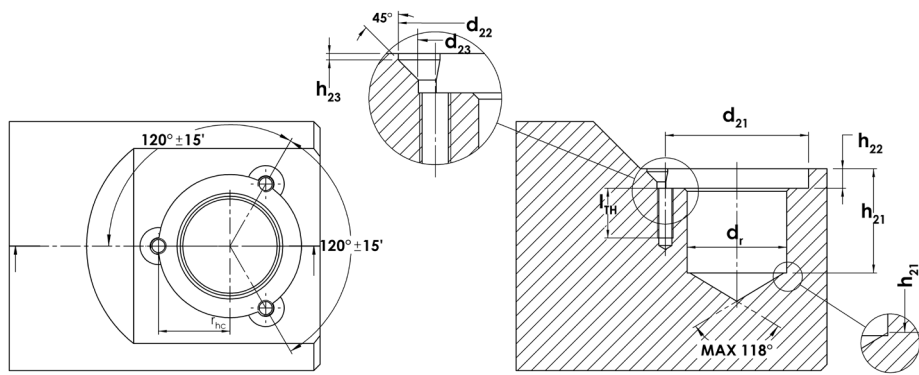
Features

- These units are designed for building into boring tools
- The units are pre-tensioned, eliminating backlash and adjustment is made from the front only
- Each graduation on the adjustment dial is 0.005 / .0002" on radius
- Each vernier graduation on the bush is 0.001 mm/.0004" on radius



Rigibore ‘MBX’ Units - Technical Specification

Rigibore ‘MBX’ Units - Mounting Dimensions



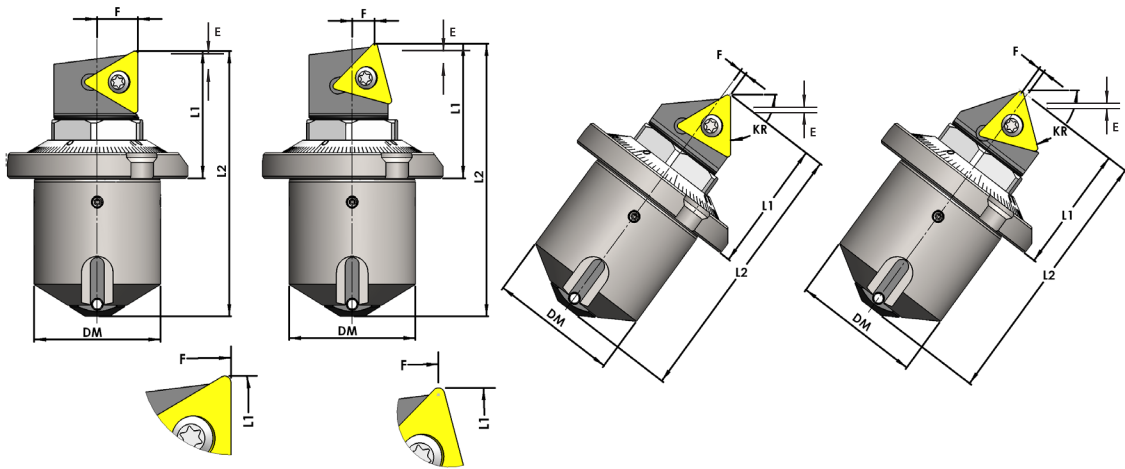
T Style Insert	C Style Insert	d,H7	d ₂₁ ¹	d ₂₂ ¹	d ₂₃	h ₂₁ ²	h ₂₂	h ₂₃ ¹	l _{TH}	r _{hc}	T _h
06	06	16	19	4.6	3.2	11.5	2.8	1.6	9	9.65+/-0.02	M3
09		20	25			15.5	4			12.5+/-0.05	
11		22	30	6.5	4.3	24	5	1.8	13	15.4+/-0.05	M4
16		32	46	11.9	5.4	33	6.3	-	16	23+/-0.05	M5

Rigibore ‘MBX’ Units - Spares and Accessories

Size	Insert	Insert Screw	Retaining Screw and Wrench Kit	Adjusting Spanner	Torx Wrench	Torx Driver
MBX1	CC..0602	RS2560	BTR001/10/3	R36	R37	R37D
	TC..06T1	RS2045			R27	R27D
MBX2	TC..0902	RS2263	BTR001/7/3	R36	R37	R37D
MBX3	TC..1102	RS2560				
MBX4	TC..16T3	RS4084	BTR001/8/3	R76	R77	R77D

Rigibore ‘MBX’ Units – Straight & Angular

RIGHT HAND VERSION - Shown



	Entering Angle KR	Insert type	Ordering code	DM	F1 ¹	L1 ²	L1 ³	L2	D MIN ⁴		E MAX
	90°	CC..060204	MBX1-590C06	16	5.10	13.20	13.30	25.10	27.00		2.5
			MBX1-590C06-LH								
		TC..090204	MBX2-590T09	20	6.30	18.01	18.30	33.40	36.50		3.5
			MBX2-590T09-LH								
		TC..110204	MBX3-590T11	22	7.20	21.80	22.10	46.00	48.50		6.0
			MBX3-590T11-LH								
	75°	TC..16T308	MBX4-590T16	32	10.30	31.42	32.00	64.70	68.40		10.0
			MBX4-590T16-LH								
		CC..060204	MBX1-575C06	16	2.45	13.83	14.20	26.00	28.60		2.5
			MBX1-575C06-LH								
		TC..090204	MBX2-575T09	20	3.70	18.83	19.20	34.30	38.10		3.5
			MBX2-575T09-LH								
	90°	TC..110204	MBX3-575T11	22	4.30	22.73	23.10	47.00	50.10		6.0
			MBX3-575T11-LH								
		TC..16T308	MBX4-575T16	32	5.60	32.65	33.40	66.10	70.65		10.0
			MBX4-575T16-LH								
		CC..060204	MBX1-290C06	16	0.40	14.08	14.30	26.00	25.30	0°	2.0
			MBX1-290C06-LH								
	75°	TC..06T102	MBX1-290T06		0.25	14.11			24.80		
			MBX1-290T06-LH								
		TC..090204	MBX2-290T09	20	1.00	18.70	19.10	34.20	32.50		2.8
			MBX2-290T09-LH								
		TC..110204	MBX3-290T11	22	1.20	22.60	23.00	46.80	42.00		4.8
			MBX3-290T11-LH								
	90°	TC..16T308	MBX4-290T16	32	1.40	32.51	33.30	66.60	59.40		8.0
			MBX4-290T16-LH								
		CC..060204	MBX1-275C06	16	0.85	14.05	14.40	26.10	26.60		2.0
			MBX1-275C06-LH						26.30		
		TC..06T102	MBX1-275T06		0.50	18.86	19.20	34.30	34.00		2.8
			MBX1-275T06-LH								
	75°	TC..090204	MBX2-275T09	20	0.50	18.86	19.20	34.30	34.00		2.8
			MBX2-275T09-LH								
		TC..110204	MBX3-275T11	22	0.25	22.56	22.90	46.70	43.50		4.8
			MBX3-275T11-LH								
		TC..16T308	MBX4-275T16	32	2.00	30.91	31.60	64.90	60.80		8.0
			MBX4-275T16-LH								

1. 90° And 75° approach angular mounted and 75° approach square mounted, centre of nose radius, 90° approach straight mounting over insert
2. Over datum rad for insert size
3. Sharp point
4. Minimum hole diameter calculated on the largest nose radius available

MBX - Standard Boring Bars

Accuracy through rigidity
For fine-finishing

Key Features

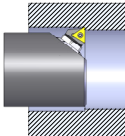
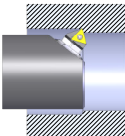
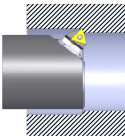
- These units are designed for building into boring tools
- The units are pre-tensioned, eliminating backlash and adjustment is made from the front only
- Each graduation on the adjustment dial is 0.005mm / .0002" on radius
- Each vernier graduation on the bush is 0.001 mm / .0004" on radius



Part Number Explanation

32	1	-	254	-	290	-	095
32	Size 32 Straight Shank						
1	MBX Unit size 1						
254	Boring Diameter Range Start = 25.4mm						
290	Boring Diameter Range End = 29.0mm						
095	Maximum Depth of Bore = 95.0mm						



	Entering Angle KR	Insert type	Ordering code	DM	F1 ¹	L1 ²	L1 ³	L2	D MIN ⁴		E MAX					
	90°	CC..060204	MBX1-290C06	16	0.40	14.08	14.30	26.00	25.30	0°	2.0					
			MBX1-290C06-LH													
		TC..06T102	MBX1-290T06	20	0.25	14.11	19.10	34.20	32.50		2.8					
			MBX1-290T06-LH													
		TC..090204	MBX2-290T09	22	1.00	18.70	23.00	46.80	42.00		4.8					
			MBX2-290T09-LH													
TC..110204	MBX3-290T11	32	1.20	22.60	33.30	66.60	59.40	8.0								
	MBX3-290T11-LH															
	TC..16T308								MBX4-290T16		16	0.85	14.05	26.10	26.60	2.0
									MBX4-290T16-LH							
	75°	CC..060204	MBX1-275C06	16	0.85	14.23	14.40	26.10	26.30		2.8					
			MBX1-275T06													
		TC..06T102	MBX2-275T09	20	0.50	18.86	19.20	34.30	34.00		4.8					
			MBX2-275T09-LH													
		TC..090204	MBX3-275T11	22	0.25	22.56	22.90	46.70	43.50		8.0					
			MBX3-275T11-LH													
TC..110204	MBX4-275T16	32	2.00	30.91	31.60	64.90	60.80	2.0								
	MBX4-275T16-LH															
	75°	TC..06T102	MBX1-275T06	16	0.85	14.23	14.40	26.10	26.30	2.8						
			MBX1-275T06-LH													
		TC..090204	MBX2-275T09	20	0.50	18.86	19.20	34.30	34.00	4.8						
			MBX2-275T09-LH													
		TC..110204	MBX3-275T11	22	0.25	22.56	22.90	46.70	43.50	8.0						
			MBX3-275T11-LH													
TC..16T308	MBX4-275T16	32	2.00	30.91	31.60	64.90	60.80	2.0								
	MBX4-275T16-LH															

1.

90° And 75° approach angular mounted and 75° approach square mounted, centre of nose radius, 90° approach straight mounting over insert

2.

Over datum rad for insert size

3.

Sharp point

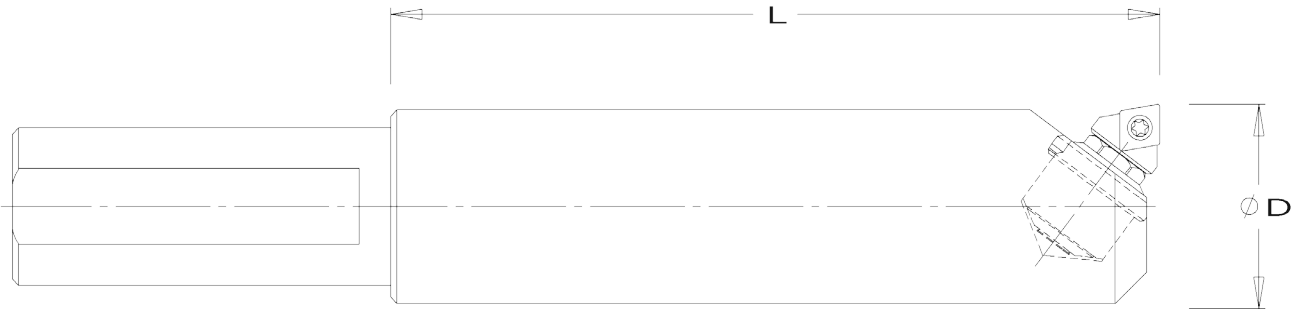
4.

Minimum hole diameter calculated on the largest nose radius available

1. 90° And 75° approach angular mounted and 75° approach square mounted, centre of nose radius, 90° approach straight mounting over insert
2. Over datum rad for insert size
3. Sharp point
4. Minimum hole diameter calculated on the largest nose radius available

Rigibore 'MBX' Standard Boring Bars - Angular

Shank	Part Number	Boring Range	Bar Length	Unit
20SS	201-254-290-095	25.4-29.0	95.0	MBX1-290C06
	201-289-325-110	28.5-32.5	110.0	
	201-324-360-122	32.4-36.0	122.0	
32SS	321-254-290-095	25.4-29.0	95.0	
	321-289-325-110	28.9-32.5	110.0	
	321-324-360-122	32.4-36.0	122.0	
	322-359-411-129	35.9-41.1	129.0	
	322-410-462-149	41.0-46.2	149.0	
40SS	402-359-411-129	35.9-41.1	129.0	MBX2-290T09
	402-410-462-149	41.0-46.2	149.0	
	403-461-553-171	46.1-55.3	171.0	MBX3-290T11
	403-552-644-200	55.2-64.4	200.0	
	404-643-799-200	64.3-79.9		
	404-798-954-200	79.8-95.4		
	404-953-1109-200	95.3-110.9		
50SS	503-461-553-171	46.1-55.3	171.0	MBX3-290T11
	503-552-644-200	55.2-64.4	200.0	
	504-643-799-200	64.3-79.9		
	504-798-954-200	79.8-95.4		
	504-953-1109-200	95.3-110.9		
				MBX4-290T16



For shank dimensions please refer to page 2

MBX Units

Accuracy through rigidity
For fine-finishing

INSTRUCTIONS FOR USE



Technical Information and Instructions for Use

1. Mounting

Ensure that the unit is correctly secured in its mounting hole and the 3 screws are clamping correctly.

2. Adjustment

The units are pre-tensioned and adjustment is made from the front only. To adjust outward, rotate the dial clockwise with the correct adjusting spanner. Each graduation on the adjusting dial = 0.005mm/.0002 inch on radius. Each graduation on the bush = 0.001mm/.00004inch adjustment on radius.

When adjusting downward, rotate the dial in the opposite direction a little more than required and adjust up to the new setting on the dial.

3. Maintenance

The unit is lubricated and assembled to very close tolerances. It should not require any further attention under normal operating conditions. If a unit is accidentally damaged, it is recommended that it is returned to Rigibore for assessment / repair.

CAD files & additional support information : www.rigibore.com/en/rigibore-units/

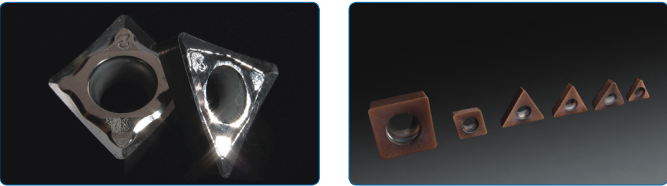


Inserts by Rigibore®

All areas of production catered for including low speed roughing, interrupted cuts and optimized machining of specialist materials.
Ground to ISO H tolerance, long lasting, fast metal removal.

Finishing

Choice of geometries - Uncoated and coated grades
Inserts for cast iron, aluminum, steel, brass, bronze and titanium alloys.



Rigibore Insert Grades

Grade	I.S.O	ANSI	Description	Coating	Materials
RC217	M10 - M25 K05 - K25	C2-C3	High-speed finishing. Exceptional resistance to wear, oxidation & thermal shock	PVD composite coated	Cast iron heat-resisting titanium alloy
R71	P05-P25 M10-M20	P6-P7	Light roughing & finishing. High cutting speeds with moderate feeds. High resistance to wear & thermal shock	Uncoated	Steel, cast steel
R22	K10-K25 M10-M30	C2-C3	Wide range of applications. High resistance to wear & good edge sharpness. Moderate cutting	Micro-grain uncoated	Cast Iron, ferrous materials, heat resisting titanium alloy & aircraft aluminum

Chip breaker Geometries

A choice of 4 geometries is available to suit most applications Ultra-precision ground to I.S.O. "H" tolerance for indexing within .0005"/0.013mm	
0 ° T.R.	Brass, S.G. Cast Iron, hardened steel, short-chipping Bronze
8 ° T.R.	Alloy steels, tool steels, some bronzes, some grey cast irons & tougher materials
14 ° T.R.	Mild steels, stainless steels, some tool steels, heat-resisting steel alloys, hard plastics
22 ° T.R.	Aluminum, aluminum alloys, soft plastics, rubber, magnesium alloys, copper

Inserts for Aluminum

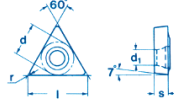
Size	Order Code	Available Grades	d (I.C)		l*		d1		s		r	
			inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
06-16	TCHT 06 11 04 FN-AL	R22	.156	3.97	.27	6.87	.087	2.2	.078	1.98	.016	0.4
	TCHT 09 02 04 FN-AL		.22	5.56	.38	9.63	.098	2.5	.094	2.38		
	TCHT 11 02 04 FN-AL		.25	6.35	.43	11.0	.11	2.8	.094	2.38		
	TCHT 16 T3 08 FN-AL		.375	9.525	.65	16.5	.17	4.4	.156	3.97	.031	0.8
06-12	CCHT 06 02 04 FN-AL	R22	.25	6.35	.25	6.35	.11	2.8	.094	2.38	.016	0.4
	CCHT 09 T3 08 FN-AL		.375	9.525	.375	9.525	.17	4.4	.156	3.97		
	CCHT 12 02 08 FN-AL		.5	12.7	.5	12.7	.217	5.5	.187	4.74	.031	0.8



TCHX



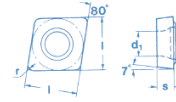
TCHW



CCHX



CCHW



Inserts for all uses

L = Left hand (boring), R = Right hand (turning)

Size	Order Code	Available Grades	Top Rake	d (I.C)		l*		d1		s		r	
			(deg)	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
6	TCHW 06 T1 02	RC217, R22	0	0.156	3.97	0.27	6.87	0.087	2.2	0.078	1.98	0.008	0.2
	TCHW 06 T1 04											0.016	0.4
	TCHW 06 T1 08											0.031	0.8
	TCHX 06 T1 01 - L22	R22	22									0.004	0.1
	TCHX 06 T1 02 - L08	R71	8									0.008	0.2
	TCHX 06 T1 02 - L14		14										
	TCHX 06 T1 02 - L22	R22	22									0.016	0.4
	TCHX 06 T1 04 - L08	R71	8										
9	TCHW 09 02 02	RC217, R22	0	0.219	5.56	0.379	9.63	0.098	2.5	0.094	2.38	0.008	0.2
	TCHW 09 02 04											0.016	0.4
	TCHW 09 02 08											0.031	0.8
	TCHX 09 02 01 - L22	R22	22									0.008	0.2
	TCHX 09 02 02 - L14	R71	14									0.008	0.2
	TCHX 09 02 02 - L22	R22	22										
	TCHX 09 02 04 - L08	R71	8									0.016	0.4
	TCHX 09 02 04 - L14		14										
11	TCHW 11 02 02	RC217, R22	0	0.25	6.35	0.433	11	0.11	2.8	0.094	2.38	0.008	0.2
	TCHW 11 02 04											0.016	0.4
	TCHW 11 02 08											0.031	0.8
	TCHX 11 02 01 - L22	R22	22									0.004	0.1
	TCHX 11 02 02 - L08	R71	8									0.008	0.2
	TCHX 11 02 04 - L08		0.016									0.4	
	TCHX 11 02 04 - L14												14
	16	TCHW 16 T3 02	R22									0	0.375
TCHW 16 T3 04		RC217, R22	0.016	0.4									
TCHW 16 T3 08			0.031	0.8									
TCHW 16 T3 12			0.047	1.2									
TCHX 16 T3 04 - L14		R71	14	0.016	0.4								
TCHX 16 T3 08 - L22		R22	22	0.031	0.8								
6		CCHW 06 02 04	RC217, R22	0	0.25	6.35	0.25	6.35	0.11	2.8	0.094	2.38	
	CCHW 06 02 08	RC217	14	0.031									0.8
	CCHX 06 02 04 - L14		22	0.008									0.2
	CCHX 06 02 02 - L22	R22	8	0.016									0.4
	CCHX 06 02 04 - L08	RC217, R22, R71	8										
	CCHX 06 02 04 - R08												
	CCHX 06 02 04 - L14	R71	14										
9	CCHW 09 T3 04	RC217, R22	0	0.375	9.525	0.375	9.525	0.173	4.4	0.156	3.97	0.016	0.4
	CCHW 09 T3 08	RC217	8									0.031	0.8
	CCHX 09 T3 02 - L08											0.008	0.2
	CCHX 09 T3 04 - L08	RC217, R71	0.016									0.4	
	CCHX 09 T3 08 - L08	RC217	0.031									0.8	
12	CCHW 12 04 08	RC217	0	0.5	12.7	0.5	12.7	0.216	5.5	0.187	4.74	0.031	0.8
4	CPHW 04 T1 04	RC217, R22	0	0.187	4.76	0.189	4.8	0.085	2.15	0.078	1.98	0.016	0.4