



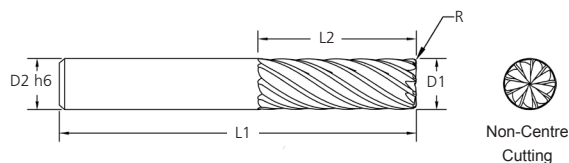
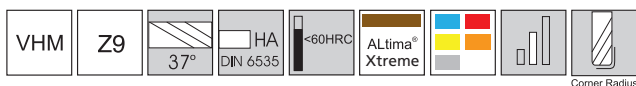
Where **high performance**
is the **standard**®



TuffCut® XT9
Series 380

www.mafordeurope.com

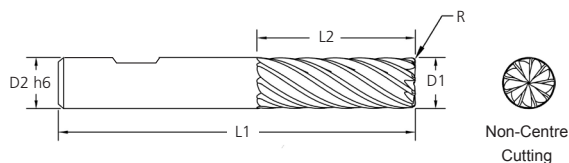
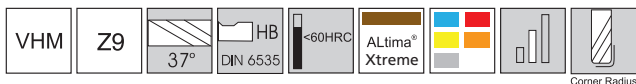
TuffCut® XT9 Series 380



Tool Number	D1	D2	L1	L2	R
380M0800-0.5RAX	8.0	8.0	63.0	22.0	0.5
380M0800-0.8RAX	8.0	8.0	63.0	22.0	0.8
380M0800-1.0RAX	8.0	8.0	63.0	22.0	1.0
380M0800-2.0RAX	8.0	8.0	63.0	22.0	2.0
380M1000-0.5RAX	10.0	10.0	72.0	27.0	0.5
380M1000-1.0RAX	10.0	10.0	72.0	27.0	1.0
380M1000-2.0RAX	10.0	10.0	72.0	27.0	2.0
380M1200-0.5RAX	12.0	12.0	81.0	32.0	0.5
380M1200-1.0RAX	12.0	12.0	81.0	32.0	1.0
380M1200-2.0RAX	12.0	12.0	81.0	32.0	2.0
380M1200-3.0RAX	12.0	12.0	81.0	32.0	3.0
380M1600-0.5RAX	16.0	16.0	92.0	42.0	0.5
380M1600-1.0RAX	16.0	16.0	92.0	42.0	1.0
380M1600-2.0RAX	16.0	16.0	92.0	42.0	2.0
380M1600-3.0RAX	16.0	16.0	92.0	42.0	3.0
380M1600-4.0RAX	16.0	16.0	92.0	42.0	4.0
380M2000-0.5RAX	20.0	20.0	104.0	52.0	0.5
380M2000-1.0RAX	20.0	20.0	104.0	52.0	1.0



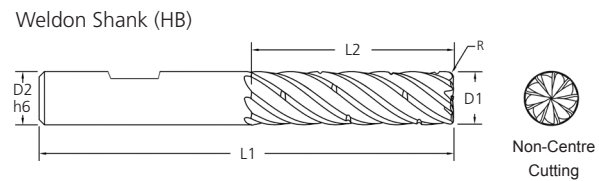
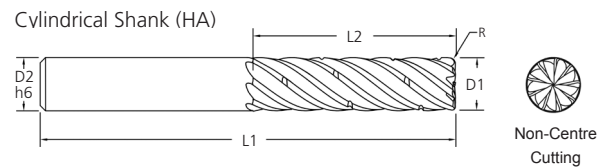
TuffCut® XT9 Series 380-W



Tool Number	D1	D2	L1	L2	R
380M1000-0.5RAXW	10.0	10.0	72.0	27.0	0.5
380M1000-1.0RAXW	10.0	10.0	72.0	27.0	1.0
380M1200-0.5RAXW	12.0	12.0	81.0	32.0	0.5
380M1200-1.0RAXW	12.0	12.0	81.0	32.0	1.0
380M1600-0.5RAXW	16.0	16.0	92.0	42.0	0.5
380M1600-1.0RAXW	16.0	16.0	92.0	42.0	1.0
380M2000-0.5RAXW	20.0	20.0	104.0	52.0	0.5
380M2000-1.0RAXW	20.0	20.0	104.0	52.0	1.0



TuffCut® XT9 Series 380CB & Series 380CB-W



Cylindrical Shank (HA)

Tool No.	D1	D2	L1	L2	R
380CBM0800-0.5RAX	8.0	8.0	63.0	22.0	0.5
380CBM0800-1.0RAX	8.0	8.0	63.0	22.0	1.0
380CBM1000-0.5RAX	10.0	10.0	72.0	27.0	0.5
380CBM1000-1.0RAX	10.0	10.0	72.0	27.0	1.0
380CBM1200-0.5RAX	12.0	12.0	81.0	32.0	0.5
380CBM1200-1.0RAX	12.0	12.0	81.0	32.0	1.0
380CBM1600-0.5RAX	16.0	16.0	92.0	42.0	0.5
380CBM1600-1.0RAX	16.0	16.0	92.0	42.0	1.0
380CBM2000-0.5RAX	20.0	20.0	104.0	52.0	0.5
380CBM2000-1.0RAX	20.0	20.0	104.0	52.0	1.0

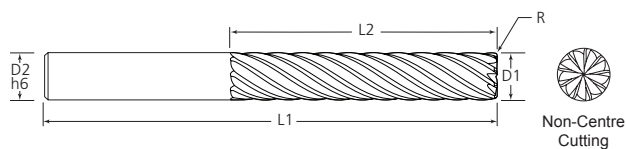
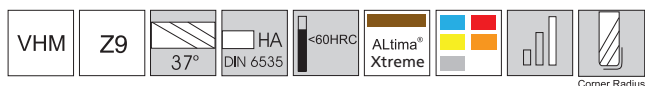


Weldon Shank (HB)

Tool No.	D1	D2	L1	L2	R
380CBM0800-0.5RAXW	8.0	8.0	63.0	22.0	0.5
380CBM0800-1.0RAXW	8.0	8.0	63.0	22.0	1.0
380CBM1000-0.5RAXW	10.0	10.0	72.0	27.0	0.5
380CBM1000-1.0RAXW	10.0	10.0	72.0	27.0	1.0
380CBM1200-0.5RAXW	12.0	12.0	81.0	32.0	0.5
380CBM1200-1.0RAXW	12.0	12.0	81.0	32.0	1.0
380CBM1600-0.5RAXW	16.0	16.0	92.0	42.0	0.5
380CBM1600-1.0RAXW	16.0	16.0	92.0	42.0	1.0
380CBM2000-0.5RAXW	20.0	20.0	104.0	52.0	0.5
380CBM2000-1.0RAXW	20.0	20.0	104.0	52.0	1.0



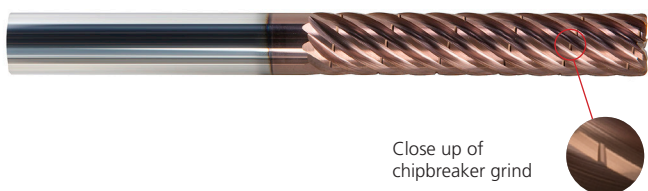
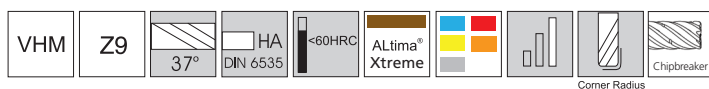
TuffCut® XT9 Series 380L



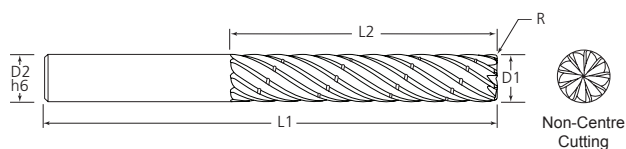
Tool Number	D1	D2	L1	L2	R
380M1204-1.0RAX	12.0	12.0	100.0	50.0	1.0
380M1205-1.0RAX	12.0	12.0	120.0	62.0	1.0
380M1604-1.0RAX	16.0	16.0	120.0	66.0	1.0
380M1605-1.0RAX	16.0	16.0	150.0	82.0	1.0



TuffCut® XT9 Series 380CB L



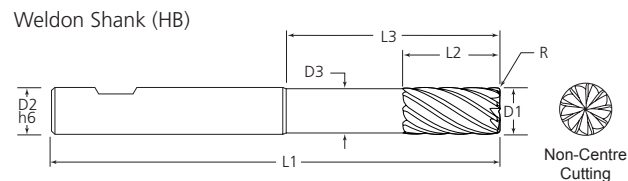
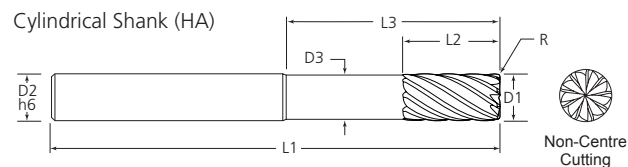
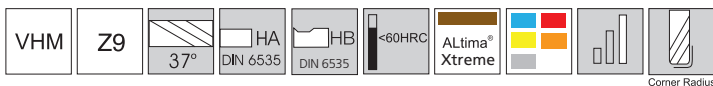
Close up of
chipbreaker grind



Tool Number	D1	D2	L1	L2	R
380CBM1204-1.0RAX	12.0	12.0	100.0	50.0	1.0
380CBM1205-1.0RAX	12.0	12.0	120.0	62.0	1.0
380CBM1604-1.0RAX	16.0	16.0	120.0	66.0	1.0
380CBM1605-1.0RAX	16.0	16.0	150.0	82.0	1.0



TuffCut® XT9 Series 380 N4, N5 & Series 380 N4-W, N5-W



Cylindrical Shank (HA)

Tool Number	D1	D2	D3	L1	L2	L3	R
380M1200N4-1.0RAX	12.0	12.0	11.4	100.0	18.0	50.0	1.0
380M1200N5-1.0RAX	12.0	12.0	11.4	110.0	18.0	62.0	1.0
380M1600N4-1.0RAX	16.0	16.0	15.2	120.0	35.0	66.0	1.0
380M1600N5-1.0RAX	16.0	16.0	15.2	133.0	35.0	82.0	1.0

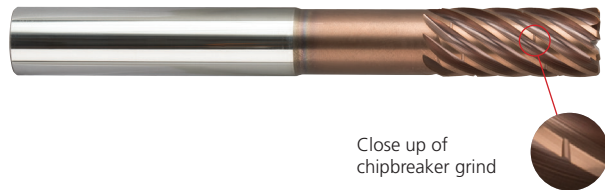
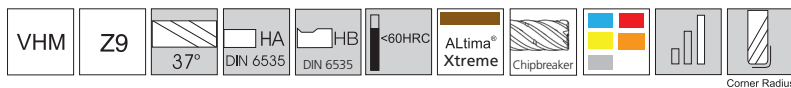


Weldon Shank (HB)

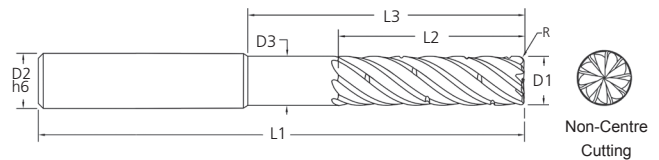
Tool Number	D1	D2	D3	L1	L2	L3	R
380M1200N4-1.0RAXW	12.0	12.0	11.4	100.0	18.0	50.0	1.0
380M1200N5-1.0RAXW	12.0	12.0	11.4	110.0	18.0	62.0	1.0
380M1600N4-1.0RAXW	16.0	16.0	15.2	120.0	35.0	66.0	1.0
380M1600N5-1.0RAXW	16.0	16.0	15.2	133.0	35.0	82.0	1.0



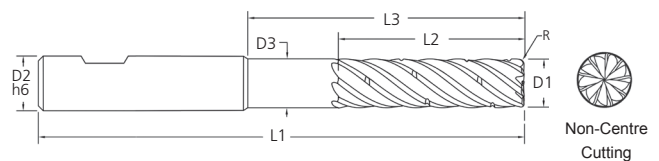
TuffCut® XT9 Series 380CB N4, N5 & Series 380CB N4-W, N5-W



Cylindrical Shank (HA)



Weldon Shank (HB)



Cylindrical Shank (HA)

Tool No.	D1	D2	D3	L1	L2	L3	R
380CBM12N4-1.0RAX	12.0	12.0	11.4	100.0	27.0	50.0	1.0
380CBM12N5-1.0RAX	12.0	12.0	11.4	110.0	27.0	62.0	1.0
380CBM16N4-1.0RAX	16.0	16.0	15.2	120.0	35.0	66.0	1.0
380CBM16N5-1.0RAX	16.0	16.0	15.2	133.0	35.0	82.0	1.0



Weldon Shank (HB)

Tool Number	D1	D2	D3	L1	L2	L3	R
380CBM12N4-1.0RAXW	12.0	12.0	11.4	100.0	27.0	50.0	1.0
380CBM12N5-1.0RAXW	12.0	12.0	11.4	110.0	27.0	62.0	1.0
380CBM16N4-1.0RAXW	16.0	16.0	15.2	120.0	35.0	66.0	1.0
380CBM16N5-1.0RAXW	16.0	16.0	15.2	133.0	35.0	82.0	1.0



TuffCut® XT9 Series 380, 380CB & Series 380CB-W

Recommended cutting data : Conditions de coupe recommandées : Empfohlene Schnittdaten : Dati di taglio Raccomandati : Zalecane Parametry

Workpiece Material Group	ISO	Hardness	Coolant ● Preferred ○ Possible x Not Possible			Profiling (ae)		End Mill Diameter (mm)				
								8	10	12	16	20
						5%	10%	 Multiply fz by this Factor based on ae. When finishing, use the standard fz per chart below. Only add chip thinning when roughing or semi-finishing.				
						2.3	1.67					
			Max.	Air	MMS	vc - m/min	fz - mm/tooth					
Low Carbon Steels 1018, 1020	P	up to 28 Rc	●	●	●	450	350	.080	.100	.110	.150	.254
Medium Carbon Steels 1140, 1145	P	28 to 38 Rc	●	●	●	345	275	.080	.100	.110	.150	.254
Alloy Steels 4140, 4145	P	28 to 44 Rc	●	●	●	315	255	.080	.100	.110	.150	.254
Die / Tool Steels A2, D2, H13, P20	P	28 to 44 Rc	●	●	●	275	220	.080	.100	.110	.150	.254
Stainless Steel - Easy to Machine 430F, 301, 303, 410, 416 Annealed, 420F, 430	M	up to 28 Rc	●	x	○	205	165	.030-.040	.038-.050	.050-.078	.050-.083	.060-.099
Stainless Steel - Austenitic 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	up to 28 Rc	●	x	○	160	130	.030-.040	.038-.050	.050-.078	.050-.083	.060-.099
Stainless Steel - Difficult to Machine 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321	M	up to 28 Rc	●	x	○	125	100	.030-.040	.038-.050	.050-.078	.050-.083	.060-.099
Stainless Steel - Difficult to Machine 17-4 PH, PH13-8Mo, Nitronics	M	over 28 Rc	●	x	○	160	130	.030-.040	.038-.050	.050-.078	.050-.083	.060-.099
Cobalt Chrome Alloys	M		●	x	○	125	100	.040	.050	.078	.083	.099
Duplex (22%)	M		●	x	○	75	60	.040	.050	.078	.083	.099
Super Duplex (25%)	M		●	x	○	75	60	.040	.050	.078	.083	.099
High Temp Alloys	S	up to 42 Rc	●	x	x	55	45	.030-.040	.038-.050	.025-.040	.025-.043	.030-.050
Inconel	S		●	x	x	55	45	.020-.030	.025-.040	.025-.040	.025-.043	.030-.050
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr-4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al	S	up to 42 Rc	●	x	x	115	105	.020-.030	.025-.040	.050-.078	.050-.083	.030-.050
Cast-Iron - Gray CG, ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40	K	up to 240 HB	●	○	○	495	395	.080	.100	.110	.150	.254
Cast Iron - Ductile & Malleable CGI 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	K	over 240 HB	●	○	○	205	165	.065	.080	.110	.150	.254
Hardened Steels	H	40-50 Rc	●	○	○	185	150	.050	.060	.101	.116	.152
Hardened Steels		50-55 Rc	●	○	○	155	125	.030	.040	.061	.076	.088
Hardened Steels		>55 Rc	●	○	○	100	95	.020	.025	.045	.055	.063

Safety Note

Always wear the appropriate personal protective equipment such as safety glasses and protective clothing when using solid carbide or HSS cutting tools. Machines should be fully guarded.

Spindle Maximum - Should the calculated spindle speed be more than your actual spindle maximum, use this formula:
(Calculated Feed x Spindle Maximum)/Calculated Speed.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

TuffCut® XT9 Series 380L, 380CB L, 380N4 & N5 - W & 380CB N4 & N5 - W

Recommended cutting data | Conditions de coupe recommandées | Empfohlene Schnittdaten | Dati di taglio Raccomandati | Zalecane Parametry

Workpiece Material Group	I S O	Hardness	Coolant ● Preferred ○ Possible x Not Possible			Profiling (ae)			End Mill Diameter (mm)		
						  			12		16
						5%	7%	10%			
						2.3	2.0	1.8	 Multiply fz by this Factor based on ae. When finishing, use the standard fz per chart below. Only add chip thinning when roughing or semi-finishing.		
			Max.	Air	MMS	vc - m/min					
Low Carbon Steels 1018, 1020	P	up to 28 Rc	●	●	●	385	350	310	0.050	0.060	
Medium Carbon Steels 1140, 1145	P	28 to 38 Rc	●	●	●	250	230	200	0.050	0.060	
Alloy Steels 4140, 4145	P	28 to 44 Rc	●	●	●	250	230	200	0.050	0.060	
Die / Tool Steels A2, D2, H13, P20	P	28 to 44 Rc	●	●	●	220	200	180	0.050	0.060	
Stainless Steel - Easy to Machine 430F, 301, 303, 410, 416 Annealed, 420F, 430	M	up to 28 Rc	●	x	○	165	150	130	0.050	0.060	
Stainless Steel - Austenitic 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH	M	up to 28 Rc	●	x	○	130	120	100	0.050	0.060	
Stainless Steel - Difficult to Machine 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321	M	up to 28 Rc	●	x	○	100	90	80	0.050	0.060	
Stainless Steel - Difficult to Machine 17-4 PH, PH13-8Mo, Nitronics	M	over 28 Rc	●	x	○	100	90	80	0.050	0.060	
Cobalt Chrome Alloys	M		●	x	○	100	90	80	0.050	0.060	
Duplex (22%)	M		●	x	○	60	50	45	0.050	0.060	
Super Duplex (25%)	M		●	x	○	60	50	45	0.050	0.060	
High Temp Alloys	S	up to 42 Rc	●	x	x	45	40	35	0.050	0.060	
Inconel	S		●	x	x	45	40	35	0.025	0.030	
Titanium Alloys 6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr	S	up to 42 Rc	●	x	x	90	85	80	0.030	0.040	
Cast-Iron - Gray CG, ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40	K	up to 240 HB	●	○	○	395	355	315	0.050	0.060	
Cast Iron - Ductile & Malleable CGI 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450	K	over 240 HB	●	○	○	165	150	130	0.050	0.060	
Hardened Steels	H	40-50 Rc	●	○	○	150	130	120	0.040	0.050	
Hardened Steels		50-55 Rc	●	○	○	125	110	100	0.025	0.030	
Hardened Steels		>55 Rc	●	○	○	80	75	75	0.020	0.025	

Safety Note

Always wear the appropriate personal protective equipment such as safety glasses and protective clothing when using solid carbide or HSS cutting tools. Machines should be fully guarded.

Spindle Maximum - Should the calculated spindle speed be more than your actual spindle maximum, use this formula:
(Calculated Feed x Spindle Maximum)/Calculated Speed.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

Also available:

Where **high performance** is the **standard**



New interactive cutting data app now available from M.A. Ford

Everything you need at your fingertips

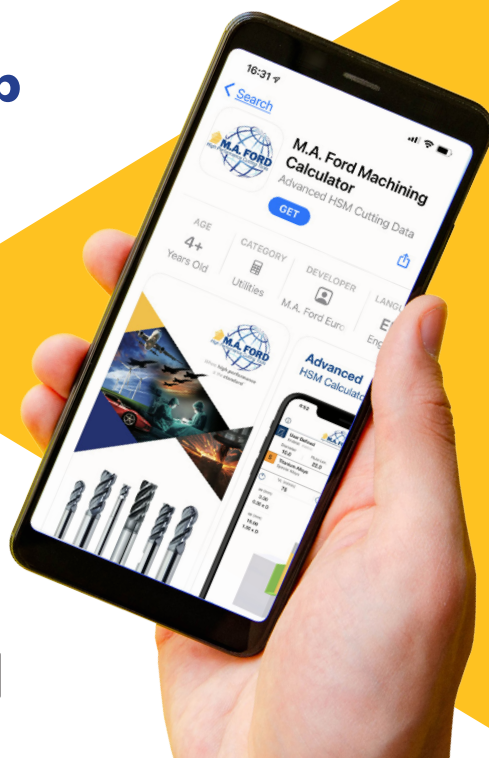
Our interactive app for iOS and Android devices makes tool cutting data calculations simpler and faster by minimising text input and using 3D graphics that respond instantly to changing cutting parameters, using smart-phone or tablet touch screens.



Get it on
Google Play



Download on the
App Store



M.A. Ford Europe Ltd.

650 City Gate
London Road, Derby
DE24 8WY
United Kingdom

Tel: +44(0) 1332 267960
Fax: +44(0) 1332 267969
e-mail: sales@mafordeurope.com
www.mafordeurope.com

M.A. Ford® Mfg. Co., Inc.

7737 Northwest Blvd.
Davenport
IA 52806
USA

Tel: 563-391-6220 or 800-553-8024
Fax: 563-386-7660 or 800-892-9522
e-mail: sales@maford.com
www.maford.com

M.A. Ford® Asia-Pacific Limited

Room 1709, Level 17
Millennium City 2
378 Kwun Tong Road
Kowloon, Hong Kong

Tel: +852-2167-7150
Fax: +852-2167-8150
Email: sales@mafordap.com