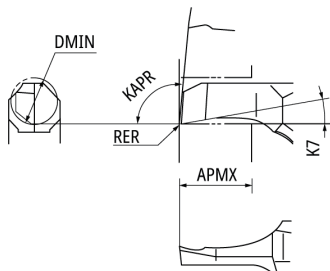
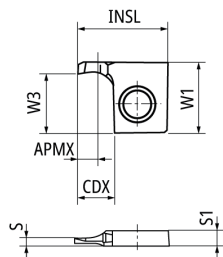


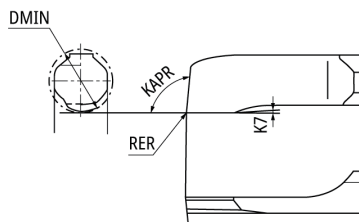
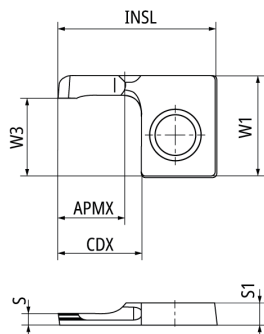
LBM.. series/Inserts Carbide

LBMD-S Short type



Item Number		Hand	Chip-breaker	DMIN	APMX	CDX	INSL	K7	KAPR	RE	S	S1	W1	W3	Carbide PVD	
				mm	mm	mm	mm	°	°	mm	mm	mm	mm	mm	mm	VM1
LBMD1020FLPB05S		L	Yes	1	2	6	15	10	95	0.05	1.25	2.5	12	10		
LBMD1020FLVBS		L	Yes	1	2	6	15	10	95	0	1.25	2.5	12	10		
LBMD1430FLPB05S		L	Yes	1.4	3	6	15	10	95	0.05	1.25	2.5	12	10		
LBMD1430FLVBS		L	Yes	1.4	3	6	15	10	95	0	1.25	2.5	12	10		
LBMD1730FLPB05S		L	Yes	1.7	3	6	15	10	95	0.05	1.25	2.5	12	10		
LBMD1730FLVBS		L	Yes	1.7	3	6	15	10	95	0	1.25	2.5	12	10		
LBMD2035FLPB05S		L	Yes	2	3.5	6	15	10	95	0.05	1.25	2.5	12	10		
LBMD2035FLVBS		L	Yes	2	3.5	6	15	10	95	0	1.25	2.5	12	10		
LBMD2335FLPB05S		L	Yes	2.3	3.5	6	15	10	95	0.05	1.25	2.5	12	10		
LBMD2335FLVBS		L	Yes	2.3	3.5	6	15	10	95	0	1.25	2.5	12	10		

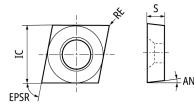
LBM Long type



Item Number		Hand	Chip-breaker	DMIN	APMX	CDX	INSL	K7	KAPR	RE	S	S1	W1	W3	Carbide PVD	
				mm	mm	mm	mm	°	°	mm	mm	mm	mm	mm	VM1	ZM3
LBMD1020FLPB05		L	Yes	1	2	9.9	18.9	10	95	0.05	1.25	2.5	12	10		
LBMD1020FLVB		L	Yes	1	2	9.9	18.9	10	95	0	1.25	2.5	12	10		
LBMD2060FLPB05		L	Yes	2	6	9.9	18.9	10	95	0.05	1.25	2.5	12	10		
LBMD2060FLVB		L	Yes	2	6	9.9	18.9	10	95	0	1.25	2.5	12	10		
LBME2060FLP05		L	No	2	6	9.9	18.9	2	105	0.05	1.25	2.5	12	10		
LBME2060FLPB05		L	Yes	2	6	9.9	18.9	2	105	0.05	1.25	2.5	12	10		
LBME2060FLV		L	No	2	6	9.9	18.9	2	105	0	1.25	2.5	12	10		
LBME2060FLVB		L	Yes	2	6	9.9	18.9	2	105	0	1.25	2.5	12	10		
LBM3080FLPB05		L	Yes	3	8	9.9	18.9	2	90	0.05	1.25	2.5	12	9.6		
LBM3080FLVB		L	Yes	3	8	9.9	18.9	2	90	0	1.25	2.5	12	9.6		
LBMC3080FLP05		L	No	3	8	9.9	18.9	2	95	0.05	1.25	2.5	12	9.6		
LBMC3080FLPB05		L	Yes	3	8	9.9	18.9	2	95	0.05	1.25	2.5	12	9.6		
LBMC3080FLV		L	No	3	8	9.9	18.9	2	95	0	1.25	2.5	12	9.6		
LBMC3080FLVB		L	Yes	3	8	9.9	18.9	2	95	0	1.25	2.5	12	9.6		

CC.. series/Inserts Carbide

CC..

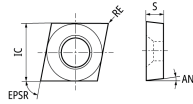


Steel	○	●	●	●	●	●	●	●	●
Stainless Steel	●	○	○	○	●	○	●	●	●
Cast Iron								●	
Non-Ferrous Material						○	○		●
Heat Resistant Alloy	●	○	○						
Hardened Material	○	○	○						
Others (non-metallic)									●

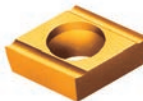
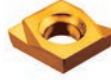
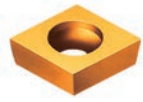
Shape	Item Number (ISO)	CECC	EPSR °	IC mm	S mm	AN °	RE mm	BS mm	Carbide											Uncoated KM1
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	
									ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	CP7	CP7	
	CCGT09T300YL	Up-sharp edge	80	9.525	3.97	7	0.03	-			●		●							
	CCGT09T301MYL	Up-sharp edge	80	9.525	3.97	7	0.08	-	●	●	●	●	●							
	CCGT09T302MYL	Up-sharp edge	80	9.525	3.97	7	0.18	-	●	●	●	●	●							
	CCGT09T304MYL	Up-sharp edge	80	9.525	3.97	7	0.38	-	●	●	●	●	●							
	CCGT09T308MYL	Up-sharp edge	80	9.525	3.97	7	0.78	-	●	●	●	●	●							
	CCGT060201MCL	Up-sharp edge	80	6.35	2.38	7	0.08	-	●	●	●	●	●							
	CCGT060202MCL	Up-sharp edge	80	6.35	2.38	7	0.18	-	●	●	●	●	●							
	CCGT09T300CL	Up-sharp edge	80	9.525	3.97	7	0.03	-			●		●							
	CCGT09T301MCL	Up-sharp edge	80	9.525	3.97	7	0.08	-	●	●	●	●	●							
	CCGT09T302MCL	Up-sharp edge	80	9.525	3.97	7	0.18	-	●	●	●	●	●							
	CCGT09T304MCL	Up-sharp edge	80	9.525	3.97	7	0.38	-	●	●	●	●	●							
	CCGT060200FNAM3	Up-sharp edge	80	6.35	2.38	7	0.03	-			●		●	●						
	CCGT060201MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.08	-	●		●	●	●							
	CCGT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	-						●	●					
	CCGT060202MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.18	-	●		●	●	●							
	CCGT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	-							●					
	CCGT060204MFNAM3	Up-sharp edge	80	6.35	2.38	7	0.38	-	●		●	●	●							
	CCGT09T300FNAM3	Up-sharp edge	80	9.525	3.97	7	0.03	-			●		●	●						
	CCGT09T301MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.08	-	●		●	●	●	●	●					
	CCGT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	-				●		●						
	CCGT09T302MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.18	-	●		●	●	●	●	●					
	CCGT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	-				●		●						
	CCGT09T304MFNAM3	Up-sharp edge	80	9.525	3.97	7	0.38	-	●		●	●	●	●	●					
	CCMT060202FNAM3	Up-sharp edge	80	6.35	2.38	7	0.2	-		●										
	CCMT060204FNAM3	Up-sharp edge	80	6.35	2.38	7	0.4	-		●										
	CCMT09T302FNAM3	Up-sharp edge	80	9.525	3.97	7	0.2	-		●										
	CCMT09T304FNAM3	Up-sharp edge	80	9.525	3.97	7	0.4	-		●										
	CCMT09T308FNAM3	Up-sharp edge	80	9.525	3.97	7	0.8	-		●										
	CCGT060200AZ7	Up-sharp edge	80	6.35	2.38	7	0.03	-				●								
	CCGT060201MAZ7	Up-sharp edge	80	6.35	2.38	7	0.08	-				●								
	CCGT060202MAZ7	Up-sharp edge	80	6.35	2.38	7	0.18	-				●								
	CCGT09T300AZ7	Up-sharp edge	80	9.525	3.97	7	0.03	-			●	●	●			●				
	CCGT09T301MAZ7	Up-sharp edge	80	9.525	3.97	7	0.08	-			●	●	●			●				
	CCGT09T302MAZ7	Up-sharp edge	80	9.525	3.97	7	0.18	-			●	●	●			●				
	CCGT09T304MAZ7	Up-sharp edge	80	9.525	3.97	7	0.38	-			●	●	●			●				
	CCMT060202E002AZ8	E002	80	6.35	2.38	7	0.2	-											●	
	CCMT060204E004AZ8	E004	80	6.35	2.38	7	0.4	-											●	
	CCMT060208E004AZ8	E004	80	6.35	2.38	7	0.8	-											●	
	CCMT09T302E002AZ8	E002	80	6.35	2.38	7	0.2	-											●	
	CCMT09T304E004AZ8	E004	80	6.35	2.38	7	0.4	-											●	
	CCMT09T308E004AZ8	E004	80	6.35	2.38	7	0.8	-											●	
	CCGT060200RS	Up-sharp edge	80	6.35	2.38	7	0.03	-			●			●	●					
	CCGT060201MRS	Up-sharp edge	80	6.35	2.38	7	0.08	-			●	●								
	CCGT060202MRS	Up-sharp edge	80	6.35	2.38	7	0.18	-			●	●								
	CCGT09T300RS	Up-sharp edge	80	9.525	3.97	7	0.03	-			●		●	●	●					
	CCGT09T301MRS	Up-sharp edge	80	9.525	3.97	7	0.08	-			●	●	●							
	CCGT09T301RS	Up-sharp edge	80	9.525	3.97	7	0.1	-				●		●	●					
	CCGT09T302MRS	Up-sharp edge	80	9.525	3.97	7	0.18	-			●	●	●							
	CCGT09T302RS	Up-sharp edge	80	9.525	3.97	7	0.2	-				●		●	●					
	CCGT09T304MRS	Up-sharp edge	80	9.525	3.97	7	0.38	-			●	●	●							
	CCGT09T304RS	Up-sharp edge	80	9.525	3.97	7	0.4	-				●								

ID Tooling

V

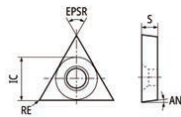


Steel	○	●	●	●	●	●	●	●	●
Stainless Steel	●	○	○	○	●	○	●	●	●
Cast Iron								●	
Non-Ferrous Material						○	○		●
Heat Resistant Alloy		●	○	○					
Hardened Material		○	○	○					
Others (non-metallic)									●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide											Uncoated
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	
									ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1		
(ISO)	°	mm	mm	°	mm	mm														
	CCGT060200RU	Up-sharp edge	80	6.35	2.38	7	0.03	-			●				●					
	CCGT060201RU	Up-sharp edge	80	6.35	2.38	7	0.1	-			●				●					
	CCGT060202RU	Up-sharp edge	80	6.35	2.38	7	0.2	-			●				●					
	CCGT09T300RU1	Up-sharp edge	80	9.525	3.97	7	0.03	-			●		●		●					
	CCGT09T301RU1	Up-sharp edge	80	9.525	3.97	7	0.1	-			●		●		●					
	CCGT09T302RU1	Up-sharp edge	80	9.525	3.97	7	0.2	-			●		●		●					
	CCGT09T304RU1	Up-sharp edge	80	9.525	3.97	7	0.4	-			●		●		●					
	CCGT060201LU	Up-sharp edge	80	6.35	2.38	7	0.1	-							●					
	CCGT060202LU	Up-sharp edge	80	6.35	2.38	7	0.2	-							●					
	CCGT09T300LU1	Up-sharp edge	80	9.525	3.97	7	0.03	-							●					
	CCGT09T301LU1	Up-sharp edge	80	9.525	3.97	7	0.1	-							●					
	CCGT09T302LU1	Up-sharp edge	80	9.525	3.97	7	0.2	-							●					
CCGT09T304LU1	Up-sharp edge	80	9.525	3.97	7	0.4	-							●						
	CCET09T3005RKHG	Up-sharp edge	80	9.525	3.97	7	0.05	-					●	●						
	CCET09T3008RKHG	Up-sharp edge	80	9.525	3.97	7	0.08	-					●	●						
	CCET09T3018RKHG	Up-sharp edge	80	9.525	3.97	7	0.18	-					●	●						
	CCET09T302RKHG	Up-sharp edge	80	9.525	3.97	7	0.2	-					●	●						
	CCGT060201FRF1	Up-sharp edge	80	6.35	2.38	7	0.1	-	●			●	●							
	CCGT060202FRF1	Up-sharp edge	80	6.35	2.38	7	0.2	-	●			●	●							
	CCGT060204FRF1	Up-sharp edge	80	6.35	2.38	7	0.4	-	●			●	●							
	CCGT09T302FRF1	Up-sharp edge	80	6.35	2.38	7	0.2	-	●			●	●							
	CCGT09T304FRF1	Up-sharp edge	80	6.35	2.38	7	0.4	-	●			●	●							
	CCGW060200FN	Up-sharp edge	80	6.35	2.38	7	0.03	-							●					
	CCGW060200H	Up-sharp edge	80	6.35	2.38	7	0.03	-										●		
	CCGW060201FN	Up-sharp edge	80	6.35	2.38	7	0.1	-							●					
	CCGW060201H	Up-sharp edge	80	6.35	2.38	7	0.1	-										●		
	CCGW060202H	Up-sharp edge	80	6.35	2.38	7	0.2	-										●		
	CCGW09T300FN	Up-sharp edge	80	9.525	3.97	7	0.03	-							●					
	CCGW09T300H	Up-sharp edge	80	9.525	3.97	7	0.03	-										●		
	CCGW09T301FN	Up-sharp edge	80	9.525	3.97	7	0.1	-							●					
	CCGW09T301H	Up-sharp edge	80	9.525	3.97	7	0.1	-										●		
	CCGW09T302H	Up-sharp edge	80	9.525	3.97	7	0.2	-										●		
	CCGW09T302MP	Up-sharp edge	80	9.525	3.97	7	0.18	-			●									

TP.. series/Inserts Carbide

TPGH

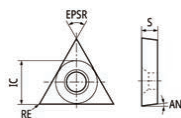


Steel	○	●	●	●	●	●	●	●	●
Stainless Steel	●	○	○	○	●	○	●	●	●
Cast Iron								●	
Non-Ferrous Material						○	○		●
Heat Resistant Alloy		●	○	○					
Hardened Material		○	○	○					
Others (non-metallic)									●

Shape	Item Number	CECC	EPSR	IC	S	AN	RE	BS	Carbide										Uncoated
									PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	
									ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1	
	TPGH090202RFG	Up-sharp edge	60	5.56	2.38	11	0.2	-	●			●	●						
	TPGH090204RFG	Up-sharp edge	60	5.56	2.38	11	0.4	-	●			●	●						
	TPGH110302RFG	Up-sharp edge	60	6.35	3.18	11	0.2	-	●			●	●						
	TPGH110304RFG	Up-sharp edge	60	6.35	3.18	11	0.4	-	●			●	●						
	TPGH080202FRF1	Up-sharp edge	60	4.76	2.38	11	0.2	-					●	●	●				
	TPGH080204FRF1	Up-sharp edge	60	4.76	2.38	11	0.4	-					●	●	●				
	TPGH090201FRF1	Up-sharp edge	60	5.56	2.38	11	0.1	-	●			●	●						
	TPGH090202FRF1	Up-sharp edge	60	5.56	2.38	11	0.2	-	●			●	●	●	●				
	TPGH090204FRF1	Up-sharp edge	60	5.56	2.38	11	0.4	-	●			●	●	●	●				
	TPGH090208FRF1	Up-sharp edge	60	5.56	2.38	11	0.8	-	●			●	●	●	●				
	TPGH110302FRF1	Up-sharp edge	60	6.35	3.18	11	0.2	-	●			●	●	●	●				
	TPGH110304FRF1	Up-sharp edge	60	6.35	3.18	11	0.4	-	●			●	●	●	●				
	TPGH110308FRF1	Up-sharp edge	60	6.35	3.18	11	0.8	-	●			●	●	●	●				
	TPGH090202FLK	Up-sharp edge	60	5.56	2.38	11	0.2	-					●						
	TPGH090204FLK	Up-sharp edge	60	5.56	2.38	11	0.4	-					●						
	TPGH090208FLK	Up-sharp edge	60	5.56	2.38	11	0.8	-					●						
	TPGH090202FLB2	Up-sharp edge	60	5.56	2.38	11	0.2	-					●		●				
	TPGH090204FLB2	Up-sharp edge	60	5.56	2.38	11	0.4	-					●		●				
	TPGH090208FLB2	Up-sharp edge	60	5.56	2.38	11	0.8	-					●		●				
	TPGH080202FLB3	Up-sharp edge	60	4.76	2.38	11	0.2	-					●		●				
	TPGH080204FLB3	Up-sharp edge	60	4.76	2.38	11	0.4	-					●		●				

TC.. series/Inserts Carbide

TCG.



Steel	○	●	●	●	●	●	●	●	●
Stainless Steel	●	○	○	○	●	○	●	●	●
Cast Iron								●	
Non-Ferrous Material						○	○		●
Heat Resistant Alloy		●	○	○					
Hardened Material		○	○	○					
Others (non-metallic)									●

Shape	Item Number	CECC	Carbide																	Uncoated
			EPSR	IC	S	AN	RE	BS	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD		
			(ISO)	°	mm	mm	°	mm	mm	ST4	DM4	DT4	QM3	TM4	VM1	ZM3	CP1	CP7	KM1	
	TCGH060101FRF05	Up-sharp edge	60	3.97	1.59	7	0.1	-	●			●	●							
	TCGH060102FLF05	Up-sharp edge	60	3.97	1.59	7	0.2	-					●			●				
	TCGH060102FRF05	Up-sharp edge	60	3.97	1.59	7	0.2	-	●			●	●			●				
	TCGH060104FRF05	Up-sharp edge	60	3.97	1.59	7	0.4	-	●			●	●			●				
	TCGH060102FLK	Up-sharp edge	60	3.97	1.59	7	0.2	-					●							
	TCGH060104FLK	Up-sharp edge	60	3.97	1.59	7	0.4	-					●							
	TCGH060102FLB1	Up-sharp edge	60	3.97	1.59	7	0.2	-					●			●				
	TCGH060104FLB1	Up-sharp edge	60	3.97	1.59	7	0.4	-					●			●				