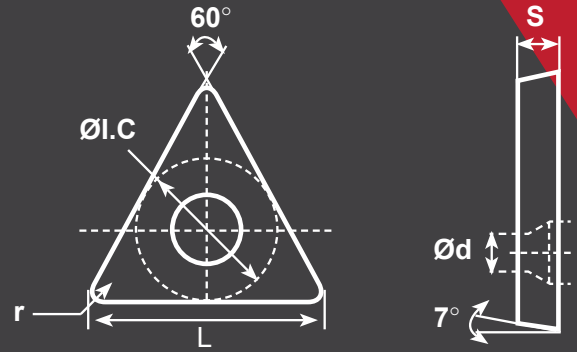


TNMG

Compatible Workpiece Materials



SKU#	ANSI#	ISO#	L	ØI.C	S	Ød	r	START SPEED	START FEED
424-1710	TNMG-331-DF	TNMG160404DF	0.65	0.375	0.187	0.15	0.016	P Vc: 1050sfm (850-1310)	fz: 0.006in/z (0.002-0.012)
424-1716	TNMG-331-DF	TNMG160404DF	0.65	0.375	0.187	0.15	0.016	P Vc: 1310sfm (980-1640)	fz: 0.004in/z (0.002-0.008)
424-1717	TNMG-332-DF	TNMG160408DF	0.65	0.375	0.187	0.15	0.031	P Vc: 1310sfm (980-1640)	fz: 0.004in/z (0.002-0.008)
424-1718	TNMG-333-DF	TNMG160412DF	0.65	0.375	0.187	0.15	0.047	P Vc: 1310sfm (980-1640)	fz: 0.006in/z (0.002-0.012)
424-1719	TNMG-432-DF	TNMG220408DF	0.866	0.5	0.187	0.203	0.031	P Vc: 1310sfm (980-1640)	fz: 0.008in/z (0.004-0.016)

Material	Coated cemented carbide																Cernet	Coated Cernet	Cemented Carbide							
	+	+	○	○	-	-	+	○	○																	
Steel	+	+	○	○	-	-	+	○	○									+	+							
Stainless Steel							+	○	○	+	○	○	○					+	+							
Cast Iron														+	○	○	-	-								
Ferrite Materials																			○							
Heat-resistant steel							+	+			+			+					+							
SKU#	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBM215	YBM151	YBM251	YBM253	YBS103	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YD101	YD201	
424-1710			●																							
424-1716		●																								
424-1717		●																								
424-1718		●																								
424-1719		●																								

+ Good Working Conditions
 ○ General Working Conditions
 - Adverse Working Conditions



DF CHIP BREAKER

The DF chip breaker is the preferred choice chip breaker on P category material finish M Class tolerance double sided chip breaker, excellent chip flow in finishing cut range while producing excellent surface finish on work material.

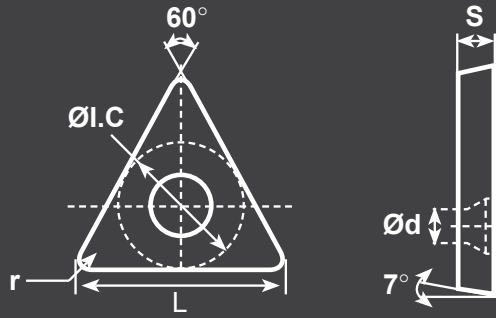


TNMG

Compatible
Workpiece Materials



Steel



SKU#	ANSI#	ISO#	L	ØI.C	S	Ød	r	START SPEED	START FEED
424-1730	TNMG222-DM	TNMG110308DM	0.433	0.25	0.125	0.089	0.031	P Vc: 920sfm (720-1180)	fz: 0.008in/z (0.004-0.012)
424-1731	TNMG331-DM	TNMG160404DM	0.65	0.375	0.187	0.15	0.016	P Vc: 980sfm (790-1310)	fz: 0.006in/z (0.004-0.012)
424-1732	TNMG332-DM	TNMG160408DM	0.65	0.375	0.187	0.15	0.031	P Vc: 920sfm (720-1180)	fz: 0.008in/z (0.004-0.012)
424-1733	TNMG333-DM	TNMG160412DM	0.65	0.375	0.187	0.15	0.047	P Vc: 850sfm (720-1120)	fz: 0.010in/z (0.004-0.016)
424-1734	TNMG431-DM	TNMG220404DM	0.866	0.5	0.187	0.203	0.016	P Vc: 980sfm (850-1250)	fz: 0.006in/z (0.002-0.012)
424-1735	TNMG432-DM	TNMG220408DM	0.866	0.5	0.187	0.203	0.031	P Vc: 920sfm (790-1180)	fz: 0.008in/z (0.004-0.020)
424-1736	TNMG433-DM	TNMG220412DM	0.866	0.5	0.187	0.203	0.047	P Vc: 850sfm (720-1120)	fz: 0.010in/z (0.006-0.024)
424-1737	TNMG434-DM	TNMG220416DM	0.866	0.5	0.187	0.203	0.063	P Vc: 1120sfm (920-1440)	fz: 0.010in/z (0.004-0.020)

	Coated cemented carbide																Cermets		Cemented Carbide								
																	Cermet	Coated Cermet	Cemented Carbide								
SKU#	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBM215	YBM151	YBM251	YBM253	YBS103	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YD101	YD201		
424-1730				●																							
424-1731				●																							
424-1732				●																							
424-1733				●																							
424-1734				●																							
424-1735				●																							
424-1736				●																							
424-1737				●																							

+ Good Working Conditions

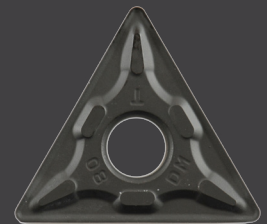
○ General Working Conditions

— Adverse Working Conditions



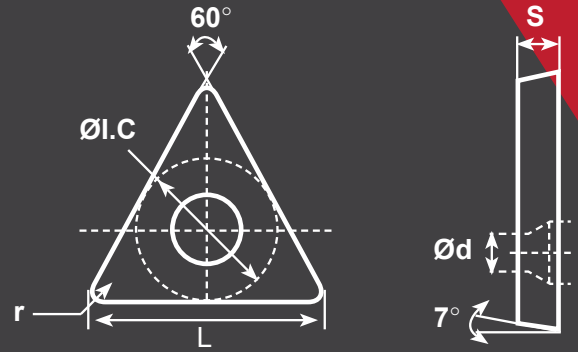
DM CHIP BREAKER

The DM chip breaker is the preferred choice chip breaker on P category material semi-finish M Class tolerance double sided chip breaker, light cutting force with wide chipping range, can achieve better result on high adhesive alloy steels.



TNMG

Compatible
Workpiece Materials



SKU#	ANSI#	ISO#	L	ØI.C	S	Ød	r	START SPEED	START FEED
424-1738	TNMG332-DR	TNMG160408DR	0.65	0.375	0.187	0.15	0.031	P Vc: 660sfm (520-920)	fz: 0.010in/z (0.004-0.016)
424-1740	TNMG432-DR	TNMG220408DR	0.866	0.5	0.187	0.203	0.031	P Vc: 720sfm (590-980)	fz: 0.012in/z (0.004-0.020)
424-1741	TNMG433-DR	TNMG220412DR	0.866	0.5	0.187	0.203	0.047	P Vc: 660sfm (530-920)	fz: 0.014in/z (0.006-0.024)
424-1743	TNMG543-DR	TNMG270612DR	1.083	0.625	0.25	0.25	0.047	P Vc: 920sfm (720-1180)	fz: 0.012in/z (0.008-0.024)

Material	Coated cemented carbide																Cermets	Coated Cermets	Cemented Carbide									
	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBC102	YBC105	YBC202	YBC205	YBC212	YBM215	YBM151	YBM251	YBM253	YBS103				YBD052	YBD102	YBD151	YBD152	YBD252				
P Steel	+	+	○	○	-	-	+		○	○														+	+			
M Stainless Steel							+		○	○		+	○	○	○										+	+		
K Cast Iron																		+	○	○	-	-						-
N Ferrite Materials																										○		-
S Heat-resistant steel							+	+			+					+										+		
SKU#	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBC102	YBC105	YBC202	YBC205	YBC212	YBM215	YBM151	YBM251	YBM253	YBS103	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YD101	YD201			
424-1738					●																							
424-1740					●																							
424-1741					●																							
424-1743					●																							

+ Good Working Conditions
 ○ General Working Conditions
 - Adverse Working Conditions

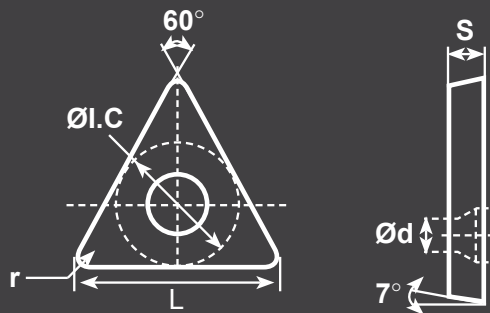


DR CHIP BREAKER

The HR chip breaker is the preferred choice chip breaker for General Purpose M Class tolerance double sided chip breaker, suitable for inside boring and outside turning semi-finish/medium on alloy steel and cast iron.



TNMG



Compatible Workpiece Materials

SKU#	ANSI#	ISO#	L	ØI.C	S	Ød	r	START SPEED	START FEED
424-1746	TNMG331-EF	TNMG160404EF	0.65	0.375	0.187	0.15	0.016	P Vc: 890sfm (590-1180) fz: 0.006in/z (0.002-0.008)	M Vc: 660sfm (460-850) fz: 0.004in/z (0.002-0.008)
424-1747	TNMG332-EF	TNMG160408EF	0.65	0.375	0.187	0.15	0.031	P Vc: 890sfm (590-1180) fz: 0.006in/z (0.002-0.008)	M Vc: 590sfm (390-790) fz: 0.006in/z (0.004-0.012)
424-1749	TNMG431-EF	TNMG220404EF	0.866	0.5	0.187	0.203	0.016	P Vc: 890sfm (590-1180) fz: 0.008in/z (0.004-0.012)	M Vc: 660sfm (460-850) fz: 0.004in/z (0.002-0.008)
424-1750	TNMG432-EF	TNMG220408EF	0.866	0.5	0.187	0.203	0.031	P Vc: 890sfm (590-1180) fz: 0.008in/z (0.004-0.012)	M Vc: 590sfm (390-790) fz: 0.006in/z (0.004-0.012)
424-1755	TNMG331-EF	TNMG160404EF	0.65	0.375	0.187	0.15	0.016	P Vc: 890sfm (590-1180) fz: 0.006in/z (0.002-0.008)	M Vc: 620sfm (360-890) fz: 0.004in/z (0.002-0.008)
424-1756	TNMG332-EF	TNMG160408EF	0.65	0.375	0.187	0.15	0.031	M Vc: 590sfm (390-850) fz: 0.006in/z (0.004-0.012)	

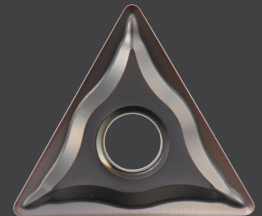
Material	Coated cemented carbide																Cermets	Coated Cermets	Cemented Carbide							
	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBM215	YBM151	YBM251	YBM253	YBS103				YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C
P Steel	+	+	○	○	-	-	+		○	○													+	+		
M Stainless Steel							+		○	○		+	○	○	○								+	+		
K Cast Iron																	+	○	○	-	-					-
N Ferrite Materials																							○			-
S Heat-resistant steel							+	+			+					+							+			

+ Good Working Conditions
 ○ General Working Conditions
 - Adverse Working Conditions



EF CHIP BREAKER

EF is the preferred choice chip breaker on M category material finish. M Class tolerance double sided chip breaker. With a specially design rake angle and an inclined edge angle aimed at machining material that is highly adhesive and plasticity, such as stainless steel, EF chip breaker has a sharp edge making the cutting light and smooth, stability control chip flows and maintain surface finish, making it suitable for ultra fine and fine machining of stainless steel.



TNMG

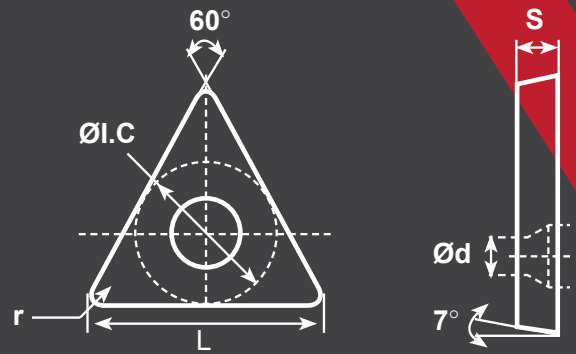
Compatible Workpiece Materials



Steel



Stainless Steel



SKU#	ANSI#	ISO#	L	ØI.C	S	Ød	r	START SPEED	START FEED
424-1769	TNMG331-EM	TNMG160404EM	0.65	0.375	0.187	0.15	0.016	P Vc: 890sfm (590-1180) fz: 0.006in/z (0.002-0.008)	
								M Vc: 530sfm (330-720) fz: 0.006in/z (0.004-0.012)	
424-1770	TNMG332-EM	TNMG160408EM	0.65	0.375	0.187	0.15	0.031	P Vc: 890sfm (590-1180) fz: 0.006in/z (0.002-0.008)	
								M Vc: 530sfm (260-720) fz: 0.008in/z (0.004-0.012)	
424-1771	TNMG333-EM	TNMG160412EM	0.650	0.375	0.187	0.15	0.047	P Vc: 890sfm (590-1180) fz: 0.008in/z (0.004-0.012)	
								M Vc: 620sfm (360-890) fz: 0.008in/z (0.004-0.012)	
424-1772	TNMG432-EM	TNMG220408EM	0.866	0.5	0.187	0.203	0.031	P Vc: 890sfm (590-1180) fz: 0.008in/z (0.004-0.012)	
								M Vc: 530sfm (260-720) fz: 0.008in/z (0.004-0.012)	
424-1773	TNMG433-EM	TNMG220412EM	0.866	0.5	0.187	0.203	0.047	P Vc: 890sfm (590-1180) fz: 0.008in/z (0.004-0.012)	
								M Vc: 620sfm (360-890) fz: 0.008in/z (0.004-0.012)	

Material	Coated cemented carbide																Cermet	Coated Cermet	Cemented Carbide							
	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBM215	YBM151	YBM251	YBM253	YBS103				YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C
P Steel	+	+	○	○	-	-	+		○	○													+	+		
M Stainless Steel							+		○	○		+	○	○	○								+	+		
K Cast Iron																	+	○	○	-	-					-
N Ferrite Materials																								○		-
S Heat-resistant steel							+	+			+					+								+		

+ Good Working Conditions

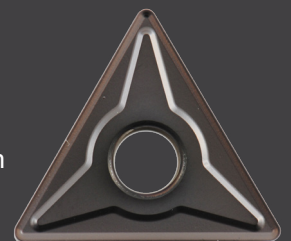
○ General Working Conditions

- Adverse Working Conditions



EM CHIP BREAKER

EM is the preferred choice chip breaker on M category material. Medium EM chip breaker is designed with sharp cutting edge which is required for machining highly adhesive material such as stainless steel while reinforced the impact resistance on the edge, which makes it suitable for semi-finishing and intermittent machining of adhesive materials, such as austenitic stainless steel.



TNMG



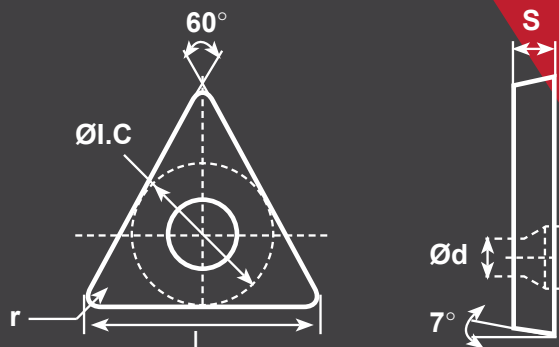
Stainless Steel



Cast Iron



Steel



Compatible Workpiece Materials

SKU#	ANSI#	ISO#	L	ØI.C	S	Ød	r	START SPEED	START FEED
424-1694	TNMG331-PM	TNMG160404PM	0.65	0.375	0.187	0.15	0.016	K Vc: 790sfm (590-980) fz: 0.012in/z (0.008-0.024)	
424-1695	TNMG332-PM	TNMG160408PM	0.65	0.375	0.187	0.15	0.031	K Vc: 790sfm (590-980) fz: 0.016in/z (0.008-0.024)	
424-1685	TNMG332-PM	TNMG160408PM	0.65	0.375	0.187	0.15	0.031	P Vc: 1050sfm (850-1310) fz: 0.012in/z (0.008-0.024)	
424-1696	TNMG333-PM	TNMG160412PM	0.65	0.375	0.187	0.15	0.047	K Vc: 790sfm (590-980) fz: 0.012in/z (0.008-0.024)	
424-1698	TNMG432-PM	TNMG220408PM	0.866	0.5	0.187	0.203	0.031	K Vc: 920sfm (660-1120) fz: 0.008in/z (0.004-0.012)	
424-1688	TNMG432-PM	TNMG220408PM	0.866	0.5	0.187	0.203	0.031	P Vc: 1050sfm (850-1310) fz: 0.012in/z (0.008-0.024)	
								M Vc: 590sfm (390-850) fz: 0.012in/z (0.008-0.024)	
424-1699	TNMG433-PM	TCMT220412PM	0.866	0.5	0.187	0.203	0.047	K Vc: 920sfm (660-1120) fz: 0.010in/z (0.006-0.016)	

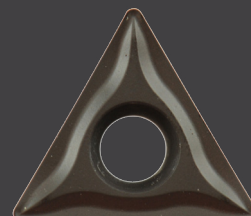
SKU#	Coated cemented carbide																			Cermet	Coated Cermet	Cemented Carbide			
	Steel		Stainless Steel		Cast Iron		Ferrite Materials		Heat-resistant steel																
	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBM215	YBM151	YBM251	YBM253	YBS103	YBD052	YBD102	YBD151				YBD152	YBD252	YNG151
424-1694	+	+	○	○	-	-	+		○	○												+	+		
424-1695							+	○	○			+	○	○	○							+	+		
424-1685			●																						
424-1696																									
424-1698																									
424-1688			●																						
424-1699																									

+ Good Working Conditions
 ○ General Working Conditions
 - Adverse Working Conditions



PM CHIP BREAKER

The HM chip breaker is the preferred choice chip breaker for General Purpose M Class tolerance double sided chip breaker, suitable for inside boring and outside turning semi-finish/medium on alloy steel and cast iron.



TNMG



Steel

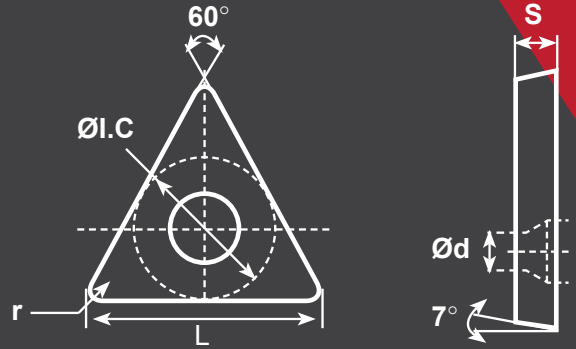


Stainless Steel



Cast Iron

Compatible Workpiece Materials



SKU#	ANSI#	ISO#	L	ØI.C	S	Ød	r
427-3049	TNMG332-SF	TNMG160408-SF	0.65	0.0375	0.187	0.15	0.031

START SPEED START FEED

P	Vc: 1310sfm (1050-980) fz: 0.008in/z (0.002-0.014)
M	Vc: 720sfm (530-920) fz: 0.008in/z (0.002-0.014)
K	Vc: 690sfm (530-850) fz: 0.008in/z (0.002-0.014)

	Coated cemented carbide																Cermet	Coated Cermet	Cemented Carbide							
SKU#	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBM215	YBM151	YBM251	YBM253	YBS103	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YD101	YD201	
427-3049																										

+ Good Working Conditions

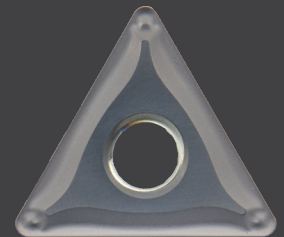
○ General Working Conditions

— Adverse Working Conditions



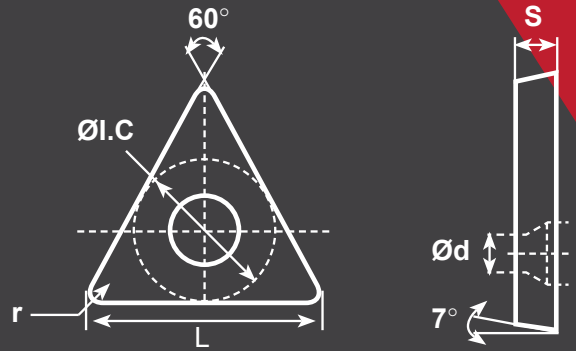
SF CHIP BREAKER

Extra Fine Finishing on P soft steel. Unique nose design and sharp cutting edge lead to small cutting resistance and reduce vibration. Outstanding performance of chip breaking and chip flowing on machining P soft steel and medium carbon steel to ensure high quality surface finish.



TNMG

Compatible
Workpiece Materials



SKU# 428-1398 **ANSI#** TNMG433-XM **ISO#** TNMG220412XM **L** 0.866 **ØI.C** 0.5 **S** 0.187 **Ød** 0.203 **r** 0.047 **START SPEED** **START FEED** **P** Vc: 980sfm (820-1150) fz: 0.014in/z (0.007-0.024)

	Coated cemented carbide																		Cermet	Coated Cermet	Cemented Carbide						
Material	YBC151	YBC152	YBC203	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBM215	YBM151	YBM251	YBM253	YBS103	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YD101	YD201	
P Steel	+	+	○	○	○	-	-	+		○	○													+	+		
M Stainless Steel								+		○	○		+	○	○	○								+	+		
K Cast Iron																		+	○	○	-	-					-
N Ferrite Materials																									○		-
S Heat-resistant steel								+	+			+						+								+	

+ Good Working Conditions
 ○ General Working Conditions
 - Adverse Working Conditions

XM CHIP BREAKER

New generation chip breaker for semi-finishing P type steel. With optimal cutting-edge structure to ensure its sharpness and strength, the newly designed chip breaker geometry, and innovative coating grades, the cutting edge is superior in its strength and wear resistance.

