

# GENERAL PURPOSE

Solid Carbide End Mills For Ferrous And Non-Ferrous Materials



INTRO

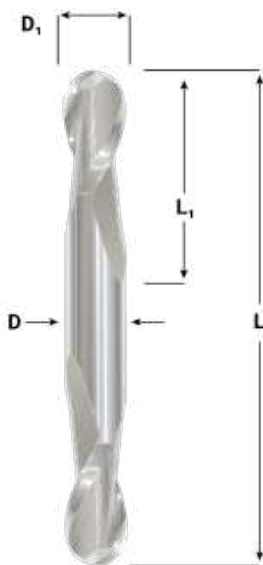
MILLING

SPECIALTY

HOLEMAKING

THREADING

INSERTS



FEATURES/DESCRIPTION				APPLICATION		FEATURES						
<b>2-Flute Double-Ended Ball Mills</b> <ul style="list-style-type: none"> <li>• Universal application</li> <li>• Sub-micron grade carbide substrate for wear resistance</li> <li>• Multiple coating options</li> <li>• Weldon for regular length sizes</li> <li>• Diameter Tol.: +0/-0.002"</li> <li>• Shank Tol.: +0/-0.0005"</li> </ul>												
STEEL		STAINLESS		CAST IRON		NON-FERROUS		HSSA		HARDENED STEEL		
P1	P2	P3	M1	M2	K1	K2	N1	N2	S1	S2	H1	H2
○	○	○			○	○	○	○			○	

● Best ○ Good

**Series 219D** | 2FL | Multi Length | Ball Nose | Double End

Diameter(D <sub>1</sub> )	LOC(L <sub>1</sub> )	OAL(L)	Shank(D)	Bright	TiN	TiCN	AlTiN
1/32	1/16	1-1/2	1/8	240-001001	240-001005	240-021001	240-031001
3/64	3/32	1-1/2	1/8	240-001001A	240-001011	240-021010	240-031010
1/16	1/8	1-1/2	1/8	240-001002	240-001021	240-021002	240-031003
5/64	1/8	1-1/2	1/8	240-001003	240-001013	240-021003	240-031002
3/32	3/16	1-1/2	1/8	240-001003A	240-001031	240-021030	240-031030
7/64	3/16	1-1/2	1/8	240-001004	240-001036	240-021004	240-031004
1/8	1/4	1-1/2	1/8	240-001040	240-001041	240-021040	240-031040
1/8	3/8	3	3/8	243-001001	-	-	243-001004
9/64	5/16	2	3/16	240-001044	240-001043	240-021044	240-031044
5/32	5/16	2	3/16	240-001050	240-001051	240-021050	240-031050
5/32	7/16	3	3/8	243-001010	-	-	243-001013
11/64	5/16	2	3/16	240-001055	240-001056	240-001057	240-031055
3/16	3/8	2	3/16	240-001060	240-001061	240-021060	240-031060
3/16	1/2	3	3/8	243-001020	-	-	243-001023
13/64	1/2	2-1/2	1/4	240-001065	240-001066	240-021065	240-031065
7/32	1/2	2-1/2	1/4	240-001070	240-001071	240-021070	240-031070
7/32	9/16	3-1/2	3/8	243-001030	-	-	243-001033
15/64	1/2	2-1/2	1/4	240-001075	240-001076	240-021075	240-031075
1/4	1/2	2-1/2	1/4	240-001080	240-001081	240-021080	240-031080
1/4	5/8	3-1/2	3/8	243-001040	-	-	243-001043
9/32	1/2	2-1/2	5/16	240-001085	240-001086	240-021085	240-031085
9/32	11/16	3-1/2	3/8	243-001050	-	-	243-001053
5/16	1/2	2-1/2	5/16	240-001090	240-001091	240-021090	240-031090
5/16	3/4	3-1/2	3/8	243-001060	-	-	243-001063
11/32	9/16	2-1/2	3/8	240-001094	240-001095	240-021094	240-031094
11/32	3/4	3-1/2	3/8	243-001070	-	-	243-001073
3/8	9/16	2-1/2	3/8	240-001100	240-001101	240-021100	240-031100
3/8	3/4	3-1/2	3/8	243-001080	-	-	243-001083
7/16	9/16	2-3/4	7/16	240-001110	240-001111	240-021110	240-031110
7/16	7/8	4	1/2	243-001090	-	-	243-001093
1/2	5/8	3	1/2	240-001120	240-001121	240-021120	240-031120
1/2	1	4	1/2	243-001100	-	-	243-001103

\*bold numbers are EDPs for ordering