

HSSCo8 & HSS, 4, 6&8 FLUTE REGULAR LENGTH 3/4" SHANK

► E2031(3/4" shank, multi flute, general purpose end mills) are recommended for finishing operations for Bridgeport machines and other similar operations. Easy to regrind.



P.883, 888, 892

E2031(8% COBALT) , E1031(HSS) Series ■ 4 FLUTE

Unit : Inch

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)	HSS (M2)				
04359	04109	3/4	3/4	1-5/8	3-7/8
04375	04125	13/16	3/4	1-7/8	4-1/8
04391	04141	7/8	3/4	1-7/8	4-1/8
04407	04157	15/16	3/4	1-7/8	4-1/8
04422	04172	1	3/4	1-7/8	4-1/8

E2032(8% COBALT) , E1032(HSS) Series ■ 6&8 FLUTE

Unit : Inch

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
8% COBALT (M42)	HSS (M2)					
04432	04182	1-1/8	3/4	2	4-1/4	6
04440	04190	1-1/4	3/4	2	4-1/4	6
04458	04208	1-1/2	3/4	2	4-1/4	6
04468	04218	1-3/4	3/4	2	4-1/2	6
04476	04226	2	3/4	2	4-1/2	8

■ The TiN coated, TiCN coated or TiAlN coated is available on your request.

■ Coating Codes for Cobalt
 Uncoated EDP NO. + CN(TiN), CC(TiCN), CF(TiAlN F), CE(TiAlN E), CH(Hardslick)

■ Coating Codes for HSS
 Uncoated EDP NO. + HN(TiN), HC(TiCN), HF(TiAlN F), HE(TiAlN E), HH(Hardslick)

► Coated Price Shown in Price List. Call for Availability.

Mill Dia. Tolerance (inch)	
0~+.0010	* * 0~+.0015

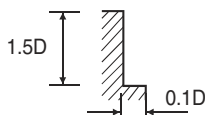
**The shank of end mills is the same diameter as the cutting portion.

◎ : Excellent ○ : Good

Series	Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
	~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
E1031 E2031	◎	◎	○				○			○			
E1032 E2032	◎	◎	○				○						

HSSCo8 & HSS, MULTI FLUTE FINISH - SIDE CUTTING

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/8	3500	4.3	3200	3.1	2500	2.4	1600	1.2	11000	15.0
1/4	1800	7.1	1600	5.7	1200	3.5	800	2.4	5600	18.5
3/8	1100	7.9	900	6.3	800	4.7	450	2.6	3100	23.6
1/2	900	8.7	800	7.1	630	4.7	400	3.0	2500	22.4
5/8	700	8.7	560	6.3	450	4.1	280	2.6	2000	20.9
3/4	630	7.9	500	6.3	400	4.1	250	2.6	1800	20.9
13/16	500	7.9	450	6.3	350	4.1	220	2.6	1400	17.7
15/16	500	7.9	450	6.3	350	4.1	220	2.6	1400	17.7
1	450	7.1	400	5.7	310	3.5	180	2.0	1200	16.5
1-1/2	310	4.7	250	3.5	200	2.4	120	1.4	900	13.0
1-3/4	280	4.7	220	3.5	150	2.4	110	1.4	800	11.8
2	280	4.7	190	3.5	110	1.8	80	1.0	630	11.8

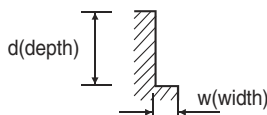


※ The Feed, in long & extra long types, should be reduced by around 50%.

 RPM = rev./min.
FEED = inch/min.

HSSCo8, MULTI FLUTE 60° HELIX FINISH - SIDE CUTTING

MATERIAL		MILD STEELS		ALLOY STEELS		TOOL STEELS STAINLESS STEELS		CAST IRON	
HARDNESS		~HRc13		HRc13~HRc32		HRc25~HRc35		~HRc20	
DIAMETER	w × d	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/4	0.02 × 0.35	1840	3.6	1250	2.2	980	1.8	2050	4.8
1/4	0.08 × 0.35	1600	3.6	650	2.2	510	1.6	1100	4.5
5/8	0.02 × 1	750	2.9	460	2.0	390	1.4	840	4.1
5/8	0.18 × 1	650	2.9	400	2.0	340	1.4	730	4.1
3/4	0.02 × 1.2	520	2.5	370	1.8	300	1.4	630	4.1
3/4	0.26 × 1.2	450	2.5	320	1.8	260	1.4	550	4.1
1	0.02 × 1.6	460	2.9	290	1.8	240	1.4	510	4.3
1	0.30 × 1.6	400	2.9	250	1.8	210	1.4	440	4.3
1-1/2	0.02 × 1.6	280	2.5	170	1.4	150	1.3	320	3.6
1-1/2	0.80 × 1.6	240	2.5	150	1.4	130	1.3	280	3.6
2	0.02 × 2	220	2.2	140	1.3	115	1.1	260	2.9
2	1.60 × 2	190	2.2	120	1.3	100	1.1	225	2.9



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 RPM = rev./min.
FEED = inch/min.

 CBN
END MILL

 i-Xmill
END MILL

 X5070
END MILLS

 4G MILLS
END MILLS

 X-SPEED
ROUGHER
END MILLS

 X-POWER
END MILLS

 JET-POWER
END MILLS

 V7 Mill STEEL
END MILLS

 V7 Mill INOX
END MILLS

 ALU-POWER
END MILLS

 D-POWER
END MILLS

 STANDARD
CARBIDE
END MILLS

 TANK-POWER
END MILLS

 STANDARD
COBALT
& HSS
END MILLS

 TECHNICAL
DATA

HSSCo8 & HSS, 3 FLUTE FINISH TiN-COATED - SIDE CUTTING

CBN END MILL

i-Xmill END MILL

X5070 END MILLS

4G MILLS END MILLS

X-SPEED ROUGHER END MILLS

X-POWER END MILLS

JET-POWER END MILLS

V7 Mill STEEL END MILLS

V7 Mill INOX END MILLS

ALU-POWER END MILLS

D-POWER END MILLS

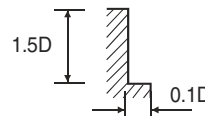
STANDARD CARBIDE END MILLS

TANK-POWER END MILLS

STANDARD COBALT & HSS END MILLS

TECHNICAL DATA

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH										
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3/32	6720	2.9	5400	1.9	4800	1.7	2640	0.7	14400	8.5
1/8	4200	3.7	3840	2.9	3000	2.2	1920	1.0	13200	13.2
1/4	2160	6.4	1920	5.2	1440	3.1	960	2.2	6720	16.6
3/8	1320	7.2	1080	5.6	960	4.2	540	2.4	3720	21.2
1/2	1080	7.8	960	6.4	756	4.2	480	2.6	3000	20.3
9/16	960	7.8	840	5.6	672	4.2	420	2.6	2640	19.0
5/8	840	7.8	672	5.6	540	3.7	336	2.4	2400	19.0
11/16	756	7.2	600	5.6	480	3.7	300	2.4	2160	19.0
7/8	600	7.2	540	5.6	420	3.7	264	2.4	1680	16.1
1	540	6.4	480	5.2	372	3.1	216	1.7	1440	15.1
1-1/8	430	5.6	420	4.4	336	2.9	192	1.4	1320	14.2

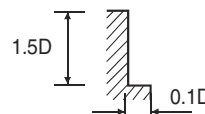


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = inch/min.

HSSCo8 & HSS, MULTI FLUTE FINISH TiN-COATED - SIDE CUTTING

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH										
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/8	4200	5.2	3840	3.7	3000	2.9	1920	1.4	13200	18.0
1/4	2640	8.5	1920	6.8	1440	4.2	960	2.9	6720	22.2
3/8	1320	9.5	1080	7.6	960	5.6	540	3.1	3700	28.3
1/2	1080	10.4	960	8.5	756	5.6	480	3.6	3000	26.9
5/8	840	10.4	672	7.6	540	4.9	336	3.1	2400	25.1
3/4	756	9.5	600	7.6	480	4.9	300	3.1	2160	25.1
7/8	600	9.5	540	7.6	420	4.9	264	3.1	1680	21.2
15/16	600	9.5	540	7.6	420	4.9	264	3.1	1680	21.2
1	540	8.5	480	6.8	372	4.2	216	2.4	1440	19.8
1-1/2	372	5.6	300	4.2	240	2.9	144	1.7	1080	15.6
1-3/4	336	5.6	264	4.2	216	2.9	132	1.7	960	14.2
2	336	5.6	264	4.2	168	2.2	96	1.2	960	14.2



※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = inch/min.

HSSCo8 & HSS, 3 FLUTE FINISH TiCN-COATED - SIDE CUTTING

CBN
END MILL

i-Xmill
END MILL

X5070
END MILLS

4G MILLS
END MILLS

X-SPEED
ROUGHER
END MILLS

X-POWER
END MILLS

JET-POWER
END MILLS

V7 Mill STEEL
END MILLS

V7 Mill INOX
END MILLS

ALU-POWER
END MILLS

D-POWER
END MILLS

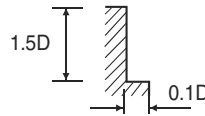
STANDARD
CARBIDE
END MILLS

TANK-POWER
END MILLS

STANDARD
COBALT
& HSS
END MILLS

TECHNICAL
DATA

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH										
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3/32	7280	3.1	5850	2.1	5200	1.8	2860	0.8	15600	9.2
1/8	4550	4.0	4160	3.1	3250	2.3	2080	1.0	14300	14.3
1/4	2240	6.9	2080	5.6	1560	3.4	1040	2.3	7280	17.9
5/16	1820	7.8	1430	5.1	1170	4.0	728	2.6	5200	22.5
1/2	1170	8.5	1040	6.9	819	4.6	520	2.9	3250	22.0
9/16	1040	8.5	910	6.1	728	4.6	455	2.9	2860	20.5
5/8	910	8.5	728	6.1	585	4.6	364	2.6	2600	20.5
11/16	819	7.8	650	6.1	520	4.0	325	2.6	2340	20.5
7/8	650	7.8	585	6.1	455	4.0	286	2.6	1820	17.4
1	585	6.9	520	5.6	403	3.4	234	1.8	1560	16.4
1-1/8	520	6.1	455	4.8	362	3.1	208	1.6	1430	15.3

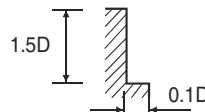


※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = inch/min.

HSSCo8 & HSS, MULTI FLUTE FINISH TiCN-COATED - SIDE CUTTING

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM ALUMINUM ALLOYS	
	~ 500N/mm ²		500~800N/mm ²		800~1000N/mm ²		1000~1300N/mm ²			
HARDNESS			~HRc20		HRc20~HRc30		HRc30~HRc40			
STRENGTH										
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1/8	4550	5.6	4160	4.0	3250	3.1	22080	1.6	14300	19.5
1/4	2340	9.2	2090	8.4	1560	4.6	1040	3.1	7280	24.1
3/8	1430	10.3	1170	8.2	1040	6.1	585	3.4	4030	30.7
1/2	1170	11.3	1040	9.2	818	6.1	520	3.9	3250	29.1
5/8	910	11.3	728	8.2	585	5.3	364	3.4	2600	27.2
3/4	819	10.3	650	8.2	520	5.3	325	3.4	2340	27.2
7/8	650	10.3	585	8.2	455	5.3	286	3.4	1820	23.0
15/16	650	10.3	585	8.2	455	5.3	234	3.4	1820	23.0
1	585	9.2	520	8.4	403	4.6	208	2.6	1560	21.9
1-1/2	403	6.1	325	4.6	260	3.1	156	1.8	1170	16.9
1-3/4	364	6.1	286	4.6	234	3.1	143	1.8	1040	15.3
2	364	6.1	286	4.6	182	2.3	104	1.3	1040	15.3



※ The Feed, in long & extra long types, should be reduced by around 50%.

RPM = rev./min.
FEED = inch/min.