



HSSCo8, 4 FLUTE REGULAR LENGTH BALL NOSE

► The four flute ball end mills are designed for milling of radius bottom slots fillets and special contours. The end teeth are cut to center allowing these end mills to drill into material at the beginning of a slotting cut.



P.884, 889, 893

Unit : Inch

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
8% COBALT (M42)					
43289	R1/16	1/8	3/8	3/8	2-5/16
43293	R3/32	3/16	3/8	1/2	2-3/8
43297	R1/8	1/4	3/8	5/8	2-7/16
43301	R5/32	5/16	3/8	3/4	2-1/2
43305	R3/16	3/8	3/8	3/4	2-1/2
43312	R7/32	7/16	3/8	1	2-11/16
43321	R1/4	1/2	1/2	1-1/4	3-1/4
43337	R5/16	5/8	5/8	1-5/8	3-3/4
43350	R11/32	11/16	5/8	1-5/8	3-3/4
43359	R3/8	3/4	3/4	1-5/8	3-7/8
43394	R7/16	7/8	7/8	1-7/8	4-1/8
43426	R1/2	1	1	2	4-1/2
43435	R9/16	1-1/8	1	2	4-1/2
43445	R5/8	1-1/4	1-1/4	2	4-1/2
43461	R3/4	1-1/2	1-1/4	2	4-1/2
43477	R1	2	1-1/4	2	4-1/2

- 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)
- 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.

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							
◎	◎	○				○			○			

◎ : Excellent ○ : Good

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



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

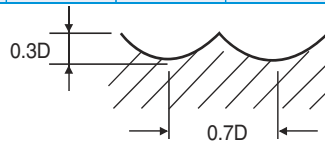
TANK-POWER
END MILLS

STANDARD
COBALT
& HSS
END MILLS

TECHNICAL
DATA

HSSCo8 & HSS, 2 FLUTE BALL NOSE

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
R1/16 × 1/8	4500	3.7	3400	2.8	2000	1.2	1400	0.8	11000	9.1
R5/64 × 5/32	3200	4.5	2400	3.1	1400	1.4	1000	1.0	8000	10.2
R1/8 × 1/4	2200	5.3	1700	3.5	1000	1.8	700	1.0	5600	11.0
R5/32 × 5/16	1600	6.3	1200	4.1	700	2.0	500	1.2	4000	13.8
R3/16 × 3/8	1300	7.1	1000	4.7	560	2.4	400	1.4	3200	14.2
R1/4 × 1/2	1000	6.7	800	4.1	450	2.2	320	1.4	2500	13.4
R5/16 × 5/8	800	6.0	600	4.0	350	2.2	250	1.4	2000	11.8
R3/32 × 3/16	600	5.5	500	3.4	300	2.0	200	1.4	1600	11.0
R1/2 × 1	500	5.1	400	2.8	220	1.6	160	1.2	1300	9.8

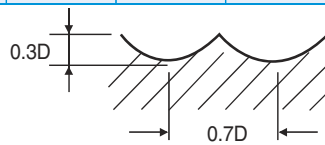


※ The Feed, in long & extra long types, should be reduced by around 50%.

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

HSSCo8 & HSS, MULTI FLUTE BALL NOSE

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
R1/8 × 1/4	2200	7.9	1700	5.3	1000	2.8	700	1.6	5600	16.5
R5/32 × 5/16	1600	9.4	1200	6.3	700	3.0	500	1.8	4000	20.9
R3/16 × 3/8	1300	10.6	1000	7.1	560	3.5	400	2.0	3200	21.3
R1/4 × 1/2	1000	10.2	800	6.3	450	3.1	320	2.0	2500	20.1
R5/16 × 5/8	800	9.1	600	6.0	350	3.1	250	2.0	2000	17.7
R3/32 × 3/16	600	8.3	500	5.1	300	3.0	200	2.0	1600	16.5
R1/2 × 1	500	7.9	400	4.1	220	2.4	160	1.8	1300	15.0

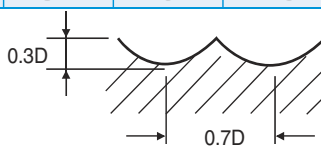


※ The Feed, in long & extra long types, should be reduced by around 50%.

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

HSSCo8 & HSS, 2 FLUTE BALL NOSE TiN-COATED

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
R1/16 × 1/8	5400	4.4	4080	3.4	2400	1.4	1680	1.0	13200	10.9
R5/64 × 5/32	3840	5.4	2880	3.7	1680	1.7	1200	1.2	9600	12.2
R1/8 × 1/4	2640	6.4	2040	4.2	1200	2.2	840	1.2	6720	13.2
R5/32 × 5/16	1920	7.6	1440	4.9	840	2.4	600	1.4	4800	16.6
R3/16 × 3/8	1560	8.5	1200	5.6	672	2.9	480	1.7	3840	17.0
R1/4 × 1/2	1200	8.0	960	4.9	540	2.6	384	1.7	3330	16.1
R5/16 × 5/8	960	7.2	720	4.8	420	2.6	300	1.7	2400	14.2
R3/32 × 3/16	720	6.6	600	4.1	360	2.4	240	1.7	1923	13.2
R1/2 × 1	600	6.1	480	3.4	264	1.9	192	1.4	1560	11.8

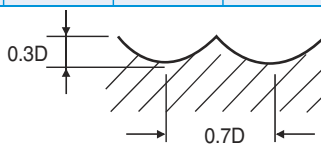


※ The Feed, in long & extra long types, should be reduced by around 50%.

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

HSSCo8 & HSS, MULTI FLUTE BALL NOSE TiN-COATED

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
R1/8 × 1/4	2640	9.5	2040	6.4	1200	3.4	840	1.9	6720	19.8
R5/32 × 5/16	1920	11.3	1440	7.6	840	3.6	600	2.2	4800	25.1
R3/16 × 3/8	1560	12.7	1200	8.5	672	4.2	480	2.4	3840	25.6
R1/4 × 1/2	1200	12.2	960	7.6	540	3.7	384	2.4	3000	24.1
R5/16 × 5/8	960	10.9	720	7.2	420	3.7	300	2.4	2400	21.2
R3/32 × 3/16	720	10.0	600	6.1	380	3.6	240	2.4	1920	19.8
R1/2 × 1	600	9.5	480	4.8	264	2.9	192	2.2	1560	18.0



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

 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

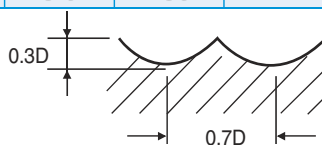
 TANK-POWER
END MILLS

 STANDARD
COBALT
& HSS
END MILLS

 TECHNICAL
DATA

HSSCo8 & HSS, 2 FLUTE BALL NOSE TiCN-COATED

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			~HRc20		HRc20~HRc30		HRc30~HRc40			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1/16 × 1/8	5850	4.8	4420	3.6	2600	1.6	1820	1.0	14300	11.8
R5/64 × 5/32	4160	5.9	3120	4.0	1820	1.8	1300	1.3	10400	13.3
R1/8 × 1/4	2860	6.9	2210	4.6	1300	2.3	910	1.3	7280	12.3
R5/32 × 5/16	2080	8.2	1560	5.3	910	2.6	650	1.6	5200	17.9
R3/16 × 3/8	1690	9.2	1300	6.1	728	3.1	520	1.8	4160	18.5
R1/4 × 1/2	1300	8.7	1040	5.3	585	2.9	416	1.8	3250	17.4
R5/16 × 5/8	1043	7.8	780	5.2	455	2.9	325	1.8	2600	15.3
R3/32 × 3/16	780	7.2	650	4.4	390	2.6	263	1.8	2080	14.8
R1/2 × 1	650	6.6	520	3.6	286	2.1	208	1.6	1690	12.7

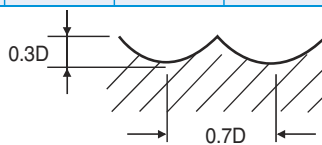


※ The Feed, in long & extra long types, should be reduced by around 50%.

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

HSSCo8 & HSS, MULTI FLUTE BALL NOSE TiCN-COATED

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			~HRc20		HRc20~HRc30		HRc30~HRc40			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1/8 × 1/4	2860	10.3	2210	6.9	1300	3.6	910	2.1	7280	21.5
R5/32 × 5/16	2080	12.2	1560	8.2	910	3.9	650	2.3	5200	27.2
R3/16 × 3/8	1690	13.8	1300	9.2	728	4.6	520	2.6	4160	27.7
R1/4 × 1/2	1300	13.3	1040	8.2	585	4.0	416	2.6	3250	26.1
R5/16 × 5/8	1040	11.8	780	7.8	455	4.0	325	2.6	2600	23.0
R3/32 × 3/16	780	10.8	650	6.6	390	3.9	260	2.6	2080	21.5
R1/2 × 1	650	10.3	520	5.2	286	3.1	208	2.3	1690	19.5



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

 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