



HSXB 2-Flute Ball End Mill



Ø D	D Tol. [mm]	Ø D	R Tol. [mm]
D < 3	0 ~ -0.010	D < 1	±0.003
3 < D < 6	0 ~ -0.012	1 < D < 12	±0.005
6 < D < 10	0 ~ -0.015		
10 < D < 12	0 ~ -0.018		

Unit : mm

Type No.	Dia.	Radius	Length of Cut	Under Neck Length	Neck Dia.	Neck Taper Angle	Overall Length	Shank Dia.
	φD	R	ℓ	ℓ ₁	φd ₁	γ/°	L	φd
HSXB2001 0450	0.1	R0.05	0.1	—	—	12	50	4
HSXB20015 0450	0.15	R0.075	0.15	—	—	12	50	4
HSXB2002 0450	0.2	R0.1	0.2	—	—	12	50	4
HSXB2003 0450	0.3	R0.15	0.3	—	—	12	50	4
HSXB2004 0450	0.4	R0.2	0.6	—	—	12	50	4
HSXB2005 0450	0.5	R0.25	0.8	—	—	12	50	4
HSXB2006 0450	0.6	R0.3	0.9	—	—	12	50	4
HSXB2008 0450	0.8	R0.4	1.2	—	—	12	50	4
HSXB2010 0450	1	R0.5	0.75	2	0.95	12	50	4
HSXB2010 0650	1	R0.5	0.75	2.5	0.95	12	50	6
HSXB2010 0660	1	R0.5	0.75	2.5	0.95	12	60	6
HSXB2010 0675	1	R0.5	0.75	2.5	0.95	12	75	6
HSXB2012 0450	1.2	R0.6	0.9	2.4	1.14	11	50	4
HSXB2015 0450	1.5	R0.75	1.2	3	1.42	11	50	4
HSXB2015 0650	1.5	R0.75	1.2	4	1.42	11	50	6
HSXB2015 0660	1.5	R0.75	1.2	4	1.42	11	60	6
HSXB2015 0675	1.5	R0.75	1.2	4	1.42	11	75	6
HSXB2020 0450	2	R1	1.6	4	1.9	11	50	4
HSXB2020 0650	2	R1	1.6	6	1.9	11	50	6
HSXB2020 0660	2	R1	1.6	6	1.9	11	60	6
HSXB2020 0675	2	R1	1.6	6	1.9	11	75	6
HSXB2025 0450	2.5	R1.25	2	5	2.4	11	50	4
HSXB2025 0650	2.5	R1.25	2	7	2.4	11	50	6
HSXB2025 0660	2.5	R1.25	2	7	2.4	11	60	6
HSXB2025 0675	2.5	R1.25	2	7	2.4	11	75	6
HSXB2030 0450	3	R1.5	2.4	6	2.9	11	50	4
HSXB2030 0650	3	R1.5	2.4	8	2.9	11	50	6
HSXB2030 0660	3	R1.5	2.4	8	2.9	11	60	6

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	φD	R	ℓ	ℓ ₁	φd ₁	γ/°	L	φd
HSXB2030 0675	3	R1.5	2.4	8	2.9	11	75	6
HSXB2040 0450	4	R2	6	—	—	—	50	4
HSXB2040 0475	4	R2	6	—	—	—	75	4
HSXB2040 0650	4	R2	3.2	10	3.9	11	50	6
HSXB2040 0660	4	R2	3.2	10	3.9	11	60	6
HSXB2040 0675	4	R2	3.2	10	3.9	11	75	6
HSXB2050 0650	5	R2.5	4	12	4.85	11	50	6
HSXB2050 0660	5	R2.5	4	12	4.85	11	60	6
HSXB2050 0675	5	R2.5	4	12	4.85	11	75	6
HSXB2060 0650	6	R3	9	—	—	—	50	6
HSXB2060 0660	6	R3	9	—	—	—	60	6
HSXB2060 0675	6	R3	9	—	—	—	75	6
HSXB2060 06100	6	R3	9	—	—	—	100	6
HSXB2080 0860	8	R4	12	—	—	—	60	8
HSXB2080 0875	8	R4	12	—	—	—	75	8
HSXB2080 08100	8	R4	12	—	—	—	100	8
HSXB2100 1075	10	R5	15	—	—	—	75	10
HSXB2100 10100	10	R5	15	—	—	—	100	10
HSXB2100 10125	10	R5	15	—	—	—	125	10
HSXB2120 1275	12	R6	18	—	—	—	75	12
HSXB2120 12100	12	R6	18	—	—	—	100	12
HSXB2120 12125	12	R6	18	—	—	—	125	12

TABLE OF RECOMMENDED MILLING MATERIALS

Very suitable Suitable

CARBON STEELS	ALLOY STEELS	PREHARDENED STEELS	HARDENED STEELS				CAST IRON DUCTILE CAST IRON	COPPER ALLOYS	ALUMINUM ALLOY	GRAPHITE	TITANIUM ALLOY	HEAT RESISTANT ALLOYS	PLASTIC
			~55HRC	~60HRC	~65HRC	~70HRC							



Cutting Parameter

HSXB 2-Flute Ball End Mill 3D Milling Finishing

Workpiece	Pre-Hardened Steels (35-45HRC)				Hardened Steels (45-55HRC)				Hardened Steels (55-65HRC)			
Type No.	n min^{-1}	V_f mm/min	a_p mm	a_e mm	n min^{-1}	V_f mm/min	a_p mm	a_e mm	n min^{-1}	V_f mm/min	a_p mm	a_e mm
HSXB2001	40000	120	0.003	0.005	40000	100	0.002	0.005	40000	70	0.002	0.003
HSXB20015	40000	180	0.003	0.005	40000	150	0.002	0.005	40000	100	0.002	0.003
HSXB2002	40000	350	0.01	0.01	40000	300	0.006	0.006	36000	200	0.003	0.003
HSXB2003	36500	500	0.01	0.01	30000	400	0.01	0.01	30000	280	0.008	0.01
HSXB2004	36300	720	0.02	0.03	33000	720	0.01	0.03	30000	580	0.009	0.02
HSXB2005	35500	800	0.02	0.03	31800	720	0.01	0.03	28000	640	0.01	0.025
HSXB2006	33000	1000	0.03	0.03	31320	800	0.03	0.03	26800	760	0.01	0.03
HSXB2008	24200	1920	0.03	0.05	22000	1600	0.03	0.05	20000	1200	0.02	0.05
HSXB2010	24000	1920	0.03	0.05	22000	1600	0.03	0.05	20000	1200	0.02	0.05
HSXB2015	21600	2000	0.03	0.05	19800	1760	0.03	0.05	18000	1600	0.02	0.05
HSXB2020	18000	2000	0.04	0.06	16500	1760	0.04	0.06	15000	1600	0.03	0.06
HSXB2025	18000	2500	0.04	0.06	16500	2000	0.04	0.06	15000	1600	0.03	0.06
HSXB2030	16800	2500	0.04	0.08	15400	2200	0.04	0.08	14000	2000	0.03	0.08
HSXB2040	13200	3000	0.05	0.1	12200	2500	0.05	0.08	11400	2000	0.04	0.08
HSXB2050	12000	2800	0.03	0.1	11000	2500	0.05	0.08	10000	2000	0.04	0.1
HSXB2060	9000	2800	0.05	0.15	9000	2800	0.05	0.12	8550	2400	0.05	0.1
HSXB2080	8000	3000	0.05	0.2	8000	3000	0.05	0.15	7600	3000	0.05	0.15
HSXB2100	7200	3000	0.08	0.25	7200	3000	0.08	0.2	6840	3000	0.08	0.25
HSXB2120	6400	3000	0.1	0.25	6400	3000	0.08	0.25	6080	3000	0.08	0.25