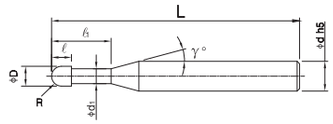
HGXB 2-Flute Ball End Mill



UMG ATX 2 30° Spiral Angle Straight Back Angle <55 HRC

ØD	D Tol. [mm]
D<3	0~-0.010
3<D<6	0~-0.012
6<D<10	0~-0.015
10<D<12	0~-0.018

ØD	R Tol. [mm]
D<1	±0.003
1<D<12	±0.005

Unit : mm

Type No.	Dia.	Radius	Length of Cut	Under Neck Length	Neck Dia.	Neck Taper Angle	Overall Length	Shank Dia.
	ϕD	R	ℓ	ℓ1	ϕd1	γ/°	L	ϕd
HGXB2001 0450	0.1	R0.05	0.1	-	-	12	50	4
HGXB20015 0450	0.15	R0.075	0.15	-	-	12	50	4
HGXB2002 0450	0.2	R0.1	0.2	-	-	12	50	4
HGXB2003 0450	0.3	R0.15	0.3	-	-	12	50	4
HGXB2004 0450	0.4	R0.2	0.6	-	-	12	50	4
HGXB2005 0450	0.5	R0.25	0.8	-	-	12	50	4
HGXB2006 0450	0.6	R0.3	0.9	-	-	12	50	4
HGXB2008 0450	0.8	R0.4	1.2	-	-	12	50	4
HGXB2010 0450	1	R0.5	0.75	2	0.95	12	50	4
HGXB2010 0650	1	R0.5	0.75	2.5	0.95	12	50	6
HGXB2010 0660	1	R0.5	0.75	2.5	0.95	12	60	6
HGXB2010 0675	1	R0.5	0.75	2.5	0.95	12	75	6
HGXB2012 0450	1.2	R0.6	0.9	2.4	1.14	11	50	4
HGXB2015 0450	1.5	R0.75	1.2	3	1.42	11	50	4
HGXB2015 0650	1.5	R0.75	1.2	4	1.42	11	50	6
HGXB2015 0660	1.5	R0.75	1.2	4	1.42	11	60	6
HGXB2015 0675	1.5	R0.75	1.2	4	1.42	11	75	6
HGXB2020 0450	2	R1	1.6	4	1.9	11	50	4
HGXB2020 0650	2	R1	1.6	6	1.9	11	50	6
HGXB2020 0660	2	R1	1.6	6	1.9	11	60	6
HGXB2020 0675	2	R1	1.6	6	1.9	11	75	6
HGXB2025 0450	2.5	R1.25	2	5	2.4	11	50	4
HGXB2025 0650	2.5	R1.25	2	7	2.4	11	50	6
HGXB2025 0660	2.5	R1.25	2	7	2.4	11	60	6
HGXB2025 0675	2.5	R1.25	2	7	2.4	11	75	6
HGXB2030 0450	3	R1.5	2.4	6	2.9	11	50	4
HGXB2030 0650	3	R1.5	2.4	8	2.9	11	50	6
HGXB2030 0660	3	R1.5	2.4	8	2.9	11	60	6

BALL NOSE END MILL
HGX SERIES

HGXB 2-Flute Ball End Mill

Unit : mm

Type No.	Dia.	Radius	Length of Cut	Under Neck Length	Neck Dia.	Neck Taper Angle	Overall Length	Shank Dia.
	ϕD	R	ℓ	ℓ1	ϕd1	γ/°	L	ϕd
HGXB2030 0675	3	R1.5	2.4	8	2.9	11	75	6
HGXB2040 0450	4	R2	6	-	-	-	50	4
HGXB2040 0475	4	R2	6	-	-	-	75	4
HGXB2040 0650	4	R2	3.2	10	3.9	11	50	6
HGXB2040 0660	4	R2	3.2	10	3.9	11	60	6
HGXB2040 0675	4	R2	3.2	10	3.9	11	75	6
HGXB2050 0650	5	R2.5	4	12	4.85	11	50	6
HGXB2050 0660	5	R2.5	4	12	4.85	11	60	6
HGXB2050 0675	5	R2.5	4	12	4.85	11	75	6
HGXB2060 0650	6	R3	9	-	-	-	50	6
HGXB2060 0660	6	R3	9	-	-	-	60	6
HGXB2060 0675	6	R3	9	-	-	-	75	6
HGXB2060 06100	6	R3	9	-	-	-	100	6
HGXB2080 0860	8	R4	12	-	-	-	60	8
HGXB2080 0875	8	R4	12	-	-	-	75	8
HGXB2080 08100	8	R4	12	-	-	-	100	8
HGXB2100 1075	10	R5	15	-	-	-	75	10
HGXB2100 10100	10	R5	15	-	-	-	100	10
HGXB2100 10125	10	R5	15	-	-	-	125	10
HGXB2120 1275	12	R6	18	-	-	-	75	12
HGXB2120 12100	12	R6	18	-	-	-	100	12
HGXB2120 12125	12	R6	18	-	-	-	125	12

TABLE OF RECOMMENDED MILLING MATERIALS

◎ Very suitable ○ Suitable

CARBON STEELS ALLOY STEELS PREHARDENED STEELS TOOL STEELS	PREHARDENED STEELS、HARDENED STEELS				STAINLESS STEELS	CAST IRON DUCTILE CAST IRON	COPPER ALLOYS	ALUMINUM ALLOY	GRAPHITE	TITANIUM ALLOY	HEAT RESISTANT ALLOYS	PLASTIC
~40HRC	~50HRC	~55HRC	~60HRC	~65HRC	~35HRC	~350HB						
◎	◎	○			◎	○	○	○		◎	◎	

Cutting Parameter

HGXB 2-Flute Ball End Mill 3D Milling

Workpiece	Carbon Steels、Alloy Steels (≤35HRC)				Pre-Hardened Steels (35~45HRC)				Hardened Steels (45-55HRC)			
Type No.	n min^{-1}	Vf mm/min	ap mm	ae mm	n min^{-1}	Vf mm/min	ap mm	ae mm	n min^{-1}	Vf mm/min	ap mm	ae mm
HGXB2001	40000	150	0.003	0.005	40000	100	0.003	0.005	40000	70	0.002	0.003
HGXB20015	40000	200	0.003	0.005	40000	180	0.003	0.005	40000	100	0.003	0.004
HGXB2002	35000	300	0.005	0.008	35000	284	0.005	0.008	32000	200	0.005	0.008
HGXB2003	32000	500	0.01	0.01	30000	400	0.01	0.01	32000	364	0.008	0.01
HGXB2004	28000	600	0.01	0.03	28000	600	0.01	0.03	28000	600	0.01	0.03
HGXB2005	25000	720	0.01	0.03	25000	720	0.01	0.03	25000	720	0.01	0.03
HGXB2006	22000	800	0.02	0.03	22000	800	0.02	0.03	22000	800	0.02	0.03
HGXB2008	20000	1000	0.02	0.03	20000	1000	0.02	0.03	20000	1000	0.02	0.03
HGXB2010	18000	1200	0.03	0.05	18000	1200	0.03	0.05	18000	1200	0.03	0.05
HGXB2012	17000	1350	0.03	0.05	17000	1350	0.03	0.05	17000	1350	0.03	0.05
HGXB2015	16000	1500	0.03	0.05	16000	1500	0.03	0.05	16000	1500	0.03	0.05
HGXB2020	14800	1560	0.04	0.06	14800	1560	0.04	0.06	14800	1560	0.04	0.06
HGXB2025	14400	1680	0.04	0.06	14400	1680	0.04	0.06	14400	1680	0.04	0.06
HGXB2030	13000	2000	0.05	0.08	13000	2000	0.05	0.08	13000	2000	0.05	0.08
HGXB2040	12000	2400	0.05	0.1	12000	2400	0.05	0.1	2000	2400	0.05	0.1
HGXB2050	10000	2500	0.05	0.1	10000	2500	0.05	0.1	1000	2500	0.05	0.1
HGXB2060	9000	2800	0.05	0.15	9000	2800	0.05	0.15	9000	2800	0.05	0.15
HGXB2080	8000	3000	0.08	0.2	8000	3000	0.08	0.2	8000	3000	0.05	0.2
HGXB2100	7200	3000	0.08	0.25	7200	3000	0.08	0.2	7200	3000	0.06	0.25
HGXB2120	6400	3200	0.1	0.25	6400	3200	0.1	0.25	6400	3200	0.08	0.25
HGXB2160	6000	3600	0.1	0.3	6000	3600	0.1	0.3	6000	3600	0.1	0.3