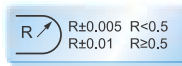
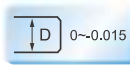
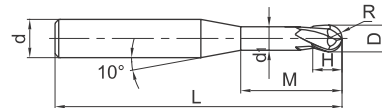


Milling · Fräsen

Solid Carbide end mills · Vollhartmetallschaftfräser

HM-2BP series for machining high hardness steel · **HM-2BP** Serie für die Hartbearbeitung

2-flute short cutting edge ball nose micro end mills with straight shank and long neck
2-Schneiden Micro Kugelkopffräser mit kurzer Schneide und Zylinderschaft



Type Typ	Dimension(mm) Abmessungen							Teeth Zähne Z	Grade Sorte KMG 555
	D	R	H	d ₁	M	d	L		
HM-2BP-R0.25-M04	0.5	0.25	0.7	0.45	4.0	4.0	50	2	●
HM-2BP-R0.25-M06	0.5	0.25	0.7	0.45	6.0	4.0	50	2	●
HM-2BP-R0.3-M04	0.6	0.3	0.9	0.55	4.0	4.0	50	2	●
HM-2BP-R0.3-M06	0.6	0.3	0.9	0.55	6.0	4.0	50	2	●
HM-2BP-R0.3-M08	0.6	0.3	0.9	0.55	8.0	4.0	50	2	●
HM-2BP-R0.4-M04	0.8	0.4	1.2	0.75	4.0	4.0	50	2	●
HM-2BP-R0.4-M06	0.8	0.4	1.2	0.75	6.0	4.0	50	2	●
HM-2BP-R0.4-M08	0.8	0.4	1.2	0.75	8.0	4.0	50	2	●
HM-2BP-R0.4-M10	0.8	0.4	1.2	0.75	10.0	4.0	50	2	●
HM-2BP-R0.5-M04	1.0	0.5	1.5	0.95	4.0	4.0	50	2	●
HM-2BP-R0.5-M06	1.0	0.5	1.5	0.95	6.0	4.0	50	2	●
HM-2BP-R0.5-M08	1.0	0.5	1.5	0.95	8.0	4.0	50	2	●
HM-2BP-R0.5-M10	1.0	0.5	1.5	0.95	10.0	4.0	50	2	●
HM-2BP-R0.5-M12	1.0	0.5	1.5	0.95	12.0	4.0	50	2	●
HM-2BP-R0.6-M06	1.2	0.6	1.8	1.15	6.0	4.0	50	2	●
HM-2BP-R0.6-M08	1.2	0.6	1.8	1.15	8.0	4.0	50	2	●
HM-2BP-R0.6-M12	1.2	0.6	1.8	1.15	12.0	4.0	50	2	●
HM-2BP-R0.6-M16	1.2	0.6	1.8	1.15	16.0	4.0	50	2	●
HM-2BP-R0.75-M08	1.5	0.75	2.3	1.45	8.0	4.0	50	2	●
HM-2BP-R0.75-M12	1.5	0.75	2.3	1.45	12.0	4.0	50	2	●
HM-2BP-R0.75-M16	1.5	0.75	2.3	1.45	16.0	4.0	50	2	●
HM-2BP-R1.0-M06	2.0	1.0	3.0	1.95	6.0	4.0	50	2	●
HM-2BP-R1.0-M08	2.0	1.0	3.0	1.95	8.0	4.0	50	2	●
HM-2BP-R1.0-M10	2.0	1.0	3.0	1.95	10.0	4.0	50	2	●
HM-2BP-R1.0-M12	2.0	1.0	3.0	1.95	12.0	4.0	50	2	●
HM-2BP-R1.0-M16	2.0	1.0	3.0	1.95	16.0	4.0	50	2	●
HM-2BP-R1.0-M20	2.0	1.0	3.0	1.95	20.0	4.0	50	2	●
HM-2BP-R1.25-M08	2.5	1.25	3.7	2.4	8.0	4.0	50	2	●
HM-2BP-R1.25-M12	2.5	1.25	3.7	2.4	12.0	4.0	50	2	●
HM-2BP-R1.25-M16	2.5	1.25	3.7	2.4	16.0	4.0	60	2	●
HM-2BP-R1.25-M20	2.5	1.25	3.7	2.4	20.0	4.0	60	2	●

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
✓ = Suitable · Empfohlen

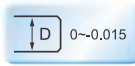
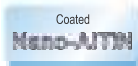
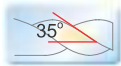
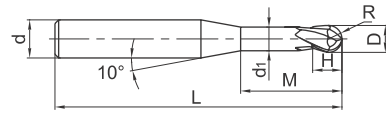
Workpiece material Werkstückstoff											
Carbon steel Kohlenstoff Stahl	Alloy steel Legierter Stahl	Quenched and tempered steel · Vergüteter Stahl		Hardened steel · Gehärteter Stahl		Stainless steel · Rostfreier Stahl	Cast iron, Nodular cast iron Grauguss GGG	Copper alloy Kupfer Leg	Aluminum alloy Alu Leg	Titanium alloy Titan Leg	Heat resist alloy warmfeste Leg
		~40HRC	~50HRC	~60HRC	~68HRC						
			✓	✓	✓		✓				

● Ex Stock / ab Lager ○ On demand / auf Anfrage

KMG555

HM-2BP series for machining high hardness steel · **HM-2BP** Serie für die Hartbearbeitung

2-flute short cutting edge ball nose micro end mills with straight shank and long neck
2-Schneiden Micro Kugelkopffräser mit kurzer Schneide und Zylinderschaft



Type Typ	Dimension(mm) Abmessungen							Teeth Zähne Z	Grade Sorte KMG 555
	D	R	H	d ₁	M	d	L		
HM-2BP-R1.5-M08	3.0	1.5	4.5	2.85	8.0	6.0	50	2	●
HM-2BP-R1.5-M10	3.0	1.5	4.5	2.85	10.0	6.0	50	2	●
HM-2BP-R1.5-M12	3.0	1.5	4.5	2.85	12.0	6.0	50	2	●
HM-2BP-R1.5-M16	3.0	1.5	4.5	2.85	16.0	6.0	60	2	●
HM-2BP-R1.5-M20	3.0	1.5	4.5	2.85	20.0	6.0	60	2	●
HM-2BP-R2.0-M10	4.0	2.0	6.0	3.85	10.0	6.0	60	2	●
HM-2BP-R2.0-M16	4.0	2.0	6.0	3.85	16.0	6.0	60	2	●
HM-2BP-R2.0-M20	4.0	2.0	6.0	3.85	20.0	6.0	60	2	●
HM-2BP-R2.0-M25	4.0	2.0	6.0	3.85	25.0	6.0	60	2	●
HM-2BP-R2.5-M16	5.0	2.5	7.5	4.85	16.0	6.0	60	2	●
HM-2BP-R2.5-M25	5.0	2.5	7.5	4.85	25.0	6.0	70	2	●

Tool type / Werkzeug: HM-2BP-R0.3-M08
 Size / Größe: R 0.3mm
 Workpiece material
 Werkstückstoff: S136/52HRC
 Rotating speed / Drehzahl: 30000 r/min
 Feed / Vorschub: 200 mm/min
 Axial cutting depth /
 Axiale Zustellung: Ap=0.02mm
 Radial cutting depth /
 Radiale Zustellung: Ae=0.04mm
 Cutting style /
 Bearbeitung: contour machining (mould of car light)
 Cooling syste: air blow
 Machine /
 Maschine: MIKRON HSM 800



End mill Schafffräser	HM-2BP-R0.3-M08	Similar product of company A
Cutting time Standzeit	300 min	180 min
Wear value Verschleiß	0.025 mm	0.048 mm



Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

Workpiece material Werkstückstoff											
Carbon steel Kohlenstoff Stahl	Alloy steel Legierter Stahl	Quenched and tempered steel · Vergüteter Stahl		Hardened steel · Gehärteter Stahl		Stainless steel · Rostfreier Stahl	Cast iron, Nodular cast iron Grauguss GGG	Copper alloy Kupfer Leg	Aluminum alloy Alu Leg	Titanium alloy Titan Leg	Heat resist alloy warmfeste Leg
		~40HRC	~50HRC	~60HRC	~68HRC						
			✓	✓	✓		✓				

KMG555



Recommended cutting data · Empfohlene Schnittdaten

HM-2BP

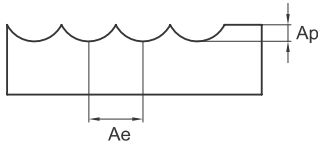
Workpiece material Werkstückstoff		Pre-hardened steel, Hardened steel Vergüteter Stahl, Gehärteter Stahl 40~50HRC				Hardened steel Gehärteter Stahl 50~60HRC			
Diameter Ø Durchmesser (mm)	Effective length Effektive Länge (mm)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Ap (mm)	Ae (mm)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Ap (mm)	Ae (mm)
R0.25	4	27000	200	0.01	0.01	27000	100	0.01	0.01
	6	20000	150	0.005	0.01	20000	75	0.005	0.005
R0.3	4	24000	200	0.03	0.06	17000	150	0.02	0.04
	6	20000	150	0.02	0.03	17000	150	0.01	0.02
	8	20000	120	0.02	0.03	17000	120	0.01	0.02
R0.4	4	21000	300	0.04	0.08	14500	200	0.03	0.08
	6	19000	200	0.02	0.04	12000	150	0.02	0.04
	8	17000	150	0.02	0.04	12000	100	0.02	0.04
	10	17000	135	0.02	0.03	12000	75	0.01	0.02
R0.5	4	21000	300	0.05	0.10	14500	200	0.05	0.10
	6	16000	200	0.05	0.10	11500	150	0.05	0.10
	8	16000	180	0.03	0.05	11500	135	0.03	0.05
	10	14000	150	0.01	0.03	9800	100	0.01	0.03
	12	14000	135	0.01	0.03	9800	75	0.01	0.03
R0.6	6	14000	200	0.06	0.12	9500	175	0.06	0.12
	8	14000	180	0.06	0.12	9500	150	0.06	0.12
	12	11000	150	0.04	0.06	7500	100	0.03	0.06
	16	11000	135	0.02	0.04	7500	75	0.02	0.03
R0.75	8	12000	250	0.08	0.15	8000	200	0.08	0.15
	12	12000	225	0.06	0.15	8000	175	0.06	0.15
	16	9500	150	0.01	0.05	6500	100	0.01	0.03
R1.0	6	13500	400	0.10	0.20	7500	225	0.10	0.20
	8	13500	400	0.10	0.16	7500	225	0.10	0.16
	10	10000	275	0.08	0.16	5500	175	0.08	0.16
	12	10000	275	0.06	0.16	5500	175	0.06	0.16
	16	10000	250	0.02	0.10	5500	150	0.02	0.10
	20	8000	175	0.02	0.05	5500	125	0.01	0.05
Max. cutting depth max Schnitttiefe		<p>The diagram illustrates a ball-nose end mill cutting a workpiece. The maximum cutting depth is labeled as A_p and the axial depth of cut is labeled as A_e.</p>							

Milling · Fräsen

Solid Carbide end mills · Vollhartmetallschaftfräser

Recommended cutting data · Empfohlene Schnittdaten

HM-2BP

Workpiece material Werkstückstoff		Pre-hardened steel, Hardened steel Vergüteter Stahl, Gehärteter Stahl 40~50HRC				Hardened steel Gehärteter Stahl 50~60HRC			
Diameter Ø Durchmesser (mm)	Effective length Effektive Länge (mm)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Ap (mm)	Ae (mm)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Ap (mm)	Ae (mm)
R1.25	8	12500	400	0.10	0.16	7000	225	0.10	0.16
	12	9000	275	0.06	0.16	5000	175	0.06	0.16
	16	9000	250	0.02	0.10	5000	150	0.02	0.10
	20	5500	175	0.02	0.05	5000	125	0.01	0.05
R1.5	8	7500	400	0.15	0.30	4000	200	0.15	0.30
	10	7500	400	0.10	0.30	4000	200	0.10	0.30
	12	7500	360	0.10	0.30	4000	180	0.10	0.30
	16	6500	250	0.05	0.20	3000	150	0.05	0.20
	20	6500	250	0.02	0.10	3000	150	0.02	0.05
R2.0	10	6000	400	0.20	0.40	3000	200	0.20	0.40
	16	6000	400	0.10	0.32	3000	200	0.20	0.20
	20	5000	250	0.10	0.20	2500	100	0.10	0.20
	25	5000	250	0.10	0.20	2500	100	0.10	0.10
R2.5	16	5000	400	0.25	0.50	3000	200	0.2	0.2
	25	4000	250	0.25	0.50	3000	100	0.20	0.2
Max. cutting depth max Schnitttiefe									

1. Please select high precise machine and tool holder.
2. Please use air blow or cutting liquid with high mist retardant property.
3. Make overhang as short as possible if no interference.
4. Reduce Feed correspondingly when rotating speed is low.

1. Bitte präzise Maschine und Werkzeugaufnahmen wählen
2. Bitte Luftkühlung oder MQL (Minimalmengen) benutzen.
3. Werkzeugauskragung so kurz wie möglich wählen.
4. Bitte Vorschub entsprechend reduzieren, wenn die Drehzahlen niedrig sind.