

DMX

**DIE & MOULD
EXTREME**
BN60X SERIES

 **HPMT**

THE FUTURE OF PRECISION MACHINING

Reach top speed
with the ultimate tool



www.hpmt-industries.com

The BN60X Line series is designed to bring you premium features and benefits with upgraded better surface finishing and wear resistant. Also enable shorter machining time and less tool replacement. The BN60X Line covers a broad spectrum of applications, making it the right tool for the right jobs.

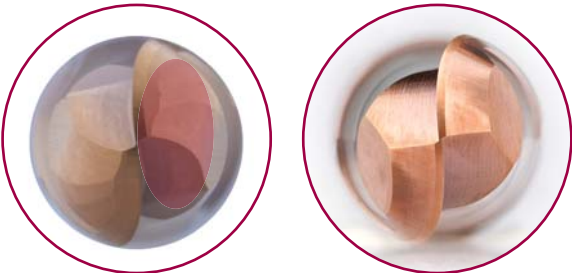
1

Enhanced Geometry Design

- Enhances tool stability and rigidity
- Improves finishing application



End Face View -
 Different Grinding Method



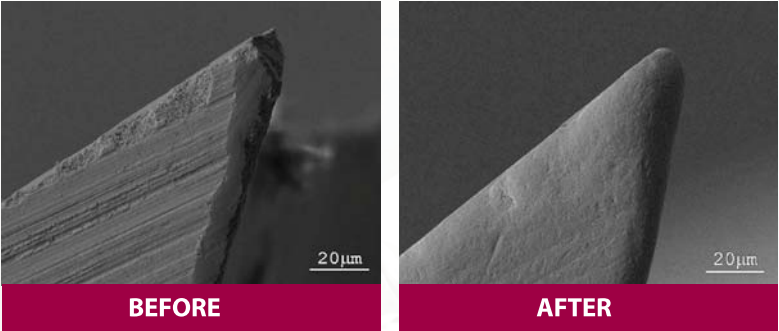
BN 60X Design

Conventional Design

2

Unique Cutting Edge Treatment

- Reduces tool chipping
- Prolongs tool life



Diameter	Radius Tolerance
$\varnothing \leq 6$	+0.000 -0.012
$\varnothing > 6$	+0.000 -0.020

3

In House Coating

- 20% higher feeds and speeds vs HPMT Standard Ballnose
- Increases tool performance

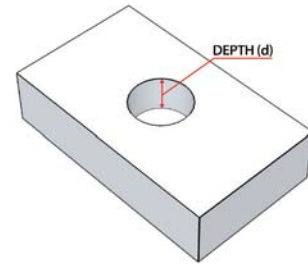
Suitable to machine material from **40 to 68 HRC** for

- Profiling application.
- Semi finishing application.
- Finishing application.

Component To Be Machined - NAK 80

The purpose of this demonstration is to determine the performance of BN 60X on NAK 80 in terms of surface finishing comparison.

Cutting Speed : 12,000 rpm
Feed Rate : 3,500 mm/min
Ae / Ap : 0.2 mm / 0.2 mm
Coolant : Dry Cut with Air Blow
Tool Diameter : 6 mm



Circular Pocketing

Surface Finishing Comparison

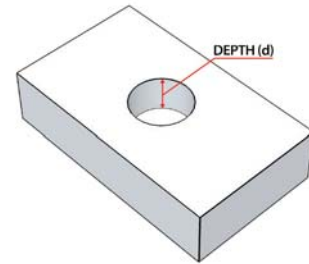


From the result of the Circular Pocketing test, **BN 60X gives the best performance** than the others tools.

Component To Be Machined - SKD

The purpose of this demonstration is to determine the performance of BN 60X on SKD in terms of surface finishing comparison.

Cutting Speed : 14,500 rpm
Feed Rate : 300 mm/min
Ae / Ap : 0.01 mm / 0.03 mm
Coolant : Dry Cut with Air Blow
Tool Diameter : 1 mm



Circular Pocketing

Surface Finishing Comparison



From the result of the Circular Pocketing test, **BN 60X performed much better** than the competitors' tools.

Component To Be Machined - NAK 80 / SKD

The purpose of this demonstration is to determine the performance of BN 60X Vs Conventional Tool on NAK 80 and SKD in terms of surface finishing comparison.

Material : NAK 80 / SKD
 Hardness : 40 HRC / 58 HRC
 Tool Diameter : Conventional - 6 mm
 : BN 60X - 6 mm



NAK 80

Cutting Speed : 10,000 rpm
 Feed Rate : 6,000 mm/min
 Ae / Ap : 0.2 mm / 0.2 mm
 Coolant : Dry Cut with Air Blow
 Time : 20 minutes

SKD

Cutting Speed : 8,000 rpm
 Feed Rate : 3,000 mm/min
 Ae / Ap : 0.2 mm / 0.2 mm
 Coolant : Dry Cut with Air Blow
 Time : 30 minutes

Both BN 60X and Conventional use the same cutting parameter

Surface Finishing Comparison

NAK 80

CONVENTIONAL



BN 60X



SKD

CONVENTIONAL

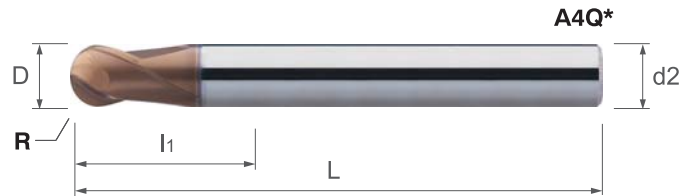


BN 60X



From the result of the tool test, **BN 60X gives the best performance** than the conventional tools.

BN 60X Standard Ballnose Cutters

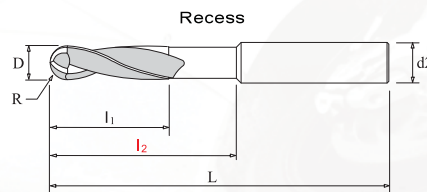


EDPNo./EDV-Nr./ CODEusine/CodiceEDP	Dimension (mm)						A4Q*
	D	R	l1	l2	L	d2 (h6)	B0909
=*+Ødata							
0050	0.5	0.25	0.5		50	4	●
0060	0.6	0.3	0.6		50	4	●
0080	0.8	0.4	0.8		50	4	●
0100	1	0.5	1	4	50	4	●
0150	1.5	0.75	1.5	6	50	4	●
0200	2	1	2	8	50	4	●
0250	2.5	1.25	2.5	10	50	4	●
0300 050 04	3	1.5	3	14	50	4	●
0300 050 06	3	1.5	3	14	50	6	●
0400 050 06	4	2	4	20	50	6	●
0500 050 06	5	2.5	5	20	50	6	●
0600 050	6	3	6	20	50	6	●
0600 060	6	3	6	30	60	6	●
0800	8	4	8	30	64	8	●
1000	10	5	10	32	70	10	●
1200	12	6	12	38	75	12	●
1600	16	8	16	46	90	16	○
1800	18	9	18	53	100	18	○
2000	20	10	20	58	100	20	○

A4R*

Diameter	Radius Tolerance
Ø ≤ 6	+0.000 -0.012
Ø > 6	+0.000 -0.020

- Tools with **recess** upon request
- Fräser mit **Freistellung** auf Bestellung
- Outils avec **dégagement** sur demande
- Utensilli con **riduzione gambo** su richiesta
- 密齿 立铣刀 带颈位 特别要求



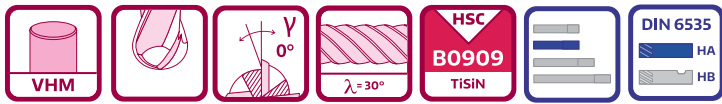
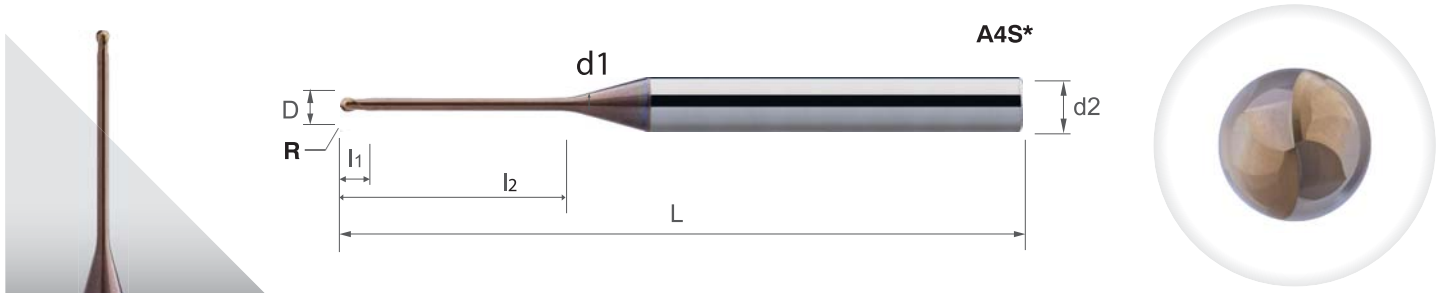
Material group - Material-Gruppe - Groupe matière - Gruppo materiali - 材质主类

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O1	O2
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	----

Working Material | Cutting Parameter

TECHNISCHE ÄNDERUNGEN OHNE VORHERIGE INFORMATION VORBEHALTEN

BN 60X Miniature Ballnose Cutters - with Long Neck



EDPNo./EDV-Nr./ CODEusine/CodiceEDP	Dimension (mm)							A4S *	
	D	R	l1	l2	L	d1	d2 (h6)	B0909	
0020 050 0400	0.2	0.10	0.15	-	50	-	4	●	
0020 050 0400 005	0.2	0.10	0.15	0.5	50	0.17	4	●	
0020 050 0400 010	0.2	0.10	0.15	1	50	0.17	4	●	
0020 050 0400 015	0.2	0.10	0.15	1.5	50	0.17	4	●	
0030 050 0400	0.3	0.15	0.23	-	50	-	4	●	
0030 050 0400 010	0.3	0.15	0.23	1	50	0.27	4	●	
0030 050 0400 020	0.3	0.15	0.23	2	50	0.27	4	●	
0030 050 0400 030	0.3	0.15	0.23	3	50	0.27	4	●	
0040 050 0400	0.4	0.20	0.30	-	50	-	4	●	
0040 050 0400 010	0.4	0.20	0.30	1	50	0.37	4	●	
0040 050 0400 020	0.4	0.20	0.30	2	50	0.37	4	●	
0040 050 0400 030	0.4	0.20	0.30	3	50	0.37	4	●	
0040 050 0400 040	0.4	0.20	0.30	4	50	0.37	4	●	
0040 050 0400 050	0.4	0.20	0.30	5	50	0.37	4	●	
0050 050 0400	0.5	0.25	0.35	-	50	-	4	●	
0050 050 0400 020	0.5	0.25	0.35	2	50	0.47	4	●	
0050 050 0400 030	0.5	0.25	0.35	3	50	0.47	4	●	
0050 050 0400 040	0.5	0.25	0.35	4	50	0.47	4	●	
0050 050 0400 050	0.5	0.25	0.35	5	50	0.47	4	●	
0050 050 0400 060	0.5	0.25	0.35	6	50	0.47	4	●	
0050 050 0400 080	0.5	0.25	0.35	8	50	0.47	4	●	
0060 050 0400	0.6	0.30	0.42	-	50	-	4	●	
0060 050 0400 020	0.6	0.30	0.42	2	50	0.57	4	●	
0060 050 0400 030	0.6	0.30	0.42	3	50	0.57	4	●	
0060 050 0400 040	0.6	0.30	0.42	4	50	0.57	4	●	
0060 050 0400 050	0.6	0.30	0.42	5	50	0.57	4	●	
0060 050 0400 060	0.6	0.30	0.42	6	50	0.57	4	●	
0060 050 0400 080	0.6	0.30	0.42	8	50	0.57	4	●	

Diameter	Radius Tolerance
∅ ≤ 3	+0.000 -0.012
∅ > 3	+0.000 -0.020

cont'd ▶

Material group - Material-Gruppe - Groupe matière - Gruppo materiali - 材质主类

N01 N02 N03 K01 K02 P01 P02 P03 M01 M02 S01 S02 S03 H01 H02 O1 O2

Working Material Cutting Parameter

TECHNISCHE ÄNDERUNGEN OHNE VORHERIGE INFORMATION VORBEHALTEN

BN 60X Miniature Ballnose Cutters - with Long Neck

EDPNo./EDV-Nr./ CODUsine/CodiceEDP	Dimension (mm)							A4S*
	D	R	I1	I2	L	d1	d2 (h6)	B0909
=*+Ødata								
0080 050 0400	0.8	0.40	0.48	-	50	-	4	●
0080 050 0400 020	0.8	0.40	0.48	2	50	0.77	4	●
0080 050 0400 040	0.8	0.40	0.48	4	50	0.77	4	●
0080 050 0400 050	0.8	0.40	0.48	5	50	0.77	4	●
0080 050 0400 060	0.8	0.40	0.48	6	50	0.77	4	●
0080 050 0400 070	0.8	0.40	0.48	7	50	0.77	4	●
0080 050 0400 080	0.8	0.40	0.48	8	50	0.77	4	●
0080 050 0400 100	0.8	0.40	0.48	10	50	0.77	4	●
0100 050 0400	1	0.50	0.8	-	50	-	4	●
0100 050 0400 030	1	0.50	0.8	3	50	0.9	4	●
0100 050 0400 040	1	0.50	0.8	4	50	0.9	4	●
0100 050 0400 050	1	0.50	0.8	5	50	0.9	4	●
0100 050 0400 060	1	0.50	0.8	6	50	0.9	4	●
0100 050 0400 070	1	0.50	0.8	7	50	0.9	4	●
0100 050 0400 080	1	0.50	0.8	8	50	0.9	4	●
0100 050 0400 090	1	0.50	0.8	9	50	0.9	4	●
0100 050 0400 100	1	0.50	0.8	10	50	0.9	4	●
0100 050 0400 120	1	0.50	0.8	12	50	0.9	4	●
0100 050 0400 140	1	0.50	0.8	14	50	0.9	4	●
0100 050 0400 160	1	0.50	0.8	16	50	0.9	4	●
0100 060 0400	1	0.50	0.8	-	60	-	4	●
0100 060 0400 200	1	0.50	0.8	20	60	0.9	4	●
0120 050 0400	1.2	0.60	1.08	-	50	-	4	●
0120 050 0400 060	1.2	0.60	1.08	6	50	1.1	4	●
0120 050 0400 080	1.2	0.60	1.08	8	50	1.1	4	●
0120 050 0400 100	1.2	0.60	1.08	10	50	1.1	4	●
0120 050 0400 120	1.2	0.60	1.08	12	50	1.1	4	●
0140 050 0400	1.4	0.70	1.26	-	50	-	4	●
0140 050 0400 080	1.4	0.70	1.26	8	50	1.3	4	●
0140 050 0400 120	1.4	0.70	1.26	12	50	1.3	4	●
0140 050 0400 160	1.4	0.70	1.26	16	50	1.3	4	●
0150 050 0400	1.5	0.75	1.35	-	50	-	4	●
0150 050 0400 080	1.5	0.75	1.35	8	50	1.4	4	●
0150 050 0400 120	1.5	0.75	1.35	12	50	1.4	4	●
0150 050 0400 160	1.5	0.75	1.35	16	50	1.4	4	●
0150 060 0400	1.5	0.75	1.35	-	60	-	4	●
0150 060 0400 180	1.5	0.75	1.35	18	60	1.4	4	●
0160 050 0400	1.6	0.80	1.44	-	50	-	4	●
0160 050 0400 080	1.6	0.80	1.44	8	50	1.5	4	●
0160 050 0400 120	1.6	0.80	1.44	12	50	1.5	4	●
0160 050 0400 160	1.6	0.80	1.44	16	50	1.5	4	●
0160 060 0400	1.6	0.80	1.44	-	60	-	4	●
0160 060 0400 200	1.6	0.80	1.44	20	60	1.5	4	●
0180 050 0400	1.8	0.90	1.62	-	50	-	4	●
0180 050 0400 080	1.8	0.90	1.62	8	50	1.7	4	●
0180 050 0400 120	1.8	0.90	1.62	12	50	1.7	4	●
0180 050 0400 160	1.8	0.90	1.62	16	50	1.7	4	●
0180 060 0400	1.8	0.90	1.62	-	60	-	4	●
0180 060 0400 200	1.8	0.90	1.62	20	60	1.7	4	●

cont'd ►

Material group - Material-Gruppe - Groupe matière - Gruppo materiali - 材质主类

N01 N02 N03 K01 K02 P01 P02 P03 M01 M02 S01 S02 S03 H01 H02 O1 O2

Working Material Cutting Parameter

TECHNISCHE ÄNDERUNGEN OHNE VORHERIGE INFORMATION VORBEHALTEN

BN 60X Miniature Ballnose Cutters - with Long Neck

EDPNo./EDV-Nr./ CODEsine/CodiceEDP	Dimension (mm)							A4S*
	D	R	I1	I2	L	d1	d2 (h6)	B0909
=*+Ødata								
0200 050 0400	2	1	1.7	-	50	-	4	●
0200 050 0400 040	2	1	1.7	4	50	1.9	4	●
0200 050 0400 060	2	1	1.7	6	50	1.9	4	●
0200 050 0400 080	2	1	1.7	8	50	1.9	4	●
0200 050 0400 100	2	1	1.7	10	50	1.9	4	●
0200 050 0400 120	2	1	1.7	12	50	1.9	4	●
0200 050 0400 140	2	1	1.7	14	50	1.9	4	●
0200 050 0400 160	2	1	1.7	16	50	1.9	4	●
0200 060 0400	2	1	1.7	-	60	-	4	●
0200 060 0400 180	2	1	1.7	18	60	1.9	4	●
0200 060 0400 200	2	1	1.7	20	60	1.9	4	●
0200 060 0400 220	2	1	1.7	22	60	1.9	4	●
0200 075 0400	2	1	1.7	-	75	-	4	●
0200 075 0400 250	2	1	1.7	25	75	1.9	4	●
0200 075 0400 300	2	1	1.7	30	75	1.9	4	●
0300 050 0600	3	1.5	2.4	-	50	-	6	●
0300 050 0600 080	3	1.5	2.4	8	50	2.8	6	●
0300 050 0600 100	3	1.5	2.4	10	50	2.8	6	●
0300 060 0600	3	1.5	2.4	-	60	-	6	●
0300 060 0600 160	3	1.5	2.4	16	60	2.8	6	●
0300 060 0600 200	3	1.5	2.4	20	60	2.8	6	●
0300 075 0600	3	1.5	2.4	-	75	-	6	●
0300 075 0600 250	3	1.5	2.4	25	75	2.8	6	●
0300 075 0600 300	3	1.5	2.4	30	75	2.8	6	●
0300 075 0600 350	3	1.5	2.4	35	75	2.8	6	●
0400 050 0600	4	2	3.0	-	50	-	6	●
0400 050 0600 100	4	2	3.0	10	50	3.7	6	●
0400 060 0600	4	2	3.0	-	60	-	6	●
0400 060 0600 160	4	2	3.0	16	60	3.7	6	●
0400 060 0600 200	4	2	3.0	20	60	3.7	6	●
0400 075 0600	4	2	3.0	-	75	-	6	●
0400 075 0600 250	4	2	3.0	25	75	3.7	6	●
0400 075 0600 300	4	2	3.0	30	75	3.7	6	●
0400 075 0600 350	4	2	3.0	35	75	3.7	6	●
0400 100 0600	4	2	3.0	-	100	-	6	●
0400 100 0600 400	4	2	3.0	40	100	3.7	6	●
0400 100 0600 450	4	2	3.0	45	100	3.7	6	●
0400 100 0600 500	4	2	3.0	50	100	3.7	6	●

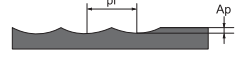
Material group - Material-Gruppe - Groupe matière - Gruppo materiali - 材质主类

N01 N02 N03 K01 K02 P01 P02 P03 M01 M02 S01 S02 S03 H01 H02 O1 O2

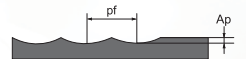
Working Material Cutting Parameter

TECHNISCHE ÄNDERUNGEN OHNE VORHERIGE INFORMATION VORBEHALTEN

BN60X Standard Ballnose Cutting Parameters



Roughing	P		H			
Work Material	Prehardened Steel		Hardened Steel		Hardened Steel	
Properties	35 ≤ HRC < 45		45 ≤ HRC < 52		52 ≤ HRC < 68	
Cutting Depth, Ap	0.10 × D		0.10 × D		0.07 × D	
Cutting Depth, Ae	0.30 × D		0.30 × D		0.21 × D	
Diameter, D	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
1		0.043		0.035		0.029
2		0.060		0.049		0.040
3		0.078		0.063		0.052
4		0.087		0.070		0.058
5		0.121		0.098		0.081
6		0.138		0.112		0.092
8		0.155		0.126		0.103
10	140	0.173	120	0.140	100	0.115
12		0.190		0.154		0.127
14		0.197		0.160		0.132
16		0.207		0.168		0.138
18		0.216		0.176		0.144
20		0.224		0.182		0.149
22		0.224		0.182		0.150
25		0.225		0.183		0.150



Finishing	P		H			
Work Material	Prehardened Steel		Hardened Steel		Hardened Steel	
Properties	35 ≤ HRC < 45		45 ≤ HRC < 52		52 ≤ HRC < 68	
Cutting Depth, Ap	0.05 × D		0.05 × D		0.05 × D	
Cutting Depth, Ae	0.02 × D		0.02 × D		0.02 × D	
Diameter, D	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)	Vc (m/min)	Fz (mm)
1		0.043		0.035		0.029
2		0.060		0.049		0.040
3		0.078		0.063		0.052
4		0.087		0.070		0.058
5		0.121		0.098		0.081
6		0.138		0.112		0.092
8		0.155		0.126		0.103
10	140	0.173	120	0.140	100	0.115
12		0.190		0.154		0.127
14		0.197		0.160		0.132
16		0.207		0.168		0.138
18		0.216		0.176		0.144
20		0.224		0.182		0.149
22		0.224		0.182		0.150
25		0.225		0.183		0.150

BN60X Miniature Ballnose Cutter - Long Neck Cutting Parameters

Slotting		P			H					
Work Material		Prehardened Steel			Hardened Steel			Hardened Steel		
Properties		35 ≤ HRC < 45			45 ≤ HRC < 52			52 ≤ HRC < 68		
Diameter, D	Effective length	Ap(mm)	Vc (m/min)	Fz (mm)	Ap(mm)	Vc (m/min)	Fz (mm)	Ap(mm)	Vc (m/min)	Fz (mm)
0.2	0.5	0.016	25	0.005	0.013	0.013	25	0.012	25	0.003
	1	0.011	25	0.005	0.009	0.009	25	0.008	25	0.003
	1.5	0.006	25	0.004	0.005	0.005	25	0.005	25	0.003
0.3	1	0.017	38	0.007	0.014	0.014	38	0.013	38	0.005
	2	0.010	38	0.005	0.008	0.008	38	0.007	38	0.004
	3	0.006	38	0.005	0.005	0.005	38	0.005	38	0.004
0.4	1	0.032	50	0.007	0.026	0.026	50	0.024	49	0.005
	2	0.022	50	0.007	0.018	0.018	50	0.017	49	0.005
	3	0.013	50	0.005	0.010	0.010	47	0.010	44	0.004
	4	0.008	50	0.005	0.007	0.007	47	0.006	44	0.004
	5	0.006	47	0.005	0.003	0.003	42	0.002	44	0.004
0.5	2	0.028	61	0.009	0.023	0.023	54	0.021	51	0.009
	3	0.024	55	0.008	0.020	0.020	49	0.018	46	0.008
	4	0.016	55	0.008	0.013	0.013	49	0.012	46	0.008
	5	0.014	55	0.008	0.012	0.012	49	0.011	46	0.008
	6	0.010	49	0.008	0.008	0.008	43	0.008	41	0.007
	8	0.006	49	0.008	0.005	0.005	43	0.005	41	0.007
0.6	2	0.034	74	0.013	0.027	0.027	65	0.025	61	0.010
	3	0.027	74	0.013	0.022	0.022	65	0.020	61	0.010
	4	0.019	66	0.012	0.016	0.016	59	0.014	55	0.009
	5	0.016	66	0.012	0.013	0.013	59	0.012	55	0.005
	6	0.012	66	0.012	0.010	0.010	59	0.009	55	0.009
	8	0.012	59	0.011	0.010	0.010	52	0.009	49	0.009
0.8	2	0.064	98	0.016	0.052	0.052	87	0.048	81	0.014
	4	0.045	98	0.016	0.036	0.036	87	0.034	81	0.014
	5	0.036	88	0.014	0.029	0.029	78	0.027	73	0.013
	6	0.026	88	0.014	0.021	0.021	78	0.019	73	0.013
	7	0.021	83	0.014	0.017	0.017	74	0.016	69	0.013
	8	0.016	79	0.014	0.013	0.013	69	0.012	65	0.013
	10	0.016	79	0.014	0.013	0.013	69	0.012	65	0.012
	12	0.016	79	0.014	0.013	0.013	69	0.012	65	0.012
1.0	3	0.080	111	0.022	0.065	0.065	98	0.060	91	0.020
	4	0.056	111	0.022	0.046	0.046	98	0.042	91	0.020
	5	0.048	111	0.022	0.039	0.039	98	0.036	91	0.020
	6	0.032	100	0.020	0.026	0.026	88	0.024	93	0.016
	7	0.032	100	0.020	0.026	0.026	88	0.024	93	0.016
	8	0.032	100	0.020	0.026	0.026	88	0.024	93	0.016
	9	0.024	100	0.020	0.020	0.020	88	0.018	82	0.018
	10	0.020	100	0.020	0.016	0.016	88	0.015	82	0.018
	12	0.020	89	0.019	0.016	0.016	78	0.015	73	0.017
	14	0.016	89	0.019	0.013	0.013	78	0.012	73	0.017
1.2	20	0.008	66	0.018	0.007	0.007	58	0.006	55	0.016
	6	0.036	106	0.025	0.029	0.029	94	0.027	87	0.020
	8	0.032	106	0.025	0.026	0.026	94	0.024	87	0.020
	10	0.028	106	0.024	0.023	0.023	94	0.021	87	0.019
1.4	12	0.024	106	0.023	0.020	0.020	94	0.018	87	0.018
	8	0.044	108	0.027	0.036	0.036	95	0.033	89	0.025
	12	0.028	108	0.024	0.023	0.023	95	0.021	89	0.022
	16	0.028	96	0.023	0.023	0.023	85	0.021	79	0.021

BN60X Miniature Ballnose Cutter - Long Neck Cutting Parameters

Slotting		P			H					
Work Material		Prehardened Steel			Hardened Steel			Hardened Steel		
Properties		35 ≤ HRC < 45			45 ≤ HRC < 52			52 ≤ HRC < 68		
Diameter, D	Effective length	Ap(mm)	Vc (m/min)	Fz (mm)	Ap(mm)	Vc (m/min)	Fz (mm)	Ap(mm)	Vc (m/min)	Fz (mm)
1.5	8	0.048	116	0.027	0.039	102	0.024	0.036	96	0.022
	12	0.048	116	0.027	0.039	102	0.024	0.036	96	0.022
	16	0.030	103	0.026	0.025	91	0.023	0.023	85	0.021
1.6	8	0.030	103	0.026	0.025	91	0.023	0.023	85	0.021
	8	0.088	128	0.031	0.072	113	0.030	0.066	105	0.028
	12	0.052	115	0.028	0.042	102	0.027	0.039	95	0.025
1.8	16	0.032	115	0.028	0.026	102	0.027	0.024	95	0.025
	20	0.032	102	0.026	0.026	90	0.026	0.024	84	0.024
	8	0.104	144	0.035	0.085	127	0.033	0.078	118	0.030
2	12	0.056	130	0.028	0.046	114	0.030	0.042	106	0.027
	16	0.036	130	0.028	0.029	114	0.030	0.027	106	0.027
	20	0.036	115	0.026	0.029	101	0.028	0.027	94	0.025
2	4	0.160	129	0.045	0.130	114	0.043	0.120	106	0.040
	6	0.160	129	0.040	0.130	114	0.038	0.120	106	0.036
	8	0.112	129	0.040	0.091	114	0.038	0.084	106	0.036
	10	0.112	129	0.036	0.091	114	0.034	0.084	106	0.032
	12	0.064	116	0.036	0.052	102	0.034	0.000	96	0.032
	14	0.064	116	0.036	0.052	102	0.034	0.048	96	0.032
	16	0.064	116	0.032	0.052	102	0.031	0.048	96	0.029
	18	0.048	116	0.032	0.039	102	0.031	0.036	96	0.029
	20	0.040	116	0.032	0.033	102	0.031	0.030	96	0.029
	22	0.040	109	0.031	0.033	97	0.029	0.030	90	0.027
3	25	0.040	103	0.031	0.033	91	0.029	0.030	85	0.027
	30	0.024	103	0.031	1.950	91	0.029	0.180	85	0.027
	8	0.240	147	0.067	0.195	130	0.063	0.180	122	0.060
	10	0.168	147	0.067	0.137	130	0.063	0.126	122	0.060
	16	0.168	147	0.061	0.137	130	0.057	0.126	122	0.054
	20	0.096	133	0.060	0.078	117	0.057	0.072	109	0.054
	25	0.064	133	0.060	0.052	117	0.057	0.048	109	0.054
4	30	0.064	133	0.060	0.052	117	0.057	0.048	109	0.054
	35	0.064	118	0.057	0.052	104	0.054	0.048	97	0.051
	10	0.320	141	0.090	0.260	124	0.085	0.240	117	0.080
	16	0.224	141	0.090	0.182	124	0.085	0.168	117	0.080
	20	0.224	141	0.090	0.182	124	0.085	0.168	117	0.080
	25	0.128	127	0.081	0.104	112	0.077	0.096	104	0.072
	30	0.128	127	0.081	0.104	112	0.077	0.096	104	0.072
	35	0.080	127	0.081	0.065	112	0.077	0.060	104	0.072
	40	0.080	127	0.081	0.065	112	0.077	0.060	104	0.072
	45	0.080	113	0.077	0.065	99	0.073	0.060	93	0.068
50	0.080	113	0.077	0.065	99	0.073	0.060	93	0.068	

Certificate

Standard **ISO 9001:2015**

Certificate Registr. No. **01 100 053515**

Certificate Holder:



HPMT Industries Sdn. Bhd.

No. 5, Jalan Sungai Kayu Ara 32/39, Taman Berjaya,
Seksyen 32, Shah Alam, Selangor Darul Ehsan, Malaysia

Scope:

Manufacturing of Standard and Custom-made Metal Removing
Cutting Tools

Proof has been furnished by means of an audit that the
requirements of ISO 9001:2015 are met.

Validity:

The certificate is valid from 2018-09-04 until 2021-08-14.

2018-09-14

A handwritten signature in blue ink, appearing to read 'K. Jiegler', written over a horizontal line.

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln



HEADQUARTERS : MALAYSIA

HPMT INDUSTRIES. SDN BHD.
5, Jalan Sungai Kayu Ara 32/39,
Taman Berjaya, Seksyen 32,
40460 Shah Alam, Selangor,
Malaysia.

T : +603 5740 2218

F : +603 5740 2238

E : info@hpmt-industries.com

W : www.hpmt-industries.com

CHINA

HPMT I(Shenzhen) Ltd.
1223, Kerry Centre,
42008 Renminnan Road,
ShenZhen, China.
T : +86 755 2518 1722
F : +86 755 2518 1728
E : info@hpmt-industries.com.cn
W : www.hpmt-industries.com.cn

GERMANY

HPMT Deutschland GmbH
Vorkamp 6,
D-23879 Mölln.
T : +49(0) 4542 / 842110
F : +49(0) 4542 / 842108
E : info@hpmt-deutschland.de
W : www.hpmt-deutschland.de

HONG KONG

HPMT I(Shenzhen) Ltd.
204-5, Fook Hong Industrial Bldg,
19 Shueng Yuet Road,
Kowloon Bay, Hong Kong.
T : +852 2305 4838
F : +852 2798 8789
E : info@mtc-tools.com

MALAYSIA

Herroz Sdn. Bhd.
5, Jalan Sungai Kayu Ara 32/39,
Taman Berjaya, Seksyen 32,
40460 Shah Alam, Selangor,
Malaysia.
T : +603 5740 2838 (Selangor)
+607 351 9910 (Johor)
F : +5740 2822 / 23 (Selangor)
+607 351 9910 (Johor)
E : info@herroz.com
W : www.herroz.com