

BALLNOSE

# BN 30




---

For general machining  
For material application  $\leq 35$  HRC

## Index - BN 30, For $\leq 35$ HRC

Suitable for Material Groups    
 Adapté pour les matériaux    
 适用于材料  
 Geeignet für die Materialgruppen    
 Adatto per il materiale

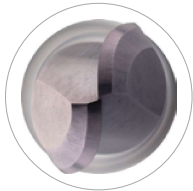
P	M	K
N	S	O

EDP Number	Type	No. Z	Helix Angle	Coating	Performance	Page Number
923 	BN 30	2	30°	B0819	G	360
925 	BN 30 Long	2	30°	B0819	G	361
927 	BN 30 Extra-Long	2	30°	B0819	G	362

G - General P - Performance

## FEATURES & BENEFITS

# BN 30



Top View

### 1 Eccentric Grinding



Optimum eccentric grinding in order to avoid rubbing, while maintaining maximum cutting tool strength.

### 2 Cutting Edge Preparation



- Enhances tool life
- Less material adhere on the cutting edge for stable machining
- Improves wear resistance and reduces excessive friction

### 3 Superior Coating to Reduce Friction

- Increases hardness and higher abrasive wear resistance
- Higher thermal resistance
- Smoother chips evacuation

### 4 Suitable for Material Groups





1. Exzentrischer Schliff  
Optimaler exzentrischer Schliff zur Reduzierung der Reibung unter Beibehaltung der maximalen Schneidenstabilität
2. Schneidkantenbehandlung  
Verbessert die Werkzeuglebensdauer  
Weniger Materialanhaftungen an der Schneide Für stabile Bearbeitung
3. Ausgezeichnete Beschichtung zur Verringerung der Reibung  
Erhöht die Härte und und bietet bessere Verschleißfestigkeit  
Höhere Temperaturbeständigkeit  
Glatte Oberfläche für besseren Spänefluß
4. Positiver Spanwinkel  
Geeignet für die Materialgruppen P, M, K, N, S, O



1. 偏心研磨  
最佳偏心研磨,可避免摩擦,同时保持最大切削刀具强度。
2. 切削刃设置提高刀具寿命  
提高刀具寿命。  
较少的材料粘粘在切削刃上。  
用于稳定加工。
3. 优异的涂层,减少摩擦  
增加硬度,提高材料耐磨性。  
更高的抗热性。  
更顺畅的排屑。
4. 正前角  
适用于材料 P、M、K、N、S、O。



1. Levigatura orbitale  
Levigatura orbitale ottimale per evitare sfregatura, garantendo la massima resistenza dello strumento di taglio.
2. Preparazione dell'angolo di taglio  
Migliora la durata dello strumento  
Meno materiale che aderisce sull'angolo di taglio  
Per una lavorazione stabile
3. Rivestimento superiore per ridurre la frizione  
Aumenta la durezza e una maggiore resistenza all'usura abrasiva  
Resistenza termica superiore  
Evacuazione dei trucioli più semplice
4. Angolo di taglio positivo  
Adatto per il materiale P, M, K, N, S, O



1. Meulage excentrique  
Meulage optimal diminuant le coefficient de friction tout en maintenant une bonne acuité de l'arête de coupe
2. Préparation des arêtes de coupes  
Améliore la durée de vie de l'outil  
Moins de matériau adhère à l'arête tranchante  
Pour un usinage stable
3. Revêtement supérieur pour réduire la friction  
Augmente la dureté et la résistance à l'abrasion  
Résistance thermique supérieure  
Évacuation des copeaux plus fluide
4. Angle de coupe positif  
Adapté pour les matériaux P, M, K, N, S, O

## BN 30 BALLNOSE CUTTERS, 2 FLUTES

- VHM BN 30 Standard Radiusschaftfräser, 2 Zähne
- Frese sferiche BN 30, 2 taglienti
- Fraises BN 30, à bout hémisphérique, 2 dents
- 整体硬质合金 BN 30 系列 2刃球头铣刀



Order Number	Dimension (mm)						B0819
	D	R	I1	I2	L	d2 (h6)	
923 0300	3	1.5	9		40	3	•
923 0300 050 06			9		50	6	•
923 0400	4	2	14		50	4	•
923 0400 050 06			14		50	6	◦
923 0500	5	2.5	15		50	5	•
923 0500 050 06			15		50	6	•
923 0600 060	6	3	20		60	6	◦
923 0800	8	4	20		64	8	•
923 1000 070	10	5	22		70	10	◦
923 1000 075			22		75	10	•
923 1200	12	6	25		75	12	•
923 1400	14	7	30		90	14	◦
923 1600	16	8	30		90	16	◦
923 1800	18	9	38		100	18	◦
923 2000	20	10	38		100	20	•

- BN 30
- BN 45
- BN 60
- BN 60X
- DM70 - BN 70
- BN GR

Material Group | Material-Gruppe | Groupe Matiere | Gruppo Materiali | 材质主类

Cutting Parameter

N01
N02
N03
K01
K02
P01
P02
P03
M01
M02
S01
S02
S03
H01
H02
O01
O02

## BN 30 LONG BALLNOSE CUTTERS, 2 FLUTES

BN 30  
BN 45  
BN 60  
BN 60X  
DM70 - BN 70  
BN GR

- VHM BN 30 Radiusschaftfräser, lang, 2 Zähne
- Frese sferiche lunghe BN 30, 2 taglienti
- Fraises BN 30 longues, à bout hémisphérique, 2 dents
- 整体硬质合金 BN 30 系列 2刃长型球头铣刀



Order Number	Dimension (mm)						B0819
	D	R	I1	I2	L	d2 (h6)	
925 0300	3	1.5	19		60	3	•
925 0300 075 06			19		75	6	•
925 0400	4	2	19		60	4	•
925 0400 075 06			19		75	6	◦
925 0500	5	2.5	19		60	5	◦
925 0500 075 06			19		75	6	◦
925 0600	6	3	31		75	6	•
925 0800	8	4	31		75	8	◦
925 1000 075	10	5	31		75	10	◦
925 1000 100			31		100	10	◦
925 1200	12	6	50		100	12	•
925 1400	14	7	57		125	14	◦
925 1600	16	8	57		125	16	•
925 1800	18	9	57		125	18	◦
925 2000	20	10	57		125	20	◦

Material Group | Material-Gruppe | Groupe Matiere | Gruppo Materiali | 材质主类

Cutting Parameter

N01	N02	N03	K01	K02	P01	P02	P03	M01	M02	S01	S02	S03	H01	H02	O01	O02	364
○	○	○	●	○	●	●	○	●	○	●	○	○	○	○	○	○	

## BN 30 EXTRA-LONG BALLNOSE CUTTERS, 2 FLUTES

- VHM BN 30 Radiusschaftfräser, extra-lang, 2 Zähne
- Frese sferiche extra-lunghe BN 30, 2 taglienti
- Fraises BN 30 extra-longues, à bout hémisphérique, 2 dents
- 整体硬质合金 BN 30 系列 2刃加长型球头铣刀



Order Number	Dimension (mm)						B0819
	D	R	I1	I2	L	d2 (h6)	
927 0300	3	1.5	25		100	3	•
927 0300 100 06			25		100	6	◦
923 0400	4	2	31		100	4	•
923 0400 100 06			31		100	6	◦
923 0500	5	2.5	31		100	5	◦
923 0500 100 06			31		100	6	◦
923 0600 100	6	3	38		100	6	•
923 0600 150			38		150	6	◦
923 0800 100	8	4	41		100	8	•
923 0800 150			41		150	8	•
923 1000 125	10	5	45		125	10	◦
923 1000 150			45		150	10	•
923 1200 125	12	6	75		125	12	•
923 1200 150			75		150	12	◦
923 1400 150	14	7	75		150	14	◦
923 1400 200			75		200	14	◦
923 1600 150	16	8	75		150	16	◦
923 1600 200			75		200	16	◦
923 1800 150	18	9	75		150	18	◦
923 1800 200			75		200	18	◦
923 2000 150	20	10	75		150	20	◦
927 2000 200			75		200	20	◦

- BN 30
- BN 45
- BN 60
- BN 60X
- DM70 - BN 70
- BN GR

Material Group | Material-Gruppe | Groupe Matière | Gruppo Materiali | 材质主类

Cutting Parameter

N01
N02
N03
K01
K02
P01
P02
P03
M01
M02
S01
S02
S03
H01
H02
O01
O02
365

# Recommended Cutting Data



Note: These recommended cutting data indicators are just for reference. They should be adjusted according to the different cutting condition



BN 30

BN 45

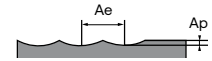
BN 60

BN 60X

DM70 -  
BN 70

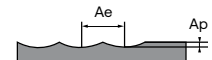
BN GR

## BN 30 Ballnose Cutters, 2 Flutes - 923



ROUGHING	K		P		M		S			
Working Material	Grey Cast Iron		Carbon Steel		Alloy steel		Stainless steel		Titanium	
Properties	-		-		520 < Rm < 1200		High Machinability		-	
Cutting depth, ap	0.110xD		0.120xD		0.100xD		0.110xD		0.110xD	
Cutting Width, ae	0.110xD		0.120xD		35 ≤ HRC < 45		0.110xD		0.110xD	
D	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
3	170	0.060	220	0.075	220	0.075	90	0.060	60	0.050
4		0.070		0.090		0.090		0.070		0.060
5		0.080		0.100		0.100		0.080		0.070
6		0.090		0.105		0.110		0.085		0.070
8		0.100		0.125		0.125		0.100		0.085
10		0.115		0.145		0.145		0.115		0.100
12		0.120		0.150		0.150		0.120		0.100
14		0.130		0.165		0.165		0.130		0.105
16		0.145		0.175		0.180		0.140		0.105
18		0.150		0.190		0.190		0.150		0.110
20	0.160	0.200	0.200	0.160	0.110					

## BN 30 Ballnose Cutters, 2 Flutes - 923



FINISHING	K		P		M		S			
Working Material	Grey Cast Iron		Carbon Steel		Alloy steel		Stainless steel		Titanium	
Properties	-		-		520 < Rm < 1200		High Machinability		-	
Cutting depth, ap	0.022xD		0.025xD		0.020xD		0.025xD		0.025xD	
Cutting Width, ae	0.022xD		0.025xD		0.020xD		0.025xD		0.025xD	
D	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
3	250	0.025	320	0.040	320	0.035	125	0.035	70	0.030
4		0.045		0.065		0.055		0.055		0.050
5		0.050		0.070		0.060		0.060		0.055
6		0.050		0.080		0.065		0.065		0.060
8		0.060		0.090		0.075		0.075		0.070
10		0.065		0.095		0.080		0.080		0.070
12		0.070		0.100		0.085		0.085		0.075
14		0.075		0.115		0.090		0.090		0.075
16		0.080		0.125		0.100		0.100		0.080
18		0.090		0.135		0.110		0.110		0.080
20	0.100	0.140	0.120	0.120	0.090					



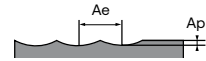
# Recommended Cutting Data



Note: These recommended cutting data indicators are just for reference. They should be adjusted according to the different cutting condition



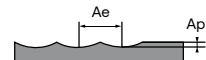
## BN 30 Long Ballnose Cutters, 2 Flutes - 925



Roughing	K		P		M		S			
Working Material	Grey Cast Iron		Carbon Steel		Alloy steel		Stainless steel		Titanium	
Properties	-		-		520 < Rm < 1200		High Machinability		-	
Cutting depth, ap	0.080xD		0.080xD		0.080xD		0.080xD		0.080xD	
Cutting Width, ae	0.080xD		0.080xD		0.080xD		0.080xD		0.080xD	
D	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
3	170	0.060	220	0.070	220	0.075	90	0.055	60	0.045
4		0.065		0.075		0.080		0.060		0.050
5		0.070		0.090		0.090		0.070		0.060
6		0.080		0.095		0.100		0.075		0.065
8		0.090		0.105		0.110		0.085		0.070
10		0.105		0.125		0.130		0.100		0.085
12		0.110		0.130		0.135		0.105		0.090
14		0.115		0.140		0.145		0.115		0.100
16		0.125		0.150		0.155		0.120		0.105
18		0.130		0.160		0.165		0.130		0.115
20	0.145	0.170	0.180	0.140	0.120					

BN 30  
BN 45  
BN 60  
BN 60X  
DM70 -  
BN 70  
BN GR

## BN 30 Long Ballnose Cutters, 2 Flutes - 925



Finishing	K		P		M		S			
Working Material	Grey Cast Iron		Carbon Steel		Alloy steel		Stainless steel		Titanium	
Properties	-		-		520 < Rm < 1200		High Machinability		-	
Cutting depth, ap	0.020xD		0.020xD		0.020xD		0.020xD		0.020xD	
Cutting Width, ae	0.020xD		0.020xD		0.020xD		0.020xD		0.020xD	
D	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
3	250	0.025	320	0.035	320	0.030	125	0.030	70	0.025
4		0.040		0.060		0.050		0.050		0.045
5		0.045		0.065		0.055		0.055		0.050
6		0.050		0.070		0.060		0.060		0.055
8		0.050		0.080		0.065		0.065		0.060
10		0.055		0.085		0.070		0.070		0.065
12		0.060		0.090		0.075		0.075		0.070
14		0.070		0.100		0.085		0.085		0.080
16		0.070		0.110		0.090		0.090		0.085
18		0.080		0.120		0.100		0.100		0.095
20	0.085	0.130	0.105	0.105	0.100					

# Recommended Cutting Data

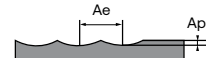


Note: These recommended cutting data indicators are just for reference. They should be adjusted according to the different cutting condition



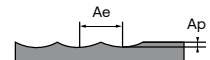
BN 30  
BN 45  
BN 60  
BN 60X  
DM70 - BN 70  
BN GR

## BN 30 Extra-Long Ballnose Cutters, 2 Flutes - 927



ROUGHING	K		P		M		S			
Working Material	Grey Cast Iron		Carbon Steel		Alloy steel		Stainless steel		Titanium	
Properties	-		-		520 < Rm < 1200		High Machinability		-	
Cutting depth, ap	0.020xD		0.020xD		0.020xD		0.020xD		0.020xD	
Cutting Width, ae	0.020xD		0.020xD		0.020xD		0.020xD		0.020xD	
D	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
3	145	0.036	190	0.042	190	0.045	75	0.033	50	0.027
4		0.039		0.045		0.048		0.036		0.030
5		0.042		0.054		0.054		0.042		0.036
6		0.048		0.057		0.060		0.045		0.039
8		0.054		0.063		0.066		0.051		0.042
10		0.063		0.075		0.078		0.060		0.051
12		0.066		0.078		0.081		0.063		0.054
14		0.069		0.084		0.087		0.069		0.060
16		0.075		0.090		0.093		0.072		0.063
18		0.078		0.096		0.099		0.078		0.069
20	0.087	0.102	0.108	0.084	0.072					

## BN 30 Extra-Long Ballnose Cutters, 2 Flutes - 927



FINISHING	K		P		M		S			
Working Material	Grey Cast Iron		Carbon Steel		Alloy steel		Stainless steel		Titanium	
Properties	-		-		520 < Rm < 1200		High Machinability		-	
Cutting depth, ap	0.005xD		0.005xD		0.005xD		0.005xD		0.005xD	
Cutting Width, ae	0.005xD		0.005xD		0.005xD		0.005xD		0.005xD	
D	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
3	210	0.015	270	0.021	270	0.018	110	0.018	60	0.015
4		0.024		0.036		0.030		0.030		0.027
5		0.027		0.039		0.033		0.033		0.030
6		0.030		0.042		0.036		0.036		0.033
8		0.030		0.048		0.039		0.039		0.036
10		0.033		0.051		0.042		0.042		0.039
12		0.036		0.054		0.045		0.045		0.042
14		0.042		0.060		0.051		0.051		0.048
16		0.042		0.066		0.054		0.054		0.051
18		0.048		0.072		0.060		0.060		0.057
20	0.051	0.078	0.063	0.063	0.060					