

LITTLE BROTHER



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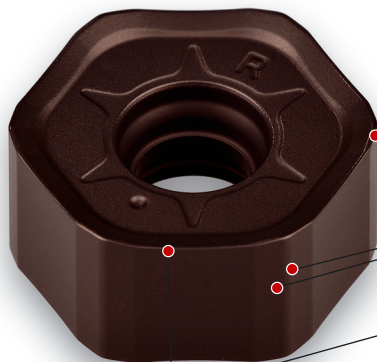
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NEW FACE MILLING CUTTERS WITH INSERTS HNGX 06 / XNGX 06
AVAILABLE ALSO IN NEW GRADES WITH MT-CVD COATING

HNGX 06
HNGX 09

 **PRAMET**

NEW TOOLS FOR MILLING WITH INSERTS **HNGX 06** and **XNGX 06**



PRAMET
AGE Mill

- + 12 cutting edges**
 - economical solutions of insert
- + Neutral design**
 - for left and right rotation
- + Unique geometry**
 - general geometry F, M, R for particular operation
 - for finishing to roughing
 - high quality of machined surface
 - smooth insert for increase surface quality

HNGX 06 /XNGX 06 and HNGX 09 /XNGX 09 geometry overview



HNGX 0604ANSN-F



HNGX 0604ANSN-M



HNGX 0604ANSN-R



XNGX 0604ANSN



HNGX 0904ANSN-F



HNGX 0904ANSN-M

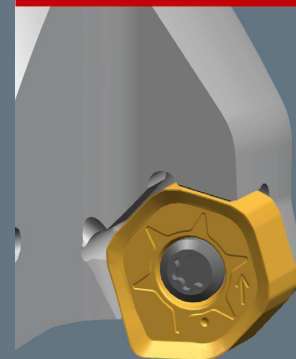


HNGX 0904ANSN-R



XNGX 0904ANSN

CORRECT CLAMPING OF SMOOTH INSERT



Particular example of XNGX smoothing insert clamping in right-hand cutter. Insert face is marked by point and arrow indicator aim to the top.

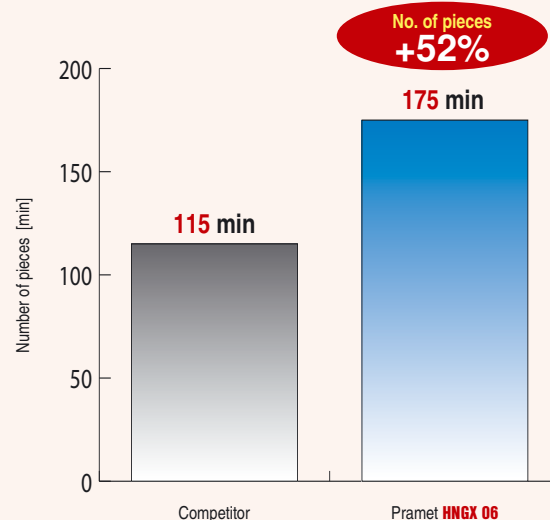
Practical example of milling with HNGX 06 inserts

EXAMPLE

MACHINING WITH INSERT **HNGX 06**:

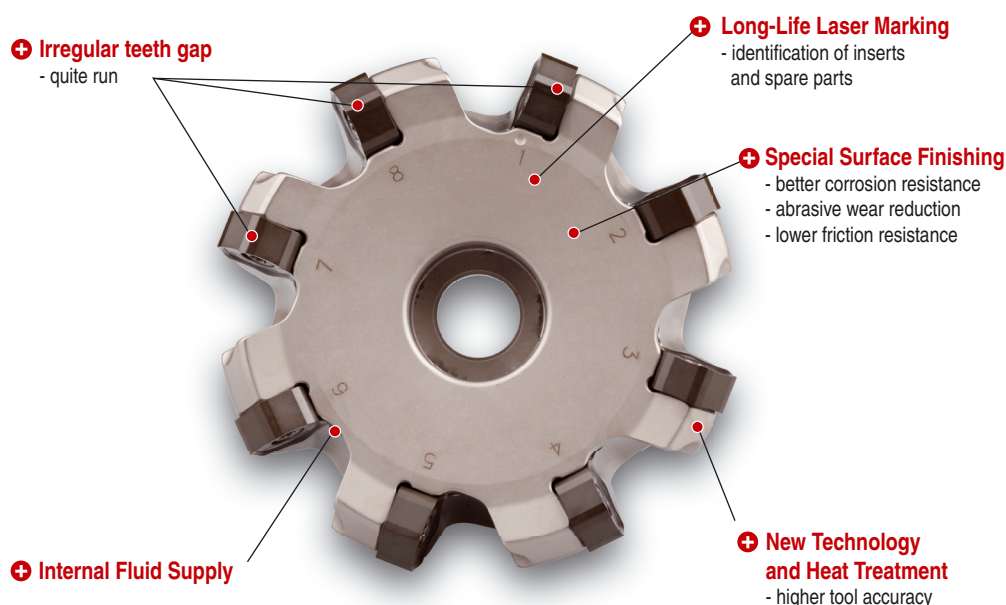
Operation: face milling
Tools: 63A08R-S45HN06C-C
Grades: GGG40
Inserts: ONMU 050505 TN 5100 - competitor
HNGX 0604ANSN-M; Pramet (K10-K30)
Cooling: no

Cutting conditions		Competitor	Pramet	
Cutting speed	v_c	690	690	m.min ⁻¹
Feed	f_z	0,2	0,2	mm
Axial depth of cut	a_p	3,0	3,0	mm
Number of pieces	T	115	175	min

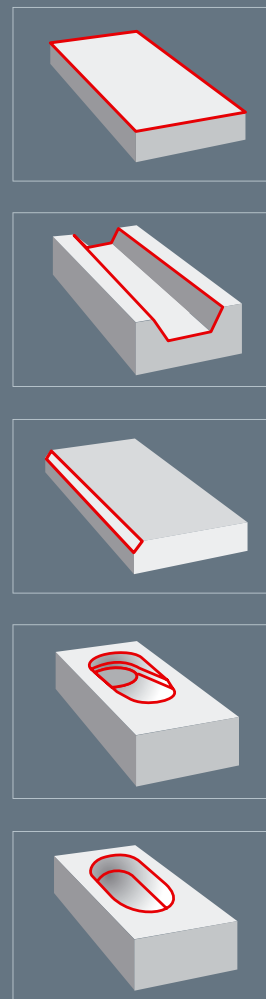




New milling tools with inserts HNGX 06 / XNGX 06

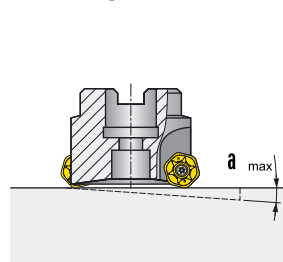


MACHINING POSSIBILITY



Application area for new milling cutters with inserts HNGX 06

RAMPING



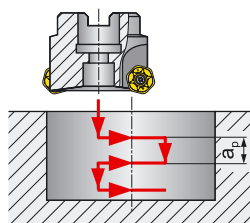
For HNGX 06	
cutter	$\alpha_{\max}$
ø 25	2,69
ø 32	1,96
ø 40	1,50°
ø 50	1,15°
ø 63	0,89°
ø 80	0,68°
ø 100	0,54°
ø 125	0,42°

For HNGX 09	
cutter	$\alpha_{\max}$
ø 50	2,1°
ø 63	1,5°
ø 80	1,1°
ø 100	0,9°
ø 125	0,7°
ø 160	0,5°

PROGRESSIVE PLUNGING

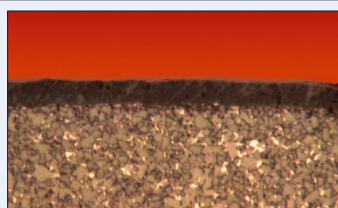
for HNGX 06
 $a_{p \max} = 0,9 \text{ mm}$

for HNGX 09
 $a_{p \max} = 1,9 \text{ mm}$



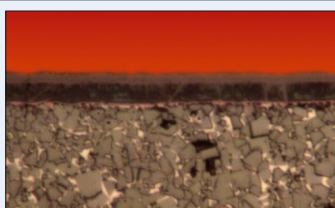
New cutting grades with MT-CVD coating

M5315

[illegible]

- Substrate type H with low cobalt content
- Thin MT-CVD coating with a unique Al_2O_3 layer
- First choice for milling of gray and nodular cast irons
- Medium to high cutting speeds
- Excellent wear resistance
- Ability to work with and without coolant

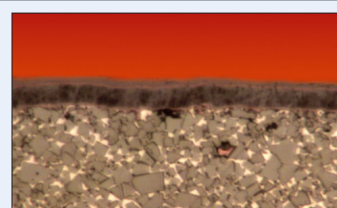
M9315



10	20	30	40	P	M	K	N	S	I
■				■					
	■					□			
	■								

- Fine grained substrate with relatively low content of cobalt binder phase
- Thin MT-CVD coating with unique Al_2O_3 layer
- Machining of materials of group P, conditionally K and H
- Medium to high cutting speeds
- Ability to work with and without coolant
- Excellent wear resistance with reasonable toughness

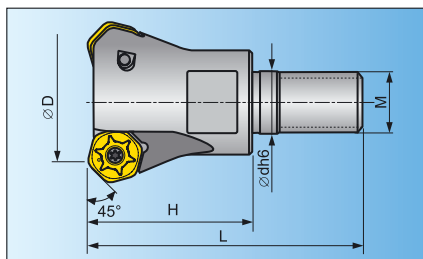
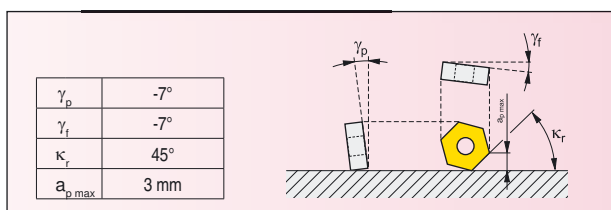
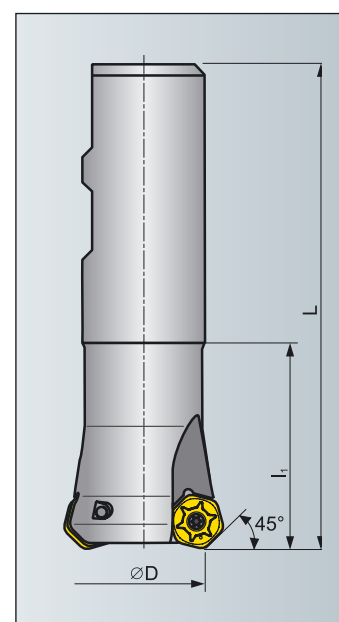
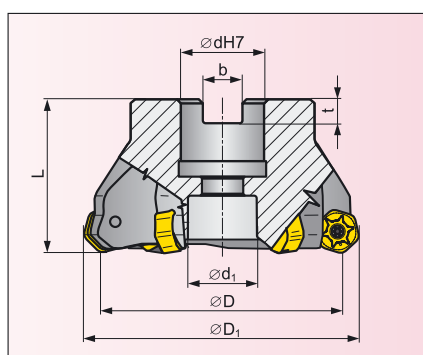
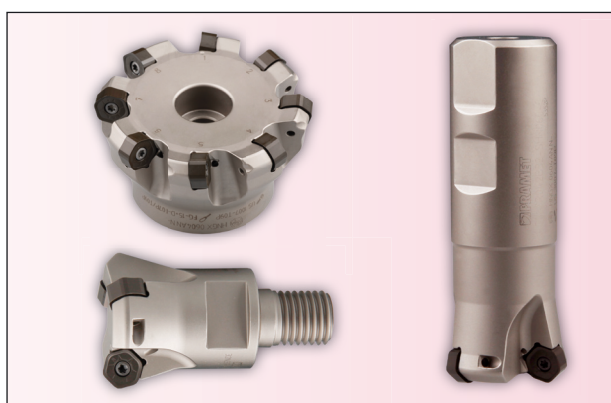
M9325

[illegible]

- Fine-grained substrate with higher content of cobalt binder phase
- Thin coating applied by MT-CVD method with unique Al_2O_3 layer
- Machining of materials P and conditionally for groups M and S
- Medium to high cutting speeds
- With and without cooling
- High toughness and reliability
- Good wear resistance

■ Main application ■ Other applications □ Conditional applications

Milling cutters for inserts HNGX 06 a XNGX 06



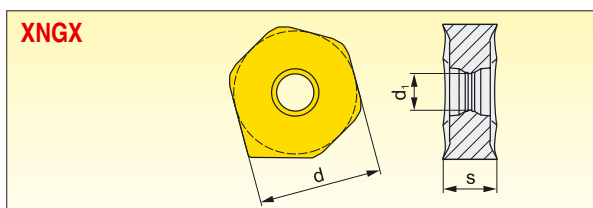
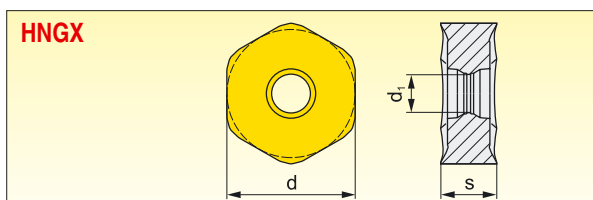
ISO	Assortment	Dimensions [mm]														Spare parts				Inserts	
		D	dH6	dH7	d ₁	M	L	D ₁	H	I	b	t	Z*	Cooling	[kg]						
Face milling cutters S45HN06																	D-T07P/T09P	FG-15	-	US3007-T09P	HNGX 0604ANSN- XNGX 0604ANSN
40A05R-S45HN06C-C	●	40		16	14		40	47,3			8,4	5,6	5	+	0,25						
50A04R-S45HN06C-C	●	50		22	18		40	57,3			10,4	6,3	4	+	0,42						
50A06R-S45HN06C-C	●	50		22	18		40	57,3			10,4	6,3	6	+	0,40						
63A06R-S45HN06C-C	●	63		22	18		40	70,3			10,4	6,3	6	+	0,55						
63A08R-S45HN06C-C	●	63		22	18		40	70,3			10,4	6,3	8	+	0,55						
80A07R-S45HN06C-C	●	80		27	38,0		50	86,8			12,4	7,0	7	+	1,09						
80A10R-S45HN06C-C	●	80		27	38,0		50	86,8			12,4	7,0	10	+	1,08						
100A08R-S45HN06C-C	●	100		32	45,0		50	107,1			14,4	8,0	8	+	1,81						
100A12R-S45HN06C-C	●	100		32	45,0		50	107,1			14,4	8,0	12	+	1,78						
125A10R-S45HN06C-C	●	125		40	56,0		63	132,2			16,4	9,0	10	+	3,35						
125A16R-S45HN06C-C	●	125		40	56,0		63	132,2			16,4	9,0	16	+	3,31						
End milling cutters SHN06																	-	-	Flag T09P		
25N2R042B25-SHN06C-C	●	25	25				99	32,2		42			2	+	0,32						
32N3R042B32-SHN06C-C	●	32	32				103	39,3		42			3	+	0,56						
Exchangeable heads for modular system SHN06																					
25N2R033M12-SHN06C-C	●	25	12,5			M12	56		33,0				2	+	0,10						
32N3R043M16-SHN06C-C	●	32	17			M16	66		43,0				3	+	0,22						
40N4R043M16-SHN06C-C	●	40	17			M16	66		43,0				4	+	0,27						

● Stock Assortment

○ Non-stock Assortment

All dimensions in [mm]

Indexable cutting inserts HNGX 06 / XNGX 06



Size	d	s	d1
0604	10,50	5,26	3,70

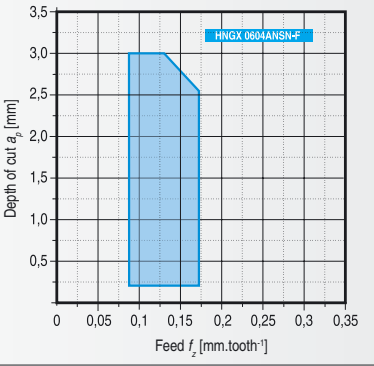
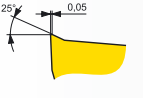
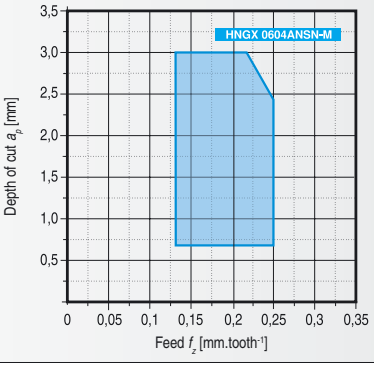
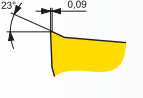
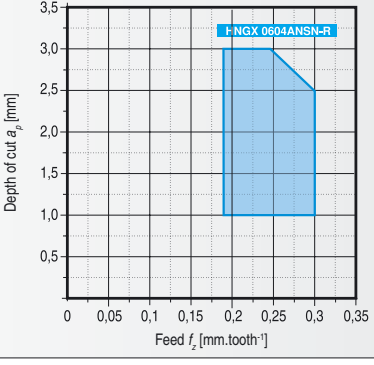
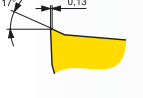
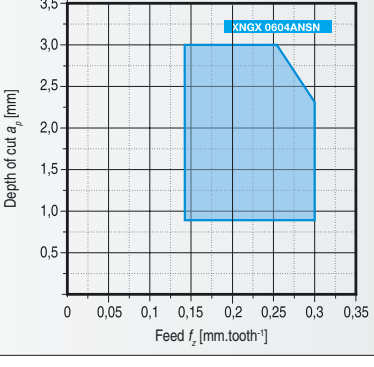
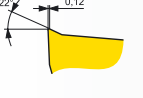
● Stock Assortment

○ Non-stock Assortment

Geometry	ISO	ANSI	Grades					
			M5315	M9315	M9325	8215	8230	8240
	HNGX 0604ANSN-F	HNGX -54ANSN-F				●	●	●
	HNGX 0604ANSN-M	HNGX -54ANSN-M	●	●	●	●	●	●
	HNGX 0604ANSN-R	HNGX -54ANSN-R	●	●	●	●	●	●
	XNGX 0604ANSN	XNGX -54ANSN				●		

All dimensions in [mm]

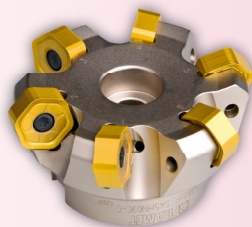
Overview of inserts geometry HNGX 06 / XNGX 06

Geometry	Photo	Workpiece material group						Diagram of application	Description	Applied to inserts: HNGX 0604ANSN-F
		Milling	P	M	K	N	S			
HNGX 06-F		Finishing	☒	☒	☒	☒	☒		- high positive geometry with narrow T-land - suitable for machining of material groups P and K conditionally for groups K, M, N and S - especially suitable for light machining	Range of cutting conditions: f_z 0,08 ÷ 0,17 [mm.tooth ⁻¹] a_p 0,3 ÷ 3,0 [mm]
	Profile of cutting edge	Medium	☒	☒	☒	☒	☒			
		Roughing	☐	☐	☐	☐	☐			
HNGX 06-M		Finishing	☒	☒	☒	☒	☒		- high positive geometry with medium T-land - suitable for machining of material groups P and K conditionally for groups M, N and S - especially suitable for medium machining	Range of cutting conditions: f_z 0,13 ÷ 0,25 [mm.tooth ⁻¹] a_p 0,7 ÷ 3,0 [mm]
	Profile of cutting edge	Medium	☒	☒	☒	☒	☒			
		Roughing	☐	☐	☐	☐	☐			
HNGX 06-R		Finishing	☒	☒	☒	☒	☒		- high positive geometry with medium T-land - suitable for machining of material groups P and K conditionally for groups M, S and H - especially suitable for medium to heavy machining	Range of cutting conditions: f_z 0,18 ÷ 0,3 [mm.tooth ⁻¹] a_p 1,0 ÷ 3,0 [mm]
	Profile of cutting edge	Medium	☒	☒	☒	☒	☒			
		Roughing	☐	☐	☐	☐	☐			
XNGX 06		Finishing	☒	☒	☒	☒	☒		- smooth geometry - suitable for machining of material groups P and K - especially suitable for finishing to medium machining	Range of cutting conditions: f_z 0,13 ÷ 0,3 [mm.tooth ⁻¹] a_p 0,7 ÷ 3,0 [mm]
	Profile of cutting edge	Medium	☒	☒	☒	☒	☒			
		Roughing	☐	☐	☐	☐	☐			

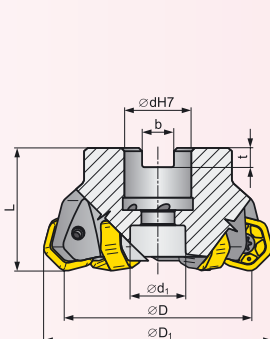
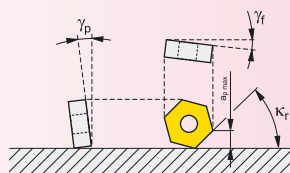
☒ Main application
 ☐ Other applications
 ☐ Conditional applications

S45HN09C

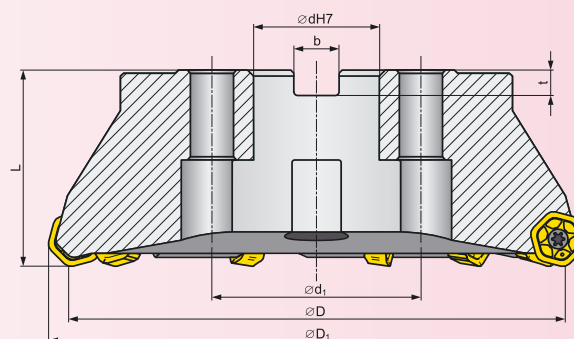
Face milling cutters



γ_p	-7°	κ_r	45°
γ_f	-7°	$a_{p \max}$	5 mm



$\varnothing 50 \div 125 \text{ mm}$



$\varnothing 160 \text{ mm}$

Z* - Number of teeth

ISO	Assortment	Dimensions [mm]										Spare parts			Inserts
		D	dH7	d ₁	L	D ₁	b	t	Z*	Cooling	[kg]	Screw	Shank	Handle	
50A04R-S45HN09C-C	●	50	22	18,0	40	61,7	10,4	6,3	4	+	0,35	US3512Z-T15P	D-T8P/T15P	FG-15	HNGX 0906ANSN- XNGX 0906ANSN
63A06R-S45HN09C-C	●	63	22	18,0	40	74,7	10,4	6,3	6	+	0,49				
80A06R-S45HN09C-C	●	80	27	38,0	50	91,7	12,4	7,0	6	+	1,06				
80A08R-S45HN09C-C	●	80	27	38,0	50	91,7	12,4	7,0	8	+	1,06				
100A06R-S45HN09C-C	●	100	32	45,0	50	111,7	14,4	8,0	6	+	1,74				
100A08R-S45HN09C-C	●	100	32	45,0	50	111,7	14,4	8,0	8	+	1,74				
100A10R-S45HN09C-C	●	100	32	45,0	50	111,7	14,4	8,0	10	+	1,74				
125A06R-S45HN09C-C	●	125	40	56,0	63	136,7	16,4	9,0	6	+	3,24				
125A10R-S45HN09C-C	●	125	40	56,0	63	136,7	16,4	9,0	10	+	3,24				
125A12R-S45HN09C-C	●	125	40	56,0	63	136,7	16,4	9,0	12	+	3,24				
160C08R-S45HN09C	●	160	40	66,7	63	171,7	16,4	9,0	8		5,70				
160C12R-S45HN09C	●	160	40	66,7	63	171,7	16,4	9,0	12		5,70				
160C14R-S45HN09C	●	160	40	66,7	63	171,7	16,4	9,0	14		5,70				
200C10R-S45HN09C	●	200	60	101,6	63	211,7	25,7	14,0	10		9,00				
250C14R-S45HN09C	●	250	60	101,6	63	261,7	25,7	14,0	14		12,8				
315C16R-S45HN09C	○	315	60	101,6	80	326,7	25,7	14,0	16		32,20				

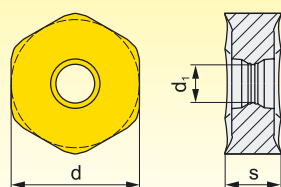
● Stock Assortment

○ Non-stock Assortment

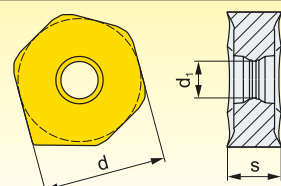
All dimensions in [mm]

Indexable cutting inserts HNGX 09 / XNGX 09

HNGX



XNGX



Size	d	s	d ₁
0906	16,50	6,35	4,90

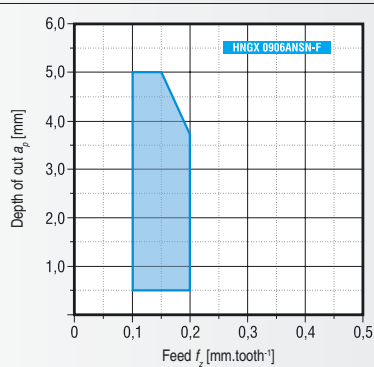
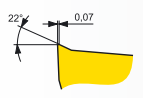
● Stock Assortment

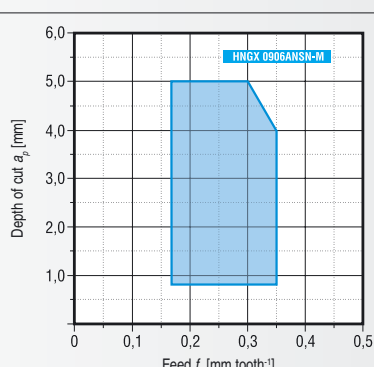
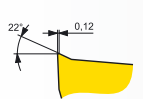
○ Non-stock Assortment

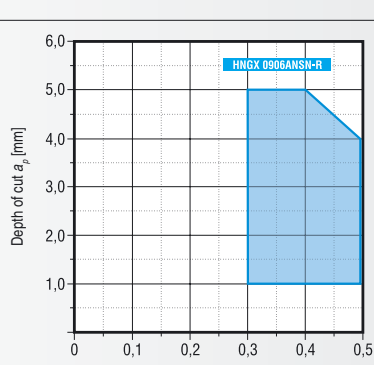
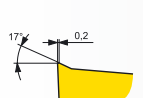
All dimensions in [mm]

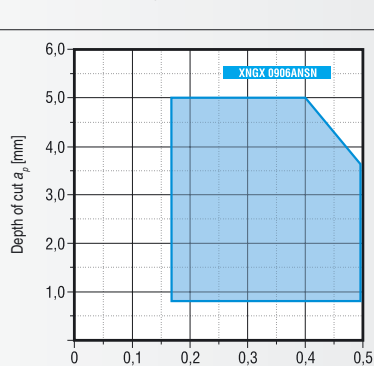
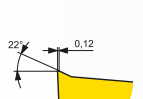
Geometry	ISO	ANSI	Grades							
			M5315	M9315	M9325	2215	2230	8215	8230	8240
	HNGX 0906ANSN-F	HNGX -54ANSN-F						●	●	●
	HNGX 0906ANSN-M	HNGX -54ANSN-M	●	●	●	●	●	●	●	●
	HNGX 0906ANSN-R	HNGX -54ANSN-R	●	●	●	●	●	●	●	●
	XNGX 0906ANSN	XNGX -54ANSN						●		

Overview of inserts geometry HNGX 09 / XNGX 09

Geometry	Photo	Workpiece material group						Diagram of application	Description	Applied to inserts: HNGX 0906ANSN-F
		Milling	P	M	K	N	S			
HNGX 09-F		Finishing	☒	☒	☒	☒	☒	☒		- high positive geometry with narrow T-land - suitable for machining of material groups P conditionally for groups K, M, N and S - especially suitable for light and medium machining
	Medium		☒	☒	☒	☒	☒	☒		
	Roughing		☐	☐	☐	☐	☐	☐		
	Profile of cutting edge									
										
Range of cutting conditions:										
						f_z	0,1 ÷ 0,2 [mm.tooth ⁻¹]			
						a_p	0,5 ÷ 5,0 [mm]			

Geometry	Photo	Workpiece material group						Diagram of application	Description	Applied to inserts: HNGX 0906ANSN-M
		Milling	P	M	K	N	S			
HNGX 09-M		Finishing	☒	☒	☒	☒	☒	☒		- high positive geometry with medium T-land - suitable for machining of material groups P and K conditionally for groups N, M and S - especially suitable for medium machining
	Medium		☒	☒	☒	☒	☒	☒		
	Roughing		☐	☐	☐	☐	☐	☐		
	Profile of cutting edge									
										
Range of cutting conditions:										
						f_z	0,17 ÷ 0,35 [mm.tooth ⁻¹]			
						a_p	0,8 ÷ 5,0 [mm]			

Geometry	Photo	Workpiece material group						Diagram of application	Description	Applied to inserts: HNGX 0906ANSN-R
		Milling	P	M	K	N	S			
HNGX 09-R		Finishing	☒	☒	☒	☒	☒	☒		- positive geometry with medium T-land - suitable for machining of material groups P, K and for groups M, S and H - especially suitable for medium to heavy machining
	Medium		☒	☒	☒	☒	☒	☒		
	Roughing		☐	☐	☐	☐	☐	☐		
	Profile of cutting edge									
										
Range of cutting conditions:										
						f_z	0,3 ÷ 0,5 [mm.tooth ⁻¹]			
						a_p	1,0 ÷ 5,0 [mm]			

Geometry	Photo	Workpiece material group						Diagram of application	Description	Applied to inserts: XNGX 0906ANSN
		Milling	P	M	K	N	S			
XNGX 09		Finishing	☒	☒	☒	☒	☒	☒		- smooth geometry - suitable for machining of material groups P and K - especially suitable for light and medium machining conditions
	Medium		☒	☒	☒	☒	☒	☒		
	Roughing		☐	☐	☐	☐	☐	☐		
	Profile of cutting edge									
										
Range of cutting conditions:										
						f_z	0,17 ÷ 0,5 [mm.tooth ⁻¹]			
						a_p	0,8 ÷ 5,0 [mm]			

☒ Main application
 ☐ Other applications
 ☐ Conditional applications



Basic shape of insert		Cutting condition		Initial cutting conditions					
				P	M	K	N	S	H
	HNGX 0604ANSN-F 8215	feed	[mm.tooth ⁻¹]	0,08 - 0,17	0,08 - 0,13	0,08 - 0,17	0,08 - 0,17	0,08 - 0,10	–
		depth of cut	[mm]	0,3 - 3	0,3 - 2,25	0,3 - 3	0,3 - 3	0,3 - 1,8	–
		cutting speed	[m.min ⁻¹]	250 - 365	150 - 215	235 - 345	375 - 1275	50 - 105	–
	HNGX 0604ANSN-F 8230	feed	[mm.tooth ⁻¹]	0,08 - 0,17	0,08 - 0,13	0,08 - 0,17	0,08 - 0,17	0,08 - 0,10	–
		depth of cut	[mm]	0,3 - 3	0,3 - 2,25	0,3 - 3	0,3 - 3	0,3 - 1,8	–
		cutting speed	[m.min ⁻¹]	230 - 365	135 - 215	215 - 345	345 - 1275	45 - 105	–
	HNGX 0604ANSN-F 8240	feed	[mm.tooth ⁻¹]	0,08 - 0,17	0,08 - 0,13	0,08 - 0,17	–	0,08 - 0,10	–
		depth of cut	[mm]	0,3 - 3	0,3 - 2,25	0,3 - 3	–	0,3 - 1,8	–
		cutting speed	[m.min ⁻¹]	200 - 290	120 - 170	190 - 275	–	40 - 85	–
	HNGX 0604ANSN-M 5315	feed	[mm.tooth ⁻¹]	–	–	0,13 - 0,25	–	–	–
		depth of cut	[mm]	–	–	0,7 - 3	–	–	–
		cutting speed	[m.min ⁻¹]	–	–	255 - 435	–	–	–
	HNGX 0604ANSN-M 9315	feed	[mm.tooth ⁻¹]	0,13 - 0,25	–	0,13 - 0,25	–	–	–
		depth of cut	[mm]	0,7 - 3	–	0,7 - 3	–	–	–
		cutting speed	[m.min ⁻¹]	285 - 455	–	270 - 430	–	–	–
	HNGX 0604ANSN-M 9325	feed	[mm.tooth ⁻¹]	0,13 - 0,25	0,13 - 0,19	–	–	0,13 - 0,15	–
		depth of cut	[mm]	0,7 - 3	0,7 - 2,25	–	–	0,7 - 1,8	–
		cutting speed	[m.min ⁻¹]	300 - 445	180 - 265	–	–	60 - 130	–
	HNGX 0604ANSN-M 8215	feed	[mm.tooth ⁻¹]	0,13 - 0,25	0,13 - 0,19	0,13 - 0,25	0,13 - 0,25	0,13 - 0,15	–
		depth of cut	[mm]	0,7 - 3	0,7 - 2,25	0,7 - 3	0,7 - 3	0,7 - 1,8	–
		cutting speed	[m.min ⁻¹]	245 - 320	145 - 190	230 - 300	365 - 1120	45 - 95	–
	HNGX 0604ANSN-M 8230	feed	[mm.tooth ⁻¹]	0,13 - 0,25	0,13 - 0,19	0,13 - 0,25	0,13 - 0,25	0,13 - 0,15	–
		depth of cut	[mm]	0,6 - 3	0,6 - 2,3	0,6 - 3	0,6 - 3	0,6 - 1,8	–
		cutting speed	[m.min ⁻¹]	215 - 310	125 - 185	200 - 290	320 - 1085	40 - 90	–
	HNGX 0604ANSN-M 8240	feed	[mm.tooth ⁻¹]	0,13 - 0,25	0,13 - 0,19	0,13 - 0,25	–	0,13 - 0,15	–
		depth of cut	[mm]	0,7 - 3	0,7 - 2,25	0,7 - 3	–	0,7 - 1,8	–
		cutting speed	[m.min ⁻¹]	195 - 260	115 - 155	185 - 245	–	35 - 75	–
	HNGX 0604ANSN-R 5315	feed	[mm.tooth ⁻¹]	–	–	0,18 - 0,3	–	–	–
		depth of cut	[mm]	–	–	1 - 3	–	–	–
		cutting speed	[m.min ⁻¹]	–	–	230 - 355	–	–	–
	HNGX 0604ANSN-R 9315	feed	[mm.tooth ⁻¹]	0,18 - 0,3	–	0,18 - 0,3	–	–	0,1 - 0,2
		depth of cut	[mm]	1 - 3	–	1 - 3	–	–	0,3 - 1,5
		cutting speed	[m.min ⁻¹]	270 - 390	–	255 - 370	–	–	50 - 75
	HNGX 0604ANSN-R 9325	feed	[mm.tooth ⁻¹]	0,18 - 0,3	0,18 - 0,23	–	–	0,18 - 0,23	–
		depth of cut	[mm]	1 - 3	1 - 2,25	–	–	1 - 1,8	–
		cutting speed	[m.min ⁻¹]	285 - 390	170 - 230	–	–	55 - 115	–
	HNGX 0604ANSN-R 8215	feed	[mm.tooth ⁻¹]	0,18 - 0,3	0,18 - 0,23	0,18 - 0,3	–	0,18 - 0,23	0,1 - 0,2
		depth of cut	[mm]	1 - 3	1 - 2,25	1 - 3	–	1 - 1,8	0,3 - 1,5
		cutting speed	[m.min ⁻¹]	240 - 300	140 - 180	225 - 285	–	45 - 90	45 - 60
HNGX 0604ANSN-R 8230	feed	[mm.tooth ⁻¹]	0,18 - 0,3	0,18 - 0,23	0,18 - 0,3	–	0,18 - 0,23	0,1 - 0,2	
	depth of cut	[mm]	1 - 3	1 - 2,25	1 - 3	–	1 - 1,8	0,3 - 1,5	
	cutting speed	[m.min ⁻¹]	210 - 275	125 - 165	195 - 260	–	40 - 80	40 - 55	
HNGX 0604ANSN-R 8240	feed	[mm.tooth ⁻¹]	0,18 - 0,3	0,18 - 0,23	0,18 - 0,3	–	0,18 - 0,23	–	
	depth of cut	[mm]	1 - 3	1 - 2,25	1 - 3	–	1 - 1,8	–	
	cutting speed	[m.min ⁻¹]	195 - 245	115 - 145	185 - 230	–	35 - 70	–	
	XNGX 0604ANSN 8215	feed	[mm.tooth ⁻¹]	0,13 - 0,25	0,13 - 0,19	0,13 - 0,25	0,13 - 0,25	0,13 - 0,15	–
		depth of cut	[mm]	–	0,7 - 2,25	0,7 - 3	0,7 - 3	0,7 - 1,8	–
		cutting speed	[m.min ⁻¹]	–	125 - 165	200 - 265	320 - 980	40 - 80	–
	HNGX 0906ANSN-M 5315	feed	[mm.tooth ⁻¹]	–	–	0,17 - 0,35	–	–	–
depth of cut		[mm]	–	–	0,8 - 5	–	–	–	
cutting speed		[m.min ⁻¹]	–	–	200 - 375	–	–	–	
	HNGX 0906ANSN-R 5315	feed	[mm.tooth ⁻¹]	–	–	0,3 - 0,5	–	–	–
depth of cut		[mm]	–	–	1 - 5	–	–	–	
cutting speed		[m.min ⁻¹]	–	–	175 - 280	–	–	–	
	HNGX 0906ANSN-M 9315	feed	[mm.tooth ⁻¹]	0,17 - 0,35	–	0,17 - 0,35	–	–	–
depth of cut		[mm]	0,8 - 5	–	0,8 - 5	–	–	–	
cutting speed		[m.min ⁻¹]	240 - 405	–	225 - 380	–	–	–	
	HNGX 0906ANSN-R 9315	feed	[mm.tooth ⁻¹]	0,3 - 0,5	–	0,3 - 0,5	–	–	0,1 - 0,2
depth of cut		[mm]	1 - 5	–	1 - 5	–	–	0,3 - 1,5	
cutting speed		[m.min ⁻¹]	215 - 325	–	200 - 305	–	–	40 - 65	
	HNGX 0906ANSN-M 9325	feed	[mm.tooth ⁻¹]	0,17 - 0,35	0,17 - 0,26	–	–	0,17 - 0,21	–
depth of cut		[mm]	0,8 - 5	0,8 - 3,75	–	–	0,8 - 3	–	
cutting speed		[m.min ⁻¹]	260 - 405	155 - 240	–	–	50 - 120	–	
	HNGX 0906ANSN-R 9325	feed	[mm.tooth ⁻¹]	0,3 - 0,5	0,3 - 0,38	–	–	0,3 - 0,38	–
depth of cut		[mm]	1 - 5	1 - 3,75	–	–	1 - 3	–	
cutting speed		[m.min ⁻¹]	235 - 350	140 - 210	–	–	45 - 105	–	
	HNGX 0906ANSN-F 8215	feed	[mm.tooth ⁻¹]	0,1 ÷ 0,2	0,1 ÷ 0,15	0,1 ÷ 0,2	0,1 ÷ 0,2	–	–
		depth of cut	[mm]	0,5 ÷ 5	0,5 ÷ 3,75	0,5 ÷ 5	0,5 ÷ 5	–	–
		cutting speed	[m.min ⁻¹]	290 ÷ 390	170 ÷ 230	275 ÷ 370	435 ÷ 1365	–	–
	HNGX 0906ANSN-F 8230	feed	[mm.tooth ⁻¹]	0,1 - 0,2	0,1 - 0,15	0,1 - 0,2	0,1 - 0,2	0,1 - 0,12	–
		depth of cut	[mm]	0,5 - 5,0	0,5 - 3,8	0,5 - 5,0	0,5 - 5,0	0,5 - 3,0	–
		cutting speed	[m.min ⁻¹]	300 - 440	180 - 260	285 - 415	450 - 1540	60 - 130	–
	HNGX 0906ANSN-F 8240	feed	[mm.tooth ⁻¹]	0,1 - 0,2	0,1 - 0,15	0,1 - 0,2	–	0,1 - 0,12	–
		depth of cut	[mm]	0,5 - 5,0	0,5 - 3,8	0,5 - 5,0	–	0,5 - 3,0	–
		cutting speed	[m.min ⁻¹]	270 - 365	160 - 215	255 - 345	–	50 - 105	–
	HNGX 0906ANSN-M 8215	feed	[mm.tooth ⁻¹]	0,17 ÷ 0,35	0,17 ÷ 0,26	0,17 ÷ 0,35	0,17 ÷ 0,35	–	–
		depth of cut	[mm]	0,8 ÷ 5	0,8 ÷ 3,75	0,8 ÷ 5	0,8 ÷ 5	–	–
		cutting speed	[m.min ⁻¹]	295 ÷ 375	175 ÷ 225	280 ÷ 355	440 ÷ 1310	–	–
	HNGX 0906ANSN-M 8230	feed	[mm.tooth ⁻¹]	0,17 - 0,35	0,17 - 0,26	0,17 - 0,35	0,17 - 0,35	0,17 - 0,21	–
		depth of cut	[mm]	0,8 - 5,0	0,8 - 3,8	0,8 - 5,0	0,8 - 5,0	0,8 - 3,0	–
		cutting speed	[m.min ⁻¹]	275 - 385	165 - 230	260 - 365	410 - 1345	55 - 115	–
	HNGX 0906ANSN-M 8240	feed	[mm.tooth ⁻¹]	0,17 - 0,35	0,17 - 0,26	0,17 - 0,35	–	0,17 - 0,21	–
		depth of cut	[mm]	0,8 - 5,0	0,8 - 3,8	0,8 - 5,0	–	0,8 - 3,0	–
		cutting speed	[m.min ⁻¹]	265 - 335	155 - 200	250 - 315	–	50 - 100	–
	HNGX 0906ANSN-R 8215	feed	[mm.tooth ⁻¹]	0,3 ÷ 0,5	0,3 ÷ 0,38	0,3 ÷ 0,5	–	–	0,1 ÷ 0,2
		depth of cut	[mm]	1 ÷ 5	1 ÷ 3,75	1 ÷ 5	–	–	0,3 ÷ 1,5
		cutting speed	[m.min ⁻¹]	290 ÷ 355	170 ÷ 210	275 ÷ 335	–	–	55 ÷ 70
	HNGX 0906ANSN-R 8230	feed	[mm.tooth ⁻¹]	0,3 - 0,5	0,3 - 0,38	0,3 - 0,5	–	0,3 - 0,38	0,1 - 0,2
		depth of cut	[mm]	1,0 - 5,0	1,0 - 3,8	1,0 - 5,0	–	1,0 - 3,0	0,3 - 1,5
		cutting speed	[m.min ⁻¹]	255 - 340	150 - 200	240 - 320	–	50 - 100	50 - 65
	HNGX 0906ANSN-R 8240	feed	[mm.tooth ⁻¹]	0,3 - 0,5	0,3 - 0,38	0,3 - 0,5	–	0,3 - 0,38	–
		depth of cut	[mm]	1,0 - 5,0	1,0 - 3,8	1,0 - 5,0	–	1,0 - 3,0	–
		cutting speed	[m.min ⁻¹]	255 - 320	150 - 190	240 - 300	–	50 - 95	–
	XNGX 0906ANSN 8230	feed	[mm.tooth ⁻¹]	0,17 - 0,5	–	0,17 - 0,5	–	–	–
depth of cut		[mm]	0,8 - 5,0	–	0,8 - 5,0	–	–	–	
cutting speed		[m.min ⁻¹]	255 - 385	–	240 - 365	–	–	–	

Initial cutting conditions for inserts HNGX 09 and XNGX 09 in grade 2215 and 2230 you can find on www.pramet.com/ecat of catalogue or Milling Pramet Tools.



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Pramet Tools, s.r.o., Unicovska 2, 787 53 Sumperk, CZECH REPUBLIC

Tel./phone: +420 583 381 111, Fax: +420 583 215 401, E-mail: pramet.info.cz@pramet.com

www.pramet.com