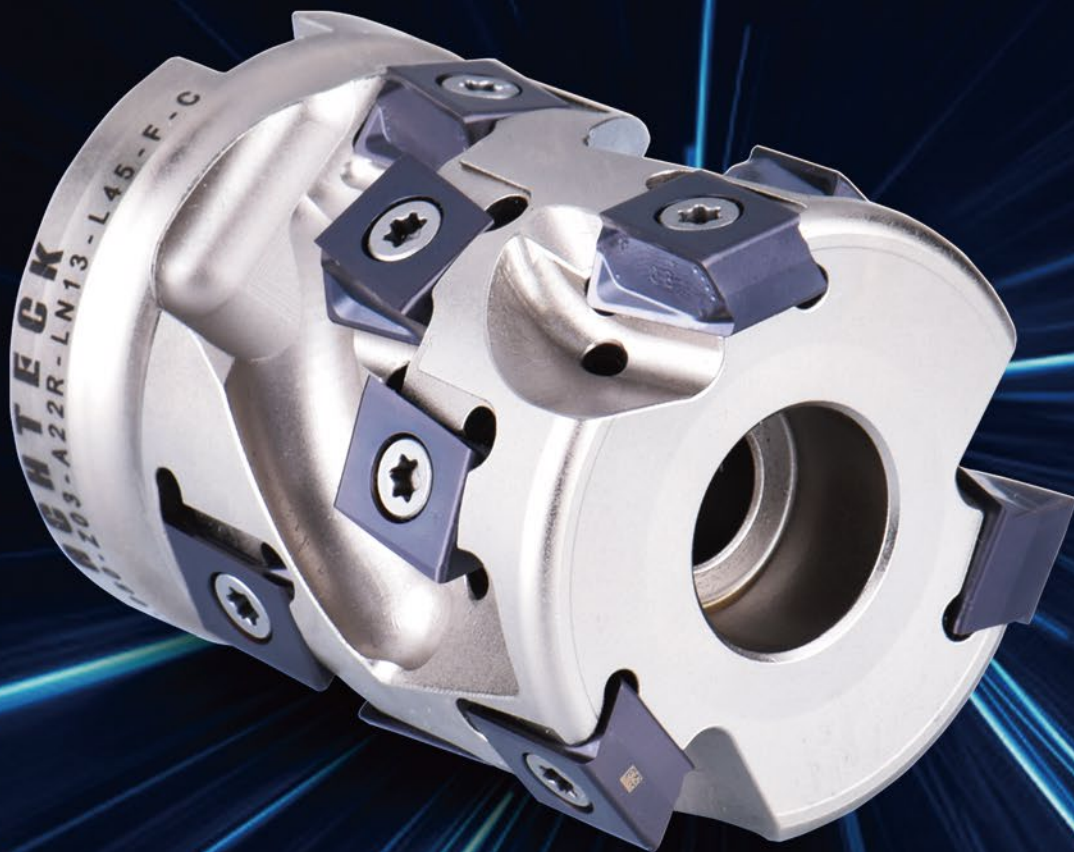


**NEW
PRODUCT!**

APE90-LN13

Porcupine Milling Cutter



◆ Porcupine Milling Cutter Naming System

A₁ PE₂ 90₃ - 063₄ - Z04₅ - A₆ 27₇ R₈ - LN13₉ - L56₁₀ - F₁₁ - C₁₂

1-Achteck

2-Machining type	
PE	Porcupine milling
SM	Square shoulder milling
PM	Profile milling
HM	High feed milling
DM	Side and face milling

3-Approch angle (Kr)	
Figure	Angle
90	90°
88	88°
60	60°
45	45°

4-Cutter dia.	
025	25mm
063	63mm
080	80mm
.	.
250	250mm

5-Number of teeth	
Z02	2 teeth
Z04	4 teeth
Z05	5 teeth
.	.
Z30	30 teeth

6-Connection	
A	Arbor
W	Weldon shank
C	Cylinder shank
N	Whistle noich shank
M	Screw modular

7-Connection size	
27	Connection diameter 27mm

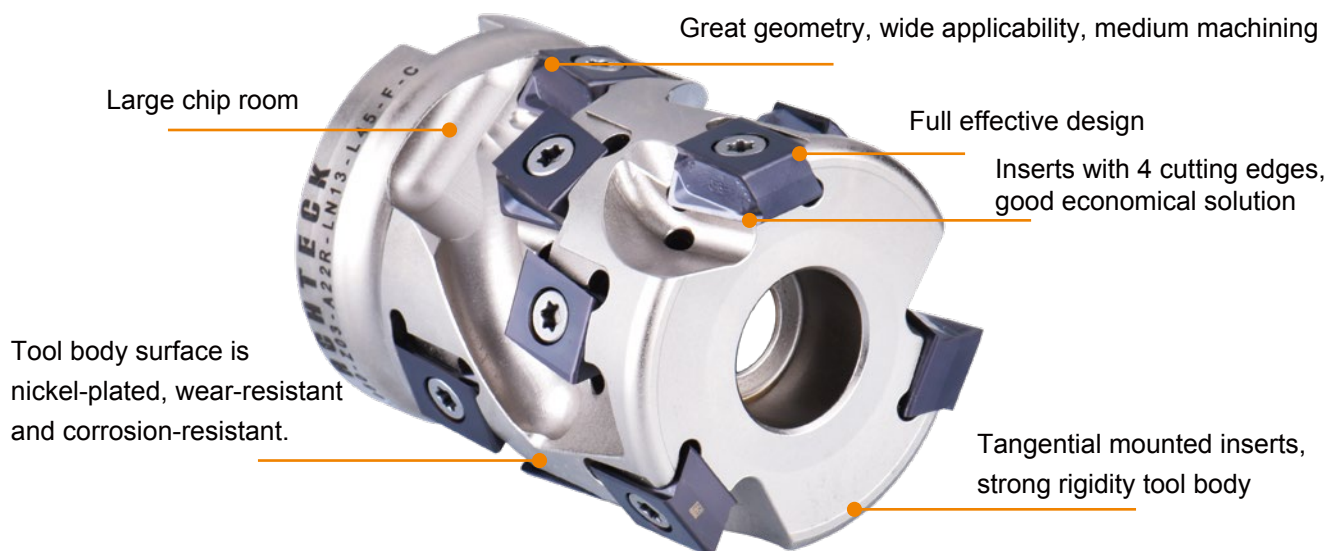
8-Hand of tool	
R	Right
L	Left
N	Neutral

9-Insert	
LN13	LN13 series insert

10-Valid cutting edge length Max	
L30	30mm
L45	45mm
L56	56mm

11-Cutter type	
F	Full teeth
H	Half teeth

12-Other	
-C	With internal coolant
No mark	Without internal coolant

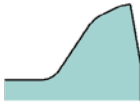


● APE90-LN13 Porcupine Milling Cutter

- Porcupine cutter with tangential mounted standard LN13 double-sided inserts with 4 cutting edges.
- Efficient, economic and strong application solution problem solver.
- Suitable for 2D-profiling, square shoulder milling with big ap. Even for face milling in combination with wiper insert.
- Accurate through coolant holes for each insert.
- Two sorts of interfaces. Weldon type and shell mill (Arbor).
 - Weldon interface with diameter 40mm
 - Shell mill (Arbor) interface with diameter 40-80mm
- apmax
 - Weldon interface: apmax = 45mm
 - Shell mill (Arbor) interface: apmax = 56mm
- Corner radius
 - R0.8/1.2/1.6/2.0/2.4/3.1



● Chip breaker Features

Chip breaker name	Edge Preparation	Feature
MR2		<ul style="list-style-type: none"> ● 35°rake angle; ● Can used for most of materials; ● For medium machining conditions;

● Grade application

Grade	Coating	Material					
		P	M	K	S	N	H
AP301U	PVD	●	◐		○		
AP351U	PVD	●	◐		○		
AP401U	PVD		●		◐		
AC301K	CVD			●			◐
AP351K	PVD			●			

● Marked : 1st Choice ◐ Marked : 2nd Choice ○ Marked : Supplementary application

Case stories

Work piece: Base

Material: HT300

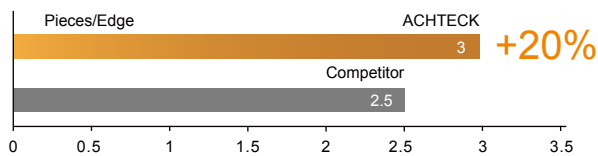
Insert: LNHU 130608ER-MR2 AC301K

Cutter description: APE90-040-Z02-W40R-LN13-L34-F-C

Machining type: Rough milling track surface

Cutting parameters: $V_c=150\text{m/min}$, $a_p=15\text{mm}$, $f_z=0.14$

Dry cutting



20% increase in spanlife of porcupine cutter

Work piece: Punch

Material: QT600

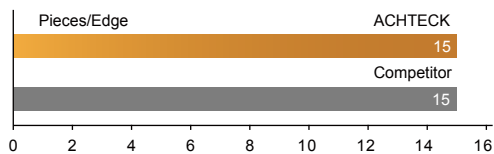
Insert: LNHU 130608ER-MR2 AC301K

Cutter description: APE90-063-Z04-A27R-LN13-L56-F-C

Machining type: Rough milling rectangular surface

Cutting parameters: $V_c=158\text{m/min}$, $a_p=35\text{mm}$, $a_e=5\text{mm}$, $f_z=0.15$

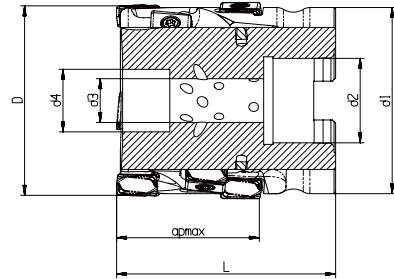
Wet cutting



20% cost reduction per unit

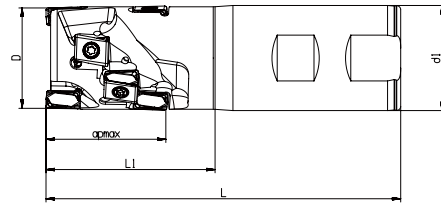
● **Cutter stock item**

APE90-LN13-C



Designation	Dimension							Coolant	Z	Segment	Total Inserts	Insert
	D	d1	L	d2	d3	d4	apmax					
APE90-040-Z02-A16R-LN13-L34-F-C	40	39	55	16	9	15	34		2	3	6	LNHU 1306
APE90-040-Z02-A16R-LN13-L45-F-C	40	39	65	16	9	15	45		2	4	8	
APE90-050-Z03-A22R-LN13-L34-F-C	50	47.5	55	22	11	18	34		3	3	9	
APE90-050-Z03-A22R-LN13-L45-F-C	50	47.5	65	22	11	18	45		3	4	12	
APE90-063-Z04-A27R-LN13-L56-F-C	63	59.5	80	27	14	20	56		4	5	20	
APE90-063-Z04-A27R-LN13-L45-F-C	63	59.5	70	27	14	20	45		4	4	16	
APE90-080-Z05-A32R-LN13-L56-F-C	80	75.6	85	32	18	26	56		5	5	25	

APE90-LN13-C



Designation	Dimension					Coolant	Z	Segment	Total Inserts	Insert
	D	d1	L1	L	apmax					
APE90-040-Z02-W40R-LN13-L34-F-C	40	40	54	120	34		2	3	6	LNHU 1306
APE90-040-Z02-W40R-LN13-L45-F-C	40	40	64	135	45		2	4	8	

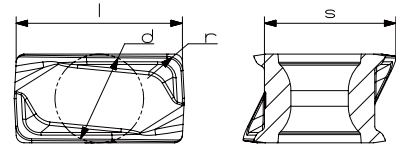
Dimension	Cutter spare parts			
Cutter diameter	Screw	Wrench		Torque
Φ40-Φ80	AST4112-60	ADT-T15		3.5Nm
		ADT-G16	BIT-T15	

Application	
Facing 	Shouldering

Remark: represent for coolant
 represent for no coolant

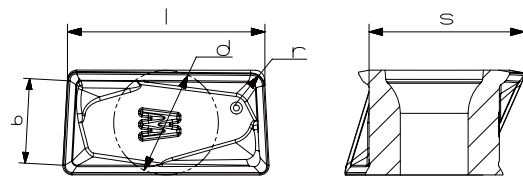
● Insert stock item

LNHU 1306



Insert	Designation	Dimensions				Grades						
						CVD coated		PVD coated			Uncoated	
		l	d	s	r	AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
	LNHU 130608R-FM2	13.02	6.8	10.11	0.8							●
	LNHU 130608R-MM3	13.02	6.8	10.19	0.8					●		
	LNHU 130608R-MR2	13.02	6.8	10.15	0.8	●	●	●	●	●	●	
	LNHU 130612R-MR2	13.02	6.8	10.9	1.2		●		●	●		
	LNHU 130616R-MR2	13.02	6.8	10.05	1.6		●		●	●		
	LNHU 130620R-MR2	13.02	6.8	9.99	2.0				●	●		
	LNHU 130624R-MR2	13.02	6.8	9.92	2.5				●	●		
	LNHU 130631R-MR2	13.02	6.8	9.83	3.2		●		●	●		

Wiper Insert



Insert	Designation	Dimensions					Grades						
							CVD coated		PVD coated			Uncoated	
		b	l	d	s	r	AC301P	AC301K	AP301U	AP351U	AP401U	AP351K	AW100K
	LNHU 1306PDER-W	5.6	13.39	6.8	10.02	0.8		●	●				

Remarked: ● Represent for standard stock