

## A

## 铝轮毂加工

### Aluminum Wheel Processing



## 铝轮毂加工

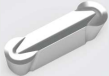




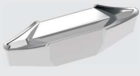


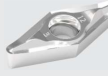
### Aluminum Wheel Processing

- 邦普切削解决方案-铝轮毂加工的领先者  
Bangpu cutting tool solution-The leader of aluminum wheel processing

铝轮毂加工需要较高切削速度和极高硬度切削材料，加工期间会产生巨大的离心力，需要使用能够承受高转速和负载的稳定刀具，邦普切削解决方案在这一领域拥有数十年深厚经验积累，也一直在不断扩大和优化我们的可转刀片系列。如今我们已成为能提供全方位服务的制造商，能够针对铝轮毂生产的每项工艺提供最佳刀具。目前应用于汽车、摩托车等铝轮毂。

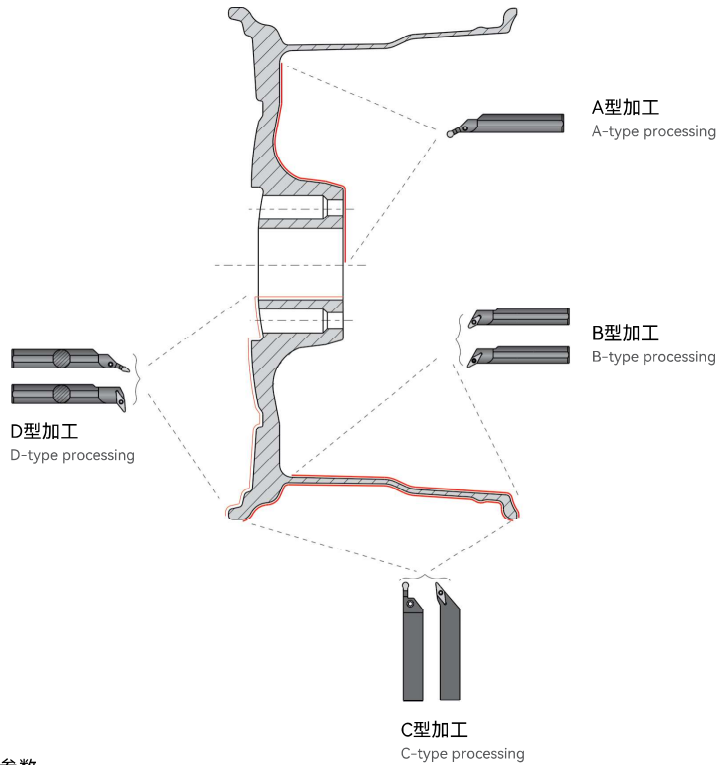
Aluminum wheel hub machining requires high cutting speeds and extremely high hardness cutting materials, which generate huge centrifugal forces during the machining process. Stable cutting tools that can withstand high speeds and loads are required. Bangpu has decades of profound experience in this field and has been continuously expanding and optimizing the indexable insert series. Today we are a comprehensive manufacturer providing excellent tools for every processing in wheel hub manufacturing. At present, it is used for automobiles, motorcycles and other aluminum wheel machining.



| GDMA840-AF (一般加工General processing)   | GDMA840-AL (半精加工Semi-finishing)   | GDMA840-AN (半精加工Semi-finishing)   |
|---|---|---|
|    |    |    |
| 大前角、锋利切削刃、开放式断屑槽<br>Large rake angle, sharp cutting edge with open chip breaker       | 大前角、锋利切削刃、闭合式断屑槽<br>Large rake angle, sharp cutting edge with closed chip breaker     | 大前角、锋利切削刃、闭合式断屑槽<br>Large rake angle, sharp cutting edge with closed chip breaker     |
| GIP600-300-LH (一般加工General processing)  | GIP600E-300-AL (半精加工Semi-finishing)   | GIPATYZ-35V-1.2-LHC   |
|  |  |  |
| 大前角、锋利切削刃、开放式断屑槽<br>Large rake angle, sharp cutting edge with open chip breaker       | 大前角、锋利切削刃、闭合式断屑槽<br>Large rake angle, sharp cutting edge with closed chip breaker     | 大前角、大后角<br>Large rake angle, large clearance angle                                    |
| VCGT...-LHC (一般加工General processing)  | VCGT...-AL (粗加工Roughing)  | VCGT...-LHK (断屑加工Chip-breaking processing)  |
|  |  |  |
| 波浪式容屑槽&锋利切削刃<br>Wave mode chip pocket, sharp cutting edge                             | 刃口锋利及宽大容屑槽<br>Sharp cutting edge, wide chip pocket                                    | 大前角、锋利切削刃、开放式断屑槽<br>Large rake angle, sharp cutting edge with open chip breaker       |

# 铝合金加工轮毂应用

## Insert Application for Aluminum Wheel Hub Machining



### 推荐切削参数

Recommended cutting condition

| ISO                    | 材质Material                           | 条件Condition        | Kc(Mpa)  | 切削速度Cutting speed Vc(m/min) |          |
|------------------------|--------------------------------------|--------------------|----------|-----------------------------|----------|
|                        |                                      |                    |          | 牌号Grade                     |          |
|                        |                                      |                    |          | BP5205                      | BP5215   |
| N                      | 铝合金 (铸造)<br>Aluminum alloy (casting) | 未硬化<br>Not-hardend | 500-600  | 1000-2500                   | 800-2200 |
|                        |                                      |                    | 700-900  | 400-1200                    | 400-1000 |
|                        | 铝合金 (锻造)<br>Aluminum alloy (forging) | 淬硬<br>Hardend      | 700-800  | 1000-2500                   | 800-2200 |
|                        |                                      |                    | 800-950  | 400-1200                    | 400-1000 |
| 铜合金<br>Coper alloy     | 未硬化<br>Not-hardend                   | 700-900            | 400-1000 | 400-1000                    |          |
| 镁合金<br>Magnesium alloy | 淬硬<br>Hardend                        | 700-800            | 300-1000 | 300-1000                    |          |

# 刀片特征/优势

## Characteristics/Advantages

### AF槽形特征 Geometry AF

- 优异槽型设计，通用铝合金加工
- 大前角和大后角设计，使切削更加轻快
- 独特的刀片安装方式使刀片安装更加牢固

- Excellent geometry design for general machining of aluminum.
- Large rake angle and clearance angle design helps faster and smoother cutting.
- Unique installation mode makes it more stable.

### 20度顶面和底面夹角设计 ①

Designed with 20° between the top and bottom side

### 开发式断屑槽设计 ②

Open geometry design

- 特殊的前角和刃倾角设计，减小切削阻力
- 切深/进给不稳定加工工况下，保障稳定切屑控制
- 刃口锋利及宽大容量屑槽，在不稳定的内径加工时减小粘屑的倾向

- Special rake angle and cutting edge inclination angle to reduce cutting resistance.
- Ensure stable chip control when cutting depth and feed are unstable.
- Sharp edge and wide chip pocket to reduce chip sticky tendency in unstable boring condition.



AF槽形  
CHIPBREAKER AF

# 刀片特征/优势

## Characteristics/Advantages

### AL槽形特征

#### Geometry AL

- 最佳槽型设计刀片用于锻造铝轮毂加工
- 大前角和大后角设计, 使切削更加轻快
- 独特的刀片安装方式使刀片安装更加牢固

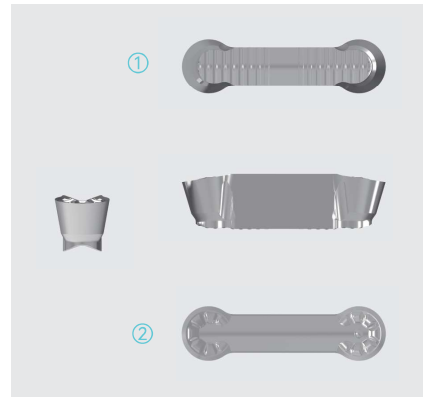
- Excellent geometry design for forging aluminum wheel hub.
- Large rake angle and clearance angle design helps faster and smoother cutting.
- Unique installation mode makes it more stable.

#### ● 创新防滑槽设计 ①

Innovative anti-skid slot design

- 增大可转位刀片承受更高应力
- 在离心负载情况下, 保证安全良好的刀片定位
- 高速加工中, 更加安全

- Withstand higher stress.
- Ensure safe and good positioning under centrifugal load conditions.
- Improve safety during high speed machining.

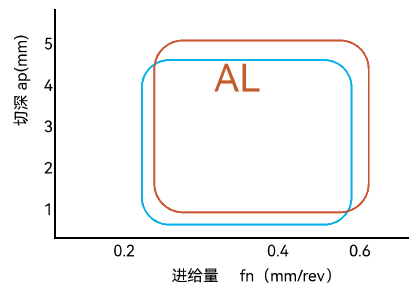


#### ● 闭合式断屑槽设计 ②

Closed geometry design

- 使切屑更快离开刀片, 防止黏刀
- 针对高强度铝合金加工专用设计, 排屑更顺畅
- 提高自动化生产效率

- The chips leaves the insert faster to prevent from sticking.
- Special design for machining high strength aluminum alloy with smoother chip evacuation.
- Improve automated efficiency.



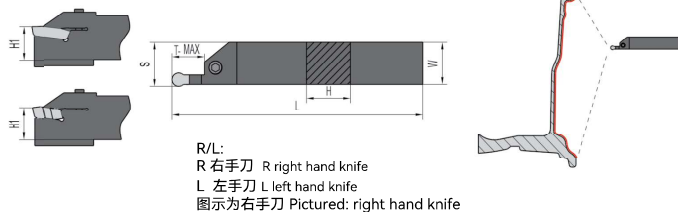
# 铝轮毂刀片系列

## Inserts for Aluminum Alloy Wheel Turning

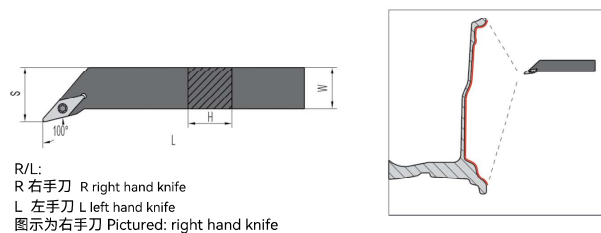
| 应用<br>Application                     | 形状<br>Shape | 型号<br>Specification | 涂层硬质合金<br>Coated cemented carbide |        | 尺寸(mm)<br>Dimension |      |       |      |      |      |    | 几何结构<br>Geometry |
|---------------------------------------|-------------|---------------------|-----------------------------------|--------|---------------------|------|-------|------|------|------|----|------------------|
|                                       |             |                     | BP5205                            | BP5215 | L                   | W    | d     | s    | d1   | r    | a° |                  |
|                                       |             |                     |                                   |        |                     |      |       |      |      |      |    |                  |
|                                       |             | GDM A840E-AL        | ☆                                 | ★      | 30.00               | 8.00 | -     | 6.89 | -    | 4.00 | -  |                  |
|                                       |             | GDM A840E-AF        | ☆                                 | ★      | 30.00               | 8.00 | -     | 6.89 | -    | 4.00 | -  |                  |
|                                       |             | GIP600-300-AL       | ☆                                 | ★      | 18.00               | 6.00 | -     | 6.50 | -    | 3.00 | -  |                  |
|                                       |             | GIP600-300-LH       | ★                                 |        | 18.00               | 6.00 | -     | 6.50 | -    | 3.00 | -  |                  |
| 铝轮毂加工<br>Aluminum wheel hub machining |             | GIPATYZ-35V-1.2-LH  | ★                                 |        | 30.00               | 6.00 | -     | 7.00 | -    | 1.20 | -  |                  |
|                                       |             | VCGT160408-N3       |                                   |        | -                   | -    | 9.525 | 4.76 | 4.40 | 0.80 | 7  |                  |
|                                       |             | VCGT160412-N3       |                                   |        | -                   | -    | 9.525 | 4.76 | 4.40 | 1.20 | 7  |                  |
|                                       |             | VCGT220530-N3       |                                   |        | -                   | -    | 12.70 | 5.56 | 5.50 | 3.00 | 7  |                  |
|                                       |             | VCGT220530E-N3      |                                   |        | -                   | -    | 12.70 | 5.56 | 5.50 | 3.00 | 7  |                  |
|                                       |             | VCGT160408-N1       |                                   |        | -                   | -    | 9.525 | 4.76 | 4.40 | 1.20 | 7  |                  |
|                                       |             | VCGT160412-N1       |                                   |        |                     |      | 9.525 | 4.76 | 4.40 | 1.20 | 7  |                  |
|                                       |             | VCGT220520-N1       |                                   |        |                     |      | 12.70 | 5.56 | 5.50 | 2.00 | 7  |                  |
|                                       |             | VCGT220530-N1       |                                   |        |                     |      | 12.70 | 5.56 | 5.50 | 3.00 | 7  |                  |
|                                       |             | VCGT220530E-N1      |                                   |        |                     |      | 12.70 | 5.56 | 5.50 | 3.00 | 7  |                  |
|                                       |             | VCGT160412-LHK      |                                   |        | -                   | -    | 9.525 | 5.56 | 5.50 | 1.20 | 7  |                  |
|                                       |             | VCGT220530-LHK      |                                   |        |                     |      | 12.70 | 5.56 | 5.50 | 3.00 | 7  |                  |
|                                       |             | VPGT220516-LHK      |                                   |        |                     |      | 12.70 | 5.56 | 5.50 | 1.60 | 11 |                  |
|                                       |             | VPGT220612E-LHC     |                                   |        | -                   | -    | 12.70 | 6.35 | 5.50 | 1.20 | 11 |                  |

## 铝轮毂刀杆系列

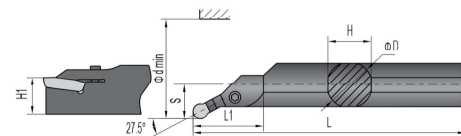
## Tool Holders For Aluminum Alloy Wheel Turning



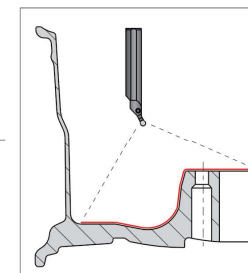
| 型号<br>Specification | 尺寸(mm)<br>Dimension |    |    |       |      | 通用刀片<br>Available inserts | 螺钉<br>Screw | 扳手<br>Wrench |
|---------------------|---------------------|----|----|-------|------|---------------------------|-------------|--------------|
|                     | L                   | B  | H  | T-MAX | S    |                           |             |              |
| BUMPR/L 2525-R3-150 | 150                 | 25 | 25 | 24    | 24   | GDMA840**                 | M6*30       | L5.0         |
| BUMPR/L 3232-R4-170 | 170                 | 32 | 32 | 24    | 31.5 |                           |             |              |
| BUMPR/L 2525-R4-150 | 150                 | 25 | 25 | 24    | 24   |                           |             |              |
| BUMPR/L 3232-R4-170 | 170                 | 32 | 32 | 24    | 31.5 |                           |             |              |



| 型号<br>Specification | 尺寸(mm)<br>Dimension |    |    |       |    | 通用刀片<br>Available inserts | 螺钉<br>Screw | 扳手<br>Wrench |
|---------------------|---------------------|----|----|-------|----|---------------------------|-------------|--------------|
|                     | L                   | B  | H  | T-MAX | S  |                           |             |              |
| SVJCR/L-2525-M16    | 150                 | 25 | 25 | -     | 32 | VCGT16**                  | S040L09     | HT15         |
| SVHCR/L-2525-M16    | 150                 | 25 | 25 | -     | 32 |                           |             |              |



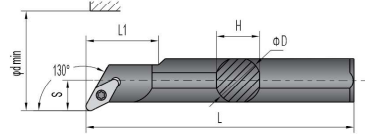
R/L:  
R 右手刀 R right hand knife  
L 左手刀 L left hand knife  
图示为右手刀 Pictured: right hand knife



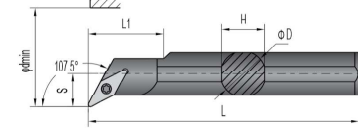
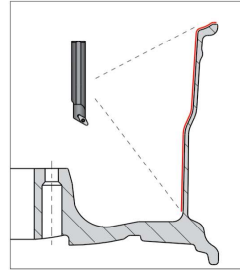
| 型号<br>Specification    | 尺寸(mm)<br>Dimension |    |    |    |    |       | 通用刀片<br>Available inserts | 螺钉<br>Screw | 扳手<br>Wrench |
|------------------------|---------------------|----|----|----|----|-------|---------------------------|-------------|--------------|
|                        | L                   | φD | H  | L1 | S  | φDmin |                           |             |              |
| BUMPR/L 50C-05A-R4-300 | 300                 | 50 | 47 | 87 | 27 | >65   | GDMA840**                 | M6*30       | L5.0         |
| BUMPR/L 50C-08A-R4-300 | 300                 | 50 | 47 | 87 | 27 | >65   |                           |             |              |
| BUMPR/L 50C-15A-R4-300 | 300                 | 50 | 47 | 87 | 27 | >65   |                           |             |              |
| BUMPR/L 50C-05A-R4-350 | 350                 | 50 | 47 | 87 | 27 | >65   |                           |             |              |
| BUMPR/L 50C-08A-R4-350 | 350                 | 50 | 47 | 87 | 27 | >65   |                           |             |              |
| BUMPR/L 50C-15A-R4-350 | 350                 | 50 | 47 | 87 | 27 | >65   |                           |             |              |
| BUMPR/L 40C-05A-230    | 230                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-08A-230    | 230                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-15A-230    | 230                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-05A-250    | 250                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-08A-250    | 250                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-15A-250    | 250                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-05A-300    | 300                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-08A-300    | 300                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |
| BUMPR/L 40C-15A-300    | 300                 | 40 | 37 | 87 | 22 | >65   |                           |             |              |

## 铝轮毂刀杆系列

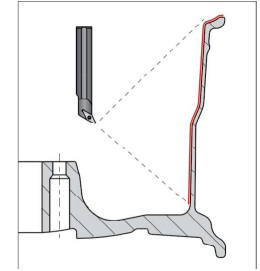
## Tool Holders For Aluminum Alloy Wheel Turning



R/L:  
R 右手刀 R right hand knife  
L 左手刀 L left hand knife  
图示为右手刀 Pictured: right hand knife

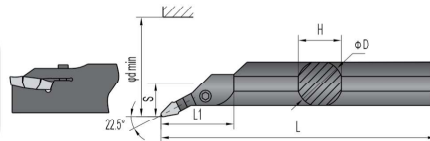


R/L:  
R 右手刀 R right hand knife  
L 左手刀 L left hand knife  
图示为右手刀 Pictured: right hand knife

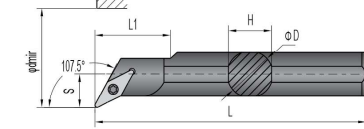
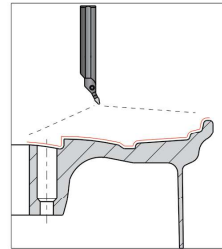


| 型号<br>Specification | 尺寸(mm)<br>Dimension |    |    |    |    |       | 通用刀片<br>Available inserts | 螺钉<br>Screw | 扳手<br>Wrench |
|---------------------|---------------------|----|----|----|----|-------|---------------------------|-------------|--------------|
|                     | L                   | φD | H  | L1 | S  | φdmin |                           |             |              |
| A40T-SVQCR/L22-300  | 300                 | 40 | 37 | 80 | 27 | 45    | VCGT2205**                | S050L12     | HT20         |
| A40S-SVQCR/L22-230  | 230                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A40S-SVQCR/L22-250  | 250                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A40T-SVQCR/L22      | 300                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A50T-SVQCR/L22      | 300                 | 50 | 47 | 80 | 32 | 45    |                           |             |              |
| A50U-SVQCR/L22      | 350                 | 50 | 47 | 80 | 32 | 45    |                           |             |              |

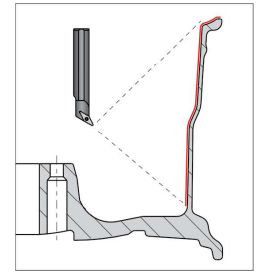
| 型号<br>Specification | 尺寸(mm)<br>Dimension |    |    |    |    |       | 通用刀片<br>Available inserts | 螺钉<br>Screw | 扳手<br>Wrench |
|---------------------|---------------------|----|----|----|----|-------|---------------------------|-------------|--------------|
|                     | L                   | φD | H  | L1 | S  | φdmin |                           |             |              |
| A40S-SVUCR/L 16-230 | 230                 | 40 | 37 | 80 | 27 | 45    | VCGT1604**                | S040L09     | HT15         |
| A40S-SVUCR/L 16-250 | 250                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A40T-SVUCR/L 16     | 300                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A50T-SVUCR/L 16     | 300                 | 50 | 47 | 80 | 32 | 55    |                           |             |              |
| A50U-SVUCR/L 16     | 350                 | 50 | 47 | 80 | 32 | 55    |                           |             |              |
| A32S-SVUCR/L 16     | 230                 | 32 | 30 | 60 | 20 | 38    |                           |             |              |



R/L:  
R 右手刀 R right hand knife  
L 左手刀 L left hand knife  
图示为右手刀 Pictured: right hand knife



R/L:  
R 右手刀 R right hand knife  
L 左手刀 L left hand knife  
图示为右手刀 Pictured: right hand knife



| 型号<br>Specification         | 尺寸(mm)<br>Dimension |    |    |    |    | 通用刀片<br>Available inserts | 螺钉<br>Screw | 扳手<br>Wrench |
|-----------------------------|---------------------|----|----|----|----|---------------------------|-------------|--------------|
|                             | L                   | φD | H  | L1 | S  |                           |             |              |
| BUMPR/L 40C-112.5A-R1.2-300 | 300                 | 40 | 37 | 87 | 27 | GIPATYZ-35V**             | M6*30       | L5.0         |
| BUMPR/L 50C-112.5A-R1.2-300 | 300                 | 50 | 47 | 87 | 27 |                           |             |              |

| 型号<br>Specification | 尺寸(mm)<br>Dimension |    |    |    |    |       | 通用刀片<br>Available inserts | 螺钉<br>Screw | 扳手<br>Wrench |
|---------------------|---------------------|----|----|----|----|-------|---------------------------|-------------|--------------|
|                     | L                   | φD | H  | L1 | S  | φdmin |                           |             |              |
| A40T-SVQPCR/L22-300 | 300                 | 40 | 37 | 80 | 27 | 45    | VPGT2206**                | S040L09     | HT15         |
| A40S-SVQPR/L22-230  | 230                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A40S-SVQPR/L22-250  | 250                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A40T-SVQPR/L22      | 300                 | 40 | 37 | 80 | 27 | 45    |                           |             |              |
| A50T-SVQPR/L22      | 300                 | 50 | 47 | 80 | 32 | 45    |                           |             |              |
| A50U-SVQPR/L22      | 350                 | 50 | 47 | 80 | 32 | 45    |                           |             |              |