



# TURNING Parting and grooving tools

Little squirrel series parting and grooving inserts

## Little squirrel series parting, grooving and profiling inserts code key

General turning

Parting and grooving

Little squirrel series parting and grooving inserts

### Insert applications

- ZP** > Parting
- ZT** > Grooving and turning
- ZR** > Profiling

### Code of locating slot

| Code of locating slot               | E   | F   | G   | H   | K   | L   |
|-------------------------------------|-----|-----|-----|-----|-----|-----|
| Corresponding edge width of inserts | 2.5 | 3.0 | 4.0 | 5.0 | 6.0 | 8.0 |

### Code of cutting edge number

- S** > Single cutting edge
- D** > Double cutting edge

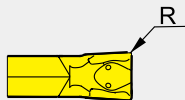
**ZP G D 04 04 - M G**

### Cutting edge width



02=2.5mm  
03=3.0mm  
04=4.0mm  
05=5.0mm  
06=6.0mm  
08=8.0mm

### Nose radius



02=0.2mm  
03=0.3mm  
04=0.4mm  
08=0.8mm

### Tolerance class

- M** > M-level tolerance
- E** > E-level tolerance

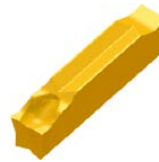
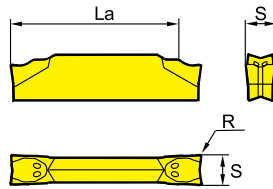
### Chipbreaker code

- G** > Curve edges universal chipbreaker, suitable for machining various materials
- M** > linear edges universal chipbreaker, suitable for machining various materials
- F** > Special chipbreaker

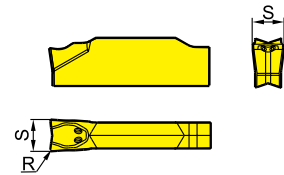
### Parting inserts



Double edges



Single edge



| Type         |              | Basic dimensions(mm) |               |                             | Grade       |        |             |        |                  |
|--------------|--------------|----------------------|---------------|-----------------------------|-------------|--------|-------------|--------|------------------|
|              |              |                      |               |                             | CVD Coating |        | PVD Coating |        | Cemented carbide |
|              |              | $S^{+0.1}_0$         | $R_{\pm 0.1}$ | Cutting depth<br>$L_{amax}$ | YBC151      | YBC251 | YBG205      | YBG302 | YD101            |
| Double edges | ZPED02502-MG | 2.5                  | 0.2           | 17                          |             | ○      | ★           | ★      |                  |
|              | ZPFD0302-MG  | 3.0                  | 0.2           | 17                          |             | ○      | ★           | ○      |                  |
|              | ZPGD0402-MG  | 4.0                  | 0.2           | 22                          |             | ○      | ★           | ○      |                  |
|              | ZPHD0503-MG  | 5.0                  | 0.3           | 22                          |             | ○      | ★           | ○      |                  |
|              | ZPKD0604-MG  | 6.0                  | 0.4           | 22                          |             | ○      | ★           | ○      |                  |
| Single edge  | ZPES02502-MG | 2.5                  | 0.2           |                             |             | ○      | ★           | ★      |                  |
|              | ZPFS0302-MG  | 3.0                  | 0.2           |                             |             | ○      | ★           | ○      |                  |
|              | ZPGS0402-MG  | 4.0                  | 0.2           |                             |             | ○      | ★           | ○      |                  |
|              | ZPHS0503-MG  | 5.0                  | 0.3           |                             |             | ○      | ★           | ○      |                  |
|              | ZPKS0604-MG  | 6.0                  | 0.4           |                             |             | ○      | ★           | ○      |                  |

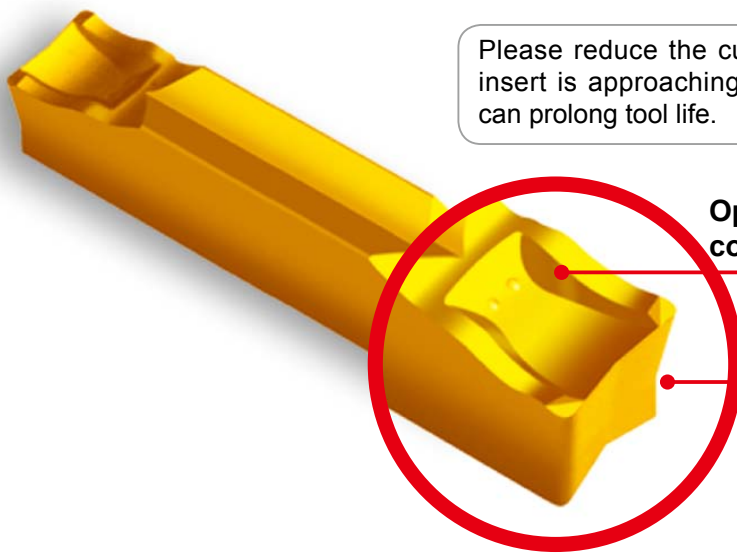
The single-edge insert is only mounted on parting blade.

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

General turning

Parting and grooving

Little squirrel series parting and grooving inserts



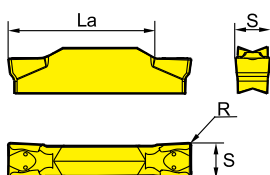
Please reduce the cutting speed by 30% when the insert is approaching the centre of workpiece. This can prolong tool life.

Optimal chipbreaker structure can well control chip flow and curling.

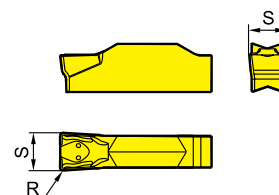
Cutting resistant force is reduced by 20% and vibration is diminished.

**Grooving and turning inserts**

Double edges

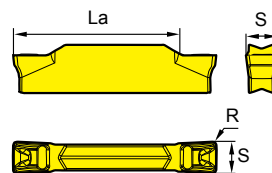


Single edge



| Type         |              | Basic dimensions(mm) |              |                            | Grade       |        |             |        |        |                  |
|--------------|--------------|----------------------|--------------|----------------------------|-------------|--------|-------------|--------|--------|------------------|
|              |              |                      |              |                            | CVD Coating |        | PVD Coating |        |        | Cemented carbide |
|              |              | $S^{+0.1}_0$         | $R \pm 0.10$ | Cutting depth<br>$L_{max}$ | YBC151      | YBC251 | YBG202      | YBG205 | YBG302 | YD101            |
| Double edges | ZTED02503-MG | 2.5                  | 0.3          | 17                         | ○           | ○      | ●           | ★      | ★      |                  |
|              | ZTFD0303-MG  | 3.0                  | 0.3          | 17                         | ○           | ○      | ●           | ★      | ★      |                  |
|              | ZTGD0404-MG  | 4.0                  | 0.4          | 22                         | ●           | ○      | ●           | ★      | ★      |                  |
|              | ZTHD0504-MG  | 5.0                  | 0.4          | 22                         |             | ○      | ●           | ★      | ★      |                  |
|              | ZTKD0608-MG  | 6.0                  | 0.8          | 22                         |             | ○      | ●           | ★      | ★      |                  |
| Single edge  | ZTHS0504-MG  | 5.0                  | 0.4          |                            |             | ○      | ○           | ★      | ○      |                  |
|              | ZTKS0608-MG  | 6.0                  | 0.8          |                            |             | ○      | ○           | ★      | ○      |                  |

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order



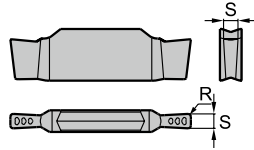
| Type         |              | Basic dimensions(mm) |             |                            | Grade       |        |             |        |        |                  |
|--------------|--------------|----------------------|-------------|----------------------------|-------------|--------|-------------|--------|--------|------------------|
|              |              |                      |             |                            | CVD Coating |        | PVD Coating |        |        | Cemented carbide |
|              |              | S                    | $R \pm 0.1$ | Cutting depth<br>$L_{max}$ | YBC151      | YBC251 | YBG202      | YBG205 | YBG302 | YD101            |
| Double edges | ZTED02503-MM | 2.5±0.03             | 0.3         | 17                         | ○           | ○      | ●           | ★      | ○      |                  |
|              | ZTFD0303-MM  | 3.0±0.03             | 0.3         | 17                         | ○           | ○      | ●           | ★      | ○      |                  |
|              | ZTGD0404-MM  | 4.0±0.04             | 0.4         | 22                         | ○           | ○      | ●           | ★      | ○      |                  |
|              | ZTHD0504-MM  | 5.0±0.04             | 0.4         | 22                         | ○           | ○      | ●           | ★      | ○      |                  |
|              | ZTKD0608-MM  | 6.0±0.04             | 0.8         | 22                         | ○           | ○      | ●           | ★      | ○      |                  |
|              | ZTLD0808-MM  | 8.0±0.05             | 0.8         | 28                         | ○           | ○      | ●           | ★      | ○      |                  |

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

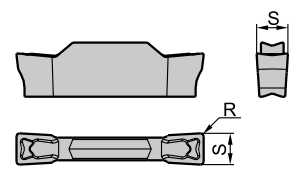
## Precise grooving and turning inserts



1.0~2.4mm series



&gt;2.4~6.5mm series



| Type         |                             | Basic dimensions(mm) |                        |                                   | Grade       |        |             |        |        |                  |
|--------------|-----------------------------|----------------------|------------------------|-----------------------------------|-------------|--------|-------------|--------|--------|------------------|
|              |                             |                      |                        |                                   | CVD Coating |        | PVD Coating |        |        | Cemented carbide |
|              |                             | S±0.025              | R <sup>(2)</sup> ±0.05 | Cutting depth<br>L <sub>max</sub> | YBC151      | YBC251 | YBG202      | YBG205 | YBG302 | YD101            |
| Double edges | ZTCD□□□□□-EG <sup>(1)</sup> | 1.0~1.6              | See note.<br>(2)       | 2.6                               | ○           | ○      | ○           | ★      | ○      |                  |
|              |                             | 1.6~2.4              |                        | 3.4                               |             |        |             |        |        |                  |
|              | ZTED□□□□□-EG                | 2.4~3.0              |                        | 17                                | ○           | ○      | ○           | ★      | ○      |                  |
|              | ZTFD□□□□□-EG                | 3.0~3.8              |                        | 17                                | ○           | ○      | ○           | ★      | ○      |                  |
|              | ZTGD□□□□□-EG                | 3.8~4.8              |                        | 22                                | ○           | ○      | ○           | ★      | ○      |                  |
|              | ZTHD□□□□□-EG                | 4.8~5.8              |                        | 22                                | ○           | ○      | ○           | ★      | ○      |                  |
|              | ZTKD□□□□□-EG                | 5.8~6.5              |                        | 22                                | ○           | ○      | ○           | ★      | ○      |                  |

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Note: (1) □ The code here in the description is determined by edge width and nose radius requested by customers. For example, when the customer requires an edge width of 3.5mm and a nose radius of 0.3mm, the description of the insert would be ZTFD03503-EG.

(2) The nose radius range is 0.2≤R≤0.5 on request.

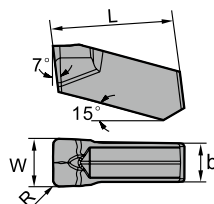
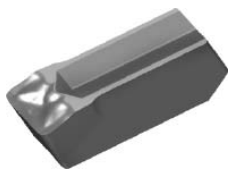
General turning

Parting and grooving

Little squirrel series parting and grooving inserts



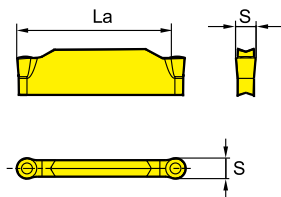
### Single-edge grooving and turning inserts for machining (from semi-finishing to roughing) materials hard to be machined



| Type        | Basic dimensions(mm) |             |     |      | Grade       |        |        |                  |
|-------------|----------------------|-------------|-----|------|-------------|--------|--------|------------------|
|             |                      |             |     |      | PVD Coating |        |        | Cemented carbide |
|             | $W \pm 0.05$         | $R \pm 0.1$ | b   | L    | YBG102      | YBG202 | YBG205 | YD101            |
| ZIMF304N-NM | 3                    | 0.4         | 2.4 | 15.3 | ★           | ○      | ★      | ○                |
| ZIMF406N-NM | 4                    | 0.6         | 3.2 | 15.3 | ★           | ○      | ★      | ○                |
| ZIMF506N-NM | 5                    | 0.6         | 4   | 15.3 | ★           | ○      | ★      | ○                |
| ZIMF608N-NM | 6                    | 0.8         | 4   | 15.3 | ★           | ○      | ★      | ○                |

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

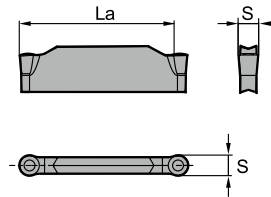
### Profile turning inserts



| Type         | Basic dimensions(mm) |                            | Grade       |        |             |        |        |                  |
|--------------|----------------------|----------------------------|-------------|--------|-------------|--------|--------|------------------|
|              |                      |                            | CVD Coating |        | PVD Coating |        |        | Cemented carbide |
|              | $S^{+0.1}_0$         | Cutting depth<br>$L_{max}$ | YBC151      | YBC251 | YBG202      | YBG205 | YBG302 | YD101            |
| Double edges | ZRED025-MG           | 2.5                        | 17.5        | ○      | ●           | ★      | ★      |                  |
|              | ZRFD03-MG            | 3.0                        | 17          | ○      | ●           | ★      | ★      |                  |
|              | ZRGD04-MG            | 4.0                        | 21          | ○      | ●           | ★      | ★      |                  |
|              | ZRHD05-MG            | 5.0                        | 20          | ○      | ○           | ★      | ★      |                  |
|              | ZRKD06-MG            | 6.0                        | 19          | ○      | ●           | ★      | ★      |                  |

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

## Precision profiling inserts



| Type         |           | Basic dimensions(mm) |                            | Grade       |        |             |        |                  |
|--------------|-----------|----------------------|----------------------------|-------------|--------|-------------|--------|------------------|
|              |           |                      |                            | CVD Coating |        | PVD Coating |        | Cemented carbide |
|              |           | $S \pm 0.025$        | Cutting depth<br>$L_{max}$ | YBC151      | YBC251 | YBG202      | YBG302 | YD101            |
| Double edges | ZRFD03-EG | 3.0                  | 17                         |             | ○      |             | ○      |                  |
|              | ZRGD04-EG | 4.0                  | 21                         |             | ○      |             | ○      |                  |
|              | ZRHD05-EG | 5.0                  | 20                         |             | ○      |             | ○      |                  |
|              | ZRKD06-EG | 6.0                  | 19                         |             | ○      |             | ○      |                  |

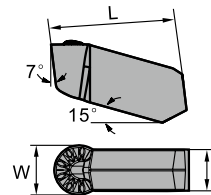
★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

General turning

Parting and grooving

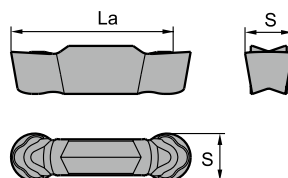
Little squirrel series parting and grooving inserts

## Single-edge inserts for machining materials hard to be machined



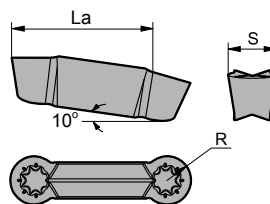
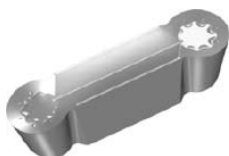
| Type      | Basic dimensions(mm) |     |      | Grade       |        |                  |
|-----------|----------------------|-----|------|-------------|--------|------------------|
|           |                      |     |      | PVD Coating |        | Cemented carbide |
|           | $W \pm 0.025$        | b   | L    | YBG102      | YBG202 | YD101            |
| ZIGQ3N-NM | 3                    | 2.4 | 15.3 | ★           | ○      | ○                |
| ZIGQ4N-NM | 4                    | 3.2 | 15.3 | ★           | ○      | ○                |
| ZIGQ5N-NM | 5                    | 4   | 15.3 | ★           | ○      | ○                |
| ZIGQ6N-NM | 6                    | 5   | 15.3 | ★           | ○      | ○                |

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

**Profiling inserts for Al**

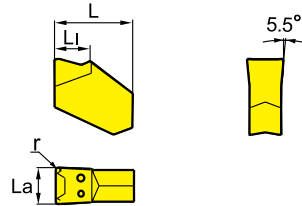
| Type             | Basic dimensions(mm) |                                   | Grade            |
|------------------|----------------------|-----------------------------------|------------------|
|                  | $S \pm 0.02$         | Cutting depth<br>$L_{\text{max}}$ | Cemented carbide |
|                  |                      |                                   | YD101            |
| <b>ZRKD06-LH</b> | 6.0                  | 19                                | ★                |
| <b>ZRLD08-LH</b> | 8.0                  | 22                                | ★                |

★ Recommended grade (always stock available)    ● Available grade (always stock available)    ○ Make-to-order

**Profiling inserts for Al**

| Type             | Basic dimensions(mm) |     |                                   | Grade            |
|------------------|----------------------|-----|-----------------------------------|------------------|
|                  | $S \pm 0.02$         | R   | Cutting depth<br>$L_{\text{max}}$ | Cemented carbide |
|                  |                      |     |                                   | YD101            |
| <b>ZILD08-LC</b> | 8.0                  | 4.0 | 22                                | ●                |

★ Recommended grade (always stock available)    ● Available grade (always stock available)    ○ Make-to-order

**ZQMX series**


| Type               | Basic dimensions(mm) |       |     |    | Grade       |                  |      |       |
|--------------------|----------------------|-------|-----|----|-------------|------------------|------|-------|
|                    |                      |       |     |    | CVD Coating | Cemented carbide |      |       |
|                    | L1                   | La    | r   | L  | YBC251      | YC10             | YC40 | YD201 |
| <b>ZQMX3N11-1E</b> | 4.4                  | 3.125 | 0.3 | 11 | ●           | ●                | ●    | ●     |
| <b>ZQMX4N11-1E</b> | 4.95                 | 4.125 | 0.3 | 11 | ●           |                  | ●    | ●     |
| <b>ZQMX5N11-1E</b> | 5                    | 5.125 | 0.3 | 11 | ●           |                  | ●    | ●     |
| <b>ZQMX6N11-1E</b> | 5.28                 | 6.4   | 0.3 | 11 | ●           |                  | ●    | ○     |
| <b>ZQMX7N11-1E</b> | 4.53                 | 7.05  | 0.3 | 14 |             |                  | ○    |       |

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

General turning

Parting and grooving

Supplementary series parting and grooving inserts

