

## Multi-functional machining with strong clamping system and new technology

# KGT

- Double-sided inserts of KGT reduces machining cost
- Strong clamping system ensures stable and accurate machining
- New grade and new technology provide superior tool life
- Various tooling solutions of the KGT improve productivity
- Cutting edges on the front and side faces of the KGT enable multi-functional grooving, achieving high productivity
- Three-dimensional chip breaker ensures excellent chip control in various applications
- The KGT inserts with various chip breakers are available for wide application range
- Special cutting edges are available for quotation

### Code system

#### • Insert

| KG                                                 | M                         | N                                                    | 300                          | (s)             | - | 04                                   | - | T                                             |
|----------------------------------------------------|---------------------------|------------------------------------------------------|------------------------------|-----------------|---|--------------------------------------|---|-----------------------------------------------|
| <b>System Code</b>                                 | <b>Tolerance</b>          | <b>Hand</b>                                          | <b>Width of cutting edge</b> | <b>1 corner</b> |   | <b>Nose Radius</b>                   |   | <b>Chip Breaker</b>                           |
| KG : KORLOY Grooving<br>KR : KORLOY Grooving Round | M : Pressed<br>G : Ground | N : Neutral<br>R : Right<br>L : Left<br>I : Internal | 2.0~8.0 mm                   |                 |   | 0.2 mm<br>0.3 mm<br>0.4 mm<br>0.8 mm |   | L / R / T / C /<br>LP / RP / B / A<br>TL / CM |

#### • Holder

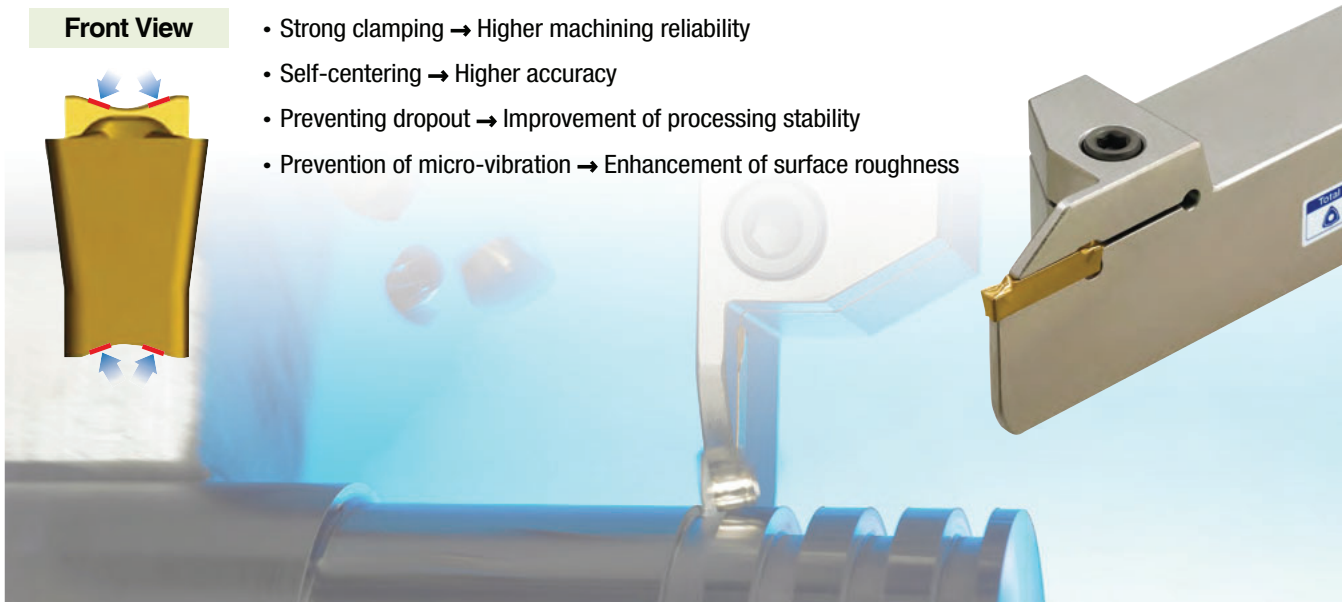
| KG                             | E                                                                  | H                                              | R/L                                 | 2525                                                                                            | - | 3                    | T20                  |
|--------------------------------|--------------------------------------------------------------------|------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------|---|----------------------|----------------------|
| <b>System Code</b>             | <b>Working Style</b>                                               | <b>Holder Style</b>                            | <b>Hand</b>                         | <b>Shank standard</b>                                                                           |   | <b>Cutting Width</b> | <b>Maximum Depth</b> |
| KG SYSTEM<br>(KORLOY Grooving) | E : External Process<br>I : Internal Process<br>F : Facing Process | H : Horizontal<br>V : Vertical<br>U : Undercut | R : Right-handed<br>L : Left-handed | Height : 25 mm<br>Width : 25 mm<br>(For Internal machining :<br>Minimum diameter for machining) |   | 2.0~8.0 mm           | 8~36 mm              |

### Features

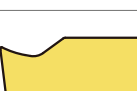
#### Front View



- Strong clamping → Higher machining reliability
- Self-centering → Higher accuracy
- Preventing dropout → Improvement of processing stability
- Prevention of micro-vibration → Enhancement of surface roughness



## Recommended Insert

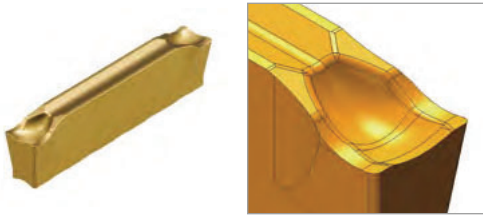
| Type   | Chip breaker                                                                           | Cross section type                                                                  | Recommended workpiece |   |   |   |   | Recommended cutting |         |         |         |        |          |         |         |        |          |         |   | Special |
|--------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------|---|---|---|---|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|---|---------|
|        |                                                                                        |                                                                                     | P                     | M | K | N | S | External            |         |         |         |        | Internal |         |         |        | Facing   |         |   |         |
|        |                                                                                        |                                                                                     |                       |   |   |   |   | Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |   |         |
| KGMN   | L     |    | ⊙                     | ○ |   |   |   | ⊙                   | ○       |         |         |        |          | ○       |         |        |          | ○       |   |         |
|        | TL    |    | ○                     | ○ |   |   | ⊙ | ⊙                   | ○       | ○       |         |        |          | ○       | ○       |        |          | ⊙       | ○ |         |
|        | T     |    | ⊙                     | ○ | ○ |   |   | ⊙                   | ○       | ⊙       |         |        |          | ○       | ○       |        |          | ⊙       | ⊙ |         |
|        | R     |    | ⊙                     | ○ | ⊙ |   |   | ⊙                   | ○       |         |         |        |          | ○       |         |        |          | ○       |   |         |
| KGGN   | B     |    | ⊙                     |   | ○ |   |   | ⊙                   |         |         |         |        |          |         |         |        |          |         |   | ⊙       |
|        | A    |   |                       |   |   | ⊙ |   | ⊙                   | ○       | ○       |         |        |          | ○       |         |        |          |         |   |         |
|        | R   |  | ⊙                     | ○ | ⊙ |   |   | ⊙                   | ○       |         |         |        |          | ○       |         |        |          | ○       |   |         |
| KGMI   | T   |  | ⊙                     | ○ | ○ |   |   |                     |         |         |         |        | ⊙        | ⊙       |         |        |          |         |   |         |
| KGMR/L | LP  |  | ⊙                     | ○ |   |   |   |                     | ⊙       |         |         |        |          |         |         |        |          |         |   |         |
|        | RP  |  | ⊙                     |   | ○ |   |   |                     | ⊙       |         |         |        |          |         |         |        |          |         |   |         |
| KRMN   | C   |  | ⊙                     | ○ | ○ |   |   |                     |         |         | ⊙       | ⊙      |          |         | ○       | ○      |          |         |   |         |
| KRGN   | A   |  |                       |   |   | ⊙ |   |                     |         |         | ⊙       | ⊙      |          |         | ○       | ○      |          |         |   |         |
|        | CM  |  | ○                     | ○ |   |   | ⊙ |                     |         |         | ⊙       | ⊙      |          |         | ○       | ○      |          |         |   |         |
| KRMI   | C   |  | ⊙                     | ○ | ○ |   |   |                     |         |         |         |        |          |         | ⊙       | ⊙      |          |         |   |         |

⊙: 1st recommendation ○: 2nd recommendation

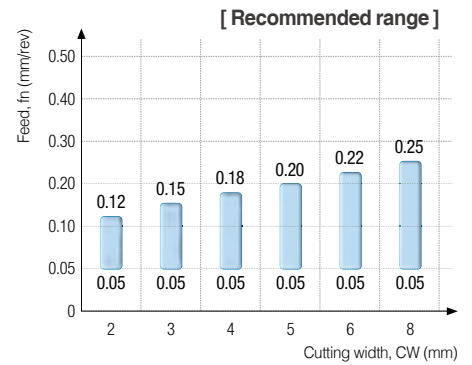
## Features of Chip breaker

⊙: 1st recommendation ○: 2nd recommendation

### L Light grooving



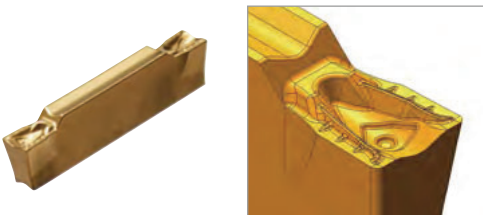
- For Grooving, Cutting and Parting
- Concave cutting edge
- Concave bump
- For HRSA cutting
- Good chip control



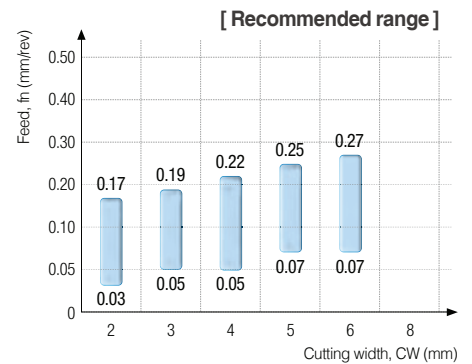
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         | Special |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |         |
| ⊙                   | ○       |         |         |        | ○        |         |         |        | ○        |         |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ○                     | ○ |   |   | ⊙ |

### TL Turning and grooving in Low feed



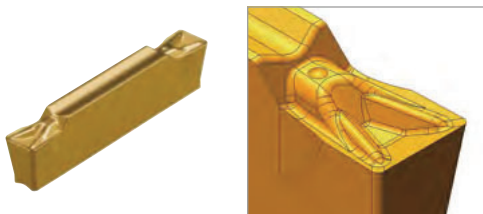
- For Grooving and Parting
- Concave cutting edge
- Concave rake surface
- Low hardness workpiece
- Small diameter part cutting



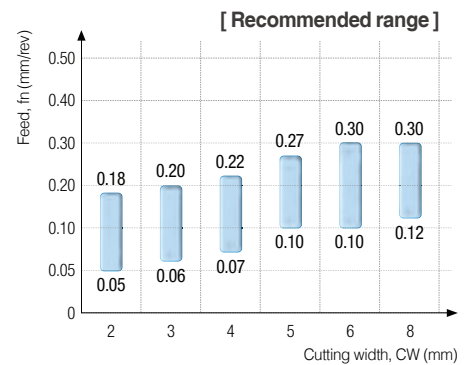
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         | Special |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |         |
| ⊙                   | ○       | ○       |         |        | ○        | ○       |         |        | ⊙        | ○       |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ⊙                     | ○ |   |   |   |

### T Turning and grooving



- For Grooving, Cutting and Parting
- Straight cutting edge
- Concave bump
- For various workpiece cutting
- Good chip control



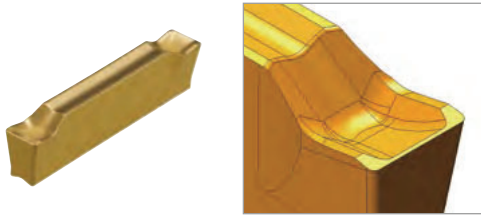
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         | Special |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |         |
| ⊙                   | ○       | ⊙       |         |        | ○        | ○       |         |        | ⊙        | ⊙       |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ⊙                     | ○ | ○ |   |   |

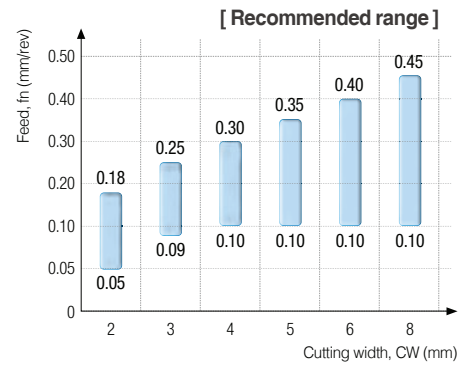
## Features of Chip breaker

⊙: 1st recommendation ○: 2nd recommendation

### R Rough grooving



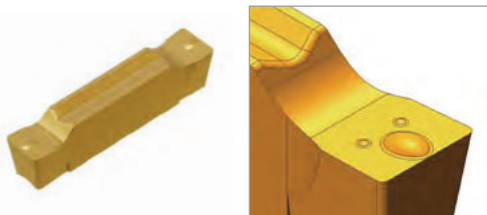
- For Grooving and Parting
- Straight cutting edge
- Hard cutting edge
- High hardness workpiece
- For high feed cutting



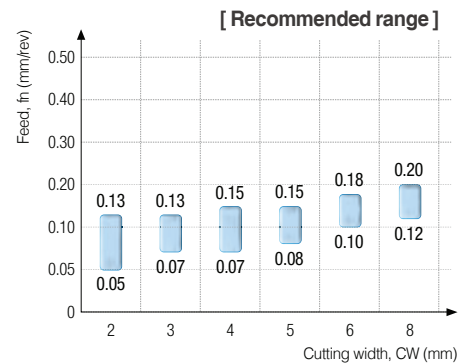
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |
| ⊙                   | ○       |         |         |        | ○        |         |         |        | ○        |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ⊙                     | ○ | ⊙ |   |   |

### B Blank for precision grooving



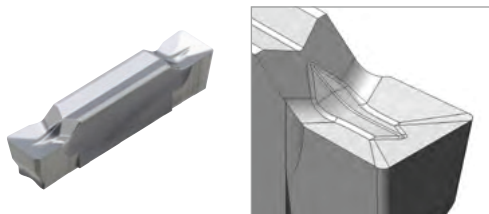
- For Grooving
- Straight cutting edge
- Special shape
- Good surface finish of workpiece



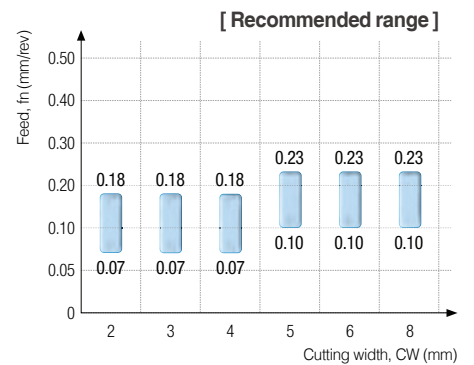
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |
| ⊙                   |         |         |         |        |          |         |         |        |          | ⊙       |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ⊙                     |   | ○ |   |   |

### A Aluminum grooving



- For Grooving, Parting and Turning
- Straight cutting edge
- Aluminum workpiece
- Good surface finish of workpiece



| Recommended cutting |         |         |         |        |          |         |         |        |          |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |
| ⊙                   | ○       | ○       |         |        | ○        |         |         |        |          |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
|                       |   |   | ⊙ |   |

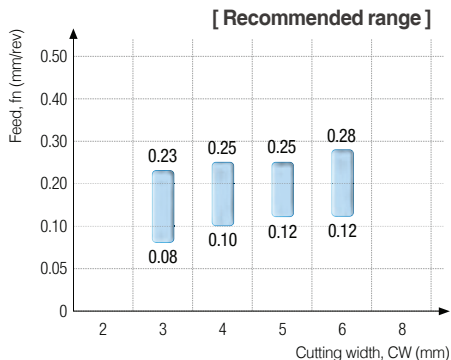
## Features of Chip breaker

⊙: 1st recommendation ○: 2nd recommendation

### CM Copying and relief in Medium feed



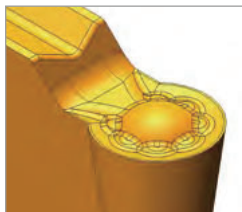
- For Copying and Relief
- Round cutting edge
- Bump on rake surface
- For HRSA cutting
- Good surface finish of workpiece



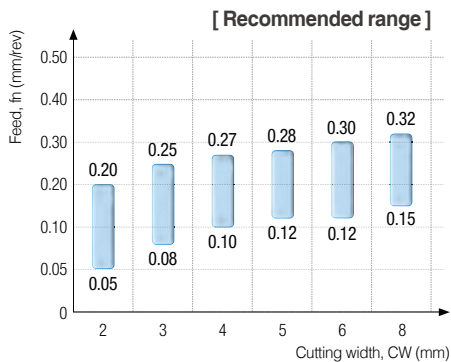
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         | Special |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |         |
|                     |         |         | ⊙       | ⊙      |          |         | ○       | ○      |          |         |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ○                     | ○ |   |   | ⊙ |

### C Copying and relief



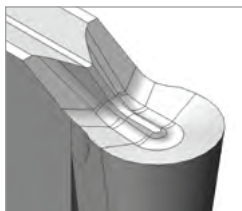
- For Copying and Relief
- Round cutting edge
- Bump on rake surface
- Good surface finish of workpiece



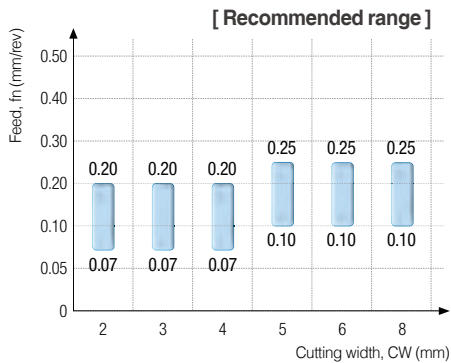
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         | Special |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |         |
|                     |         |         | ⊙       | ⊙      |          |         | ○       | ○      |          |         |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ⊙                     | ○ | ○ |   |   |

### A Aluminum grooving



- For Copying and Relief
- Round cutting edge
- Aluminum workpiece
- Good surface finish of workpiece



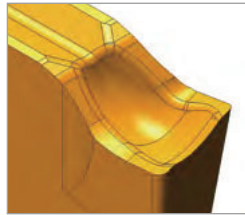
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         | Special |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |         |
|                     |         |         | ⊙       | ⊙      |          |         | ○       | ○      |          |         |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
|                       |   |   | ⊙ |   |

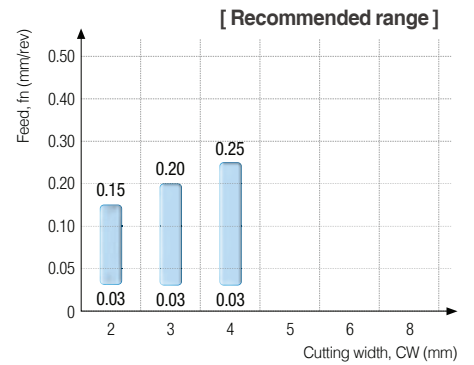
## Features of Chip breaker

⊙: 1st recommendation ○: 2nd recommendation

### LP Light Parting



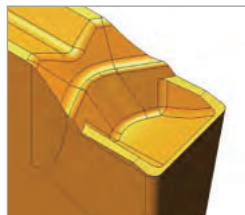
- For Parting
- Lead angle cutting edge
- Concave rake surface
- Low hardness workpiece
- Small diameter part cutting



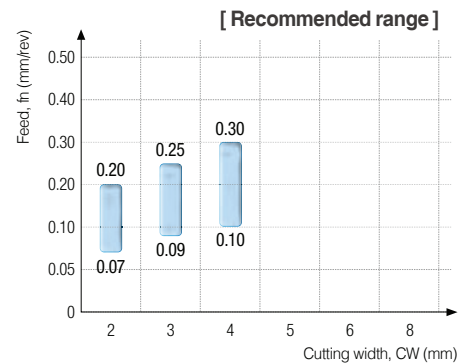
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |
|                     | ⊙       |         |         |        |          |         |         |        |          |         |

| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ⊙                     | ○ |   |   |   |

### RP Rough Parting



- For Parting
- Lead angle cutting edge
- Hard cutting edge
- High hardness workpiece
- Good for high feed cutting



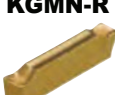
| Recommended cutting |         |         |         |        |          |         |         |        |          |         |
|---------------------|---------|---------|---------|--------|----------|---------|---------|--------|----------|---------|
| External            |         |         |         |        | Internal |         |         |        | Facing   |         |
| Grooving            | Parting | Turning | Copying | Relief | Grooving | Turning | Copying | Relief | Grooving | Turning |
|                     | ⊙       |         |         |        |          |         |         |        |          |         |

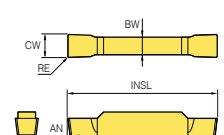
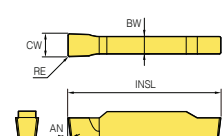
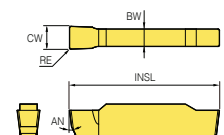
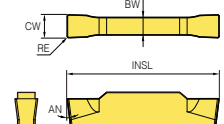
| Recommended workpiece |   |   |   |   |
|-----------------------|---|---|---|---|
| P                     | M | K | N | S |
| ⊙                     |   | ○ |   |   |

## Recommended cutting conditions

| Workpiece |                       |                       |                |                 |                       | Grade      |        |        |        |        |        | Chip breaker |      |      |      |      |      |             |      |      |      |
|-----------|-----------------------|-----------------------|----------------|-----------------|-----------------------|------------|--------|--------|--------|--------|--------|--------------|------|------|------|------|------|-------------|------|------|------|
|           |                       |                       |                |                 |                       | CVD        |        |        | PVD    |        |        | Grooving     |      |      |      |      |      | Turning     |      |      |      |
| ISO       | Workpiece material    |                       | KS             | ISO             | Brinell hardness (HB) | NC3225     | NC5330 | NC6315 | PC3035 | PC5300 | PC9030 | L            | TL   | T    | R    | C    | CM   | TL          | T    | C    | CM   |
|           |                       |                       |                |                 |                       | vc (m/min) |        |        |        |        |        | fn (mm/rev)  |      |      |      |      |      | fn (mm/rev) |      |      |      |
| P         | Carbon                | C = 0.10 ~0.25%       | SM25C          | C25             | 125                   | 210        | 160    | -      | 100    | 110    | -      | 0.15         | 0.12 | 0.15 | 0.25 | 0.20 | 0.16 | 0.19        | 0.20 | 0.25 | 0.23 |
|           |                       |                       |                |                 |                       | 230        | 170    | -      | 140    | 140    | -      | 0.10         | 0.10 | 0.11 | 0.17 | 0.15 | 0.13 | 0.17        | 0.16 | 0.20 | 0.18 |
|           |                       |                       |                |                 |                       | 240        | 190    | -      | 180    | 170    | -      | 0.05         | 0.08 | 0.07 | 0.09 | 0.10 | 0.10 | 0.15        | 0.12 | 0.15 | 0.13 |
|           |                       | C = 0.25 ~0.55%       | SM35C          | C35             | 160                   | 200        | 140    | -      | 95     | 100    | -      | 0.15         | 0.12 | 0.15 | 0.25 | 0.20 | 0.16 | 0.19        | 0.20 | 0.25 | 0.23 |
|           |                       |                       |                |                 |                       | 210        | 160    | -      | 130    | 130    | -      | 0.10         | 0.10 | 0.11 | 0.17 | 0.15 | 0.13 | 0.17        | 0.16 | 0.20 | 0.18 |
|           |                       |                       |                |                 |                       | 220        | 170    | -      | 180    | 160    | -      | 0.05         | 0.08 | 0.07 | 0.09 | 0.10 | 0.10 | 0.15        | 0.12 | 0.15 | 0.13 |
|           |                       | C = 0.55 ~0.80%       | SM55C          | C55             | 229                   | 180        | 130    | -      | 90     | 90     | -      | 0.15         | 0.12 | 0.15 | 0.25 | 0.20 | 0.16 | 0.19        | 0.2  | 0.25 | 0.23 |
|           |                       |                       |                |                 |                       | 200        | 150    | -      | 130    | 120    | -      | 0.10         | 0.10 | 0.11 | 0.17 | 0.15 | 0.13 | 0.17        | 0.16 | 0.20 | 0.18 |
|           |                       |                       |                |                 |                       | 210        | 160    | -      | 170    | 150    | -      | 0.05         | 0.08 | 0.07 | 0.09 | 0.10 | 0.10 | 0.15        | 0.12 | 0.15 | 0.13 |
|           | Low alloy steel ≤ 5%  | Nonhardened           | SCM440         | 42CrMo4         | 180                   | 150        | 110    | -      | 60     | 70     | -      | 0.13         | 0.11 | 0.13 | 0.21 | 0.18 | 0.14 | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | 160        | 120    | -      | 100    | 100    | -      | 0.09         | 0.09 | 0.10 | 0.15 | 0.13 | 0.11 | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | 170        | 130    | -      | 140    | 130    | -      | 0.05         | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 | 0.13        | 0.10 | 0.13 | 0.10 |
|           |                       | Hardened and tempered | SCM445         | -               | 350                   | 85         | 60     | -      | 40     | 50     | -      | 0.13         | 0.11 | 0.13 | 0.21 | 0.18 | 0.14 | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | 90         | 70     | -      | 65     | 60     | -      | 0.09         | 0.09 | 0.10 | 0.15 | 0.13 | 0.11 | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | 100        | 80     | -      | 90     | 70     | -      | 0.05         | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 | 0.13        | 0.10 | 0.13 | 0.10 |
|           | High alloy steel > 5% | Annealed              | STD11          | -               | 200                   | 110        | 80     | -      | 50     | 55     | -      | 0.13         | 0.11 | 0.13 | 0.21 | 0.18 | 0.14 | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | 120        | 90     | -      | 80     | 75     | -      | 0.09         | 0.09 | 0.10 | 0.15 | 0.13 | 0.11 | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | 130        | 100    | -      | 120    | 95     | -      | 0.05         | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 | 0.13        | 0.10 | 0.13 | 0.10 |
|           |                       | Hardened tool steel   | STD61          | X40CrMoV5-1     | 352                   | 90         | 65     | -      | 40     | 40     | -      | 0.13         | 0.11 | 0.13 | 0.21 | 0.18 | 0.14 | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | 100        | 70     | -      | 65     | 60     | -      | 0.09         | 0.09 | 0.10 | 0.15 | 0.13 | 0.11 | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | 110        | 80     | -      | 90     | 80     | -      | 0.05         | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 | 0.13        | 0.10 | 0.13 | 0.10 |
| M         | Austenite series      |                       | STS304         | X5CrNi18-9      | 160 ~ 180             | -          | 85     | -      | -      | 60     | 50     | 0.13         | 0.11 | 0.13 | 0.21 | 0.18 | 0.14 | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | -          | 90     | -      | -      | 80     | 70     | 0.09         | 0.09 | 0.10 | 0.15 | 0.13 | 0.11 | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | -          | 100    | -      | -      | 100    | 90     | 0.05         | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 | 0.13        | 0.10 | 0.13 | 0.10 |
|           |                       |                       | STS316         | X5CrNiMo17-12-2 | 160 ~ 180             | -          | 85     | -      | -      | 60     | 50     | 0.13         | 0.11 | 0.13 | 0.21 | 0.18 | 0.14 | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | -          | 90     | -      | -      | 80     | 70     | 0.09         | 0.09 | 0.10 | 0.15 | 0.13 | 0.11 | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | -          | 100    | -      | -      | 100    | 90     | 0.05         | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 | 0.13        | 0.10 | 0.13 | 0.10 |
| K         | Gray cast iron        | Low tensile strength  | GC150          | 150             | ≤ 212                 | -          | 105    | 150    | -      | 80     | -      | -            | -    | 0.13 | 0.21 | 0.18 | -    | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | -          | 110    | 160    | -      | 100    | -      | -            | -    | 0.10 | 0.15 | 0.13 | -    | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | -          | 120    | 170    | -      | 120    | -      | -            | -    | 0.07 | 0.09 | 0.08 | -    | 0.13        | 0.10 | 0.13 | 0.10 |
|           |                       | High tensile strength | GC250<br>GC350 | 250<br>350      | ≤ 248<br>≤ 277        | -          | 85     | 120    | -      | 80     | -      | -            | -    | 0.13 | 0.21 | 0.18 | -    | 0.17        | 0.18 | 0.23 | 0.20 |
|           |                       |                       |                |                 |                       | -          | 90     | 130    | -      | 100    | -      | -            | -    | 0.10 | 0.15 | 0.13 | -    | 0.15        | 0.14 | 0.18 | 0.15 |
|           |                       |                       |                |                 |                       | -          | 100    | 140    | -      | 120    | -      | -            | -    | 0.07 | 0.09 | 0.08 | -    | 0.13        | 0.10 | 0.13 | 0.10 |
|           | Ductile cast iron     | GCD500-7              | 500-7          | 170 ~ 241       | -                     | 65         | 95     | -      | 70     | -      | -      | -            | 0.15 | 0.25 | 0.20 | -    | 0.19 | 0.20        | 0.25 | 0.23 |      |
|           |                       |                       |                |                 | -                     | 70         | 100    | -      | 85     | -      | -      | -            | 0.11 | 0.17 | 0.15 | -    | 0.17 | 0.16        | 0.20 | 0.18 |      |
|           |                       |                       |                |                 | -                     | 80         | 110    | -      | 100    | -      | -      | -            | 0.07 | 0.09 | 0.10 | -    | 0.15 | 0.12        | 0.15 | 0.13 |      |
|           |                       |                       |                |                 | -                     | 55         | 85     | -      | 70     | -      | -      | -            | 0.15 | 0.25 | 0.20 | -    | 0.19 | 0.20        | 0.25 | 0.23 |      |
|           |                       |                       |                |                 | -                     | 60         | 90     | -      | 85     | -      | -      | -            | 0.11 | 0.17 | 0.15 | -    | 0.17 | 0.16        | 0.20 | 0.18 |      |
|           |                       |                       |                |                 | -                     | 70         | 100    | -      | 100    | -      | -      | -            | 0.07 | 0.09 | 0.10 | -    | 0.15 | 0.12        | 0.15 | 0.13 |      |
|           |                       | GCD600-3              | 600-3          | 192 ~ 269       | -                     | 55         | 85     | -      | 70     | -      | -      | -            | 0.15 | 0.25 | 0.20 | -    | 0.19 | 0.20        | 0.25 | 0.23 |      |
|           |                       |                       |                |                 | -                     | 60         | 90     | -      | 85     | -      | -      | -            | 0.11 | 0.17 | 0.15 | -    | 0.17 | 0.16        | 0.20 | 0.18 |      |
|           |                       |                       |                |                 | -                     | 70         | 100    | -      | 100    | -      | -      | -            | 0.07 | 0.09 | 0.10 | -    | 0.15 | 0.12        | 0.15 | 0.13 |      |
|           |                       |                       |                |                 | -                     | 55         | 85     | -      | 70     | -      | -      | -            | 0.15 | 0.25 | 0.20 | -    | 0.19 | 0.20        | 0.25 | 0.23 |      |
|           |                       |                       |                |                 | -                     | 60         | 90     | -      | 85     | -      | -      | -            | 0.11 | 0.17 | 0.15 | -    | 0.17 | 0.16        | 0.20 | 0.18 |      |
|           |                       |                       |                |                 | -                     | 70         | 100    | -      | 100    | -      | -      | -            | 0.07 | 0.09 | 0.10 | -    | 0.15 | 0.12        | 0.15 | 0.13 |      |
| S         | Inconel               | Inconel909            | -              | 200             | -                     | -          | -      | -      | 30     | -      | -      | 0.09         | 0.10 | -    | 0.12 | 0.10 | 0.15 | 0.13        | 0.16 | 0.14 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 40     | -      | -      | 0.07         | 0.08 | -    | 0.10 | 0.08 | 0.13 | 0.11        | 0.14 | 0.12 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 50     | -      | -      | 0.05         | 0.06 | -    | 0.08 | 0.06 | 0.11 | 0.09        | 0.12 | 0.10 |      |
|           |                       | Inconel718            | -              | 350             | -                     | -          | -      | -      | 20     | -      | -      | 0.09         | 0.10 | -    | 0.12 | 0.10 | 0.15 | 0.13        | 0.16 | 0.14 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 30     | -      | -      | 0.07         | 0.08 | -    | 0.10 | 0.08 | 0.13 | 0.11        | 0.14 | 0.12 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 40     | -      | -      | 0.05         | 0.06 | -    | 0.08 | 0.06 | 0.11 | 0.09        | 0.12 | 0.10 |      |
|           | Titanium alloy        | Pure titanium         | -              | 70              | -                     | -          | -      | -      | 40     | -      | -      | 0.11         | 0.13 | -    | 0.18 | 0.14 | 0.17 | 0.18        | 0.20 | 0.20 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 50     | -      | -      | 0.09         | 0.10 | -    | 0.13 | 0.11 | 0.15 | 0.14        | 0.18 | 0.15 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 60     | -      | -      | 0.07         | 0.07 | -    | 0.08 | 0.08 | 0.13 | 0.10        | 0.16 | 0.10 |      |
|           |                       | Ti-6Al-4V             | -              | 334             | -                     | -          | -      | -      | 40     | -      | -      | 0.11         | 0.13 | -    | 0.18 | 0.14 | 0.17 | 0.18        | 0.20 | 0.20 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 50     | -      | -      | 0.09         | 0.10 | -    | 0.13 | 0.11 | 0.15 | 0.14        | 0.18 | 0.15 |      |
|           |                       |                       |                |                 | -                     | -          | -      | -      | 60     | -      | -      | 0.07         | 0.07 | -    | 0.08 | 0.08 | 0.13 | 0.10        | 0.16 | 0.10 |      |

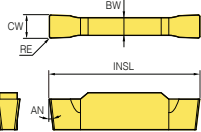
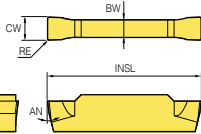
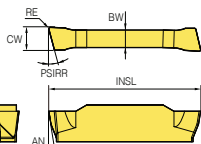
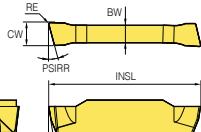
## Applicable inserts

| Application                            | Picture                                                                             | Designation | Coated    |        |        |        |        |        | Uncoated |     | Dimensions (mm) |     |      |     |      |     |      | Configuration |                                                                                   |
|----------------------------------------|-------------------------------------------------------------------------------------|-------------|-----------|--------|--------|--------|--------|--------|----------|-----|-----------------|-----|------|-----|------|-----|------|---------------|-----------------------------------------------------------------------------------|
|                                        |                                                                                     |             | NC3225    | NC5330 | NC6315 | PC3035 | PC5300 | PC9030 | H01      | H05 | SSC             | CW  | RE   | BW  | INSL | AN  | HAND |               |                                                                                   |
| Grooving                               |    | KGMN        | 200-02-L  | ●      | ●      |        | ●      | ●      | ●        |     |                 | 20  | 2    | 0.2 | 1.7  | 20  | 7    | N             |  |
|                                        |                                                                                     |             | 300-02-L  | ●      | ●      |        | ●      | ●      | ●        |     |                 | 30  | 3    | 0.2 | 2.3  | 20  | 7    | N             |                                                                                   |
|                                        |                                                                                     |             | 400-02-L  | ●      | ●      |        | ●      | ●      | ●        |     |                 | 40  | 4    | 0.2 | 3.3  | 20  | 7    | N             |                                                                                   |
|                                        |                                                                                     |             | 500-03-L  | ●      | ●      |        | ●      | ●      |          |     |                 | 50  | 5    | 0.3 | 4.1  | 25  | 7    | N             |                                                                                   |
|                                        |                                                                                     |             | 600-03-L  |        |        |        |        | ●      |          |     |                 | 60  | 6    | 0.3 | 5.1  | 25  | 7    | N             |                                                                                   |
| Grooving · Turning                     |    | KGMN        | 300-02-TL |        |        |        |        |        |          |     | 30              | 3   | 0.2  | 2.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 300-04-TL |        |        |        |        |        |          |     | 30              | 3   | 0.4  | 2.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 400-04-TL |        |        |        |        |        |          |     | 40              | 4   | 0.4  | 3.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 500-04-TL |        |        |        |        |        |          |     | 50              | 5   | 0.4  | 4.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 500-08-TL |        |        |        |        |        |          |     | 50              | 5   | 0.8  | 4.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 600-08-TL |        |        |        |        |        |          |     | 60              | 6   | 0.8  | 5.1 | 25   | 7   | N    |               |                                                                                   |
| Grooving · Turning                     |   | KGMN        | 150-015-T | ●      | ●      |        |        | ●      |          |     | 15              | 1.5 | 0.15 | 1.2 | 16   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 200-02-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 20              | 2   | 0.2  | 1.7 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 250-02-T  | ●      | ●      |        |        | ●      |          |     | 25              | 2.5 | 0.2  | 2   | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 300-02-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 0               | 3   | 0.2  | 2.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 300-04-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 30              | 3   | 0.4  | 2.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 400-04-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 40              | 4   | 0.4  | 3.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 400-08-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 40              | 4   | 0.8  | 3.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 500-04-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 50              | 5   | 0.4  | 4.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 500-08-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 50              | 5   | 0.8  | 4.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 600-04-T  | ●      | ●      | ●      | ●      | ●      | ●        |     | 60              | 6   | 0.4  | 5.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 600-08-T  | ●      | ●      | ●      | ●      | ●      |          |     | 60              | 6   | 0.8  | 5.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 800-08-T  | ●      |        | ●      | ●      | ●      |          |     | 80              | 8   | 0.8  | 6.1 | 30   | 7   | N    |               |                                                                                   |
| Rough Grooving                         |  | KGMN        | 150-015-R | ●      | ●      |        |        | ●      |          |     | 15              | 1.5 | 0.15 | 1.2 | 16   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 200-02-R  | ●      | ●      |        | ●      | ●      | ●        |     | 20              | 2   | 0.2  | 1.7 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 300-02-R  | ●      | ●      |        | ●      | ●      | ●        |     | 30              | 3   | 0.2  | 2.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 400-03-R  | ●      | ●      |        | ●      | ●      | ●        |     | 40              | 4   | 0.3  | 3.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 500-03-R  |        | ●      |        |        | ●      |          |     | 50              | 5   | 0.3  | 4.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 600-03-R  |        | ●      |        |        | ●      |          |     | 60              | 6   | 0.3  | 3.4 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 800-04-R  |        | ●      |        |        | ●      |          |     | 80              | 8   | 0.4  | 6.1 | 30   | 7   | N    |               |                                                                                   |
| Aluminum Grooving (Single insert)      |  | KGGN        | 200S-02-A |        |        |        |        |        |          |     | 20              | 2   | 0.2  | 1.7 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 300S-02-A |        |        |        |        |        |          |     | 30              | 3   | 0.2  | 2.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 400S-04-A |        |        |        |        |        |          |     | 40              | 4   | 0.4  | 3.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 500S-04-A |        |        |        |        |        |          |     | 50              | 5   | 0.4  | 4.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 600S-04-A |        |        |        |        |        |          |     | 60              | 6   | 0.4  | 5.1 | 25   | 7   | N    |               |                                                                                   |
| Grooving · Parting off (Single insert) |  | KGGN        | 200S-02-R |        |        |        |        |        |          |     | 20              | 2   | 0.2  | 1.7 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 300S-02-R |        |        |        |        | ●      |          |     | 30              | 3   | 0.2  | 2.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 400S-02-R |        |        |        |        | ●      |          |     | 40              | 4   | 0.3  | 3.3 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 500S-02-R |        |        |        |        | ●      |          |     | 50              | 5   | 0.3  | 4.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 600S-02-R |        |        |        |        | ●      |          |     | 60              | 6   | 0.3  | 5.1 | 25   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 800S-04-R |        |        |        |        | ●      |          |     | 80              | 8   | 0.4  | 6.1 | 30   | 7   | N    |               |                                                                                   |
| Aluminum Grooving                      |  | KGGN        | 200-02-A  |        |        |        |        |        | ●        |     | 20              | 2   | 0.2  | 1.7 | 20   | 7   | N    |               |                                                                                   |
|                                        |                                                                                     |             | 300-02-A  |        |        |        |        |        |          | ●   |                 | 30  | 3    | 0.2 | 2.3  | 20  | 7    | N             |                                                                                   |
|                                        |                                                                                     |             | 400-04-A  |        |        |        |        |        |          |     | ●               |     | 40   | 4   | 0.4  | 3.3 | 20   | 7             | N                                                                                 |
|                                        |                                                                                     |             | 500-04-A  |        |        |        |        |        |          |     | ●               |     | 50   | 5   | 0.4  | 4.1 | 25   | 7             | N                                                                                 |
|                                        |                                                                                     |             | 600-04-A  |        |        |        |        |        |          |     | ●               |     | 60   | 6   | 0.4  | 5.1 | 25   | 7             | N                                                                                 |



• : Stock item

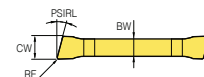
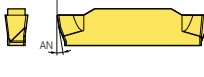
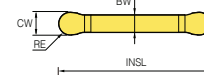
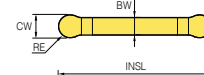
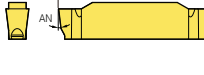
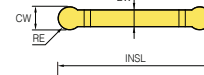
## Applicable inserts

| Application              | Picture                                                                             | Designation    | Coated |        |        |        |        | Uncoated |     | Dimensions (mm) |      |    |       |       |     |    |      |    | Configuration                                                                         |
|--------------------------|-------------------------------------------------------------------------------------|----------------|--------|--------|--------|--------|--------|----------|-----|-----------------|------|----|-------|-------|-----|----|------|----|---------------------------------------------------------------------------------------|
|                          |                                                                                     |                | NC3225 | NC5330 | NC6315 | PC3035 | PC5300 | PC9030   | H01 | H05             | SSC  | CW | PSIRR | PSIRL | RE  | BW | INSL | AN |                                                                                       |
| Grooving (Ground insert) |    | KGGN 265-015-B |        |        |        |        |        |          |     | 30              | 2.65 | -  | -     | 0.15  | 2.3 | 20 | 7    | N  |    |
|                          |                                                                                     | 300-020-B      |        |        |        |        |        |          |     | 30              | 3    | -  | -     | 0.2   | 2.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 300-040-B      |        |        |        |        |        |          |     | 30              | 3    | -  | -     | 0.4   | 2.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 315-015-B      |        |        |        |        |        |          |     | 30              | 3.15 | -  | -     | 0.15  | 2.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 400-040-B      |        |        |        |        |        |          |     | 40              | 4    | -  | -     | 0.4   | 3.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 400-080-B      |        |        |        |        |        |          |     | 40              | 4    | -  | -     | 0.8   | 3.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 415-015-B      |        |        |        |        |        |          |     | 40              | 4.15 | -  | -     | 0.15  | 3.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 478-055-B      |        |        |        |        |        |          |     | 50              | 4.78 | -  | -     | 0.55  | 4.1 | 25 | 7    | N  |                                                                                       |
|                          |                                                                                     | 500-080-B      |        |        |        |        |        |          |     | 50              | 5    | -  | -     | 0.8   | 4.1 | 25 | 7    | N  |                                                                                       |
|                          |                                                                                     | 515-015-B      |        |        |        |        |        |          |     | 50              | 5.15 | -  | -     | 0.15  | 4.1 | 25 | 7    | N  |                                                                                       |
|                          |                                                                                     | 600-080-B      |        |        |        |        |        |          |     | 60              | 6    | -  | -     | 0.8   | 5.1 | 25 | 7    | N  |                                                                                       |
|                          |                                                                                     | 600-120-B      |        |        |        |        |        |          |     | 60              | 6    | -  | -     | 1.2   | 5.1 | 25 | 7    | N  |                                                                                       |
|                          |                                                                                     | 800-080-B      |        |        |        |        |        |          |     | 80              | 8    | -  | -     | 0.8   | 6.1 | 30 | 7    | N  |                                                                                       |
|                          |                                                                                     | 800-120-B      |        |        |        |        |        |          |     | 80              | 8    | -  | -     | 1.2   | 6.1 | 30 | 7    | N  |                                                                                       |
| Grooving · Parting off   |  | KGGN 200-02-R  |        |        |        |        |        |          |     | 20              | 2    | -  | -     | 0.2   | 1.7 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 300-02-R       |        |        |        |        |        |          |     | 30              | 3    | -  | -     | 0.2   | 2.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 400-03-R       |        |        |        |        |        |          |     | 40              | 4    | -  | -     | 0.3   | 3.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 500-03-R       |        |        |        |        |        |          |     | 50              | 5    | -  | -     | 0.3   | 4.1 | 25 | 7    | N  |                                                                                       |
|                          |                                                                                     | 600-03-R       |        |        |        |        |        |          |     | 60              | 6    | -  | -     | 0.3   | 5.1 | 25 | 7    | N  |                                                                                       |
|                          |                                                                                     | 800-04-R       |        |        |        |        |        |          |     | 80              | 8    | -  | -     | 0.4   | 6.1 | 30 | 7    | N  |                                                                                       |
| Grooving · Internal      |  | KGMI 200-02-T  |        |        |        |        | ●      |          |     | 20              | 2    | -  | -     | 0.2   | 1.7 | 20 | 7    | N  |  |
|                          |                                                                                     | 300-04-T       |        |        |        |        | ●      |          |     | 30              | 3    | -  | -     | 0.4   | 2.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     | 400-04-T       |        |        |        |        | ●      |          |     | 40              | 4    | -  | -     | 0.4   | 3.3 | 20 | 7    | N  |                                                                                       |
|                          |                                                                                     |                |        |        |        |        |        |          |     |                 |      |    |       |       |     |    |      |    |                                                                                       |
| Light parting            |  | KGMR 200-6D-LP | ●      |        |        |        | ●      |          |     | 20              | 2    | -  | 6     | 0.2   | 1.7 | 20 | 7    | R  |  |
|                          |                                                                                     | 200-8D-LP      |        |        |        |        |        |          |     | 20              | 2    | -  | 8     | 0.2   | 1.7 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 200-15D-LP     | ●      |        |        |        | ●      |          |     | 20              | 2    | -  | 15    | 0.2   | 1.7 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 300-6D-LP      | ●      |        |        |        | ●      |          |     | 30              | 3    | -  | 6     | 0.2   | 2.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 300-15D-LP     | ●      |        |        |        | ●      |          |     | 30              | 3    | -  | 15    | 0.2   | 2.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 400-4D-LP      | ●      |        |        |        | ●      |          |     | 40              | 4    | -  | 4     | 0.3   | 3.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 400-15D-LP     |        |        |        |        |        |          |     | 40              | 4    | -  | 15    | 0.3   | 3.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 500-4D-LP      |        |        |        |        |        |          |     | 50              | 5    | -  | 4     | 0.3   | 4.1 | 25 | 7    | R  |                                                                                       |
| Rough parting            |  | KGMR 200-6D-RP | ●      |        |        |        | ●      |          |     | 20              | 2    | 6  | -     | 0.2   | 1.7 | 20 | 7    | R  |  |
|                          |                                                                                     | 200-8D-RP      |        |        |        |        |        |          |     | 20              | 2    | 8  | -     | 0.2   | 1.7 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 200-15D-RP     | ●      |        |        |        | ●      |          |     | 20              | 2    | 15 | -     | 0.2   | 1.7 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 300-6D-RP      | ●      |        |        |        | ●      |          |     | 30              | 3    | 6  | -     | 0.2   | 2.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 300-15D-RP     | ●      |        |        |        | ●      |          |     | 30              | 3    | 15 | -     | 0.2   | 2.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 400-4D-RP      | ●      |        |        |        | ●      |          |     | 40              | 4    | 4  | -     | 0.3   | 3.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 400-15D-RP     | ●      |        |        |        | ●      |          |     | 40              | 4    | 15 | -     | 0.3   | 3.3 | 20 | 7    | R  |                                                                                       |
|                          |                                                                                     | 500-4D-RP      |        |        |        |        |        |          |     | 50              | 5    | 4  | -     | 0.3   | 4.1 | 25 | 7    | R  |                                                                                       |

• You can grind the chip breaker, 'B' as any shape you want. If you want any special shape of chip breaker, please contact your distributor.

● : Stock item

## Applicable inserts

| Application       | Picture                                                                             | Designation | Coated     |        |        |        |        |        | Uncoated |     | Dimensions (mm) |    |       |       |     |     |      |    |      |                                                                                       | Configuration |
|-------------------|-------------------------------------------------------------------------------------|-------------|------------|--------|--------|--------|--------|--------|----------|-----|-----------------|----|-------|-------|-----|-----|------|----|------|---------------------------------------------------------------------------------------|---------------|
|                   |                                                                                     |             | NC3225     | NC5330 | NC6315 | PC3035 | PC5300 | PC9030 | H01      | H05 | SSC             | CW | PSIRR | PSIRL | RE  | BW  | INSL | AN | HAND |                                                                                       |               |
| Light parting     |    | KGML        | 200-6D-LP  |        |        |        |        |        |          |     | 20              | 2  | -     | 6     | 0.2 | 1.7 | 20   | 7  | L    |    |               |
|                   |                                                                                     |             | 200-15D-LP |        |        |        |        |        |          |     | 20              | 2  | -     | 15    | 0.2 | 1.7 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 300-6D-LP  |        |        |        |        |        |          |     | 30              | 3  | -     | 6     | 0.2 | 2.3 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 300-15D-LP |        |        |        |        |        |          |     | 30              | 3  | -     | 15    | 0.2 | 2.3 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 400-4D-LP  |        |        |        |        |        |          |     | 40              | 4  | -     | 4     | 0.3 | 3.3 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 400-15D-LP |        |        |        |        |        |          |     | 40              | 4  | -     | 15    | 0.3 | 3.3 | 20   | 7  | L    |                                                                                       |               |
| Rough parting     |    | KGML        | 200-6D-RP  |        |        |        |        |        |          |     | 20              | 2  | 6     | -     | 0.2 | 1.7 | 20   | 7  | L    |    |               |
|                   |                                                                                     |             | 200-15D-RP |        |        |        |        |        |          |     | 20              | 2  | 15    | -     | 0.2 | 1.7 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 300-6D-RP  |        |        |        |        |        |          |     | 30              | 3  | 6     | -     | 0.2 | 2.3 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 300-15D-RP |        |        |        |        |        |          |     | 30              | 3  | 15    | -     | 0.2 | 2.3 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 400-4D-RP  |        |        |        |        |        |          |     | 40              | 4  | 4     | -     | 0.3 | 3.3 | 20   | 7  | L    |                                                                                       |               |
|                   |                                                                                     |             | 400-15D-RP |        |        |        |        |        |          |     | 40              | 4  | 15    | -     | 0.3 | 3.3 | 20   | 7  | L    |                                                                                       |               |
| Relief Profiling  |   | KRMN        | 200-C      | ●      | ●      | ●      | ●      | ●      |          |     | 20              | 2  | -     | -     | 1   | 1.7 | 20   | 5  | N    |   |               |
|                   |                                                                                     |             | 300-C      | ●      | ●      |        | ●      | ●      |          |     | 30              | 3  | -     | -     | 1.5 | 2.2 | 20   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 400-C      | ●      | ●      | ●      | ●      | ●      |          |     | 40              | 4  | -     | -     | 2   | 3.3 | 20   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 500-C      | ●      | ●      | ●      | ●      | ●      |          |     | 50              | 5  | -     | -     | 2.5 | 4.1 | 25   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 600-C      | ●      | ●      | ●      | ●      | ●      |          |     | 60              | 6  | -     | -     | 3   | 5   | 25   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 800-C      | ●      | ●      | ●      |        | ●      |          |     | 80              | 8  | -     | -     | 4   | 6   | 25   | 7  | N    |                                                                                       |               |
| Aluminum Grooving |  | KRGN        | 300-A      |        |        |        |        |        | ●        |     | 30              | 3  | -     | -     | 1.5 | 2.3 | 20   | 7  | N    |  |               |
|                   |                                                                                     |             | 400-A      |        |        |        |        |        | ●        |     | 40              | 4  | -     | -     | 2   | 3.3 | 20   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 500-A      |        |        |        |        |        | ●        |     | 50              | 5  | -     | -     | 2.5 | 4.1 | 25   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 600-A      |        |        |        |        |        | ●        |     | 60              | 6  | -     | -     | 3   | 5.1 | 25   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 800-A      |        |        |        |        |        |          |     | 80              | 8  | -     | -     | 4   | 6.1 | 30   | 7  | N    |                                                                                       |               |
| Relief Profiling  |  | KRGN        | 300-CM     |        |        |        |        |        |          |     | 30              | 3  | -     | -     | 1.5 | 2.2 | 20   | 7  | N    |  |               |
|                   |                                                                                     |             | 400-CM     |        |        |        |        |        |          |     | 40              | 4  | -     | -     | 2   | 3.3 | 20   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 500-CM     |        |        |        |        |        |          |     | 50              | 5  | -     | -     | 2.5 | 4.1 | 25   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             |            |        |        |        |        |        |          |     |                 |    |       |       |     |     |      |    |      |                                                                                       |               |
| Profiling         |  | KRMI        | 200-C      |        |        |        |        |        |          |     | 20              | 2  | -     | -     | 1   | 1.7 | 20   | 7  | N    |  |               |
|                   |                                                                                     |             | 300-C      |        |        |        |        |        |          |     | 30              | 3  | -     | -     | 1.5 | 2.2 | 20   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             | 400-C      |        |        |        |        |        |          |     | 40              | 4  | -     | -     | 2   | 3.2 | 20   | 7  | N    |                                                                                       |               |
|                   |                                                                                     |             |            |        |        |        |        |        |          |     |                 |    |       |       |     |     |      |    |      |                                                                                       |               |

● : Stock item