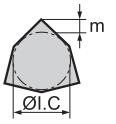
## Shallow drills code key

| Code | Insert shap |
|---|---|
| S |  |
| W |   |

Insert shape / code



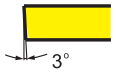
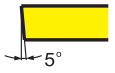
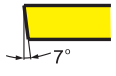
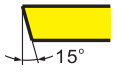
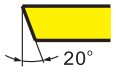
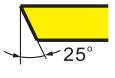
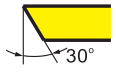
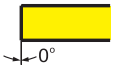
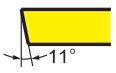


| Code | Nose Height m Tolerance(mm) | Inscribed Circle ØI.C Tolerance(mm) | Thickness S Tolerance(mm) | Code | Nose Height m Tolerance(mm) | Inscribed Circle ØI.C Tolerance(mm) | Thickness S Tolerance(mm) |
|---|---|---|---|---|---|---|---|
| A | ±0.005 | ±0.025 | ±0.025 | J | ±0.005 | ±0.05-±0.13 | ±0.025 |
| F | ±0.005 | ±0.013 | ±0.025 | K | ±0.013 | ±0.05-±0.13 | ±0.025 |
| C | ±0.013 | ±0.025 | ±0.025 | L | ±0.025 | ±0.05-±0.13 | ±0.025 |
| H | ±0.013 | ±0.013 | ±0.025 | M | ±0.08-±0.18 | ±0.05-±0.13 | ±0.13 |
| E | ±0.025 | ±0.025 | ±0.025 | N | ±0.08-±0.18 | ±0.05-±0.13 | ±0.025 |
| G | ±0.025 | ±0.025 | ±0.13 | U | ±0.13-±0.38 | ±0.08-±0.25 | ±0.13 |

Tolerance

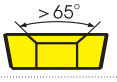
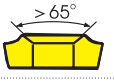
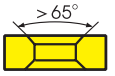
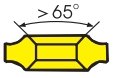
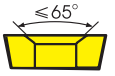
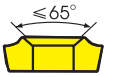
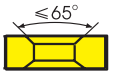
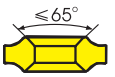
**W C M X**

### Clearance angle of main cutting edge

| Code | Clearance angle | Code | Clearance angle |
|---|---|---|---|
| A |   | B |   |
| C |   | D |   |
| E |   | F |   |
| G |   | N |   |
| P |   | O | Other clearance angle |

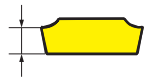
### Chipbreaker and clamping system

Metric

| Code | With/Without hole | With/Without chipbreaker | Section plane of Insert | Code | With/Without hole | With/Without chipbreaker | Section plane of Insert |
|---|---|---|---|---|---|---|---|
| B | With | Without |   | N | Without | Without |  |
| H | With | Single-side |   | R | Without | Single-side |  |
| C | With | Without |   | F | Without | Double-side |  |
| J | With | Double-side |   | A | With | Without |  |
| W | With | Without |   | M | With | Single-side |  |
| T | With | Single-side |   | G | With | Double-side |  |
| Q | With | Without |   | X | --- | --- | Special |
| U | With | Double-side |   | | | | |

| Code | Length | |
|---|---|---|
| | W | S |
| **03** | 3.8 | |
| **04** | 4.3 | |
| **05** | 5.4 | |
| **06** | 6.5 | 6.35 |
| **08** | 8.7 | 8.0 |
| **09** | | 9.525 |
| **12** | | 12.7 |

**Length of cutting edge**

Thickness is defined as height from bottom of insert to the highest part of cutting edge.

| Code | Insert thickness (mm) | Code | Insert thickness (mm) |
|---|---|---|---|
| **00** | 0.79 | **05** | 5.96 |
| **T0** | 0.99 | **T5** | 5.95 |
| **01** | 1.59 | **06** | 6.35 |
| **T1** | 1.98 | **T6** | 6.75 |
| **02** | 2.38 | **07** | 7.94 |
| **T2** | 2.58 | **09** | 9.52 |
| **03** | 3.18 | **T9** | 9.72 |
| **T3** | 3.97 | **11** | 11.11 |
| **04** | 4.76 | **12** | 12.70 |
| **T4** | 4.96 | | |

**Insert thickness**

**08 04 12 R - PG**

| Nose radius | |
|---|---|
| Code | Description |
| **04** | 0.4mm |
| **08** | 0.8mm |
| **12** | 1.2mm |

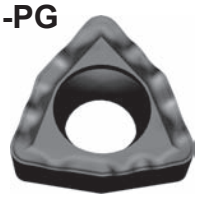
| Cutting direction | |
|---|---|
| Code | Description |
| **R** | Right hand |
| **L** | Left hand |
| **N** | Neutral |

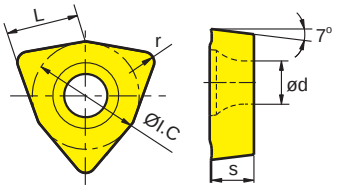
**Chipbreaker code**

## Indexable inserts for shallow drilling

-53

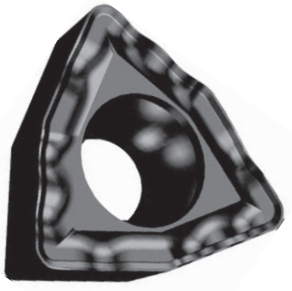
-PG






| Type | Basic dimension(mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | L | I.C | s | d | r | YBG202 |
| WCMX030208R-53 | 3.8 | 5.56 | 2.38 | 2.8 | 0.8 | ★ |
| WCMX040208R-53 | 4.3 | 6.35 | 2.38 | 3.1 | 0.8 | ★ |
| WCMX050308R-53 | 5.4 | 7.94 | 3.18 | 3.2 | 0.8 | ★ |
| WCMX06T308R-53 | 6.5 | 9.525 | 3.97 | 3.7 | 0.8 | ★ |
| WCMX080412R-53 | 8.7 | 12.7 | 4.76 | 4.3 | 1.2 | ★ |
| WCMX030208R-PG | 3.8 | 5.56 | 2.38 | 2.8 | 0.8 | ★ |
| WCMX040208R-PG | 4.3 | 6.35 | 2.38 | 3.1 | 0.8 | ★ |
| WCMX050308R-PG | 5.4 | 7.94 | 3.18 | 3.2 | 0.8 | ★ |
| WCMX06T308R-PG | 6.5 | 9.525 | 3.97 | 3.7 | 0.8 | ★ |
| WCMX080412R-PG | 8.7 | 12.7 | 4.76 | 4.3 | 1.2 | ★ |

★Recommended grade and always stock available ☆Recommended grade and produce according to order
●Available grade and always stock available ○Available grade and produce according to order



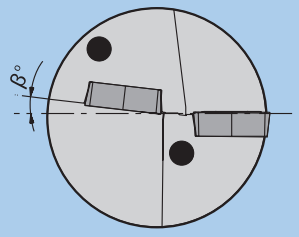
### -PG chipbreaker characteristics

**Unique design of waveform edge ensure high edge strength and good chip breaking performance for machining carbon steel and alloy steel.**

### -53 chipbreaker characteristics

**Sharp cutting edge benefits to achieve low roughness surface, mainly applicable for low load cutting of aluminum alloy, mild steel and cast iron.**

## Features of shallow drill

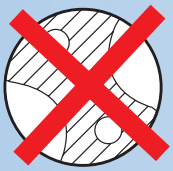



★Perfect insert assembling angle makes balanced cutting force, low vibration in machining process, thus achieve excellent surface quality.

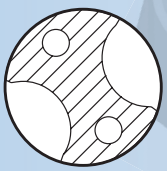
★Advanced flute design possesses large chip pocket for chip removal.

★Complete diameter range, from 16 mm to 58 mm.

Small chip pocket
Easy to generate chips jamming



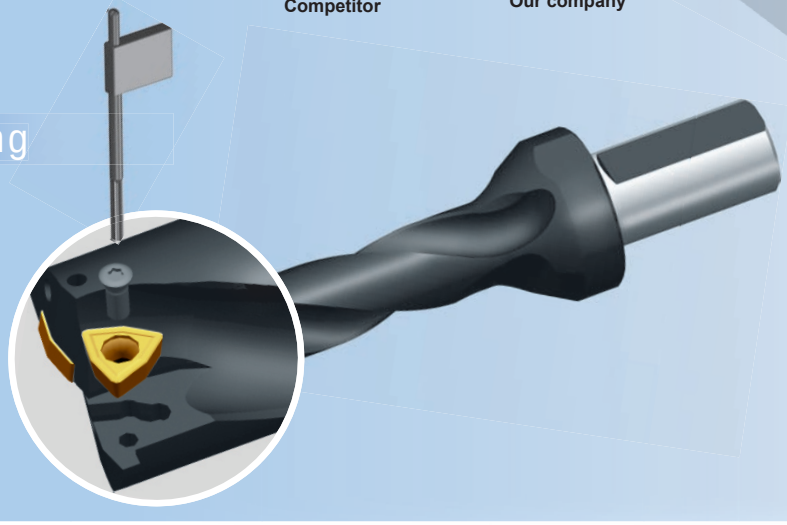
Competitor



Our company

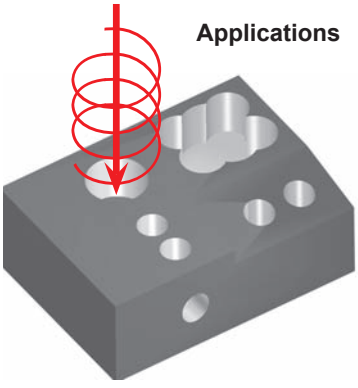
Large chip pocket
Chip jamming free

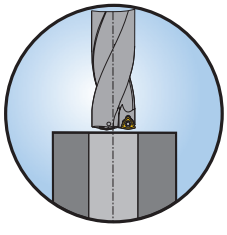
## Insert assembling



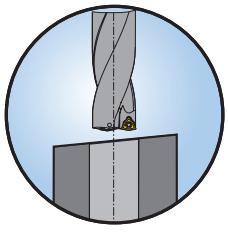


### Applications

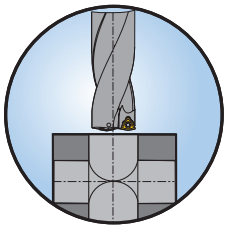




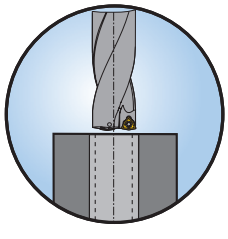
1. Common drilling



2. Slant face drilling

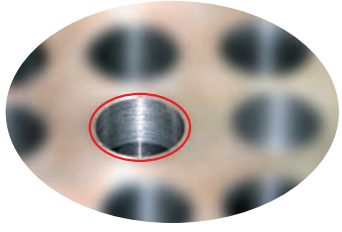


3. Cross-hole drilling



4. Counterboring

### Higher surface quality



### Better chip breaking performance