

Parting and Grooving Tools

Catalogue

Turning

2022



ZCC Cutting Tools Europe GmbH

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WELCOME TO ZCC CUTTING TOOLS EUROPE

ZCC-CT, one of the World's leading carbide tooling manufacturers, welcomes you to its products. We are able to offer you a wide product range of high performance cutting tools at economic prices and a good supply service to support the production and productivity at your manufacturing facilities. You will find the main tool types in the various sections of the catalogue, Turning is in section A, Milling in section B and Drilling in section C of the catalogue.

We are looking forward to working with you and developing good cooperation together. Our team at ZCC Cutting Tools Europe is ready to support you in all of your requirements.



Member of Minmetals Group



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Contents

A Turning A1-A333

General turning tools

A21-A246

Parting and grooving tools

A247-A290

Threading tools

A291-A325



*Parting and
grooving tools*



Turning



| | |
|--|------------------|
| Guide to selecting turning tools | A2-A5 |
| Turning inserts overview | A6-A11 |
| Turning tool holders overview | A12-A14 |
| Recommended grade overview for turning insert | A19 |
| General turning tools | A21-A246 |
| General turning inserts overview | A22-A26 |
| Application instruction of general turning tools | A27-A49 |
| General turning inserts | A50-A152 |
| Cemented carbide and cermet inserts | A54-A114 |
| PCBN&PCD inserts | A115-A149 |
| Ceramic inserts | A150-A152 |
| General turning tools | A153-A240 |
| Tool holders for external turning | A156-A205 |
| Tool holders for internal turning | A206-A240 |
| Application reference for general turning machining | A241-A246 |
| Parting and grooving tools | A247-A290 |
| Parting and grooving tools overview | A250-A252 |
| Parting and grooving inserts | A253-A269 |
| Parting and grooving tools | A270-A288 |
| Application reference for parting and grooving | A289-A290 |
| Threading tools | A291-A325 |
| Threading tools overview | A294-A295 |
| Threading inserts | A296-A311 |
| Threading tools | A312-A314 |
| Application reference for threading | A315-A325 |
| General technical information for turning | A326-A333 |

TURNING Parting and grooving tools

How to select parting and grooving tools

How to select parting and grooving tools

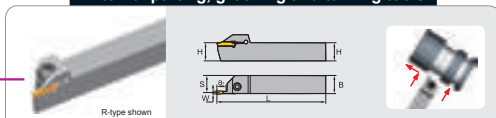
Structure of parting and grooving tools selection table

- Categorized as external machining, internal machining and profile machining.
- Concluded and separately listed according to product series (Little squirrel series and Supplementary series).

Dimensions

Application of external machining, internal machining and profile machining

External parting, grooving and turning tools

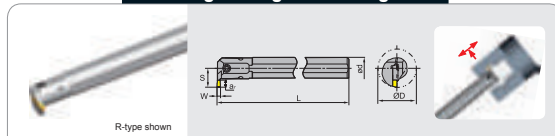


| Type | Stock | | Basic dimensions(mm) | | | | | | Applicable inserts | Screw | Wrench | |
|------|-----------|---|----------------------|----|----|-----|------|-----|--------------------|-----------|-----------------|------------------|
| | R | L | H | X | B | L | S | W | | | | B _{max} |
| QEAD | 1212R/L07 | ▲ | ▲ | 12 | 12 | 125 | 11.4 | 1.5 | 7 | ZCAD0150□ | GB70-85-M4 × 12 | WH30L |
| | 1212R/L12 | ▲ | ▲ | 12 | 12 | 125 | 11.4 | 1.5 | 12 | ZCAD0150□ | | |
| | 1616R/L07 | ▲ | ▲ | 16 | 16 | 125 | 15.4 | 1.5 | 7 | ZCAD0150□ | | |
| | 1616R/L12 | ▲ | ▲ | 16 | 16 | 125 | 15.4 | 1.5 | 12 | ZCAD0150□ | | |
| | 2020R/L07 | ▲ | ▲ | 20 | 20 | 125 | 19.4 | 1.5 | 7 | ZCAD0150□ | GB70-85-M5 × 16 | WH40L |
| QEBD | 1212R/L12 | ▲ | ▲ | 12 | 12 | 125 | 11.2 | 2 | 7 | ZCB000□ | | |
| | 1212R/L10 | ▲ | ▲ | 12 | 12 | 125 | 11.2 | 2 | 10 | ZCB000□ | GB70-85-M4 × 12 | WH30L |
| | 1212R/L14 | ▲ | ▲ | 12 | 12 | 125 | 11.2 | 2 | 14 | ZCB000□ | | |
| | 1616R/L07 | ▲ | ▲ | 16 | 16 | 125 | 15.2 | 2 | 7 | ZCB000□ | | |
| | 1616R/L10 | ▲ | ▲ | 16 | 16 | 125 | 15.2 | 2 | 10 | ZCB000□ | | |
| | 1616R/L14 | ▲ | ▲ | 16 | 16 | 125 | 15.2 | 2 | 14 | ZCB000□ | | |
| | 2020R/L07 | ▲ | ▲ | 20 | 20 | 125 | 19.2 | 2 | 7 | ZCB000□ | GB70-85-M5 × 16 | WH40L |
| | 2020R/L10 | ▲ | ▲ | 20 | 20 | 125 | 19.2 | 2 | 10 | ZCB000□ | | |
| | 2020R/L14 | ▲ | ▲ | 20 | 20 | 125 | 19.2 | 2 | 14 | ZCB000□ | | |
| | 2020R/L18 | ▲ | ▲ | 20 | 20 | 150 | 24.2 | 2 | 18 | ZCB000□ | GB70-85-M6 × 20 | WH50L |
| QEED | 1616R/L10 | ▲ | ▲ | 16 | 16 | 125 | 15 | 2.5 | 10 | ZCE005□ | GB70-85-M5 × 20 | WH40L |
| | 1616R/L17 | ▲ | ▲ | 16 | 16 | 125 | 15 | 2.5 | 17 | ZCE005□ | | |
| | 2020R/L10 | ▲ | ▲ | 20 | 20 | 125 | 19 | 2.5 | 10 | ZCE005□ | | |
| | 2020R/L17 | ▲ | ▲ | 20 | 20 | 125 | 19 | 2.5 | 17 | ZCE005□ | GB70-85-M6 × 20 | WH50L |
| | 2020R/L10 | ▲ | ▲ | 20 | 20 | 150 | 24 | 2.5 | 10 | ZCE005□ | | |
| QEPD | 1616R/L10 | ▲ | ▲ | 16 | 16 | 125 | 14.8 | 3 | 10 | ZCF003□ | GB70-85-M5 × 20 | WH40L |
| | 1616R/L17 | ▲ | ▲ | 16 | 16 | 125 | 14.8 | 3 | 17 | ZCF003□ | | |
| | 2020R/L10 | ▲ | ▲ | 20 | 20 | 125 | 18.8 | 3 | 10 | ZCF003□ | | |
| | 2020R/L17 | ▲ | ▲ | 20 | 20 | 125 | 18.8 | 3 | 17 | ZCF003□ | GB70-85-M6 × 20 | WH50L |
| | 2020R/L10 | ▲ | ▲ | 20 | 20 | 150 | 23.8 | 3 | 10 | ZCF003□ | | |
| QEOD | 2020R/L13 | ▲ | ▲ | 20 | 20 | 140 | 18.5 | 4 | 13 | ZCG004□ | GB70-85-M6 × 20 | WH50L |
| | 2020R/L12 | ▲ | ▲ | 20 | 20 | 140 | 18.5 | 4 | 22 | ZCG004□ | | |
| | 2020R/L15 | ▲ | ▲ | 20 | 20 | 150 | 23.5 | 4 | 13 | ZCG004□ | | |

▲ Stock available △ Make-to-order

Specification of products Including type, basic dimensions, applicable inserts and accessories.

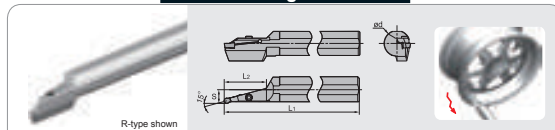
Internal grooving and turning tools



| Type | Stock | | Basic dimensions(mm) | | | | | | Applicable inserts | Screw | Wrench |
|------------------|-------|---|----------------------|-----|------|-----|-------------------|-------------------|----------------------|-----------------|--------|
| | R | L | ed | L | S | W | ar _{max} | ØD _{min} | | | |
| C20Q-QEDR/L05-27 | ▲ | ▲ | 20 | 180 | 15.2 | 2.5 | 5 | 27 | ZTED025□ ZRED025□ | GB70-85-M4 × 12 | WH30L |
| C25R-QEDR/L07-33 | ▲ | ▲ | 25 | 200 | 20.3 | 2.5 | 7 | 33 | | GB70-85-M5 × 16 | WH40L |
| C32S-QEDR/L09-42 | ▲ | ▲ | 32 | 250 | 25.3 | 2.5 | 9 | 42 | | GB70-85-M5 × 20 | WH40L |
| C20Q-QFDR/L05-27 | ▲ | ▲ | 20 | 180 | 15.2 | 3 | 5 | 27 | ZTF03□ ZRF03□ | GB70-85-M4 × 12 | WH30L |
| C25R-QFDR/L07-33 | ▲ | ▲ | 25 | 200 | 20.3 | 3 | 7 | 33 | | GB70-85-M5 × 16 | WH40L |
| C32S-QFDR/L09-42 | ▲ | ▲ | 32 | 250 | 25.3 | 3 | 9 | 42 | | GB70-85-M5 × 20 | WH40L |
| C25R-QGDR/L08-35 | ▲ | ▲ | 25 | 200 | 21.5 | 4 | 8 | 35 | | GB70-85-M5 × 16 | WH40L |
| C32S-QGDR/L11-44 | ▲ | ▲ | 32 | 250 | 27.5 | 4 | 11 | 44 | ZTG004□ ZRG004□ | GB70-85-M6 × 20 | WH50L |
| C40T-QGDR/L13-54 | ▲ | ▲ | 40 | 300 | 33.5 | 4 | 13 | 54 | | GB70-85-M6 × 20 | WH50L |
| C25R-QHDR/L08-35 | ▲ | ▲ | 25 | 200 | 21.5 | 5 | 8 | 35 | | GB70-85-M5 × 16 | WH40L |
| C32S-QHDR/L11-44 | ▲ | ▲ | 32 | 250 | 27.5 | 5 | 11 | 44 | ZTH05□ ZRH05□ | GB70-85-M6 × 20 | WH50L |
| C40T-QHDR/L13-54 | ▲ | ▲ | 40 | 300 | 33.5 | 5 | 13 | 54 | | GB70-85-M6 × 20 | WH50L |
| C25R-QKDR/L08-35 | ▲ | ▲ | 25 | 200 | 21.5 | 6 | 8 | 35 | | GB70-85-M5 × 16 | WH40L |
| C32S-QKDR/L11-44 | ▲ | ▲ | 32 | 250 | 27.5 | 6 | 11 | 44 | ZTK06□ ZRK06□ | GB70-85-M6 × 20 | WH50L |
| C40T-QKDR/L13-54 | ▲ | ▲ | 40 | 300 | 33.5 | 6 | 13 | 54 | | GB70-85-M6 × 20 | WH50L |

▲ Stock available △ Make-to-order

Profile turning tools for Al



| Type | Stock | | Basic dimensions(mm) | | | | | Applicable inserts | Screw | Wrench |
|-------------------|-------|---|---------------------------------|----|----|----------------|----------------|--------------------|-----------------|--------|
| | R | L | ØD (minimum machining diameter) | ed | S | L ₁ | L ₂ | | | |
| C40X-QLDR/L65-15A | ▲ | ▲ | 160 | 40 | 21 | 320 | 65 | ZRLD08-LH | | |
| C40X-QLDR/L80-15A | ▲ | ▲ | 160 | 40 | 21 | 320 | 80 | ZRLD08-LH | | |
| C40X-QKDR/L60-15A | ▲ | ▲ | 160 | 40 | 20 | 320 | 60 | ZRKD06-LH | GB70-85-M6 × 20 | WH50L |
| C40X-QKDR/L75-15A | ▲ | ▲ | 160 | 40 | 20 | 320 | 75 | ZRKD06-LH | | |

▲ Stock available △ Make-to-order

Indicating the minimum machining diameter

The minimum machining diameter is very important for internal machining.



TURNING



Parting and grooving tools



Parting and grooving tools overview ● A250-A252

Parting and grooving inserts ● A253-A269

Introduction of Little Squirrel series inserts chipbreaker ● A254-A257

Parting, grooving and profiling inserts code key ● A258

Inserts of Little Squirrel series ● A259-A265

QC series shallow grooving inserts code key ● A266

QC series shallow grooving inserts ● A267-A268

Inserts of ZQMX series ● A269

Parting and grooving tools ● A270-A288

Little squirrel series ●

Little squirrel series parting and grooving tools code key A270-A271

External parting, grooving and turning tools A272-A273

Precise grooving and turning tools A274

External recess and profiling tools A274

External grooving tools for materials hard to be machined A275

External parting inserts and holder for external parting A275

Surface grooving and turning tools A276-A283

Internal grooving and turning tools A284

Profile turning tools for Al A284

QC series shallow grooving tools ●

QC series shallow grooving tools code key A285

External shallow grooving tools A286

Internal shallow grooving tools A286

Supplementary series ●

Supplementary series parting and grooving tools code key A287

QZQ external grooving series A288

Application information on parting and grooving ● A289-A290



















TURNING Parting and grooving tools

Parting and grooving tools overview

General turning

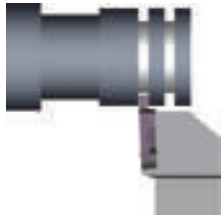






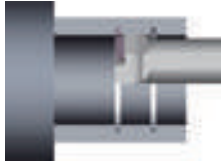













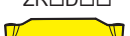
Parting and grooving

Parting and grooving tools overview

| Machining application | Machining type | Applicable tools | Corresponding inserts | Tool features and parameters | |
|-----------------------|--|---|---|---|---|
| External machining | Parting | <p>Little squirrel series QZ□□+QE□□</p>  <p>A275</p> | <p>Parting inserts ZP□S□□</p>  | <ul style="list-style-type: none"> Assemble structure of parting blade and holder; good rigidity; adjustable parting range. The maximum parting diameter is 120mm. | |
| | | <p>Little squirrel series QE□□R/L</p>  <p>A272-A273</p> | <p>ZP□D□□</p>  <p>ZP□S□</p>  | <ul style="list-style-type: none"> Inserts have three-dimensional chipbreaker with low cutting force and good performance on chip-breaking. The maximum parting diameter is 60mm. | |
| | | <p>Supplementary series QZQ□□R/L</p>  <p>A288</p> | <p>ZQMX□□</p>  | <ul style="list-style-type: none"> Cutting edge strength is suitable for bad machining conditions. The maximum parting diameter is 70mm. | |
| | Grooving and turning |  | <p>Little squirrel series QE□□R/L</p>  <p>A272-A273</p> | <p>Double cutting edges for parting ZT□D□□</p>  <p>Profile turning ZR□D□□</p>  <p>Single cutting edge for deep grooving ZT□S□□</p>  | <ul style="list-style-type: none"> A single tool with multiple applications such as grooving, parting and profile turning, reducing tools categories needed. A multifunctional tool when used with grooving inserts. Suitable for profile machining. The maximum slot depth machinable is 30mm. |
| | | | <p>Little squirrel series QECD</p>  <p>A273</p> | <p>Precise grooving ZT□D□□-EG</p>  <p>Edge width 1.2~2.4mm</p> | <ul style="list-style-type: none"> Grinded insert used for precise grooving Edge width can be anything between 1.0-6.5mm, customized according to users' needs. ZT□D□□-EG inserts: <ul style="list-style-type: none"> When edge width is between 1.2-2.4mm, the maximum cutting depth is 2.5mm. When edge width is above 2.4-6.5mm, the maximum cutting depth is 22mm. |
| | <p>Little squirrel series QE□□R/L</p>  <p>A272-A273</p> | <p>Precise grooving ZT□D□□-EG</p>  <p>Edge width 2.4~6.5mm</p> | | | |



Parting and grooving tools overview

| Machining application | Machining type | Applicable tools | Corresponding inserts | Tool features and parameters |
|---|---|--|--|--|
| External machining | Shallow grooving |  QC series GQCR/L  A286 | QC16/22□□□□  | <ul style="list-style-type: none"> • Fine grinding of blades with high precision. • Sharp edges and high machining accuracy. • Three finely ground cutting edges for good economy. • For cutting shallow grooves, groove width 0.5-4.8mm. • Maximum depth of cut 4mm. |
| | Grooving and turning |  Little squirrel series C□□-Q□□R/L□  A284 | Grooving, Turning ZT□□□□  Profile turning ZR□□□□  | <ul style="list-style-type: none"> • By using inserts for grooving and profiling, one tool can be versatile, reducing the tool categories needed. • The maximum slot depth machinable is 13mm. • The minimum machining diameter is 27mm. |
| Internal machining | Shallow grooving |  QC series S□□□-QC□□R/L□  A286 | QC11/16/22□□□□  | <ul style="list-style-type: none"> • Fine grinding of blades with high precision. • Machining groove width 0.5-4.8mm. • Minimum machining diameter 16mm. • Maximum depth of cut 4mm. |
| | End surface machining | Grooving and turning |  Little squirrel series QF□□□□H  A278-A281 | Grooving, Turning ZT□□□□  Profile turning ZR□□□□  |
|  Little squirrel series QF□□□□L  A282-A283 | | | Grooving, Turning ZT□□□□  Profile turning ZR□□□□  | <ul style="list-style-type: none"> • 90°holder, top clamping. • By using inserts for grooving and profiling, one tool can be versatile, reducing the tool categories needed. • Grooving diameter is 48~400mm. • Grooving depth is 10~30mm. |
| Recess machining |  Little squirrel series QX□□□□□□  A274 | Grooving, Turning ZT□□□□  Profile turning ZR□□□□  | <ul style="list-style-type: none"> • The unique tool for recess machining. • Complete range of specifications, able to achieve various recess machining. | |

General turning
Parting and grooving

Parting and grooving tools overview













TURNING Parting and grooving tools

Parting and grooving tools overview

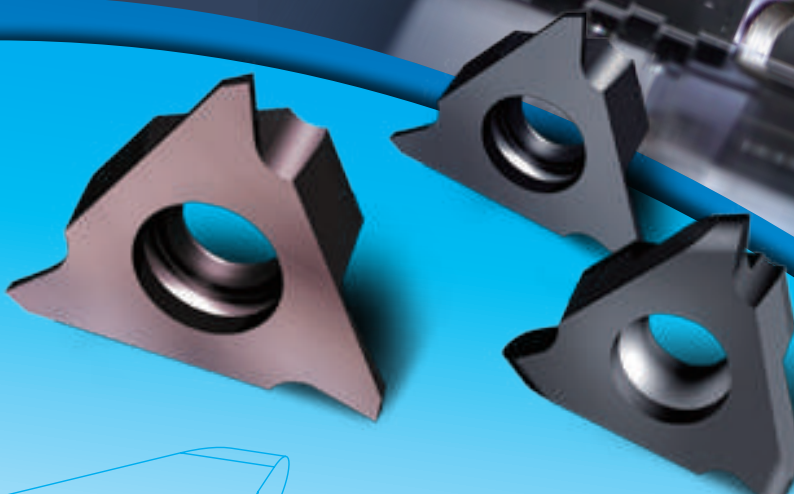
General turning

Parting and grooving

Parting and grooving tools overview

| Machining application | Machining type | Applicable tools | Corresponding inserts | Tool features and parameters |
|---|----------------------------------|--|---|--|
| AI profiling | External machining |  <p>Little squirrel series QE□□R/L</p>  <p>A272-A273</p> | <p>Little squirrel series ZR□□-LH</p>  | <ul style="list-style-type: none"> • The unique tool for profiling of Al material. • Cutting edge is designed to combine sharpness and strength, suitable for continuous and intermittent turning. • Used for external, surface and inner wall machining of Al wheel hub. |
| | Inner wall and surface machining |  <p>Little squirrel series C40X□□</p>  <p>A284</p> | | |
| Tools for aviation and aerospace industries | External machining |  <p>Little squirrel series QE□S□□N</p>  <p>A274</p> | <p>Little squirrel series ZIG□□□</p>  <p>Little squirrel series ZIMF□□</p>  | <ul style="list-style-type: none"> • V-type locating, top clamping, precise locating, safe clamping. • Normal square-ended inserts and precise square-ended inserts are suitable for adhesive materials hard to machine such as Ni-base high-temperature alloy, Ti alloy and stainless steel, etc. |
| | Non-standard Tools |  <p>Non-standard tools to match workpiece</p> | <p>Select and manufacture as required</p> | <ul style="list-style-type: none"> • Tailor made solutions for machining various parts to satisfy your requirements. |

Little squirrel series



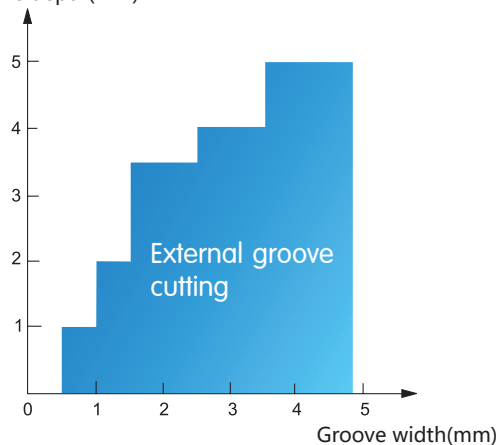
QC series shallow grooving tools

Machine industry shallow groove processing tool

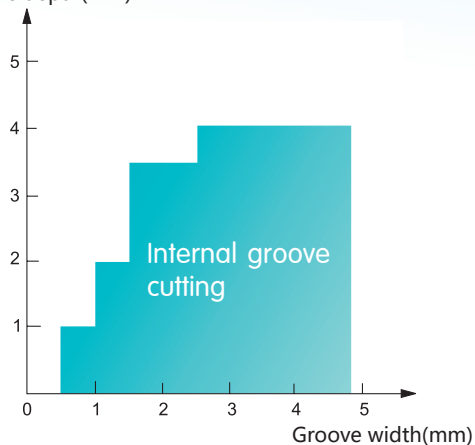
Widely used for shallow groove machining of shaft and ring parts in machinery industry

 **Shallow groove series tool grooving range**

Groove depth(mm)



Groove depth(mm)



Little-Squirrel Series

Profile turning inserts for parting of aviation titanium alloy, high temperature alloy

-NF

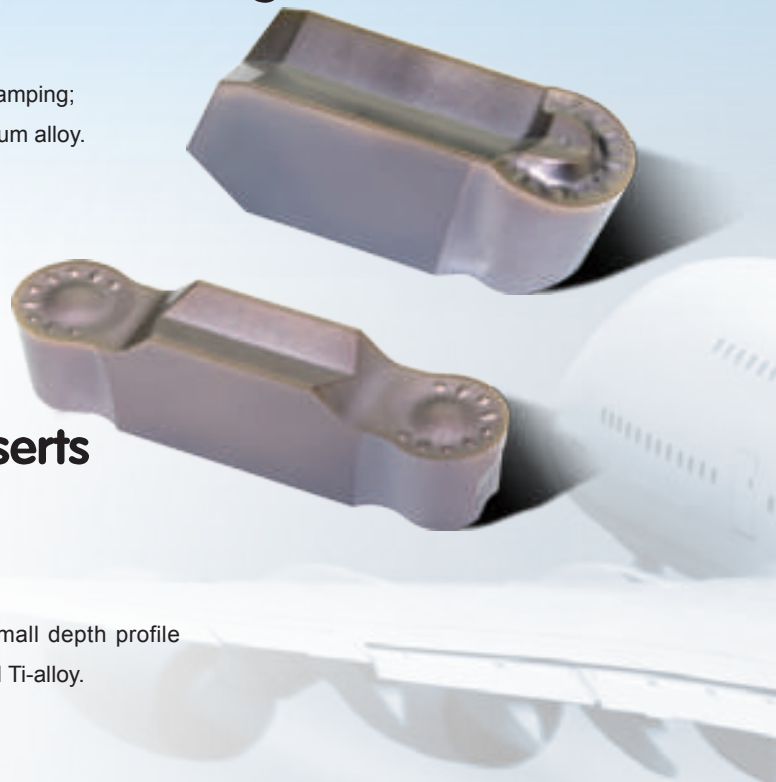
Single-headed precision profile turning inserts

Sharp edge, small cutting force, good surface quality;
Indexing accuracy reaches $\pm 0.025\text{mm}$, safe and stable clamping;
Mainly applied in finishing of high-temperature alloy, titanium alloy.

-NM

Precision profile turning inserts

Sharp edge, small cutting force, good surface quality;
Indexing accuracy reaches $\pm 0.025\text{mm}$;
Highly economical, two edges available;
Compatible with little squirrel tool holder, suitable for small depth profile finishing and semi-finishing of high-temperature alloy and Ti-alloy.



-SM

Single-headed groove turning inserts

Straight edge, excellent surface quality;
Sharp edge, smaller cutting force;
Good chip breaking;
Mainly used for rough machining of high-temperature alloy and titanium alloy.



-MM

Straight edge groove turning inserts

High edge strength, sharp edge;
Highly economical, two edges available, compatible with little squirrel tool holder;
With special grades, suitable for roughing with small cutting depths of high-temperature alloy and titanium alloy.



Case

Insert: YBG105/ZIMF604N-SM
Hardness of workpiece material: GH4169 (HB380)
Cutting data: $V_c=45\text{m/min}$, $f=0.2\text{mm/r}$
Coolant: Water



Products of company A



YBG105/ZIMF604N-SM

Conclusion: Under the same conditions, chip breaking performance is better and the time for stopping the removal of long winding chips is reduced.

-MG Chipbreaker

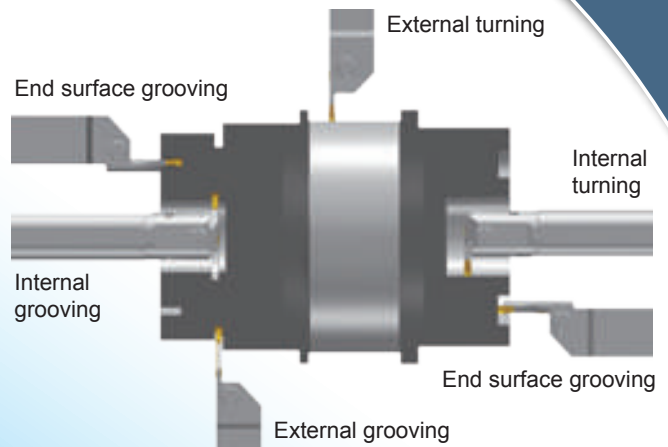


Customized -MG chipbreaker series

Suitable for parting ,grooving, profile turning and turning, etc. Easy machining and unobstructed chip flow lead to improved surface quality.

Human-centered design realizes various application of one single insert, reducing number of tools needed

Inserts of the same edge with can work with corresponding tool holders to satisfy the requirements of external, internal and surface grooving and turning by using minimum numbers of inserts and tool holders, effectively reducing cost of tool storage and management.



The cutting force is reduced by 20%, and the vibration is diminished.

Unique and professional structure design of parting inserts

- A special flank structure is designed to reduce cutting resistant force by 20% and diminish vibration, which improves the surface quality.
- A special edge design requires less rigidity of machine. It can be used on low power machines.



Little squirrel series

-EG

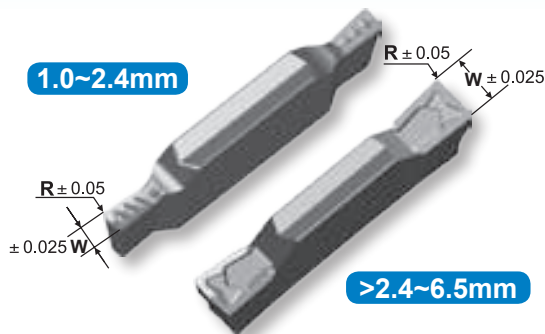
Precision grooving and profile turning inserts

Special chipbreaker design, suitable for precise grooving of low-carbon steel, stainless steel, adhesive materials and non-ferrous metal.

The tolerance of the edge width S of precise grooving and profiling inserts can reach ± 0.025 . Inserts can also be mounted on the corresponding specifications of original tool series.

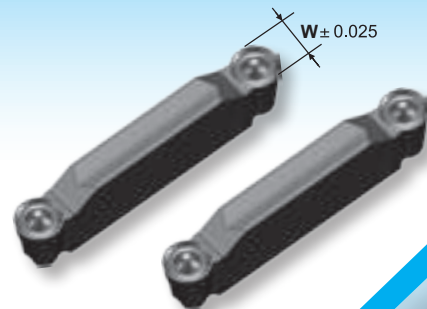
-EG Precision grooving inserts

The edge width can be anything between **1.0-6.5MM** according to your requirements.



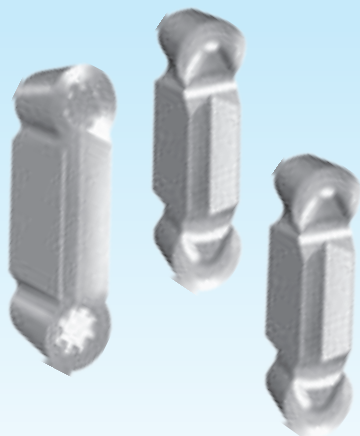
The width of the Little Squirrel series precise grooving inserts can be anything between 1.0mm to 6.5mm, which means products with any edge width or nose radius can be provided according to customers' requirements. The inserts are mainly used for precise grooving, such as sealing slot and locating slot, etc.

-EG Precision profile turning inserts



The Little Squirrel series precise profiling and turning inserts are mainly used for Precise grooving and profiling.

-LC/-LH



Profile turning inserts for Al

The special chipbreaker for aluminum profiling is designed to combine sharpness and strength of the cutting edge, effectively reducing the friction between chips and the rake face. The inserts are suitable for continuous and intermittent profiling of Al alloy.

Suitable for various machining of Al wheel boss periphery, surface and inner wall, etc.



TURNING Parting and grooving tools

Little squirrel series parting and grooving inserts

Little squirrel series parting, grooving and profiling inserts code key

General turning

Parting and grooving

Little squirrel series parting and grooving inserts

Insert applications

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

Code of locating slot

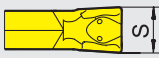
| Code of locating slot | A | B | E | F | G | H | K | L |
|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Corresponding edge width of inserts | 1.5 | 2.0 | 2.5 | 3.0 | 4.0 | 5.0 | 6.0 | 8.0 |

Code of cutting edge number

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

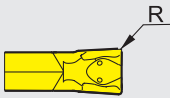
ZP G D 04 04 - M G

Cutting edge width



- 015=1.5mm
- 02=2.0mm
- 025=2.5mm
- 03=3.0mm
- 04=4.0mm
- 05=5.0mm
- 06=6.0mm
- 08=8.0mm

Nose radius



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

Tolerance class

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

Chipbreaker code

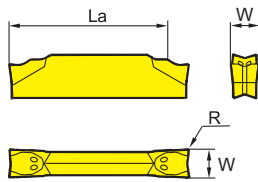
- G** > Curve edges universal chipbreaker, suitable for machining various materials
- M** > linear edges universal chipbreaker, suitable for machining various materials
- F** > Special chipbreaker



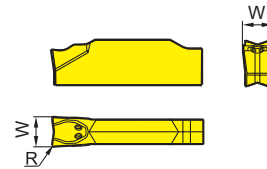
Parting inserts



Double edges



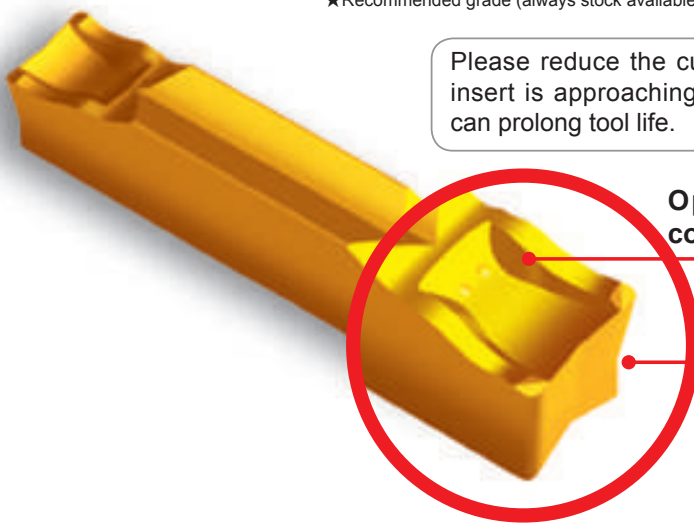
Single edge



| Type | | Basic dimensions(mm) | | | Grade | | | | |
|--------------|--------------|----------------------|---------------|-------------------------|-------------|--------|-------------|--------|------------------|
| | | | | | CVD Coating | | PVD Coating | | Cemented carbide |
| | | $W_{0}^{+0.1}$ | $R_{\pm 0.1}$ | Cutting depth L_{max} | YBC151 | YBC251 | YBG205 | YBG302 | YD101 |
| Double edges | ZPAD01502-MG | 1.5 | 0.2 | 12 | | ○ | ★ | ○ | |
| | ZPBD0202-MG | 2.0 | 0.2 | 14 | | ○ | ★ | ○ | |
| | ZPED02502-MG | 2.5 | 0.2 | 17 | | ○ | ★ | ★ | |
| | ZPFD0302-MG | 3.0 | 0.2 | 17 | | ○ | ★ | ○ | |
| | ZPGD0402-MG | 4.0 | 0.2 | 22 | | ○ | ★ | ○ | |
| | ZPHD0503-MG | 5.0 | 0.3 | 22 | | ○ | ★ | ○ | |
| | ZPKD0604-MG | 6.0 | 0.4 | 22 | | ○ | ★ | ○ | |
| Single edge | ZPES02502-MG | 2.5 | 0.2 | | | ○ | ★ | ★ | |
| | ZPFS0302-MG | 3.0 | 0.2 | | | ○ | ★ | ○ | |
| | ZPGS0402-MG | 4.0 | 0.2 | | | ○ | ★ | ○ | |
| | ZPHS0503-MG | 5.0 | 0.3 | | | ○ | ★ | ○ | |
| | ZPKS0604-MG | 6.0 | 0.4 | | | ○ | ★ | ○ | |

Single edge tool for cutter plate only

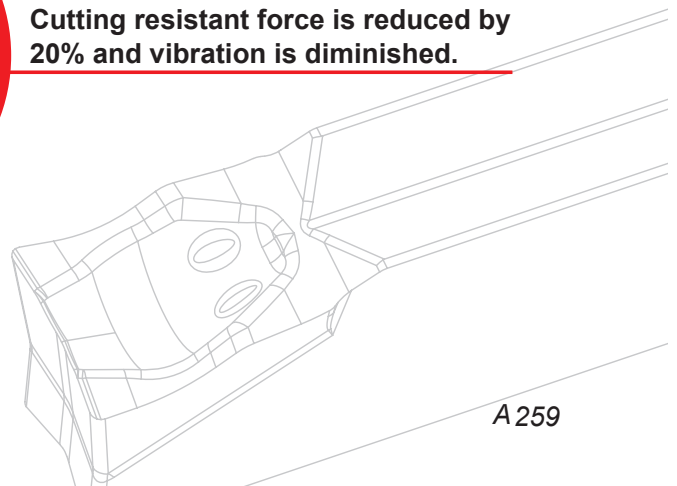
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order



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

Optimal chipbreaker structure can control chip flow and curling well.

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



General turning

Parting and grooving

Little squirrel series parting and grooving inserts



TURNING Parting and grooving tools

Little squirrel series parting and grooving inserts

Grooving and turning inserts

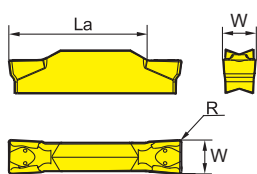
General turning

Parting and grooving

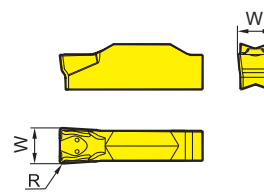
Little squirrel series parting and grooving inserts



Double edges

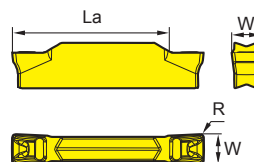


Single edge



| Type | Basic dimensions(mm) | | | Grade | | | | | | |
|--------------|----------------------|----------------|-----------------------------|-------------|--------|-------------|--------|--------|------------------|--|
| | $W_{0}^{+0.1}$ | $R_{\pm 0.10}$ | Cutting depth $L_{a_{max}}$ | CVD Coating | | PVD Coating | | | Cemented carbide | |
| | | | | YBC151 | YBC251 | YBG202 | YBG205 | YBG302 | YD101 | |
| Double edges | ZTED02503-MG | 2.5 | 0.3 | 17 | ○ | ○ | ● | ★ | ★ | |
| | ZTFD0303-MG | 3.0 | 0.3 | 17 | ○ | ○ | ● | ★ | ★ | |
| | ZTGD0404-MG | 4.0 | 0.4 | 22 | ● | ○ | ● | ★ | ★ | |
| | ZTHD0504-MG | 5.0 | 0.4 | 22 | | ○ | ● | ★ | ★ | |
| | ZTKD0608-MG | 6.0 | 0.8 | 22 | | ○ | ● | ★ | ★ | |
| Single edge | ZTHS0504-MG | 5.0 | 0.4 | | | ○ | ○ | ★ | ○ | |
| | ZTKS0608-MG | 6.0 | 0.8 | | | ○ | ○ | ★ | ○ | |

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



| Type | Basic dimensions(mm) | | | Grade | | | | | | |
|--------------|----------------------|---------------|-----------------------------|-------------|--------|-------------|--------|--------|------------------|--|
| | W | $R_{\pm 0.1}$ | Cutting depth $L_{a_{max}}$ | CVD Coating | | PVD Coating | | | Cemented carbide | |
| | | | | YBC151 | YBC251 | YBG202 | YBG205 | YBG302 | YD101 | |
| Double edges | ZTAD01502-MM | 1.5±0.03 | 0.2 | 12 | ○ | ○ | ● | ★ | ○ | |
| | ZTBD02002-MM | 2.0±0.03 | 0.2 | 14 | ○ | ○ | ● | ★ | ○ | |
| | ZTED02503-MM | 2.5±0.03 | 0.3 | 17 | ○ | ○ | ● | ★ | ○ | |
| | ZTFD0303-MM | 3.0±0.03 | 0.3 | 17 | ○ | ○ | ● | ★ | ○ | |
| | ZTGD0404-MM | 4.0±0.04 | 0.4 | 22 | ○ | ○ | ● | ★ | ○ | |
| | ZTHD0504-MM | 5.0±0.04 | 0.4 | 22 | ○ | ○ | ● | ★ | ○ | |
| | ZTKD0608-MM | 6.0±0.04 | 0.8 | 22 | ○ | ○ | ● | ★ | ○ | |
| | ZTLD0808-MM | 8.0±0.05 | 0.8 | 28 | ○ | ○ | ● | ★ | ○ | |

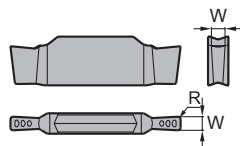
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order



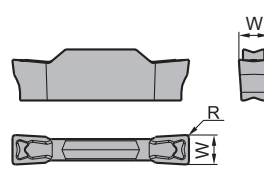
Precise grooving and turning inserts



1.0~2.4mm series



>2.4~6.5mm series



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

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

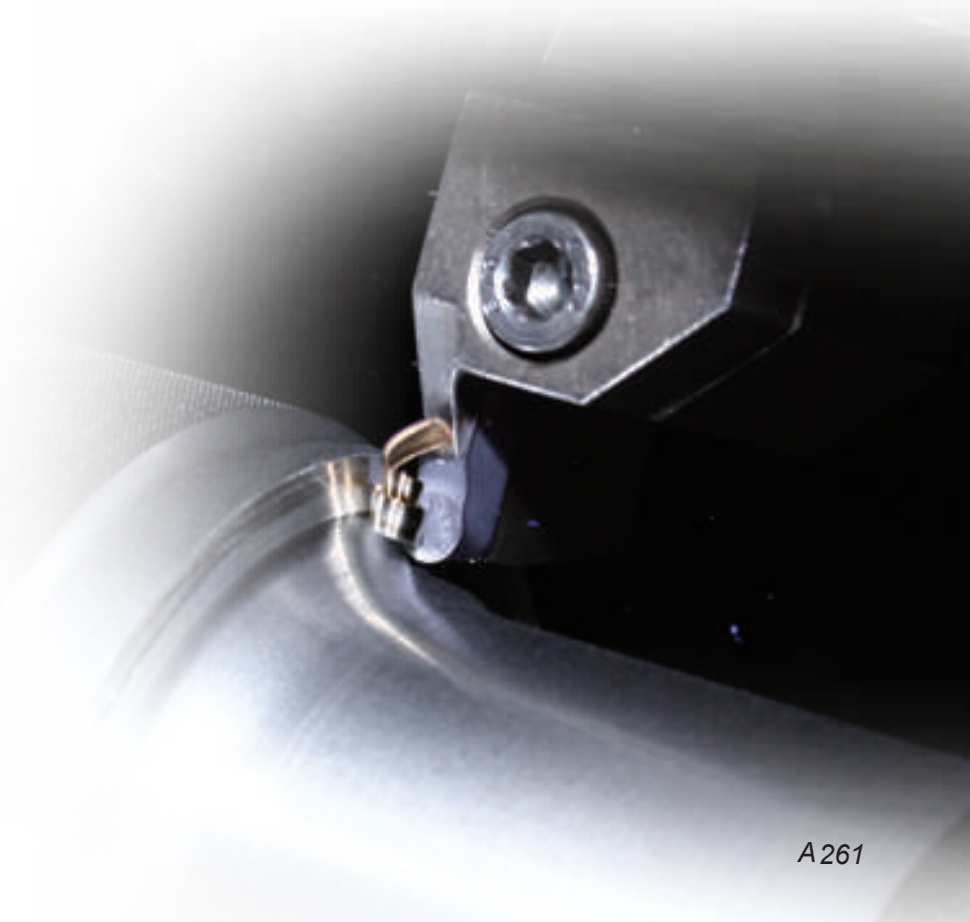
Note: (1) □ The code here in the description is determined by edge width and nose radius requested by customers. For example, when the customer requires an edge width of 3.5mm and a nose radius of 0.3mm, the description of the insert would be ZTFD03503-EG.

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

General turning

Parting and grooving

Little squirrel series parting and grooving inserts





TURNING Parting and grooving tools

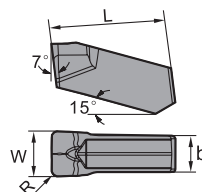
Little squirrel series parting and grooving inserts

General turning

Parting and grooving

Little squirrel series parting and grooving inserts

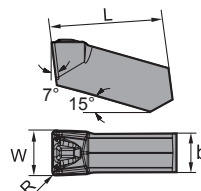
Single-edge grooving and turning inserts for semi-finishing and roughing difficult-to-machine materials



| Type | Basic dimensions(mm) | | | | Grade | | | | |
|-------------|----------------------|-------|-----|------|-------------|--------|--------|--------|------------------|
| | | | | | PVD Coating | | | | Cemented carbide |
| | W±0.05 | R±0.1 | b | L | YBG102 | YBG202 | YBG205 | YBS103 | YD101 |
| ZIMF304N-NM | 3 | 0.4 | 2.4 | 15.3 | ★ | ○ | ★ | ● | ○ |
| ZIMF406N-NM | 4 | 0.6 | 3.2 | 15.3 | ★ | ○ | ★ | ● | ○ |
| ZIMF506N-NM | 5 | 0.6 | 4.0 | 15.3 | ★ | ○ | ★ | ○ | ○ |
| ZIMF608N-NM | 6 | 0.8 | 4.0 | 15.3 | ★ | ○ | ★ | ○ | ○ |

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

Single-edge grooving and turning inserts for semi-finishing and roughing difficult-to-machine materials

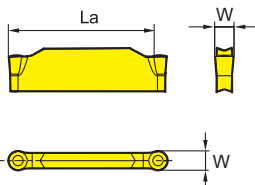


| Type | Basic dimensions(mm) | | | | Grade | | | | |
|-------------|----------------------|-------|-----|------|-------------|--------|--------|--------|------------------|
| | | | | | PVD Coating | | | | Cemented carbide |
| | W±0.05 | R±0.1 | b | L | YBG105 | YBG212 | YBG205 | YBS103 | YD101 |
| ZIMF304N-SM | 3 | 0.4 | 2.4 | 15.3 | ★ | ★ | | ● | ○ |
| ZIMF404N-SM | 4 | 0.4 | 3.2 | 15.3 | ★ | ★ | | ○ | ○ |
| ZIMF504N-SM | 5 | 0.4 | 4.0 | 15.3 | ★ | ★ | | ○ | ○ |
| ZIMF604N-SM | 6 | 0.4 | 5.1 | 15.3 | ★ | ★ | | ○ | ○ |

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



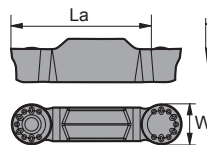
Profiling inserts



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

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

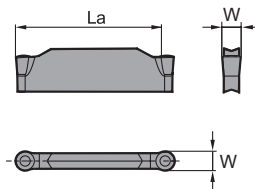
Profiling inserts



| | Type | Basic dimensions(mm) | | Grade | | | | | |
|--------------|-----------|----------------------|-------------------------|-------------|--------|-------------|--------|--------|------------------|
| | | | | CVD Coating | | PVD Coating | | | Cemented carbide |
| | | $W \pm 0.025$ | Cutting depth L_{max} | YBC151 | YBC251 | YBG105 | YBG212 | YBG302 | YBS103 |
| Double edges | ZRFD03-NM | 3 | 17 | | | ★ | ★ | | ● |
| | ZRGD04-NM | 4 | 21 | | | ★ | ★ | | ● |
| | ZRHD05-NM | 5 | 20 | | | ★ | ★ | | ○ |
| | ZRKD06-NM | 6 | 19 | | | ★ | ★ | | ○ |

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

Precision profiling inserts



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

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

General turning

Parting and grooving

Little squirrel series parting and grooving inserts



TURNING Parting and grooving tools

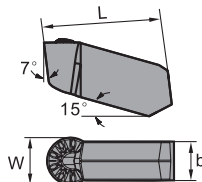
Little squirrel series parting and grooving inserts

General turning

Parting and grooving

Little squirrel series parting and grooving inserts

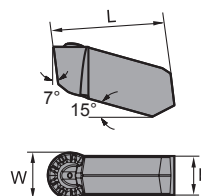
Single-edge inserts for profiling materials hard to be machined



| Type | Basic dimensions(mm) | | | Grade | | | |
|-----------|----------------------|-----|------|-------------|--------|--------|------------------|
| | | | | PVD Coating | | | Cemented carbide |
| | $W \pm 0.025$ | b | L | YBG102 | YBG202 | YBS103 | YD101 |
| ZIGQ3N-NM | 3 | 2.4 | 15.3 | ★ | ○ | ● | ○ |
| ZIGQ4N-NM | 4 | 3.2 | 15.3 | ★ | ○ | ● | ○ |
| ZIGQ5N-NM | 5 | 4.0 | 15.3 | ★ | ○ | ○ | ○ |
| ZIGQ6N-NM | 6 | 5.0 | 15.3 | ★ | ○ | ○ | ○ |

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

Single-edge inserts for profiling materials hard to be machined

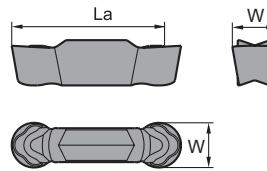


| Type | Basic dimensions(mm) | | | Grade | | | |
|-----------|----------------------|-----|------|-------------|--------|--------|------------------|
| | | | | PVD Coating | | | Cemented carbide |
| | $W \pm 0.025$ | b | L | YBG105 | YBG212 | YBS103 | YD101 |
| ZIGQ3N-NF | 3 | 2.4 | 15.3 | ★ | ★ | ● | |
| ZIGQ4N-NF | 4 | 3.2 | 15.3 | ★ | ★ | ○ | |
| ZIGQ5N-NF | 5 | 4.0 | 15.3 | ★ | ★ | ○ | |
| ZIGQ6N-NF | 6 | 5.0 | 15.3 | ★ | ★ | ○ | |

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



Profiling inserts for Al



| Type | Basic dimensions(mm) | | Grade |
|-----------|----------------------|------------------------------------|------------------|
| | W±0.02 | Cutting depth L _{amax} | Cemented carbide |
| ZRKD06-LH | 6.0 | 19 | YD101 ★ |
| ZRLD08-LH | 8.0 | 22 | YD101 ★ |

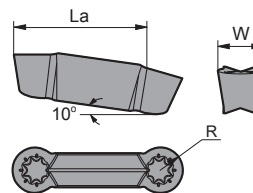
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

General turning

Parting and grooving

Little squirrel series parting and grooving inserts

Profiling inserts for Al



| Type | Basic dimensions(mm) | | | Grade |
|-----------|----------------------|-----|------------------------------------|------------------|
| | W±0.02 | R | Cutting depth L _{amax} | Cemented carbide |
| ZILD08-LC | 8.0 | 4.0 | 22 | YD101 ● |

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



TURNING Parting and grooving tools

QC series shallow grooving inserts

QC series shallow grooving inserts code key

● Square head shallow groove inserts



QC

Shallow grooving inserts

22

| Cutting edge length code | Inner tangent circle diameter(mm) |
|--------------------------|-----------------------------------|
| 11 | 6.35 |
| 16 | 9.525 |
| 22 | 12.70 |
| | |
| | |



R

| Direction | |
|-----------|---|
| Code | Form |
| R | Rightward  |
| L | Leftward  |

300

| Grooving width(mm) | |
|--------------------|-------|
| Code | Width |
| 050 | 0.50 |
| 100 | 1.00 |
| ... | ... |
| 480 | 4.80 |

R

| Inserts tip form | |
|------------------|--|
| Code | Form |
| R | Circular arc  |
| C | Chamfering  |

03

| Rounding or chamfering(mm) | |
|----------------------------|------|
| Code | Size |
| 02 | 0.2 |
| 03 | 0.3 |
| 04 | 0.4 |

● Round head shallow groove inserts



QC

Shallow grooving inserts

22

| Cutting edge length code | Inner tangent circle diameter(mm) |
|--------------------------|-----------------------------------|
| 11 | 6.35 |
| 16 | 9.525 |
| 22 | 12.70 |
| | |
| | |

R

| Direction | |
|-----------|---|
| Code | Form |
| R | Rightward  |
| L | Leftward  |

300

| Grooving width(mm) | |
|--------------------|-------|
| Code | Width |
| 050 | 0.50 |
| 100 | 1.00 |
| ... | ... |
| 480 | 4.80 |

R

Head form: round head

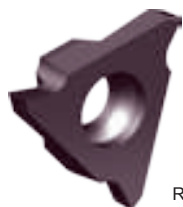
General turning

Parting and grooving

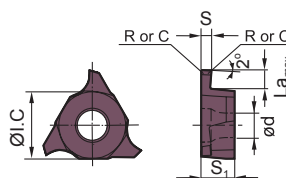
QC series shallow grooving inserts



Square head shallow groove inserts



R-type shown



| Type | | Basic dimensions(mm) | | | | | | Grade | |
|---------|---------|----------------------|-------------------|------|-------|----------------|-----|-------------|--------|
| | | S ± 0.025 | La _{max} | R/C | ØI.C | S ₁ | ød | PVD Coating | |
| | | | | | | | | YBG202 | YBG205 |
| QC11R/L | 120-R02 | 1.20 | 1.50 | R0.2 | 6.35 | 3.18 | 2.8 | ○ | ○ |
| | 125-R02 | 1.25 | 1.50 | R0.2 | 6.35 | 3.18 | 2.8 | ○ | ○ |
| | 145-R02 | 1.45 | 1.50 | R0.2 | 6.35 | 3.18 | 2.8 | ○ | ○ |
| | 150-R02 | 1.50 | 1.50 | R0.2 | 6.35 | 3.18 | 2.8 | ○ | ○ |
| | 200-R02 | 2.00 | 2.00 | R0.2 | 6.35 | 3.18 | 2.8 | ○ | ○ |
| | 225-R02 | 2.25 | 2.00 | R0.2 | 6.35 | 3.18 | 2.8 | ○ | ○ |
| QC16R/L | 110-R01 | 1.10 | 2.00 | R0.1 | 9.525 | 3.18 | 4.4 | ○ | ○ |
| | 125-R02 | 1.25 | 2.00 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ○ |
| | 145-R02 | 1.45 | 2.00 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ○ |
| | 150-R02 | 1.50 | 2.00 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ★ |
| | 175-R02 | 1.75 | 2.00 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ○ |
| | 185-R02 | 1.85 | 2.50 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ○ |
| | 200-R02 | 2.00 | 2.50 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ★ |
| | 250-R02 | 2.50 | 2.50 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ★ |
| | 300-R02 | 3.00 | 3.00 | R0.2 | 9.525 | 3.18 | 4.4 | ○ | ★ |
| QC22R/L | 125-R02 | 1.25 | 2.00 | R0.2 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 145-R02 | 1.45 | 2.00 | R0.2 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 150-R02 | 1.50 | 3.50 | R0.2 | 12.70 | 4.76 | 5.5 | ○ | ★ |
| | 175-R02 | 1.75 | 3.50 | R0.2 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 185-R02 | 1.85 | 3.50 | R0.2 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 200-R02 | 2.00 | 3.50 | R0.2 | 12.70 | 4.76 | 5.5 | ○ | ★ |
| | 230-R02 | 2.30 | 3.50 | R0.2 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 250-R03 | 2.50 | 4.00 | R0.3 | 12.70 | 4.76 | 5.5 | ○ | ★ |
| | 265-R03 | 2.65 | 4.00 | R0.3 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 280-R03 | 2.80 | 4.00 | R0.3 | 12.70 | 4.76 | 5.5 | ○ | ○ |

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

General turning

Parting and grooving

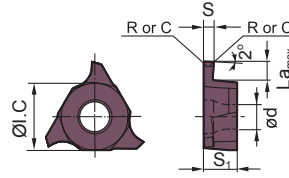
QC series shallow grooving inserts



Square head shallow groove inserts



R-type shown



| Type | | Basic dimensions(mm) | | | | | | Grade | |
|---------|---------|----------------------|-------------------|------|-------|----------------|-----|-------------|--------|
| | | S ± 0.025 | La _{max} | R/C | ØI.C | S ₁ | ød | PVD Coating | |
| | | | | | | | | YBG202 | YBG205 |
| QC22R/L | 300-R03 | 3.00 | 4.00 | R0.3 | 12.70 | 4.76 | 5.5 | ○ | ★ |
| | 320-R03 | 3.20 | 4.00 | R0.3 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 330-R03 | 3.30 | 4.00 | R0.3 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 350-R03 | 3.50 | 5.00 | R0.3 | 12.70 | 4.76 | 5.5 | ○ | ★ |
| | 400-R04 | 4.00 | 5.00 | R0.4 | 12.70 | 4.76 | 5.5 | ○ | ★ |
| | 430-R04 | 4.30 | 5.00 | R0.4 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 450-R04 | 4.50 | 5.00 | R0.4 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 480-R04 | 4.80 | 5.00 | R0.4 | 12.70 | 5.06 | 5.5 | ○ | ○ |

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

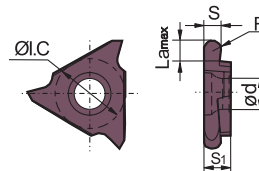
Example of special specification customization:

1. Custom-made insert width of 1.6mm, the tip form of the arc form, arc radius of 0.3mm right blade, I.C value of 12.7mm, then the custom-made insert model is QC22R160-R03.
2. Customized edge width range: QC11: 0.50~3.0mm; QC16: 0.50~3.0mm; QC22: 1.0~4.8mm.

Round head shallow groove inserts



R-type shown



| Type | | Basic dimensions(mm) | | | | | | Grade | |
|---------|------|----------------------|-------------------|------|-------|----------------|-----|-------------|--------|
| | | S ± 0.025 | La _{max} | R/C | ØI.C | S ₁ | ød | PVD Coating | |
| | | | | | | | | YBG202 | YBG205 |
| QC16R/L | 200R | 2.00 | 2.50 | 1.00 | 12.70 | 3.18 | 4.4 | ○ | ○ |
| | 300R | 3.00 | 2.50 | 1.50 | 12.70 | 3.18 | 4.4 | ○ | ○ |
| QC22R/L | 100R | 1.00 | 2.00 | 0.50 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 150R | 1.50 | 3.50 | 0.75 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 200R | 2.00 | 3.50 | 1.00 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 250R | 2.50 | 4.00 | 1.25 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 300R | 3.00 | 4.00 | 1.50 | 12.70 | 4.76 | 5.5 | ○ | ○ |
| | 400R | 4.00 | 5.00 | 2.00 | 12.70 | 4.76 | 5.5 | ○ | ○ |

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

Example of special specification customization:

Custom-made inserts width of 1.6mm, the tip form of the arc form, the arc radius of 0.8mm right insert, then the custom-made insert model is QC22R160R.

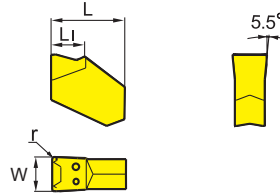
General turning

Parting and grooving

QC series shallow grooving inserts



ZQMX series



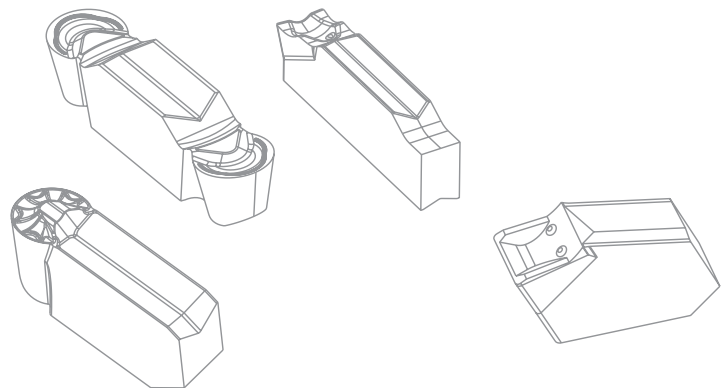
| Type | Basic dimensions(mm) | | | | Grade | | |
|-------------|----------------------|-------|-----|----|-------------|------------------|-------|
| | | | | | CVD Coating | Cemented carbide | |
| | L1 | W | r | L | YBC251 | YC40 | YD201 |
| ZQMX3N11-1E | 4.4 | 3.125 | 0.3 | 11 | ● | ● | ● |
| ZQMX4N11-1E | 4.95 | 4.125 | 0.3 | 11 | ● | ● | ● |
| ZQMX5N11-1E | 5.0 | 5.125 | 0.3 | 11 | ● | ● | ● |
| ZQMX6N11-1E | 5.28 | 6.4 | 0.3 | 11 | ● | ● | ○ |
| ZQMX7N11-1E | 4.53 | 7.05 | 0.3 | 14 | | ○ | |

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

General turning

Parting and grooving

Supplementary series parting and grooving inserts





TURNING Parting and grooving tools

Little squirrel series parting and grooving tools

Little squirrel series parting and grooving tools code key

● External and surface turning

General turning

Parting and grooving

Little squirrel series parting and grooving tools

Code of grooving tools

Machining mode

E > External cutting **F** > End surface cutting

Code of locating slot

Accords with locating slot code of insert and corresponds to certain range of insert edge width

Code of edge number of corresponding inserts

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

Q E G D - [**2525 R 13**
32 N]

Q F G D 2525 R 22 S - 130 H

Nose height and width of tool holder

Left and right hand of tool

R > Right **L** > Left **N** > Both are acceptable

Maximum cutting depth

Supplementary code

S: Strengthened tool holder for external and surface deep grooving

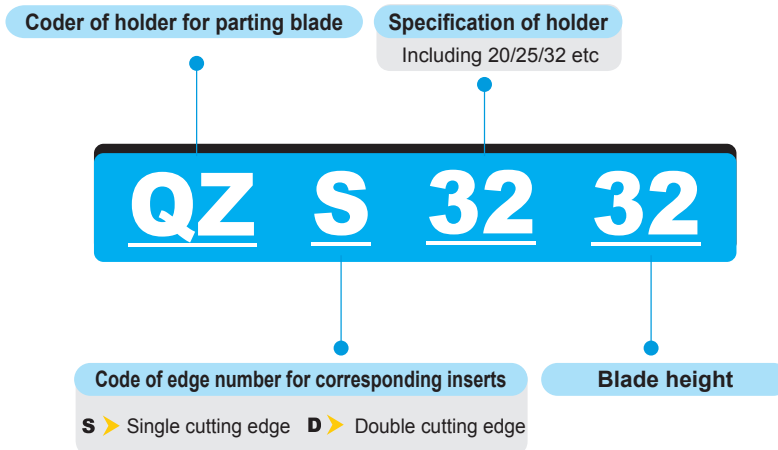
The minimum diameter of end surface grooving tools for initial machining

Holder type of end surface grooving tools

H > Straight holder **L** > 90° holder

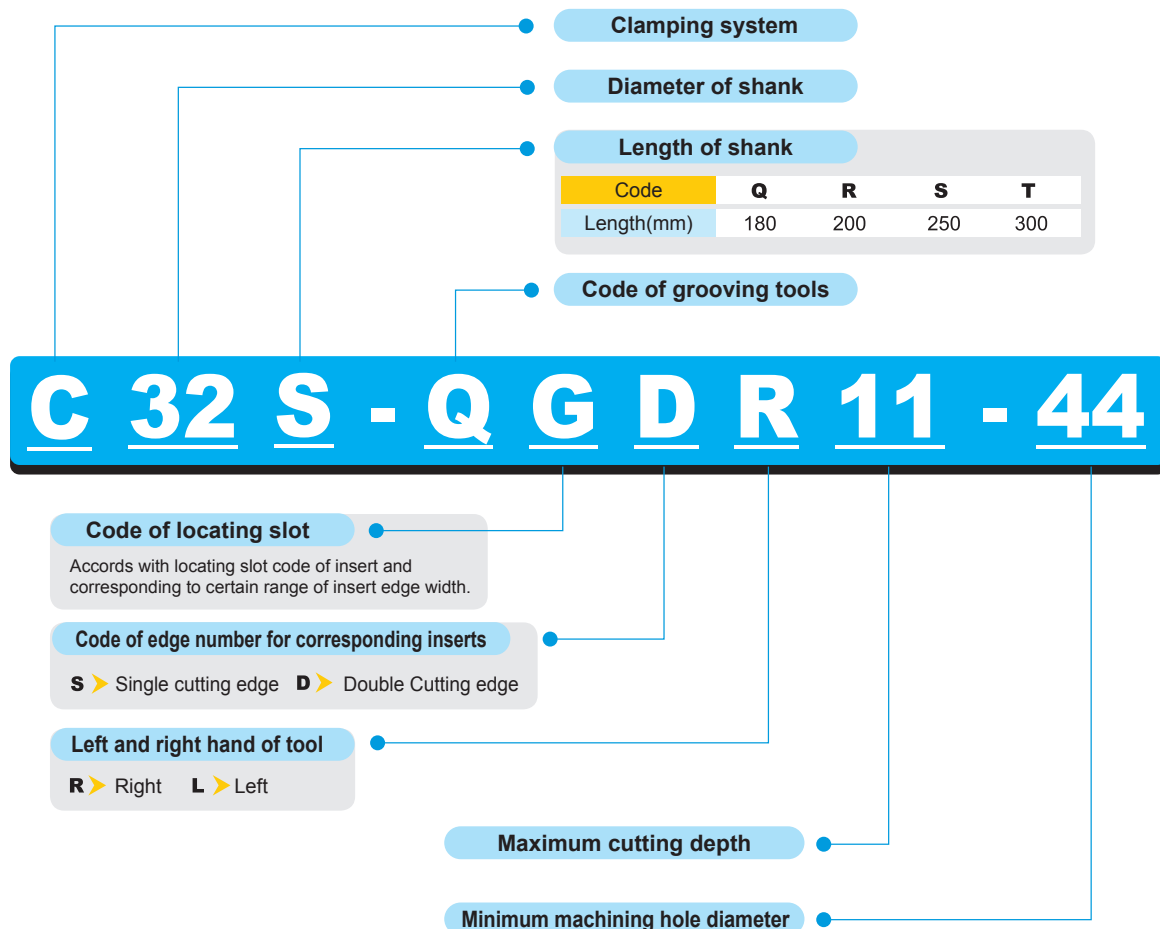


● Holder for parting blade



General turning
Parting and grooving
Little squirrel series parting and grooving tools

● Internal machining

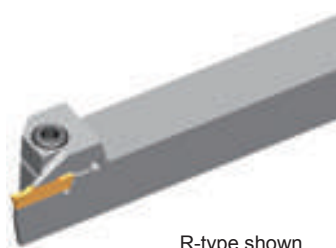




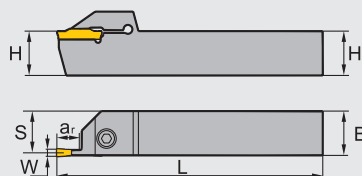
TURNING Parting and grooving tools

Little squirrel series parting and grooving tools

External parting, grooving and turning tools



R-type shown



General turning

Parting and grooving

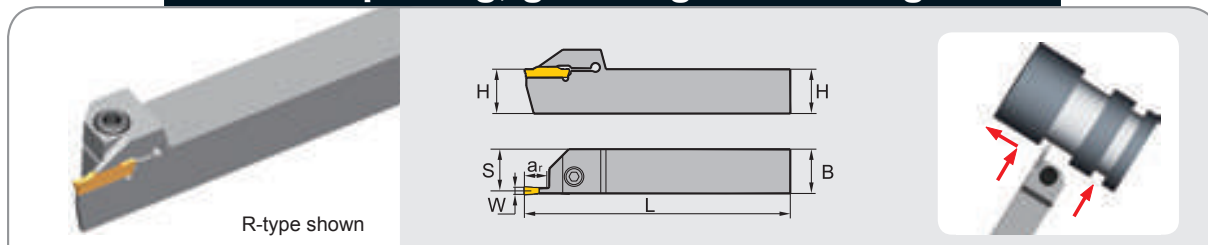
Little squirrel series parting and grooving tools

| Type | | Stock | | Basic dimensions(mm) | | | | | Applicable inserts | Screw | Wrench | |
|-------------|-------------|-----------|---|----------------------|-------|------|------|--------|--------------------|---------------|---------------|-------|
| | | R | L | H×B | L | S | W | ar max | | | | |
| QEAD | 1212R/L07 | ▲ | ▲ | 12×12 | 125 | 11.4 | 1.5 | 7 | Z□AD015□□ | GB70-85-M4×12 | WH30L | |
| | 1212R/L12 | ▲ | ▲ | 12×12 | 125 | 11.4 | 1.5 | 12 | Z□AD015□□ | | | |
| | 1616R/L07 | ▲ | ▲ | 16×16 | 125 | 15.4 | 1.5 | 7 | Z□AD015□□ | | | |
| | 1616R/L12 | ▲ | ▲ | 16×16 | 125 | 15.4 | 1.5 | 12 | Z□AD015□□ | GB70-85-M5×16 | WH40L | |
| | 2020R/L07 | ▲ | ▲ | 20×20 | 125 | 19.4 | 1.5 | 7 | Z□AD015□□ | | | |
| | 2020R/L12 | ▲ | ▲ | 20×20 | 125 | 19.4 | 1.5 | 12 | Z□AD015□□ | | | |
| QEBD | 1212R/L07 | ▲ | ▲ | 12×12 | 125 | 11.2 | 2 | 7 | Z□BD02□□ | GB70-85-M4×12 | WH30L | |
| | 1212R/L10 | ▲ | ▲ | 12×12 | 125 | 11.2 | 2 | 10 | Z□BD02□□ | | | |
| | 1212R/L14 | ▲ | ▲ | 12×12 | 125 | 11.2 | 2 | 14 | Z□BD02□□ | | | |
| | 1616R/L07 | ▲ | ▲ | 16×16 | 125 | 15.2 | 2 | 7 | Z□BD02□□ | GB70-85-M5×16 | WH40L | |
| | 1616R/L10 | ▲ | ▲ | 16×16 | 125 | 15.2 | 2 | 10 | Z□BD02□□ | | | |
| | 1616R/L14 | ▲ | ▲ | 16×16 | 125 | 15.2 | 2 | 14 | Z□BD02□□ | | | |
| | 2020R/L07 | ▲ | ▲ | 20×20 | 125 | 19.2 | 2 | 7 | Z□BD02□□ | GB70-85-M6×20 | WH50L | |
| | 2020R/L10 | ▲ | ▲ | 20×20 | 125 | 19.2 | 2 | 10 | Z□BD02□□ | | | |
| | 2020R/L14 | ▲ | ▲ | 20×20 | 125 | 19.2 | 2 | 14 | Z□BD02□□ | | | |
| | QEED | 2525R/L07 | ▲ | ▲ | 25×25 | 150 | 24.2 | 2 | 7 | Z□BD02□□ | GB70-85-M5×20 | WH40L |
| | | 2525R/L10 | ▲ | ▲ | 25×25 | 150 | 24.2 | 2 | 10 | Z□BD02□□ | | |
| | | 2525R/L14 | ▲ | ▲ | 25×25 | 150 | 24.2 | 2 | 14 | Z□BD02□□ | | |
| 1616R/L10 | | ▲ | ▲ | 16×16 | 125 | 15 | 2.5 | 10 | Z□ED025□□ | GB70-85-M6×20 | WH50L | |
| 1616R/L17 | | ▲ | ▲ | 16×16 | 125 | 15 | 2.5 | 17 | Z□ED025□□ | | | |
| 2020R/L10 | | ▲ | ▲ | 20×20 | 125 | 19 | 2.5 | 10 | Z□ED025□□ | | | |
| QEFD | 2020R/L17 | ▲ | ▲ | 20×20 | 125 | 19 | 2.5 | 17 | Z□ED025□□ | GB70-85-M5×20 | WH40L | |
| | 2525R/L10 | ▲ | ▲ | 25×25 | 150 | 24 | 2.5 | 10 | Z□ED025□□ | | | |
| | 2525R/L17 | ▲ | ▲ | 25×25 | 150 | 24 | 2.5 | 17 | Z□ED025□□ | | | |
| | 1616R/L10 | ▲ | ▲ | 16×16 | 125 | 14.8 | 3 | 10 | Z□FD03□□ | GB70-85-M6×20 | WH50L | |
| | 1616R/L17 | ▲ | ▲ | 16×16 | 125 | 14.8 | 3 | 17 | Z□FD03□□ | | | |
| | 2020R/L10 | ▲ | ▲ | 20×20 | 125 | 18.8 | 3 | 10 | Z□FD03□□ | | | |
| QEGD | 2020R/L17 | ▲ | ▲ | 20×20 | 125 | 18.8 | 3 | 17 | Z□FD03□□ | GB70-85-M5×20 | WH40L | |
| | 2525R/L10 | ▲ | ▲ | 25×25 | 150 | 23.8 | 3 | 10 | Z□FD03□□ | | | |
| | 2525R/L17 | ▲ | ▲ | 25×25 | 150 | 23.8 | 3 | 17 | Z□FD03□□ | | | |
| QEGD | 2020R/L13 | ▲ | ▲ | 20×20 | 140 | 18.5 | 4 | 13 | Z□GD04□□ | GB70-85-M6×20 | WH50L | |
| | 2020R/L22 | ▲ | ▲ | 20×20 | 140 | 18.5 | 4 | 22 | Z□GD04□□ | | | |
| | 2525R/L13 | ▲ | ▲ | 25×25 | 150 | 23.5 | 4 | 13 | Z□GD04□□ | | | |

▲Stock available △Make-to-order



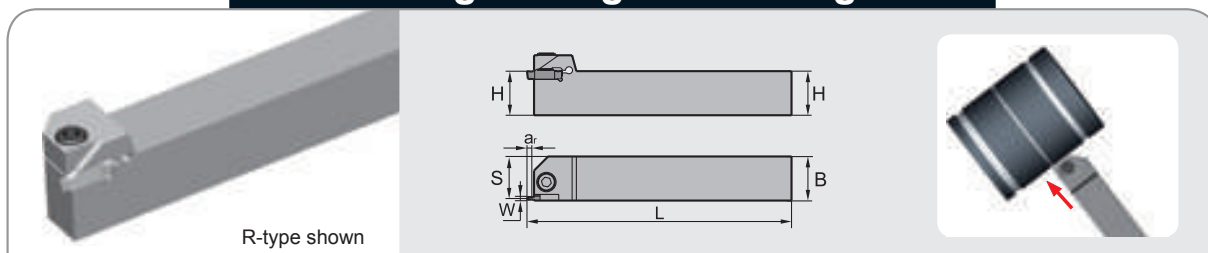
External parting, grooving and turning tools



| Type | | Stock | | Basic dimensions(mm) | | | | | Applicable inserts | Screw | Wrench |
|-------------|-----------|-------|---|----------------------|-----|------|---|--------|--------------------|---------------|--------|
| | | R | L | H×B | L | S | W | ar max | | | |
| QEGD | 2525R/L22 | ▲ | ▲ | 25×25 | 150 | 23.5 | 4 | 22 | Z□GD04□□ | GB70-85-M6×20 | WH50L |
| | 3232R/L13 | ▲ | ▲ | 32×32 | 170 | 30.5 | 4 | 13 | Z□GD04□□ | | |
| | 3232R/L22 | ▲ | ▲ | 32×32 | 170 | 30.5 | 4 | 22 | Z□GD04□□ | | |
| QEHD | 2525R/L13 | ▲ | ▲ | 25×25 | 150 | 23 | 5 | 13 | Z□HD05□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L22 | ▲ | ▲ | 25×25 | 150 | 23 | 5 | 22 | Z□HD05□□ | | |
| QEHS | 2525N30 | ▲ | ▲ | 25×25 | 150 | 12.5 | 5 | 30 | Z□HS05□□ | | |
| QEHD | 3232R/L13 | ▲ | ▲ | 32×32 | 170 | 30 | 5 | 13 | Z□HD05□□ | | |
| | 3232R/L22 | ▲ | ▲ | 32×32 | 170 | 30 | 5 | 22 | Z□HD05□□ | | |
| QEHS | 3232N30 | ▲ | ▲ | 32×32 | 170 | 16 | 5 | 30 | Z□HS05□□ | | |
| QEKD | 2525R/L13 | ▲ | ▲ | 25×25 | 150 | 22.6 | 6 | 13 | Z□KD06□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L22 | ▲ | ▲ | 25×25 | 150 | 22.6 | 6 | 22 | Z□KD06□□ | | |
| QEKD | 2525N30 | ▲ | ▲ | 25×25 | 150 | 12.5 | 6 | 30 | Z□KS06□□ | | |
| QEKD | 3232R/L13 | ▲ | ▲ | 32×32 | 170 | 29.6 | 6 | 13 | Z□KD06□□ | | |
| | 3232R/L22 | ▲ | ▲ | 32×32 | 170 | 29.6 | 6 | 22 | Z□KD06□□ | | |
| QEKD | 3232N30 | ▲ | ▲ | 32×32 | 170 | 16 | 6 | 30 | Z□KS06□□ | | |
| QELD | 2525R/L16 | ▲ | ▲ | 25×25 | 150 | 22 | 8 | 16 | ZTLD0808-MM | GB70-85-M6×20 | WH50L |
| | 2525R/L25 | ▲ | ▲ | 25×25 | 150 | 22 | 8 | 25 | ZTLD0808-MM | GB70-85-M6×20 | WH50L |
| | 3232R/L28 | ▲ | ▲ | 32×32 | 170 | 29 | 8 | 28 | ZTLD0808-MM | GB70-85-M8×30 | WH60L |

▲Stock available △Make-to-order

Precision grooving and turning tools



| Type | | Stock | | Basic dimensions(mm) | | | | | Applicable inserts | Screw | Wrench |
|-------------|------------|-------|---|----------------------|-----|-------|---------|--------|--------------------|---------------|--------|
| | | R | L | H×B | L | S | W | ar max | | | |
| QECD | 1616R/L025 | △ | △ | 16×16 | 125 | 14.75 | 1.0~2.4 | 2.5 | ZTCD□□□□□-EG | GB70-85-M5×20 | WH40L |
| | 2020R/L025 | ▲ | △ | 20×20 | 125 | 18.75 | | | | GB70-85-M6×20 | WH50L |
| | 2525R/L025 | ▲ | △ | 25×25 | 150 | 23.75 | | | | GB70-85-M6×20 | WH50L |

▲Stock available △Make-to-order

General turning

Parting and grooving

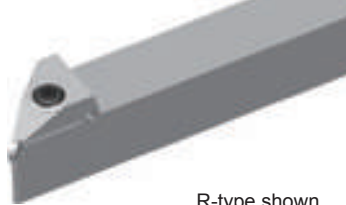
Little squirrel series parting and grooving tools



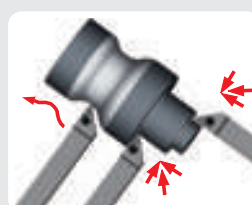
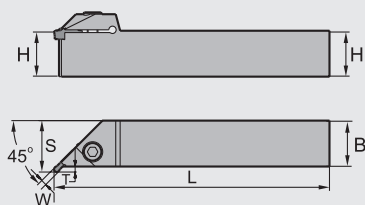
TURNING Parting and grooving tools

Little squirrel series parting and grooving tools

External relief groove machining and profiling tools



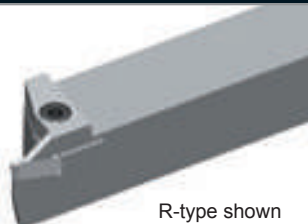
R-type shown



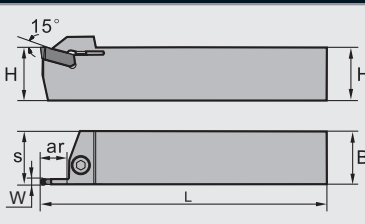
| Type | | Stock | | Basic dimensions(mm) | | | | | Applicable inserts | Screw | Wrench |
|-------------|--------------|-------|---|----------------------|-----|----|-----|--------|--------------------|---------------|--------|
| | | R | L | H×B | L | S | W | ar max | | | |
| QXFD | 2020R/L03-45 | △ | △ | 20×20 | 125 | 23 | 3.0 | 3.0 | ZR(T)FD03-□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L03-45 | △ | △ | 25×25 | 150 | 28 | | | | | |
| | 3232R/L03-45 | △ | △ | 32×32 | 170 | 35 | | | | | |
| QXGD | 2020R/L03-45 | △ | △ | 20×20 | 125 | 23 | 4.0 | 3.0 | ZR(T)GD04-□□ | | |
| | 2525R/L03-45 | △ | △ | 25×25 | 150 | 28 | | | | | |
| | 3232R/L03-45 | △ | △ | 32×32 | 170 | 35 | | | | | |
| QXHD | 2020R/L04-45 | △ | △ | 20×20 | 125 | 24 | 5.0 | 4.0 | ZR(T)HD05-□□ | | |
| | 2525R/L04-45 | △ | △ | 25×25 | 150 | 29 | | | | | |
| | 3232R/L04-45 | △ | △ | 32×32 | 170 | 36 | | | | | |
| QXKD | 2020R/L04-45 | △ | △ | 20×20 | 125 | 24 | 6.0 | 4.0 | ZR(T)KD06-□□ | | |
| | 2525R/L04-45 | △ | △ | 25×25 | 150 | 29 | | | | | |
| | 3232R/L04-45 | △ | △ | 32×32 | 170 | 36 | | | | | |

▲Stock available △Make-to-order

External grooving tools for difficult-to-machine materials



R-type shown



| Type | | Stock | | Basic dimensions(mm) | | | | | Applicable inserts | Screw | Wrench |
|-------------|--------------|-------|---|----------------------|-----|------|---|--------|--------------------------|---------------|--------|
| | | R | L | H×B | L | S | W | ar max | | | |
| QEFS | 2525R/L12-3N | △ | △ | 25×25 | 150 | 25.3 | 3 | 12 | ZIGQ3N-□□ ZIMF304N-□□ | GB70-85-M6×20 | WH50L |
| | 3232R/L22-3N | △ | △ | 32×32 | 170 | 32.3 | 3 | 22 | | | |
| QEGS | 2525R/L12-4N | △ | △ | 25×25 | 150 | 25.3 | 4 | 12 | ZIGQ4N-□□ ZIMF40□N-□□ | | |
| | 3232R/L22-4N | △ | △ | 32×32 | 170 | 32.3 | 4 | 22 | | | |
| QEHS | 2525R/L12-5N | △ | △ | 25×25 | 150 | 25.4 | 5 | 12 | ZIGQ5N-□□ ZIMF50□N-□□ | | |
| | 3232R/L22-5N | △ | △ | 32×32 | 170 | 32.4 | 5 | 22 | | | |
| QEKS | 2525R/L12-6N | △ | △ | 25×25 | 150 | 25.4 | 6 | 12 | ZIGQ6N-□□ ZIMF60□N-□□ | | |
| | 3232R/L22-6N | △ | △ | 32×32 | 170 | 32.4 | 6 | 22 | | | |


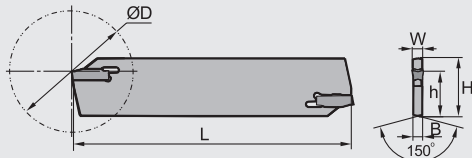

▲Stock available △Make-to-order

General turning

Parting and grooving

Little squirrel series parting and grooving tools

Blade for external parting


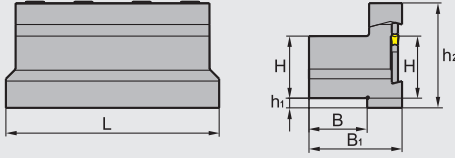
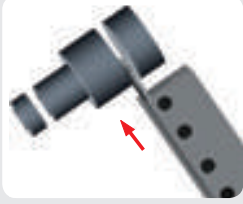




| Type | Stock | Basic dimensions(mm) | | | | | | Applicable inserts | Wrench |
|---------|-------|----------------------|----|------|-----|-----|---|--------------------|--------|
| | | L | H | h | B | W | ØD _{max} (Maximum parting diameter) | | |
| QEES26N | ▲ | 110 | 26 | 19 | 2 | 2.5 | 60 | ZPES02502-MG | W50RL |
| QEFS26N | ▲ | 110 | 26 | 19 | 2.4 | 3 | 60 | ZPFS0302-MG | |
| QEGS26N | ▲ | 110 | 26 | 19 | 3.2 | 4 | 70 | ZPGS0402-MG | |
| QEHS26N | ▲ | 110 | 26 | 19 | 4 | 5 | 70 | ZPHS0503-MG | |
| QEKS26N | ▲ | 110 | 26 | 19 | 5 | 6 | 70 | ZPKS0604-MG | |
| QEES32N | ▲ | 150 | 32 | 24.6 | 2 | 2.5 | 100 | ZPES02502-MG | |
| QEFS32N | ▲ | 150 | 32 | 24.6 | 2.4 | 3 | 100 | ZPFS0302-MG | |
| QEGS32N | ▲ | 150 | 32 | 24.6 | 3.2 | 4 | 120 | ZPGS0402-MG | |
| QEHS32N | ▲ | 150 | 32 | 24.6 | 4 | 5 | 120 | ZPHS0503-MG | |
| QEKS32N | ▲ | 150 | 32 | 24.6 | 5 | 6 | 120 | ZPKS0604-MG | |

▲Stock available

△Make-to-order

Holder for blade used for external parting

| Type | Stock | Basic dimensions(mm) | | | | | | Clamp | Screw | Wrench |
|---------|-------|----------------------|----|----------------|----------------|----|----------------|-------|---------------|--------|
| | | L | H | h ₁ | h ₂ | B | B ₁ | | | |
| QZS2026 | ▲ | 86 | 20 | 10 | 46.6 | 19 | 38 | QZC26 | GB70-85-M6×20 | WH50L |
| QZS2526 | ▲ | 86 | 25 | 5 | 46.6 | 23 | 42 | QZC26 | | |
| QZS3226 | ▲ | 86 | 30 | 3 | 51.6 | 30 | 48 | QZC26 | | |
| QZS2032 | ▲ | 110 | 20 | 13 | 50 | 19 | 38 | QZC32 | | |
| QZS2532 | ▲ | 110 | 25 | 8 | 50 | 23 | 42 | QZC32 | | |
| QZS3232 | ▲ | 110 | 32 | 5 | 54 | 30 | 48 | QZC32 | | |

▲Stock available

△Make-to-order

General turning

Parting and grooving

Little squirrel series parting and grooving tools



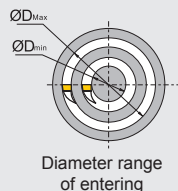
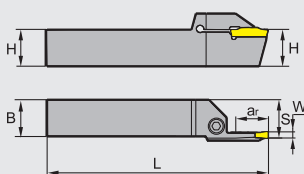
TURNING Parting and grooving tools

Little squirrel series parting and grooving tools

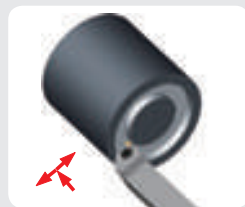
End surface grooving and turning tools



L-type shown



Diameter range of entering



General turning

Parting and grooving

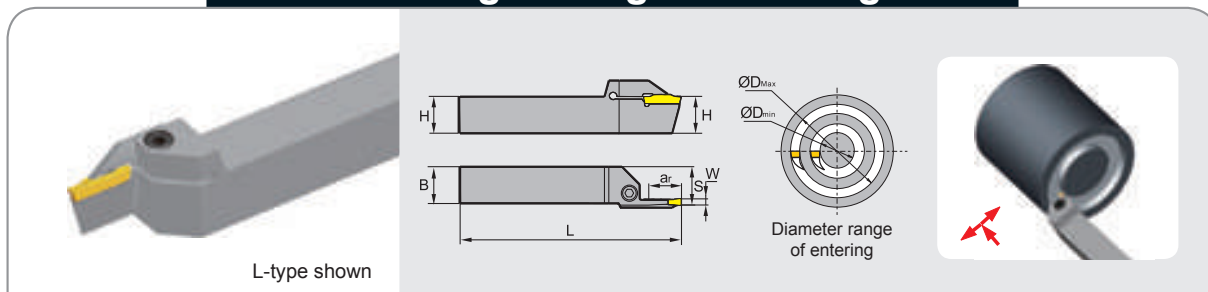
Little squirrel series parting and grooving tools

| Type | Stock | | Basic dimensions(mm) | | | | | | Applicable inserts | Screw | Wrench | |
|----------------|----------------|---|----------------------|-------|-----|----|--------|--------------|--------------------|-------------|---------------|-------|
| | R | L | H×B | L | S | W | ar max | ØD (min-max) | | | | |
| QFFD | 2020R/L7-48H | ▲ | ▲ | 20×20 | 150 | 21 | 3 | 7 | 48-66 | ZTFD0303-□□ | GB70-85-M6×20 | WH50L |
| | 2020R/L10-48H | ▲ | ▲ | 20×20 | 150 | 21 | 3 | 10 | 48-66 | | | |
| | 2525R/L10-48H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 10 | 48-66 | | | |
| | 2525R/L17-48H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 17 | 48-66 | | | |
| | 2020R/L7-60H | △ | △ | 20×20 | 150 | 21 | 3 | 7 | 60-80 | | | |
| | 2020R/L10-60H | △ | △ | 20×20 | 150 | 21 | 3 | 10 | 60-80 | | | |
| | 2525R/L10-60H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 10 | 60-80 | | | |
| | 2525R/L17-60H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 17 | 60-80 | | | |
| | 2020R/L7-74H | △ | △ | 20×20 | 150 | 21 | 3 | 7 | 74-110 | | | |
| | 2020R/L10-74H | △ | ▲ | 20×20 | 150 | 21 | 3 | 10 | 74-110 | | | |
| | 2525R/L10-74H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 10 | 74-110 | | | |
| | 2525R/L17-74H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 17 | 74-110 | | | |
| | 2020R/L7-100H | △ | △ | 20×20 | 150 | 21 | 3 | 7 | 100-150 | | | |
| | 2020R/L10-100H | △ | △ | 20×20 | 150 | 21 | 3 | 10 | 100-150 | | | |
| | 2525R/L10-100H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 10 | 100-150 | | | |
| 2525R/L17-100H | ▲ | ▲ | 25×25 | 150 | 26 | 3 | 17 | 100-150 | | | | |
| QFGD | 2020R/L10-52H | △ | △ | 20×20 | 150 | 21 | 4 | 10 | 52-72 | ZTGD0404-□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L13-52H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 13 | 52-72 | | | |
| | 2020R/L15-52H | △ | △ | 20×20 | 150 | 21 | 4 | 15 | 52-72 | | | |
| | 2525R/L22-52H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 22 | 52-72 | | | |
| | 2020R/L10-64H | △ | ▲ | 20×20 | 150 | 21 | 4 | 10 | 64-100 | | | |
| | 2525R/L13-64H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 13 | 64-100 | | | |
| | 2020R/L15-64H | △ | △ | 20×20 | 150 | 21 | 4 | 15 | 64-100 | | | |
| | 2525R/L22-64H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 22 | 64-100 | | | |
| | 2020R/L10-90H | △ | △ | 20×20 | 150 | 21 | 4 | 10 | 90-140 | | | |
| | 2525R/L13-90H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 13 | 90-140 | | | |
| | 2020R/L15-90H | △ | △ | 20×20 | 150 | 21 | 4 | 15 | 90-140 | | | |
| | 2525R/L22-90H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 22 | 90-140 | | | |
| | 2020R/L10-130H | △ | △ | 20×20 | 150 | 21 | 4 | 10 | 130-230 | | | |
| | 2525R/L13-130H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 13 | 130-230 | | | |
| | 2020R/L15-130H | △ | △ | 20×20 | 150 | 21 | 4 | 15 | 130-230 | | | |
| 2525R/L22-130H | ▲ | ▲ | 25×25 | 150 | 26 | 4 | 22 | 130-230 | | | | |

▲Stock available △Make-to-order



End surface grooving and turning tools



| Type | Stock | | Basic dimensions(mm) | | | | | | Applicable inserts | Screw | Wrench | |
|-------------|----------------|---|----------------------|-------|-----|----|--------|--------------|--------------------|-------------|---------------|-------|
| | R | L | H×B | L | S | W | ar max | ØD (min-max) | | | | |
| QFHD | 2525R/L13-58H | ▲ | ▲ | 25×25 | 150 | 26 | 5 | 13 | 58-96 | ZTHD0504-□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L22-58H | ▲ | ▲ | 25×25 | 150 | 26 | 5 | 22 | 58-96 | | | |
| | 2525R/L13-86H | △ | ▲ | 25×25 | 150 | 26 | 5 | 13 | 86-140 | | | |
| | 2525R/L22-86H | ▲ | ▲ | 25×25 | 150 | 26 | 5 | 22 | 86-140 | | | |
| | 2525R/L13-130H | ▲ | ▲ | 25×25 | 150 | 26 | 5 | 13 | 130-200 | | | |
| | 2525R/L22-130H | ▲ | ▲ | 25×25 | 150 | 26 | 5 | 22 | 130-200 | | | |
| | 2525R/L13-185H | ▲ | ▲ | 25×25 | 150 | 26 | 5 | 13 | 185-400 | | | |
| | 2525R/L22-185H | ▲ | ▲ | 25×25 | 150 | 26 | 5 | 22 | 185-400 | | | |
| QFHS | 2525R/L30-185H | △ | △ | 25×25 | 150 | 26 | 5 | 30 | 185-400 | ZTHS0504-MG | | |
| QFKD | 2525R/L13-60H | ▲ | ▲ | 25×25 | 150 | 26 | 6 | 13 | 60-100 | ZTKD0608-□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L22-60H | ▲ | ▲ | 25×25 | 150 | 26 | 6 | 22 | 60-100 | | | |
| | 2525R/L13-88H | △ | ▲ | 25×25 | 150 | 26 | 6 | 13 | 88-180 | | | |
| | 2525R/L22-88H | ▲ | ▲ | 25×25 | 150 | 26 | 6 | 22 | 88-180 | | | |
| | 2525R/L13-160H | ▲ | ▲ | 25×25 | 150 | 26 | 6 | 13 | 160-400 | | | |
| | 2525R/L22-160H | ▲ | ▲ | 25×25 | 150 | 26 | 6 | 22 | 160-400 | | | |
| QFKS | 2525R/L30-160H | △ | △ | 25×25 | 150 | 26 | 6 | 30 | 160-400 | ZTKS0608-MG | | |
| QFLD | 2525R/L25-75H | ▲ | ▲ | 25×25 | 150 | 27 | 8 | 25 | 75-150 | ZTLD0808-MM | GB70-85-M6×20 | WH50L |
| | 2525R/L25-140H | ▲ | ▲ | 25×25 | 150 | 27 | 8 | 25 | 140-400 | ZTLD0808-MM | GB70-85-M6×20 | WH50L |
| | 3232R/L28-140H | ▲ | ▲ | 32×32 | 170 | 30 | 8 | 28 | 140-400 | ZTLD0808-MM | GB70-85-M8×30 | WH60L |

▲Stock available △Make-to-order

General turning

Parting and grooving

Little squirrel series parting and grooving tools



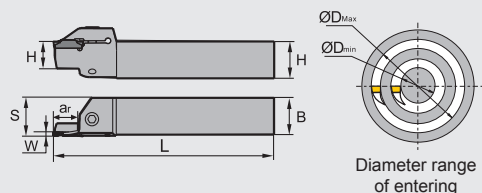
TURNING Parting and grooving tools

Little squirrel series parting and grooving tools

End surface grooving and turning tools



RR-type shown



Diameter range of entering



General turning

Parting and grooving

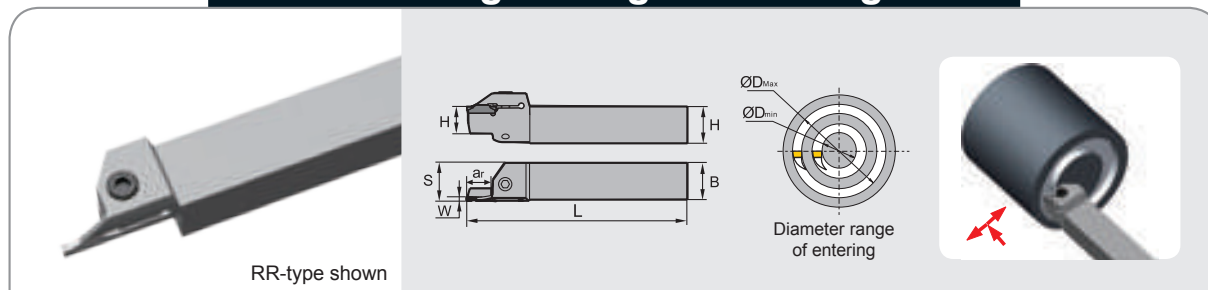
Little squirrel series parting and grooving tools

| Type | Stock | Basic dimensions(mm) | | | | | | | Applicable inserts | Screw | Wrench |
|---------------|---------------|----------------------|-------|-----|----|--------|--------------|---------|--------------------|---------------|--------|
| | | H×B | L | S | W | ar max | ØD (min-max) | | | | |
| QFFD | 2020RR7-48H | △ | 20×20 | 150 | 21 | 3 | 7 | 48-66 | ZTFD0303-□□ | GB70-85-M6×20 | WH50L |
| | 2020RR10-48H | △ | 20×20 | 150 | 21 | 3 | 10 | 48-66 | | | |
| | 2525RR10-48H | △ | 25×25 | 150 | 26 | 3 | 10 | 48-66 | | | |
| | 2525RR17-48H | △ | 25×25 | 150 | 26 | 3 | 17 | 48-66 | | | |
| | 2020RR7-60H | △ | 20×20 | 150 | 21 | 3 | 7 | 60-80 | | | |
| | 2020RR10-60H | △ | 20×20 | 150 | 21 | 3 | 10 | 60-80 | | | |
| | 2525RR10-60H | △ | 25×25 | 150 | 26 | 3 | 10 | 60-80 | | | |
| | 2525RR17-60H | △ | 25×25 | 150 | 26 | 3 | 17 | 60-80 | | | |
| | 2020RR7-74H | △ | 20×20 | 150 | 21 | 3 | 7 | 74-110 | | | |
| | 2020RR10-74H | △ | 20×20 | 150 | 21 | 3 | 10 | 74-110 | | | |
| | 2525RR10-74H | △ | 25×25 | 150 | 26 | 3 | 10 | 74-110 | | | |
| | 2525RR17-74H | △ | 25×25 | 150 | 26 | 3 | 17 | 74-110 | | | |
| | 2020RR7-100H | △ | 20×20 | 150 | 21 | 3 | 7 | 100-150 | | | |
| | 2020RR10-100H | △ | 20×20 | 150 | 21 | 3 | 10 | 100-150 | | | |
| | 2525RR10-100H | △ | 25×25 | 150 | 26 | 3 | 10 | 100-150 | | | |
| 2525RR17-100H | △ | 25×25 | 150 | 26 | 3 | 17 | 100-150 | | | | |
| QFGD | 2020RR10-52H | △ | 20×20 | 150 | 21 | 4 | 10 | 52-72 | ZTGD0404-□□ | GB70-85-M6×20 | WH50L |
| | 2020RR15-52H | △ | 20×20 | 150 | 26 | 4 | 15 | 52-72 | | | |
| | 2525RR13-52H | △ | 25×25 | 150 | 21 | 4 | 13 | 52-72 | | | |
| | 2525RR22-52H | △ | 25×25 | 150 | 26 | 4 | 22 | 52-72 | | | |
| | 2020RR10-64H | △ | 20×20 | 150 | 21 | 4 | 10 | 64-100 | | | |
| | 2020RR15-64H | △ | 20×20 | 150 | 26 | 4 | 15 | 64-100 | | | |
| | 2525RR13-64H | △ | 25×25 | 150 | 21 | 4 | 13 | 64-100 | | | |
| | 2525RR22-64H | △ | 25×25 | 150 | 26 | 4 | 22 | 64-100 | | | |
| | 2020RR10-90H | △ | 20×20 | 150 | 21 | 4 | 10 | 90-140 | | | |
| | 2020RR15-90H | △ | 20×20 | 150 | 26 | 4 | 15 | 90-140 | | | |
| | 2525RR13-90H | △ | 25×25 | 150 | 21 | 4 | 13 | 90-140 | | | |
| | 2525RR22-90H | △ | 25×25 | 150 | 26 | 4 | 22 | 90-140 | | | |
| | 2020RR10-130H | △ | 20×20 | 150 | 21 | 4 | 10 | 130-230 | | | |
| | 2020RR15-130H | △ | 20×20 | 150 | 26 | 4 | 15 | 130-230 | | | |
| | 2525RR13-130H | △ | 25×25 | 150 | 21 | 4 | 13 | 130-230 | | | |
| 2525RR22-130H | △ | 25×25 | 150 | 26 | 4 | 22 | 130-230 | | | | |

▲Stock available △Make-to-order



End surface grooving and turning tools



RR-type shown

| Type | Stock | Basic dimensions(mm) | | | | | | | Applicable inserts | Screw | Wrench |
|-------------|----------------------|----------------------|-------|-----|----|--------|--------------|---------|--------------------|---------------|--------|
| | | H×B | L | S | W | ar max | ØD (min-max) | | | | |
| QFHD | 2525RR13-58H | △ | 25×25 | 150 | 26 | 5 | 13 | 58-96 | ZTHD0504-□□ | GB70-85-M6×20 | WH50L |
| | 2525RR22-58H | △ | 25×25 | 150 | 26 | 5 | 22 | 58-96 | | | |
| | 2525RR13-86H | △ | 25×25 | 150 | 26 | 5 | 13 | 86-140 | | | |
| | 2525RR22-86H | △ | 25×25 | 150 | 26 | 5 | 22 | 86-140 | | | |
| | 2525RR13-130H | △ | 25×25 | 150 | 26 | 5 | 13 | 130-200 | | | |
| | 2525RR22-130H | △ | 25×25 | 150 | 26 | 5 | 22 | 130-200 | | | |
| | 2525RR13-185H | △ | 25×25 | 150 | 26 | 5 | 13 | 185-400 | | | |
| | 2525RR22-185H | △ | 25×25 | 150 | 26 | 5 | 22 | 185-400 | | | |
| QFHS | 2525RR30-185H | △ | 25×25 | 150 | 26 | 5 | 30 | 185-400 | ZTHS0504-MG | | |
| QFKD | 2525RR13-60H | △ | 25×25 | 150 | 26 | 6 | 13 | 60-100 | ZTKD0608-□□ | GB70-85-M6×20 | WH50L |
| | 2525RR22-60H | △ | 25×25 | 150 | 26 | 6 | 22 | 60-100 | | | |
| | 2525RR13-88H | △ | 25×25 | 150 | 26 | 6 | 13 | 88-180 | | | |
| | 2525RR22-88H | △ | 25×25 | 150 | 26 | 6 | 22 | 88-180 | | | |
| | 2525RR13-160H | △ | 25×25 | 150 | 26 | 6 | 13 | 160-400 | | | |
| | 2525RR22-160H | △ | 25×25 | 150 | 26 | 6 | 22 | 160-400 | | | |
| QFKS | 2525RR30-160H | △ | 25×25 | 150 | 26 | 6 | 30 | 160-400 | ZTKS0608-MG | | |

▲Stock available

△Make-to-order

General turning

Parting and grooving

Little squirrel series parting and grooving tools



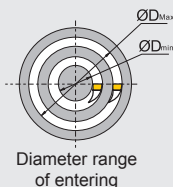
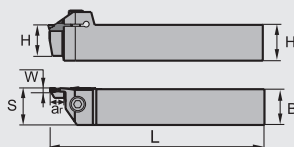
TURNING Parting and grooving tools

Little squirrel series parting and grooving tools

End surface grooving and turning tools



LL-type shown



Diameter range of entering



General turning

Parting and grooving

Little squirrel series parting and grooving tools

| Type | Stock | Basic dimensions(mm) | | | | | | | Applicable inserts | Screw | Wrench |
|---------------|---------------|----------------------|-------|-----|----|--------|--------------|---------|--------------------|---------------|--------|
| | | H×B | L | S | W | ar max | ØD (min-max) | | | | |
| QFFD | 2020LL7-48H | △ | 20×20 | 150 | 21 | 3 | 7 | 48-66 | ZTFD0303-□□ | GB70-85-M6×20 | WH50L |
| | 2020LL10-48H | △ | 20×20 | 150 | 21 | 3 | 10 | 48-66 | | | |
| | 2525LL10-48H | △ | 25×25 | 150 | 26 | 3 | 10 | 48-66 | | | |
| | 2525LL17-48H | △ | 25×25 | 150 | 26 | 3 | 17 | 48-66 | | | |
| | 2020LL7-60H | △ | 20×20 | 150 | 21 | 3 | 7 | 60-80 | | | |
| | 2020LL10-60H | △ | 20×20 | 150 | 21 | 3 | 10 | 60-80 | | | |
| | 2525LL10-60H | △ | 25×25 | 150 | 26 | 3 | 10 | 60-80 | | | |
| | 2525LL17-60H | △ | 25×25 | 150 | 26 | 3 | 17 | 60-80 | | | |
| | 2020LL7-74H | △ | 20×20 | 150 | 21 | 3 | 7 | 74-110 | | | |
| | 2020LL10-74H | △ | 20×20 | 150 | 21 | 3 | 10 | 74-110 | | | |
| | 2525LL10-74H | △ | 25×25 | 150 | 26 | 3 | 10 | 74-110 | | | |
| | 2525LL17-74H | △ | 25×25 | 150 | 26 | 3 | 17 | 74-110 | | | |
| | 2020LL7-100H | △ | 20×20 | 150 | 21 | 3 | 7 | 100-150 | | | |
| | 2020LL10-100H | △ | 20×20 | 150 | 21 | 3 | 10 | 100-150 | | | |
| | 2525LL10-100H | △ | 25×25 | 150 | 26 | 3 | 10 | 100-150 | | | |
| 2525LL17-100H | △ | 25×25 | 150 | 26 | 3 | 17 | 100-150 | | | | |
| QFGD | 2020LL10-52H | △ | 20×20 | 150 | 21 | 4 | 10 | 52-72 | ZTGD0404-□□ | GB70-85-M6×20 | WH50L |
| | 2020LL15-52H | △ | 20×20 | 150 | 26 | 4 | 15 | 52-72 | | | |
| | 2525LL13-52H | △ | 25×25 | 150 | 21 | 4 | 13 | 52-72 | | | |
| | 2525LL22-52H | △ | 25×25 | 150 | 26 | 4 | 22 | 52-72 | | | |
| | 2020LL10-64H | △ | 20×20 | 150 | 21 | 4 | 10 | 64-100 | | | |
| | 2020LL15-64H | △ | 20×20 | 150 | 26 | 4 | 15 | 64-100 | | | |
| | 2525LL13-64H | △ | 25×25 | 150 | 21 | 4 | 13 | 64-100 | | | |
| | 2525LL22-64H | △ | 25×25 | 150 | 26 | 4 | 22 | 64-100 | | | |
| | 2020LL10-90H | △ | 20×20 | 150 | 21 | 4 | 10 | 90-140 | | | |
| | 2020LL15-90H | △ | 20×20 | 150 | 26 | 4 | 15 | 90-140 | | | |
| | 2525LL13-90H | △ | 25×25 | 150 | 21 | 4 | 13 | 90-140 | | | |
| | 2525LL22-90H | △ | 25×25 | 150 | 26 | 4 | 22 | 90-140 | | | |
| | 2020LL10-130H | △ | 20×20 | 150 | 21 | 4 | 10 | 130-230 | | | |
| | 2020LL15-130H | △ | 20×20 | 150 | 26 | 4 | 15 | 130-230 | | | |
| | 2525LL13-130H | △ | 25×25 | 150 | 21 | 4 | 13 | 130-230 | | | |
| 2525LL22-130H | △ | 25×25 | 150 | 26 | 4 | 22 | 130-230 | | | | |

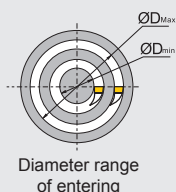
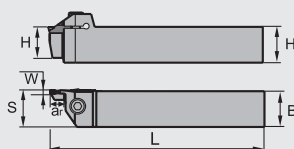
▲Stock available

△Make-to-order

End surface grooving and turning tools



LL-type shown



Diameter range of entering



| Type | Stock | Basic dimensions(mm) | | | | | | | Applicable inserts | Screw | Wrench |
|-------------|----------------------|----------------------|-------|-----|----|--------|--------------|---------|--------------------|---------------|--------|
| | | H×B | L | S | W | αr max | ∅D (min-max) | | | | |
| QFHD | 2525LL13-58H | △ | 25×25 | 150 | 26 | 5 | 13 | 58-96 | ZTHD0504-□□ | GB70-85-M6×20 | WH50L |
| | 2525LL22-58H | △ | 25×25 | 150 | 26 | 5 | 22 | 58-96 | | | |
| | 2525LL13-86H | △ | 25×25 | 150 | 26 | 5 | 13 | 86-140 | | | |
| | 2525LL22-86H | △ | 25×25 | 150 | 26 | 5 | 22 | 86-140 | | | |
| | 2525LL13-130H | △ | 25×25 | 150 | 26 | 5 | 13 | 130-200 | | | |
| | 2525LL22-130H | △ | 25×25 | 150 | 26 | 5 | 22 | 130-200 | | | |
| | 2525LL13-185H | △ | 25×25 | 150 | 26 | 5 | 13 | 185-400 | | | |
| | 2525LL22-185H | △ | 25×25 | 150 | 26 | 5 | 22 | 185-400 | | | |
| QFHS | 2525LL30-185H | △ | 25×25 | 150 | 26 | 5 | 30 | 185-400 | ZTHS0504-MG | | |
| QFKD | 2525LL13-60H | △ | 25×25 | 150 | 26 | 6 | 13 | 60-100 | ZTKD0608-□□ | GB70-85-M6×20 | WH50L |
| | 2525LL22-60H | △ | 25×25 | 150 | 26 | 6 | 22 | 60-100 | | | |
| | 2525LL13-88H | △ | 25×25 | 150 | 26 | 6 | 13 | 88-180 | | | |
| | 2525LL22-88H | △ | 25×25 | 150 | 26 | 6 | 22 | 88-180 | | | |
| | 2525LL13-160H | △ | 25×25 | 150 | 26 | 6 | 13 | 160-400 | | | |
| | 2525LL22-160H | △ | 25×25 | 150 | 26 | 6 | 22 | 160-400 | | | |
| QFKS | 2525LL30-160H | △ | 25×25 | 150 | 26 | 6 | 30 | 160-400 | ZTKS0608-MG | | |

▲Stock available

△Make-to-order

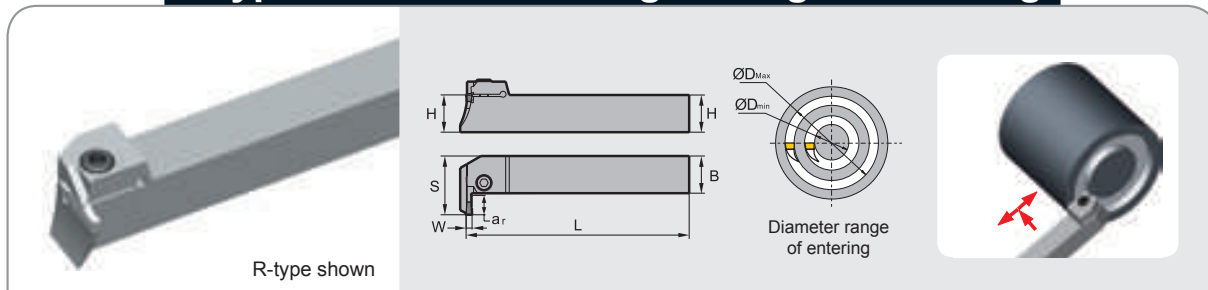
General turning

Parting and grooving

Little squirrel series parting and grooving tools



L type tools for surface grooving and turning



R-type shown

| Type | Stock | | Basic dimensions(mm) | | | | | | Applicable inserts | Screw | Wrench | |
|----------------|----------------|---|----------------------|-------|------|------|--------|--------------|--------------------|-------------|---------------|-------|
| | R | L | H×B | L | S | W | ar max | ØD (min-max) | | | | |
| QFFD | 2020R/L7-48L | △ | △ | 20×20 | 150 | 28.5 | 3 | 7 | 48-66 | ZTFD0303-□□ | GB70-85-M6×20 | WH50L |
| | 2020R/L10-48L | △ | △ | 20×20 | 150 | 31.5 | 3 | 10 | 48-66 | | | |
| | 2525R/L10-48L | ▲ | ▲ | 25×25 | 150 | 36.5 | 3 | 10 | 48-66 | | | |
| | 2525R/L17-48L | △ | △ | 25×25 | 150 | 43.5 | 3 | 17 | 48-66 | | | |
| | 2020R/L7-60L | △ | △ | 20×20 | 150 | 28.5 | 3 | 7 | 60-80 | | | |
| | 2020R/L10-60L | △ | △ | 20×20 | 150 | 31.5 | 3 | 10 | 60-80 | | | |
| | 2525R/L10-60L | ▲ | ▲ | 25×25 | 150 | 36.5 | 3 | 10 | 60-80 | | | |
| | 2525R/L17-60L | △ | △ | 25×25 | 150 | 43.5 | 3 | 17 | 60-80 | | | |
| | 2020R/L7-74L | △ | △ | 20×20 | 150 | 28.5 | 3 | 7 | 74-110 | | | |
| | 2020R/L10-74L | △ | △ | 20×20 | 150 | 31.5 | 3 | 10 | 74-110 | | | |
| | 2525R/L10-74L | ▲ | ▲ | 25×25 | 150 | 36.5 | 3 | 10 | 74-110 | | | |
| | 2525R/L17-74L | △ | △ | 25×25 | 150 | 43.5 | 3 | 17 | 74-110 | | | |
| | 2020R/L7-100L | △ | △ | 20×20 | 150 | 28.5 | 3 | 7 | 100-150 | | | |
| | 2020R/L10-100L | △ | △ | 20×20 | 150 | 31.5 | 3 | 10 | 100-150 | | | |
| | 2525R/L10-100L | ▲ | ▲ | 25×25 | 150 | 36.5 | 3 | 10 | 100-150 | | | |
| 2525R/L17-100L | △ | △ | 25×25 | 150 | 43.5 | 3 | 17 | 100-150 | | | | |
| QFGD | 2020R/L10-52L | △ | △ | 20×20 | 150 | 31.5 | 4 | 10 | 52-72 | ZTGD0404-□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L13-52L | ▲ | △ | 25×25 | 150 | 39.5 | 4 | 13 | 52-72 | | | |
| | 2020R/L15-52L | △ | △ | 20×20 | 150 | 36.5 | 4 | 15 | 52-72 | | | |
| | 2525R/L22-52L | △ | △ | 25×25 | 150 | 48.5 | 4 | 22 | 52-72 | | | |
| | 2020R/L10-64L | △ | △ | 20×20 | 150 | 31.5 | 4 | 10 | 64-100 | | | |
| | 2525R/L13-64L | △ | △ | 25×25 | 150 | 39.5 | 4 | 13 | 64-100 | | | |
| | 2020R/L15-64L | △ | △ | 20×20 | 150 | 36.5 | 4 | 15 | 64-100 | | | |
| | 2525R/L22-64L | △ | △ | 25×25 | 150 | 48.5 | 4 | 22 | 64-100 | | | |
| | 2020R/L10-90L | △ | △ | 20×20 | 150 | 31.5 | 4 | 10 | 90-140 | | | |
| | 2525R/L13-90L | △ | △ | 25×25 | 150 | 39.5 | 4 | 13 | 90-140 | | | |
| | 2020R/L15-90L | △ | △ | 20×20 | 150 | 36.5 | 4 | 15 | 90-140 | | | |
| | 2525R/L22-90L | ▲ | △ | 25×25 | 150 | 48.5 | 4 | 22 | 90-140 | | | |
| | 2020R/L10-130L | △ | △ | 20×20 | 150 | 31.5 | 4 | 10 | 130-230 | | | |
| | 2525R/L13-130L | △ | △ | 25×25 | 150 | 39.5 | 4 | 13 | 130-230 | | | |
| | 2020R/L15-130L | △ | △ | 20×20 | 150 | 36.5 | 4 | 15 | 130-230 | | | |
| 2525R/L22-130L | ▲ | ▲ | 25×25 | 150 | 48.5 | 4 | 22 | 130-230 | | | | |

▲ Stock available △ Make-to-order

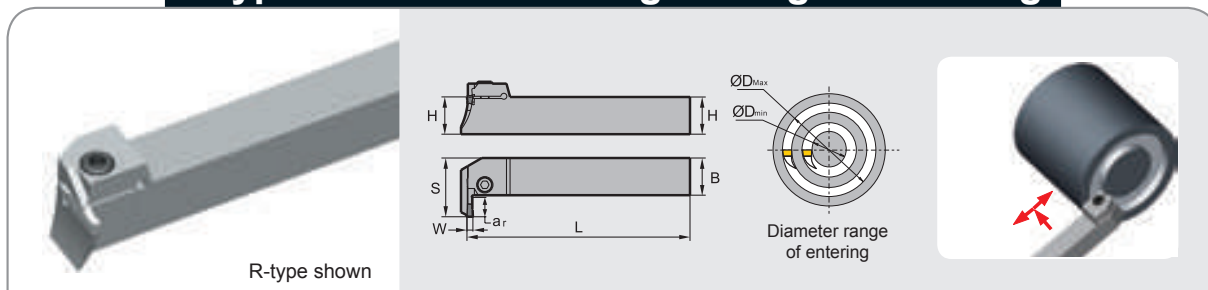
General turning

Parting and grooving

Little squirrel series parting and grooving tools



L type tools for surface grooving and turning



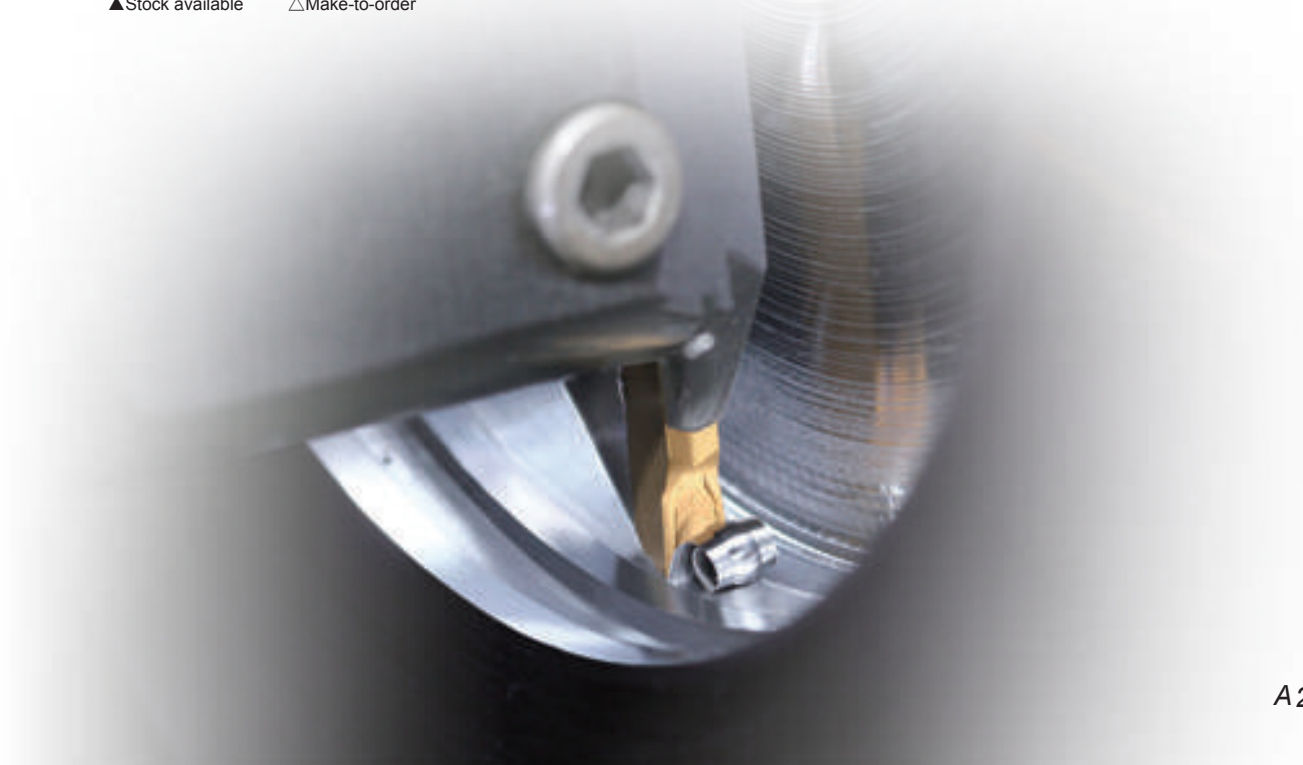
| Type | | Stock | | Basic dimensions(mm) | | | | | | Applicable inserts | Screw | Wrench |
|-------------|----------------|-------|---|----------------------|-----|------|---|--------|--------------|--------------------|---------------|--------|
| | | R | L | H×B | L | S | W | ar max | ØD (min-max) | | | |
| QFHD | 2525R/L13-58L | △ | △ | 25×25 | 150 | 39.5 | 5 | 13 | 58-96 | ZTHD0504-□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L22-58L | △ | △ | 25×25 | 150 | 48.5 | 5 | 22 | 58-96 | | | |
| | 2525R/L13-86L | △ | △ | 25×25 | 150 | 39.5 | 5 | 13 | 86-140 | | | |
| | 2525R/L22-86L | △ | △ | 25×25 | 150 | 48.5 | 5 | 22 | 86-140 | | | |
| | 2525R/L13-130L | △ | △ | 25×25 | 150 | 39.5 | 5 | 13 | 130-200 | | | |
| | 2525R/L22-130L | △ | △ | 25×25 | 150 | 48.5 | 5 | 22 | 130-200 | | | |
| | 2525R/L13-185L | △ | △ | 25×25 | 150 | 39.5 | 5 | 13 | 185-400 | | | |
| | 2525R/L22-185L | ▲ | △ | 25×25 | 150 | 48.5 | 5 | 22 | 185-400 | | | |
| QFHS | 2525R/L30-185L | △ | △ | 25×25 | 150 | 56.5 | 5 | 30 | 185-400 | ZTHS0504-MG | | |
| QFKD | 2525R/L13-60L | ▲ | ▲ | 25×25 | 150 | 39.5 | 6 | 13 | 60-100 | ZTKD0608-□□ | GB70-85-M6×20 | WH50L |
| | 2525R/L22-60L | ▲ | ▲ | 25×25 | 150 | 48.5 | 6 | 22 | 60-100 | | | |
| | 2525R/L13-88L | △ | ▲ | 25×25 | 150 | 39.5 | 6 | 13 | 88-180 | | | |
| | 2525R/L22-88L | ▲ | ▲ | 25×25 | 150 | 48.5 | 6 | 22 | 88-180 | | | |

▲Stock available △Make-to-order

General turning

Parting and grooving

Little squirrel series parting and grooving tools

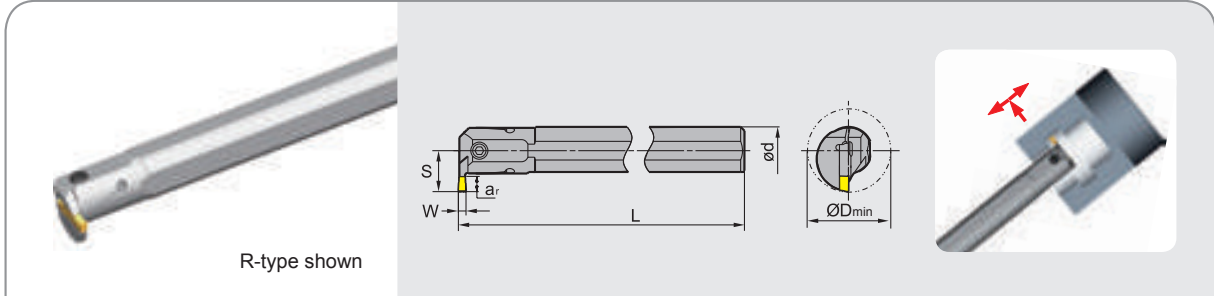




TURNING Parting and grooving tools

Little squirrel series parting and grooving tools

Internal grooving and turning tools

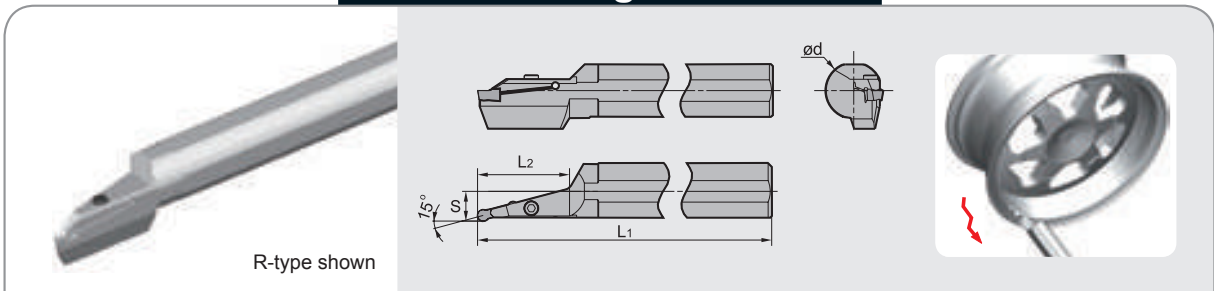


R-type shown

| Type | Stock | | Basic dimensions(mm) | | | | | | Applicable inserts | Screw | Wrench |
|------------------|-------|---|----------------------|-----|------|-----|-------------------|-------------------|------------------------|---------------|--------|
| | R | L | ød | L | S | W | ar _{max} | ØD _{min} | | | |
| C20Q-QEDR/L05-27 | ▲ | ▲ | 20 | 180 | 15.2 | 2.5 | 5 | 27 | ZTED025□□ ZRED025□□ | GB70-85-M4×12 | WH30L |
| C25R-QEDR/L07-33 | ▲ | ▲ | 25 | 200 | 20.3 | 2.5 | 7 | 33 | | GB70-85-M5×16 | WH40L |
| C32S-QEDR/L09-42 | ▲ | ▲ | 32 | 250 | 25.3 | 2.5 | 9 | 42 | ZTFD03□□ ZRFD03□□ | GB70-85-M5×20 | WH40L |
| C20Q-QFDR/L05-27 | ▲ | ▲ | 20 | 180 | 15.2 | 3 | 5 | 27 | | GB70-85-M4×12 | WH30L |
| C25R-QFDR/L07-33 | ▲ | ▲ | 25 | 200 | 20.3 | 3 | 7 | 33 | ZTGD04□□ ZRGD04□□ | GB70-85-M5×16 | WH40L |
| C32S-QFDR/L09-42 | ▲ | ▲ | 32 | 250 | 25.3 | 3 | 9 | 42 | | GB70-85-M5×20 | WH40L |
| C25R-QGDR/L08-35 | ▲ | ▲ | 25 | 200 | 21.5 | 4 | 8 | 35 | ZTHD05□□ ZRHD05□□ | GB70-85-M5×16 | WH40L |
| C32S-QGDR/L11-44 | ▲ | ▲ | 32 | 250 | 27.5 | 4 | 11 | 44 | | GB70-85-M6×20 | WH50L |
| C40T-QGDR/L13-54 | ▲ | ▲ | 40 | 300 | 33.5 | 4 | 13 | 54 | ZTKD06□□ ZRKD06□□ | GB70-85-M6×20 | WH50L |
| C25R-QHDR/L08-35 | ▲ | ▲ | 25 | 200 | 21.5 | 5 | 8 | 35 | | GB70-85-M5×16 | WH40L |
| C32S-QHDR/L11-44 | ▲ | ▲ | 32 | 250 | 27.5 | 5 | 11 | 44 | ZTKD06□□ ZRKD06□□ | GB70-85-M6×20 | WH50L |
| C40T-QHDR/L13-54 | ▲ | ▲ | 40 | 300 | 33.5 | 5 | 13 | 54 | | GB70-85-M6×20 | WH50L |
| C25R-QKDR/L08-35 | ▲ | ▲ | 25 | 200 | 21.5 | 6 | 8 | 35 | ZTKD06□□ ZRKD06□□ | GB70-85-M5×16 | WH40L |
| C32S-QKDR/L11-44 | ▲ | ▲ | 32 | 250 | 27.5 | 6 | 11 | 44 | | GB70-85-M6×20 | WH50L |
| C40T-QKDR/L13-54 | ▲ | ▲ | 40 | 300 | 33.5 | 6 | 13 | 54 | ZTKD06□□ ZRKD06□□ | GB70-85-M6×20 | WH50L |

▲Stock available △Make-to-order

Profile turning tools for Al



R-type shown

| Type | Stock | | Basic dimensions(mm) | | | | | Applicable inserts | Screw | Wrench |
|-------------------|-------|---|------------------------------------|----|----|----------------|----------------|--------------------|---------------|--------|
| | R | L | ØD (Minimum machining diameter) | ød | S | L ₁ | L ₂ | | | |
| C40X-QLDR/L65-15A | ▲ | ▲ | 160 | 40 | 21 | 320 | 65 | ZRLD08-LH | GB70-85-M6×20 | WH50L |
| C40X-QLDR/L80-15A | ▲ | △ | 160 | 40 | 21 | 320 | 80 | ZRLD08-LH | | |
| C40X-QKDR/L60-15A | △ | △ | 160 | 40 | 20 | 320 | 60 | ZRKD06-LH | | |
| C40X-QKDR/L75-15A | △ | △ | 160 | 40 | 20 | 320 | 75 | ZRKD06-LH | | |

▲Stock available △Make-to-order

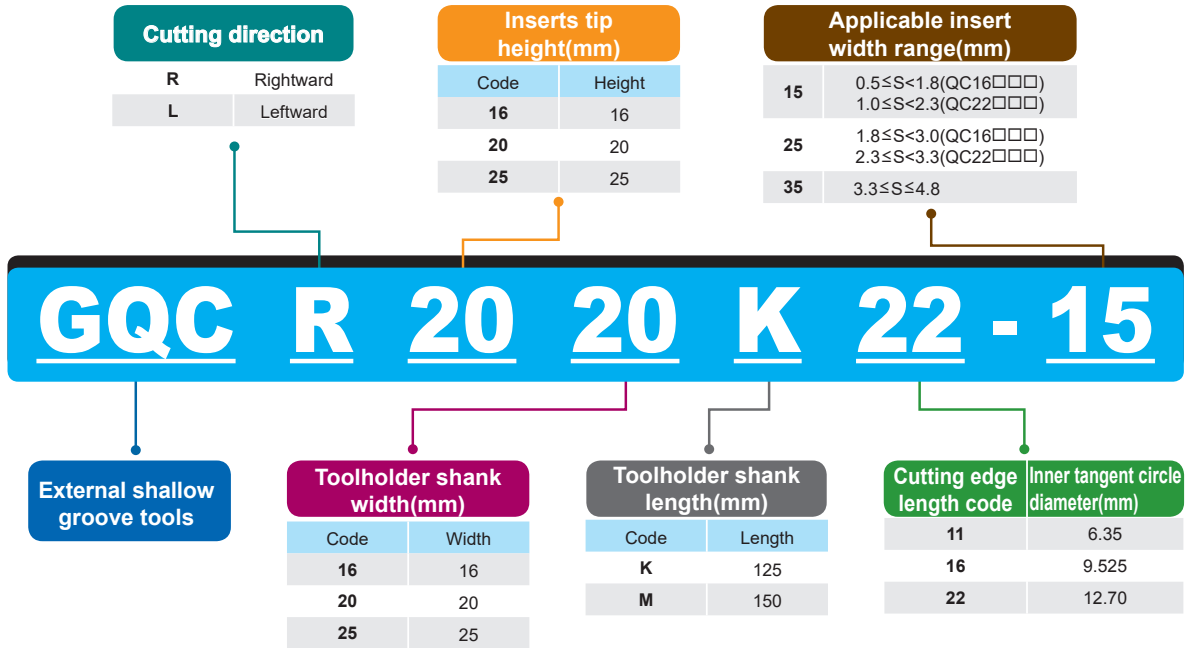
General turning

Parting and grooving

Little squirrel series parting and grooving tools

QC series shallow grooving tools code key

● External shallow groove tools

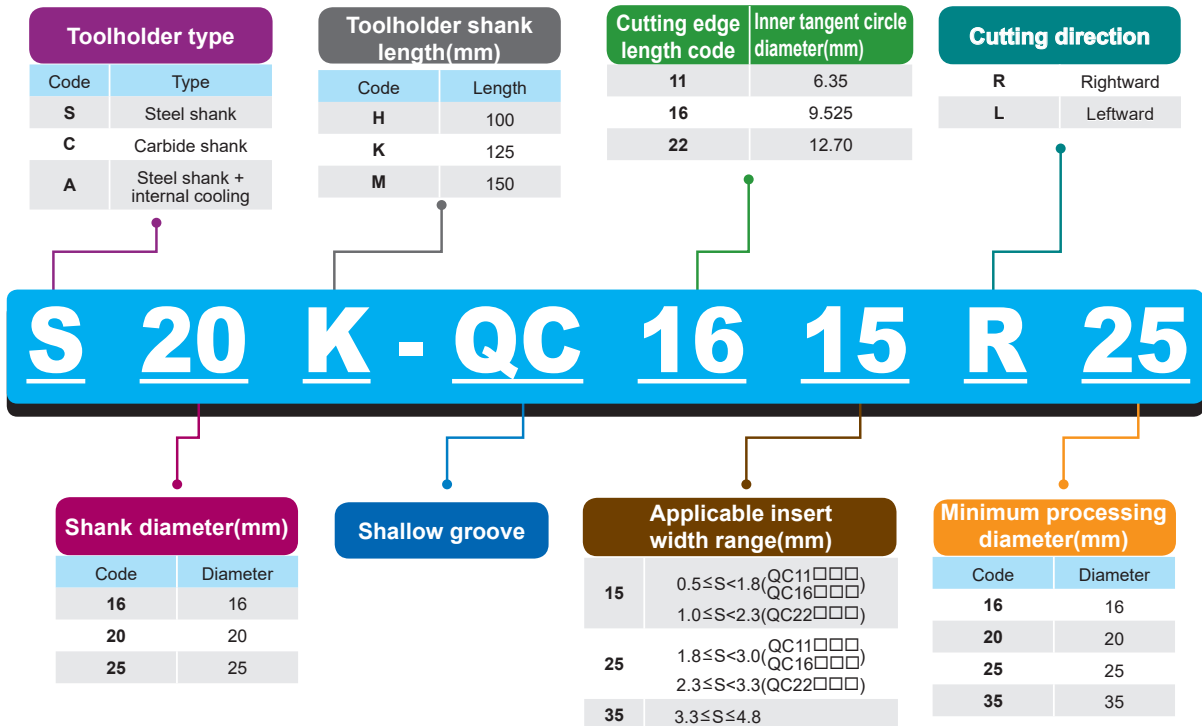


General turning

Parting and grooving

QC series shallow grooving tools

● Internal shallow groove tools

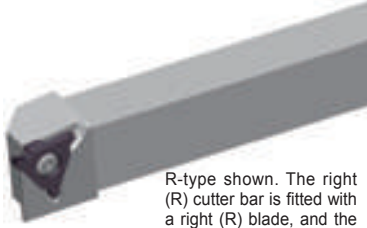




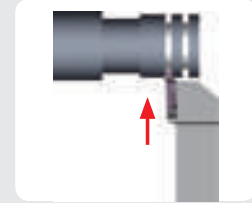
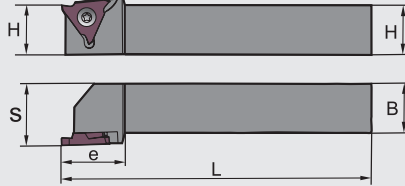
TURNING Parting and grooving tools

QC series shallow grooving tools

External shallow groove tools



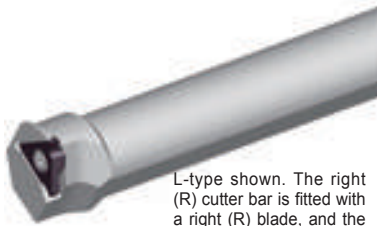
R-type shown. The right (R) cutter bar is fitted with a right (R) blade, and the left (L) cutter bar is fitted with a left (L) blade.



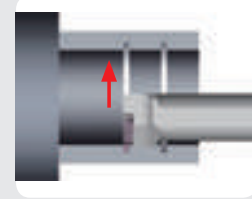
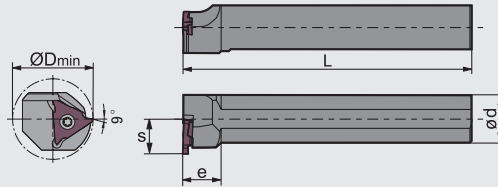
| Type | Stock | Basic dimensions(mm) | | | | | Width (mm) | Applicable inserts | Screw | Wrench |
|---------------|-------|----------------------|----|----|------|-----|------------|--------------------|------------|--------|
| | | H | B | S | e | L | | | | |
| GQCR/L | ▲ | 16 | 16 | 21 | 25.5 | 125 | 1.1-1.8 | QC16R/L 110~180 | I60M3.5×10 | WT15IP |
| | ▲ | 20 | 20 | 25 | | 125 | | | | |
| | ▲ | 25 | 25 | 30 | | 150 | | | | |
| | ▲ | 16 | 16 | 21 | | 125 | 1.8-3.0 | QC16R/L 180~300 | | |
| | ▲ | 20 | 20 | 25 | | 125 | | | | |
| | ▲ | 25 | 25 | 30 | | 150 | | | | |
| | ▲ | 20 | 20 | 25 | | 125 | 1.0-2.3 | QC22R/L 100~230 | I60M5×13 | WT20IP |
| | ▲ | 25 | 25 | 30 | | 150 | | | | |
| | ▲ | 20 | 20 | 25 | | 125 | | | | |
| | ▲ | 25 | 25 | 30 | | 150 | | | | |
| | ▲ | 20 | 20 | 25 | | 125 | 3.3-4.8 | QC22R/L 330~480 | | |
| | ▲ | 25 | 25 | 30 | | 150 | | | | |

▲Stock available △Make-to-order

Internal shallow groove tools



L-type shown. The right (R) cutter bar is fitted with a right (R) blade, and the left (L) cutter bar is fitted with a left (L) blade.



| Type | Stock | Basic dimensions(mm) | | | | | Width (mm) | Applicable inserts | Screw | Wrench | | |
|--------------------------|-------|----------------------|----------------|------|----|-----|------------|--------------------|-------------|--------|----------------|--------|
| | | ØD _{min} | ø _d | S | e | L | | | | | | |
| S20K-QC1115R/L 16 | ▲ | 16 | 20 | 11.1 | 40 | 125 | 1.2-1.8 | QC11R/L 120~180 | I60M2.5×6.5 | WT07IP | | |
| S20K-QC1125R/L 16 | ▲ | 16 | 20 | 11.1 | 40 | 125 | 1.8-3.0 | | | | QC11R/L180~300 | |
| S16H-QC1115R/L 20 | ▲ | 21 | 16 | 11.5 | 12 | 100 | 1.2-1.8 | QC11R/L 120~180 | | | | |
| S16H-QC1125R/L 20 | ▲ | 21 | 16 | 11.5 | 12 | 100 | 1.8-3.0 | QC11R/L180~300 | | | | |
| S20M-QC1615R/L 25 | ▲ | 26 | 20 | 12.5 | 15 | 150 | 1.1-1.8 | QC16R/L110~180 | | | I60M3.5×10 | WT15IP |
| S20M-QC1625R/L 25 | ▲ | | | 12.5 | | | 1.8-3.0 | QC16R/L180~300 | | | | |
| S25M-QC2215R/L 35 | ▲ | 35 | 25 | 18.2 | 20 | 150 | 1.0-2.3 | QC22R/L100~230 | I60M5×13 | WT20IP | | |
| S25M-QC2225R/L 35 | ▲ | | | 18.2 | | | 2.3-3.3 | QC22R/L230~330 | | | | |
| S25M-QC2235R/L 35 | ▲ | | | 18.2 | | | 3.3-4.8 | QC22R/L 330~480 | | | | |

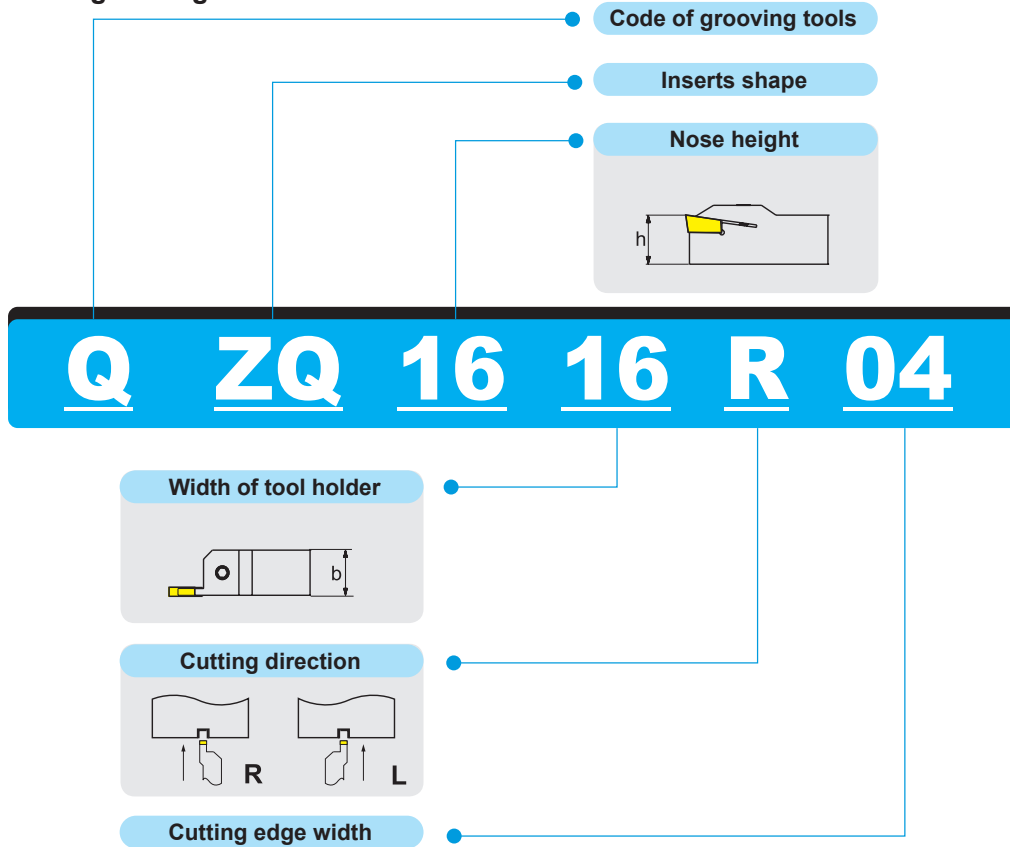
▲Stock available △Make-to-order

General turning
Parting and grooving

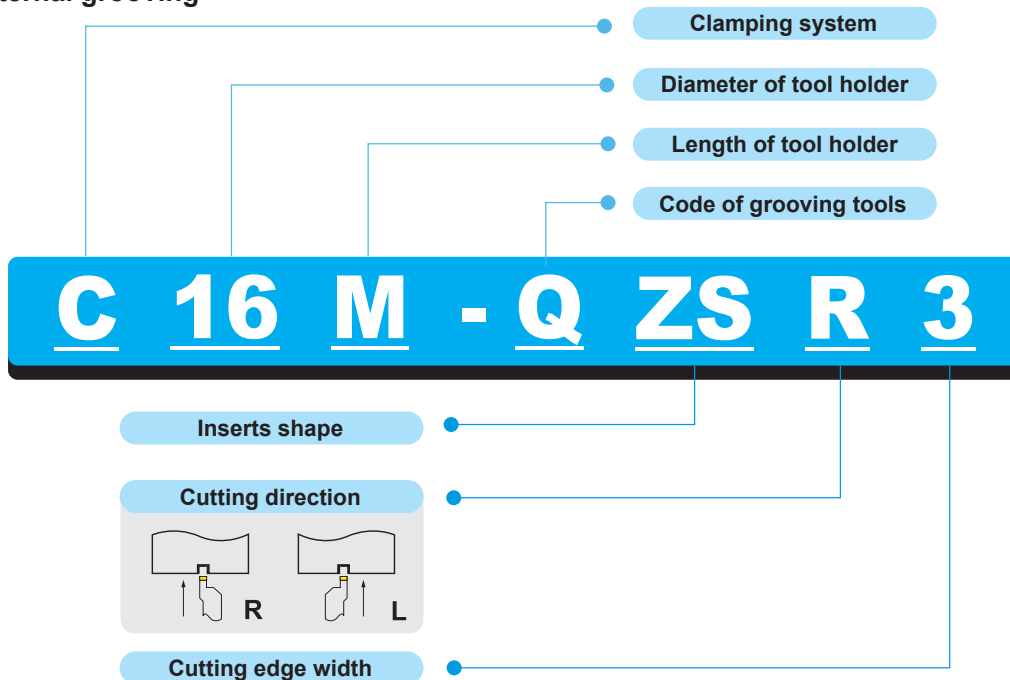
QC series shallow grooving tools

Parting and grooving tools code key

● External grooving



● Internal grooving

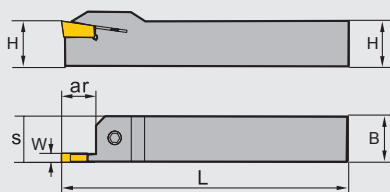




External parting and grooving tools: QZQ series



R-type shown



| Type | Stock | | Basic dimensions(mm) | | | | | | | Applicable inserts | Screw | Wrench |
|------------|-----------|---|----------------------|----|----|-----|------|-------------------|----|--------------------|-----------------|--------|
| | R | L | H | B | L | S | W | ar _{max} | | | | |
| QZQ | 1616R/L03 | ▲ | ▲ | 16 | 16 | 100 | 16.4 | 3 | 16 | ZQMX3N11-IE | GB70-85-M5 × 16 | WH40L |
| | 1616R/L04 | ▲ | ▲ | 16 | 16 | 100 | 16.4 | 4 | 18 | ZQMX4N11-IE | | |
| | 2020R/L03 | ▲ | ▲ | 20 | 20 | 125 | 20.4 | 3 | 20 | ZQMX3N11-IE | | |
| | 2020R/L04 | ▲ | ▲ | 20 | 20 | 125 | 20.4 | 4 | 20 | ZQMX4N11-IE | | |
| | 2525R/L03 | ▲ | ▲ | 25 | 25 | 150 | 25.4 | 3 | 20 | ZQMX3N11-IE | | |
| | 2525R/L04 | ▲ | ▲ | 25 | 25 | 150 | 25.4 | 4 | 20 | ZQMX4N11-IE | | |
| | 2525R/L05 | ▲ | ▲ | 25 | 25 | 150 | 25.4 | 5 | 25 | ZQMX5N11-IE | GB70-85-M6 × 20 | WH50L |
| | 2525R/L06 | ▲ | ▲ | 25 | 25 | 150 | 25.7 | 6 | 32 | ZQMX6N11-IE | | |
| | 3225R/L03 | ▲ | ▲ | 32 | 25 | 170 | 25.4 | 3 | 25 | ZQMX3N11-IE | | |
| | 3225R/L04 | ▲ | ▲ | 32 | 25 | 170 | 25.4 | 4 | 25 | ZQMX4N11-IE | | |
| | 3225R/L05 | ▲ | ▲ | 32 | 25 | 170 | 25.4 | 5 | 25 | ZQMX5N11-IE | | |
| | 3225R/L06 | ▲ | ▲ | 32 | 25 | 170 | 25.7 | 6 | 35 | ZQMX6N11-IE | | |

▲ Stock available △ Make-to-order

General turning

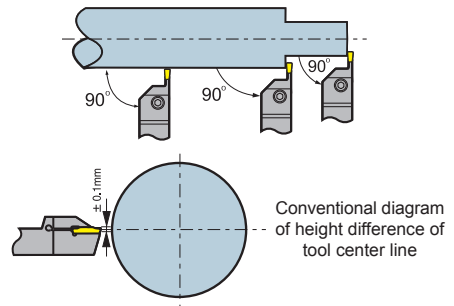
Parting and grooving

Supplementary series parting and grooving inserts



Center height control of parting and grooving tools

- No matter which parting or grooving tools you select, the ideal surface quality is only achieved by ensuring that insert is vertical from the center line of workpiece, which can also effectively reduce vibration during machining.
- The height tolerance between insert edge bottom and the center height of workpiece should be remained in $\pm 0.1\text{mm}$, especially for lever parting and grooving workpieces with small diameter. This can improve tool life, reduce cutting resistant force, and diminish burrs.



Parting

- When the insert is approaching the center of workpiece, the cutting speed should be reduced by 30%, which is good for improving life and surface quality.
- As long as conditions allow, try to shorten the overhang of tools as much as possible to ensure good stability.

External grooving, turning and profiling

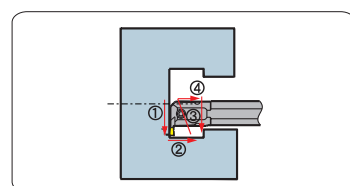
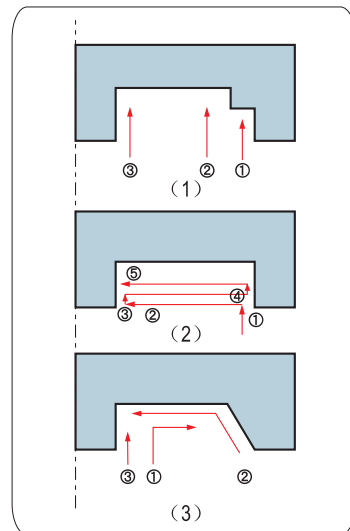
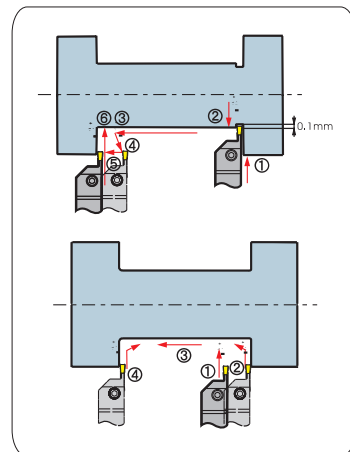
- In-feed sequence: When cutting depth $> 0.5\text{mm}$, radial in-feed (Max. cutting depth can be $0.75 \times \text{insert edge width } S$) → radial out-feed about 0.1mm → axial in-feed → flank out-feed → axial in-feed → radial machining to required depth.
- When finishing, adopt the sequence shown in the diagram. It can reduce vibration caused by the friction between tools and chips.

Surface grooving and turning

- Finishing (Multi-slot cutting)
Cut inwards from Max. diameter. Inserts offset to inward flange when retracting, as is shown in diagram (1).
- Recess turning
Axial turning depth should not exceed $0.75 \times S$ (cutting edge width).
If slot width is larger than slot depth, it is recommended to adopt recess turning, as is shown in diagram (2).
If slot depth is larger than slot depth, it is recommended to adopt multi-slot cutting.
- Finish machining
First finish bottom and external diameter fringe, then finish the internal diameter to required size, as is shown in diagram (3).

Internal grooving and turning

- To facilitate chip flow, always feed along the direction of moving from the deepest in the hole to outside.



General turning

Parting and grooving

Application information of parting and grooving



TURNING Parting and grooving tools

Application information of parting and grooving

The cutting parameters recommended are suitable for wet machining.

General turning

Parting and grooving

Application information of parting and grooving

| Insert size | Recommended feed rate(mm/r) | | | | | | |
|-------------|-----------------------------|-----------|-----------|---------------|-----------|--------------|-----------|
| | Insert width(mm) | Parting | Grooving | Grooving(-MM) | Turning | Turning(-MM) | Profiling |
| 2.5 | | 0.05-0.15 | 0.05-0.15 | 0.05-0.2 | 0.05-0.15 | 0.05-0.2 | 0.05-0.15 |
| 3 | | 0.05-0.15 | 0.05-0.15 | 0.05-0.2 | 0.07-0.15 | 0.07-0.2 | 0.1-0.2 |
| 4 | | 0.05-0.2 | 0.05-0.2 | 0.05-0.25 | 0.07-0.25 | 0.07-0.3 | 0.1-0.2 |
| 5 | | 0.07-0.2 | 0.07-0.22 | 0.07-0.25 | 0.1-0.25 | 0.1-0.3 | 0.15-0.3 |
| 6 | | 0.1-0.3 | 0.07-0.25 | 0.07-0.3 | 0.1-0.3 | 0.1-0.35 | 0.15-0.3 |
| 8 | | | | 0.1-0.4 | | 0.15-0.45 | |

| Workpiece material | Hardness | YBG302 | YBG202 YBG205 | YBG105 | YBG212 | YBC151 | YBC251 | YBS103 | YD101 | YD201 | YBG102 | YC10 | YC40 |
|------------------------------------|-------------------|----------------|------------------|---------|--------|---------|---------|--------|---------|--------|--------|---------|---------|
| P Carbon steel | 125 ≤ HB ≤ 170 | 120-260 | 150-280 | | | 140-280 | 150-280 | | | | | 130-280 | 110-260 |
| | Low alloy steel | 180 ≤ HB ≤ 275 | 80-175 | 110-200 | | 100-240 | 110-200 | | | | | 90-200 | 70-175 |
| | High alloy steel | 180 ≤ HB ≤ 325 | 80-160 | 110-190 | | 100-220 | 110-190 | | | | | 90-190 | 70-160 |
| | Cast steel | 180 ≤ HB ≤ 250 | 75-140 | 100-170 | | 80-160 | 100-170 | | | | | 80-170 | 60-140 |
| M Ferrite, Martensite | 200 ≤ HB ≤ 300 | 70-170 | 100-200 | | | | 100-200 | | | | | 80-200 | 60-170 |
| | Austenite | 180 ≤ HB ≤ 300 | 80-200 | 110-220 | | | 110-220 | | | | | 90-220 | 70-200 |
| K Malleable cast iron | 130 ≤ HB ≤ 230 | 100-200 | 130-220 | | | | | | | 90-160 | | | |
| | Grey cast iron | 180 ≤ HB ≤ 220 | 90-170 | 120-200 | | | | | | 80-140 | | | |
| | Nodular cast iron | 160 ≤ HB ≤ 250 | 80-150 | 110-180 | | | | | | 60-140 | | | |
| N Al alloy | -- | | | | | | | | 200-400 | | | | |
| S High temperature alloy | ≤ 400 | | | 40-70 | 20-50 | | | 30-80 | 20-50 | | 30-60 | | |

The cutting parameters recommended are suitable for wet machining.

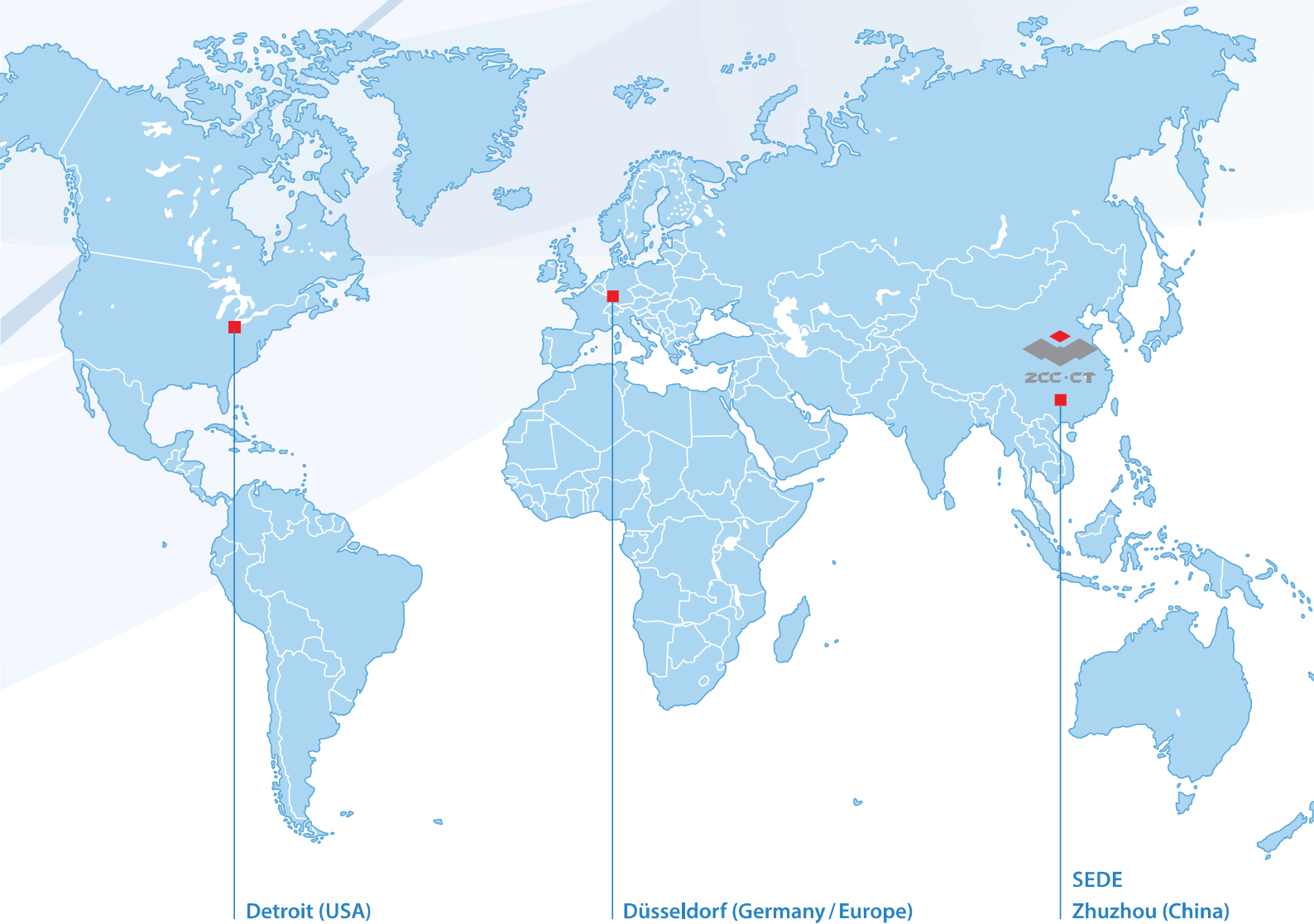
Advice: internal machining and end machining, The cutting speed should be reduced by 30%-40%.

● Recommended cutting parameters for QC series shallow groove tools

| Processed material | Recommended insert material (cutting speed m/min) | | A: Tool feed for grooving(mm/r) | | | | |
|--------------------|---|--------|--|----------------|----------------|----------------|----------------|
| | PVD Coating | | B: Tool feed for transverse machining(mm/r) | | | | |
| | YBG202 | YBG205 | C: Depth of cut for transverse machining(mm) | | | | |
| | | | QC**R/L050-120 | QC**R/L125-225 | QC**R/L230-325 | QC**R/L330-400 | QC**R/L400-480 |
| Carbon Steel | 80-180 | 80-180 | A: 0.03-0.08 | A: 0.04-0.09 | A: 0.05-0.1 | A: 0.05-0.12 | A: 0.05-0.12 |
| | | | Non-horizontal processing | B: 0.04-0.09 | B: 0.05-0.1 | B: 0.05-0.1 | B: 0.05-0.1 |
| | | | Non-horizontal processing | C: 0.3(MAX) | C: 0.5(MAX) | C: 0.5(MAX) | C: 0.8(MAX) |
| Alloy Steel | 80-160 | 80-160 | A: 0.03-0.07 | A: 0.04-0.08 | A: 0.05-0.09 | A: 0.05-0.1 | A: 0.05-0.1 |
| | | | Non-horizontal processing | B: 0.04-0.08 | B: 0.05-0.09 | B: 0.05-0.1 | B: 0.05-0.1 |
| | | | Non-horizontal processing | C: 0.3(MAX) | C: 0.5(MAX) | C: 0.5(MAX) | C: 0.5(MAX) |
| Stainless Steel | 60-130 | 60-130 | A: 0.03-0.07 | A: 0.04-0.08 | A: 0.05-0.09 | A: 0.05-0.1 | A: 0.05-0.1 |
| | | | Non-horizontal processing | B: 0.04-0.08 | B: 0.05-0.09 | B: 0.05-0.1 | B: 0.05-0.1 |
| | | | Non-horizontal processing | C: 0.3(MAX) | C: 0.5(MAX) | C: 0.5(MAX) | C: 0.5(MAX) |

The cutting parameters above are applicable to external grooving. When machining internal hole grooves, please reduce the cutting speed and feed by 10%.





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