

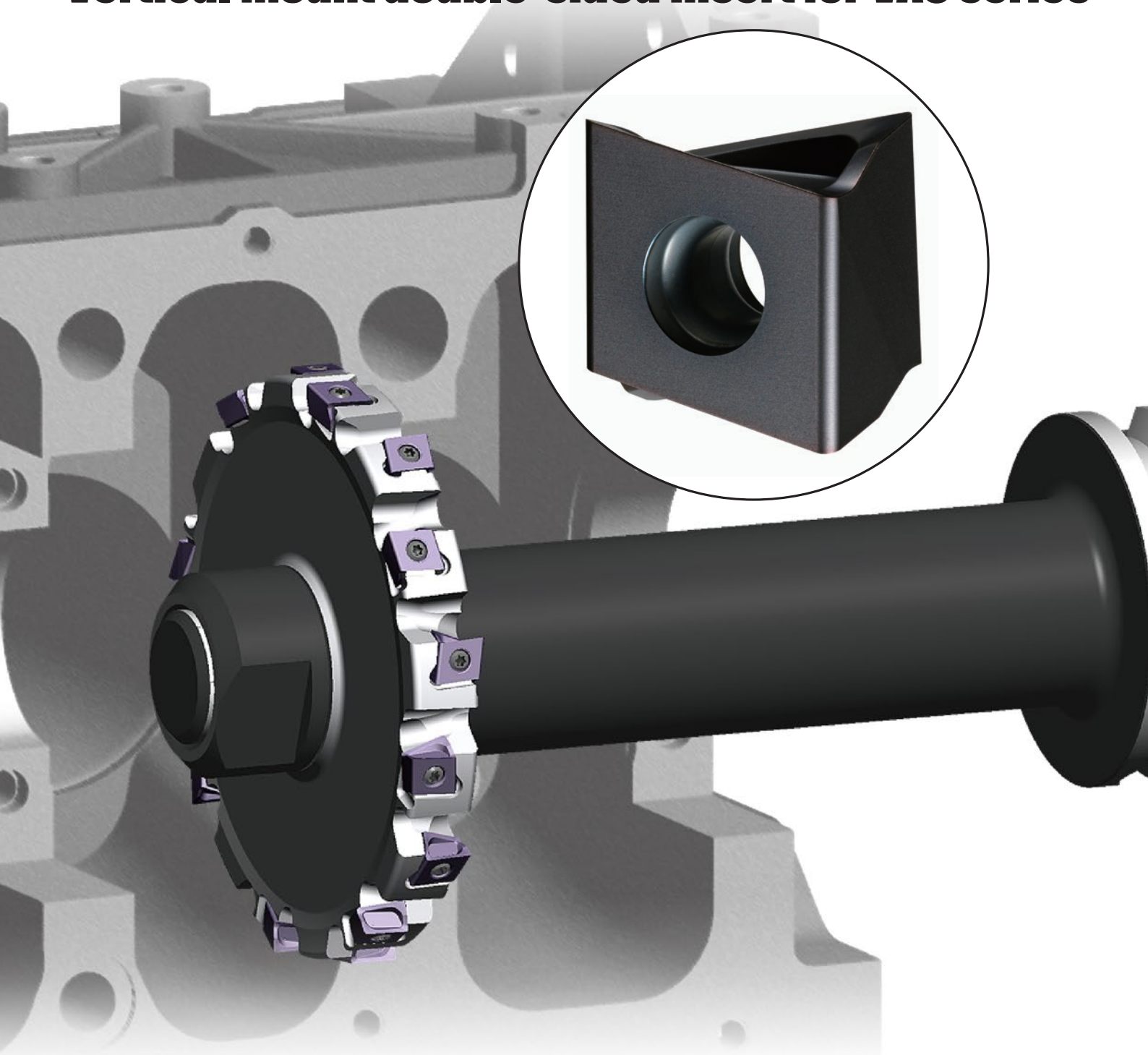
Exchangeable Inserts

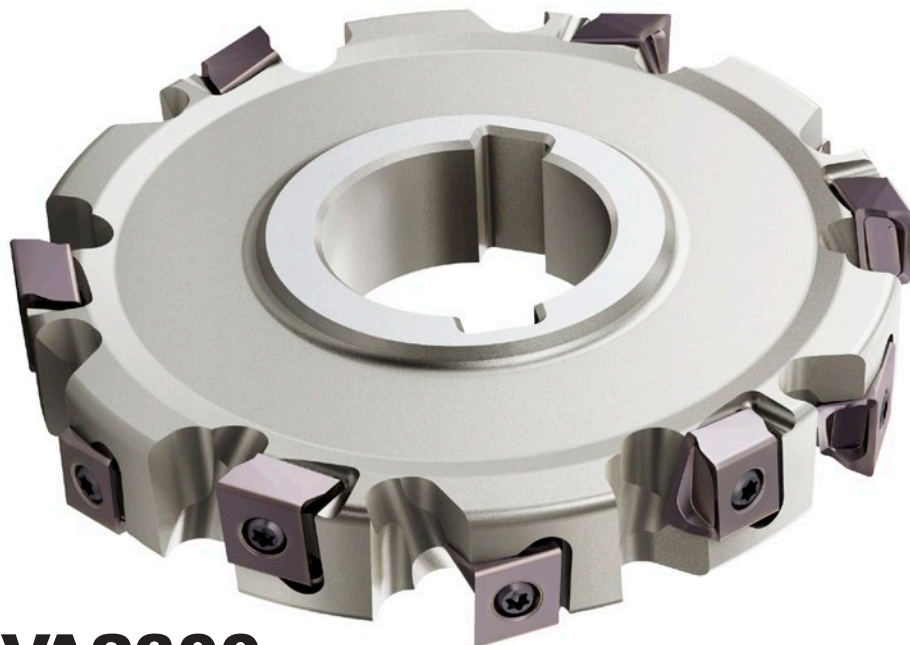
# Side Cutter Series

Series  
Expansion

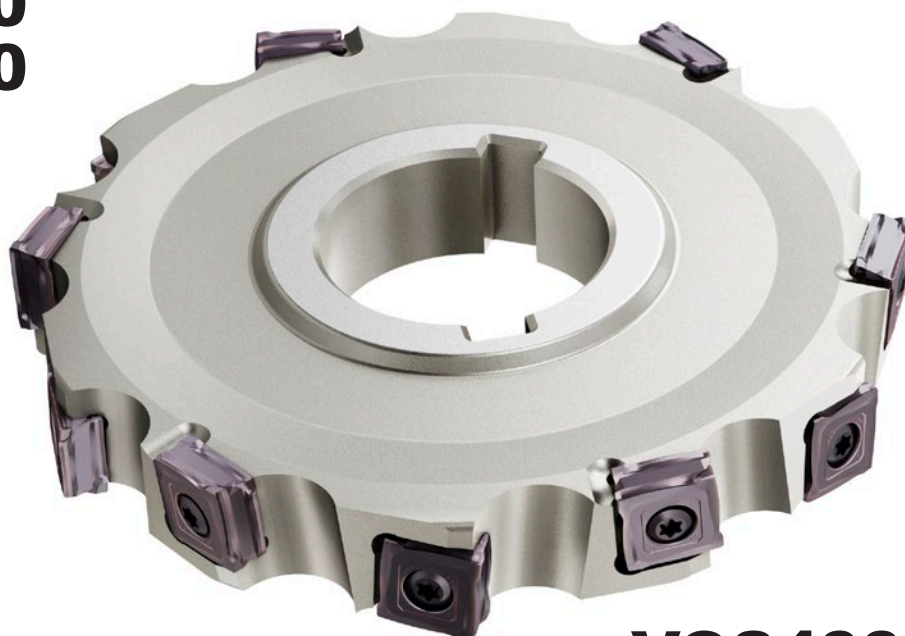
## Side Cutter with Low Cutting Resistance

### Vertical mount double-sided insert for VAS series

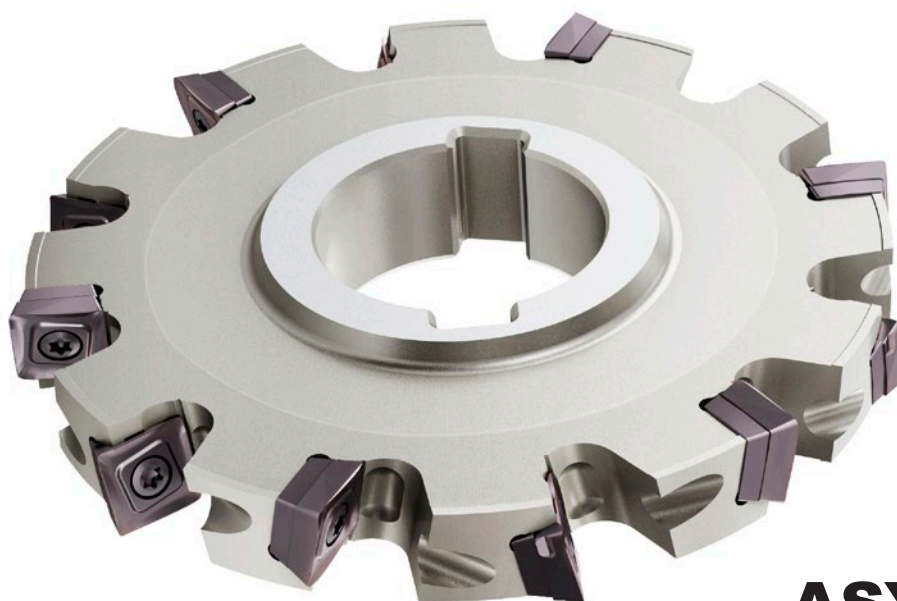




**NEW** **VAS300**  
**VAS400**  
**VAS500**



**VOS400**



**ASX400**

# Unique side cutter series taking advantage of the latest technology, materials and cutter geometry.

## Engineering Specials

|                                 | VAS Series                                                                                                                                                          |                                                                                                                                                                     |                                                                                                                                                                         |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | VAS300                                                                                                                                                              | VAS400                                                                                                                                                              | VAS500                                                                                                                                                                  |
| Workpiece Material              |   |   |   |
| Low Cutting Resistance          |                                                                                    |                                                                                    |                                                                                      |
| Toughness                       |                                                                                    |                                                                                    |                                                                                      |
| Insert Shape                    | Vertical                                                                                                                                                            | Vertical                                                                                                                                                            | Vertical                                                                                                                                                                |
| No. of Teeth                    | Double Sided Insert                                                                                                                                                 | Double Sided Insert                                                                                                                                                 | Double Sided Insert                                                                                                                                                     |
| No. of Corners Used             | 4                                                                                                                                                                   | 4                                                                                                                                                                   | 4                                                                                                                                                                       |
| Half Side Max.Depth of Cut APMX | 8.6mm                                                                                                                                                               | RE<3.0mm 12.2mm                                                                                                                                                     | RE<3.0mm 16.2mm                                                                                                                                                         |
|                                 |                                                                                                                                                                     | RE≥3.0mm 11.4mm                                                                                                                                                     | RE≥3.0mm 15.4mm                                                                                                                                                         |
| Full Side Largest Width CW      | 17.2mm                                                                                                                                                              | 100mm                                                                                                                                                               | 100mm                                                                                                                                                                   |
| Full Side Max. Cutting Dia DC   | ø300mm                                                                                                                                                              | ø400mm                                                                                                                                                              | ø660mm                                                                                                                                                                  |
| Corner R (RE1) Development      | 0.4,0.8,1.2,1.6,2.0<br>2.4,3.0,4.0                                                                                                                                  | 0.4,0.8,1.2,1.6,2.0<br>2.4,3.0,4.0,5.0                                                                                                                              | 0.4,0.8,1.2,1.6,2.0<br>2.4,3.0,4.0,5.0,6.0,7.0                                                                                                                          |
| Reference Page                  | ⇒ Page <b>3</b>                                                                                                                                                     | ⇒ Page <b>3</b>                                                                                                                                                     | ⇒ Page <b>3</b>                                                                                                                                                         |

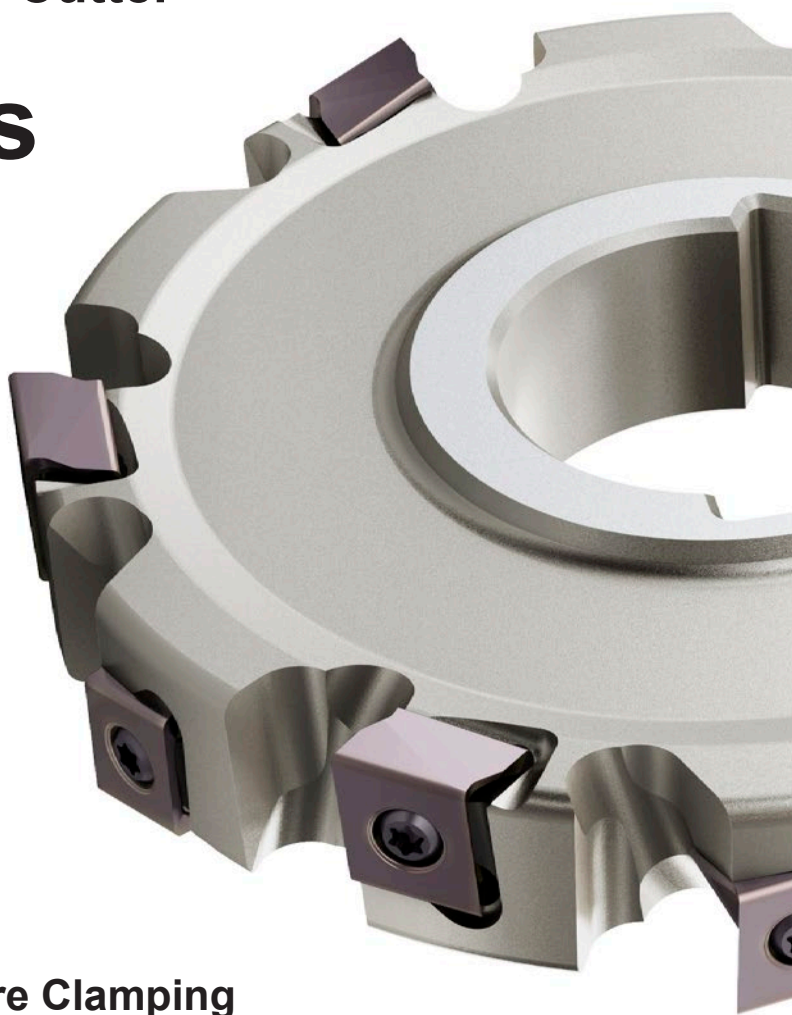
|                                 | VOS400                                                                              | ASX400                                                                                                                                                                                                                                                      |
|---------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Workpiece Material              |  |    |
| Low Cutting Resistance          |  |                                                                                                                                                                                                                                                             |
| Toughness                       |                                                                                     |                                                                                                                                                                          |
| Insert Shape                    | Vertical                                                                            | 20° Positive                                                                                                                                                                                                                                                |
| No. of Teeth                    | Double Sided Insert                                                                 | Single Sided Insert                                                                                                                                                                                                                                         |
| No. of Corners Used             | 8                                                                                   | 4                                                                                                                                                                                                                                                           |
| Half Side Max.Depth of Cut APMX | 10.0mm                                                                              | 10.0mm                                                                                                                                                                                                                                                      |
| Full Side Largest Width CW      | 100mm                                                                               | 100mm                                                                                                                                                                                                                                                       |
| Full Side Max. Cutting Dia DC   | ø400mm                                                                              | ø400mm                                                                                                                                                                                                                                                      |
| Corner R (RE1) Development      | C 0.2                                                                               | 0.8                                                                                                                                                                                                                                                         |
| Reference Page                  | ⇒ Page <b>13</b>                                                                    | ⇒ Page <b>15</b>                                                                                                                                                                                                                                            |



Exchangeable Inserts Side Cutter

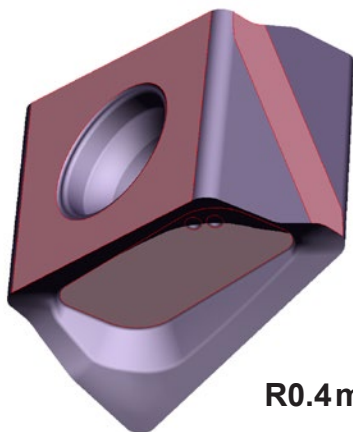
# VAS Series

**NEW** VAS300  
VAS400  
VAS500

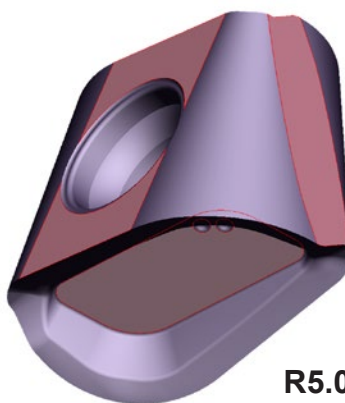


## Insert with 4 Cutting Edges Secure Clamping

All insert sizes ensure a variety of seating surfaces.

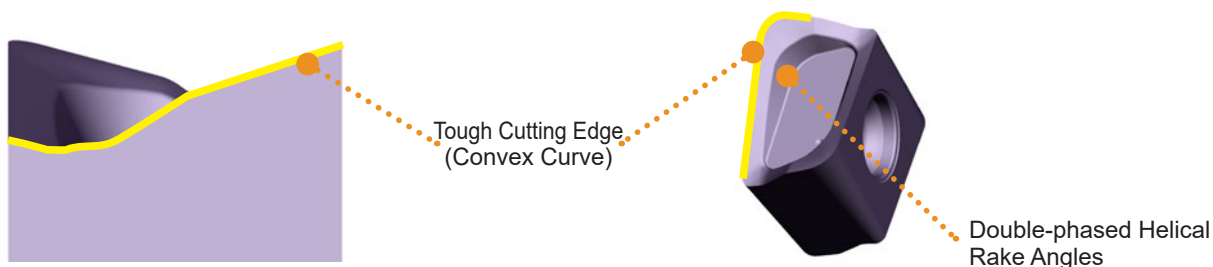


R0.4mm



R5.0mm

## Low Cutting Resistance Insert → Preferred Sharpness





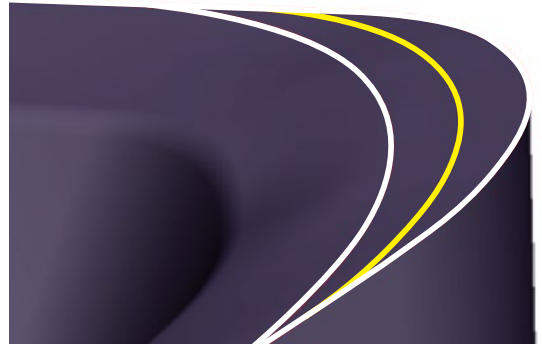
## High Precision Shaping of Workpiece Material Corner R

Corner R shape with ideal curved edge.

For R0.4 — 3.0mm



For R3.0 — 5.0mm

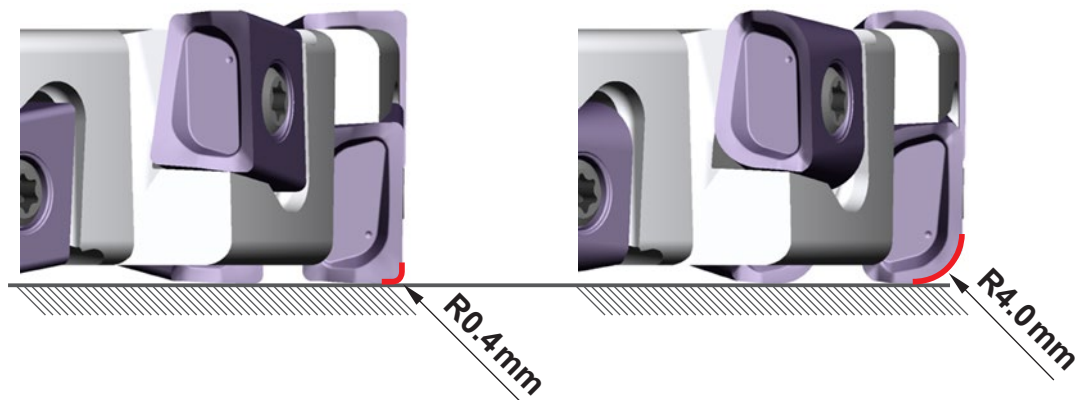


When Loading Holder : GAMF : + 8° GAMP : + 3°

\* The VAS500 has a max. R7.0mm

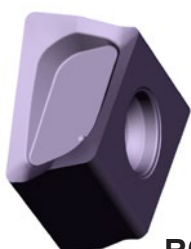
## Holders Can Load All Corner R (RE1)

Cutting width and diameter do not change even if corner R does.

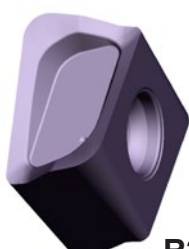


## Various Corner R (RE1) Development

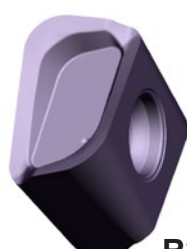
R0.4 · R0.8 · R1.2 · R1.6 · R2.0 · R2.4 · R3.0 · R4.0 · R5.0 · R6.0 · R7.0 (mm)



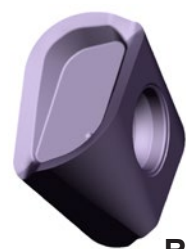
R0.8mm



R2.0mm



R3.0mm



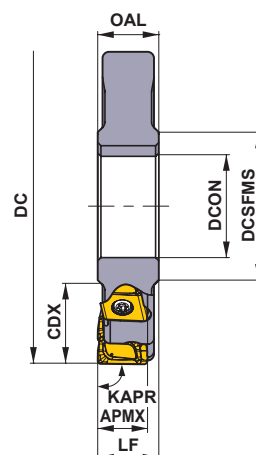
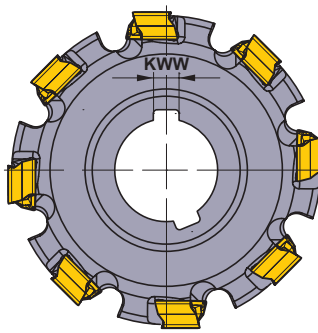
R5.0mm

# SIDE CUTTER



## VAS300 NEW

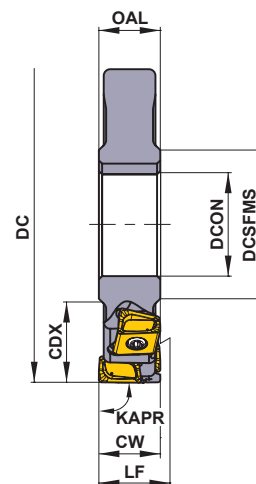
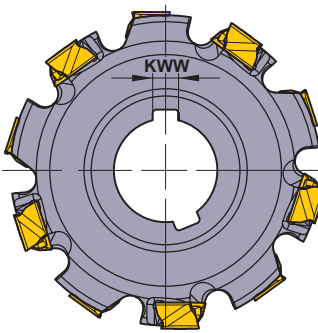
P
M
K
N
S
H



Max. Cutting Diameter **DC** :  $\phi 300$ mm  
 Max. Depth of Cut **APMX** : 8.6mm

### ■ Half Side

| DC  | Effective No. of Teeth | LF        | CDX  | DCON | DCSFMS | OAL       | KWW | Insert Type |
|-----|------------------------|-----------|------|------|--------|-----------|-----|-------------|
| 80  | 8                      | $\geq 12$ | 20.0 | 27   | 40     | $\geq 12$ | 7   | LNGU09      |
| 100 | 10                     | $\geq 12$ | 27.0 | 32   | 46     | $\geq 12$ | 8   | LNGU09      |
| 125 | 12                     | $\geq 12$ | 35.0 | 40   | 55     | $\geq 12$ | 10  | LNGU09      |
| 160 | 14                     | $\geq 12$ | 52.5 | 40   | 55     | $\geq 12$ | 10  | LNGU09      |



Largest Width **CW** : 17.2mm  
 Max. Cutting Diameter **DC** :  $\phi 300$ mm

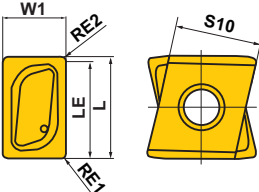
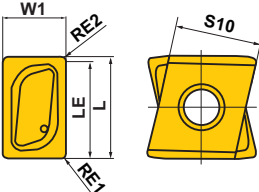
### ■ Full Side

| DC  | Effective No. of Teeth | Total No. of Teeth | LF        | CW        | CDX  | DCON | DCSFMS | OAL       | KWW | Insert Type |
|-----|------------------------|--------------------|-----------|-----------|------|------|--------|-----------|-----|-------------|
| 80  | 4                      | 8                  | $\geq 12$ | 12 – 17.2 | 20.0 | 27   | 40     | $\geq 12$ | 7   | LNGU09      |
| 100 | 5                      | 10                 | $\geq 12$ | 12 – 17.2 | 27.0 | 32   | 46     | $\geq 12$ | 8   | LNGU09      |
| 125 | 6                      | 12                 | $\geq 12$ | 12 – 17.2 | 35.0 | 40   | 55     | $\geq 12$ | 10  | LNGU09      |
| 160 | 7                      | 14                 | $\geq 12$ | 12 – 17.2 | 52.5 | 40   | 55     | $\geq 12$ | 10  | LNGU09      |

Note 1) Please contact us for details of any geometry of half sides and full sides.

# Inserts

(mm)

| Workpiece Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P                | Steel     | ●     | ✱                |        | Cutting Conditions (Guide) : |                  |     |                   |     |                    |     | Geometry |                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------|-------|------------------|--------|------------------------------|------------------|-----|-------------------|-----|--------------------|-----|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | K                | Cast Iron |       |                  |        | ●                            | : Stable Cutting | ●   | : General Cutting | ✱   | : Unstable Cutting |     |          |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |           |       |                  |        | Edge Preparation :           |                  |     |                   |     |                    |     |          |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |           |       |                  |        | E : Round                    |                  |     |                   |     |                    |     |          |                                                                                                                                                                                                                        |
| Shape                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Order Number     | Hand      | Class | Edge Preparation | Coated | L                            | LE               | S   | S10               | RE1 | RE2                | W1  |          |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |           |       |                  | VP15TF |                              |                  |     |                   |     |                    |     |          |                                                                                                                                                                                                                        |
| <div>Low Resistance Type M Breaker</div> <div><div>NEW</div></div> <td>LNGU090604PNER-M</td> <td>R</td> <td>G</td> <td>E</td> <td>●</td> <td></td> <td>9.0</td> <td>8.6</td> <td>6.0</td> <td>8.5</td> <td>0.4</td> <td>0.4</td> <td>6.0</td> <td rowspan="16"><div></div><div>Right hand insert shown.</div></td> | LNGU090604PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 0.4                | 0.4 | 6.0      | <div></div> <div>Right hand insert shown.</div> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090604PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 0.4                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090608PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 0.8                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090608PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 0.8                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090612PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 1.2                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090612PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 1.2                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090616PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 1.6                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090616PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 1.6                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090620PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 2.0                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090620PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 2.0                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090624PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 2.4                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090624PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 2.4                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090630PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 3.0                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090630PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 3.0                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090640PNER-M | R         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 4.0                | 0.4 | 6.0      |                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LNGU090640PNEL-M | L         | G     | E                | ●      |                              | 9.0              | 8.6 | 6.0               | 8.5 | 4.0                | 0.4 | 6.0      |                                                                                                                                                                                                                        |

Right hand insert shown.

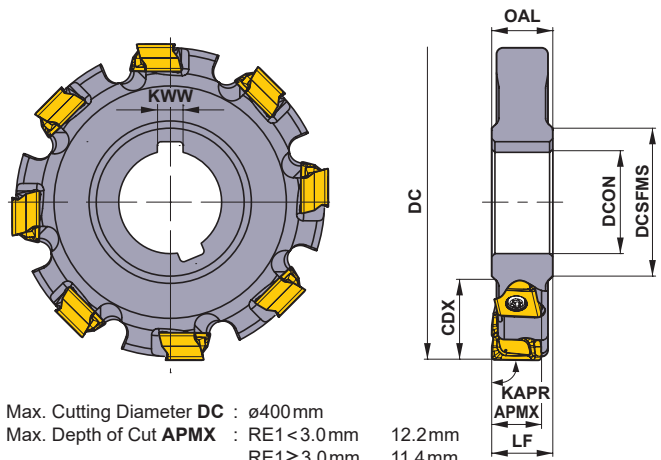
● = NEW

# SIDE CUTTER

## VAS400



P M **K** N S H



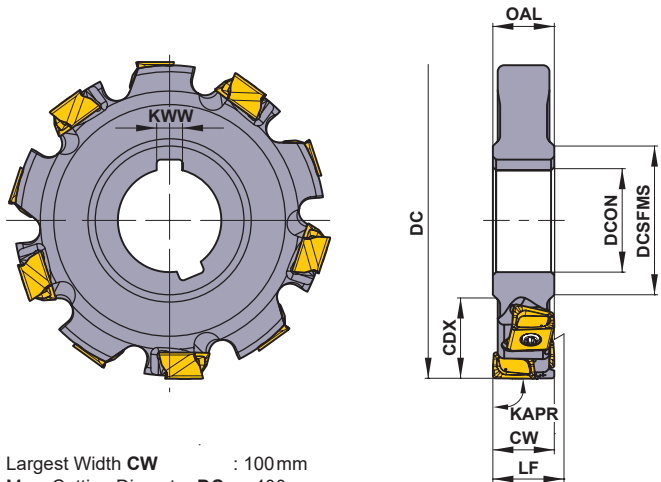
Max. Cutting Diameter **DC** :  $\phi 400$  mm  
 Max. Depth of Cut **APMX** : RE1<3.0mm  
 RE1 $\geq$ 3.0mm

12.2mm  
 11.4mm

### ■ Half Side

| DC  | Effective No. of Teeth | LF        | CDX  | DCON | DCSFMS | OAL       | KWW | Insert Type |
|-----|------------------------|-----------|------|------|--------|-----------|-----|-------------|
| 80  | 8                      | $\geq 17$ | 20.0 | 27   | 40     | $\geq 17$ | 7   | LNGU13      |
| 100 | 10                     | $\geq 17$ | 27.0 | 32   | 46     | $\geq 17$ | 8   | LNGU13      |
| 125 | 12                     | $\geq 17$ | 35.0 | 40   | 55     | $\geq 17$ | 10  | LNGU13      |
| 160 | 14                     | $\geq 17$ | 52.5 | 40   | 55     | $\geq 17$ | 10  | LNGU13      |

(mm)



Largest Width **CW** : 100mm  
 Max. Cutting Diameter **DC** :  $\phi 400$  mm

### ■ Full Side

| DC  | Effective No. of Teeth | Total No. of Teeth | *1 LF     | *2 CW | CDX  | DCON | DCSFMS | OAL       | KWW | Insert Type |
|-----|------------------------|--------------------|-----------|-------|------|------|--------|-----------|-----|-------------|
| 80  | 4                      | 8                  | $\geq 17$ | 18—24 | 20.0 | 27   | 40     | $\geq 17$ | 7   | LNGU13      |
| 100 | 5                      | 10                 | $\geq 17$ | 18—24 | 27.0 | 32   | 46     | $\geq 17$ | 8   | LNGU13      |
| 125 | 6                      | 12                 | $\geq 17$ | 18—24 | 35.0 | 40   | 55     | $\geq 17$ | 10  | LNGU13      |
| 160 | 7                      | 14                 | $\geq 17$ | 18—24 | 52.5 | 40   | 55     | $\geq 17$ | 10  | LNGU13      |

(mm)

\*1 In case of adjustment piece specification. LF :  $\geq 24$

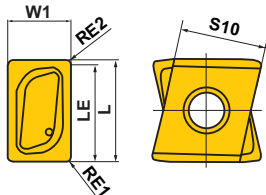
\*2 CW of RE1<3.0mm is 24mm, and RE1 $\geq$ 3.0mm is 22.8mm. Multilevel designs available for CW over each sizes.

Note 1) Please contact us for details of any geometry of half sides and full sides.



# Inserts

(mm)

| Workpiece Material                                                                  | P                | Steel     | C     | •                | Cutting Conditions (Guide) :<br>● : Stable Cutting   ● : General Cutting   ✖ : Unstable Cutting<br>Edge Preparation :<br>E : Round |      |      |     |      |     |     |     |                                                                                                                                                                                |
|-------------------------------------------------------------------------------------|------------------|-----------|-------|------------------|------------------------------------------------------------------------------------------------------------------------------------|------|------|-----|------|-----|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | K                | Cast Iron |       |                  |                                                                                                                                    | ✖    |      |     |      |     |     |     |                                                                                                                                                                                |
|                                                                                     |                  |           |       |                  |                                                                                                                                    |      |      |     |      |     |     |     |                                                                                                                                                                                |
|                                                                                     |                  |           |       |                  |                                                                                                                                    |      |      |     |      |     |     |     |                                                                                                                                                                                |
| Shape                                                                               | Order Number     | Hand      | Class | Edge Preparation | Coated                                                                                                                             | L    | LE   | S   | S10  | RE1 | RE2 | W1  | Geometry                                                                                                                                                                       |
|    | LNGU130804PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 0.4 | 0.8 | 8.0 | <br> |
|                                                                                     | LNGU130804PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 0.4 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130808PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 0.8 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130808PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 0.8 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130812PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 1.2 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130812PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 1.2 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130816PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 1.6 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130816PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 1.6 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130820PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 2.0 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130820PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 2.0 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130824PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 2.4 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130824PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 12.2 | 8.0 | 11.0 | 2.4 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130830PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 11.4 | 8.0 | 11.0 | 3.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130830PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 11.4 | 8.0 | 11.0 | 3.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130840PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 11.4 | 8.0 | 11.0 | 4.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130840PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 11.4 | 8.0 | 11.0 | 4.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130850PNER-M | R         | G     | E                | ●                                                                                                                                  | 13.0 | 11.4 | 8.0 | 11.0 | 5.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130850PNEL-M | L         | G     | E                | ●                                                                                                                                  | 13.0 | 11.4 | 8.0 | 11.0 | 5.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|  | LNGU130804PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 0.4 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130804PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 0.4 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130808PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 0.8 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130808PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 0.8 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130812PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 1.2 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130812PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 1.2 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130816PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 1.6 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130816PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 1.6 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130820PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 2.0 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130820PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 2.0 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130824PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 2.4 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130824PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 12.2 | 8.0 | 11.0 | 2.4 | 0.8 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130830PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 11.4 | 8.0 | 11.0 | 3.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130830PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 11.4 | 8.0 | 11.0 | 3.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130840PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 11.4 | 8.0 | 11.0 | 4.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130840PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 11.4 | 8.0 | 11.0 | 4.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130850PNER-R | R         | G     | E                | ● ●                                                                                                                                | 13.0 | 11.4 | 8.0 | 11.0 | 5.0 | 1.6 | 8.0 |                                                                                                                                                                                |
|                                                                                     | LNGU130850PNEL-R | L         | G     | E                | ● ●                                                                                                                                | 13.0 | 11.4 | 8.0 | 11.0 | 5.0 | 1.6 | 8.0 |                                                                                                                                                                                |

Right hand insert shown.

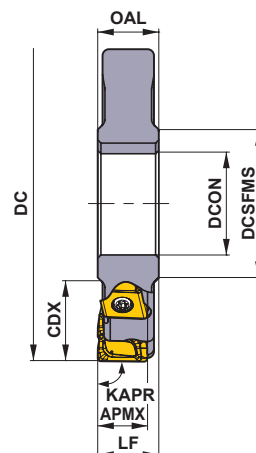
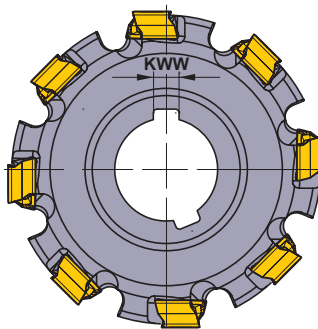
Right hand insert shown.

# SIDE CUTTER

## VAS500



P M **K** N S H

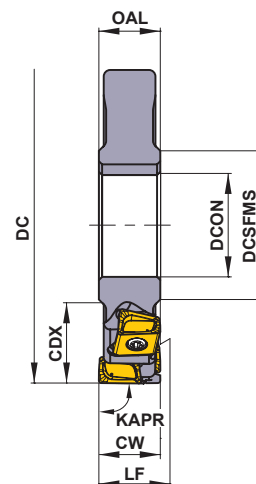
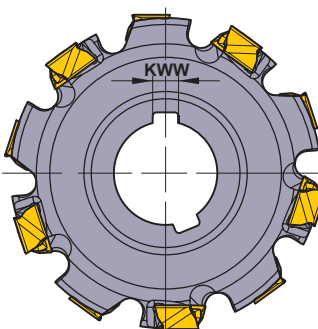


Max. Cutting Diameter **DC** :  $\phi 660$ mm  
 Max. Depth of Cut **APMX** : RE1<3.0mm 16.2mm  
 RE1 $\geq$ 3.0mm 15.4mm

### Half Side

| DC  | Effective No. of Teeth | LF        | CDX  | DCON | DCSFMS | OAL       | KWW | Insert Type |
|-----|------------------------|-----------|------|------|--------|-----------|-----|-------------|
| 100 | 8                      | $\geq 23$ | 27.0 | 32   | 46     | $\geq 23$ | 8   | LNGU17      |
| 125 | 10                     | $\geq 23$ | 35.0 | 40   | 55     | $\geq 23$ | 10  | LNGU17      |
| 160 | 12                     | $\geq 23$ | 52.5 | 40   | 55     | $\geq 23$ | 10  | LNGU17      |
| 200 | 16                     | $\geq 23$ | 65.0 | 50   | 70     | $\geq 23$ | 12  | LNGU17      |

\* In case of adjustment piece specification. **LF** :  $\geq 29$



Largest Width **CW** : 100mm  
 Max. Cutting Diameter **DC** :  $\phi 660$ mm

### Full Side

| DC  | Effective No. of Teeth | Total No. of Teeth | *1 LF     | *2 CW   | CDX  | DCON | DCSFMS | OAL       | KWW | Insert Type |
|-----|------------------------|--------------------|-----------|---------|------|------|--------|-----------|-----|-------------|
| 100 | 4                      | 8                  | $\geq 23$ | 23 - 32 | 27.0 | 32   | 46     | $\geq 23$ | 8   | LNGU17      |
| 125 | 5                      | 10                 | $\geq 23$ | 23 - 32 | 35.0 | 40   | 55     | $\geq 23$ | 10  | LNGU17      |
| 160 | 6                      | 12                 | $\geq 23$ | 23 - 32 | 52.5 | 40   | 55     | $\geq 23$ | 10  | LNGU17      |
| 200 | 8                      | 16                 | $\geq 23$ | 23 - 32 | 65.0 | 50   | 70     | $\geq 23$ | 12  | LNGU17      |

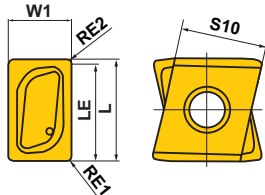
\*1 In case of adjustment piece specification. **LF** :  $\geq 29$

\*2 CW of RE1<3.0mm is 32mm, and RE1 $\geq$ 3.0mm is 30.8mm. Multilevel designs available for CW over each sizes.

Note 1) Please contact us for details of any geometry of half sides and full sides.

# Inserts

(mm)

| Workpiece Material                                                                                                                                                | P                | Steel     |      |       |                  |        | <b>Cutting Conditions (Guide) :</b><br>● : Stable Cutting   ● : General Cutting   ✖ : Unstable Cutting<br><b>Edge Preparation :</b><br>E : Round |      |      |      |      |     |     |      |                                                                                                                                                                                                                                                                                                   |  |  | Geometry |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------|------|-------|------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|------|-----|-----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|----------|--|--|--|--|--|--|--|--|--|--|--|--|
|                                                                                                                                                                   | K                | Cast Iron |      |       |                  |        |                                                                                                                                                  |      |      |      |      |     |     |      |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   |                  |           |      |       |                  |        |                                                                                                                                                  |      |      |      |      |     |     |      |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   |                  |           |      |       |                  |        |                                                                                                                                                  |      |      |      |      |     |     |      |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
| Shape                                                                                                                                                             | Order Number     |           | Hand | Class | Edge Preparation | Coated |                                                                                                                                                  | L    | LE   | S    | S10  | RE1 | RE2 | W1   |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
| <div>Strong Cutting</div> <div>Edge Type</div> <div>R Breaker</div> <div></div> | LNGU171004PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 0.4 | 0.8 | 10.0 | <div></div> <div></div> <div></div> |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171004PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 0.4 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171008PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 0.8 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171008PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 0.8 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171012PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 1.2 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171012PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 1.2 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171016PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 1.6 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171016PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 1.6 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171020PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 2.0 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171020PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 2.0 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171024PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 2.4 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171024PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 16.2 | 10.0 | 13.0 | 2.4 | 0.8 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171030PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 3.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171030PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 3.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171040PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 4.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171040PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 4.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171050PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 5.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171050PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 5.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171060PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 6.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171060PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 6.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171070PNER-R |           | R    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 7.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                   | LNGU171070PNEL-R |           | L    | G     | E                | ●      | ●                                                                                                                                                | 17.0 | 15.4 | 10.0 | 13.0 | 7.0 | 1.6 | 10.0 |                                                                                                                                                                                                                                                                                                   |  |  |          |  |  |  |  |  |  |  |  |  |  |  |  |

Right hand insert shown.

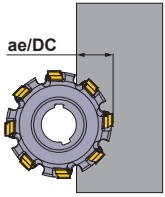
Right hand insert shown.

# VAS300/400/500

## Recommended Cutting Conditions (Dry Cutting)

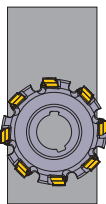
### Shoulder Milling

(mm)

| Workpiece Material | Properties                    | Insert Grade     | vc<br>(m/min) | ap    | ae/DC | fz<br>(mm/t.)    | Cutting Mode                                                                        |
|--------------------|-------------------------------|------------------|---------------|-------|-------|------------------|-------------------------------------------------------------------------------------|
| P                  | Mild Steels                   | MP6120<br>VP15TF | 150 (130—180) | ≤APMX | <10%  | 0.10 (0.08—0.15) |  |
|                    |                               |                  | 150 (130—180) | ≤APMX | <30%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤APMX | ≤50%  | 0.10 (0.08—0.15) |                                                                                     |
|                    | Carbon Steels<br>Alloy Steels | MP6120<br>VP15TF | 150 (130—180) | ≤2.0  | ≤50%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤4.0  | <10%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤4.0  | ≤50%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤APMX | <10%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤APMX | ≤50%  | 0.10 (0.08—0.12) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤2.0  | ≤50%  | 0.12 (0.08—0.20) |                                                                                     |
| K                  | Gray Cast Irons               | VP15TF           | 150 (130—180) | ≤4.0  | <10%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤4.0  | ≤50%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤APMX | <10%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 150 (130—180) | ≤APMX | ≤50%  | 0.10 (0.08—0.12) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤2.0  | ≤50%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤4.0  | <10%  | 0.12 (0.08—0.20) |                                                                                     |
|                    | Gray Cast Irons               | VP15TF           | 130 (110—160) | ≤4.0  | ≤50%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤APMX | <10%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤APMX | ≤50%  | 0.10 (0.08—0.12) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤2.0  | ≤50%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤4.0  | <10%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤4.0  | ≤50%  | 0.10 (0.08—0.15) |                                                                                     |
|                    | Gray Cast Irons               | VP15TF           | 130 (110—160) | ≤APMX | <10%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤APMX | ≤50%  | 0.10 (0.08—0.12) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤2.0  | ≤50%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤4.0  | <10%  | 0.12 (0.08—0.20) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤4.0  | ≤50%  | 0.10 (0.08—0.15) |                                                                                     |
|                    |                               |                  | 130 (110—160) | ≤APMX | <10%  | 0.10 (0.08—0.15) |                                                                                     |

### Face Milling (Centre Cutting)

(mm)

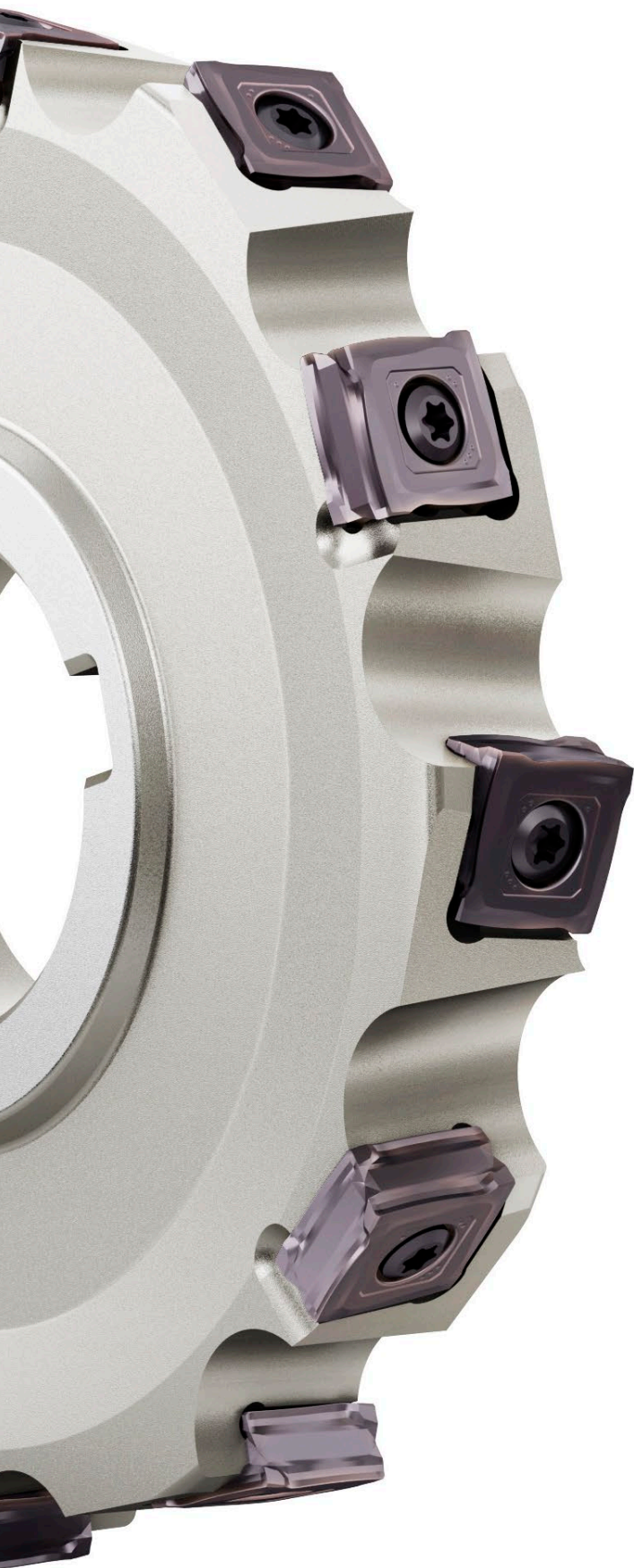
| Workpiece Material | Properties                    | Insert Grade     | vc<br>(m/min) | ap    | fz<br>(mm/t.)    | Cutting Mode                                                                          |
|--------------------|-------------------------------|------------------|---------------|-------|------------------|---------------------------------------------------------------------------------------|
| P                  | Mild Steels                   | MP6120<br>VP15TF | 150 (130—180) | ≤APMX | 0.10 (0.08—0.15) |  |
|                    |                               |                  |               | ≤2.0  | 0.12 (0.08—0.20) |                                                                                       |
|                    | Carbon Steels<br>Alloy Steels | MP6120<br>VP15TF | 150 (130—180) | ≤4.0  | 0.10 (0.08—0.15) |                                                                                       |
|                    |                               |                  | 150 (130—180) | ≤APMX | 0.10 (0.08—0.12) |                                                                                       |
| K                  | Gray Cast Irons               | VP15TF           | 150 (130—180) | ≤2.0  | 0.12 (0.08—0.20) |                                                                                       |
|                    |                               |                  | 150 (130—180) | ≤4.0  | 0.10 (0.08—0.15) |                                                                                       |
|                    |                               |                  | 150 (130—180) | ≤APMX | 0.10 (0.08—0.12) |                                                                                       |
|                    | Gray Cast Irons               | VP15TF           | 150 (130—180) | ≤2.0  | 0.12 (0.08—0.20) |                                                                                       |
|                    |                               |                  | 150 (130—180) | ≤4.0  | 0.10 (0.08—0.15) |                                                                                       |
|                    |                               |                  | 150 (130—180) | ≤APMX | 0.10 (0.08—0.12) |                                                                                       |
|                    | Gray Cast Irons               | VP15TF           | 130 (110—160) | ≤2.0  | 0.12 (0.08—0.20) |                                                                                       |
|                    |                               |                  | 130 (110—160) | ≤4.0  | 0.10 (0.08—0.15) |                                                                                       |
|                    |                               |                  | 130 (110—160) | ≤APMX | 0.10 (0.08—0.12) |                                                                                       |



# Memo

# Exchangeable Inserts Side Cutter

# VOS400



## Features

### Cutter Body

---

#### High Rigidity Design

Arranging the inserts vertically absorbs the principal cutting force through the thickness of the insert and achieves extremely high rigidity.

#### Easy to Clamp Insert

Inserts are screwed into the side of the holder, this simplifies clamping and unclamping for superior usability.

### Insert

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#### Unique Vertical Insert

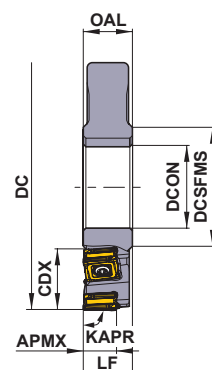
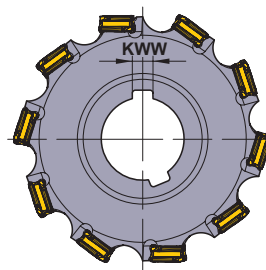
8 usable corners with high strength cutting edge. The fracture resistance is significantly improved due to a convex curve cutting edge and a specially shaped relief face. Maximum depth of cut is 10 mm.

# SIDE CUTTER

## VOS400



P M **K** N S H

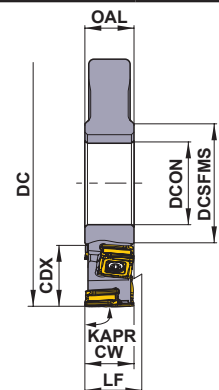
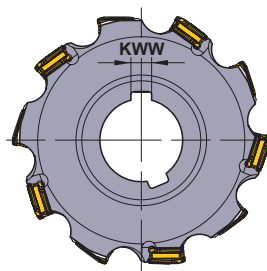


### Half Side

Max. Cutting Diameter **DC** :  $\phi 400$ mm

(mm)

| DC  | Effective No. of Teeth | LF        | CDX  | DCON | DCSFMS | OAL         | KWW | APMX (mm) |
|-----|------------------------|-----------|------|------|--------|-------------|-----|-----------|
| 80  | 8                      | $\geq 16$ | 20.0 | 27   | 40     | $\geq 16.8$ | 7   | 10.0      |
| 100 | 10                     | $\geq 16$ | 27.0 | 32   | 46     | $\geq 16.8$ | 8   | 10.0      |
| 125 | 12                     | $\geq 16$ | 35.0 | 40   | 55     | $\geq 16.8$ | 10  | 10.0      |
| 160 | 14                     | $\geq 16$ | 52.5 | 40   | 55     | $\geq 16.8$ | 10  | 10.0      |



### Full Side

Largest Width **CW** : 100mm  
Max. Cutting Diameter **DC** :  $\phi 400$ mm

(mm)

| DC  | Effective No. of Teeth | Total No. of Teeth | LF        | CW      | CDX  | DCON | DCSFMS | OAL       | KWW |
|-----|------------------------|--------------------|-----------|---------|------|------|--------|-----------|-----|
| 80  | 4                      | 8                  | $\geq 16$ | 16 – 20 | 20.0 | 27   | 40     | $\geq 16$ | 7   |
| 100 | 5                      | 10                 | $\geq 16$ | 16 – 20 | 27.0 | 32   | 46     | $\geq 16$ | 8   |
| 125 | 6                      | 12                 | $\geq 16$ | 16 – 20 | 35.0 | 40   | 55     | $\geq 16$ | 10  |
| 160 | 7                      | 14                 | $\geq 16$ | 16 – 20 | 52.5 | 40   | 55     | $\geq 16$ | 10  |

Note 1) Multilevel designs available for CW over 20mm.

Note 2) Please contact us for details of any geometry of half sides and full sides.

### Inserts

(mm)

| Shape | Order Number | Hand | Class | Edge Preparation | Coated | IC   | S   | Geometry                                  |
|-------|--------------|------|-------|------------------|--------|------|-----|-------------------------------------------|
|       | SONX1206PER  | R    | N     | E                | ●      | 12.7 | 6.3 | <br>IC S<br>Right hand tool holder shown. |
|       | SONX1206PEL  | L    | N     | E                | ●      | 12.7 | 6.3 |                                           |
|       |              |      |       |                  |        |      |     |                                           |

● : Inventory maintained in Japan.  
(10 inserts in one case)

## Exchangeable Inserts Side Cutter

# ASX400



### Features

ASX is a well-balanced cutter for positive insert type that improves fracture resistance and reduces cutting resistance. Effective for when workpiece material with small thickness is cut and when heat generation is needed to suppress because of low cutting resistance, and ideal for finish cutting.

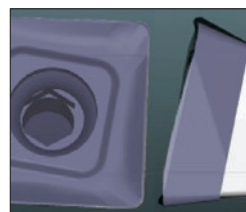
### High Reliability

Uses a carbide shim and proprietary Anti-Fly-Insert (A.F.I) to prevent the inserts from moving when machining. Additionally the clamp screw uses TORXPLUS, for high clamping force ensuring high reliability.



### Low Cutting Resistance

Due to the 3D design of the cutting edge and a large rake angle, high cutting edge sharpness has been achieved with reduced cutting resistance.



### Easy to Use

Employs a screw on type mechanism, therefore inserts can easily be loaded. Additionally when indexing the insert, it is not necessary to remove the screw completely.

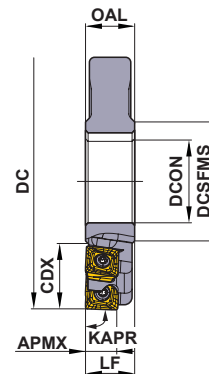
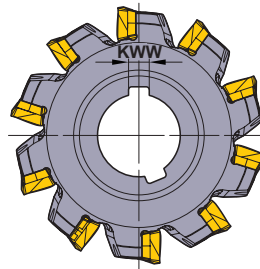




# SIDE CUTTER



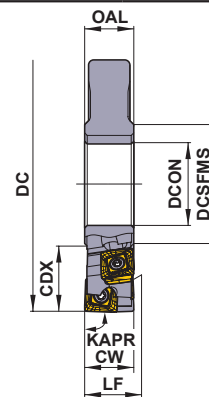
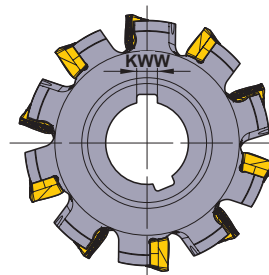
## ASX400



### Half Side

Max. Cutting Diameter **DC** :  $\phi 400$  mm

| DC  | Effective No. of Teeth | LF        | CDX  | DCON | DCSFMS | OAL         | KWW | APMX (mm) |
|-----|------------------------|-----------|------|------|--------|-------------|-----|-----------|
| 80  | 8                      | $\geq 16$ | 20.0 | 27   | 40     | $\geq 16.8$ | 7   | 10.0      |
| 100 | 10                     | $\geq 16$ | 27.0 | 32   | 46     | $\geq 16.8$ | 8   | 10.0      |
| 125 | 12                     | $\geq 16$ | 35.0 | 40   | 55     | $\geq 16.8$ | 10  | 10.0      |
| 160 | 14                     | $\geq 16$ | 52.5 | 40   | 55     | $\geq 16.8$ | 10  | 10.0      |



Largest Width **CW** : 100 mm  
Max. Cutting Diameter **DC** :  $\phi 400$  mm

### Full Side

| DC  | Effective No. of Teeth | Total No. of Teeth | LF        | CW      | CDX  | DCON | DCSFMS | OAL       | KWW |
|-----|------------------------|--------------------|-----------|---------|------|------|--------|-----------|-----|
| 80  | 4                      | 8                  | $\geq 16$ | 16 – 20 | 20.0 | 27   | 40     | $\geq 16$ | 7   |
| 100 | 5                      | 10                 | $\geq 16$ | 16 – 20 | 27.0 | 32   | 46     | $\geq 16$ | 8   |
| 125 | 6                      | 12                 | $\geq 16$ | 16 – 20 | 35.0 | 40   | 55     | $\geq 16$ | 10  |
| 160 | 7                      | 14                 | $\geq 16$ | 16 – 20 | 52.5 | 40   | 55     | $\geq 16$ | 10  |

Note 1) Multilevel designs available for CW over 20mm.

Note 2) Please contact us for details of any geometry of half sides and full sides.

### Inserts

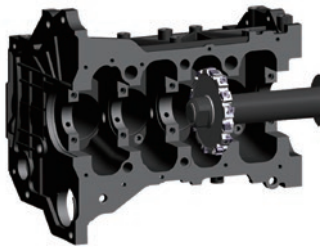
| Shape | Order Number      | Hand | Class | Edge Preparation | Coated | IC   | S    | BS  | RE  | Geometry |
|-------|-------------------|------|-------|------------------|--------|------|------|-----|-----|----------|
|       | SOMT12T308PEER-JM | R    | M     | E                | ●      | 12.7 | 3.97 | 1.4 | 0.8 |          |
|       | SOMT12T308PEEL-JM | L    | M     | E                | ●      | 12.7 | 3.97 | 1.4 | 0.8 |          |
|       |                   |      |       |                  |        |      |      |     |     |          |

Right hand tool holder shown.

● : Inventory maintained in Japan.  
(10 inserts in one case)



## Application Examples

| Tool               |                                  | VAS400 ø300 mm                                                                                                                                                                                      | VAS400 ø160 mm                                                                                                                                                                                                                         |
|--------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insert (Grade)     |                                  | LNGU130804PNER-M (VP15TF)                                                                                                                                                                           | LNGU130804PNER-M (VP15TF)                                                                                                                                                                                                              |
| Workpiece          |                                  | Brake Caliper (JIS FCD450)<br>                                                                                     | Cylinder Block (JIS FC250)<br>                                                                                                                      |
| Cutting Conditions | Revolution <b>n</b> (min-1)      | 120                                                                                                                                                                                                 | 500                                                                                                                                                                                                                                    |
|                    | Cutting Speed <b>vc</b> (m/min)  | 113                                                                                                                                                                                                 | 201                                                                                                                                                                                                                                    |
|                    | Feed per Tooth <b>fz</b> (mm/t.) | 0.09—0.24                                                                                                                                                                                           | 0.14                                                                                                                                                                                                                                   |
|                    | Table Feed <b>vf</b> (mm/min)    | 150—400                                                                                                                                                                                             | 500                                                                                                                                                                                                                                    |
|                    | Depth of Cut <b>ap</b> (mm)      | 1.0—2.0                                                                                                                                                                                             | 1.0                                                                                                                                                                                                                                    |
| Cutting Mode       |                                  | Dry Cutting                                                                                                                                                                                         | Dry Cutting                                                                                                                                                                                                                            |
| Machine            |                                  | Machining Centre                                                                                                                                                                                    | Horizontal                                                                                                                                                                                                                             |
| Results            |                                  | Approximately double longer tool life than conventional products.<br>Excellent cutting dimensions and finished surface roughness.<br>30% reduction in tooling costs. Improved machining efficiency. | 1.5 times better machining efficiency than conventional products.<br>Approximately double longer tool life. Stable cutting with minimal sound and fine finished surface roughness. Improved machining efficiency and longer tool life. |

The above application examples are customer's applications, so it can be different from the recommended conditions.

# Memo



Exchangeable Inserts

# Side Cutter Series

**For Your Safety**

●Don't handle inserts and chips without gloves. ●Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ●Please use safety covers and wear safety glasses. ●When using compounded cutting oils, please take fire precautions. ●When attaching inserts or spare parts, please use only the correct wrench or driver. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

 **mitsubishi MATERIALS CORPORATION**

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<http://www.mitsubishicarbide.com/en/>  
(Tools specifications subject to change without notice.)

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