DIA EDGE
TOOL NEWS
2018.9 Update
B242A

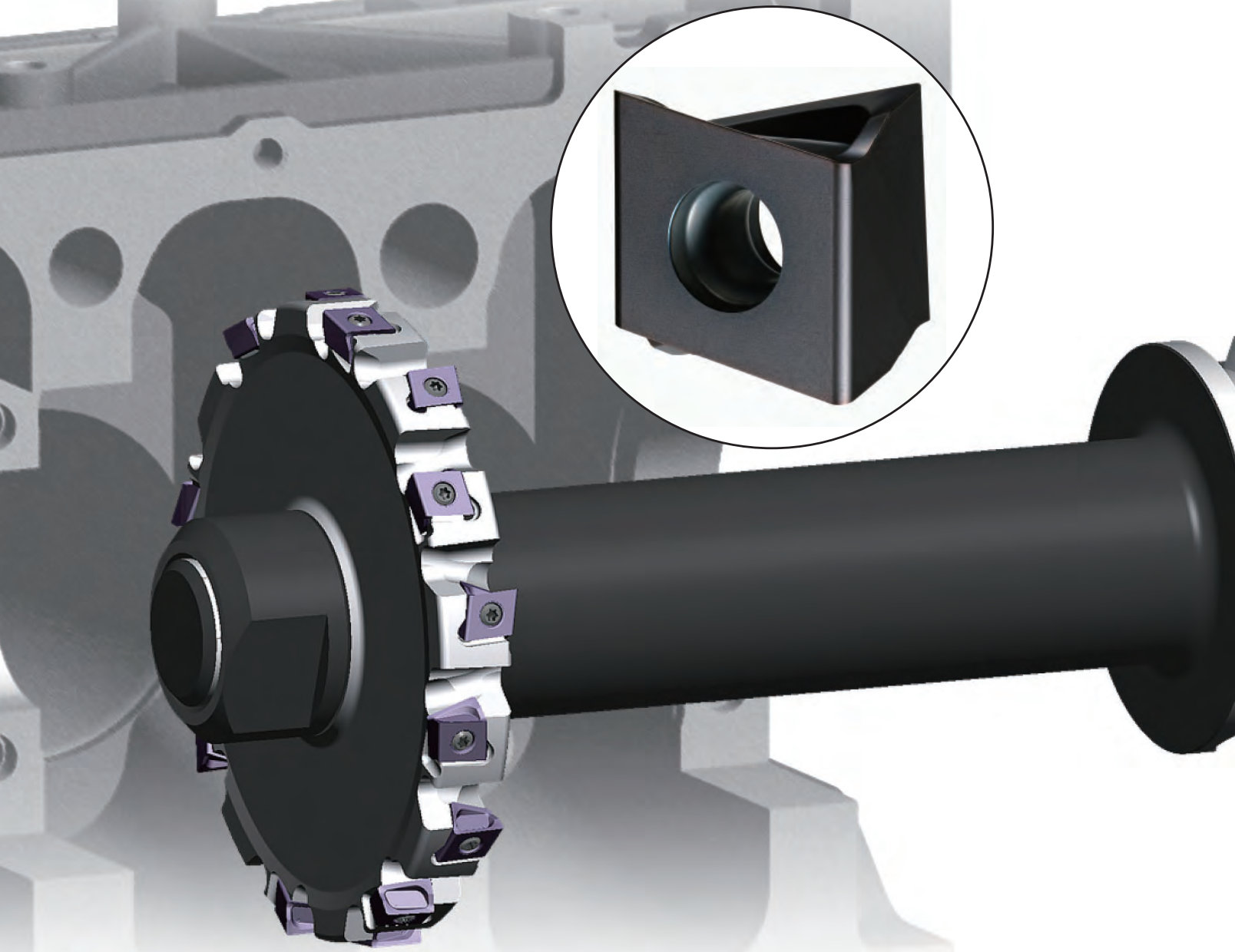
Milling

# Side Cutter Series

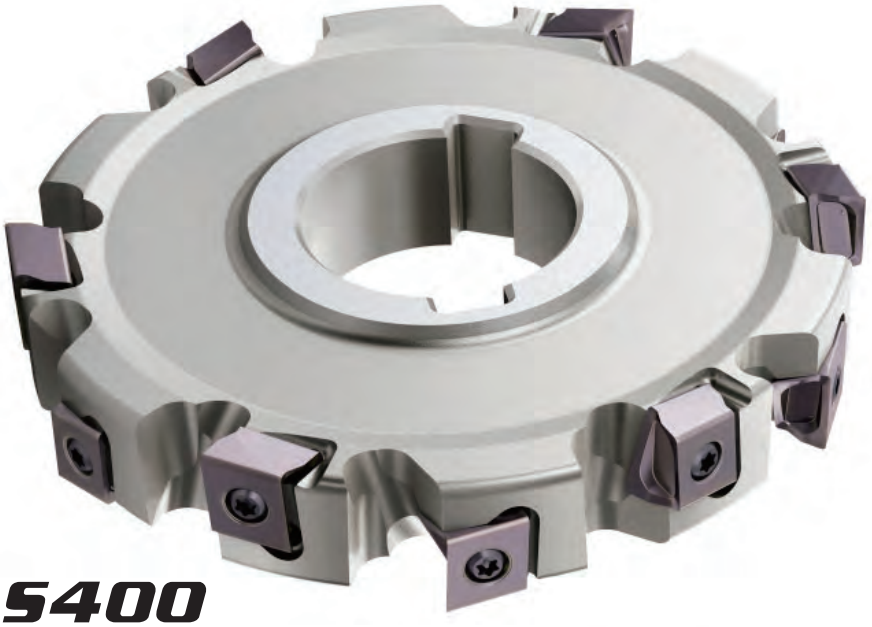
Insert Expansion

# Side Cutter with Low Cutting Resistance

## Vertical mount double-sided insert for VAS and VOS.

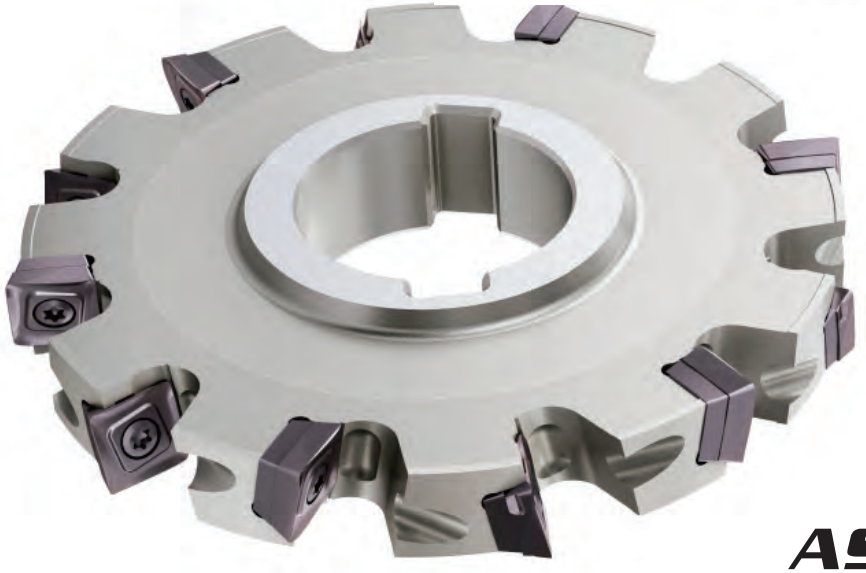


MITSUBISHI MATERIALS CORPORATION



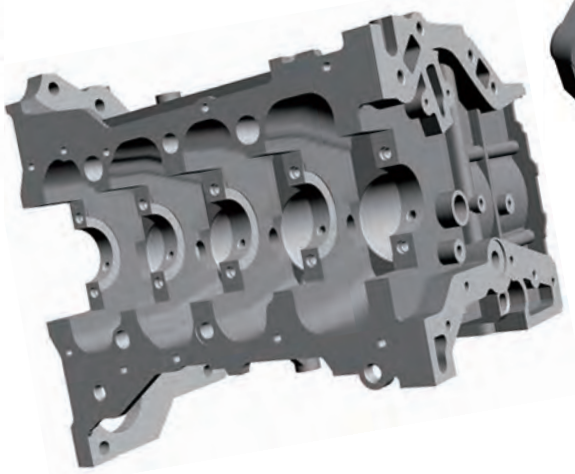
**VAS400**
**VAS500**

**VOS400**



**ASX400**

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



## Engineering Specials

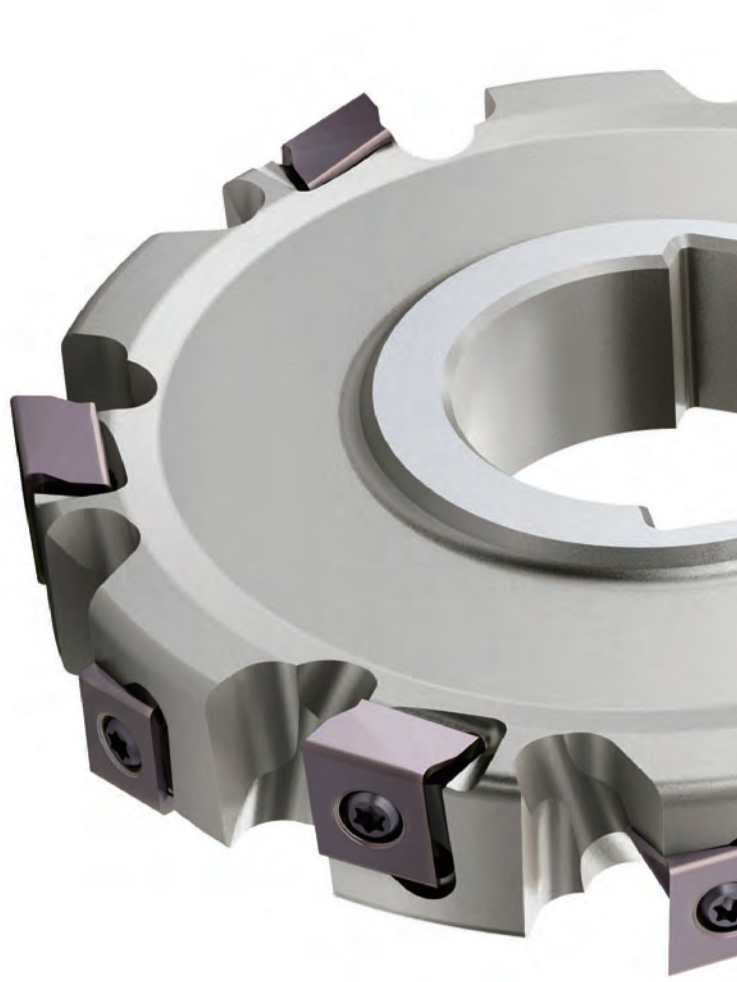
(inch)

| | VAS Series | | VOS400 | ASX400 |
|---|---|---|---|---|
| | VAS400 | VAS500 | | |
| **Work Material** | P M K | P M K | K | P M K |
| **Low Cutting Resistance** | ◎ | ◎ | △ | |
| **Toughness** | ◎ | ◎ | | ○ |
| **Insert Shape** | Vertical | Vertical | Vertical | 20° Positive |
| **No. of Teeth** | Double-sided Insert | Double-sided Insert | Double-sided Insert | Single-sided Insert |
| **No. of Corners Used** | 4 | 4 | 8 | 4 |
| **Half Side Max.Depth of Cut APMX** | RE<.118" .480" | RE<.118" .638" | .394" | .394" |
| | RE≥.118" .449" | RE≥.118" .606" | | |
| **Full Side Largest Width CW** | 3.937" | 3.937" | 3.937" | 3.937" |
| **Full Side Max. Cutting Dia DC** | ø15.748" | ø25.984" | ø15.748" | ø15.748" |
| **Corner R (RE1) Development** | .016"—.197" | .016"—.276" | C.008" | .031" |
| **Reference Page** | ⇒ Page **3** | ⇒ Page **3** | ⇒ Page **11** | ⇒ Page **13** |

# Milling Side Cutter

# VAS Series

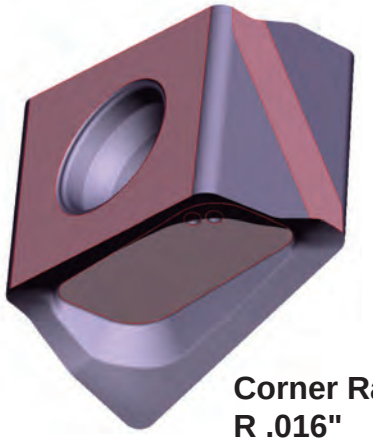
## VAS400
## VAS500



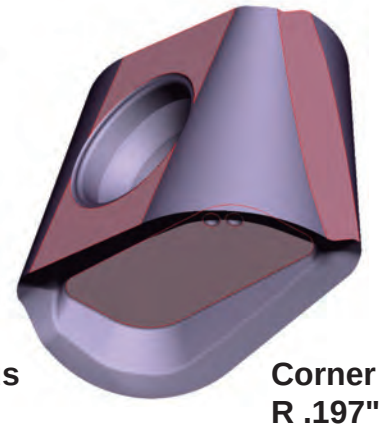
## Insert with 4 Cutting Edges

## Secure Clamping

Wide seating surface ensure secure insert clamping.

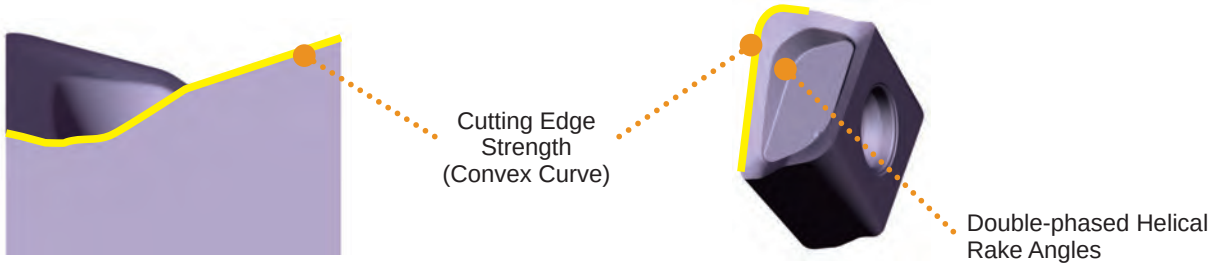


**Corner Radius**
**R .016"**



**Corner Radius**
**R .197"**

## Low Cutting Resistance Insert

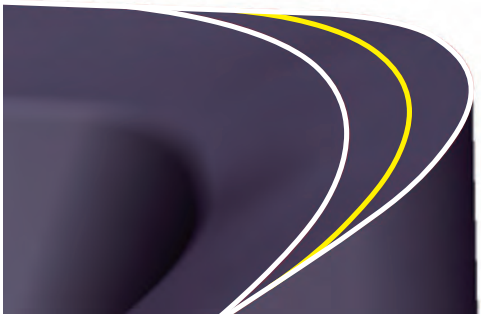


## True Radius Form Remains on Work Material

The unique combination of cutter and insert provides true radius on work material after machining.

**For R .016" – .118"**

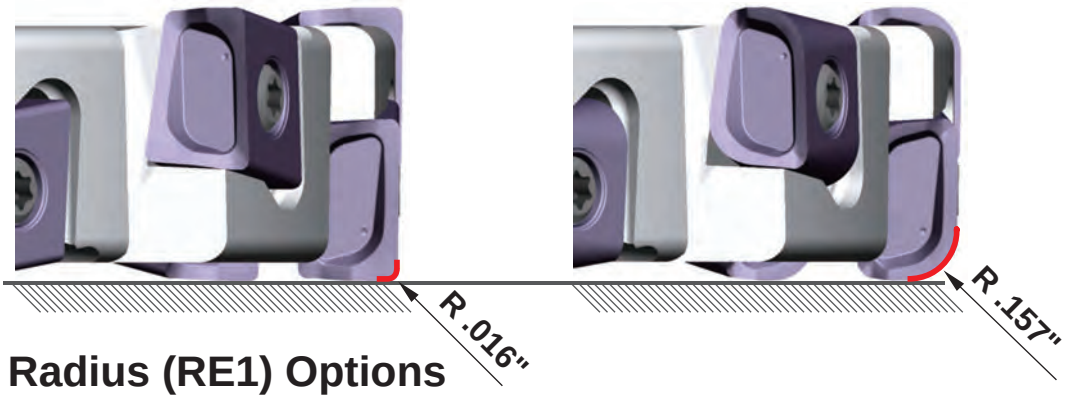
**For R .118" – .197"**



(Note 1) The VAS500 has a max. R.276"

## Cutter Body can Hold All Corner Radii (RE1) from Small to Large

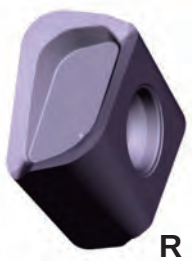
Cutting width and diameter do not change even if corner radius does.




## Various Corner Radius (RE1) Options

**R .031"**

**R .079"**



**R .118"**

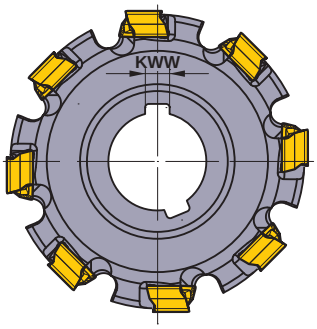
**R .157"**

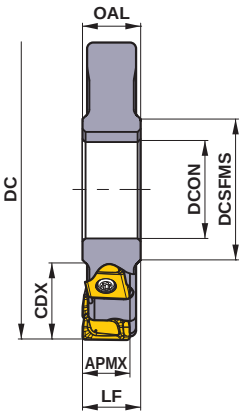
# SIDE CUTTER

90° KAPR | R | M

## VAS400

P | M | K | N | S | H




### Half Side

GAMP: +3°
GAMF: +8°

Max. Depth of Cut **APMX** : RE1 <.118" .480"
RE1 ≥.118" .449"

(inch)

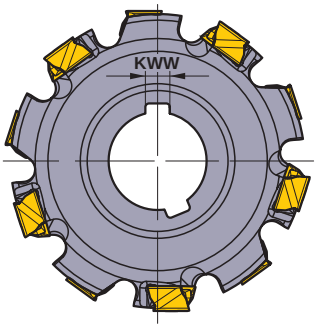
| DC | Order Number | Hand | Stock | No. of Teeth | LF | CDX | DCON | DCSFMS | OAL | KWW | Insert Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.000 | **VAS400UA041010L0.75D** | L | □ | 10 | .750 | 1.040 | 1.250 | 1.750 | .750 | .318 | LNGU13 |
| 4.000 | **VAS400UA041010R0.75D** | R | □ | 10 | .750 | 1.040 | 1.250 | 1.750 | .750 | .318 | LNGU13 |
| 4.000 | **VAS400UA041010L1.00D** | L | □ | 10 | 1.000 | 1.040 | 1.250 | 1.750 | 1.000 | .318 | LNGU13 |
| 4.000 | **VAS400UA041010R1.00D** | R | □ | 10 | 1.000 | 1.040 | 1.250 | 1.750 | 1.000 | .318 | LNGU13 |
| 5.000 | **VAS400UA051212L0.75E** | L | □ | 12 | .750 | 1.380 | 1.500 | 2.120 | .750 | .385 | LNGU13 |
| 5.000 | **VAS400UA051212R0.75E** | R | □ | 12 | .750 | 1.380 | 1.500 | 2.120 | .750 | .385 | LNGU13 |
| 5.000 | **VAS400UA051212L1.00E** | L | □ | 12 | 1.000 | 1.380 | 1.500 | 2.120 | 1.000 | .385 | LNGU13 |
| 5.000 | **VAS400UA051212R1.00E** | R | □ | 12 | 1.000 | 1.380 | 1.500 | 2.120 | 1.000 | .385 | LNGU13 |
| 6.000 | **VAS400UA061414L0.75E** | L | □ | 14 | .750 | 1.890 | 1.500 | 2.120 | .750 | .385 | LNGU13 |
| 6.000 | **VAS400UA061414R0.75E** | R | □ | 14 | .750 | 1.890 | 1.500 | 2.120 | .750 | .385 | LNGU13 |
| 6.000 | **VAS400UA061414L1.00E** | L | □ | 14 | 1.000 | 1.890 | 1.500 | 2.120 | 1.000 | .385 | LNGU13 |
| 6.000 | **VAS400UA061414R1.00E** | R | □ | 14 | 1.000 | 1.890 | 1.500 | 2.120 | 1.000 | .385 | LNGU13 |
| 8.000 | **VAS400UA082020L0.75F** | L | □ | 20 | .750 | 2.560 | 2.000 | 2.750 | .750 | .510 | LNGU13 |
| 8.000 | **VAS400UA082020R0.75F** | R | □ | 20 | .750 | 2.560 | 2.000 | 2.750 | .750 | .510 | LNGU13 |
| 8.000 | **VAS400UA082020L1.00F** | L | □ | 20 | 1.000 | 2.560 | 2.000 | 2.750 | 1.000 | .510 | LNGU13 |
| 8.000 | **VAS400UA082020R1.00F** | R | □ | 20 | 1.000 | 2.560 | 2.000 | 2.750 | 1.000 | .510 | LNGU13 |

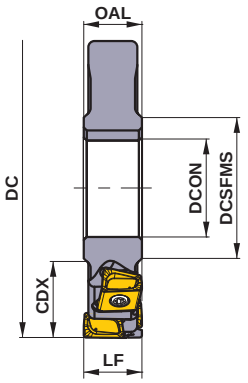


● : Inventory maintained. □ : Non stock, produced to order only.

# VAS400

P M K N S H




## Full Side

GAMP:+3°
GAMF:+8°

(inch)

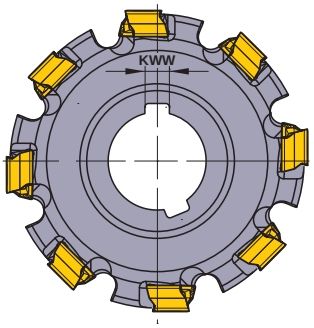
| DC | Order Number | Stock | Effective No. of Teeth | Total No. of Teeth | LF | CDX | DCON | DCSFMS | OAL | KWW | Insert Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.000 | **VAS400UA041005N0.75D** | ● | 5 | 10 | .750 | 1.040 | 1.250 | 1.750 | .750 | .318 | LNGU13 |
| 4.000 | **VAS400UA041005N1.00D** | ● | 5 | 10 | 1.000 | 1.040 | 1.250 | 1.750 | 1.000 | .318 | LNGU13 |
| 5.000 | **VAS400UA051206N0.75E** | ● | 6 | 12 | .750 | 1.380 | 1.500 | 2.120 | .750 | .385 | LNGU13 |
| 5.000 | **VAS400UA051206N1.00E** | ● | 6 | 12 | 1.000 | 1.380 | 1.500 | 2.120 | 1.000 | .385 | LNGU13 |
| 6.000 | **VAS400UA061407N0.75E** | ● | 7 | 14 | .750 | 1.890 | 1.500 | 2.120 | .750 | .385 | LNGU13 |
| 6.000 | **VAS400UA061407N1.00E** | ● | 7 | 14 | 1.000 | 1.890 | 1.500 | 2.120 | 1.000 | .385 | LNGU13 |
| 8.000 | **VAS400UA082010N0.75F** | ● | 10 | 20 | .750 | 2.560 | 2.000 | 2.750 | .750 | .510 | LNGU13 |
| 8.000 | **VAS400UA082010N1.00F** | ● | 10 | 20 | 1.000 | 2.560 | 2.000 | 2.750 | 1.000 | .510 | LNGU13 |

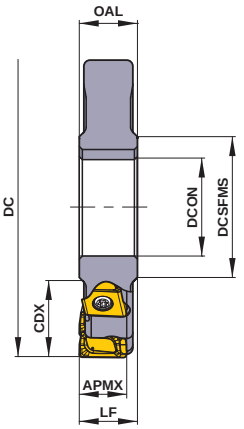
# SIDE CUTTER

90° KAPR | R | M

## VAS400 Engineering Specials

P | M | K | N | S | H



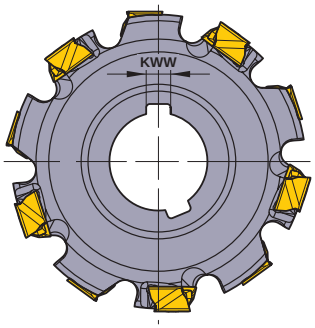

### Half Side

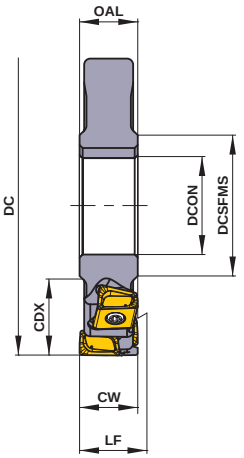
GAMP:+3°
GAMF:+8°

Max. Cutting Diameter **DC** : ø400mm
Max. Depth of Cut **APMX** : RE1 <3.0mm 12.2mm
RE1 ≥3.0mm 11.4mm

(mm)

| DC | No. of Teeth | LF | CDX | DCON | DCSFMS | OAL | KWW | Insert Type |
|---|---|---|---|---|---|---|---|---|
| 80 | 8 | ≥18 | 20 | 27 | 40 | ≥18 | 7 | LNGU13 |
| 100 | 10 | ≥18 | 27 | 32 | 46 | ≥18 | 8 | LNGU13 |
| 125 | 12 | ≥18 | 35 | 40 | 55 | ≥18 | 10 | LNGU13 |
| 160 | 14 | ≥18 | 52.5 | 40 | 55 | ≥18 | 10 | LNGU13 |




### Full Side

GAMP:+3°
GAMF:+8°

Largest Width **CW** : 100mm
Max. Cutting Diameter **DC** : ø400mm

(mm)

| DC | Effective No. of Teeth | Total No. of Teeth | LF ★1 | CW ★2 | CDX | DCON | DCSFMS | OAL | KWW | Insert Type |
|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 4 | 8 | ≥18 | 18 – 24 | 20 | 27 | 40 | ≥18 | 7 | LNGU13 |
| 100 | 5 | 10 | ≥18 | 18 – 24 | 27 | 32 | 46 | ≥18 | 8 | LNGU13 |
| 125 | 6 | 12 | ≥18 | 18 – 24 | 35 | 40 | 55 | ≥18 | 10 | LNGU13 |
| 160 | 7 | 14 | ≥18 | 18 – 24 | 52.5 | 40 | 55 | ≥18 | 10 | LNGU13 |

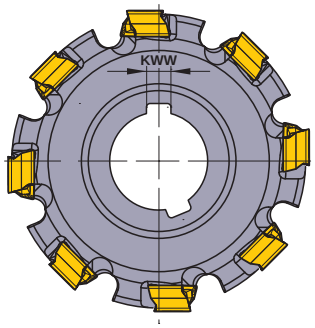
★1 In case of adjustment piece specification. **LF** : ≥24

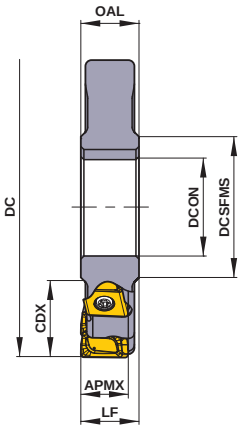
★2 **CW** of RE1 <3.0mm is 24mm, and RE1 ≤3.0mm is 22.8mm. Multilevel designs available for **CW** over each sizes.

★ Please contact us for details of any geometry.

# VAS500 Engineering Specials

P M K N S H




## Half Side

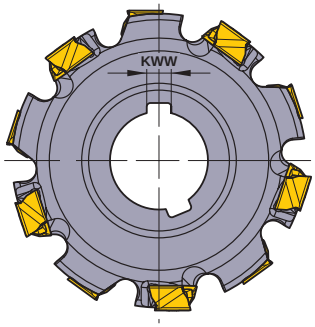
GAMP:+3°
GAMF:+8°

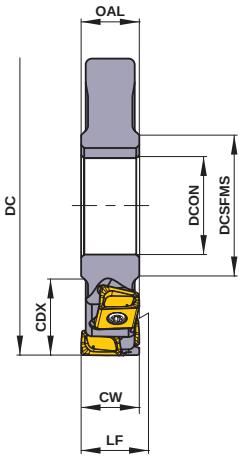
Max. Cutting Diameter **DC** : ø660mm
Max. Depth of Cut **APMX** : RE1 <3.0mm 16.2mm
RE1 ≥3.0mm 15.4mm

(mm)

| DC | No. of Teeth | LF | CDX | DCON | DCSFMS | OAL | KWW | Insert Type |
|---|---|---|---|---|---|---|---|---|
| 100 | 8 | ≥23 | 27 | 32 | 46 | ≥23 | 8 | LNGU17 |
| 125 | 10 | ≥23 | 35 | 40 | 55 | ≥23 | 10 | LNGU17 |
| 160 | 12 | ≥23 | 52.5 | 40 | 55 | ≥23 | 10 | LNGU17 |
| 200 | 16 | ≥23 | 65 | 50 | 70 | ≥23 | 12 | LNGU17 |

⋆ In case of adjustment piece specification. **LF** : ≥29




## Full Side

GAMP:+3°
GAMF:+8°

Largest Width **CW** : 100mm
Max. Cutting Diameter **DC** : ø660mm

(mm)

| DC | Effective No. of Teeth | Total No. of Teeth | LF ⋆1 | CW ⋆2 | CDX | DCON | DCSFMS | OAL | KWW | Insert Type |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 4 | 8 | ≥23 | 23 – 32 | 27 | 32 | 46 | ≥23 | 8 | LNGU17 |
| 125 | 5 | 10 | ≥23 | 23 – 32 | 35 | 40 | 55 | ≥23 | 10 | LNGU17 |
| 160 | 6 | 12 | ≥23 | 23 – 32 | 52.5 | 40 | 55 | ≥23 | 10 | LNGU17 |
| 200 | 8 | 16 | ≥23 | 23 – 32 | 65 | 50 | 70 | ≥23 | 12 | LNGU17 |

⋆1 In case of adjustment piece specification. **LF** : ≥29

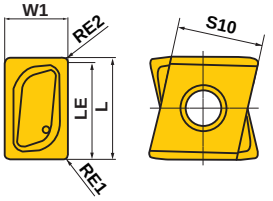
⋆2 **CW** of RE1 <3.0mm is 32mm, and RE1 ≤3.0mm is 30.8mm.

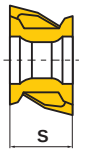
⋆ Please contact us for details of any geometry.

## Inserts

(inch)

| Shape | | Order Number | Hand | Class | Edge Preparation | Coated | | | L | LE | S | S10 | RE1 | RE2 | W1 | Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | MP6120 | VP15TF | | | | | | | | | |
| Low Resistance Type **M** Breaker | | **LNGU130804PNER-M** | R | G | E | | ● | | .512 | .480 | .315 | .433 | .016 | .031 | .315 | |
| | | **LNGU130804PNEL-M** | L | G | E | | ● | | .512 | .480 | .315 | .433 | .016 | .031 | .315 | |
| | | **LNGU130808PNER-M** | R | G | E | | ● | | .512 | .480 | .315 | .433 | .031 | .031 | .315 | |
| | | **LNGU130808PNEL-M** | L | G | E | | ● | | .512 | .480 | .315 | .433 | .031 | .031 | .315 | |
| | | **LNGU130812PNER-M** | R | G | E | | ● | | .512 | .480 | .315 | .433 | .047 | .031 | .315 | |
| | | **LNGU130812PNEL-M** | L | G | E | | ● | | .512 | .480 | .315 | .433 | .047 | .031 | .315 | |
| | | **LNGU130816PNER-M** | R | G | E | | ● | | .512 | .480 | .315 | .433 | .063 | .031 | .315 | |
|  | | **LNGU130816PNEL-M** | L | G | E | | ● | | .512 | .480 | .315 | .433 | .063 | .031 | .315 | |
| | | **LNGU130820PNER-M** | R | G | E | | ● | | .512 | .480 | .315 | .433 | .079 | .031 | .315 | |
| | | **LNGU130820PNEL-M** | L | G | E | | ● | | .512 | .480 | .315 | .433 | .079 | .031 | .315 | |
| | | **LNGU130824PNER-M** | R | G | E | | ● | | .512 | .480 | .315 | .433 | .094 | .031 | .315 | |
| | | **LNGU130824PNEL-M** | L | G | E | | ● | | .512 | .480 | .315 | .433 | .094 | .031 | .315 | |
| | | **LNGU130830PNER-M** | R | G | E | | ● | | .512 | .449 | .315 | .433 | .118 | .063 | .315 | |
| | | **LNGU130830PNEL-M** | L | G | E | | ● | | .512 | .449 | .315 | .433 | .118 | .063 | .315 | |
| | | **LNGU130840PNER-M** | R | G | E | | ● | | .512 | .449 | .315 | .433 | .157 | .063 | .315 | |
| | | **LNGU130840PNEL-M** | L | G | E | | ● | | .512 | .449 | .315 | .433 | .157 | .063 | .315 | |
| | | **LNGU130850PNER-M** | R | G | E | | ● | | .512 | .449 | .315 | .433 | .197 | .063 | .315 | |
| | | **LNGU130850PNEL-M** | L | G | E | | ● | | .512 | .449 | .315 | .433 | .197 | .063 | .315 | |
| Strong Cutting Edge Type **R** Breaker | NEW | **LNGU130804PNER-R** | R | G | E | ● | ● | | .512 | .480 | .315 | .433 | .016 | .031 | .315 | |
| | NEW | **LNGU130804PNEL-R** | L | G | E | ● | ● | | .512 | .480 | .315 | .433 | .016 | .031 | .315 | |
| | NEW | **LNGU130808PNER-R** | R | G | E | ● | ● | | .512 | .480 | .315 | .433 | .031 | .031 | .315 | |
| | NEW | **LNGU130808PNEL-R** | L | G | E | ● | ● | | .512 | .480 | .315 | .433 | .031 | .031 | .315 | |
| | NEW | **LNGU130812PNER-R** | R | G | E | ● | ● | | .512 | .480 | .315 | .433 | .047 | .031 | .315 | |
| | NEW | **LNGU130812PNEL-R** | L | G | E | ● | ● | | .512 | .480 | .315 | .433 | .047 | .031 | .315 | |
| | NEW | **LNGU130816PNER-R** | R | G | E | ● | ● | | .512 | .480 | .315 | .433 | .063 | .031 | .315 | |
|  | NEW | **LNGU130816PNEL-R** | L | G | E | ● | ● | | .512 | .480 | .315 | .433 | .063 | .031 | .315 | |
| | NEW | **LNGU130820PNER-R** | R | G | E | ● | ● | | .512 | .480 | .315 | .433 | .079 | .031 | .315 | |
| | NEW | **LNGU130820PNEL-R** | L | G | E | ● | ● | | .512 | .480 | .315 | .433 | .079 | .031 | .315 | |
| | NEW | **LNGU130824PNER-R** | R | G | E | ● | ● | | .512 | .480 | .315 | .433 | .094 | .031 | .315 | |
| | NEW | **LNGU130824PNEL-R** | L | G | E | ● | ● | | .512 | .480 | .315 | .433 | .094 | .031 | .315 | |
| | NEW | **LNGU130830PNER-R** | R | G | E | ● | ● | | .512 | .449 | .315 | .433 | .118 | .063 | .315 | |
| | NEW | **LNGU130830PNEL-R** | L | G | E | ● | ● | | .512 | .449 | .315 | .433 | .118 | .063 | .315 | |
| | NEW | **LNGU130840PNER-R** | R | G | E | ● | ● | | .512 | .449 | .315 | .433 | .157 | .063 | .315 | |
| | NEW | **LNGU130840PNEL-R** | L | G | E | ● | ● | | .512 | .449 | .315 | .433 | .157 | .063 | .315 | |
| | NEW | **LNGU130850PNER-R** | R | G | E | ● | ● | | .512 | .449 | .315 | .433 | .197 | .063 | .315 | |
| | NEW | **LNGU130850PNEL-R** | L | G | E | ● | ● | | .512 | .449 | .315 | .433 | .197 | .063 | .315 | |



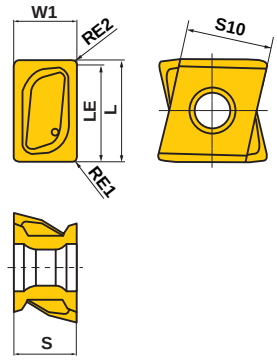




Right hand insert shown.

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

(inch)

| Shape | Order Number | Hand | Class | Edge Preparation | Coated | | | L | LE | S | S10 | RE1 | RE2 | W1 | Geometry |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MP6120 | VP15TF | | | | | | | | | |
| **Strong Cutting Edge Type** **R** Breaker | **LNGU171004PNER-R** | R | G | E | ● | ● | | .669 | .638 | .394 | .512 | .016 | .031 | .394 | |
| | **LNGU171004PNEL-R** | L | G | E | ● | ● | | .669 | .638 | .394 | .512 | .016 | .031 | .394 | |
| | **LNGU171008PNER-R** | R | G | E | ● | ● | | .669 | .638 | .394 | .512 | .031 | .031 | .394 | |
| | **LNGU171008PNEL-R** | L | G | E | ● | ● | | .669 | .638 | .394 | .512 | .031 | .031 | .394 | |
| | **LNGU171012PNER-R** | R | G | E | ● | ● | | .669 | .638 | .394 | .512 | .047 | .031 | .394 | |
| | **LNGU171012PNEL-R** | L | G | E | ● | ● | | .669 | .638 | .394 | .512 | .047 | .031 | .394 | |
| | **LNGU171016PNER-R** | R | G | E | ● | ● | | .669 | .638 | .394 | .512 | .063 | .031 | .394 | |
| | **LNGU171016PNEL-R** | L | G | E | ● | ● | | .669 | .638 | .394 | .512 | .063 | .031 | .394 | |
| | **LNGU171020PNER-R** | R | G | E | ● | ● | | .669 | .638 | .394 | .512 | .079 | .031 | .394 | |
| | **LNGU171020PNEL-R** | L | G | E | ● | ● | | .669 | .638 | .394 | .512 | .079 | .031 | .394 | |
| | **LNGU171024PNER-R** | R | G | E | ● | ● | | .669 | .638 | .394 | .512 | .094 | .031 | .394 | |
| | **LNGU171024PNEL-R** | L | G | E | ● | ● | | .669 | .638 | .394 | .512 | .094 | .031 | .394 | |
| | **LNGU171030PNER-R** | R | G | E | ● | ● | | .669 | .606 | .394 | .512 | .118 | .063 | .394 | |
| | **LNGU171030PNEL-R** | L | G | E | ● | ● | | .669 | .606 | .394 | .512 | .118 | .063 | .394 | |
| | **LNGU171040PNER-R** | R | G | E | ● | ● | | .669 | .606 | .394 | .512 | .157 | .063 | .394 | |
| | **LNGU171040PNEL-R** | L | G | E | ● | ● | | .669 | .606 | .394 | .512 | .157 | .063 | .394 | |
| | **LNGU171050PNER-R** | R | G | E | ● | ● | | .669 | .606 | .394 | .512 | .197 | .063 | .394 | |
| | **LNGU171050PNEL-R** | L | G | E | ● | ● | | .669 | .606 | .394 | .512 | .197 | .063 | .394 | |
| | **LNGU171060PNER-R** | R | G | E | ● | ● | | .669 | .606 | .394 | .512 | .236 | .063 | .394 | |
| | **LNGU171060PNEL-R** | L | G | E | ● | ● | | .669 | .606 | .394 | .512 | .236 | .063 | .394 | |
| | **LNGU171070PNER-R** | R | G | E | ● | ● | | .669 | .606 | .394 | .512 | .276 | .063 | .394 | |
| | **LNGU171070PNEL-R** | L | G | E | ● | ● | | .669 | .606 | .394 | .512 | .276 | .063 | .394 | |




Right hand insert shown.

# Milling 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

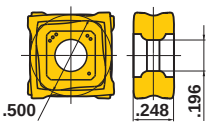
Inserts are screwed into the side of the holder, this simplifies clamping and unclamping for superior usability.

### Insert

#### 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 10mm.

**Insert** (inch)

| Shape | Order Number | Hand | Class | Horning | Coated VP15TF | Geometry |
|---|---|---|---|---|---|---|
|  | **SONX1206PER** | R | N | E | ● |  |
| | **SONX1206PEL** | L | N | E | ★ | |

.500 .248 .196

Right hand insert shown.

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

### VP15TF

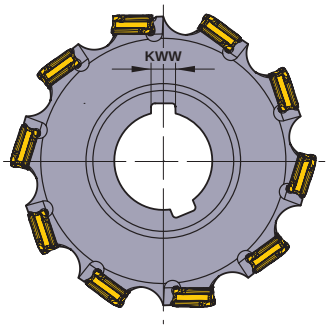
PVD coated grade for application versatility.
Ideal for ductile cast iron, unstable cutting conditions and low rigidity work materials.
Wet cutting is possible.

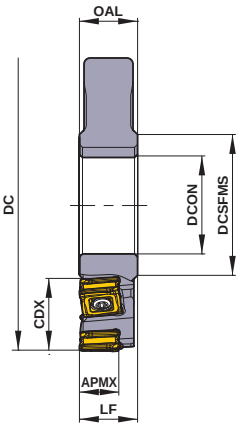
# SIDE CUTTER

90° KAPR | R | M

## VOS400 Engineering Specials

P | M | **K** | N | S | H



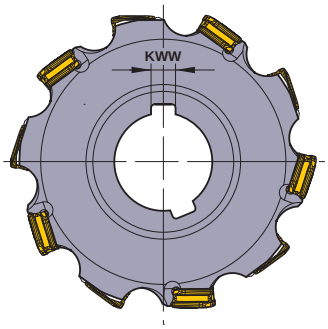



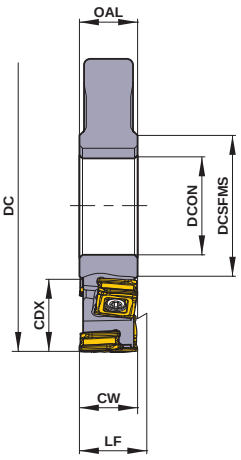

### Half Side

Max. Cutting Diameter **DC** : ø400mm

(mm)

| DC | No. of Teeth | LF | CDX | DCON | DCSFMS | OAL | KWW | APMX |
|---|---|---|---|---|---|---|---|---|
| 80 | 8 | ≥16 | 20 | 27 | 40 | ≥16.8 | 7 | 10 |
| 100 | 10 | ≥16 | 27 | 32 | 46 | ≥16.8 | 8 | 10 |
| 125 | 12 | ≥16 | 35 | 40 | 55 | ≥16.8 | 10 | 10 |
| 160 | 14 | ≥16 | 52.5 | 40 | 55 | ≥16.8 | 10 | 10 |




### Full Side

Largest Width **CW** : 100mm
Max. Cutting Diameter **DC** : ø400mm

(mm)

| DC | Effective No. of Teeth | Total No. of Teeth | LF | CW | CDX | DCON | DCSFMS | OAL | KWW |
|---|---|---|---|---|---|---|---|---|---|
| 80 | 4 | 8 | ≥16 | 16 – 20 | 20 | 27 | 40 | ≥16 | 7 |
| 100 | 5 | 10 | ≥16 | 16 – 20 | 27 | 32 | 46 | ≥16 | 8 |
| 125 | 6 | 12 | ≥16 | 16 – 20 | 35 | 40 | 55 | ≥16 | 10 |
| 160 | 7 | 14 | ≥16 | 16 – 20 | 52.5 | 40 | 55 | ≥16 | 10 |

✶ Multilevel designs available for CW over 20mm.
✶ Please contact us for detail of any geometry.

# Milling Side Cutter
# ASX400

## Features

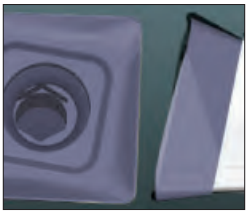
ASX is a well-balanced cutter for positive insert type that improves fracture resistance and reduces cutting resistance.
Effective for when work material with small thickness is cut and when heat generation is needed to suppress because of low cutting resistance, and ideal for finish cutting.

### 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.

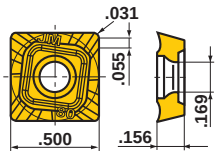


### Easy to Use

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.

## Insert

(inch)

| Shape | Order Number | Hand | Class | Horning | Coated VP15TF | Geometry |
|---|---|---|---|---|---|---|
|  | SOMT12T308PEER-JM | R | M | E | ● |  |
| | SOMT12T308PEEL-JM | L | M | E | ★ | |



Right hand insert shown.

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

## VP15TF

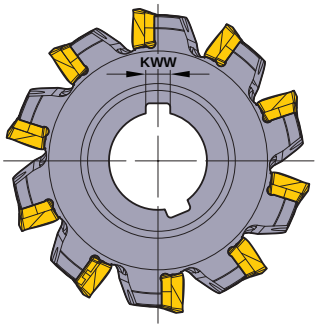
PVD coated grade for application versatility.
Ideal for ductile cast iron, unstable cutting conditions and low rigidity work materials.
Wet cutting is possible.

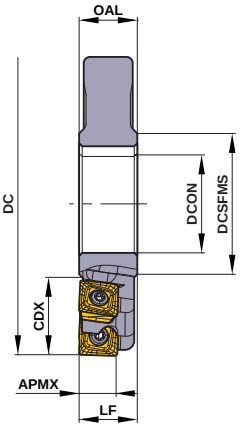
# SIDE CUTTER

90° KAPR | R | M

## ASX400 Engineering Specials

P | M | K | N | S | H



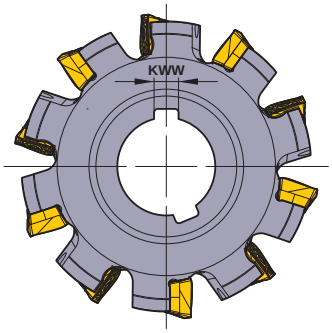



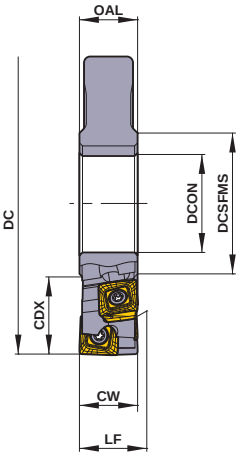

Max. Cutting Diameter **DC** : ø400mm

### Half Side

(mm)

| DC | No. of Teeth | LF | CDX | DCON | DCSFMS | OAL | KWW | APMX |
|---|---|---|---|---|---|---|---|---|
| 80 | 8 | ≥16 | 20 | 27 | 40 | ≥16.8 | 7 | 10 |
| 100 | 10 | ≥16 | 27 | 32 | 46 | ≥16.8 | 8 | 10 |
| 125 | 12 | ≥16 | 35 | 40 | 55 | ≥16.8 | 10 | 10 |
| 160 | 14 | ≥16 | 52.5 | 40 | 55 | ≥16.8 | 10 | 10 |




Largest Width **CW** : 100mm
Max. Cutting Diameter **DC** : ø400mm

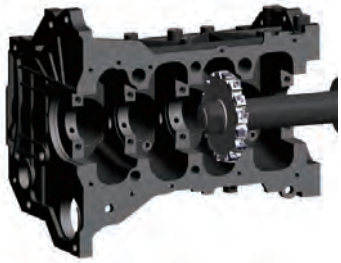
### Full Side

(mm)

| DC | Effective No. of Teeth | Total No. of Teeth | LF | CW | CDX | DCON | DCSFMS | OAL | KWW |
|---|---|---|---|---|---|---|---|---|---|
| 80 | 4 | 8 | ≥16 | 16 – 20 | 20 | 27 | 40 | ≥16 | 7 |
| 100 | 5 | 10 | ≥16 | 16 – 20 | 27 | 32 | 46 | ≥16 | 8 |
| 125 | 6 | 12 | ≥16 | 16 – 20 | 35 | 40 | 55 | ≥16 | 10 |
| 160 | 7 | 14 | ≥16 | 16 – 20 | 52.5 | 40 | 55 | ≥16 | 10 |

* Multilevel designs available for CW over 20mm.
* Please contact us for detail of any geometry.

## Application Examples

| Tool | | VAS400 ø300 mm | VAS400 ø160 mm |
|---|---|---|---|
| Insert (Grade) | | LNGU130804PNER-M (VP15TF) | LNGU130804PNER-M (VP15TF) |
| Workpiece | | Brake Caliper (ASTM 65-45-12)  | Cylinder Block (AISI No 35 B)  |
| Cutting Conditions | Revolution **n** ($min^{-1}$) | 120 | 500 |
| | Cutting Speed **vc** (SFM) | 370 | 660 |
| | Feed per Tooth **fz** (IPT) | .004—.009 | .006 |
| | Table Feed **vf** (IPM) | 5.9—15.7 | 19.7 |
| | Depth of Cut **ap** (inch) | .039—.079 | .039 |
| Cutting Mode | | Dry Cutting | Dry Cutting |
| Machine | | Machining Center | 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 x better machining efficiency than conventional products.<br>Approximately double longer tool life. Stable cutting with minimal sound and fine finished surface roughness.<br>Improved machining efficiency and longer tool life. |

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

**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.



EXP-15-E013
Printed in U.S.A. 9/18