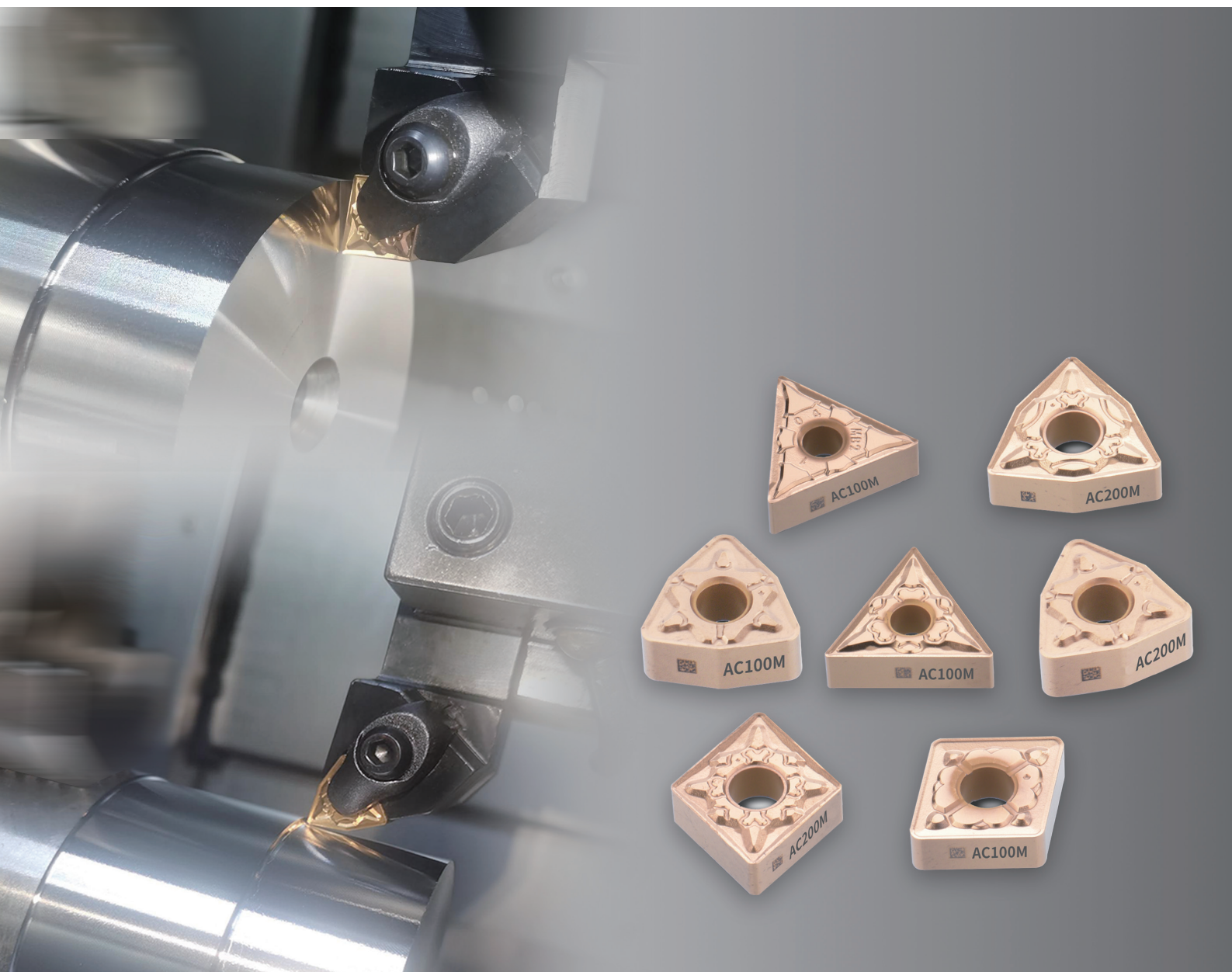


**NEW**  
**PRODUCT!**

# AC100M, AC200M

## New CVD coating grades for stainless steel high-speed turning grade

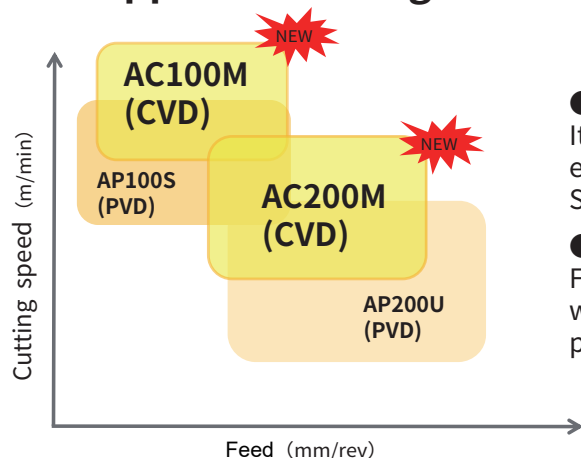


## Grade Introduction

### CVD coating grades for stainless steel turning-AC100M/AC200M

New CVD coating grades for stainless steel turning-AC100M/AC200M, fully cover the stainless steel speed continuous turning to general turning with stable and long tool life as well as high efficiency. The new CVD coating has good wear resistance, heat resistance and plastic deformation resistance due to combined micro grain  $Al_2O_3$  and MT-TiCN

## Application Range



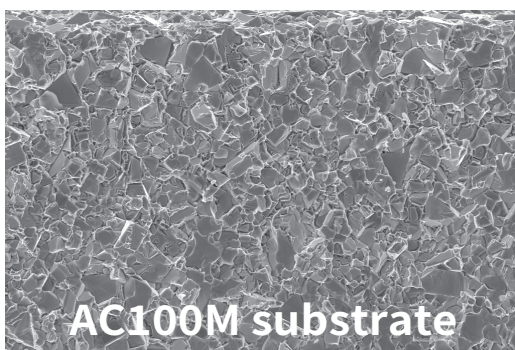
#### ● AC100M

It offers good wear resistance at high-speed and high-efficiency stainless steel turning  
Suitable for some heat resistant alloy turning

#### ● AC200M

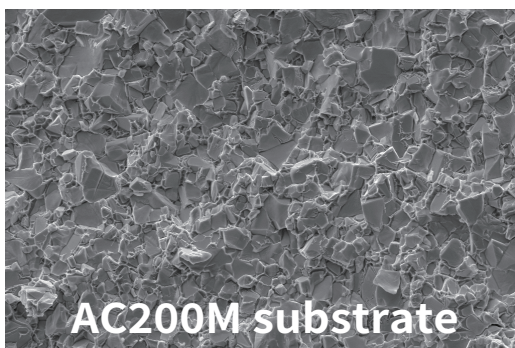
First choice for stainless steel turning, CVD coating combined with new carbide substrate, showing a stable machining performance and extraordinary notch wear resistance

## AC100M/AC200M Grade Features



#### ● AC100M

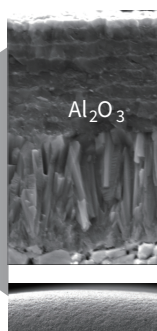
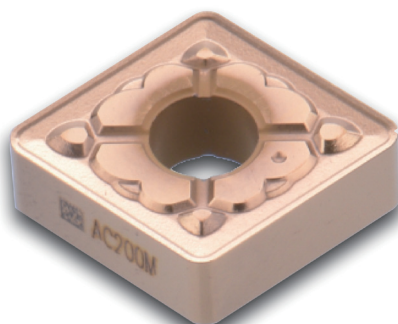
It offers good wear resistance at high-speed and high-efficiency stainless steel turning  
Suitable for some heat resistant alloy turning



#### ● AC200M

First choice for stainless steel turning, CVD coating combined with new carbide substrate, showing a stable machining performance and extraordinary notch wear resistance

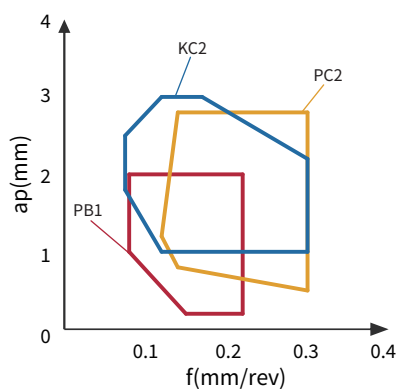
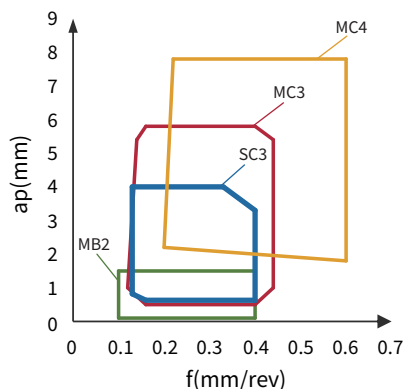
## AC100M/AC200M Grade Features

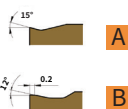
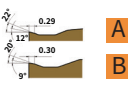
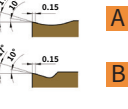
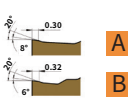
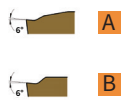
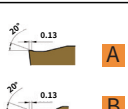


SEM image of coating surface of nose

- Combined micro grain  $Al_2O_3$  and MT-TiCN
  - Higher toughness, wear resistance and built-up edge resistance
  - New post-processing for a smoother surface, good built-up edge resistance and chip evacuation
  - First choice for stainless steel high-speed turning
  - New substrate for stainless steel finish turning, with gradient sintering process to get excellent wear resistance and toughness.
- It also can achieve high-speed turning even under unstable machining conditions
- Suitable for stainless steel high-speed turning and some heat resistant alloy machining

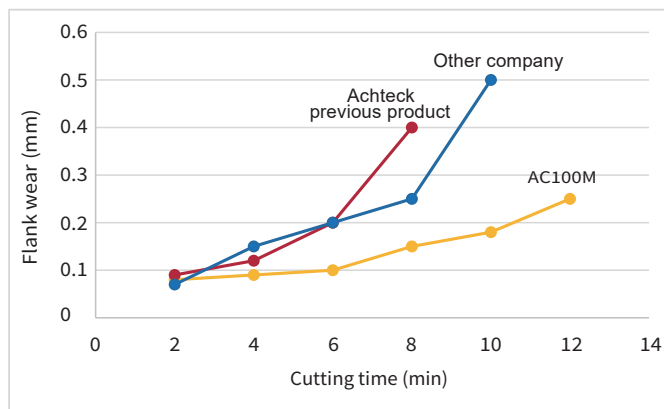
## Geometry Choices



| Application |                | Geometry |                                                                                     | Features                                                                                                                                                                                     | Chipbreaker cross section                                                             |
|-------------|----------------|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Negative    | Finishing      | MB2      |   | First choice for finish turning<br>Zero edge width design decreased the built-up edge, achieved good surface quality and good chip breaking                                                  |   |
|             | Medium turning | MC3      |  | First choice for medium turning<br>Sharp cutting edge design, low cutting force, achieved good chip breaking, and chip evacuation in a wide range                                            |  |
|             |                | SC3      |  | Second choice for medium turning<br>Used in stainless steel medium turning<br>Suitable for interrupted turning<br>Big rake angle and small edge width design for smooth cutting              |  |
| Negative    | Roughing       | MC4      |  | Choice for rough turning<br>Big chip breaker provided a smooth chip evacuation, excellent chip breaking and high metal removing rate                                                         |  |
| Positive    | Finishing      | PB1      |  | First choice for finish turning<br>Positive rake angle design reduced the adhesion trend and offered good surface quality and long tool life.<br>Used in steel and stainless steel machining |  |
|             | Semi-finishing | PC2      |  | First choice for semi-finish turning<br>Cutting edge design offered smooth cutting, effectively avoided built-up edge. It has a wide range of chip evacuation                                |  |
|             | Roughing       | KC2      |  | First choice for rough turning<br>Simple and durable chip breaker design offered a wide application and high versatility                                                                     |  |

## Tool cutting performance

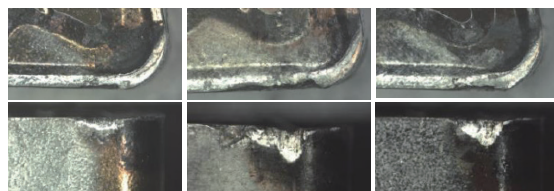
### • AC100M wear resistance comparison



AC100M

Other company

Achteck previous product



Insert: CNMG 120408E-MC3 AC100M

Material: 316L

Speed: 220m/min

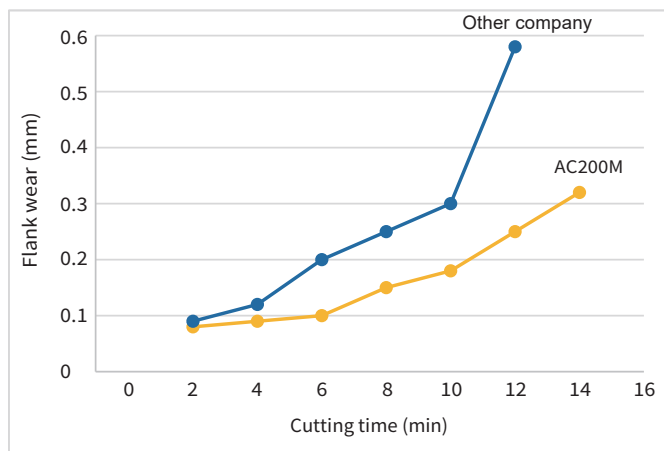
Feed: 0.25mm/rev

Cutting depth: 1.5mm

Coolant: Wet

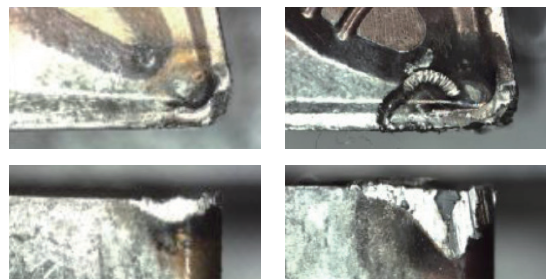
AC100M with MC3 geometry has excellent wear resistance, notch wear resistance and longer tool life

### • AC200M wear resistance comparison



AC200M

Other company



Insert: CNMG 120408E-MC3 AC200M

Material: 316L

Speed: 180m/min

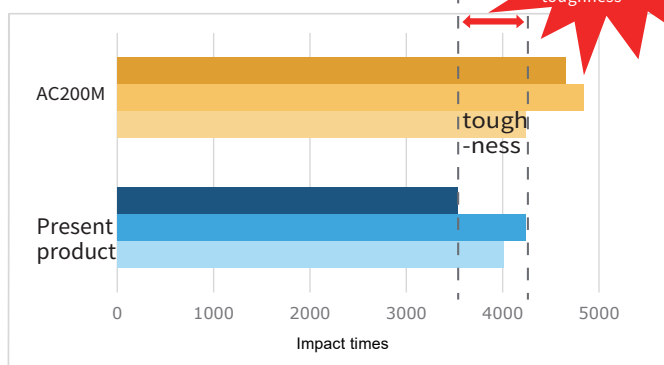
Feed: 0.25mm/rev

Cutting depth: 1.5mm

Coolant: Wet

The flank wear of AC200M is half of the customer's current grade, and its wear resistance is doubled

### • AC200M toughness comparison



AC200M has 20% improvement in toughness

AC200M

Other company



notch wear resistance

Insert: CNMG 120408E-MC3 AC200M

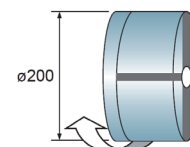
Material: 316L

Speed: 100m/min

Feed: 0.25mm/rev

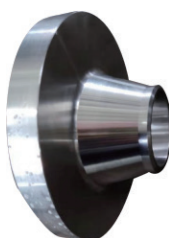
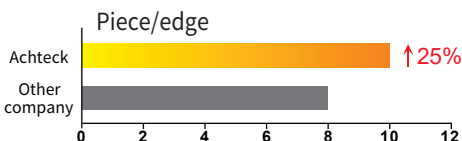
Cutting depth: 1.0mm

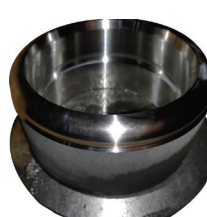
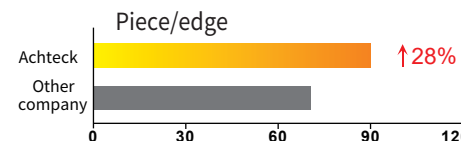
Coolant: Wet

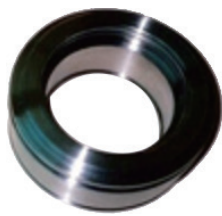
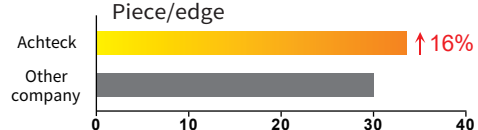


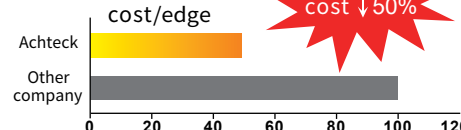
In interrupted turning, AC200M has greatly improved toughness and the notch wear decreased to half at the same time

## Success Stories

|                |                                                                                                                                                                                   |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tool           | WNMG 060412E-MC3 AC100M                                                                                                                                                           |
| Part           |                                                                                                  |
| Material       | 304                                                                                                                                                                               |
| Machining type | Continued                                                                                                                                                                         |
| Vc             | 200m/min                                                                                                                                                                          |
| f              | 0.25-0.3mm/rev                                                                                                                                                                    |
| ap             | 0.8mm                                                                                                                                                                             |
| Coolant        | Emulsion                                                                                                                                                                          |
| Result         | <p>Piece/edge</p>  <p>Achteck MC3+AC100M reduced bur, and tool life increased by <b>25%</b></p> |

|                |                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tool           | WNMG 080408E-MC3 AC100M                                                                                                                                                                        |
| Part           |                                                                                                             |
| Material       | SUS316L                                                                                                                                                                                        |
| Machining type | Continued                                                                                                                                                                                      |
| Vc             | 230m/min                                                                                                                                                                                       |
| f              | 0.2mm/rev                                                                                                                                                                                      |
| ap             | 1.0mm                                                                                                                                                                                          |
| Coolant        | Emulsion                                                                                                                                                                                       |
| Result         | <p>Piece/edge</p>  <p>Achteck AC100M improved its surface finish, and tool life increased by <b>28%</b></p> |

|                |                                                                                                                                                                                                                   |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tool           | CNMG 120408E-MC3 AC200M                                                                                                                                                                                           |
| Part           |                                                                                                                                |
| Material       | 316L                                                                                                                                                                                                              |
| Machining type | Continued                                                                                                                                                                                                         |
| Vc             | 160m/min                                                                                                                                                                                                          |
| f              | 0.25mm/rev                                                                                                                                                                                                        |
| ap             | 3.0mm                                                                                                                                                                                                             |
| Coolant        | Emulsion                                                                                                                                                                                                          |
| Result         | <p>Piece/edge</p>  <p>Rough turning cast part, the tool life in rough turning the oxidated surface increased by <b>16%</b></p> |

|                |                                                                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tool           | CNMG 120412E-MC3 AC200M                                                                                                                                                                         |
| Part           |                                                                                                             |
| Material       | 431                                                                                                                                                                                             |
| Machining type | Continued                                                                                                                                                                                       |
| Vc             | 120m/min                                                                                                                                                                                        |
| f              | 0.45mm/rev                                                                                                                                                                                      |
| ap             | 3.0mm                                                                                                                                                                                           |
| Coolant        | Emulsion                                                                                                                                                                                        |
| Result         | <p>cost/edge</p>  <p>The tool life is same as the competitor's, but the tool cost reduced by <b>50%</b></p> |

## Application Range and Parameter Recommendation

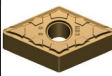
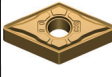
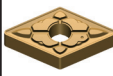
| Material           | Application Range      |     |     |     |     |     |     |     |     |  |
|--------------------|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|--|
|                    | Finishing ← → Roughing |     |     |     |     |     |     |     |     |  |
| ISO classification | M01                    | M05 | M10 | M15 | M20 | M25 | M30 | M35 | M40 |  |
| M                  | AC100M                 |     |     |     |     |     |     |     |     |  |
|                    | AC200M                 |     |     |     |     |     |     |     |     |  |
| S                  | S01                    | S05 | S10 | S15 | S20 | S25 | S30 | S35 | S40 |  |
|                    | AC100M                 |     |     |     |     |     |     |     |     |  |
|                    | AC200M                 |     |     |     |     |     |     |     |     |  |

First choice for stainless, second choice for high-temperature alloy

| Material |                       |                                         |          | Brinell Hardness (HB) | Strength (N/mm <sup>2</sup> ) | Grade                   |     |     |            |     |     |     |
|----------|-----------------------|-----------------------------------------|----------|-----------------------|-------------------------------|-------------------------|-----|-----|------------|-----|-----|-----|
| ISO      | Classification        |                                         |          |                       |                               | Cutting Speed Vc(m/min) |     |     |            |     |     |     |
|          |                       |                                         |          |                       |                               | AC100M                  |     |     | AC200M     |     |     |     |
|          |                       |                                         |          |                       |                               | f (mm/rev)              |     |     | f (mm/rev) |     |     |     |
|          |                       |                                         |          |                       |                               | 0.1                     | 0.3 | 0.5 | 0.1        | 0.3 | 0.5 |     |
| M        | Heat resistant alloys | Ferritic/martensitic, annealed          |          |                       | 200                           | 675                     | 190 | 170 | 150        | 190 | 160 | 130 |
|          |                       | Martensitic, heat-treated               |          |                       | 330                           | 1114                    | 170 | 150 | 130        | 130 | 115 | 100 |
|          |                       | Austenitic, quench hardened             |          |                       | 200                           | 675                     | 250 | 200 | 150        | 200 | 160 | 120 |
|          |                       | Austenitic, precipitation hardened (PH) |          |                       | 300                           | 1013                    | 150 | 130 |            | 130 | 110 |     |
|          |                       | Austenitic/ferritic, duplex             |          |                       | 230                           | 778                     | 160 | 145 | 130        | 140 | 120 | 100 |
| S        | Fe base alloys        | Fe based                                | Annealed |                       | 200                           | 680                     | 80  | 50  |            | 70  | 45  |     |
|          |                       |                                         | Hardened |                       | 280                           | 940                     | 60  | 40  |            | 50  | 35  |     |
|          |                       | Ni or Co based                          | Annealed |                       | 250                           | 840                     | 60  | 40  |            | 50  | 35  |     |
|          |                       |                                         | Hardened |                       | 350                           | 1180                    | 50  | 35  |            | 40  | 30  |     |
|          |                       |                                         | Cast     |                       | 320                           | 1080                    | 40  | 30  |            | 30  | 20  |     |
|          | Titanium alloys       | Pure titanium                           |          |                       | 200                           | 680                     |     |     |            |     |     |     |
|          |                       | α and β alloys, hardened                |          |                       | 375                           | 1260                    | 60  | 45  | 35         | 50  | 35  | 25  |
|          |                       | β alloys                                |          |                       | 410                           | 1400                    | 40  | 35  | 30         | 40  | 30  | 20  |
|          | Tungsten alloys       |                                         |          |                       | 300                           | 1010                    |     |     |            |     |     |     |
|          | Molybdenum alloys     |                                         |          |                       | 300                           | 1010                    |     |     |            |     |     |     |

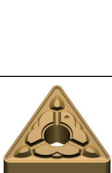
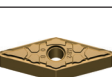
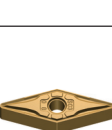
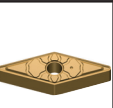
\* This table just shows us the cutting data under general cutting condition, and these need to be adjusted according to machine rigidity, tool body, machining condition, coolant and other factors.  
 (f=mm/rev needs to be adjusted according to the insert diameter)

## ● Negative Insert List

| Insert                                                                              | Product code     | Size(mm) |        |        |      | Grade  |        |
|-------------------------------------------------------------------------------------|------------------|----------|--------|--------|------|--------|--------|
|                                                                                     |                  | r        | d      | l      | s    | AC100M | AC200M |
|    | CNMG 120404E-MB2 | 0.4      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 120408E-MB2      | 0.8      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|    | CNMG 120404E-SC3 | 0.4      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 120408E-SC3      | 0.8      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 120412E-SC3      | 1.2      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 160612E-SC3      | 1.2      | 15.875 | 16.1   | 6.35 | ●      | ●      |
|                                                                                     | 160616E-SC3      | 1.6      | 15.875 | 16.1   | 6.35 | ●      | ●      |
|                                                                                     | 190612E-SC3      | 1.2      | 19.05  | 19.3   | 6.35 | ●      | ●      |
|                                                                                     | 190616E-SC3      | 1.6      | 19.05  | 19.3   | 6.35 | ●      | ●      |
|  | CNMG 120404E-MC3 | 0.4      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 120408E-MC3      | 0.8      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 120412E-MC3      | 1.2      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 120416E-MC3      | 1.6      | 12.7   | 12.9   | 4.76 | ○      | ○      |
|                                                                                     | 160608E-MC3      | 0.8      | 15.875 | 16.1   | 6.35 | ●      | ●      |
|                                                                                     | 160612E-MC3      | 1.2      | 15.875 | 16.1   | 6.35 | ●      | ●      |
|                                                                                     | 160616E-MC3      | 1.6      | 15.875 | 16.1   | 6.35 | ●      | ●      |
|                                                                                     | 190608E-MC3      | 0.8      | 19.05  | 19.3   | 6.35 | ○      | ○      |
|                                                                                     | 190612E-MC3      | 1.2      | 19.05  | 19.3   | 6.35 | ○      | ○      |
|                                                                                     | 190616E-MC3      | 1.6      | 19.05  | 19.3   | 6.35 | ○      | ○      |
|  | CNMG 120408E-MC4 | 0.8      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|                                                                                     | 120412E-MC4      | 1.2      | 12.7   | 12.9   | 4.76 | ●      | ●      |
|  | DNMG 150404E-MB2 | 0.4      | 12.7   | 15.5   | 4.76 | ●      | ●      |
|                                                                                     | 150408E-MB2      | 0.8      | 12.7   | 15.5   | 4.76 | ●      | ●      |
|                                                                                     | 150604E-MB2      | 0.4      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|                                                                                     | 150608E-MB2      | 0.8      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|  | DNMG 150404E-SC3 | 0.4      | 12.7   | 15.5   | 4.76 | ●      | ●      |
|                                                                                     | 150408E-SC3      | 0.8      | 12.7   | 15.5   | 4.76 | ●      | ●      |
|                                                                                     | 150412E-SC3      | 1.2      | 12.7   | 15.5   | 4.76 | ●      | ●      |
|                                                                                     | 150604E-SC3      | 0.4      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|                                                                                     | 150608E-SC3      | 0.8      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|                                                                                     | 150612E-SC3      | 1.2      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|    | DNMG 150404E-MC3 | 0.4      | 12.7   | 15.5   | 4.76 | ●      | ●      |
|                                                                                     | 150408E-MC3      | 0.8      | 12.7   | 15.5   | 4.76 | ●      | ●      |
|                                                                                     | 150412E-MC3      | 1.2      | 12.7   | 15.5   | 4.76 | ○      | ○      |
|                                                                                     | 150604E-MC3      | 0.4      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|                                                                                     | 150608E-MC3      | 0.8      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|                                                                                     | 150612E-MC3      | 1.2      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|                                                                                     | 150616E-MC3      | 1.6      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|    | DNMG 150408E-MC4 | 0.8      | 12.7   | 15.5   | 4.76 | ○      | ○      |
|                                                                                     | 150412E-MC4      | 1.2      | 12.7   | 15.5   | 4.76 | ○      | ○      |
|                                                                                     | 150608E-MC4      | 0.8      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|                                                                                     | 150612E-MC4      | 1.2      | 12.7   | 15.5   | 6.35 | ●      | ●      |
|  | SNMG 120404E-MB2 | 0.4      | 12.7   | 12.7   | 4.76 | ●      | ●      |
|                                                                                     | 120408E-MB2      | 0.8      | 12.7   | 12.7   | 4.76 | ●      | ●      |
|  | SNMG 120408E-SC3 | 0.8      | 12.7   | 12.7   | 4.76 | ●      | ●      |
|                                                                                     | 120412E-SC3      | 1.2      | 12.7   | 12.7   | 4.76 | ●      | ●      |
|                                                                                     | 150612E-SC3      | 1.2      | 15.875 | 15.875 | 6.35 | ●      | ●      |
|                                                                                     | 150616E-SC3      | 1.6      | 15.875 | 15.875 | 6.35 | ●      | ●      |
|                                                                                     | 190612E-SC3      | 1.2      | 19.05  | 19.05  | 6.35 | ●      | ●      |
|  | SNMG 120408E-MC3 | 0.8      | 12.7   | 12.7   | 4.76 | ●      | ●      |
|                                                                                     | 120412E-MC3      | 1.2      | 12.7   | 12.7   | 4.76 | ●      | ●      |
|                                                                                     | 150612E-MC3      | 1.2      | 15.875 | 15.875 | 6.35 | ○      | ○      |
|                                                                                     | 150616E-MC3      | 1.6      | 15.875 | 15.875 | 6.35 | ○      | ○      |
|                                                                                     | 190612E-MC3      | 1.2      | 19.05  | 19.05  | 6.35 | ●      | ●      |
|                                                                                     | 190616E-MC3      | 1.6      | 19.05  | 19.05  | 6.35 | ●      | ●      |
|  | SNMG 120408E-MC4 | 0.8      | 12.7   | 12.7   | 4.76 | ●      | ●      |
|                                                                                     | 120412E-MC4      | 1.2      | 12.7   | 12.7   | 4.76 | ●      | ●      |

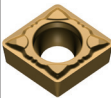
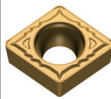
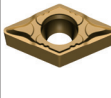
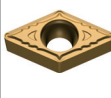
● Stocked ○ Non-stocked

## ● Negative Insert List

| Insert                                                                              | Product code     | Size(mm) |       |      |      | Grade  |        |
|-------------------------------------------------------------------------------------|------------------|----------|-------|------|------|--------|--------|
|                                                                                     |                  | r        | d     | l    | s    | AC100M | AC200M |
|    | TNMG 160404E-MB2 | 0.4      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160408E-MB2      | 0.8      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|    | TNMG 160408E-SC3 | 0.8      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160412E-SC3      | 1.2      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|    | TNMG 160404E-MC3 | 0.4      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160408E-MC3      | 0.8      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160412E-MC3      | 1.2      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 220408E-MC3      | 0.8      | 12.7  | 22.0 | 4.76 | ●      | ●      |
|                                                                                     | 220412E-MC3      | 1.2      | 12.7  | 22.0 | 4.76 | ●      | ●      |
|    | TNMG 160408E-MC4 | 0.8      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160412E-MC4      | 1.2      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|   | VNMG 160404E-MB2 | 0.4      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160408E-MB2      | 0.8      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|  | VNMG 160404E-SC3 | 0.4      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160408E-SC3      | 0.8      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160412E-SC3      | 1.2      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|    | VNMG 160404E-MC3 | 0.4      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|                                                                                     | 160408E-MC3      | 0.8      | 9.525 | 16.5 | 4.76 | ●      | ●      |
|    | WNMG 080404E-MB2 | 0.4      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|                                                                                     | 080408E-MB2      | 0.8      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|    | WNMG 080404E-SC3 | 0.4      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|                                                                                     | 080408E-SC3      | 0.8      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|                                                                                     | 080412E-SC3      | 1.2      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|   | WNMG 060408E-MC3 | 0.8      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|                                                                                     | 060412E-MC3      | 1.2      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|                                                                                     | 080408E-MC3      | 0.8      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|                                                                                     | 080412E-MC3      | 1.2      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|  | WNMG 080408E-MC4 | 0.8      | 12.7  | 8.7  | 4.76 | ●      | ●      |
|                                                                                     | 080412E-MC4      | 1.2      | 12.7  | 8.7  | 4.76 | ●      | ●      |

● Stocked ○ Non-stocked

## Positive Insert List

| Insert                                                                              | Product code     | Size(mm) |       |       |      | Grade  |        |
|-------------------------------------------------------------------------------------|------------------|----------|-------|-------|------|--------|--------|
|                                                                                     |                  | r        | d     | l     | s    | AC100M | AC200M |
|    | CCMT 060202E-PB1 | 0.2      | 6.35  | 6.45  | 2.38 | ●      | ●      |
|                                                                                     | 060204E-PB1      | 0.4      | 6.35  | 6.45  | 2.38 | ●      | ●      |
|                                                                                     | 060208E-PB1      | 0.8      | 6.35  | 6.45  | 2.38 | ●      | ●      |
|                                                                                     | 09T302E-PB1      | 0.2      | 9.525 | 9.67  | 3.97 | ●      | ●      |
|                                                                                     | 09T304E-PB1      | 0.4      | 9.525 | 9.67  | 3.97 | ●      | ●      |
|                                                                                     | 09T308E-PB1      | 0.8      | 9.525 | 9.67  | 3.97 | ●      | ●      |
|    | CCMT 060204E-PC2 | 0.4      | 6.35  | 6.45  | 2.38 | ●      | ●      |
|                                                                                     | 060208E-PC2      | 0.8      | 6.35  | 6.45  | 2.38 | ●      | ●      |
|                                                                                     | 09T304E-PC2      | 0.4      | 9.525 | 9.67  | 3.97 | ●      | ●      |
|                                                                                     | 09T308E-PC2      | 0.8      | 9.525 | 9.67  | 3.97 | ●      | ●      |
|                                                                                     | 120404E-PC2      | 0.4      | 12.7  | 12.9  | 4.76 | ●      | ●      |
|                                                                                     | 120408E-PC2      | 0.8      | 12.7  | 12.9  | 4.76 | ●      | ●      |
|  | CCMT 060204E-KC2 | 0.4      | 6.35  | 6.45  | 2.38 | ●      | ●      |
|                                                                                     | 060208E-KC2      | 0.8      | 6.35  | 6.45  | 2.38 | ●      | ●      |
|                                                                                     | 09T304E-KC2      | 0.4      | 9.525 | 9.67  | 3.97 | ●      | ●      |
|                                                                                     | 09T308E-KC2      | 0.8      | 9.525 | 9.67  | 3.97 | ●      | ●      |
|                                                                                     | 120404E-KC2      | 0.4      | 12.7  | 12.9  | 4.76 | ○      | ○      |
|                                                                                     | 120408E-KC2      | 0.8      | 12.7  | 12.9  | 4.76 | ●      | ●      |
|  | DCMT 070202E-PB1 | 0.2      | 6.35  | 7.75  | 2.38 | ●      | ●      |
|                                                                                     | 070204E-PB1      | 0.4      | 6.35  | 7.75  | 2.38 | ●      | ●      |
|                                                                                     | 11T302E-PB1      | 0.2      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T304E-PB1      | 0.4      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T308E-PB1      | 0.8      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T312E-PC2      | 1.2      | 9.525 | 11.62 | 3.97 | ○      | ○      |
|  | DCMT 070204E-PC2 | 0.4      | 6.35  | 7.75  | 2.38 | ●      | ●      |
|                                                                                     | 070208E-PC2      | 0.8      | 6.35  | 7.75  | 2.38 | ●      | ●      |
|                                                                                     | 11T304E-PC2      | 0.4      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T308E-PC2      | 0.8      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T312E-PC2      | 1.2      | 9.525 | 11.62 | 3.97 | ○      | ○      |
|                                                                                     | 11T312E-PC2      | 1.2      | 9.525 | 11.62 | 3.97 | ○      | ○      |
|    | DCMT 070204E-KC2 | 0.4      | 6.35  | 7.75  | 2.38 | ●      | ●      |
|                                                                                     | 070208E-KC2      | 0.8      | 6.35  | 7.75  | 2.38 | ●      | ●      |
|                                                                                     | 11T304E-KC2      | 0.4      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T308E-KC2      | 0.8      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T312E-KC2      | 1.2      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|                                                                                     | 11T312E-KC2      | 1.2      | 9.525 | 11.62 | 3.97 | ●      | ●      |
|    | SCMT 09T304E-PB1 | 0.4      | 9.525 | 9.525 | 3.97 | ●      | ●      |
|                                                                                     | 09T308E-PB1      | 0.8      | 9.525 | 9.525 | 3.97 | ●      | ●      |
|                                                                                     | 120404E-PB1      | 0.4      | 12.7  | 12.7  | 4.76 | ●      | ●      |
|                                                                                     | SCMT 09T304E-PC2 | 0.4      | 9.525 | 9.525 | 3.97 | ●      | ●      |
|                                                                                     | 09T308E-PC2      | 0.8      | 9.525 | 9.525 | 3.97 | ●      | ●      |
|                                                                                     | 120404E-PC2      | 0.4      | 12.7  | 12.7  | 4.76 | ●      | ●      |
|    | 120408E-PC2      | 0.8      | 12.7  | 12.7  | 4.76 | ●      | ●      |
|                                                                                     | 120412E-PC2      | 1.2      | 12.7  | 12.7  | 4.76 | ○      | ○      |
|                                                                                     | 120412E-PC2      | 1.2      | 12.7  | 12.7  | 4.76 | ○      | ○      |
|                                                                                     | SCMT 09T304E-KC2 | 0.4      | 9.525 | 9.525 | 3.97 | ●      | ●      |
|                                                                                     | 09T308E-KC2      | 0.8      | 9.525 | 9.525 | 3.97 | ●      | ●      |
|                                                                                     | 120404E-KC2      | 0.4      | 12.7  | 12.7  | 4.76 | ○      | ●      |
|  | 120408E-KC2      | 0.8      | 12.7  | 12.7  | 4.76 | ●      | ●      |
|                                                                                     | 120412E-KC2      | 1.2      | 12.7  | 12.7  | 4.76 | ●      | ●      |
|                                                                                     | TCMT 090204E-PB1 | 0.4      | 5.56  | 9.63  | 2.38 | ●      | ●      |
|                                                                                     | 110202E-PB1      | 0.2      | 6.35  | 11.0  | 2.38 | ●      | ●      |
|                                                                                     | 110204E-PB1      | 0.4      | 6.35  | 11.0  | 2.38 | ●      | ●      |
|                                                                                     | 110208E-PB1      | 0.8      | 6.35  | 11.0  | 2.38 | ●      | ●      |
|  | 16T304E-PB1      | 0.4      | 9.525 | 16.5  | 3.97 | ●      | ●      |
|                                                                                     | 16T308E-PB1      | 0.8      | 9.525 | 16.5  | 3.97 | ●      | ●      |
|                                                                                     | TCMT 090204E-PC2 | 0.4      | 5.56  | 9.63  | 2.38 | ●      | ●      |
|                                                                                     | 090208E-PC2      | 0.8      | 5.56  | 9.63  | 2.38 | ●      | ●      |
|                                                                                     | 110204E-PC2      | 0.4      | 6.35  | 11.0  | 2.38 | ●      | ●      |
|                                                                                     | 110208E-PC2      | 0.8      | 6.35  | 11.0  | 2.38 | ●      | ●      |
|  | 16T304E-PC2      | 0.4      | 9.525 | 16.5  | 3.97 | ●      | ●      |
|                                                                                     | 16T308E-PC2      | 0.8      | 9.525 | 16.5  | 3.97 | ●      | ●      |
|                                                                                     | 16T312E-PC2      | 1.2      | 9.525 | 16.5  | 3.97 | ○      | ○      |
|                                                                                     | 16T312E-PC2      | 1.2      | 9.525 | 16.5  | 3.97 | ○      | ○      |
|                                                                                     | 16T312E-PC2      | 1.2      | 9.525 | 16.5  | 3.97 | ○      | ○      |
|                                                                                     | 16T312E-PC2      | 1.2      | 9.525 | 16.5  | 3.97 | ○      | ○      |

● Stocked ○ Non-stocked

## Positive Insert List

| Insert                                                                            | Product code     | Size(mm) |       |       |      | Grade  |        |
|-----------------------------------------------------------------------------------|------------------|----------|-------|-------|------|--------|--------|
|                                                                                   |                  | r        | d     | l     | s    | AC100M | AC200M |
|  | TCMT 090204E-KC2 | 0.4      | 5.56  | 9.63  | 2.38 | ●      | ●      |
|                                                                                   | 090208E-KC2      | 0.8      | 5.56  | 9.63  | 2.38 | ●      | ●      |
|                                                                                   | 110204E-KC2      | 0.4      | 6.35  | 11.0  | 2.38 | ●      | ●      |
|                                                                                   | 110208E-KC2      | 0.8      | 6.35  | 11.0  | 2.38 | ●      | ●      |
|                                                                                   | 16T304E-KC2      | 0.4      | 9.525 | 16.5  | 3.97 | ●      | ●      |
|                                                                                   | 16T308E-KC2      | 0.8      | 9.525 | 16.5  | 3.97 | ●      | ●      |
|                                                                                   | 16T312E-KC2      | 1.2      | 9.525 | 16.5  | 3.97 | ●      | ●      |
|  | VBMT 110304E-PB1 | 0.4      | 6.35  | 11.07 | 3.18 | ●      | ●      |
|                                                                                   | 110308E-PB1      | 0.8      | 6.35  | 11.07 | 3.18 | ●      | ●      |
|                                                                                   | 160402E-PB1      | 0.2      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|                                                                                   | 160404E-PB1      | 0.4      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|                                                                                   | 160408E-PB1      | 0.8      | 9.525 | 16.61 | 4.76 | ●      | ●      |

| Insert                                                                            | Product code     | Size(mm) |       |       |      | Grade  |        |
|-----------------------------------------------------------------------------------|------------------|----------|-------|-------|------|--------|--------|
|                                                                                   |                  | r        | d     | l     | s    | AC100M | AC200M |
|  | VCMT 160404E-PB1 | 0.4      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|                                                                                   | 160408E-PB1      | 0.8      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|  | VCMT 110304E-PC2 | 0.4      | 6.35  | 11.07 | 3.18 | ●      | ●      |
|                                                                                   | 110308E-PC2      | 0.8      | 6.35  | 11.07 | 3.18 | ●      | ●      |
|                                                                                   | 160404E-PC2      | 0.4      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|                                                                                   | 160408E-PC2      | 0.8      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|                                                                                   | 160412E-PC2      | 1.2      | 9.525 | 16.61 | 4.76 | ○      | ○      |
|  | VBMT 160404E-KC2 | 0.4      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|                                                                                   | 160408E-KC2      | 0.8      | 9.525 | 16.61 | 4.76 | ●      | ●      |
|                                                                                   | 160412E-KC2      | 1.2      | 9.525 | 16.61 | 4.76 | ●      | ●      |

● Stocked ○ Non-stocked