MOLDINO
The Edge To Innovation

# ASDF/ASDH type

## Dual Face Mill ASDF / ASDH

MOLDINO Tool Engineering, Ltd.

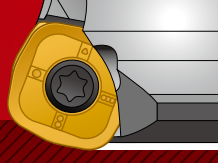
New Product News | No.1220E-10 | 2022-11

***High-feed-rate type and high-cutting-depth type Inserts for two types of bodies enable taking full advantage of the capabilities of various machining centers.***

*Sometimes fast!*

High-feed-rate type

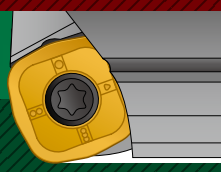
**ASDF type**



*Sometimes deep!*

High-cutting-depth type

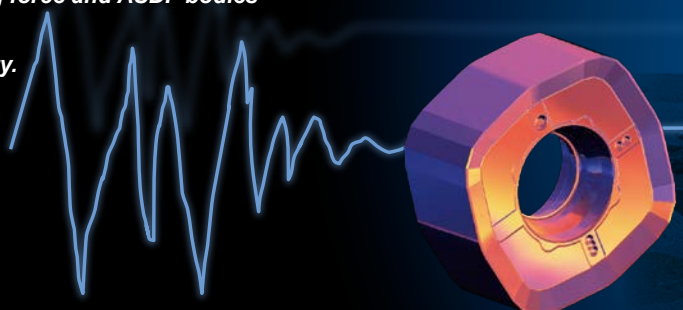
**ASDH type**



Additional items

***B breaker for lower cutting force and ASDF bodies for better anti-vibration provide further productivity.***

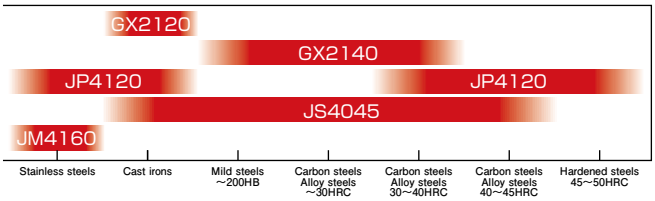
*and Now more silent*





**B breaker for lower cutting force**

**Anti-vibration bodies**




Applications

Roughing

Finishing

## Features 01 Large inserts with excellent durability

・16-size 7mm-thick large insert reduces breakage problems.

## Features 02 The same inserts can be set to both ASDF type and ASDH type.

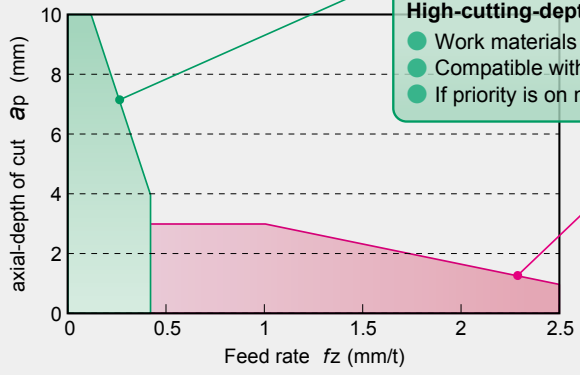
・One type of insert enables performing the two applications of high feed rate and high cutting depth.
・Reduces tool management work.

## Features 03 Dual-face insert is highly economical.

・Top and bottom can be used for a total of 8 corners.

## Body usage map

・Lineup of two types of bodies so you can select the appropriate one for your working environment.




### ASDH type

**High-cutting-depth type for improved cutting efficiency by cutting large amounts**

- Work materials with large variations in cutting depth such as cast surfaces, etc.
- Compatible with work environments where table feed rate is limited.
- If priority is on machined surface grade.

### ASDF type

**High-feed-rate type with large cutting amount per flute improves cutting efficiency.**

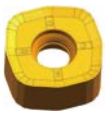
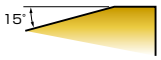
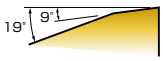
- Compatible with high-efficiency roughing that takes full advantage of machine capabilities.
- When priority is on durability for crushing cutting chips and interrupted cutting

# Line Up

## B breaker for lower cutting force

### B breaker for lower cutting force is now available.

- Positive edge geometry realizes 10% lower cutting force than before.
- B breaker realizes better cutting performance in less rigidity set-up.

| C Breaker | | B Breaker |
|---|---|---|
| SNMU1607EN-C<br>SNGU1607EN-C | Item code | SNMU1607EN-B |
|  | Breaker shape |  |
|  | Cross-section shape |  |
| ・Suitable for general machining in steels<br>・Interrupted machining | Application | ・Machining with less rigidity set-up<br>・Parts-making in less rigidity cramping<br>・Suitable for stainless steel machining |

## Anti-vibration body ASDF5○○○R(M)-○U

### Anti-vibration bodies by unequal pitch.

- Unequal pitch reduces a vibration which is a main factor of chattering.
- Less chatter vibration improve productivity.

Figure Comparison of the maximum depth of cut (L/D=6).

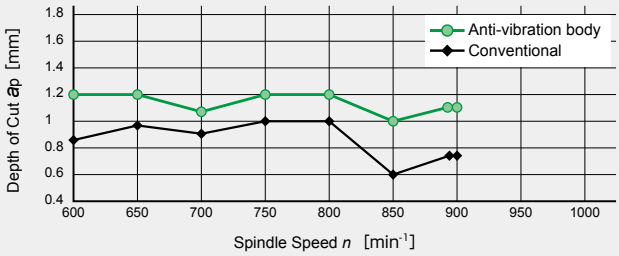



Figure 1. The maximum depth-of-cut evaluation L/D=6

## Inserts

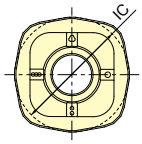



Fig.1C Breaker

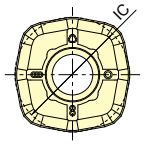


Fig.2B Breaker

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| P | Carbon steels・Alloy steels | SC SKD | ■ | | ✖ | | ■ |
| M | Stainless steels | SUS | ■ | ■ | | | |
| K | Cast irons | FC FCD | ■ | | ✖ | ■ | |
| H | Hardened steels | | ■ | | | | |

■ Stable cutting (plane continious cutting)
■ General cutting (light interrupted cutting)
✖ Unstable cutting (interrupred cutting)

| Item code | Tolerance class | AJ-Coating | | JS-Coating | GX-Coating | | Size(mm) | | Shape |
|---|---|---|---|---|---|---|---|---|---|
| | | JP4120 | JM4160 | JS4045 | GX2120 | GX2140 | IC | T | |
| SNMU1607EN-C | M | ● | ● | ● | ● | ● | ϕ16 | 6.6 | Fig.1 |
| SNMU1607EN-B | M | ● | ● | ● | ● | ● | ϕ16 | 6.6 | Fig.2 |
| SNGU1607EN-C | G | ● | ● | ● | ● | ● | ϕ16 | 6.6 | Fig.1 |

● : Stocked Items. 【Note】Please note that the GX Coating and JS Coating don't cause a reaction in conductive touch sensors.

## How to select inserts

Numeric figure in a circle ○.

| | Breaker shape | Application |
|---|---|---|
| SN○U1607EN-C | General purpose | Primary recommendation |
| SN○U1607EN-B | Low cutting force | It is suitable for materials such as stainless steels. |

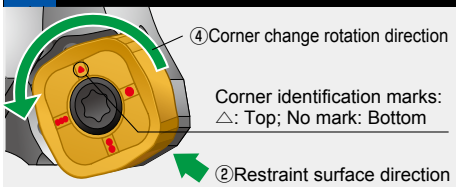
## Parts

Numeric figure in a circle ○.

| Parts / Shape / Cutter body | Clamp screw | Fastening torque (N・m) | Wrench: Less than ϕ160 | Wrench: Equal or more than ϕ160 | Screw anti-seizure agent |
|---|---|---|---|---|---|
| |  | |  |  |  |
| ASDF5○○○R(M)-○<br>ASDH5○○○R(M)-○ | 555-141 | 4.9 | 105-T20 | 105-T20L | P-37 |

【Note】The clamp screw is a consumable part. Since replacement life depends on the use environment, it is recommended that it be replaced at an early stage.

## Insert replacement procedure




① Clean the place where the insert will be attached so that there are no foreign materials such as cutting chip stuck on.
② Apply anti-seizure agent to the thread portion of the clamp screw, and while pressing the insert against the restraint surface, tighten the screw to the appropriate torque. (Recommended tightening torque: 4.9Nm)
③ After tightening, check that there are no gaps between the insert and the base or the restraint surface.
④ Change the insert corner by turning the insert counterclockwise direction.

# ASDF5○○○R(M)-○(U)

Numeric figure in a circle ○.

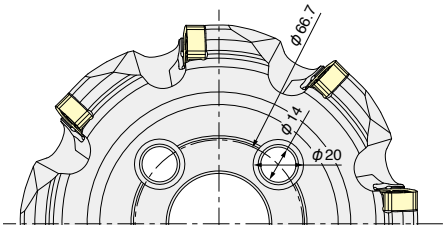



Fig.1 (With air hole)

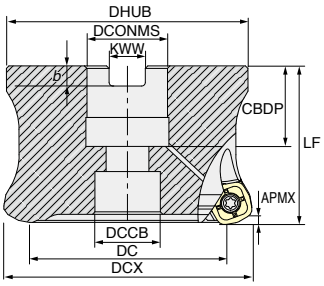



Fig.2 (Without air hole)

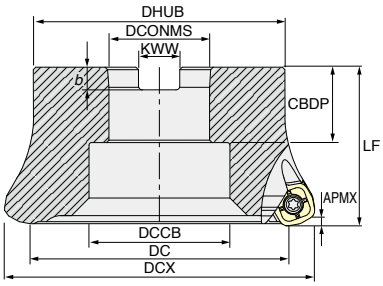
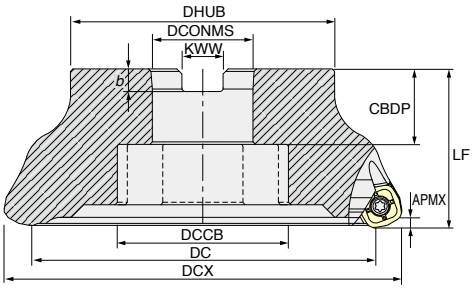



Fig.3 (Without air hole)



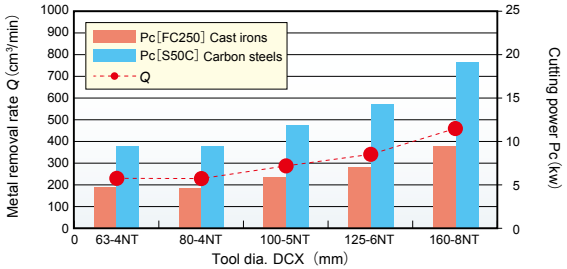

| | | Item code | Stock | No.of flutes | Size (mm) | | | | | | | | | | | | Inserts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Tool dia. | | DHUB | LF | CBDP | Key width | | DCONMS | DCCB | APMX | Figure | Weight (kg) | |
| | | | | | DC | DCX | | | | KWW | b | | | | | | |
| Bore type | Internal diameter inch size | ASDF5063R-4 | ● | 4 | 42 | 63 | 60 | 50 | 19 | 8.4 | 5 | 22.225 | 17 | 3 | Fig.1 | 0.7 | SNMU1607EN-C<br>SNGU1607EN-C<br>SNMU1607EN-B |
| | | ASDF5063R-4U | ● | 4 | 42 | 63 | 60 | 50 | 19 | 8.4 | 5 | 22.225 | 17 | 3 | Fig.1 | 0.7 | |
| | | ASDF5080R-4 | ● | 4 | 59 | 80 | 76 | 63 | 32 | 12.7 | 8 | 31.75 | 26 | 3 | Fig.1 | 1.3 | |
| | | ASDF5080R-4U | ● | 4 | 59 | 80 | 76 | 63 | 32 | 12.7 | 8 | 31.75 | 26 | 3 | Fig.1 | 1.3 | |
| | | ASDF5100R-5 | ● | 5 | 79 | 100 | 96 | 63 | 32 | 12.7 | 8 | 31.75 | 26 | 3 | Fig.1 | 2.4 | |
| | | ASDF5100R-5U | ● | 5 | 79 | 100 | 96 | 63 | 32 | 12.7 | 8 | 31.75 | 26 | 3 | Fig.1 | 2.4 | |
| | | ASDF5125R-6 | ● | 6 | 104 | 125 | 100 | 63 | 38 | 15.9 | 10 | 38.1 | 60 | 3 | Fig.2 | 3.0 | |
| | | ASDF5125R-6U | ● | 6 | 104 | 125 | 100 | 63 | 38 | 15.9 | 10 | 38.1 | 60 | 3 | Fig.2 | 3.0 | |
| | | ASDF5125R-8U | ● | 8 | 104 | 125 | 100 | 63 | 38 | 15.9 | 10 | 38.1 | 60 | 3 | Fig.2 | 3.0 | |
| | | ASDF5160R-8 | ● | 8 | 139 | 160 | 105 | 63 | 38 | 19.1 | 11 | 50.8 | 80 | 3 | Fig.3 | 4.3 | |
| | | ASDF5160R-8U | ● | 8 | 139 | 160 | 105 | 63 | 38 | 19.1 | 11 | 50.8 | 80 | 3 | Fig.3 | 4.3 | |
| | | ASDF5160R-10U | ● | 10 | 139 | 160 | 105 | 63 | 38 | 19.1 | 11 | 50.8 | 80 | 3 | Fig.3 | 4.3 | |
| | Internal diameter mm size | ASDF5063RM-4 | ● | 4 | 42 | 63 | 60 | 50 | 20 | 10.4 | 6.3 | 22 | 17 | 3 | Fig.1 | 0.7 | |
| | | ASDF5063RM-4U | ● | 4 | 42 | 63 | 60 | 50 | 20 | 10.4 | 6.3 | 22 | 17 | 3 | Fig.1 | 0.7 | |
| | | ASDF5080RM-4 | ● | 4 | 59 | 80 | 76 | 63 | 22 | 12.4 | 7 | 27 | 20 | 3 | Fig.1 | 1.5 | |
| | | ASDF5080RM-4U | ● | 4 | 59 | 80 | 76 | 63 | 22 | 12.4 | 7 | 27 | 20 | 3 | Fig.1 | 1.5 | |
| | | ASDF5100RM-5 | ● | 5 | 79 | 100 | 96 | 63 | 32 | 14.4 | 8 | 32 | 26 | 3 | Fig.1 | 2.4 | |
| | | ASDF5100RM-5U | ● | 5 | 79 | 100 | 96 | 63 | 32 | 14.4 | 8 | 32 | 26 | 3 | Fig.1 | 2.4 | |
| | | ASDF5125RM-6 | ● | 6 | 104 | 125 | 100 | 63 | 30 | 16.4 | 9 | 40 | 56 | 3 | Fig.2 | 3.0 | |
| | | ASDF5125RM-6U | ● | 6 | 104 | 125 | 100 | 63 | 30 | 16.4 | 9 | 40 | 56 | 3 | Fig.2 | 3.0 | |
| | | ASDF5125RM-8U | ● | 8 | 104 | 125 | 100 | 63 | 30 | 16.4 | 9 | 40 | 56 | 3 | Fig.2 | 3.0 | |
| | | ASDF5160RM-8 | ● | 8 | 139 | 160 | 105 | 63 | 30 | 16.4 | 9 | 40 | 68 | 3 | Fig.3 | 4.3 | |
| | | ASDF5160RM-8U | ● | 8 | 139 | 160 | 105 | 63 | 30 | 16.4 | 9 | 40 | 68 | 3 | Fig.3 | 4.3 | |
| | | ASDF5160RM-10U | ● | 10 | 139 | 160 | 105 | 63 | 30 | 16.4 | 9 | 40 | 68 | 3 | Fig.3 | 4.3 | |

● : Stocked Items.

【Note】 Arbor screw is not included.

※ASDF type uses the maximum tool diameter DCX as the flute diameter standard. This is different than for ASDH type, so care should be taken.
Items with a "U" at the end of the item code have an unequal pitch.

## Tool diameter and cutting power




| Reference cutting condition | ASDF type (High-feed-rate type)<br>Vc = 180m/min fz = 1.5mm/t ap×ae = 1.0 × 0.7DCX mm<br>Air-blow |
|---|---|

The chart shows the calculated results for required cutting power Pc for each tool diameter under the reference cutting conditions. Please use as criteria when selecting tool diameter.
These values are calculated from general machinery conditions, and may be different from actual values.

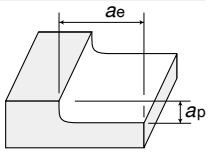
# Recommended Cutting Conditions

## ASDF type 【High-feed-rate type】

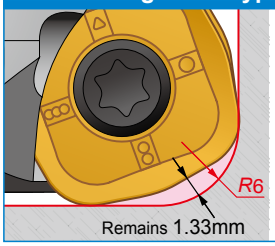
※Red indicates primary recommended grade.

| Work material | Recommended grade | Vc(m/min) Cutting speed | fz(mm/t) feed rate | φ63-4 flutes | | φ80-4 flutes | | φ100-5 flutes | | φ125-6 flutes | | φ160-8 flutes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) |
| Mild steels (200HB or less) | ※ GX2140 JS4045 | 150～200 | 1.0～2.0 | 810 | 4850 | 640 | 3820 | 510 | 3820 | 410 | 3670 | 320 | 3820 |
| | | | | vc=160m/min fz=1.5mm/t ap=1.5mm ae=0.7×DCX | | | | | | | | | |
| Carbon & Alloy steels (30HRC or less) | GX2140 JS4045 | 100～180 | 1.0～2.0 | 710 | 4240 | 560 | 3340 | 450 | 3340 | 360 | 3210 | 280 | 3340 |
| | | | | vc=140m/min fz=1.5mm/t ap=1.5mm ae=0.7×DCX | | | | | | | | | |
| Carbon & Alloy steels (30～40HRC) | JP4120 JS4045 GX2140 | 100～160 | 1.0～2.0 | 610 | 3640 | 480 | 2870 | 380 | 2870 | 310 | 2750 | 240 | 2870 |
| | | | | vc=120m/min fz=1.5mm/t ap=1.5mm ae=0.7×DCX | | | | | | | | | |
| Carbon & Alloy steels (40～45HRC) | JP4120 JS4045 | 80～120 | 0.4～0.8 | 460 | 1460 | 360 | 1150 | 290 | 1150 | 230 | 1100 | 180 | 1150 |
| | | | | vc=90m/min fz=0.8mm/t ap=1.0mm ae=0.7×DCX | | | | | | | | | |
| Stainless steels SUS | JM4160 JP4120 | 80～100 | 0.8～1.2 | 460 | 1820 | 360 | 1430 | 290 | 1430 | 230 | 1380 | 180 | 1430 |
| | | | | vc=90m/min fz=1mm/t ap=1.0mm ae=0.7×DCX | | | | | | | | | |
| Cast irons FC, FCD | JP4120 GX2120 JS4045 | 100～180 | 1.0～2.0 | 810 | 4850 | 640 | 3820 | 510 | 3820 | 410 | 3670 | 320 | 3820 |
| | | | | vc=160m/min fz=1.5mm/t ap=1.5mm ae=0.7×DCX | | | | | | | | | |
| Hardened steels (45～50HRC) | JP4120 | 60～100 | 0.3～0.6 | 350 | 570 | 280 | 450 | 220 | 450 | 180 | 430 | 140 | 450 |
| | | | | vc=70m/min fz=0.4mm/t ap=0.8mm ae=0.7×DCX | | | | | | | | | |

【Note】
①Please note that the GX Coating and JS Coating don't cause a reaction in conductive touch sensors.
②Use the appropriate coolant for the work material and machining shape.
③These conditions are for general guidance; in actual machining conditions adjust the parameters according to your actual machine and work-piece conditions.
④In order to avoid of insert breakage, please change insert earlier.
⑤The steel chips may cause cuts, burns or damages to eyes. Be sure to install the safty cover around the tool and wear the safty glasses when carring out any works.
⑥Please don't use cutting oil as coolant.(It may be cause of fire.)




### When using ASDF type for shaping cutting




Refer to the following for the flute tip condition definitions for programming.

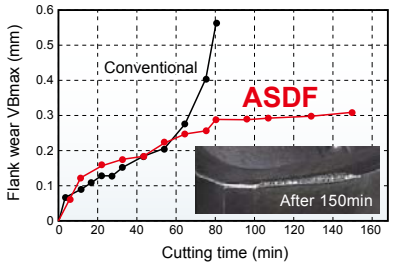
- Programming *R* definition = *R*6
- Remains 1.33mm

※For slanted cutting using φ63 or φ80, perform at 0.5° or less. Do not perform using φ100 or larger.
※When tool overhang length is long (L / D ≧ 3), adjust ap.

# Cutting performance

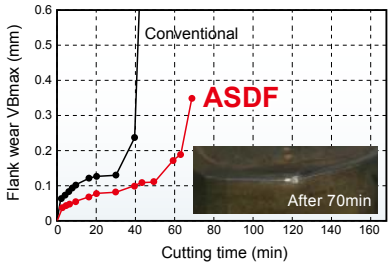
## 01 Carbon steels S50C (220HB)

Cutting Conditions
Tool : ASDF5063R-4
Insert : SNMU1607EN-C(JS4045)
Vc = 184m/min fz = 1.5mm/t
ap×ae = 1 × 40mm Air-blow



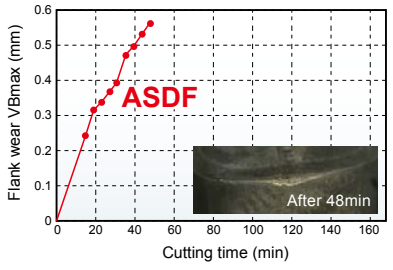

## 02 Pre-Hardened steels (42HRC)

Cutting Conditions
Tool : ASDF5063R-4
Insert : SNMU1607EN-C(Equivalent to JP4120)
Vc = 100m/min fz = 1.0mm/t
ap×ae = 1 × 40mm Air-blow




## 03 Stainless steels (SUS304)

Cutting Conditions
Tool : ASDF5063R-4
Insert : SNMU1607EN-C(Equivalent to JM4160)
Vc = 90m/min fz = 0.8mm/t
ap×ae = 1 × 40mm Air-blow




※Drawings, data in tables, etc. are examples of test results.

# ASDH5○○○R(M)-○○

Numeric figure in a circle ○

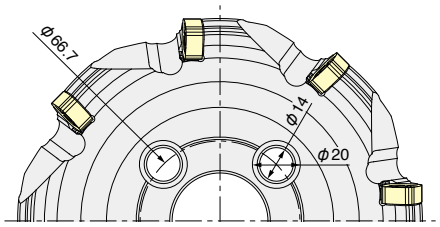



Fig.1 (With air hole)

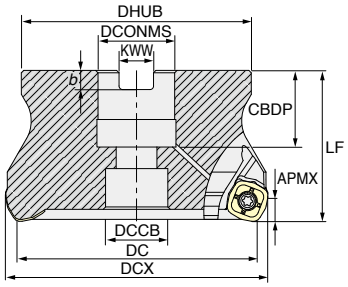



Fig.2 (Without air hole)

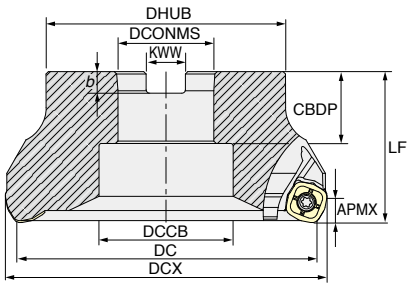
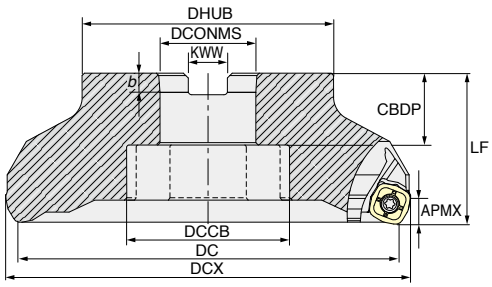



Fig.3 (Without air hole)



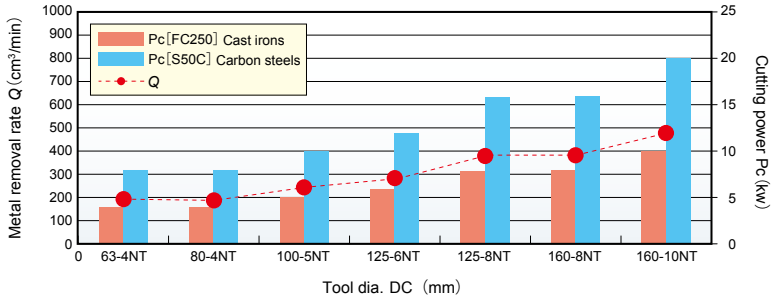

| | Item code | Stock | No.of flutes | Size (mm) Tool dia. DC | Tool dia. DCX | DHUB | LF | CBDP | Key width KWW | Key width b | DCONMS | DCCB | APMX | Shape | Weight (kg) | Inserts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bore type / Internal diameter inch size | ASDH5063R-4 | ● | 4 | 63 | 75 | 60 | 50 | 19 | 8.4 | 5 | 22.225 | 17 | 10 | Fig.1 | 0.9 | SNMU1607EN-C<br>SNGU1607EN-C<br>SNMU1607EN-B |
| | ASDH5080R-4 | ● | 4 | 80 | 92 | 76 | 63 | 32 | 12.7 | 8 | 31.75 | 26 | 10 | Fig.1 | 1.7 | |
| | ASDH5100R-5 | ● | 5 | 100 | 112 | 96 | 63 | 32 | 12.7 | 8 | 31.75 | 26 | 10 | Fig.1 | 2.8 | |
| | ASDH5125R-6 | ● | 6 | 125 | 137 | 100 | 63 | 38 | 15.9 | 10 | 38.1 | 60 | 10 | Fig.2 | 3.6 | |
| | ASDH5125R-8 | ● | 8 | 125 | 137 | 100 | 63 | 38 | 15.9 | 10 | 38.1 | 60 | 10 | Fig.2 | 3.6 | |
| | ASDH5160R-8 | ● | 8 | 160 | 172 | 105 | 63 | 38 | 19.1 | 11 | 50.8 | 80 | 10 | Fig.2 | 5.2 | |
| | ASDH5160R-10 | ● | 10 | 160 | 172 | 105 | 63 | 38 | 19.1 | 11 | 50.8 | 80 | 10 | Fig.2 | 5.1 | |
| Internal diameter mm size | ASDH5063RM-4 | ● | 4 | 63 | 75 | 60 | 50 | 20 | 10.4 | 6.3 | 22 | 17 | 10 | Fig.1 | 0.9 | |
| | ASDH5080RM-4 | ● | 4 | 80 | 92 | 76 | 63 | 22 | 12.4 | 7 | 27 | 20 | 10 | Fig.1 | 1.8 | |
| | ASDH5100RM-5 | ● | 5 | 100 | 112 | 96 | 63 | 32 | 14.4 | 8 | 32 | 26 | 10 | Fig.1 | 2.8 | |
| | ASDH5125RM-6 | ● | 6 | 125 | 137 | 100 | 63 | 30 | 16.4 | 9 | 40 | 56 | 10 | Fig.2 | 3.6 | |
| | ASDH5125RM-8 | ● | 8 | 125 | 137 | 100 | 63 | 30 | 16.4 | 9 | 40 | 56 | 10 | Fig.2 | 3.5 | |
| | ASDH5160RM-8 | ● | 8 | 160 | 172 | 105 | 63 | 30 | 16.4 | 9 | 40 | 68 | 10 | Fig.3 | 5.2 | |
| | ASDH5160RM-10 | ● | 10 | 160 | 172 | 105 | 63 | 30 | 16.4 | 9 | 40 | 68 | 10 | Fig.3 | 5.1 | |

● : Stocked Items.

【Note】 Arbor screw is not included.

※ASDH type uses the tool tip diameter DC as the flute diameter standard. This is different than for ASDF type, so care should be taken.
※ASDH type cannot be used for shaping cutting.

## Tool diameter and cutting power




| Reference cutting condition | ASDH type (High-cutting-depth type)<br>$V_c$ = 150m/min $f_z$ = 0.3mm/t<br>$a_p \times a_e$ = 5.0 × 0.7DC mm Air-blow |
|---|---|

The chart shows the calculated results for required cutting power Pc for each tool diameter under the reference cutting conditions. Please use as criteria when selecting tool diameter.

These values are calculated from general machinery conditions, and may be different from actual values.

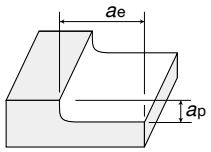
# Recommended Cutting Conditions

## ASDH type 【High-cutting-depth type】

※Red indicates primary recommended grade.

| Work material | Recommended grade | Vc(m/min) Cutting speed | fz(mm/t) feed rate | φ63-4 flutes | | φ80-4 flutes | | φ100-5 flutes | | φ125-6 flutes | | φ160-8 flutes | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) | Revolution n(min-1) | Feed speed Vf(mm/min) |
| Mild steels (200HB or less) | ※ GX2140 JS4045 | 150~200 | 0.1~0.5 | 810 | 970 | 640 | 760 | 510 | 760 | 410 | 730 | 320 | 760 |
| | | | | Vc=160m/min fz=0.3mm/t ap=5mm ae=0.7×DC | | | | | | | | | |
| Carbon & Alloy steels (30HRC or less) | GX2140 JS4045 | 100~180 | 0.1~0.5 | 710 | 850 | 560 | 670 | 450 | 670 | 360 | 640 | 280 | 670 |
| | | | | Vc=140m/min fz=0.3mm/t ap=4mm ae=0.7×DC | | | | | | | | | |
| Carbon & Alloy steels (30~40HRC) | JP4120 JS4045 GX2140 | 100~160 | 0.1~0.3 | 610 | 490 | 480 | 380 | 380 | 380 | 310 | 370 | 240 | 380 |
| | | | | Vc=120m/min fz=0.2mm/t ap=4mm ae=0.7×DC | | | | | | | | | |
| Carbon & Alloy steels (40~45HRC) | JP4120 JS4045 | 80~120 | 0.1~0.15 | 460 | 220 | 360 | 170 | 290 | 170 | 230 | 170 | 180 | 170 |
| | | | | Vc=90m/min fz=0.12mm/t ap=3mm ae=0.7×DC | | | | | | | | | |
| Stainless steels SUS | JM4160 JP4120 | 80~100 | 0.1~0.4 | 460 | 550 | 360 | 430 | 290 | 430 | 230 | 410 | 180 | 430 |
| | | | | Vc=90m/min fz=0.3mm/t ap=3mm ae=0.7×DC | | | | | | | | | |
| Cast irons FC, FCD | JP4120 GX2120 JS4045 | 100~180 | 0.1~0.5 | 810 | 970 | 640 | 760 | 510 | 760 | 410 | 730 | 320 | 760 |
| | | | | Vc=160m/min fz=0.3mm/t ap=5mm ae=0.7×DC | | | | | | | | | |
| Hardened steels (45~50HRC) | JP4120 | 60~100 | 0.1~0.15 | 350 | 170 | 280 | 130 | 220 | 130 | 180 | 130 | 140 | 130 |
| | | | | Vc=70m/min fz=0.12mm/t ap=2mm ae=0.7×DC | | | | | | | | | |

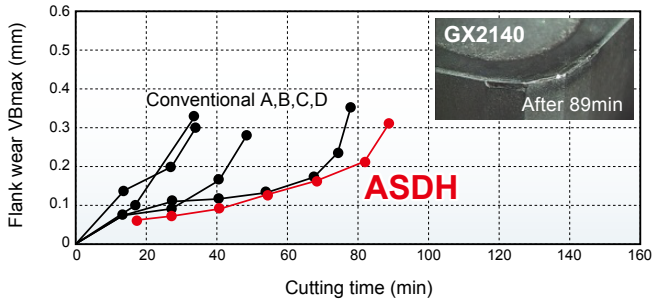
【Note】
①Please note that the GX Coating and JS Coating don't cause a reaction in conductive touch sensors.
②Use the appropriate coolant for the work material and machining shape.
③These conditions are for general guidance; in actual machining conditions adjust the parameters according to your actual machine and work-piece conditions.
④In order to avoid of insert breakage, please change insert earlier.
⑤The steel chips may cause cuts, burns or damages to eyes. Be sure to install the safty cover around the tool and wear the safty glasses when carring out any works.
⑥Please don't use cutting oil as coolant.(It may be cause of fire.)




# Cutting performance

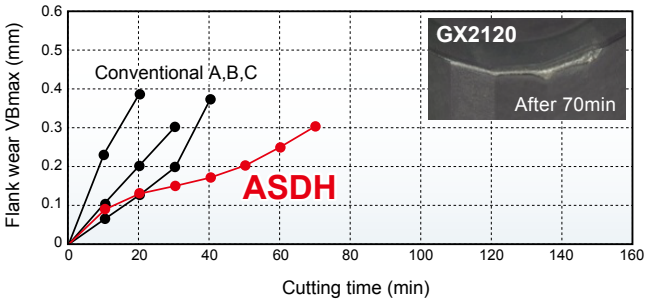
## 01 Carbon steels S50C (220HB)

Cutting Conditions
Tool : ASDH5063R-4
Insert : SNMU1607EN-C(GX2140)
Vc = 220m/min fz = 0.2mm/t ap×ae = 2.0 × 40mm
Air-blow




## 02 Cast irons FC250

Cutting Conditions
Tool : ASDH5063R-4
Insert : SNMU1607EN-C(GX2140)
Vc = 220m/min fz = 0.2mm/t ap×ae = 2.0 × 40mm
Air-blow




※Drawings, data in tables, etc. are examples of test results.

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The diagrams and table data are examples of test results, and are not guaranteed values.
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## ⚠ Attentions on Safety

### 1. Attentions regarding handling

(1) When removing the tool from the case (package), be careful not to drop it on your foot or drop it onto the tips of your bare fingers.
(2) When actually setting the inserts, be careful not to touch the cutting flute directly with your bare hands.

### 2. Attentions regarding mounting

(1) When preparing for use, be sure that the inserts are firmly mounted in place and that they are firmly mounted on the arbor, etc.
(2) If abnormal chattering occurs during use, stop the machine immediately and remove the cause of the chattering.

### 3. Attentions during use

(1) Before use, confirm the dimensions and direction of rotation of the tool and milling work material.
(2) The numerical values in the standard cutting conditions table should be used as criteria when starting new work. The cutting conditions should be adjusted as appropriate when the cutting depth is large, the rigidity of the machine being used is low, or according to the conditions of the work material.
(3) The inserts are made of a hard material. During use, they may break and fly off. In addition, cutting chips may also fly off. Since there is a danger of injury to workers, fire, or eye damage from such flying pieces, a safety cover should be installed and safety equipment such as safety glasses should be worn to create a safe environment for work.
・Do not use where there is a risk of fire or explosion.
・Do not use non-water-soluble cutting oils. Such oils may result in fire.
(4) Do not use the tool for any purpose other than that for which it is intended, and do not modify it.


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