

FANUC



NIKKEN

For advanced compact M/C, NIKKEN's ECO BLACK® TOOLING

High Reliability and High Performance
Compact Machining Center with BT30 Spindle

ROBODRILL

α-DIB5_{ADV} **Plus** series

Further improvement in productivity
by thoroughly reducing dead time



- High productivity backed up with high speed, high precision, and high output
- Long life, excellent serviceability, and preventive maintenance functions
- ATC magazine with a selectable capacity of 14 or 21 pieces

Without rust-proof maintenance, a conventional tool holder starts to be rusted within a few days, which can spoil precision and bring adverse effects on the spindle. Even for an advanced compact machining center that boasts high productivity, the time required for rust prevention is a major factor in lowering the machine's operating rate, and an improvement in reducing the labor of rust prevention is in urgent need. We are proud to introduce NIKKEN's ECO BLACK® TOOLING that supports ROBODRILL as a maintenance-free standard holder for the automation era.

It is the new standard in the era of automation that protect toolings in a magazine from rust.

ECO BLACK® TOOLING

Non-disposable ECO tooling
free from rust-proof maintenance



- Does not significantly affect the quenching hardness and the accuracy
- Prevent wear caused by sliding and scuffing
- The definitive rust-proof holder that overcomes red rust with black rust!

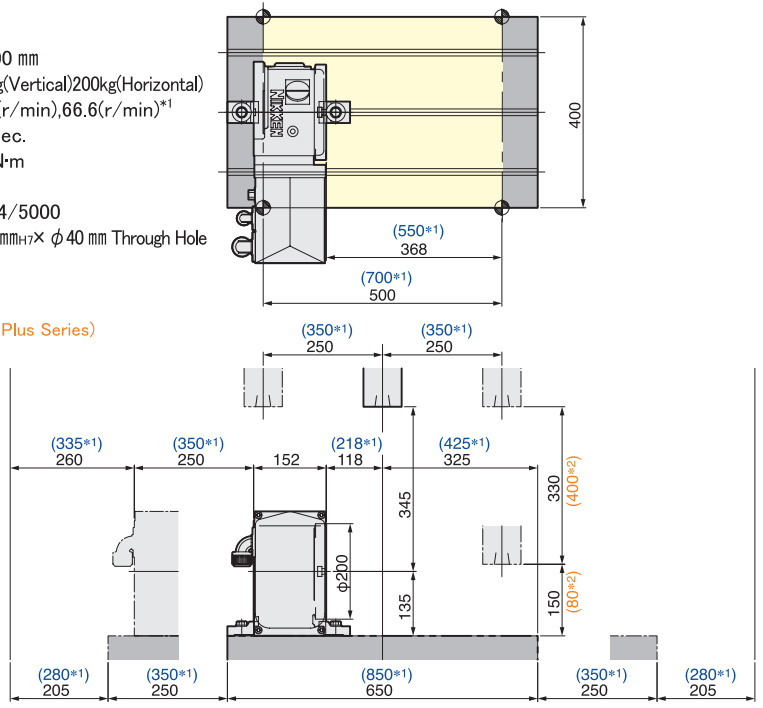
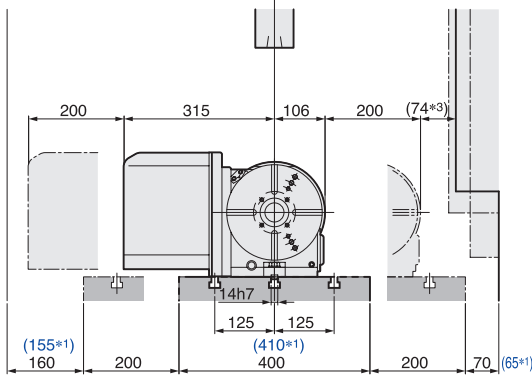
Single Axis

COMPACT CNC ROTARY TABLE CNC202LFA



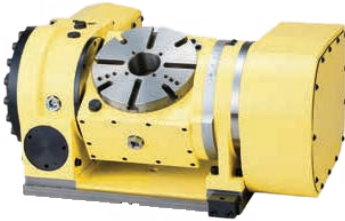
- Diameter of Table : $\phi 200$ mm
 - MAX. Work Load : 100kg(Vertical)200kg(Horizontal)
 - MAX. Rotation Speed : 33.3(r/min),66.6(r/min)*1
 - Indexing Accuracy : ± 20 sec.
 - Brake Torque : 303N·m
 - Net Weight : 55kg
 - Servo Motor : α iF4/5000
 - Spindle Hole : $\phi 60$ mm_{H7} × $\phi 40$ mm Through Hole
- *1.High speed Z series

★The figures are the figures for (α -DMiB5ADV Plus)
 (*1)The figures with blue color are the figures for (α -DLiB5 Plus)
 (*2)The figures with orange color are the figures for (α -DLiB5ADV Plus Series)
 (*3)Depends on the model



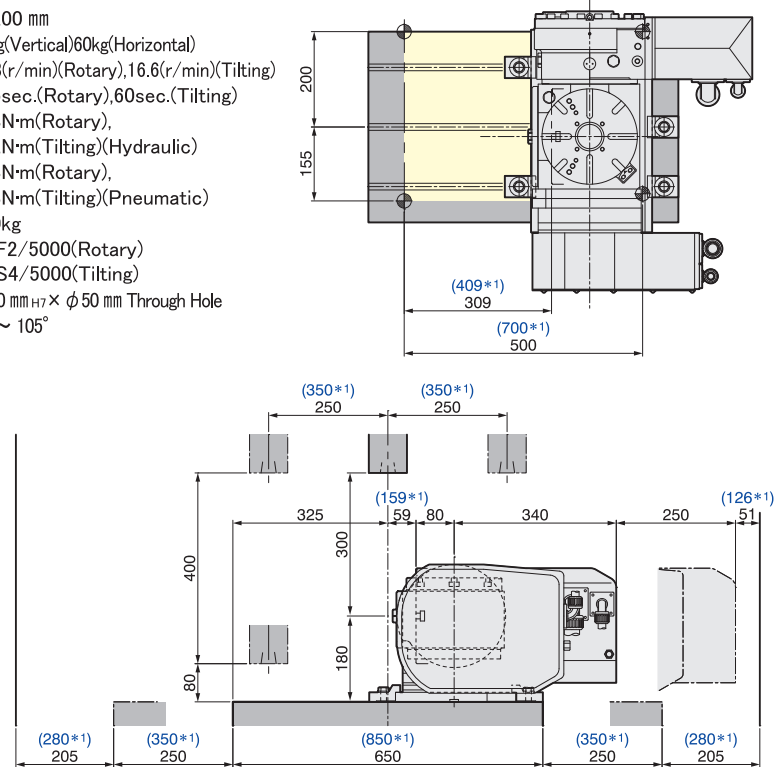
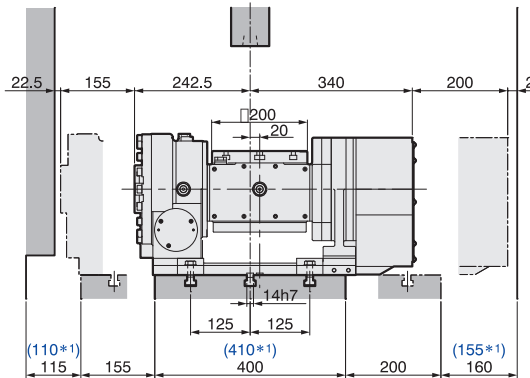
Dual Axis

5AX TILTING ROTARY TABLE 5AX-201FA

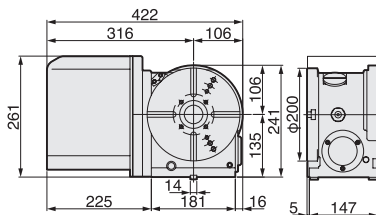


- Diameter of Table : $\phi 200$ mm
- MAX. Work Load : 40kg(Vertical)60kg(Horizontal)
- MAX. Rotation Speed : 33.3(r/min)(Rotary),16.6(r/min)(Tilting)
- Indexing Accuracy : ± 15 sec.(Rotary),60sec.(Tilting)
- Brake Torque : 588N·m(Rotary),
612N·m(Tilting)(Hydraulic),
303N·m(Rotary),
303N·m(Tilting)(Pneumatic)
- Net Weight : 160kg
- Servo Motor : α iF2/5000(Rotary)
 α iS4/5000(Tilting)
- Spindle Hole : $\phi 60$ mm_{H7} × $\phi 50$ mm Through Hole
- Tilting Angle : $0^\circ \sim 105^\circ$

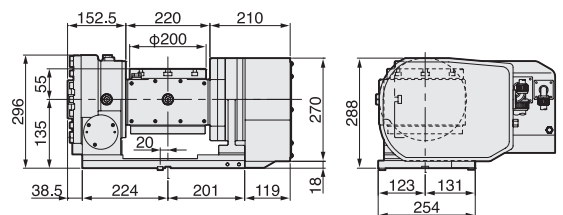
★The figures are the figures for (α -DMiB5ADV Plus)
 (*1)The figures with blue color are the figures for (α -DLiB5 Plus)



CNC202FLA



5AX-201FA



Examples of Recommended Tooling Packages

Machine specification: Flange contact NBT30 / with centre through coolant (α -D21MiB5_{ADV}PLUS)

No.	Product name	Code No.	Qty.	Remarks
1	Slim Chuck	NBT30-SK6C-60-RP	4	Clamping Range:0.7 ~ 6.0
2	Slim Chuck Collet	SK6-3	2	Clamping Range:2.8 ~ 3.0
3		SK6-4	2	Clamping Range:3.5 ~ 4.0
4		SK6-6	2	Clamping Range:5.5 ~ 6.0
5	Spanner	SKL-6W	1	SK6 tightening spanner
6	Slim Chuck	NBT30-SK13C-75-RP	8	Clamping Range:2.75 ~ 13.0
7	Major Dream Holder	NBT30-MDSK13-75-RP	4	Damping mechanism reduces chatter,suitable for end-mill machining.
8	Slim Chuck Collet	SK13-4	3	Clamping Range3.5 ~ 4.0, also for M3 tapping
9		SK13-5	1	Clamping Range:4.5 ~ 5.0, also for M4 tapping
10		SK13-6	3	Clamping Range:5.5 ~ 6.0, also for M6 tapping
11		SK13-6.5	1	Clamping Range:6.0 ~ 6.5, also for M8 tapping
12		SK13-7	1	Clamping Range:6.5 ~ 7.0, also for M10 tapping
13		SK13-8	3	Clamping Range:7.5 ~ 8.0
14		SK13-8.5	1	Clamping Range:8.0 ~ 8.5, also for M12 tapping
15		SK13-10	3	Clamping Range:9.5 ~ 10.0
16		SK13-12	3	Clamping Range:11.5 ~ 12.0
17	Spanner	9HC12A	1	SK13 tightening spanner
18	GH Handle	GH12	1	MDSK13 tightening GH Handle
19	Mini-Mini Chuck	NBT30-MMC12C-105-AA-RP	2	suitable for small diameter end milling and drilling
20	VMK-J Collet	VMK12-4J	1	Clamping Range:4.0 / for jet coolant
21		VMK12-6J	1	Clamping Range:6.0 / for jet coolant
22		VMK12-8J	1	Clamping Range:8.0 / for jet coolant
23	Milling Chuck	NBT30-C20-75-RP	2	Clamping Range:2.0 ~ 20.0
24	Spanner	9HC22	1	C20 tightening spanner
25	Universal Micro Touch	BT30-UMT150	1	Compact type for BT 30 machines
26	Height Presetter	HP-50K	1	Continuity detection type
27	Pull Stud	PS-132	21	With hole type
28	Tool Clamper	TCL-46GH	1	

*The above layout is based on flange contact NBT30 specification. BT30 specification is also available. This is the relevant page of the NC General Catalogue.

Please give your order to the following agent.

Leave the tool selection for starting-up to us!

◆ Agent

We are glad to propose the optimal tool layout based on workpiece information, equipment, delivery term, and other requests from you.

- **ECO BLACK** : “The black rust prevents the red rust from forming.” It is not a plating process.
- It creates a fine film and penetrates into the tooling material a few microns deep.
- It does not have a significant effect on the quenching hardness or the mechanical properties of the base material.
- It protects the spindle accuracy and shows a effect of preventing wear caused by sliding and scuffing.
- It prevents rust on all metal surfaces, not only on the outside, but also on the inside of the holder.

ECO BLACK TOOLING is a product that has been treated with excellent anti-rust and anti-corrosion treatment.

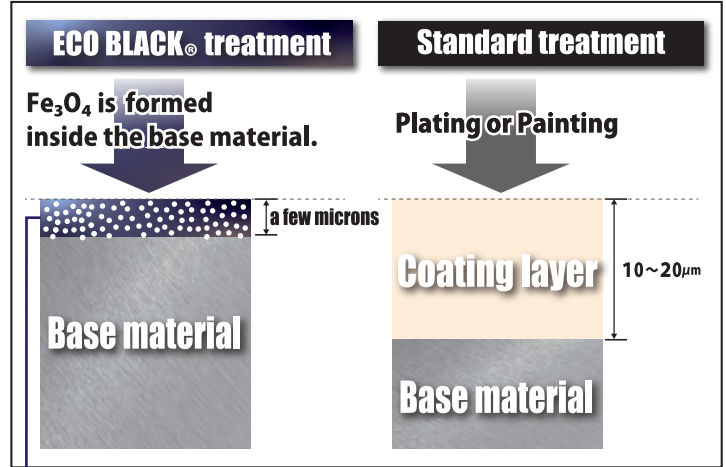
It forms a fine film of the contents (Fe₂O₄), and penetrates into the tooling material and exhibits a powerful anti-rust and anti-corrosion effect. In the United States, it is specified by the MIL standard (MIL-C-13924), and has established a high reputation and track record as an anti-rust and anti-corrosion coating treatment.



Standard Tooling 8 years used



ECO BLACK® Tooling 18 years used



The surface part that has become a porous structure by the black rust is treated with a water displacer by plant-based rust preventive oil, which replaces the moisture and oil in the pores. As a result, a more advanced rust prevention treatment is achieved.

Main Product lines

THE ORIGIN MILLING CHUCK

“THE ORIGIN” milling chuck, which combines a powerful gripping force by Multi-lock system and a compact tip that excels in high-speed rotation.

NBT30 Line-up

C12	Clamping Range : φ12 Length from the gageline : 55	C25	Clamping Range : φ25 Length from the gageline : 75/80
C16	Clamping Range : φ16 Length from the gageline : 55	C32	Clamping Range : φ32 Length from the gageline : 90/100
C20	Clamping Range : φ20 Length from the gageline : 65/75		

★ The diameters above are the clamping ranges to clamp tools directly without collets.



VERSATILE SLIM CHUCK

The versatile holder that is the core of the machining site, demonstrating its power in various applications such as end mill machining, drill machining, reamer machining, etc.

NBT30 Line-up

SK6	Clamping Range : φ0.7-6 Length from the gageline : 60/90/120/150	SK16	Clamping Range : φ2.75-16 Length from the gageline : 60/75/90/120
SK10	Clamping Range : φ1.75-10 Length from the gageline : 45/60/75/90/120/150	SK20	Clamping Range : φ3.5-20 Length from the gageline : 60/75/90/120
SK13	Clamping Range : φ2.75-13 Length from the gageline : 60/75/90/120	SK25	Clamping Range : φ7.5-25.4 Length from the gageline : 75/90/120



HIGH SPEED MINI-MINI CHUCK ADVANCED α

A professional of small-diameter machining that achieves excellent mouth tightening, high runout accuracy, and high-speed specification of MAX. 30,000 rpm.

NBT30 Line-up

MMC4C	Clamping Range : φ1-4 Length from the gageline : 105/135
MMC8C	Clamping Range : φ2-8 Length from the gageline : 105
MMC12C	Clamping Range : φ4-12 Length from the gageline : 105



ANTI-VIBRATION MAJOR DREAM HOLDER

Custom vibration damping mechanism for comfortable cutting without chatter and for suppressing uncomfortable cutting noise. Elongated cutting tool life, increased yield, and improved surface roughness are achieved!

NBT30 Line-up

MDSK6	Clamping Range : φ3.0-6 Length from the gageline : 50/60/75/90	MDSK16	Clamping Range : φ3.0-16 Length from the gageline : 75/90
MDSK10	Clamping Range : φ3.0-10 Length from the gageline : 50/60/75/90		
MDSK13	Clamping Range : φ3.0-13 Length from the gageline : 60/75/90		



In addition to the above, we have a variety of tooling options to suit your machining needs. For more information, please contact our sales staff.



- If the detection of tool existing at tool magazine by optical method on your M/C, the tool with RP treatment may be judged “no tool existing”. Please check your M/C specification.
- The taper connection of the tool shank with RP treatment is more stuck than the taper connection of the tool shank without RP treatment. Then, the unclamping force for the tool with RPT is required 20% stronger than the unclamping force for the tool without RPT. Please be careful to check the unclamping force of your M/C, when the tool with RPT treatment is chosen.
- Therefore, the taper cone of tool and NC5 tool is changed to without RP treatment as standard. And the special anti-rust treatment is applied to the taper cone.