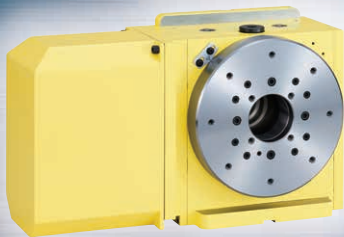
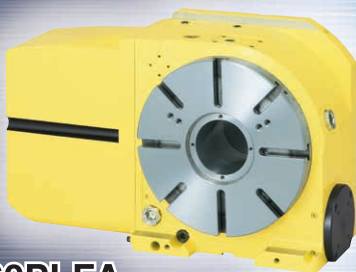


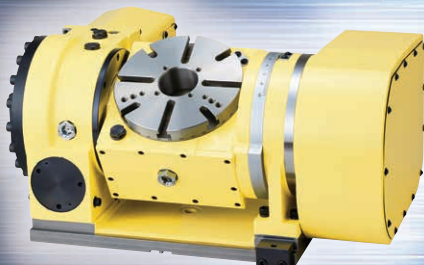
CNC ROTARY TABLE & **NIKKEN** BT30 TOOL HOLDER for FANUC ROBODRILL



NCT200LFA



CNC260PLFA



5AX-201FA



BT30 TOOLING

NIKKEN KOSAKUSHO WORKS, LTD.
CAT.NO.8212

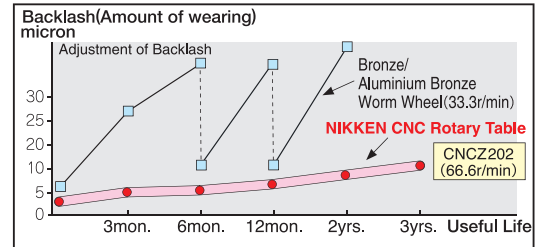
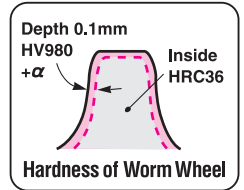
ANTI-WEARING, HIGH RIGIDITY and HIGH SPEED ROTATION

Worldwide Field-proven NIKKEN CNC Rotary Table



Worm Wheel

Specially hardened and furthermore ion-nitrided on the tooth. Thus, the problem of the sliding friction is solved. The hardness of the tooth surface and inside is shown at right hand side.



It is not exaggeration that the most important parts of the CNC rotary table is worm system. Please choose NIKKEN CNC rotary table with special worm system for our anti-wearing, high rigidity and high speed rotation.

CNC Rotary Table for ROBODRILL

NIKKEN

When mounting a CNC ROTARY TABLE on ROBODRILL, the machine needs an additional axis option. (Servo amplifier, connector unit, etc.)

You need to be careful when using CNCROTARY tables in foreign countries. In the case of machines for Europe and China, the connector unit is different from that for general use. Please contact the machine specifications when ordering. If you want to mount the tilt CNC rotary table on a machine that supports only one additional axis, or if you can not prepare the additional axis, you can select with a NIKKEN controller.

ROBODRILL α-DSiB5 Plus Series

α-D14SiB5 Plus /
α-D14SiB5ADV Plus

α-D21SiB5 Plus /
α-D21SiB5ADV Plus

☞ P.3

CNC105LFA
CNC205LFA
5AX-100FA
5AX-DD100AF

TEC

TECHNICAL
INFORMATION... P.13

- Relation between Unbalancing Load and Servo Motor
- Flow Chart of the Additional Axis Control
- Notes on the Use of DD TABLES

TOOL

NIKKEN TOOL HOLDER..... P.15

ROBODRILL α-DMiB5Plus Series

α-D14MiB5 Plus /
α-D14MiB5ADV Plus

α-D21MiB5 Plus /
α-D21MiB5ADV Plus

α-D14LiB5 Plus /
α-D14LiB5ADV Plus

α-D21LiB5 Plus /
α-D21LiB5ADV Plus

☞ P.6

CNC180LFA
CNC202LFA
CNC205LFA
CNC260PLFA
NCT200LFA
NCT200ELFA
5AX-130FA
5AX-201FA
5AX-DD200AF2
5AX-DD201BF3

For details on optional specifications and accessories for CNC Rotary Tables, please refer to the CNC Rotary Table Catalog. ☞



How to Select Your Best CNC Rotary Table

NIKKEN

α-DSIB5 Plus

α-DMIB5 Plus

TEC

TOOL

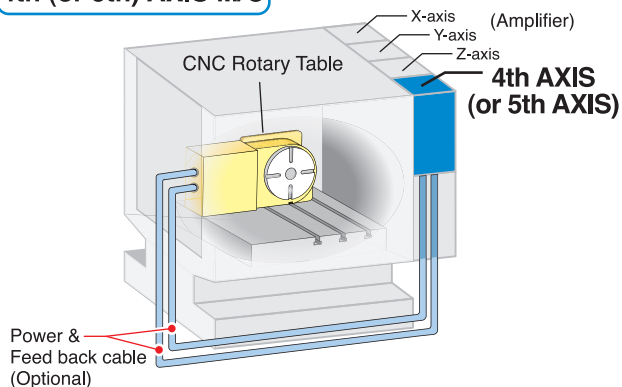
How CNC Rotary Table is Controlled

Additional Axis

You can choose additional axis when the machine has 4th or 5th axis.
CNC rotary table can be controlled by machine in this case.

1. 4th or 5th amplifier is required for the machine. It should be used exactly the same one used for X, Y and Z axis. Install same servomotor(s) used for X, Y and Z axis.
2. The type of the servomotor or amplifier is defined by the types of rotary table.
3. Decide by whom servomotor will be supplied.
4. External dimensions and specifications depend on the type of servomotor.
5. Parameter configuration, hydraulic connection, wiring and installation of amplifiers should be provided by machine tool builders.

4th (or 5th) AXIS M/C



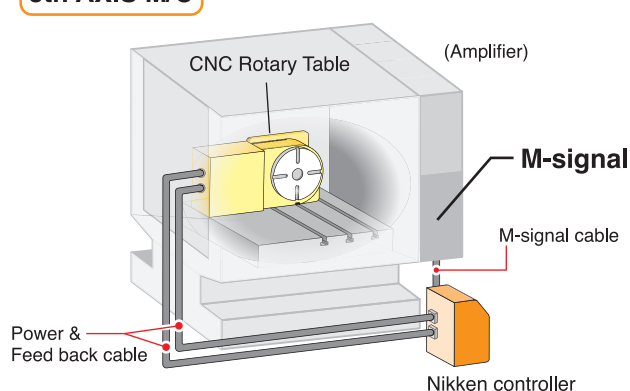
NIKKEN Controller (M-signal)

You can choose NIKKEN Controller when the machine doesn't have additional axis.

Note: at least one M-signal code is required.

1. At least one M-Signal is required on the machine.
2. Input M-signal as "index start" command on the machine, high accuracy indexing, equally divided indexing (2-9999), or lead operation is allowed.
3. Control unit, servo-motor and all cables will be supplied by NIKKEN.

3th AXIS M/C



How to Read Product Code

NIKKEN

CNC 180 L F A - M

- Code No. of vertical/horizontal type CNC rotary table CNC : Standard CNCZ : High Speed
- Diameter of the rotary table face plate (mm)
- Motor mounting location Non: Right mount, L: Left mount
- Motor maker (*Code No.)
- Type of motor Non: DC servo, A: AC servo
- With / without Motor Non: without motor M: with motor

M-signal CTRL

AR21Controller
*5AX : Both Axis
*5AX : Each Axis
EZController

* Code No.

AR21
WAR21
DAR21
EZ

Makers for Additional Axis CTRL

FANUC

* Code No.

F

• Single Axis CNC Rotary Table

NCT200 EL F A - M

- Code No. of vertical/horizontal type CNC rotary table NCT : Standard NCTZ : High Speed
- Diameter of the rotary table face plate (mm)
- Face Plate W/O Face Plate : E With Face Plate : No Letter
- Motor mounting location Non: Right mount, L: Left mount
- Motor maker
- Type of motor Non: DC servo, A: AC servo
- With/without Motor Non: without motor M: with motor

NCT200

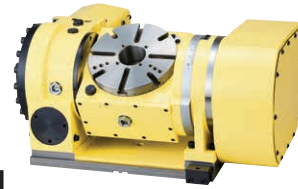


• 5AX Rotary & Tilting Table

5AX- 201 F A - M

- Code No. of Rotray & Tilting Table
- Diameter of the table face plate (mm)
- Motor maker
- Type of motor Non: DC servo, A: AC servo
- With/without Motor Non: without motor, M: with motor

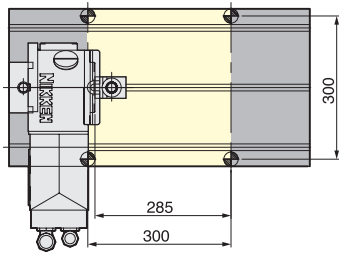
5AX-201



CNC ROTARY TABLE for ROBODRILL α -DSiB5 Plus/ α -DSiB5_{ADV} Plus

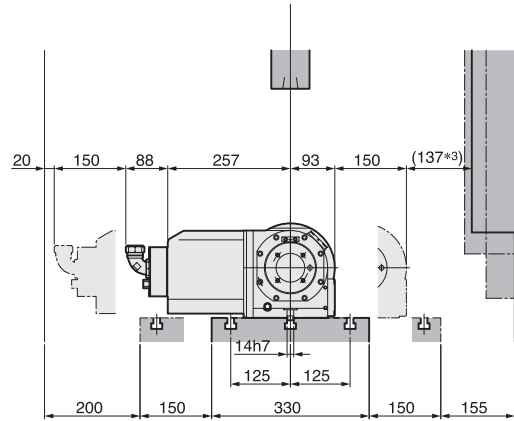
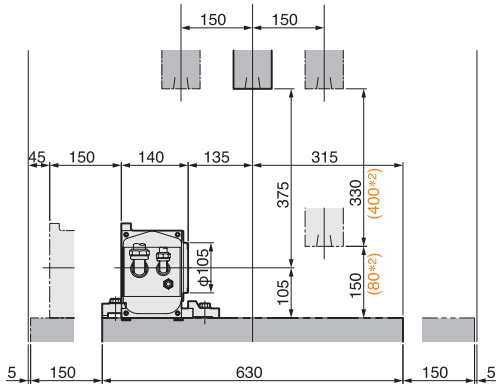
NIKKEN

CNC105LFA



COMPACT CNC ROTARY TABLE

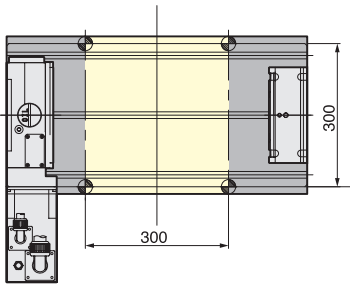
- Diameter of Table : $\phi 105\text{mm}$
 - MAX. Work Load : 30kg
 - MAX. Rotation Speed : 33.3 (r/min), **66.6 (r/min)*1**
 - Indexing Accuracy : $\pm 30\text{sec.}$
 - Brake Torque : 205N·m
 - Net Weight : 30kg
 - Servo Motor : α iF1/5000
 - Spindle Hole : $\phi 60\text{mmH7} \times \phi 30\text{mm}$ Through Hole
- *1: High speed Z series



(*2) The figures with orange color are the figures for (α -DSiB5_{ADV} Plus Series)

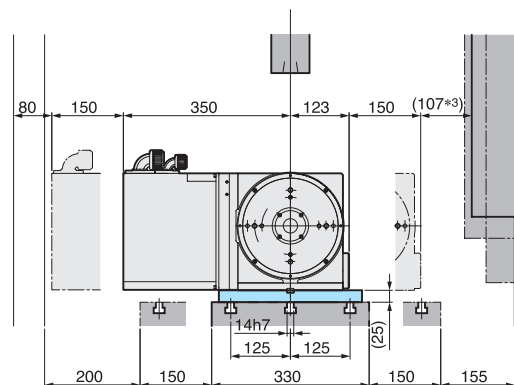
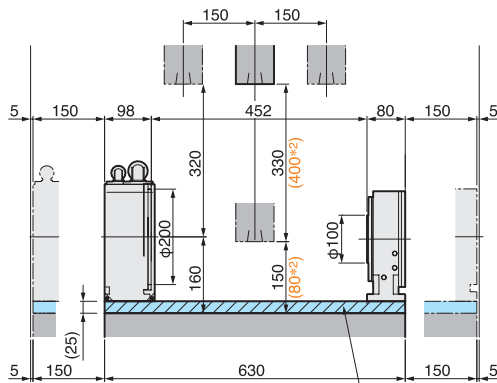
(*3) Depends on the model.

CNC205LFA (TAS-100N)



Slim type CNC ROTARY TABLE

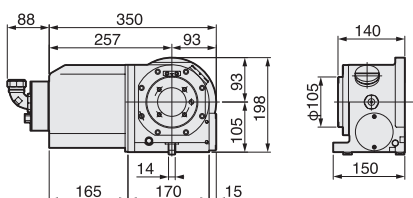
- Diameter of Table : $\phi 200\text{mm}$
 - MAX. Work Load : 100kg (with support table)
 - MAX. Rotation Speed : 33.3 (r/min), **66.6 (r/min)*1**
 - Indexing Accuracy : $\pm 20\text{sec.}$
 - Brake Torque : 380N·m
 - Net Weight : 45kg
 - Servo Motor : α iF2/5000
 - 6 ports built rotary joint can be fitted
- *1: High speed Z series



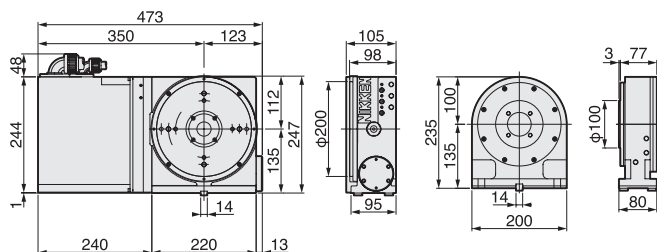
(*2) The figures with orange color are the figures for (α -DSiB5_{ADV} Plus Series)

(*3) Depends on the model.

CNC105LFA



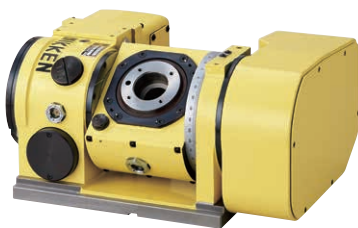
CNC205LFA (TAS-100N)



5AX TILTING ROTARY TABLE for ROBODRILL α -DSiB5 Plus

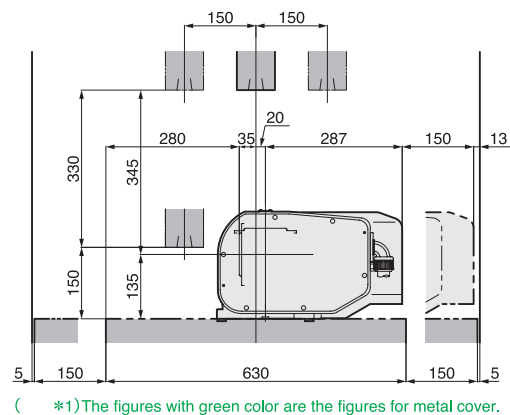
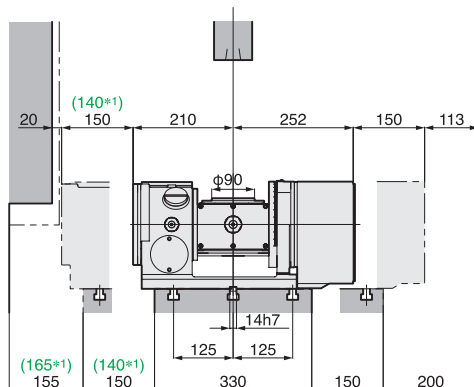
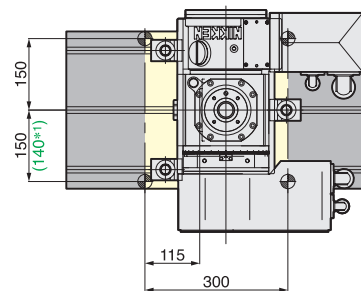
NIKKEN

5AX-100FA



Compact 5AX TILTING ROTARY TABLE

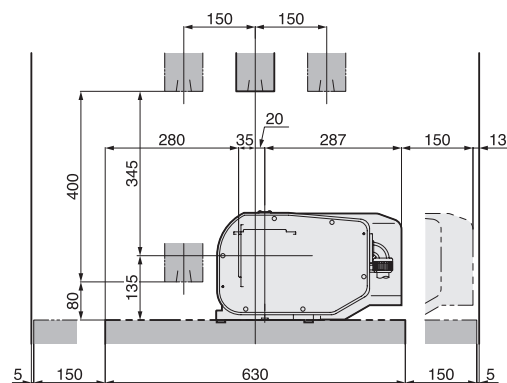
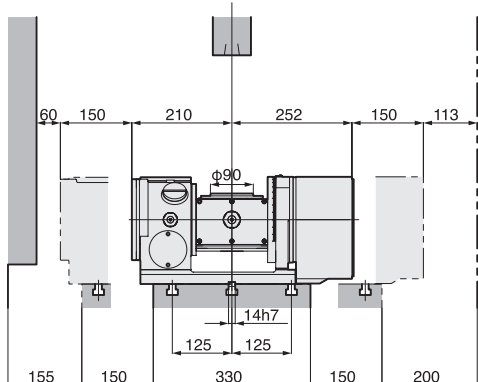
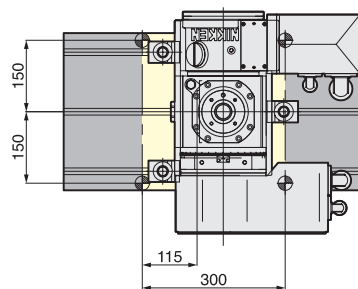
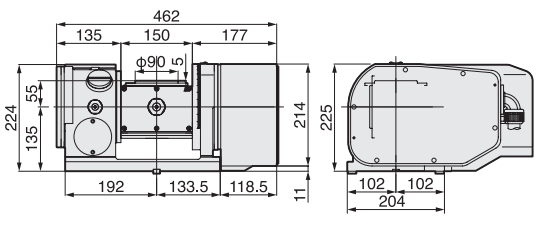
- Diameter of Table : $\phi 90$ mm
- MAX. Work Load : 20kg(Vertical) 40kg(Horizontal)
- MAX. Rotation Speed : 44.4(r/min) (Rotary), 22.2(r/min) (Tilting)
- Indexing Accuracy : ± 30 sec. (Rotary), 60sec. (Tilting)
- Brake Torque : 205N·m (Rotary), 600N·m (Tilting)
- Net Weight : 84kg
- Servo Motor : α iF1/5000 (Rotary)
 α iF1/5000 (Tilting)
- Spindle Hole : $\phi 50$ mmH7 $\times \phi 30$ mm Through Hole
- Tilting Angle : $0^\circ \sim 105^\circ$



5AX TILTING ROTARY TABLE for ROBODRILL α -DSiB5_{ADV} Plus

NIKKEN

5AX-100FA



The Area of Noninterference in Tilting Position.

Angle	5AX-100FA
0°	
45°	
0°	
90°	
0°	
105°	

Extensive Lineup of Attachments



Jig Plate



Scroll Chuck



Center Socket

α -DSiB5 Plus

α -DMiB5 Plus

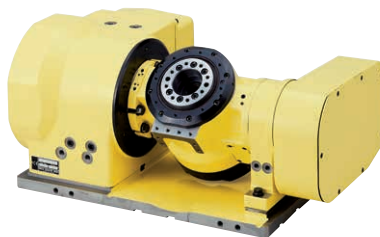
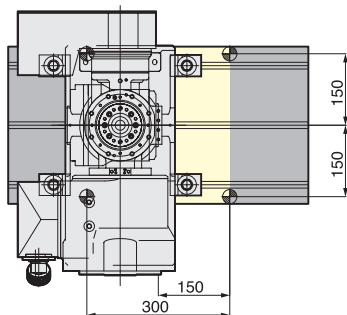
TEC

TOOL

COMPACT TILTING ROTARY TABLE WITH DD MOTOR for ROBODRILL α -DSiB5 Plus

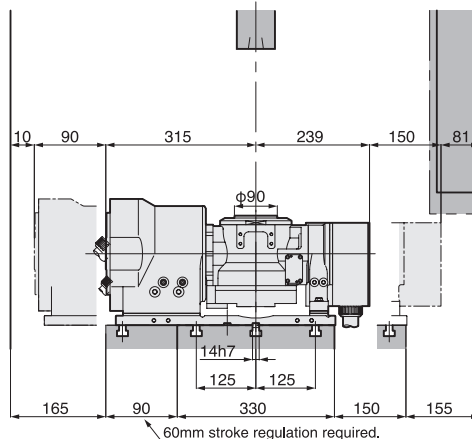
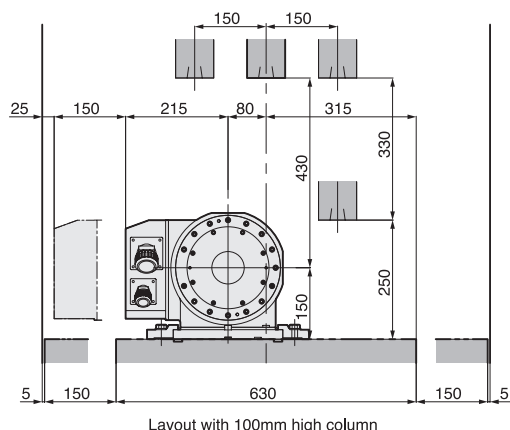
NIKKEN

5AX-DD100AF



Compact 5AX TILTING ROTARY TABLE with DD

- Diameter of Table : $\phi 90$ mm
- MAX. Work Load : 10kg (Vertical) 20kg (Horizontal)
- MAX. Rotation Speed : 200r/min (Rotary), 100r/min (Tilting)
- Indexing Accuracy : ± 10 sec. (Rotary), ± 15 sec. (Tilting)
- Brake Torque : 75N·m (Rotary), 205N·m (Tilting)
- Net Weight : 120kg
- Servo Motor : DiS15 / 1000 (Rotary)
DiS60 / 400 (Tilting)
- Spindle Hole : $\phi 50$ mm $H7 \times \phi 20$ mm Through Hole
- Tilting Angle : $0^\circ \sim 110^\circ$



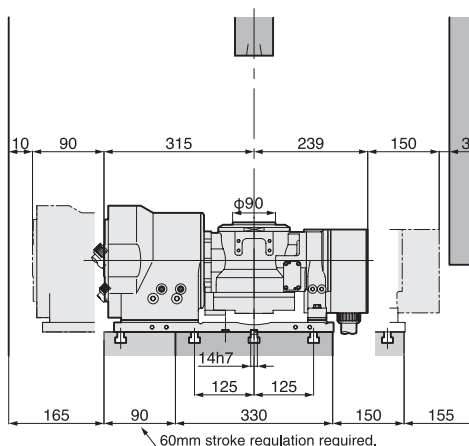
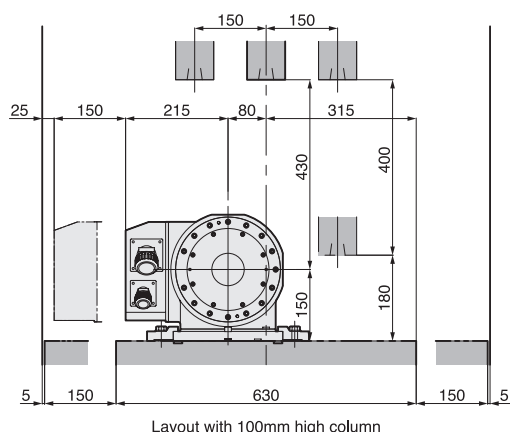
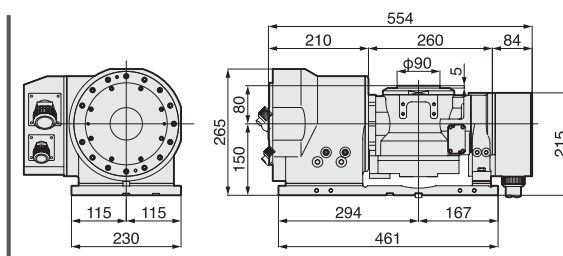
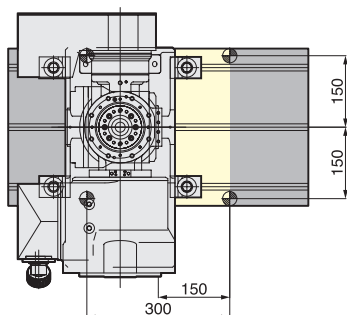
The Area of Noninterference in Tilting Position.

Angle	5AX-DD100AF
0° }	$\phi 200$
45°	
0° }	$\phi 200$
90°	
0° }	$\phi 200$ 20° 25°
110°	

COMPACT TILTING ROTARY TABLE WITH DD MOTOR for ROBODRILL α -DSiB5^{ADV} Plus

NIKKEN

5AX-DD100AF



Opens up New Possibilities for Machining with Compact M/C

Suitable for many applications, from IT parts to automotive parts.

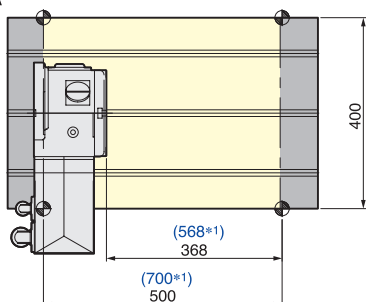
High-precision 5-axis machining of precision electronic devices such as smartphones, automobile parts, etc. can be accomplished using a compact machining center.

Impeller



CNC ROTARY TABLE for ROBODRILL α -DMiB5 Plus/ α -DMiB5_{ADV} Plus **NIKKEN**

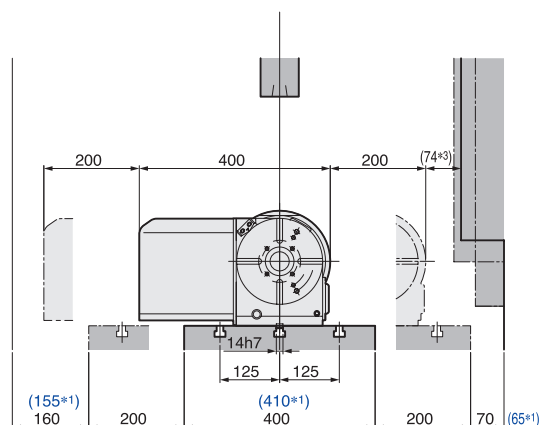
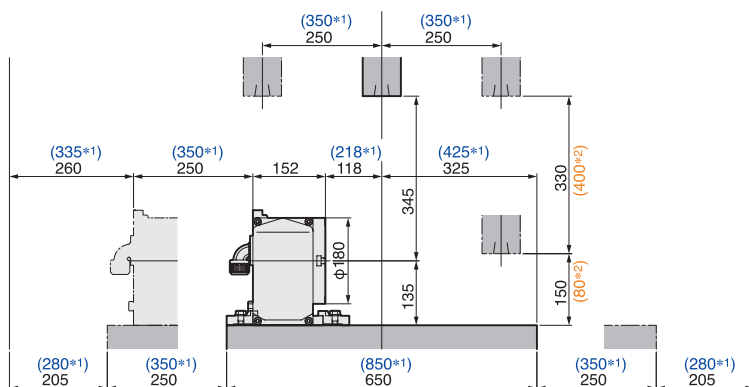
CNC180LFA



CNC ROTARY TABLE

- Diameter of Table : $\Phi 180$ 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 : 45kg
- Servo Motor : α iF2/5000
- Spindle Hole : $\Phi 60$ mmH7 $\times \Phi 40$ mm Through Hole

*1:High speed Z series

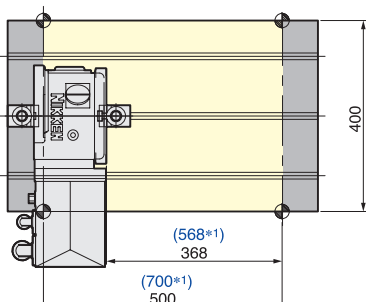


(*1) The figures with blue color are the figures for (α -DLiB5 Plus)

(*2) The figures with orange color are the figures for (α -DiB5_{ADV} Plus Series)

(*3) Depends on the model.

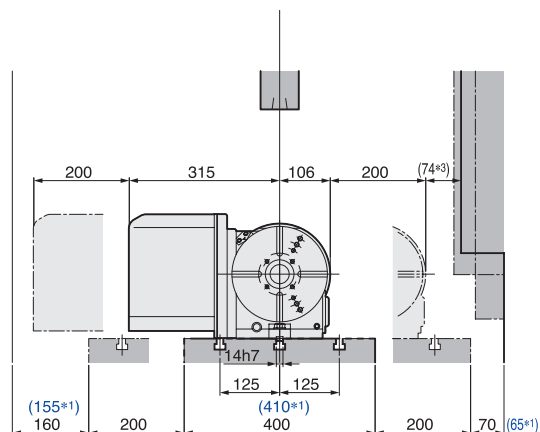
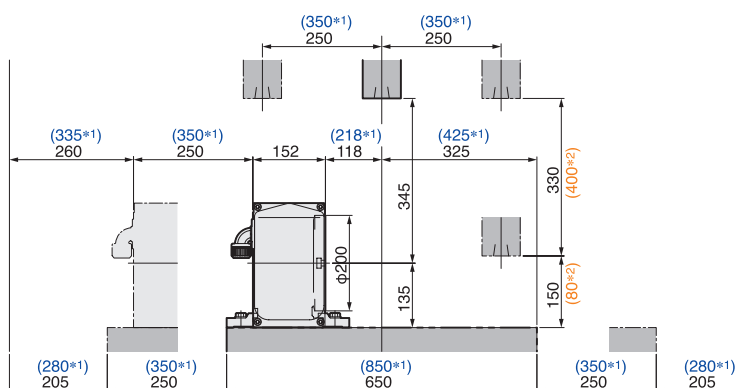
CNC202LFA



CNC ROTARY TABLE

- 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 : $\Phi 60$ mmH7 $\times \Phi 40$ mm Through Hole

*1:High speed Z series

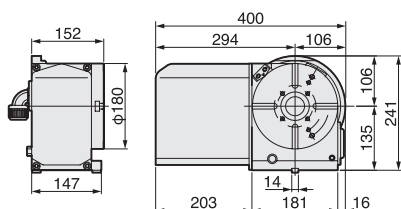


(*1) The figures with blue color are the figures for (α -DLiB5 Plus)

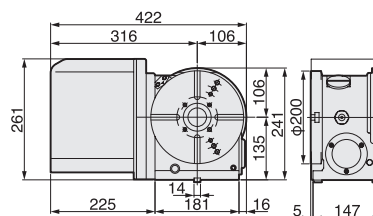
(*2) The figures with orange color are the figures for (α -DiB5_{ADV} Plus Series)

(*3) Depends on the model.

CNC180LFA



CNC202LFA

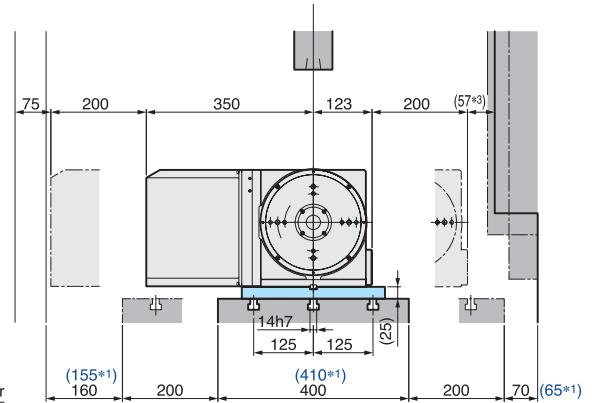
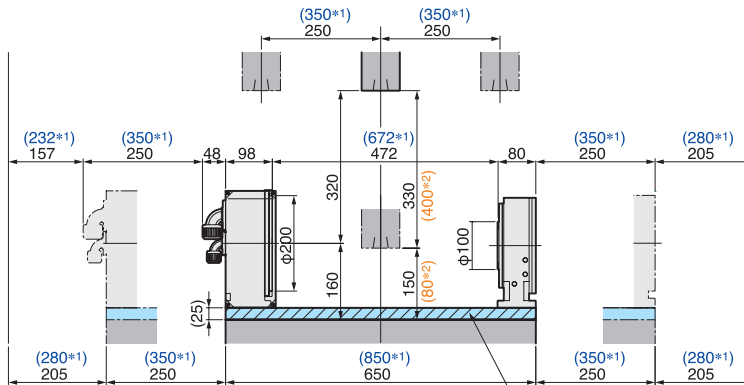


NIKKEN

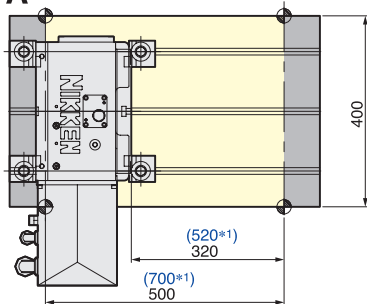


Slim type CNC ROTARY TABLE

- Diameter of Table : $\phi 200\text{mm}$
 - MAX. Work Load : 100kg (with support table)
 - MAX. Rotation Speed : 33.3 (r/min), **66.6 (r/min)*1**
 - Indexing Accuracy : $\pm 20\text{sec.}$
 - Brake Torque : 380N·m
 - Net Weight : 45kg
 - Servo Motor : ϕ iF2/5000
 - 6 ports built rotary joint can be fitted
- *1: High speed Z series

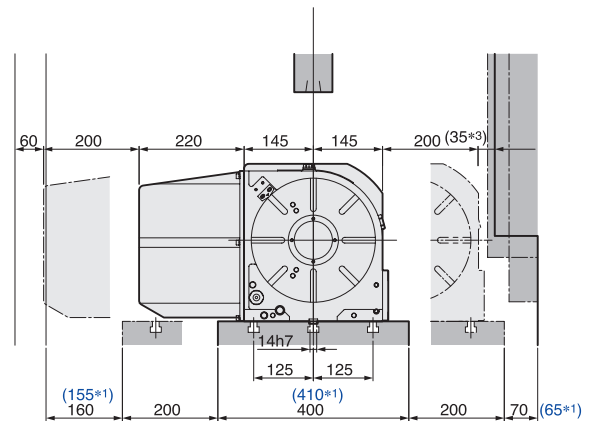
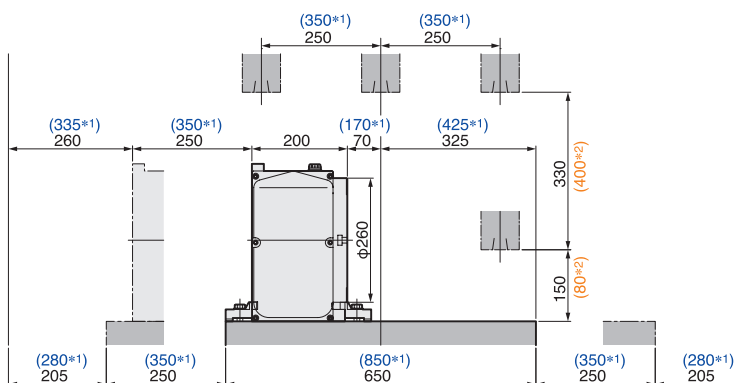


- (*1)The figures with blue color are the figures for (**α -DLIB5 Plus**) (*2)The figures with orange color are the figures for (**α -DiB5ADV Plus Series**) (*3)Depends on the model.

CNC260PLFA

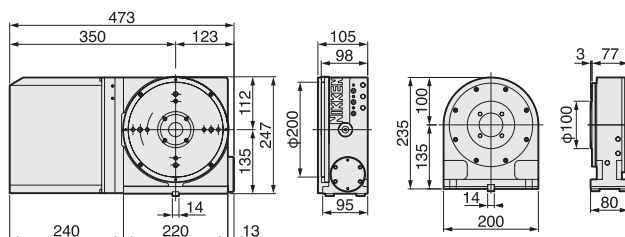
NEW CNC ROTARY TABLE

- Diameter of Table : $\phi 260\text{mm}$
 - MAX. Work Load : 175kg(Vertical)350kg(Horizontal)
 - MAX. Rotation Speed : 25 (r/min), **50 (r/min)*1**
 - Indexing Accuracy : 20Sec.
 - Brake Torque : 1430N·m (Pneumatic)
 - Net Weight : 115kg
 - Servo Motor : α iF4/5000
 - Spindle Hole : $\phi 80\text{mm}_{H7}$ Through Hole
- *1: High speed Z series

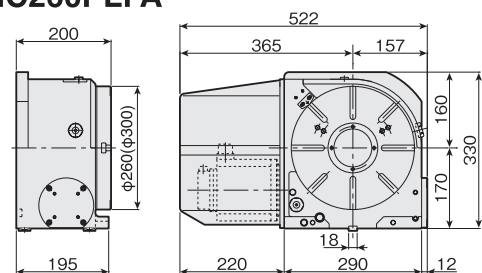


- (*1)The figures with blue color are the figures for (**α -DLiB5 Plus**)
(*2)The figures with orange color are the figures for (**α -DiB5Adv Plus Series**) (*3)Depends on the model.

CNC205LFA (TAS-100N)

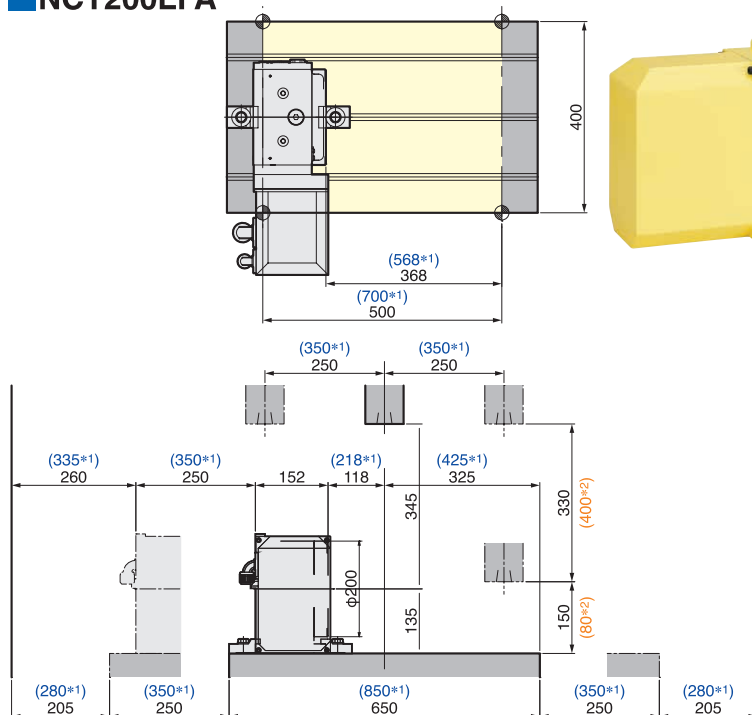


CNC260PLFA



CNC ROTARY TABLE for ROBODRILL α -DMiB5 Plus/ α -DMiB5_{ADV} Plus **NIKKEN**

NCT200LFA



NCT ROTARY TABLE

- Diameter of Table : $\Phi 200$ mm
- MAX. Work Load : 100kg(Vertikal)
200kg(Horizontal)
- MAX. Rotation Speed : 33.3 (r/min), **66.6 (r/min)*1**
- Indexing Accuracy : ± 20 sec.
- Brake Torque : 900N·m
- Net Weight : 65kg
- Servo Motor : α iF4/5000
- Spindle Hole : $\Phi 60$ mmH7 $\times \Phi 40$ mm Through Hole

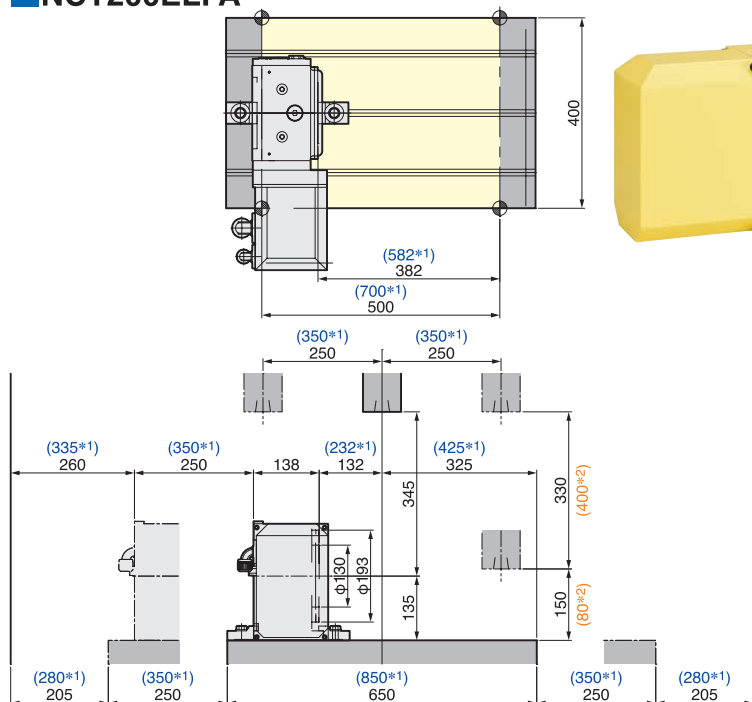
*1: High speed Z series

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

(*2) The figures with orange color are the figures for (α -DiB5_{ADV} Plus Series)

(*3) Depends on the model.

NCT200ELFA



NCT ROTARY TABLE (Without $\Phi 200$ face plate)

- Diameter of Table : $\Phi 130$ mm
- MAX. Work Load : 100kg(Vertikal)
200kg(Horizontal)
- MAX. Rotation Speed : 33.3 (r/min), **66.6 (r/min)*1**
- Indexing Accuracy : ± 20 sec.
- Brake Torque : 900N·m
- Net Weight : 62kg
- Servo Motor : α iF4/5000
- Spindle Hole : $\Phi 60$ mmH7 $\times \Phi 40$ mm Through Hole

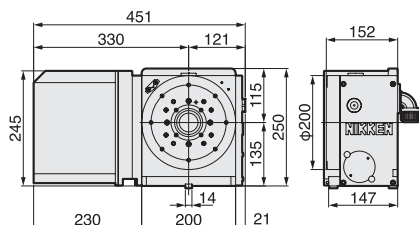
*1: High speed Z series

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

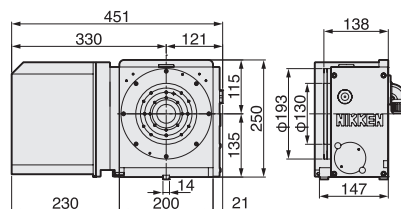
(*2) The figures with orange color are the figures for (α -DiB5_{ADV} Plus Series)

(*3) Depends on the model.

NCT200LFA

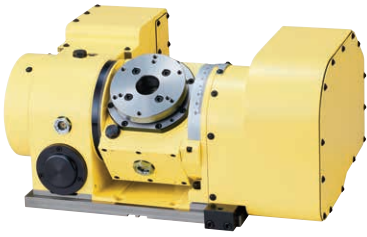


NCT200ELFA



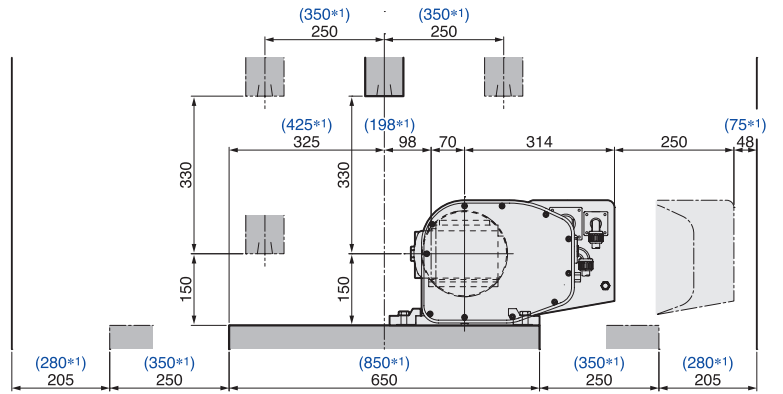
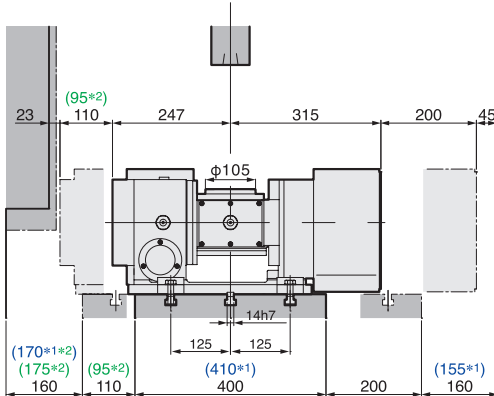
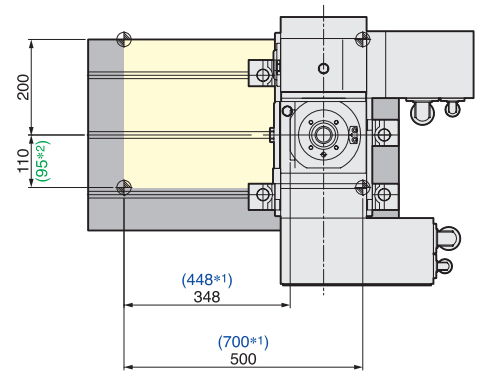
5AX TILTING ROTARY TABLE for ROBODRILL α -DMiB5 Plus **NIKKEN**

5AX-130FA



5AX TILTING ROTARY TABLE

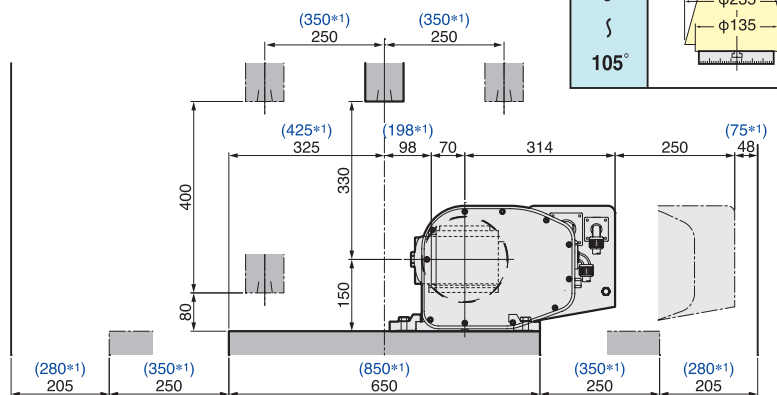
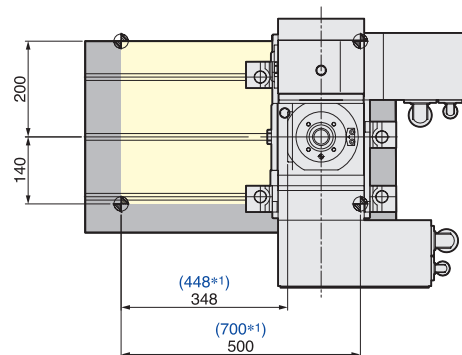
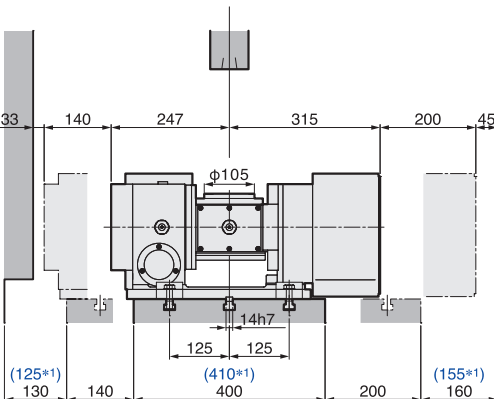
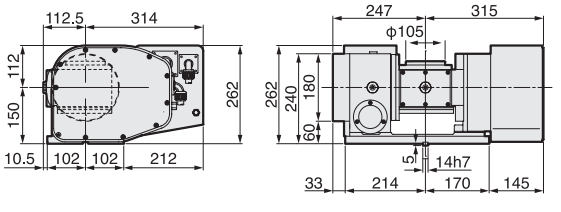
- Diameter of Table : $\phi 105$ mm (With $\phi 130$ mm sub table)
- MAX. Work Load : 25kg (Vertical) 50kg (Horizontal)
- MAX. Rotation Speed : 33.3 (r/min) (Rotary), 11.1 (r/min) (Tilting)
- Indexing Accuracy : ± 30 sec. (Rotary), 60sec. (Tilting)
- Brake Torque : 205N·m (Rotary), 303N·m (Tilting)
- Net Weight : 115kg
- Servo Motor : α iF2/5000 (Rotary)
 α iF2/5000 (Tilting)
- Spindle Hole : $\phi 50$ mm $H7 \times \phi 30$ mm Through Hole
- Tilting Angle : $0^\circ \sim 105^\circ$



(*) The figures with blue color are the figures for (α -DLiB5 Plus)
(*) The figures with green color are the figures for metal cover.

5AX TILTING ROTARY TABLE for ROBODRILL α -DMiB5 ADV Plus **NIKKEN**

5AX-130FA



(*) The figures with blue color are the figures for (α -DLiB5 ADV Plus)

The Area of Noninterference in Tilting Position.

Angle	5AX-130FA
0°	
45°	
0°	
90°	
0°	
105°	

NIKKEN CNC ROTARY TABLE works in many applications throughout the world.
Please feel free to contact us.

5AX-130& ROBOT

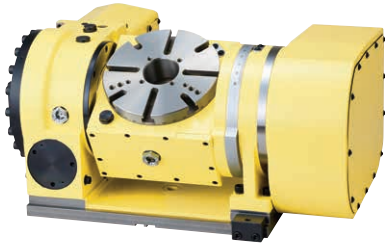


CNC202& ROBOT



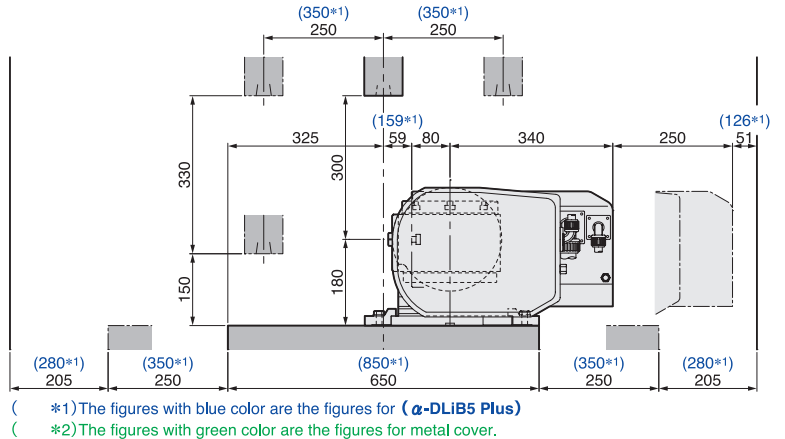
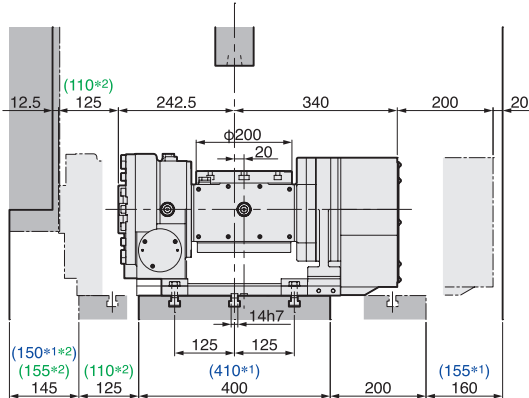
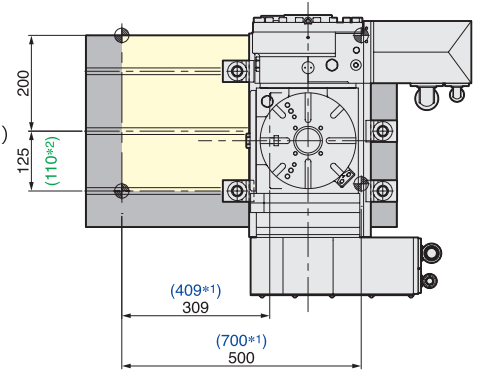
5AX TILTING ROTARY TABLE for ROBODRILL α -DMiB5 Plus **NIKKEN**

5AX-201FA



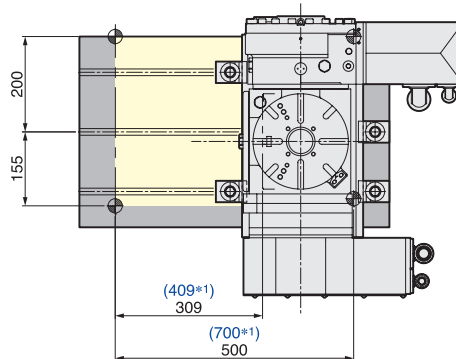
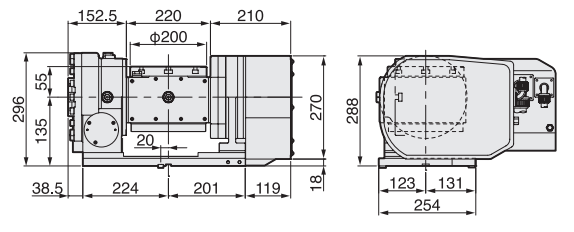
5AX TILTING ROTARY TABLE

- 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 $\times$ $\phi 50$ mm Through Hole
- Tilting Angle : $0^\circ \sim 105^\circ$



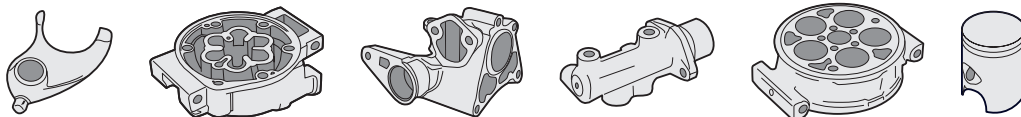
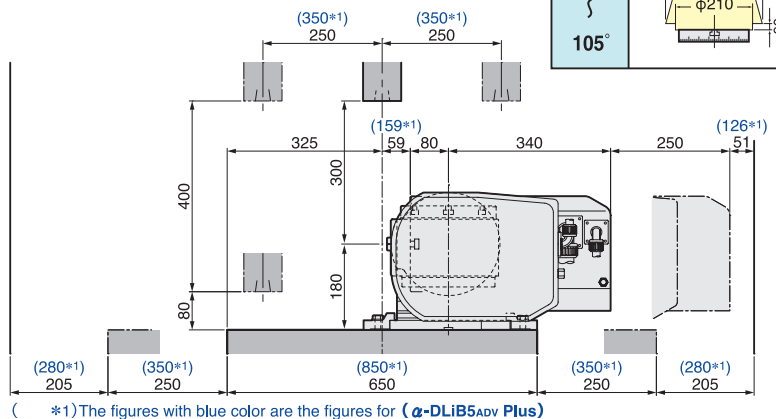
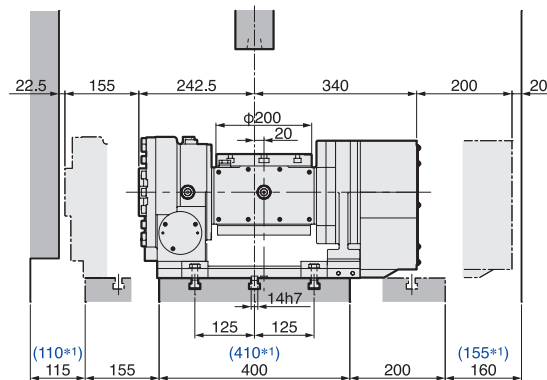
5AX TILTING ROTARY TABLE for ROBODRILL α -DMiB5 ADV Plus **NIKKEN**

5AX-201FA



■ The Area of Noninterference in Tilting Position.

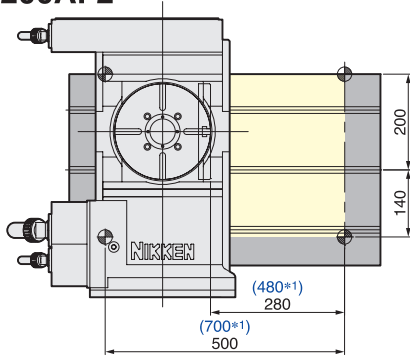
Angle	5AX-201FA
0° ∩ 45°	
0° ∩ 90°	
0° ∩ 105°	



Components of Automotive Parts

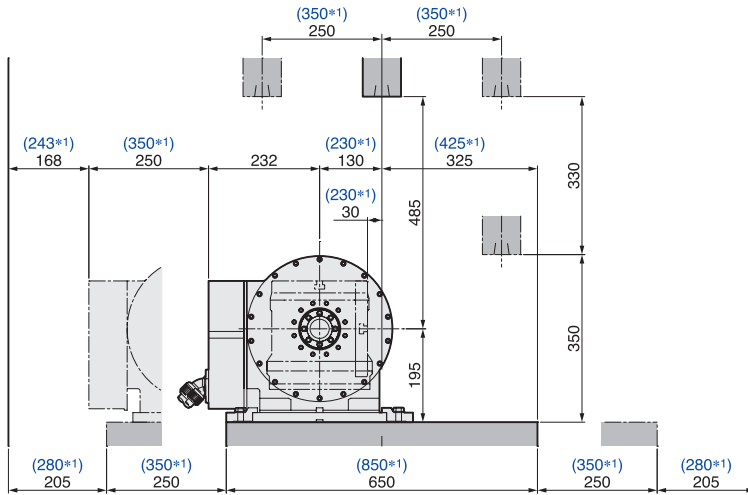
TILTING ROTARY TABLE WITH DD MOTOR for ROBODRILL α -DMiB5 Plus **NIKKEN**

5AX-DD200AF2

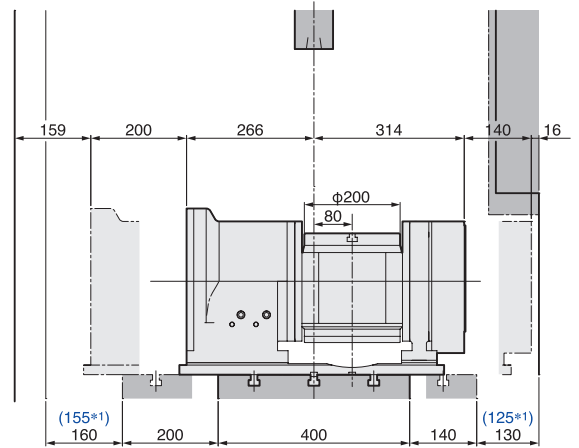


5AX TILTING ROTARY TABLE with DD MOTOR

- Diameter of Table : $\Phi 200$ mm
- MAX. Work Load : 15kg(Vertical)30kg(Horizontal)
- MAX. Rotation Speed : 200r/min(Rotary), 150r/min(Tilting)
- Indexing Accuracy : ± 10 sec.(Rotary), ± 15 sec.(Tilting)
- Brake Torque : 150N·m(Rotary), 500N·m(Tilting)
- Net Weight : 190kg
- Servo Motor : DiS 60 / 400(Rotary)
DiS150 / 300(Tilting)
- Spindle Hole : $\Phi 53$ mmH7 $\times \Phi 40$ mm Through Hole
- Tilting Angle : 0°~110°



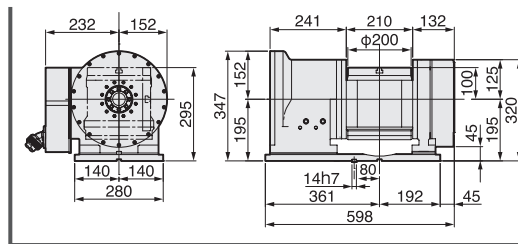
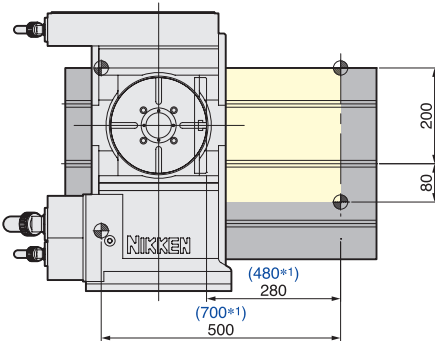
Layout with 200mm high column



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

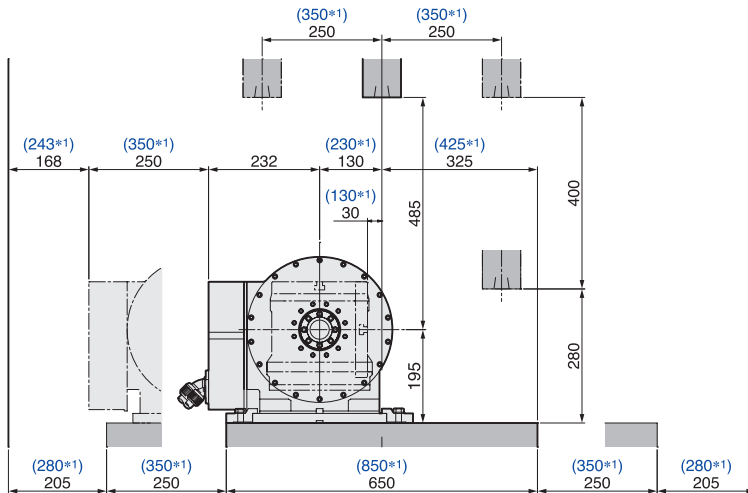
TILTING ROTARY TABLE WITH DD MOTOR for ROBODRILL α -DMiB5_{ADV} Plus **NIKKEN**

5AX-DD200AF2

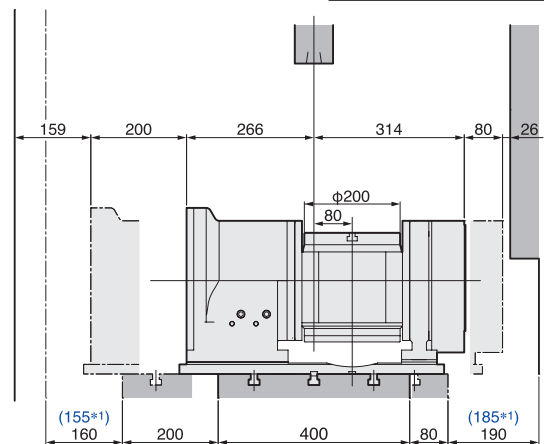


The Area of Noninterference in Tilting Position.

Angle	5AX-DD200AF2
-45° }	
45°	
-90° }	
90°	
-110° }	
110°	



Layout with 200mm high column



(*1) The figures with blue color are the figures for (α -DLiB5_{ADV} Plus)

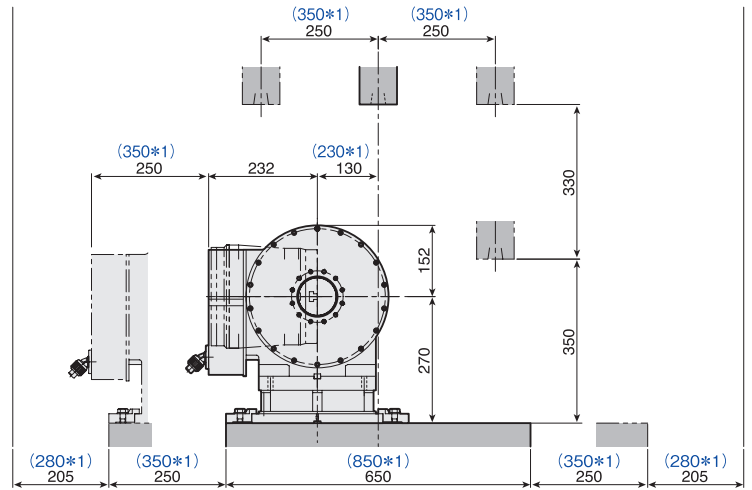
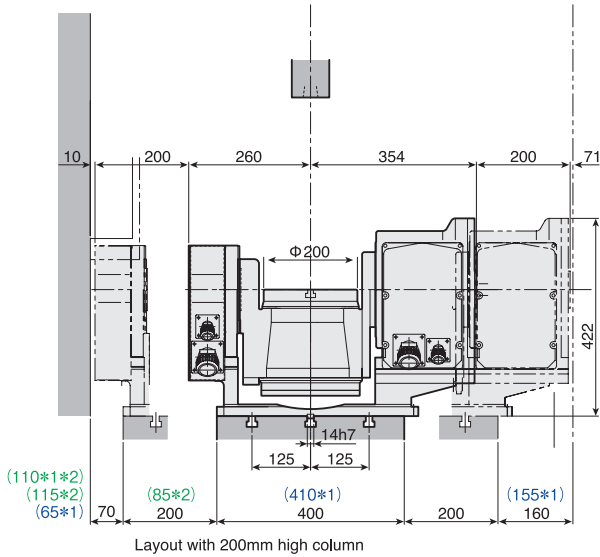
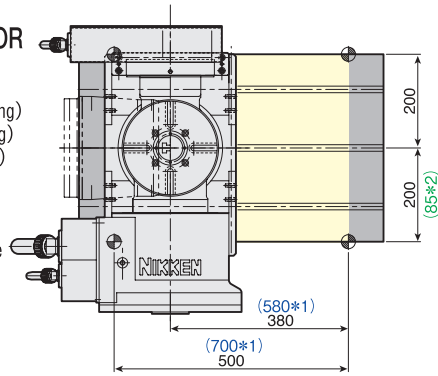
TILTING ROTARY TABLE WITH DD MOTOR for ROBODRILL α -DMiB5 Plus **NIKKEN**

5AX-DD201BF3



5AX TILTING ROTARY TABLE with DD MOTOR

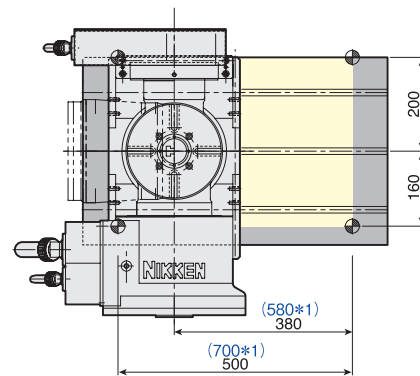
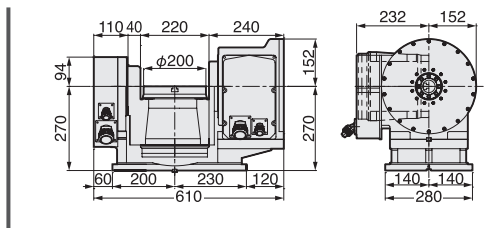
- Diameter of Table : $\Phi 200$ mm
- MAX. Work Load : 30kg
- MAX. Rotation Speed : 200r/min (Rotary), 150r/min (Tilting)
- Indexing Accuracy : ± 10 sec. (Rotary), ± 15 sec. (Tilting)
- Brake Torque : 150N-m (Rotary), 500N-m (Tilting)
- Net Weight : 205kg
- Servo Motor : DiS 60 / 600 (Rotary)
DiS180 / 800 (Tilting)
- Spindle Hole : $\Phi 53$ mm $\times \Phi 40$ mm Through Hole
- Tilting Angle : $0^\circ \sim 110^\circ$



- (*1) The figures with blue color are the figures for (α -DLiB5 Plus)
(*2) The figures with green color are the figures for metal cover.

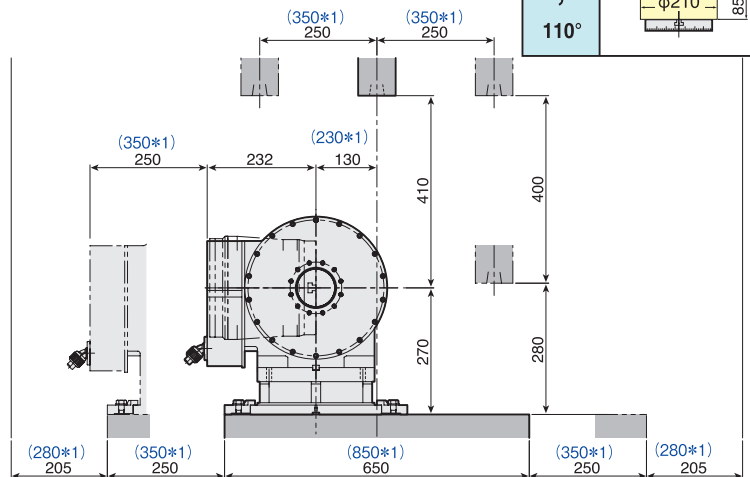
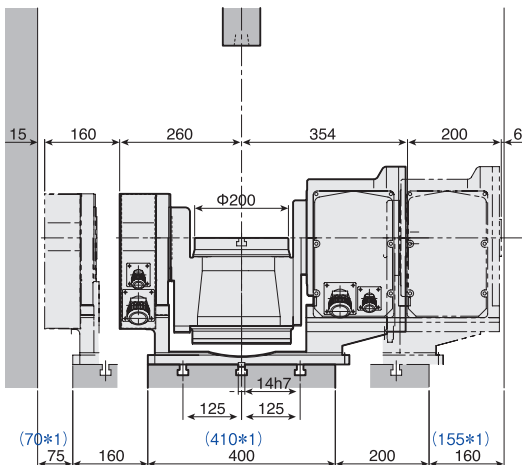
TILTING ROTARY TABLE WITH DD MOTOR for ROBODRILL α -DMiB5_{ADV} Plus **NIKKEN**

5AX-DD201BF3



The Area of Noninterference in Tilting Position.

Angle	5AX-DD201BF3
-45° }	$\Phi 250$ 60 $\Phi 210$ 85
45°	
-90° }	$\Phi 250$ 60 $\Phi 210$ 85
90°	
-110° }	$\Phi 290$ $\Phi 250$ 60 $\Phi 210$ 85
110°	



- (*1) The figures with blue color are the figures for (α -DLiB5_{ADV} Plus)

Relation between Unbalancing Load and Servo Motor

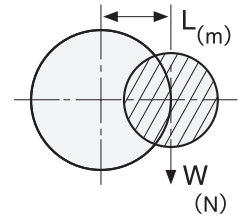
NIKKEN

This table shows the guide line. Please make the unbalancing load as small as possible and use the counter balance weight for the precision machining.

Excessive unbalancing load causes the indexing accuracy and the durability to be worse. The relation between the guide line of the unbalancing load and the servo motor shows below. Please do not apply the load exceeding the guide line.

CNCZ series table can not be recommended for the application with large unbalancing load. **CNCZ** series table is recommended for the application only with light load.

Please inform us the detail of the component, jig fixture, indexing time etc. prior to your order. Then, the calculation of the load is studied and the best suitable rotary table (including the suitable motor) for your application is proposed. The servo parameter is also tuned.



Guide Line of MAX. Unbalancing Load for Additional Axis Control

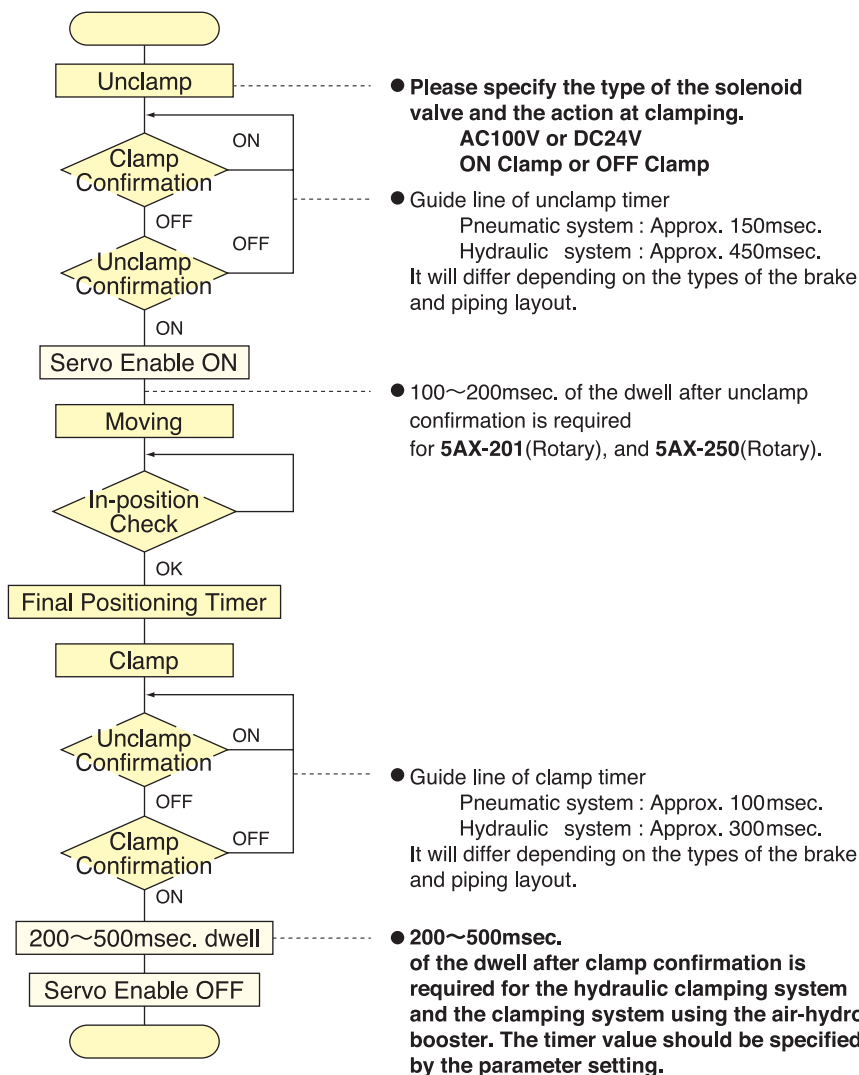
MAX. Unbalancing Load (N·m)	CNC180LFA	CNC202LFA	CNC205LFA	NCT200LFA	CNC260PLFA
30	αiF2	αiF2	αiF2		
50	αiF4	αiF4			
60				αiF4	αiF4
100					αiF8

Flow Chart of the Additional Axis Control

NIKKEN

Servo enable is basically kept OFF during the mechanical brake clamps.

Flow Chart of the Additional Axis Control

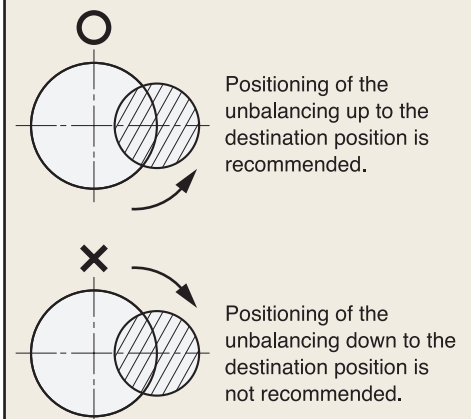


⚠ Please specify the solenoid valve control method when ordering

Please specify the brake control when ordering
 • **CNC(5AX) ROTARY TABLE** is **DC24V, ON clamp**.
 • **ROTARY TABLE with DD motor** is **DC24V, OFF clamp**.

⚠ Positioning under unbalancing load

Please move the unbalancing load up to the destination position.



DD table characteristics

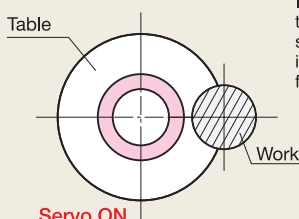
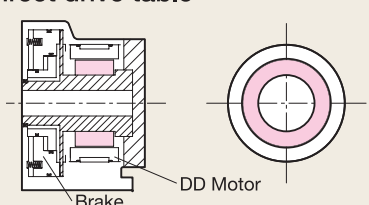
- The spindle is linked directly to the motor for excellent responsiveness. As a tradeoff for this responsiveness, the system is very sensitive to external force and loads, so it is necessary to set suitable parameters for each application.
- Adjustment is necessary to perform 5-axis simultaneous machining (synchronized machining). The NIKKEN standard parameters can be used for indexing and positioning. After confirming that optional functions* for synchronized machining are available, it is necessary to make appropriate settings to satisfy the customer's machining time and machining precision requirements. For simultaneous operation, suitable settings must be made to align the 4th (5th) axis with the three basic axes (XYZ).

Clamping operation

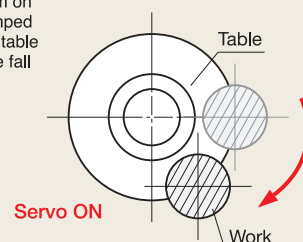
Due to the characteristics of the DD table it can be turned easily by hand if power is not being supplied (free run state). The table will again be in the free run state when the servo turns off after the brake is applied, unless appropriate settings are made, and this can cause positioning inaccuracy. Consult with the machine manufacturer to ensure that the timing is as shown in the timing chart below to prevent a free run state from occurring.

Difference in structure between Direct Drive and Worm gear system

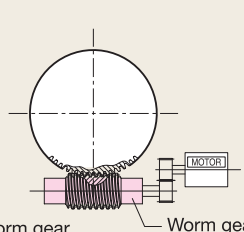
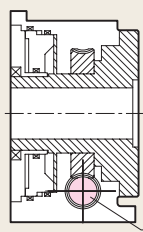
Direct drive table



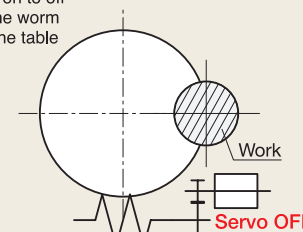
If the servo switches from on to off when in the unclamped state, no force holds the table in position and it can free fall from its own weight.



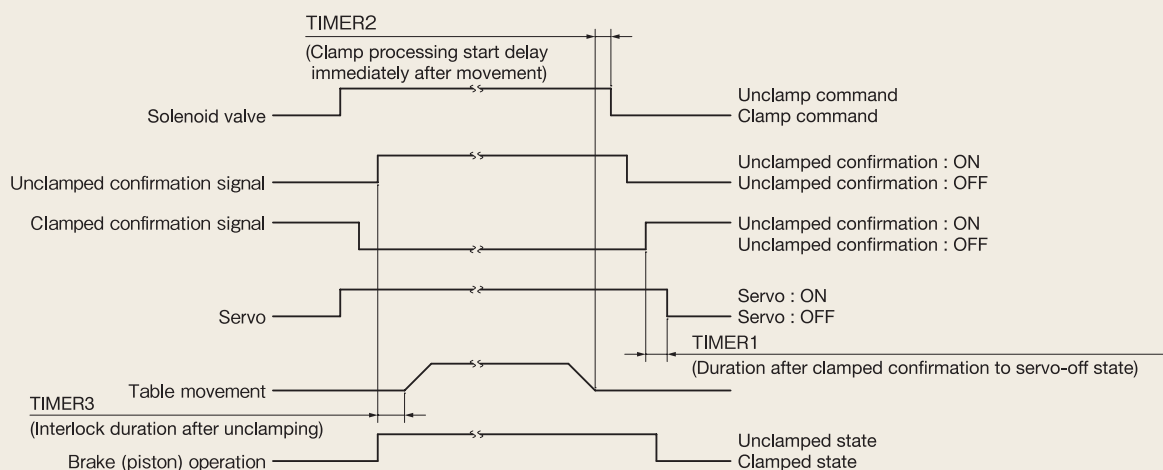
Worm gear table



Even if the servo switches from on to off when in the unclamped state, the worm gear is engaged and prevents the table from moving (self-lock).



Reference timing chart



Preventing emergencies (in case of power interruption)

Configure a pneumatic (hydraulic) circuit (off-clamp) that will provide an effective brake should an emergency stop occur. Unlike normal clamping operation, in an emergency stop the brake is applied at the same time that the servo turns off momentarily, and this can result in positioning inaccuracy on an axis carrying a large load, such as the weight axis. To prevent this, enable the brake control function (FANUC).

Brake control function

To prevent the fall of the weight axis when an alarm is generated or an emergency stop occurs, instead of stopping excitation of the motor immediately, excitation of the motor continues for the duration specified by a parameter to allow the mechanical brake to engage.

MILLING CHUCK

NIKKEN



C

Milling Chuck

Code No.	D	C1	L	ℓ ₁	Spanner
BT30-C12-55	12	33	58	58	9HC12A
-C16-55	16	44	57	65	9HC16
-C20-65, 75	20	52	67, 75	80, 80	9HC22
-C25-75, 80	25	55	75, 82	68	9HC22
-C32-90, 100	32	64	90, 100	68, 76	9HC22



C-G

High Speed Milling Chuck

Code No.	D	C1	L	ℓ ₁	MAX. (r/min)	GH Handle
BT30-C12-55G	12	33	58	58	40,000	GH12
-C16-55G	16	44	57	65	40,000	GH16
-C20-65G, 75G	20	52	67, 75	80, 80	30,000	GH20
-C25-75G, 80G	25	55	75, 82	68	25,000	GH25
-C32-90G, 100G	32	64	90, 100	68, 76	10,000	GH32S

★ Tightening spanner and GH handle not included. Please order separately.
 ★ Also available for BT flange contact spindle (NBT30). Example NBT30-C12-55
 ★ Collets that can be used are KM collets, NK collets, CCK collets and CCNK collets.
 ★ NK32 and CCNK32 collets cannot be used with BT30-C32-90 and BT30-C32-90G.
 ★ NBT30-C32-90 and NBT30-C32-90G cannot use NK32 and CCNK32 collets.
 ★ For CCK and CCNK collets for coolant through, see NC General Catalogue. ★ Please refer to P.22 as for pull studs.

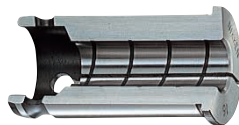
STRAIGHT COLLET (KM COLLET)

NIKKEN



KM

Photo shows ANNIVERSARY type KM Collet.



○ means with internal grooves for gripping strongly to eliminate the oil.

Explanation of the Code No.

KM : Standard
NK : Adjustable
CCK : Centre Coolant
CCNK : Centre Coolant, Adjustable
32 : OD of Collet
10 : ID of Collet
 Symbol of Collet

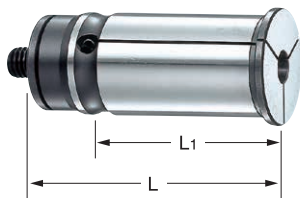
スタイル	L	KM Collet Code No. (OD-ID)
(KM12)	40	KM12-2, 3, 4, 5, 6, 7, 8, 9, 10
(KM16)	47.5	KM16-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
(KM20)	53	KM20-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
(KM22)	57	KM22-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
(KM25)	59	KM25-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
(KM32)	64.5	KM32-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 30

★ [For Synchronous Tapping Program]: 5.5, 6.2, 8.5, 10.5, 12.5, 14, 15, 17, 19, 20, 23, 25, 28 Collets for Tap Shank are also available.
 ★ Please note the acceptable shank tolerance is h6~h7. ★ (): L dimension for KM42-12 or larger ID.
 ★ Collet removal (9CKR) is an optional accessory for NC milling chuck.



STRAIGHT COLLET (NK COLLET)

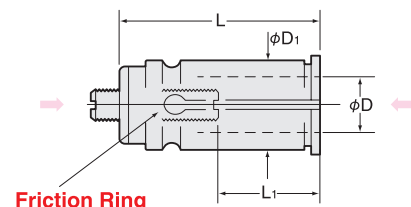
NIKKEN



NK

Cutter length adjustment on the collet is possible from front and back.

○ means with internal grooves for gripping strongly to eliminate the oil.



スタイル	L	L ₁	NK Collet Code No. (OD-ID)
(NK20)	63	20~40	NK20-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
(NK22)	70	30~50	NK22-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
(NK25)	68	30~55	NK25-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
(NK32)	75	30~60	NK32-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26
(NK42)	85 (92)	30~65	NK42-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32

★ [For Synchronous Tapping Program]: 5.5, 6.2, 8.5, 10.5, 12.5, 14, 15, 17, 19, 20, 23, 25, 28 Collets for Tap Shank are also available.
 ★ Other metric sizes and imperial sizes, 1/8, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1-1/8, 1-1/4, 1-1/2 are also available.
 ★ Please note the acceptable shank tolerance is h6~h7. ★ The collets with bold character are standard.
 ★ Collet removal (9CKR) is an optional accessory for NC milling chuck.
 ★ NK32 collets cannot be used with BT30-C32-90 and BT30-C32-90G.



SLIM CHUCK HIGH SPEED ROTATION•HIGH ACCURACY

NIKKEN



SK

Slim Chuck

Code No.	D	C	L	ℓ ₁	Collet	Spanner
BT30-SK 6-60,90,120,150	0.7~6.0	19.5	60,90,120,150	35,35,35,35	SK 6	SKL-6W
-SK10-45,60, 75, 90,120,150	1.75~10.0	27.5	45,60,75,90,120,150	50,50,50,50,50,50	SK10	SKL-10W
-SK13-60,75, 90,120	2.75~13.0	33.0	60,75,90,120	50,65,65,65	SK13	9HC12A
-SK16-60,75, 90,120	2.75~16.0	40.0	60,75,90,120	60,65,65,70	SK16	9HC16
-SK20-60,75, 90	3.5~20.0	48.5	60,75,90	70,75,75	SK20	9HC22
-SK25-90	7.5~25.4	55.0	90	75	SK25	9HC22



SK-P

High Speed Slim Chuck

Code No.	D	C	L	ℓ ₁	Collet	MAX. (r/min)	GH Handle
BT30-SK 6-60P,90P,120P	0.7~6.0	19.5	60,90,120,150	35,35,35,35	SK 6	40,000	GH6
-SK10-45P,60P,75P, 90P,120P	1.75~10.0	27.5	45,60,75,90,120,150	50,50,50,50,50,50	SK10	40,000	GH10
-SK13-60P,75P,90P,120P	2.75~13.0	33.0	60,75,90,120	50,65,65,65	SK13	40,000	GH12
-SK16-60P,75P,90P,120P	2.75~16.0	40.0	60,75,90,120	60,65,65,70	SK16	30,000	GH16
-SK20-60P,75P,90P	3.5~20.0	48.5	60,75,90	70,75,75	SK20	30,000	GH20
-SK25-90P	7.5~25.4	55.0	90	75	SK25	30,000	GH25

★TIN bearing nuts are supplied. Tightening spanner is not included. Please order separately.

★Also available for BT flange contact spindle (NBT30). Example NBT30-SK6C-60

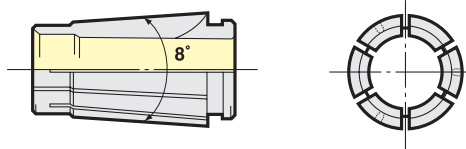
★Collets that can be used are SK collets, SK-P collets, SK-A collets and SK-AC collets.

★For adjusting screws for cutting tool protrusion adjustment, see the NC General Catalogue. ★Please refer to P.22 as for pull studs.

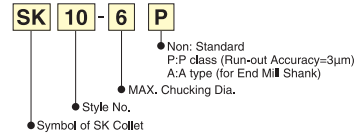
SLIM CHUCK COLLET (SKCOLLET)

NIKKEN

SK



Explanation of the Code No.



“A” type SK collet (for End Mill Shank) are marked **P**. The acceptable shank tolerance is h₈. Code No. is e.g. SK10-10A
“P” class SK collet (for drill) are available for all series, e.g. SK10-10P

Code No.	Chucking D
SK 6- 0.8	0.7 ~ 0.8
- 1	0.9 ~ 1.0
- 1.25	1.15 ~ 1.25
- 1.5	1.3 ~ 1.5
- 1.75	1.55 ~ 1.75
- 2	1.8 ~ 2.0
- 2.25	2.05 ~ 2.25
- 2.5	2.3 ~ 2.5
- 2.75	2.55 ~ 2.75
- 3	2.8 ~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
SK10- 1	0.9 ~ 1.0
- 1.25	1.15 ~ 1.25
- 1.5	1.3 ~ 1.5
- 1.75	1.55 ~ 1.75
- 2	1.75 ~ 2.0
- 2.25	2.0 ~ 2.25
- 2.5	2.25 ~ 2.5
- 2.75	2.5 ~ 2.75
- 3	2.75 ~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
- 10	9.5 ~ 10.0

Code No.	Chucking D
SK13- 3	2.75 ~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
- 10	9.5 ~ 10.0
- 10.5	10.0 ~ 10.5
- 11	10.5 ~ 11.0
- 11.5	11.0 ~ 11.5
- 12	11.5 ~ 12.0
- 12.5	12.0 ~ 12.5
- 13	12.5 ~ 13.0

Code No.	Chucking D
SK16- 3	2.75 ~ 3.0
- 3.5	3.0 ~ 3.5
- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
- 10	9.5 ~ 10.0
- 10.5	10.0 ~ 10.5
- 11	10.5 ~ 11.0
- 11.5	11.0 ~ 11.5
- 12	11.5 ~ 12.0
- 12.5	12.0 ~ 12.5
- 13	12.5 ~ 13.0
- 13.5	13.0 ~ 13.5
- 14	13.5 ~ 14.0
- 14.5	14.0 ~ 14.5
- 15	14.5 ~ 15.0
- 15.5	15.0 ~ 15.5
- 16	15.5 ~ 16.0

Code No.	Chucking D
SK20- 4	3.5 ~ 4.0
- 4.5	4.0 ~ 4.5
- 5	4.5 ~ 5.0
- 5.5	5.0 ~ 5.5
- 6	5.5 ~ 6.0
- 6.5	6.0 ~ 6.5
- 7	6.5 ~ 7.0
- 7.5	7.0 ~ 7.5
- 8	7.5 ~ 8.0
- 8.5	8.0 ~ 8.5
- 9	8.5 ~ 9.0
- 9.5	9.0 ~ 9.5
- 10	9.5 ~ 10.0
- 10.5	10.0 ~ 10.5
- 11	10.5 ~ 11.0
- 11.5	11.0 ~ 11.5
- 12	11.5 ~ 12.0
- 12.5	12.0 ~ 12.5
- 13	12.5 ~ 13.0
- 13.5	13.0 ~ 13.5
- 14	13.5 ~ 14.0
- 14.5	14.0 ~ 14.5
- 15	14.5 ~ 15.0
- 15.5	15.0 ~ 15.5
- 16	15.5 ~ 16.0
- 16.5	16.0 ~ 16.5
- 17	16.5 ~ 17.0
- 17.5	17.0 ~ 17.5
- 18	17.5 ~ 18.0
- 18.5	18.0 ~ 18.5
- 19	18.5 ~ 19.0
- 19.5	19.0 ~ 19.5
- 20	19.5 ~ 20.0

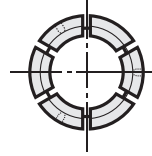
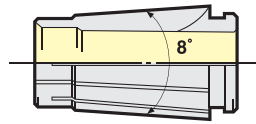
Code No.	Chucking D
SK25- 8	7.5 ~ 8.0
- 10	9.5 ~ 10.0
- 12	11.5 ~ 12.0
- 16	15.5 ~ 16.0
- 16.5	16.0 ~ 16.5
- 17	16.5 ~ 17.0
- 17.5	17.0 ~ 17.5
- 18	17.5 ~ 18.0
- 18.5	18.0 ~ 18.5
- 19	18.5 ~ 19.0
- 19.5	19.0 ~ 19.5
- 20	19.5 ~ 20.0
- 20.5	20.0 ~ 20.5
- 21	20.5 ~ 21.0
- 21.5	21.0 ~ 21.5
- 22	21.5 ~ 22.0
- 22.5	22.0 ~ 22.5
- 23	22.5 ~ 23.0
- 23.5	23.0 ~ 23.5
- 24	23.5 ~ 24.0
- 24.5	24.0 ~ 24.5
- 25	24.5 ~ 25.0
- 25.4	25.0 ~ 25.4



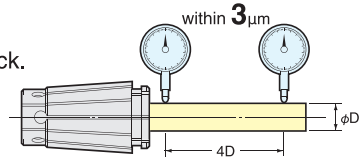
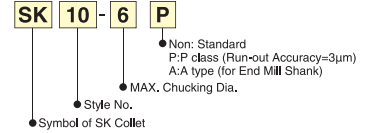
Collet removal (SKR-6) is supplied as standard only for SK6. SKR-10, SKR-16 and SKR-25 are available as an option. Collet removal is not necessary for the new types of collet (SK10 to SK25 collet including SK13 and SK20).

- ★Collets with special inner diameters can also be manufactured.
- ★Please refer to P.17 as for SK coolant collet (AC collet).
- ★Please refer to P.17 as for the jet coolant system and the system for oil hole drill.
- ★When gripping a cutting tool of less than nominal size with the SK collet, please be careful that the tool protrusion will be shortened.

SLIM CHUCK COLLET (P CLASS / A TYPE COLLET) **NIKKEN**



Explanation of the Code No.



“P” class SK collet for drill

It guarantees the Run-out accuracy within 3 micron at the nose (4D) from the chuck. Additionally Collet Set is also available.

“A” type SK collet for endmill

The acceptable shank tolerance is h8.

★When using A TYPE SLIM COLLET, the L-dimension of the chuck will be shorter by about 3mm. Please be careful when you check the interference.

SK Collet A Type
SK 6-3A, 4A, 5A, 6A
SK10-3A, 4A, 5A, 6A, 8A, 10A
SK13-3A, 4A, 5A, 6A, 8A, 10A, 12A, 13A
SK16-3A, 4A, 5A, 6A, 8A, 10A, 12A, 16A
SK20-4A, 5A, 6A, 8A, 10A, 12A, 16A, 20A
SK25-8A, 10A, 12A, 16A, 20A, 25A

SK Collet A Type (Inch)
SK 6 -1/8A, 3/16A
SK10 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A
SK13 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A
SK16 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A, 9/16A, 5/8A
SK20 -1/8A, 3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A, 9/16A, 5/8A, 3/4A
SK25 -3/16A, 1/4A, 5/16A, 3/8A, 7/16A, 1/2A, 5/8A, 3/4A, 25.4A

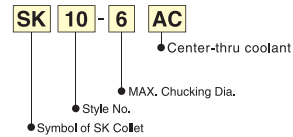
CENTER-THRU COOLANT COLLET (SK-AC) for NIKKEN SLIM CHUCK **NIKKEN**

Collets with sealing function for cutting tools with oil hole.

★When using AC COLLET, the L-dimension of the chuck will be shorter by about 3mm. Please be careful when you check the interference.

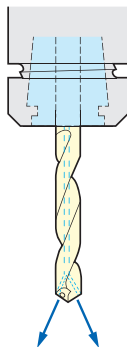
SK Collet A Type
SK 6-3A, 4A, 5A, 6A
SK10-3A, 4A, 5A, 6A, 8A, 10A
SK13-3A, 4A, 5A, 6A, 8A, 10A, 12A, 13A
SK16-3A, 4A, 5A, 6A, 8A, 10A, 12A, 16A
SK20-4A, 5A, 6A, 8A, 10A, 12A, 16A, 20A
SK25-8A, 10A, 12A, 16A, 20A, 25A

Code number reference

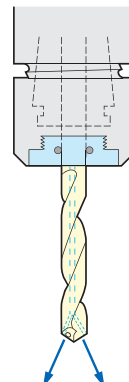


SLIM CHUCK COOLANT SOLUTION **NIKKEN**

WITH OIL HOLE DRILL

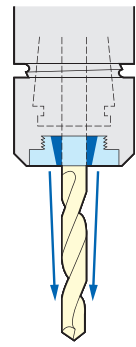


1 Standard Nut + SK-AC Coolant Collet



2 J-TYPE Nut with Standard Collet and J CAP(C)

JET COOLANT SYSTEM



3 J-TYPE Nut with Standard Collet and J CAP

★Please refer to NC catalog for coolant solutions.

2LOCK Major Dream Holder

MDSK

Code No.	D	C	L	ℓ	Collet	GH Handle
NBT30-MDSK- 6-50,60,75,90	3.0 ~ 6.0	19.5	50,60,75,90	35,35,35,35	SK 6 A, AC	GH 6
-10-50,60,75,90	3.0 ~ 10.0	27.5	50,60,75,90	50,50,50,50	SK10 A, AC	GH10
-13-60,75,90	3.0 ~ 13.0	33.0	60,75,90	43,60,60	SK13 A, AC	GH12
-16-75,90	3.0 ~ 16.0	40.0	75,90	60,70	SK16 A, AC	GH16

MDSK-P

High Speed 2LOCK Major Dream Holder

Code No.	D	C	L	ℓ	Collet	MAX. (r/min)	GH Handle
NBT30-MDSK- 6-50P,60P,75P,90P	3.0 ~ 6.0	19.5	50,60,75,90	35,35,35,35	SK 6 A, AC	30,000	GH 6
-10-50P,60P,75P,90P	3.0 ~ 10.0	27.5	50,60,75,90	50,50,50,50	SK10 A, AC	30,000	GH10
-13-60P,75P,90P	3.0 ~ 13.0	33.0	60,75,90	43,60,60	SK13 A, AC	30,000	GH12
-16-75P,90P	3.0 ~ 16.0	40.0	75,90	60,70	SK16 A, AC	25,000	GH16

★Please use A type SK collet for the end milling operation.

★Please refer to NC catalog for coolant solutions.

★GH handle is available as an option.

★Please refer to P.22 as for pull studs.

MINI-MINI CHUCK ADVANCED ALPHA

NIKKEN

MMC

Code No.	D	D1	L	MAX. (r/min)	Wrench
BT30-MMC 4 -105-AA	1.0 ~ 4.0	15.0	105	30,000	EA573KL-6
-MMC 8C-105-AA	2.0 ~ 8.0	20.0	105	30,000	EA573KL-6
-MMC12C-105-AA	4.0 ~ 12.0	30.0	105	30,000	MMCL12-M6W

★Spanners are supplied with the mini-mini chuck. Collets are not included and must be ordered separately.

★Also available for BT flange contact spindle (NBT30). Example NBT30-MMC4C-105-AA

★Please refer to NC catalog for coolant solutions.

★Please refer to P.22 as for pull studs.

DIRECT SCREW TYPE MINI-MINI CHUCK

NIKKEN

MMC-AT

Code No.	D	D1	L	MAX. (r/min)	Wrench
BT30-MMC8C-65-AT	2.0 ~ 8.0	20.0	65	30,000	EA573KL-15

★Spanners are supplied with the mini-mini chuck. Collets are not included and must be ordered separately.

★Code No. of spanner for pull-stud tightening spanner sold separately is MMCLA-BT30. Please order separately.

★Also available for BT flange contact spindle (NBT30). Example NBT30-MMC8C-65-AT

★Please refer to NC catalog for coolant solutions.

★Please refer to P.22 as for pull studs.

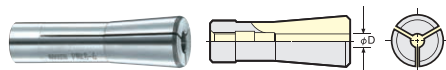
MINI-MINI COLLET (MPK/PMK/VMK COLLET)

NIKKEN

STANDARD COLEET : MPK Collet / PMK Collet

FOR CENTRE THROUGH TOOL COOLANT :

VMK Collet / VMK-J Collet



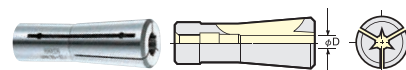
Explanation of the Code No.

PMK 8 - 2

• ID of Collet

• Style No.

• Symbol of PMK collet



Explanation of the Code No.

VMK 12 - 6 J

• Non: Without Jet Spread Groove
J : With Jet Spread Groove

• ID of Collet

• Style No.

• Symbol of VMK collet

Code No.	Min. Gripping Length
MPK 4 - 1	6
- 1.5	8
- 2	10
- 2.5	12
- 3	16
- 3.5	16
- 4	16
- 1/16	8
- 3/32	10
- 1/8	16

Code No.	Min. Gripping Length
PMK 8 - 2	10
- 2.2	10
- 2.4	12
- 2.6	12
- 2.8	12
- 3	16
- 3.2	16
- 3.4	16
- 3.6	16
- 3.8	16
- 4	20
- 4.2	20
- 4.4	20
- 4.6	22
- 4.8	22
- 5	22
- 5.2	22
- 5.4	22
- 5.6	22
- 5.8	22
- 6	22
- 6.2	22
- 6.4	22
- 6.6	22

Code No.	Min. Gripping Length
PMK 8 - 6.8	22
- 7	22
- 7.2	22
- 7.4	22
- 7.6	22
- 7.8	22
- 8	22
- 1/8	16
- 3/16	22
PMK 12 - 4	19
- 5	22
- 6	30
- 8	31
- 10	31
- 12	31

Code No.	Min. Gripping Length
VMK 8 - 2	10
- 3	16
- 4	20
- 5	22
- 6	22
- 7	22
- 8	22
- 2 J	10
- 3 J	16
- 4 J	20
- 5 J	22
- 6 J	22
- 7 J	22
- 8 J	22
- 1/8	15
- 3/16	22
- 1/4	22
- 5/16	22
- 3/8	22
- 1/8 J	16
- 3/16 J	22
- 1/4 J	22
- 5/16 J	22
- 3/8 J	22

Code No.	Min. Gripping Length
VMK12 - 4	19
- 5	22
- 6	30
- 8	31
- 10	31
- 12	31
- 4 J	19
- 5 J	22
- 6 J	30
- 8 J	31
- 10 J	31
- 12 J	31
- 3/16	22
- 1/4	30
- 5/16	31
- 3/8	31
- 7/16	31
- 1/2	31
- 3/16 J	22
- 1/4 J	30
- 5/16 J	31
- 3/8 J	31
- 7/16 J	31
- 1/2 J	31

Jet spread
Hole Type
VMK8-2J,
VMK8-3J

★Please note the acceptable shank tolerance of MPK Collet is h6.

★Even the gripping range of PMK Collet is 0.2mm / dia. (e.g. PMK8-2 : 1.8~2.0) but the shank tolerance of h6 highly recommended for precision machining.

★For Centre through tool Coolant type MINI-MINI Chuck :

★VMK-J Collet is for the cutting tool without Coolant hole.

★VMK8-2J is Jet Spread Hole type.

★Standard VMK Collet is for the cutting tool with coolant hole.

★Please note the acceptable shank tolerance h6.

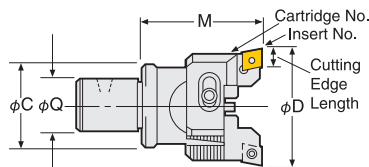
★VMK-2J and VMK-3J will be replaced with

VMK-2JB and VMK-3JB as soon as the stock is runs out.

MODULAR TYPE RAC BORING HEAD

NIKKEN

RAC-E Balance-Cut Boring Head

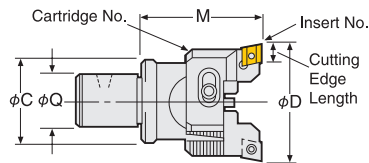
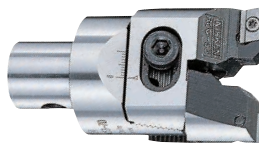


For Steel, Stainless Steel
and Cast Iron
CC Insert (Positive type)

Head Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	Cartridge No.	Insert No.	Cutting Edge Length	Weight (Kg)
12-RAC 25 - 55E	25~32	55	12	24	RCC-025E	CC07	8.0	0.4
16-RAC 32 - 55E	32~45	55	16	31	RCC- 32E	CC08	9.7	0.5
20-RAC 43 - 70E	43~55	70	20	40	RCC- 43E	CC12	12.9	0.7
26-RAC 53 - 70E	53~70	70	26	50	RCC- 53E			0.8
26-RAC 70 - 70E*	70~100	70			RCC- 70E			1.0

★Code No. of RAC25 and RAC32 with CC inserts are changed to RAC25E and RAC32E. ★Insert tips are supplied as an option. P.21 Please refer NC TOTAL TOOLING STSTEM for cutting condition.
★For centre through coolant type, please add "C" at the end of Code No. e.g. 26-RAC53-70E-C *Mark : 26-RAC70-70E is not available with oil hole specification.

RAC-A Balance-Cut Boring Head



For Aluminum

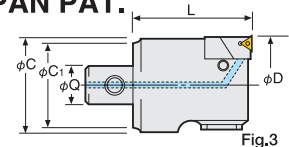
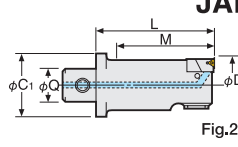
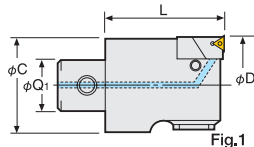
Head Code No.	Boring Range D	Boring Depth M	Coupling Dia Q	C	Cartridge No.	Insert No.	Cutting Edge Length	Weight (Kg)
12-RAC 25 - 55A	25~32	55	12	24	RCC- 25A	AEG12	9.5	0.4
16-RAC 32 - 55A	32~45	55	16	31	RCC- 32A			0.5
20-RAC 43 - 70A	43~55	70	20	40	RCC- 43A	AEG16	15.875	0.7
26-RAC 53 - 70A	53~70	70	26	50	RCC- 53A			0.8
26-RAC 70 - 70A*	70~100	70			RCC- 70A			1.0

★For centre through coolant type, please add "C" at the end of Code No. e.g. 26-RAC53-70A-C *Mark : 26-RAC70-70A is not available with oil hole specification.
★Insert tips are supplied as an option. P.21 ★For heavy cutting (RAC), through-hole and multi-plate (RAC-K) other than the above, please refer NC TOTAL TOOLING STSTEM.
★Please refer NC TOTAL TOOLING STSTEM for cutting condition.

MODULAR TYPE ZMAC ADVANCED BORING HEAD

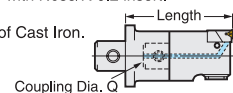
NIKKEN

ZMAC-V Triangular Insert type head



Head No.	Boring Range D	Boring Depth M	Coupling Dia Q	Remarks					Weight (Kg)
				C	C1	Unit No.	Insert No.	Fig.	
12-ZMAC 16- 45V	15.9~20.2	38	12	15	24	M 2HZ- 16V	3MP-C,B	2	0.4
12-ZMAC 16- 55V		48				M 2HZ- 20V			0.4
9-ZMAC 20- 40V	19.8~25.2	40	9	19	—	M 3HZ- 25V	4MP-C,B	1	0.4
12-ZMAC 25- 40V	24.8~32.2		12	24		M 4HZ- 32V			0.5
16-ZMAC 32- 55V	31.8~42.2	55	16	31		M 5HZ- 42V			1.1
20-ZMAC 42- 70V	41.8~55.2	70	20	40		M 5HZ- 55V			1.2
26-ZMAC 55- 70V	54.8~70.2	70	26	53					

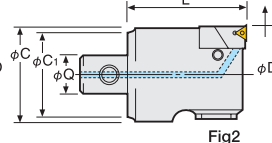
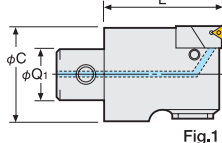
★MIN. dial readout: ZMAC25-V and smaller is 0.02mm on dia. ZMAC32-V and larger is 0.01mm on dia. ★The above boring ranges are based on heads with Nose/R 0.2 insert.
★"C" grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). P.21
Please refer NC TOTAL TOOLING STSTEM for cutting condition. We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
★Centre Through Coolant function is available as standard.
★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-LengthV e.g. Q26-20-ZMAC42-100V



MODULAR TYPE ZMAC& ADVANCED BORING HEAD

NIKKEN

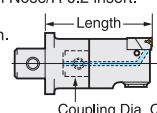
ZMAC&-V Triangular Insert type head



For High Speed Boring
Deep Hole Boring

Head No.	Boring Range D	Boring Depth M	Coupling Dia Q	Remarks					Weight (Kg)
				C	C1	Unit No.	Insert No.	Fig.	
12-ZMAC 25- 40AAV	24.8~32.2	40	12	24	—	M 3HZ- 25V	3MP-C,B	1	0.4
16-ZMAC 32- 55AAV	31.8~42.2	55	16	31		M 4HZ- 32V	4MP-C,B		0.5
20-ZMAC 42- 70AAV	41.8~55.2	70	20	40		M 5HZ- 42V	6MP-C,B		0.8
26-ZMAC 55- 70AAV	54.8~70.2		26	53		M 5HZ- 55V			0.7

★MIN. dial readout: ZMAC25-AAV and smaller is 0.02mm on dia. ZMAC32-AAV and larger is 0.01mm on dia. ★The above boring ranges are based on heads with Nose/R 0.2 insert.
★"C" grade (Coated) insert for Steel, Stainless & Cast Iron is supplied as Standard with the head (Smooth boring & Long tool-life). P.21
Please refer NC TOTAL TOOLING STSTEM for cutting condition. We would recommend "B" grade (CBN) insert for Hardened Steel & High Speed boring of Cast Iron.
★Centre Through Coolant function is available as standard.
★Code No. of the set with SP26 stepped spacer is Q26-Coupling Dia.-ZMAC○-LengthAAV e.g. Q26-20-ZMAC42-100AAV



BASE HOLDER for MODULAR TYPE (BT Shank) **NIKKEN**



Q

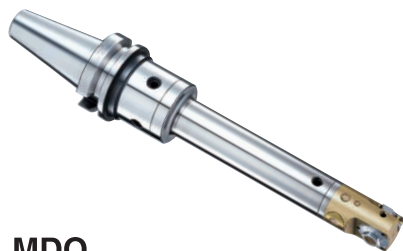
Code No.	L	H	Coupling Dia Q
BT30-Q 9-50	50	20	9
-Q12-65	65	40	12
-Q16-50	50	25	16
-Q20-50	50	26	20
-Q26-40	40	18	26

★All base holders have a centre through tool coolant hole. ★The coupling screw & wrench are supplied as standard.
★Also available for BT flange contact spindle (NBT30). Example **NBT30-Q9-50** ★Please refer to P.22 as for pull studs.

2LOCK

MAJOR DREAM
HOLDER

BASE HOLDER for MODULAR TYPE **NIKKEN**



Code No.	L	H	Coupling Dia Q
NBT30-MDQ26-60	60	37.5	0

★All base holders are used for centre through tool coolant. ★Coupling bolt and wrench are supplied as standard.
★ZMAC α -V head is recommended to use with the MAJOR DREAM base holder for anti-vibration.
★Please refer to P.22 as for pull studs.

MDQ

Photo shows with A1 spacer and ZMAC α -V head.

SPACER for MODULAR TYPE **NIKKEN**

Extension Spacer



SP

Spacer for Modular Type(Extension Spacer)

Code No.	Coupling Dia Q	Coupling Dia Q ₁	Length L
SP 9- 9-30,45	9	9	30,45
-12-12-30,45,60	12	12	30,45,60
-16-16-30,45,60	16	16	30,45,60
-20-20-45,60	20	20	45,60
-26-26-60,90	26	26	60,90

Stepped Spacer



SP

Spacer for Modular Type(Stepped Spacer)

Code No.	Coupling Dia Q	Coupling Dia Q ₁	Length L	Boring Range D
SP12- 9-45	12	9	45	33
SP16- 9-45	16	9	45	33
-12-60		12	60	48
SP20- 9-45	20	9	45	33
-12-60		12	60	47
-16-60,90		16	60,90	47,77
SP26- 9-30,45	26	9	30,45	15,30
-12-30,60		12	30,60	15,15
-16-30,60, 90		16	30,60,90	15,45,75
-20-30,60,100		20	30,60,100	18,48,88

A1 Spacer for Deep Hole



SP

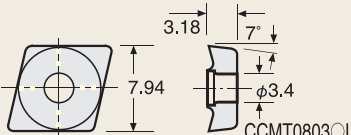
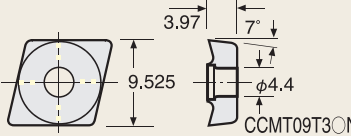
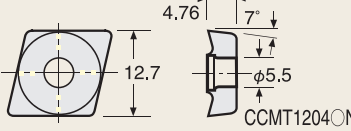
Spacer for Modular Type(A1 Spacer for Deep Hole)

Code No.	Coupling Dia Q	Coupling Dia Q ₁	Length L	Boring Range D
SP26- 9- 85-A1	26	9	85	70
-12-115-A1		12	115	100
-16-140-A1		16	140	125
-20-180-A1		20	180	165
-26-190-90		26	190	190

★All base holders have a centre through tool coolant hole. ★The coupling screw & wrench are supplied as standard.

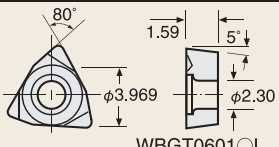
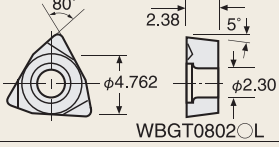
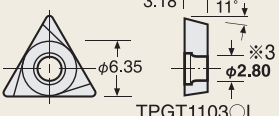
NIKKEN INSERT TIP (EXCLUSIVE FOR BORING ARBOR)

NIKKEN

Material	Steel	●	●			
	Stainless Steel	●	●			
	Cast Iron	●	●	●		
For the Boring of Large Diameter and Short Depth, the use of insert with large nose radius is recommended. The smaller nose radius inserts are ideal for smaller diameter boring or finishing operation.		Coated Cermet	Coated Carbide M	Coated Carbide K		
		Grade	C			
		Material	PV720	AC630M	AC410K	
Applicable Arbor	Dimension	Code No.	NOSE R			
RAC25E		CC07-○4	0.4		●	●
		CC07-○8	0.8		●	●
RAC32E		CC08-○4	0.4		●	●
		CC08-○8	0.8		●	●
RAC43E, RAC53E, RAC70E		CC12-○4	0.4		●	●
		CC12-○8	0.8		●	●

Material	Steel	●	●	●			
	Stainless Steel	●	●				
	Cast Iron	●			●	●	
	Aluminium					●	
	High Speed finish for Cast Iron						●
	Hardened Steel						●
	High Speed finish for Aluminium						●

For the Boring of Large Diameter and Short Depth, the use of insert with large nose radius is recommended. The smaller nose radius inserts are ideal for smaller diameter boring or finishing operation.

For the Boring of Large Diameter and Short Depth, the use of insert with large nose radius is recommended. The smaller nose radius inserts are ideal for smaller diameter boring or finishing operation.				Coated Cermet		Cermet (w/o coating)		Carbide P	Carbide K		CBN	Diamond	
				Grade	C		T		E	F-NB*2 w/o breaker	F	B	D
				Material	PV720	T1500Z	NS9530	TN90	ST10P	H1		KBN510	KPD010
Applicable Arbor	Dimension	Code No.	NOSE R										
ZMAC16-V, ZMAC20-V, ZMAC25-V		3MP-○2	0.2		●	●		●	●*2	●	●	●	
		3MP-○4	0.4		●						●	●	
ZMAC32-V		4MP-○2	0.2	●	●	●		●	●*2	●		●	
		4MP-○4	0.4	●	●				●*2	●	●	●	
ZMAC42-V, ZMAC55-V		6MP-○2	0.2	●	●	●		●	●*2	●		●*4	
		6MP-○4	0.4		●	●			●*2	●	●	●*4	
		6MP-○8	0.8	●	●	●		●	●*2	●	●	●*4	

★ Minimum quantity of CBN and Diamond: 1pcs, All other insert tip: 10pcs

★ *2 "-NB" (w/o breaker) is recommended for cast iron.

★ *3 Hole diameter of 6MP is $\phi 2.8\text{mm}$. M2562D (Optional tip clamp bolt) is required for the ISO standard insert tip with the hole diameter of $\phi 3.3\sim\phi 3.5\text{mm}$.

★ *4 M2562D is necessary for 6MP-D (Diamond), because of the hole diameter is different.

★ The ISO code No. surrounded with () is the Nikken original insert tip.

Code No. of ISO standard Insert Tip

T P G T 1 1 0 3 0 4 L

Insert Shape T : W : C : M : S : A :

Normal Clearance B : 5° C : 7° P : 11° N : 0° E : 20°

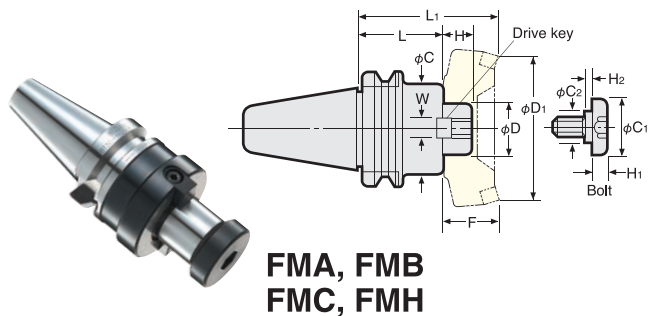
Tolerance Class G : Ground M : Pressed

Tip Breaker & Hole Configuration T : R : B : H : M : X : Special

Please add the grade indication into ○, and add the insert tip material indication at the end off the Code No.
e.g. 6MP-C4 (PV720) , 6MP-F4-NB (H1)

FACE MILL ARBOR

NIKKEN



Code No.	D	L	H	C	C1	W	Weight (kg)
BT30-FMA25.4-45	25.4	45	22	50	33	9.5	0.9
-FMB25.4-45	25.4	45	26	80	33	9.5	1.2
-FMB27 -45	27	45	26	80	33	12	1.2
-FMC25.4-45	25.4	45	20	60	18	9.4	1
-FMC22 -40	22	40	18	45	16	10	0.8
-FMH16 -37-35	16	35	17	37	20	8	0.6
-FMH22 -47-45	22	45	18	47	16	10	0.8

★Drive keys, L-Wrench & Bolt are supplied as standard. ★Please refer to P.22 as for pull studs.
 ★Above weight is for Arbor only. (Not include Face Mill Cutter)
 ★All series have through-centre. ★FMH is available for cutters with oil hole.
 ★Also available for BT flange contact spindle (NBT30). Example NBT30-FMA25.4-45

PULL STUD

NIKKEN

Centre Through Coolant	Code No.	Fig.
No	PS-16	1
Yes	PS-132	2



Fig.1

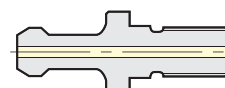


Fig.2

Sample : Tool Layout for FANUC ROBODRILL

Tool layout example for FANUC Corporation ROBODRILL α -D21Mi5AdvPlus

Machine specifications:
Flange contact NBT30 /
with centre through coolant

No.	Product name	Code No.	Qty.	Remarks	Reference*
1	Slim Chuck	NBT30-SK6C-60	4	Gripping diameter:0.7~6.0	P195
2	Slim Chuck Collet (Common to Slim Chuck and Major Dream Holder)	SK6-3	2	Gripping diameter:2.8~3.0	P200
3		SK6-4	2	Gripping diameter:3.5~4.0	
4		SK6-6	2	Gripping diameter:5.5~6.0	
5	Spanner	SKL-6W	1	SK6 tightening spanner	P 52
6	Slim Chuck	NBT30-SK13C-75	8	Gripping diameter:2.75~13.0	P195
7	Major Dream Holder	NBT30-MDSK13-75	4	Damping mechanism reduces chatter, suitable for end-mill machining.	P201
8	Slim Chuck Collet (Common to Slim Chuck and Major Dream Holder)	SK13-4	3	Gripping diameter:3.5~4.0, also for M3 tapping	P200
9		SK13-5	1	Gripping diameter:4.5~5.0, also for M4 tapping	
10		SK13-6	3	Gripping diameter:5.5~6.0, also for M6 tapping	
11		SK13-6.5	1	Gripping diameter:6.0~6.5, also for M8 tapping	
12		SK13-7	1	Gripping diameter:6.5~7.0, also for M10 tapping	
13		SK13-8	3	Gripping diameter:7.5~8.0	
14		SK13-8.5	1	Gripping diameter:8.0~8.5, also for M12 tapping	
15		SK13-10	3	Gripping diameter:9.5~10.0	
16		SK13-12	3	Gripping diameter:11.5~12.0	
17	Spanner	9HC12A	1	SK13 tightening spanner	P 52
18	GH Handle	GH12	1	MDSK13 tightening GH Handle	P201
19	Mini-Mini Chuck	NBT30-MMC12C-105-AA	2	Suitable for small diameter end milling and drilling	P193
20	VMK-J Collet (Coolant collet for Mini-Mini Chuck)	VMK12-4J	1	Gripping diameter: 4.0 / for jet coolant	P194
21		VMK12-6J	1	Gripping diameter: 6.0 / for jet coolant	
22		VMK12-8J	1	Gripping diameter: 8.0 / for jet coolant	
23	Milling Chuck	NBT30-C20-75	2	Gripping diameter:2.0~20.0	P187
24	Spanner	9HC22	1	C20 tightening spanner	P 52
25	Universal Micro Touch	BT30-UMT150	1	Compact type for BT 30 machines	P155
26	Height Presetter	HP-50K	1	Continuity detection type	P159
27	Pull Stud	PS-132	21	With hole type	P308
28	Tool Clamper	TCL-46GH	1		P162

*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.
 The catalogue can be downloaded from the QR code on the back cover.

α -DSiB5 Plus

α -DMiB5 Plus

TEC

TOOL

NIKKEN KOSAKUSHO WORKS, LTD. OSAKA, JAPAN.

5-1, 1-chome, Minamishinden, Daito-shi, Osaka-fu, Japan. Telephone : 072-869-5820 Telefax : 072-869-6220

U.S.A
CA, CT, IL, NC, TX, WA

LYNDEX-NIKKEN Inc
1468 Armour Boulevard,
Mundelein, ILLINOIS 60060
Tel.+1-847-367-4800 Fax.+1-847-367-4815

MEXICO
(From 2014.09)

HERRAMIENTAS LYNDEX-NIKKEN S.A.de C.V.
Av. Hercules #401-13, Fracc. Poligono 3
Santa Rosa Jauregui, Queretaro 76220
Tel.+52-55-8421-8421

FRANCE

PROCOMO-NIKKEN S.A.S
6, avenue du 1er Mai-Z.A.E.Les Glaises 91127
Palaiseau Cedex
Tel.+33-(0)-1-69.19.17.35 Fax.+33-(0)-1-69.30.64.68

UK

NIKKEN KOSAKUSHO EUROPE LTD.
Precision House, Barbot Hall Industrial Estate,
Rotherham, South Yorkshire, S61 4RL
Tel.+44-(0)-1709-366306 Fax.+44-(0)-1709-376683

GERMANY

NIKKEN DEUTSCHLAND GMBH
CARL-ZEISS-STRASSE 11 NEU-ULM 89231
Tel.+49-731-963397-0 Fax.+49-731-963397-60

SWITZERLAND

NIKKEN SWITZERLAND AG
CHAMBERSTRASSE 44, CH-6331 HUNENBERG
Tel.+41-(0)41-748-5000 Fax.+41-(0)41-748-5001

ITALY

VEGA INTERNATIONAL TOOLS S.P.A
Via Asti N° 9 10026-Santena(TORINO)
Tel.+39-011-9497911 Fax.+39-011-9456380

SCANDINAVIA
SWEDEN

NIKKEN SCANDINAVIA AB
Malmövägen 14 331 42 Värnamo Sweden
Tel.+46-(0)-303-440-600 Fax.+46-(0)-303-58177

**SPAIN &
PORTUGAL**

CUTTING TOOL S.L
Portuetxe 16, Barrio Igarra
E-20018 Donostia-san Sebastian
Tel.+34-(0)-902-820090 Fax.+34-(0)-902-820099

TURKEY

UTILLAJES OLASA,S.L.
Tel.+34-(0)-943-107177
NIKKEN KESICI TAKIMLAR SAN. VE ULUSLARARASI TIC. A. S
E5 Uzeri Kucukyali Yanyol Irmak Sok.
Kucukyali Sanayi Sitesi A Blok No:5 Maltepe 34852 Istanbul
Tel.+90-(0)-216-518-1010 Fax.+90-(0)-216-366-1414

KOREA

KOREA NIKKEN LTD.
90B-11L, Namdong Industrial Complex, 170,
Namdong-Daero, Namdong-Gu, Incheon, Korea 405-819
Tel.+82-(0)-32-763-4461 Fax.+82-(0)-32-763-4464

P.R.CHINA

SHANGHAI ZHONG YAN TRADING CO., LTD.
Building 1/f, #54, No.1089 Qinzhou Rd. (N),
Shanghai, China
Tel.+86-(0)-216210-2506 Fax.+86-(0)-216210-2083

SINGAPORE

NIKKEN KOSAKUSHO ASIA PTE, LTD.
186, Woodlands Industrial Park E5 #04-01
M Singapore 757515
Tel.+65-6362-7980 Fax.+65-6362-7980

THAILAND

SIAM NIKKEN Co., LTD.
127 Moo5 Gauwungsa-Bangturie Road Tambon Tanokkard
Ampher Muangnakhonpathom Nakhonpathom 73000 Thailand
Tel.+66(02)178-0503 Fax.+66(02)178-0504

INDONESIA

PT.NIKKEN KOSAKUSHO INDONESIA
JALAN BIZPARK 3 JABABEKA INNOVATION CENTER A NO.16,
KEL.MEKARMUKTI, KEC. CIKARANG UTARA, KAB.
BEKASI PROP. JAWA BARAT
TEL:+62-811 9980 807 MAIL:zefry.i@nikken-kosakusho.co.jp

<http://www.nikken-kosakusho.co.jp/en>
e-mail : export@nikken-kosakusho.co.jp

■ Please give your order to the following agent.

D.QH.1

● Specifications are subject to change without notice.