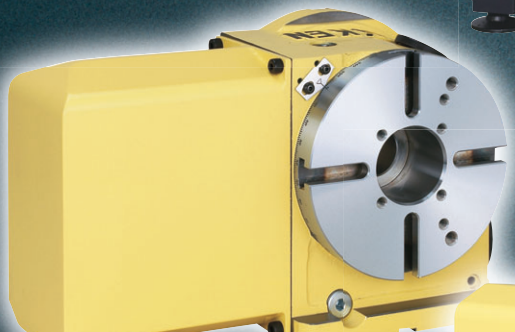
NIKKEN

CNC ROTARY TABLE for BROTHER COMPACT MACHINING CENTRE SPEEDIO

BT30 TOOLING

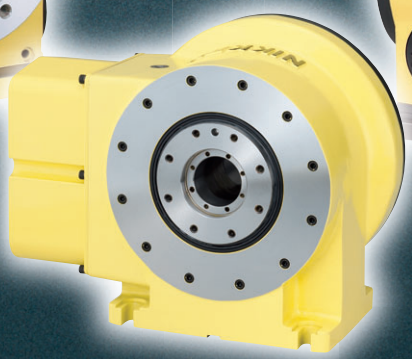
CNC205L SA-BR2

5AX-100 SA-BR2



CNC180L SA-BR2

5AX-201 SA-BR2



DD250LS-50

NIKKEN KOSAKUSHOWORKS, LTD.
CAT.NO.8306Ⓔ

CNC ROTARY TABLE for SPEEDIO

NIKKEN

The servo motor and the amplifier of the rotary table for **SPEEDIO** are special one only for **SPEEDIO**.
The existing servo motors or the amplifiers for BROTHER TAPPING CENTER can not be used.

Please specify the machine name and the layout of the rotary table, when ordering. Standard layout of the rotary table is to install the left-handed rotary table on the left side of the machine.

The amplifier, all cables and the rotary table with the suitable servo motor will be supplied from NIKKEN.
Installation fee will be charged separately.

SPEEDIO S300X1 ☞P.3	CNC105LSA-BR2
	CNC180LSA-BR2, 202LSA-BR2
	CNC205LSA-BR2 (Trunnion)
	5AX-100SA-BR2
	DD250LS-50
SPEEDIO (S500X1 S700X1 ☞P.5 **S1000X1** ☞P.9	CNC180LSA-BR2, 202LSA-BR2
	CNC205LSA-BR2 (Trunnion)
	CNC260LSA-BR2, 302LSA-BR2
	5AX-130SA-BR2
	5AX-201SA-BR2
	DD250LS-50

SPEEDIO R450X1*1 (With Pallet Changer) ☞P.13	CNC105LSA-BR2
	CNC180LSA-BR2, 202LSA-BR2
	CNC205LSA-BR2 (Trunnion)
	5AX-130BASA-BR2
SPEEDIO R650X1*2 (With Pallet Changer) ☞P.15	CNC105LSA-BR2
	CNC180LSA-BR2, 202LSA-BR2
	CNC205LSA-BR2 (Trunnion)
	5AX-130BASA-BR2
	5AX-2MT-105-120SA-BR2
	DD250LS-50

Basically,2sets are needed for pullee changer

Please specify the options

	R450X1		R650X1	
	Standard	Option	Standard	Option
Swing Dia.(mm)	1,020	1,100	1,250	1,300
JIG Height(mm)	300	350	350	420
Load (kg)	120	200	200	300

★Option can be selected indipendently.

CNC Rotary Table for TC-S2DN, TC-R2B,TC-32BNQT, TC-32BNFT, TC-22B

The servo motor and the amplifier are different from the one for **SPEEDIO**. Please ask us for more detail.

CNC-A00:SAⅢ

TAPPING CENTER	CNC ROTARY TABLE
TC-S2A	CNC180LSAⅢ, 202LSAⅢ
	5AX-130SAⅢ

★High speed rotation Z series is also available.

CNC-B00:SA-BR

TAPPING CENTER	CNC ROTARY TABLE
TC-S2D	CNC105LSA-BR
	CNC180LSA-BR, 202LSA-BR
	CNC260LSA-BR
	5AX-130SA-BR, 5AX-201SA-BR
TC-31B*1 (With Pallet Changer)	CNC105LSA-BR
TC-R2B*1 (With Pallet Changer)	CNC105LSA-BR
	CNC180LSA-BR, 202LSA-BR
	5AX-130BASA-BR

★High speed rotation Z series is also available.
★The machine marked *1 is equipped with the pallet changer. So, 2 set of the rotary table will be installed.

CNC-B00:YA-BR

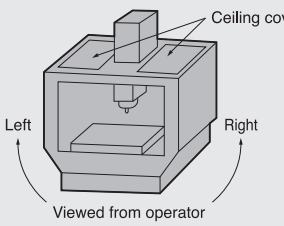
TAPPING CENTER	CNC ROTARY TABLE
TC-22B	CNC180LYA-BR, 202LYA-BR
	CNC260LYA-BR
	5AX-130YA-BR, 5AX-201YA-BR
TC-32BNFT	CNC180LYA-BR, 202LYA-BR
	CNC260LYA-BR
	5AX-130YA-BR, 5AX-201YA-BR
	5AX-350BAYA-BR
TC-32BNQT*1 (With Pallet Changer)	CNC180LYA-BR, 202LYA-BR
	5AX-130BAYA-BR
	5AX-2MT-105-120BAYA-BR

★High speed rotation Z series is also available.
★The machine marked *1 is equipped with the pallet changer. So, 2 set of the rotary table will be installed.
★The special agreement should be taken for 5AX-350BAYA-BR, please ask us for more detail.

CNC ROTARY TABLE order check sheet for BROTHER

CNC ROTARY TABLE MODEL :
Qty :
BROTHER MODEL :
Table size : Standard option
Colum height : Standard high Colum
Country of Destination :
End User :

Position of CNC ROTARY TABLE MODEL : Left Right
Ceiling cover : Full cover, without cover
Cable Position of Ceiling cover : Left Right
Application : Table only Trunnion Jig
Support Table : without with( )
Meeting with set maker : No Yes( )

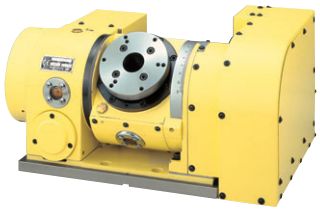


CNC ROTARY TABLE for *SPEEDIO* S1000X1

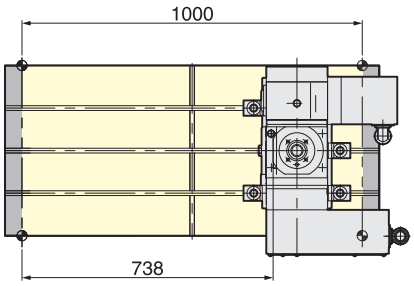
NIKKEN

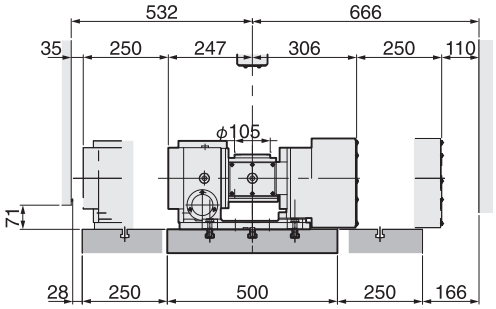
5AX-130SA-BR2

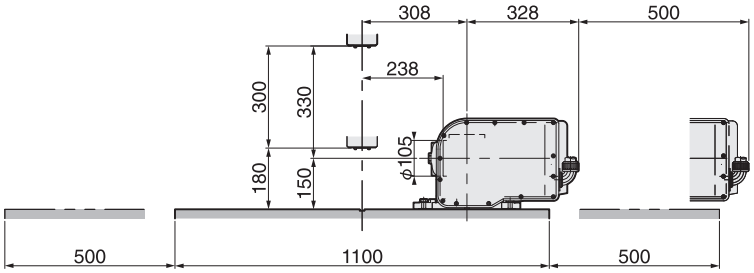
130mm type 5AX- TILTING ROTARY TABLE



- ●Diameter of Table : 130mm(With 130mm sub table)
- ●MAX. Work Load :25kg(Vertical)50kg(Horizontal)
- ●MAX. Rotation Speed :22.2(min-1)(Rotary),11.1(min-1)(Tilting)
- ●Indexing Accuracy :±30sec.(Rotary), 60sec.(Tilting)
- ●Brake Torque :205Nm(Rotary), 303Nm(Tilting)
- ●Net Weight :115kg
- ●Servo Motor :R2AAB8100HXPGA(Rotary)
  R2AAB8100HXPGA(Tilting)
- ●Spindle Hole : 60mmH7× 30mm Through Hole
- ●Tilting Angle :0°～105°

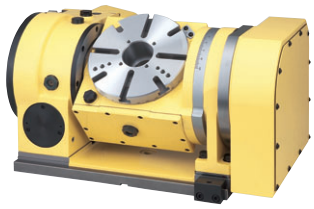




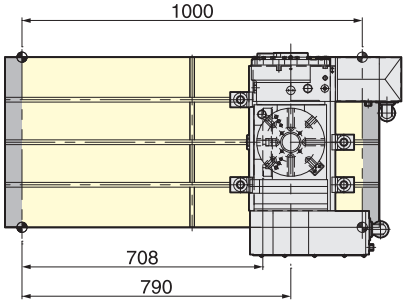


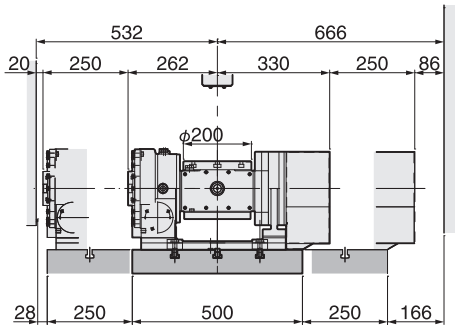
5AX-201SA-BR2

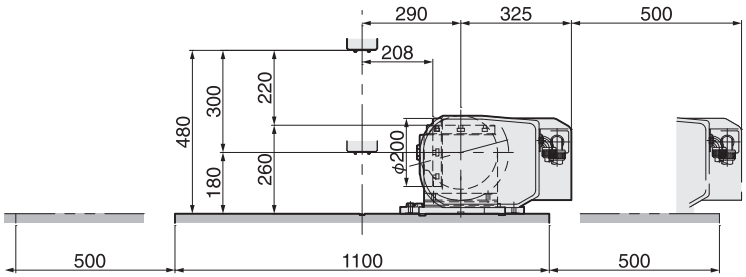
200mm type 5AX- TILTING ROTARY TABLE



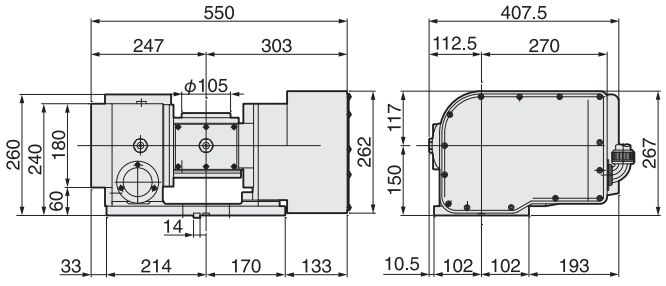
- ●Diameter of Table : 200mm
- ●MAX. Work Load :40kg(Vertical)60kg(Horizontal)
- ●MAX. Rotation Speed :22.2(min-1)(Rotary),16.6(min-1)(Tilting)
- ●Indexing Accuracy :±20sec.(Rotary), 60sec.(Tilting)
- ●Brake Torque :588Nm(Rotary), 608Nm(Tilting)(Hydraulic)
  303Nm(Rotary), 303Nm(Tilting)(Pneumatic)
- ●Net Weight :160kg
- ●Servo Motor :R2AAB8100HXPGA(Rotary)
  R2AAB8100HXPGA(Tilting)
- ●Spindle Hole : 60mmH7× 50mm Through Hole
- ●Tilting Angle :0°～105°



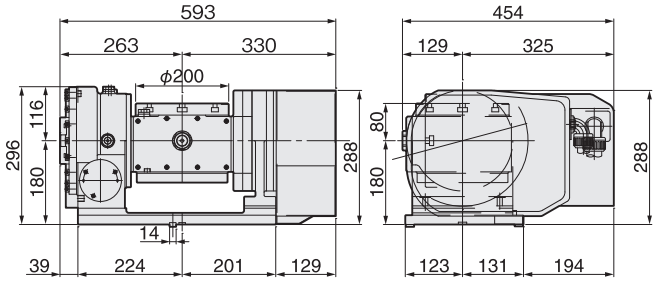




5AX-130SA-BR2



5AX-201SA-BR2

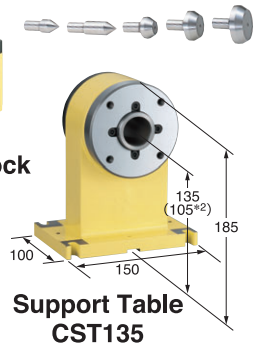


TAILSTOCK, SUPPORT TABLE

NIKKEN

List of Tailstock and Support Table

Manual Tailstock

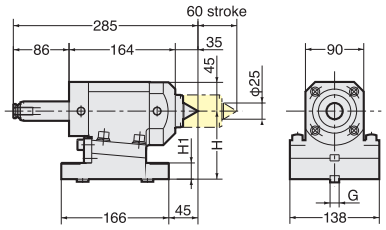


Support Table
CST135

Table Model \ Tailstock / Centre Height		Manual	Air/Hyd.	Support Table	
		Stroke:15mm	Stroke:60mm	CST without Brake	TAT with Brake
CNC105L	105	P-105SL	PBA-105	CST105	TAT105
CNC180L, 202L, 205L	135	P-125SL	PBA-135	CST135	TAT170
CNC260L, 302L, DD250LS	170	P-170SL	PBA-170	*1	TAT250
5AX-130	150	P-150S*3	PBA-150		—
5AX-201	180	P-170S*3	PBA-180		

★ *1 The center height can be adjusted to the CNC rotary table by the base plate.
★ *2 Center height of **CST105**
★ 5 pcs of the changable center are attached as standard for **P-150S, P-170S.**
★ *3 The left-handed type is also available.

Air/Hyd. both usable Tailstock



Code No.	Center Height H	H1	G	Thrust(N)		Weight (kg)
				Air 0.5MPa	Hyd. 2MPa	
PBA-105	105	25	14	1176	4733	15
PBA-135	135	55	14	1176	4733	20
PBA-150	150	70	18	1176	4733	22
PBA-170	170	90	18	1176	4733	24.5

★ Rotary center is built-in.
★ MT (Morse Taper) type quill is also available. Please contact us.
★ The different length of the stroke is available. Please contact us.
★ **Center height can be adjusted within 0.35mm.**

Support Table

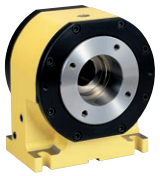
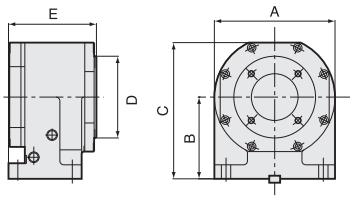


Photo. shows
TAT105N.



Air ports are 2 X Rc1/8. Solenoid valve and clamp/unclamp confirmation switches are not included.

Code No.	A	B	C	D	E	Clamping System	Brake Torque (N·m)	Weight (kg)
TAT105N	155	105	175	105	113	Air	205	16
TAT170N	155	135	220	170	138	Air	205	25
TAT250	250	170	295	250	145	Air/Hyd.	112/784	50

★Air pressure is 0.5MPa.
★The powerful double intensifying brake system is built in **TAT105** and **TAT170.**
★Rotary joint is available for all models.
★Please contact us for **TAT250.**

ROTARY JOINT, SPECIAL COLOR

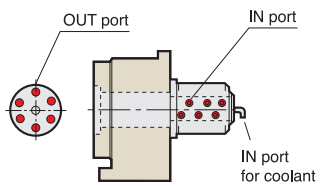
NIKKEN

Rotary Joint

There are 2 types of the rotary joint such as cylinder type and flange plate type. Rotary joint is used for clamp/unclamp of the work piece, confirmation of proper clamp, cleaning, coolant etc. The fine cutting swarf may come into the coolant port through the filter, therefore the coolant port is recommended to be separated.

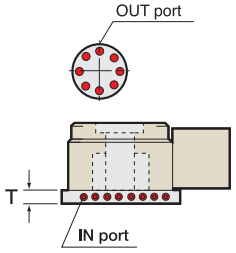
1.Cylinder type Rotary Joint

Retrofitting to standard CNC rotary table is available.



2.Flange Plate type Rotary Joint

IN port position can be changed at any angle of 360°. Any position, which causes no interference against M/C, can be selected.



Code No.	Cylinder type	Flange Plate type	
	MAX. No. of Ports	MAX. No. of Ports	T mm
CNC105L	4+1*1	4	25
180L, 202L	6+1*1	4	25
260L	8+1*1	6	30
5AX-130	2(4)	—	—
5AX-201	—	4	
DD250LS	6	6	30

( ): MAX. port number of high column table
*: +1 port is the port located in the center hole(for coolant)

⚠ Caution of IN port

- When the air is supplied for all IN ports, please contact us.
- Please do not supply the different pressure of the air in the IN ports next each other.
- Please make sure that the line filter should be provided for pneumatic supply use in order to avoid swarf and water ingress for rust problem.
- This is not avoidable that the oil of the hydraulic port may be leaked to the next air port for the long time use, due to the characteristic of the seal. Please do not assign the air port next to the hydraulic port as much as possible.
- The rotary joint must be specially treated to prevent from the rust, when using the glycol solution for the operating fluid. Please inform us when ordering.
- When the rotary joint is designed at your side, please select the low friction type seal. Then, please check the rotary table movement after installation of your rotary joint, not to over load.

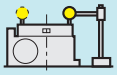
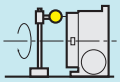
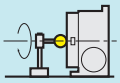
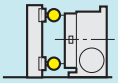
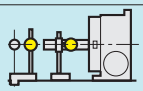
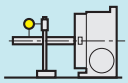
Special Color

Please order with the color sample of Munsell Color No.

ACCURACY STANDARD

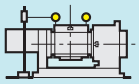
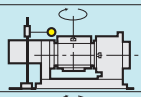
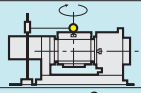
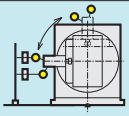
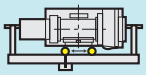
NIKKEN

CNC Rotary Table

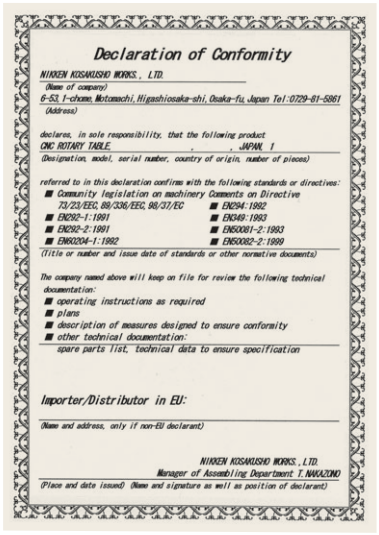
No.	Measuring Item	Measuring Method	CNC105	CNC180/202	CNC205	CNC260/302	DD250LS
1	Parallelism between tablesurface and frame bottom surface (Concave)		0.015 mm	0.015 mm		0.02 mm	
2	Runout of table surface		0.01 mm	0.01 mm	0.01 mm	0.015 mm	0.01 mm
3	Concentricity of centre bore		0.01 mm	0.01 mm	0.01 mm	0.01 mm	0.01 mm
4	Squareness of table surface (Minus deviation at upper part is not permitted.)		0.020 mm	0.02 mm	0.02mm	0.02 mm	0.01mm
5	Parallelism between centreline of test bar and key way		0.020 mm	0.02 mm	0.02mm	0.02 mm	At 150mm 0.02 mm
6	Parallelism between frame bottom surface and table centre line		0.020 mm	0.02 mm	0.02mm	0.02 mm	At 150mm 0.02 mm
7	Indexing accuracy		±30″	±20″	±20″	20″	15″
8	Repeatability		4″	4″	4″	4″	4″

★For ultra precision option: One rank higher accuracies than the above figures are inspected.

5AX- Tilting Rotary Table

No.	Measuring Item	Measuring Method	5AX-130	5AX-201
1	Parallelism between table surface and frame bottom at tilting angle 0° (Concave)		0.015 mm	0.015 mm
2	Deviation of table surface at tilting angle 0°		0.01 mm	0.01 mm
3	Deviation of table centre hole at tilting angle 0°		0.01 mm	0.01 mm
4	Deviation of table centre hole at tilting angle 0°		0.02 mm	0.02 mm
5	Parallelism between table surface and centre line of guide key at tilting angle 90°		0.015 mm	0.015 mm
6	Displacement of centrewhen moving from 0° to 90° at tilting angle 90°		0.01mm	0.015mm
7	Indexing accuracy of rotary axis		±30″	20″
8	Repeatability of rotary axis		4″	4″
9	Indexing accuracy of tilting axis	Cumulative	60″	60″
10	Repeatability of tilting axis	——	±6″	±6″

★For ultra precision option: One rank higher accuracies than the above figures are inspected.



Declaration of Conformity

NIKKEN KOSAKUSHO WORKS., LTD.
(Name of company)
6-53, 1-chome, Motomachi, Higashiosaka-shi, Osaka-fu, Japan Tel:0729-61-5861
(Address)

declares, in sole responsibility, that the following product
CNC ROTARY TABLE , JAPAN 1
(Designation, model, serial number, country of origin, number of pieces)

referred to in this declaration confirms with the following standards or directives:
■ Community legislation on machinery Comments on Directive
73/23/EEC, 98/336/EEC, 98/37/EC
■ EN292-1:1991
■ EN292-2:1991
■ EN60204-1:1992
■ EN294:1992
■ EN349:1993
■ EN50081-2:1993
■ EN50082-2:1995
(title or number and issue date of standards or other normative documents)

The company named above will keep on file for review the following technical documentation:
■ operating instructions as required
■ plans
■ description of measures designed to ensure conformity
■ other technical documentation:
spare parts list, technical data to ensure specification

Importer/Distributor in EU:
(Name and address, only if non-EU declarant)

NIKKEN KOSAKUSHO WORKS., LTD.
Manager of Assembling Department T. NAKAZONO
(Place and date issued) (Name and signature as well as position of declarant)

CE Mark Declaration of Conformity

CNC ROTARY TABLE with CONTROLLER

NIKKEN

CNC rotary table with Alpha 21 controller can be used for the tapping center without additional axis.

- Single M signal provides various automatic operation.
- The latest designed digital servo system.
  The dimension of the servo motor became more compact and the torque is powered up.
- More than 25,000 sets working in the field.

αi21 controller
・Standard (400W,750W)
300×280×285 10kg
Single phase AC200/220V

NIKKEN

SLIM CHUCK

SK

Photo. shows High Speed Tooling.

Code No.	Gripping Range φD	Nose Dia. φC	L
BT30-SK 6- 60P, 90P, 120P	0.7 ～ 6.0	19.5	60, 90, 120
-SK10- 45P, 60P, 75P, 90P, 120P	1.75 ～ 10.0	27.5	45, 60, 75, 90, 120
-SK13- 60P, 75P, 90P, 120P	2.75 ～ 13.0	33	60, 75, 90, 120
-SK16- 60P, 75P, 90P, 120P	2.75 ～ 16.0	40	
-SK20- 60P, 75P, 90P	3.5 ～ 20.0	48.5	60, 75, 90
-SK25- 90P	7.5 ～ 25.4	55	90

★This table is for high speed tooling. Please specify the **Code No.** without **"P"** for standard tooling. eg. **BT30-SK10-60**
★Please add **"C"** in the **Code No.** of standard slim chuck for high pressure center through coolant. eg. **BT30-SK10C-60**
★**2Lock (NBT30)** is also available. **2Lock** is for high pressure center through coolant (MAX. 7MPa). eg. **NBT30-SK10C-60P**
★Collet, Adjust screw and the **GH handle** (spanner) are available as an option.

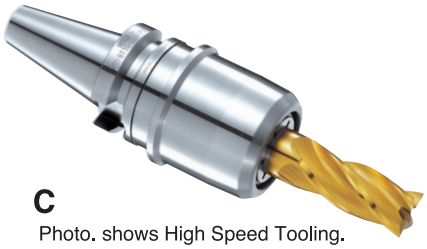
SLIM COLLET

SK

SK Collet Code No.
SK 6- 0.8,1,1.25,1.5,1.75,2,2.25,2.5,2.75,**3**,**3.175**,3.5,**4**,4.5,**5**,5.5,**6**
SK10- 2,2.25,2.5,2.75,**3**,**3.175**,3.5,**4**,4.5,**5**,5.5,**6**,6.5,7,7.5,**8**,8.5,9,9.5,**10**
SK13- **3**,3.5,**4**,4.5,**5**,5.5,**6**,6.5,7,7.5,**8**,8.5,9,9.5,**10**,10.5,11,11.5,**12**,12.5,**13**
SK16- **3**,3.5,**4**,4.5,**5**,5.5,**6**,6.5,7,7.5,**8**,8.5,9,9.5,**10**,10.5,11,11.5,**12**,12.5,13,13.5,14,14.5,15,15.5,**16**
SK20- **4**,4.5,**5**,5.5,**6**,6.5,7,7.5,**8**,8.5,9,9.5,**10**,10.5,11,11.5,**12**,12.5,13,13.5,14,15,**16**,17,18,19,**20**
SK25- **8**,**10**,**12**,**16**,16.5,17,17.5,18,18.5,19,19.5,**20**,20.5,21,21.5,22,22.5,23,23.5,24,24.5,**25**

★**SK6-0.8** ～ **SK6-1**: The gripping range is **0.1mm**.
SK6-1.5 ～ **SK6-3**: The gripping range is **0.2mm**.
SK10-2 ～ **SK10-3** < **SK13-3**, **SK16-3**: The gripping range is **0.25mm**.
The gripping range of the other collets is **0.5mm**.
★**"P" class collet of run-out accuracy 3μm is also available. eg. SK10-3P**
★**"A" type collet with bold character (gripping range: h8) is also available. eg. SK10-3A**

MILLING CHUCK



C

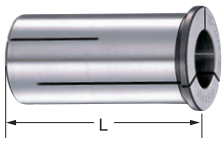
Photo. shows High Speed Tooling.

Code No.	Gripping Range φD	Nose Dia. φC	L	Insert Length ℓ
BT30-C12- 55G	12	33	58	58
-C16- 55G	16	40	57	65
-C20- 75G	20	48	75	80
-C25- 75G*1, 80G	25	55	75*1, 82	68, 68
-C32- 90G*2, 100G	32	62	90*2, 100	68, 76

★This table is for high speed tooling. Please specify the **Code No.** without **"G"** for standard tooling. eg. **BT30-C20-75**
★**2Lock (NBT30)** is also available. **2Lock** is for high pressure center through coolant (MAX. 7MPa). eg. **BT30-C20-75**
★**GH handle** (spanner) are available as an option.

⚠
*1 **BT30-C25-75G can not be used for the tapping center with ATC arm (TC-22B, -32BNFT, -32BNQT) due to collision. Please use BT30-C25-80G instead.**
*2 **NK collet can not be used on BT30-C32-90G, please use KM collet. NK collet can be used on BT30-C32-100G.**

STRAIGHT COLLET



KM

Photo. shows ANNIVERSARY type **KM** Collet.

KM Collet Code No.(OD-ID)
KM12-2, 3, 4, 5, 6, **7**, **8**, **9**,**10**
KM16-2, 3, 4, 5, 6, 7, **8**, **9**,**10**,**11**,**12**
KM20-2, 3, 4, 5, 6, 7, 8, 9,**10**,**11**,**12**,13,**14**,**15**,**16**
KM22-3, 4, 5, 6, 7, 8, 9,10,**11**,**12**,13,**14**,**15**,**16**,17,**18**,**19**, **20**
KM25-3, 4, 5, 6, 7, 8, 9,**10**,**11**,**12**,13,**14**,**15**,**16**,17,**18**,**19**, **20**, **21**, **22**
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

★For synchronous tapping, collet with special ID (5.5, 6.2, 8.5, 10.5, 12.5) is available.
★**The collets with bold character are "ANNIVERSARY" type KM Collet.**
★Please note the acceptable shank tolerance is h6 ～ h7.
★Collet removal (**9CKR**) is available as an option.

GH HANDLE for HIGH SPEED TOOLING

GH

Code No.	Milling Chuck	Slim Chuck	MAJOR DREAM
GH 6*	—	SK 6-P / SKT 6	MDSK 6
GH10*	—	SK10-P / SKT10	MDSK10
GH12*	C12-G	SK13-P / SKT13	MDSK13
GH16*	C16-G	SK16-P / SKT16	MDSK16
GH20*	C20-G	SK20-P / SKT20	MDSK20
GH25*	C25-G	SK25-P / SKT25	MDSK25
GH32S	C32-G (Nose Ring:φ62mm)	—	—

★Torque adjustable **GH Handle** is available for **GH Handle** marked *.
eg. **CH6-TLS, GH10-TLS, GH12-TLS, GH16-TLS, GH20-TLS, GH25-TLS**

☞ Please refer NC TOTAL TOOLING SYSTEM catalogue for more detail.

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MAJOR DREAM HOLDER

MDSK

Code No.	Gripping Range φD	Nose Dia. φC	L
NBT30-MDSK 6- 50, 60, 75, 90	3.0～ 6.0	19.5	50, 60, 75, 90
-MDSK10- 50, 60, 75, 90	3.0～10.0	27.5	
-MDSK13- 60, 75, 90	3.0～13.0	33	60, 75, 90
-MDSK16- 75, 90	3.0～16.0	40	75, 90

★2LOCK is applied for MAJOR DREAM HOLDER.
★Please add "P" at the end of Code No. for high speed tooling.
eg. **NBT30-MDSK10-60P**
★Holder with an adjust screw for axial adjustment is available as an option. Please contact us.
★**Please use A type SK collet for end mill operation.**

High Speed MAJOR DREAM HOLDER

Code No.	MAX. min^{-1}
NBT30-MDSK 6- P	30,000
-MDSK10- P	
-MDSK13- P	
-MDSK16- P	25,000

MAJOR DREAM PRO-ENDMILL

MDPE

Code No.	D	No. of Teeth	L	Arbor Code No.	Head Code No.
NBT30-MDPE16- 75	16	2	75	NBT30-MDPE-M 8- 45	M 8-MDPE16-30
-MDPE20- 75	20	3		-MDPE-M10- 45	M10-MDPE20-30
-MDPE25- 80	25	2	80	-MDPE-M12- 45	M12-MDPE25-35
-MDPE32- 95	32	3	95	-MDPE-M16- 55	M16-MDPE32-40

★2LOCK is applied for MAJOR DREAM PRO-ENDMILL.

φD	Code No.	OD φd	Screw G	MAX. Depth	No. of Teeth
16	M 8-MDPE16-30	8.5	M 8	10	2
20	M10-MDPE20-30	10.5	M10		3
25	M12-MDPE25-35	12.5	M12	15	2
32	M16-MDPE32-40	17.0	M16		3

★The insert tip is available as an option.
φ16, φ20 : **AOMT123608PEER-M**, φ25, φ32 : **AOMT184808PEER-M**

ZERO FIT TYPE SLIM CHUCK

SZF

MAX. run-out at 100mm	
SZF 6	0.050mm/dia.
SZF10	0.050mm/dia.
SZF16	0.040mm/dia.

φ0.7～φ16

Code No.	Gripping Range φD	Nose Dia. φC	L
BT30-SZF 6- 90	0.7 ～ 6.0	19.5	90
-SZF10- 90	1.75～10.0	27.5	
-SZF16-105	2.75～16.0	40	105

★2Lock (NBT30) is also available. **2Lock** is for high pressure center through coolant (MAX. 7MPa).
eg. **NBT30-SZF10C-90**
★Wrench to adjust run-out (**9ZFL**) is available as an option.

Wrench to adjust
9ZFL

ZERO FIT TYPE MILLING CHUCK

MAX. run-out at 100mm	
CZF20	0.050mm/dia.
CZF25	0.050mm/dia.

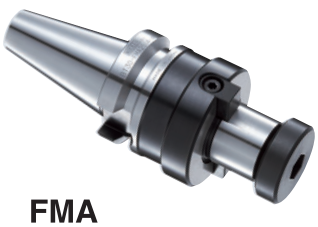
φ20, φ25

Code No.	Gripping Range φD	Nose Dia. φC	L
BT30-CZF20-100	20	51.5	100
-CZF25-100	25	59.5	

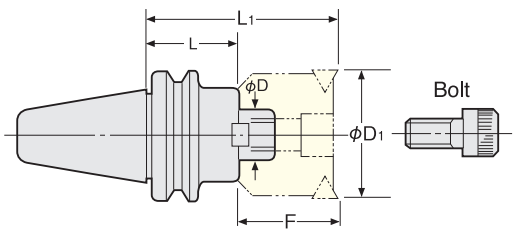
PULL STUD

Without Hole: **PS-17**
With Hole: **PS-130E**

FACE MILL ARBOR



FMA
FMC



Code No.	D	L	Dimensions of Arbor with Cutter			
			L1	D1	F	Bolt
BT30-FMA25.4- 45	25.4	45	95	80	50	FM12
-FMC22 - 40	22	40	80	50	40	M10 × 30

★2Lock (NBT30) is also available. eg. **NBT30-FMA25.4-45**

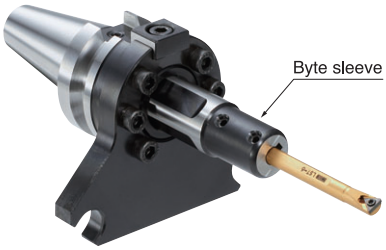
☞ Please refer NC TOTAL TOOLING SYSTEM catalogue for more detail.

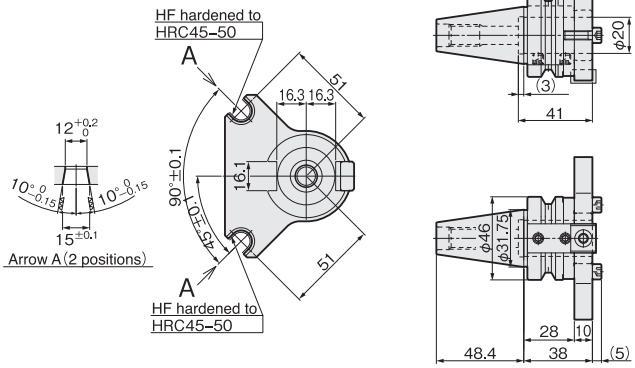
TURNNING TOOL for *SPEEDIO* M140X1

NIKKEN

ROUND BYTE HOLDER (φ20mm)

BT30-BHC20-38



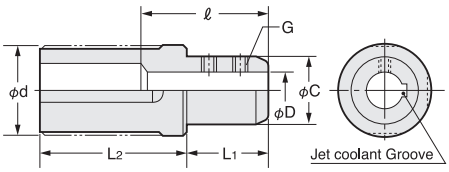


Byte Sleeve

LEA

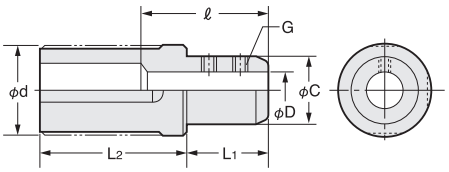
without Hole

Code No. / d-D	C	L1	L2	ℓ	G
LEA20S- 6	18	26	41	32-67	9SLG5P0.5-5
- 8	19.5			36-67	9SLG6P0.75-6
-10				41-67	9SLG6P0.75-5
-12	27	10		45-67	M6-8L
-16	24.5	35		30	9SLG6P0.75-5



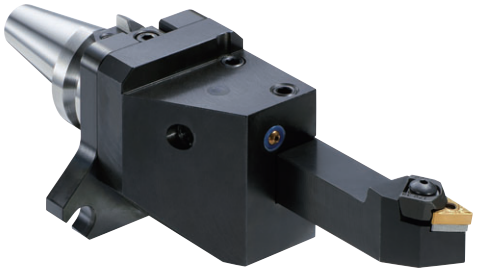
with Hole

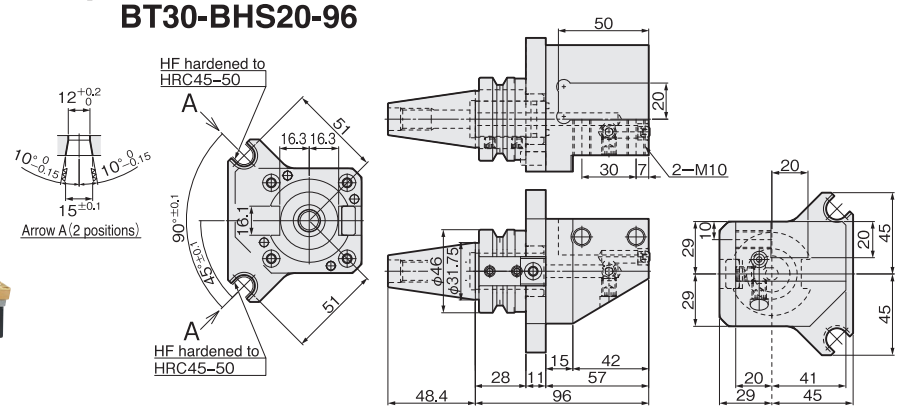
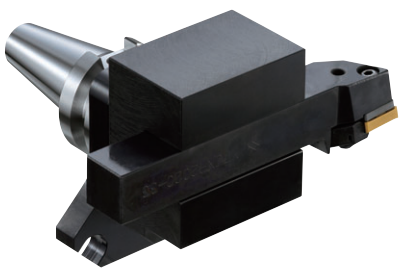
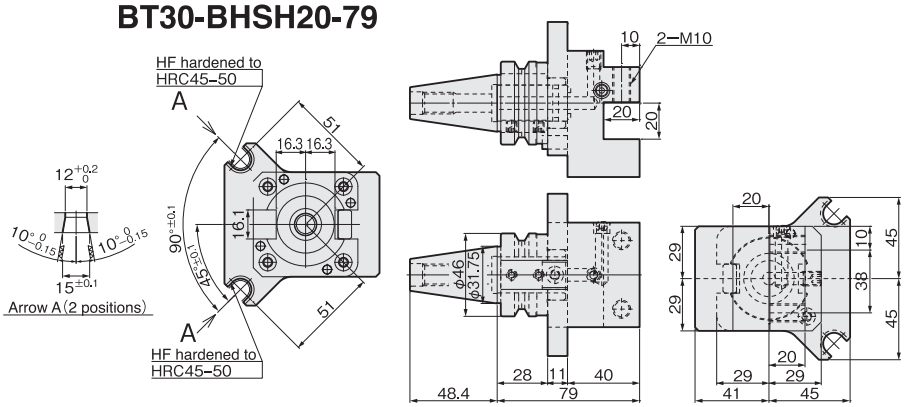
Code No. / d-D	C	L1	L2	ℓ	G
LEA20S-6C	18	26	41	32	9SLG5P0.5-5
-8C	19.5			36	9SLG6P0.75-6
-10C				45	9SLG6P0.75-5
-12C	27				M6-8L
-16C	24.5	35		30	9SLG6P0.75-5



SQUARE BYTE HOLDER (□20mm)

BT30-BHS20-96

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