



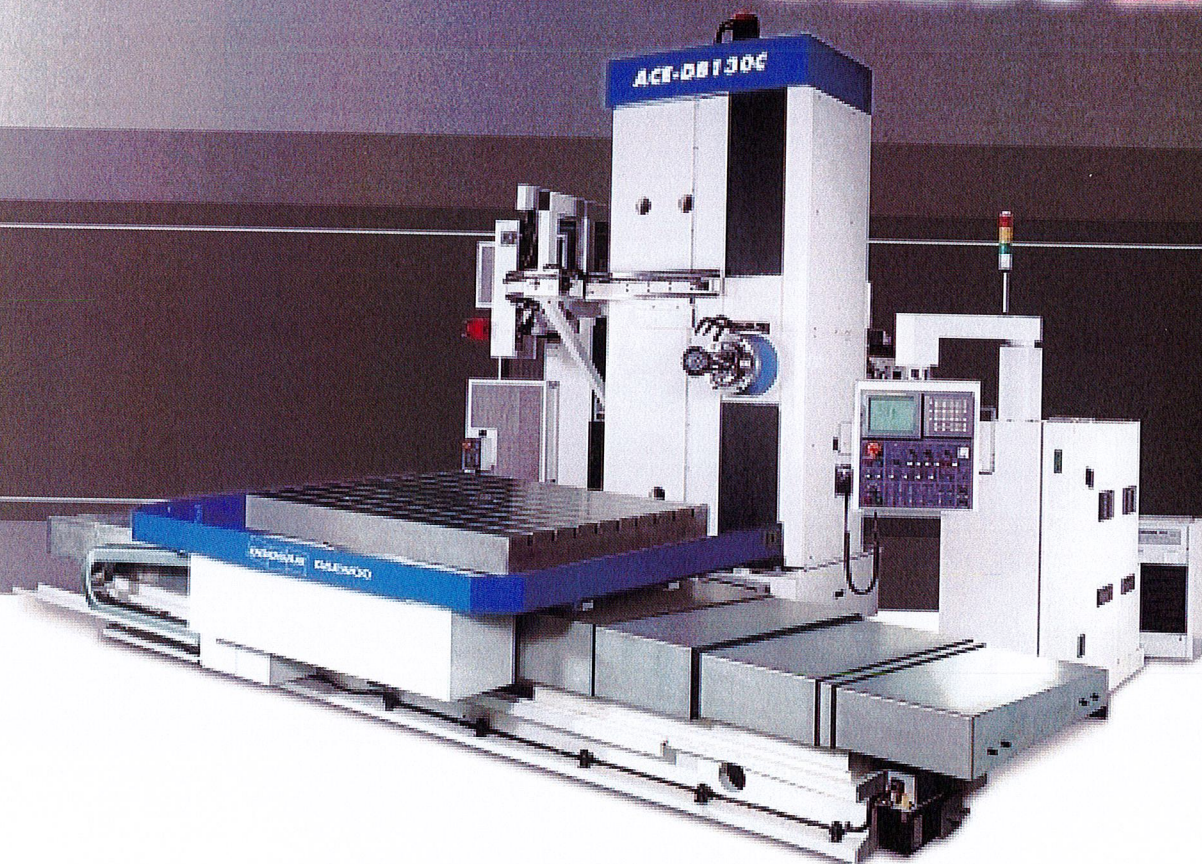
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ACE *Series*

DB130C

DB250T

DB250CM



DOOSAN
Doosan Infracore

Doosan Infracore ACE-DB Series ***Opens a New World of Boring Machine.***

ACEDB130C (Column Moving Type)

High torque spindle :
3,354N.m(3 steps gear train)

Spindle diameter :
ø130mm

Traveling column
type(Z-axis) :
1,600mm

Rotary table with automatic backlash adjusting
mechanism (Double pinion drive mechanism
with rotary encoder at table center)

Wide range of table size :
1,600 × 1,800mm

Max. load capacity :
15,000kg

(This machines have optional accessories.)

ACEDB250T (Table Moving Type)

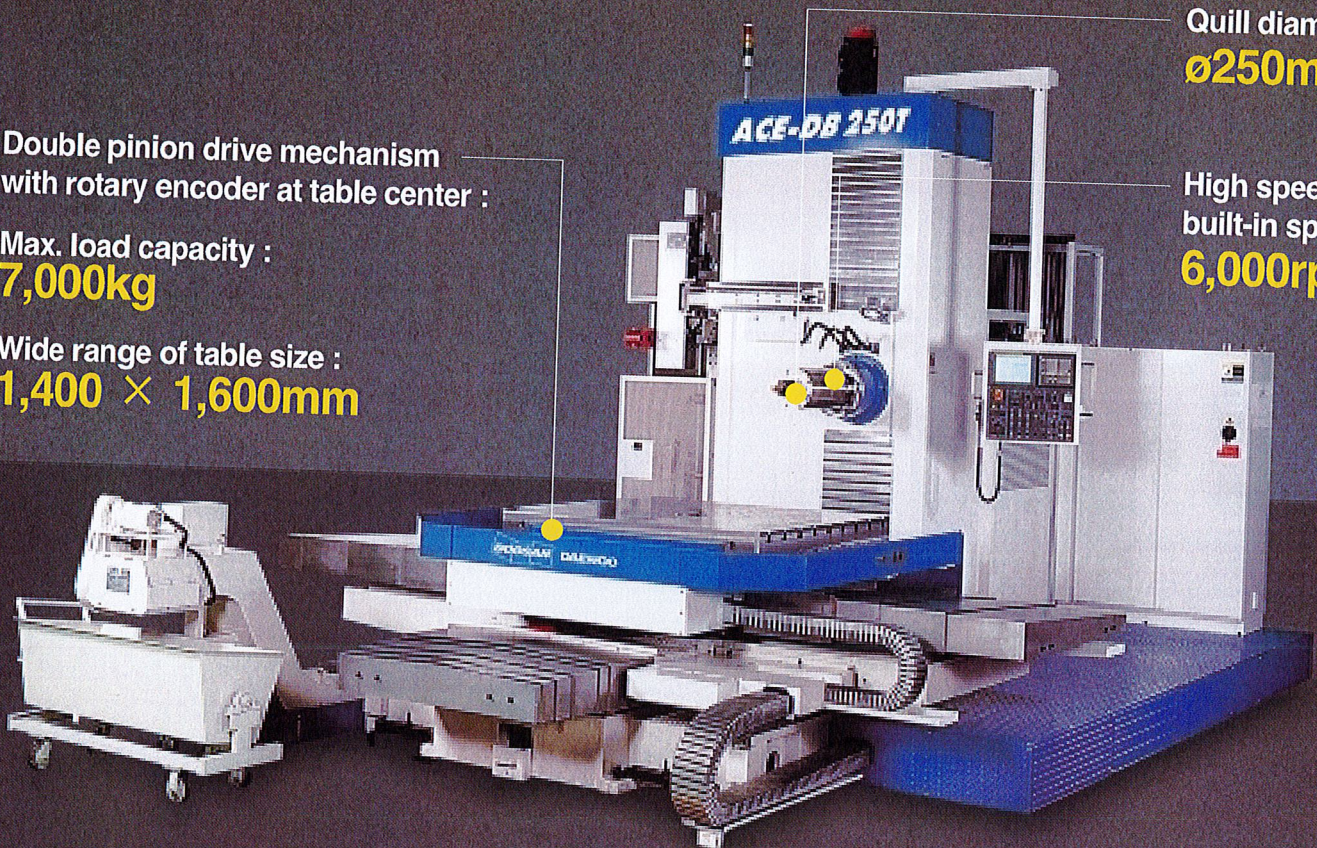
Double pinion drive mechanism
with rotary encoder at table center :

Max. load capacity :
7,000kg

Wide range of table size :
1,400 × 1,600mm

Quill diameter :
ø250mm

High speed
built-in spindle :
6,000rpm



ACEDB250CM (Column Moving Type)

Wide range of table size : **1,600 × 1,800mm**

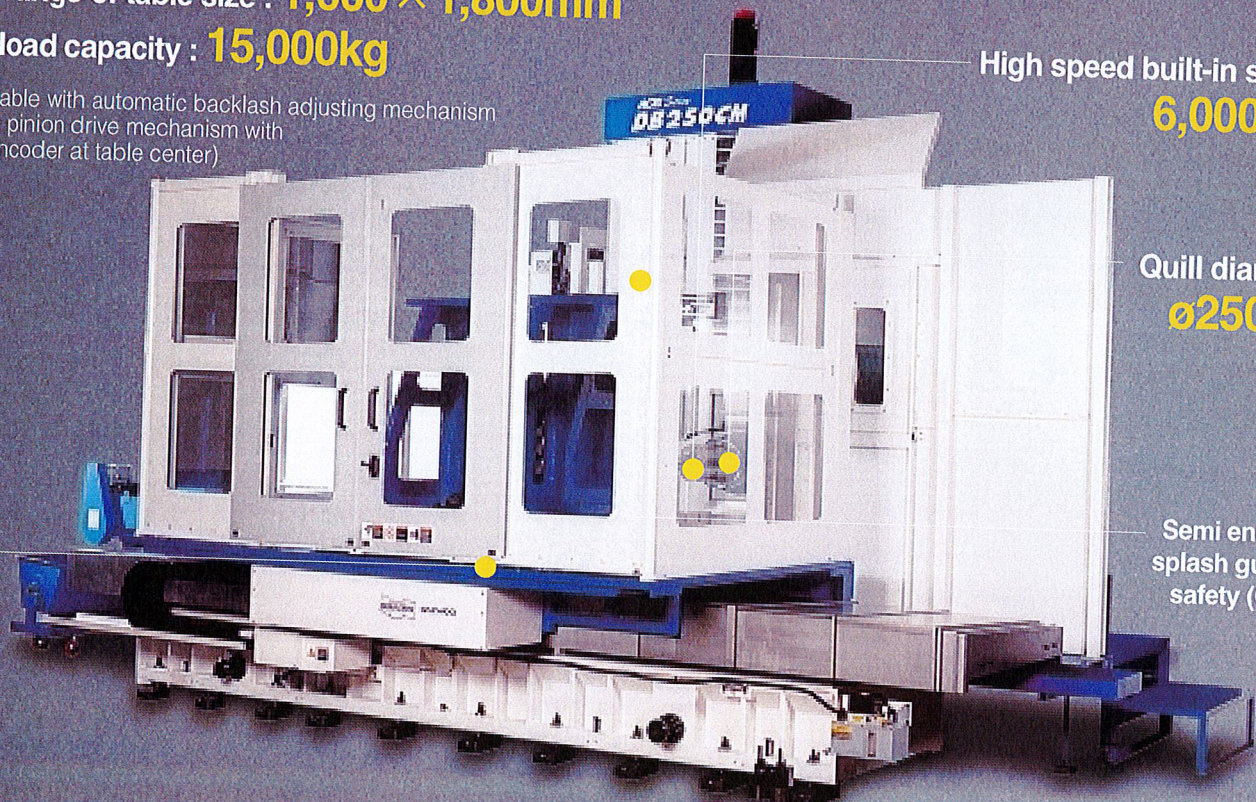
Max. load capacity : **15,000kg**

Rotary table with automatic backlash adjusting mechanism
(Double pinion drive mechanism with
rotary encoder at table center)

High speed built-in spindle
6,000rpm

Quill diameter :
ø250mm

Semi enclosure
splash guard for
safety (Option)



High Speed and Powerful Spindle

Improved thermal stability through cooling control

Use of ultra precision paired spindle bearings ensures high speed, heavy-duty and high precision machining. Perfectly wrapped cooling system of built-in spindle(On DB250T/250CM) minimized thermal effect at Max. rpm without any thermal deformation compensation.

Max. spindle speed

(DB130C)

2,500 rpm

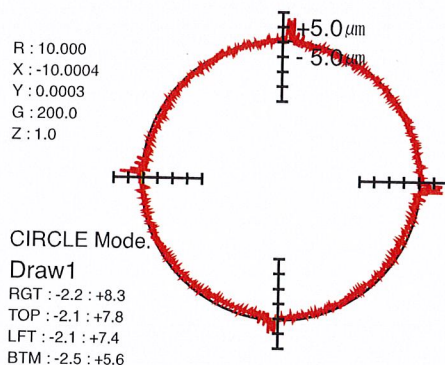
(DB250T/250CM)

6,000 rpm



AGE-DB250T/250CM

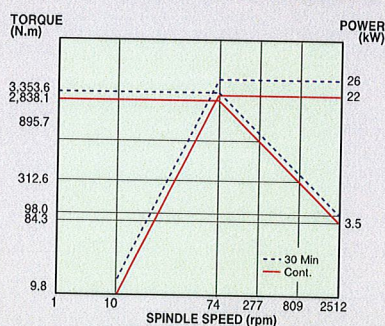
Precise circular control(X-Yaxis) : On DB250CM



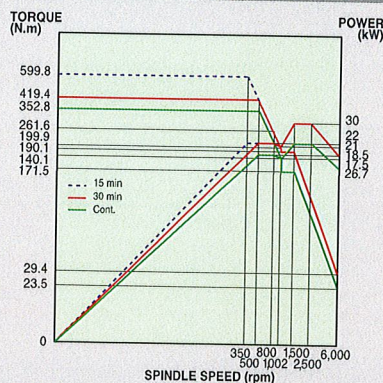
Web Mar 30 11:41:32 2005

Spindle power-torque diagram

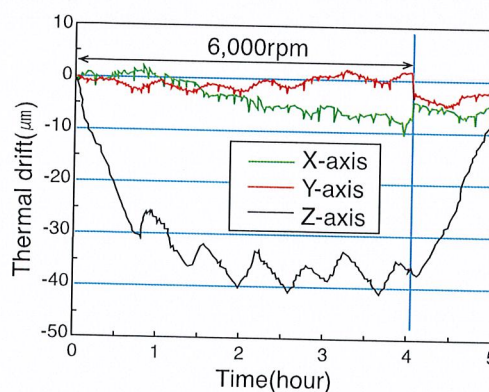
● DB 130C



● DB 250T / DB 250CM



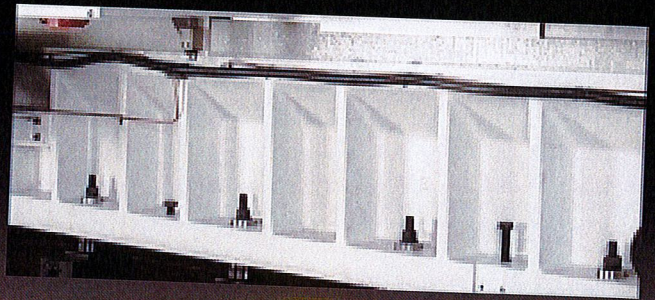
Thermal deformation at Max. speed of Built-in spindle : On DB250CM



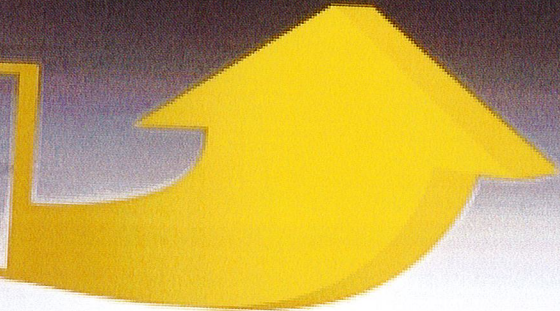
- The cutting test results indicated above are obtained as an example through real test cutting.
- The results may not be obtained due to differences in cutting and environmental conditions during measurement.

Machine Structure

Inserted ribs reinforce the structural rigidity and dynamic damping characteristics to external load and flowing stress. In any operating, the machine can be maintained under optimal condition.

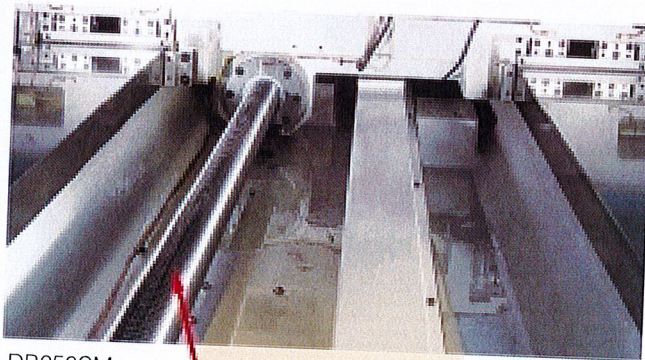


DB 250CM

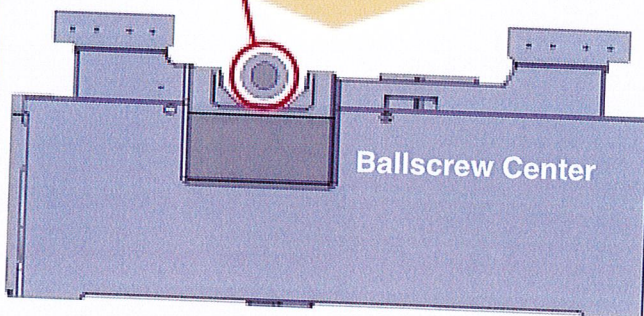


Enhanced rigidity of the Axes

With due regard to off-centered force made by cutting and each unit operation, driven center of X and Z-axis was designed to minimize twisting moment effect. Especially, the driven center point designed to be near the end cutting point of X-axis has decreased table shaking phenomenon when the table moves on the guide way. (only DB250CM)



DB250CM
Table moving

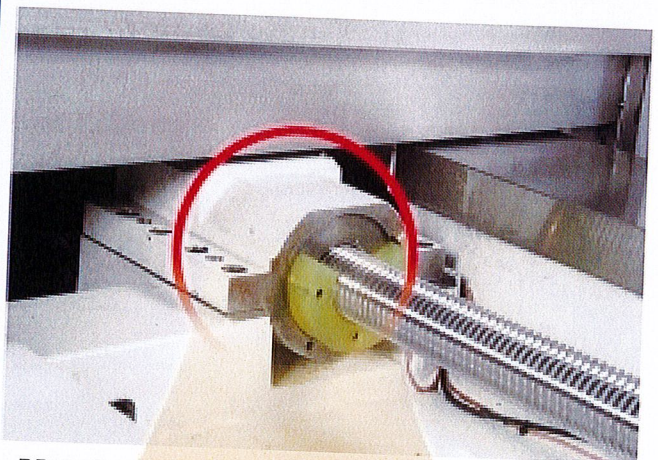


Ballscrew Center

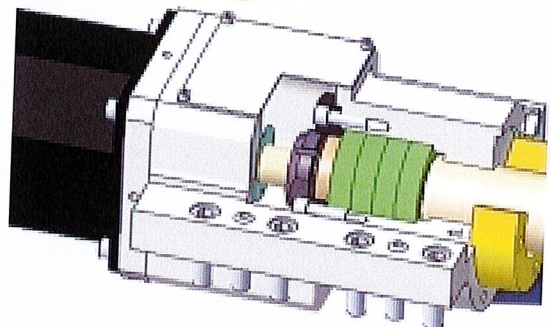
DB250CM Table Bed

Big diameter ball screw & 4 rows bearing

The 4 rows bearing has increased machine rigidity and decreased heat generation of ball screw.



DB250CM



0.001° Continuous Rotary Table

For Variable machining

The continuous rotary table can be indexed every 0.001° by B-axis direct command. The type of clamp is standard with a highly rigid double pinion type drive system and rotary scale for stabilized precision table indexing. Also, high precision indexing at every 90° is automatically and precisely fixed with a location pin.

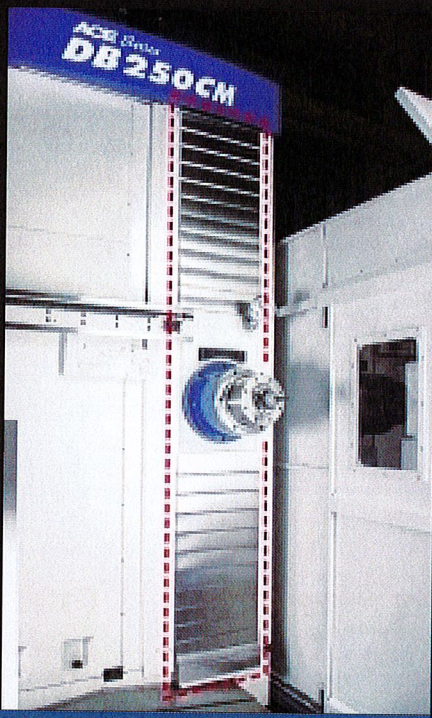


Multi-Cover and Reducer

For machine durability

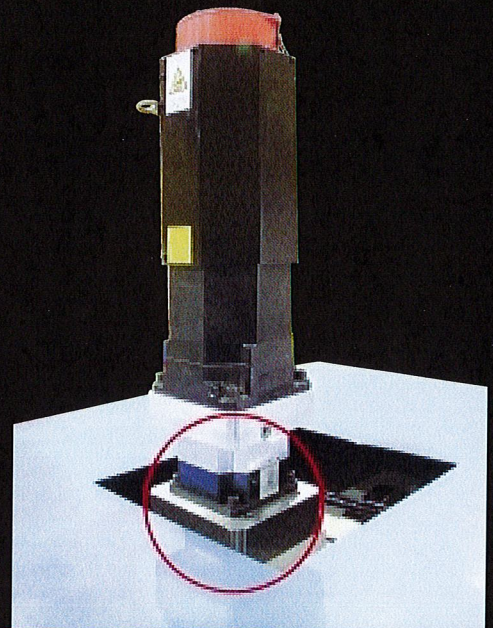
Multi-cover

The multi-cover assembly for Y-axis does not allow any chip entering the linear driving units of column, and protects slideways against dust, chips, coolants with prevention of the accumulation of chips on the machine bed. In addition, its application improves appearance of the machine. (DB250T,DB250CM)



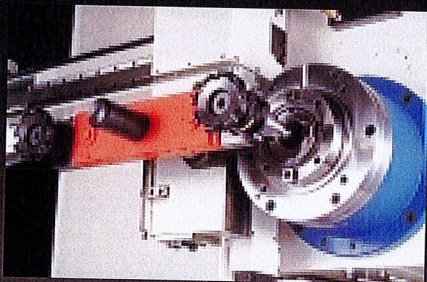
Speed Reducer

Speed reducer is applied to Y-axis servo driving mechanism to Balance Shock Load vs. Running Load. It controls load balancing without any additional balancing weight depending on the load demands and duty cycle of your application. If what we have to consider is primarily frictional, inertial, or a combination, Frictional loads tend to require a small torque spike to start motion and a smaller relatively constant torque to maintain it. Inertial loads typically require high starting torques but low running torques. (DB250CM)

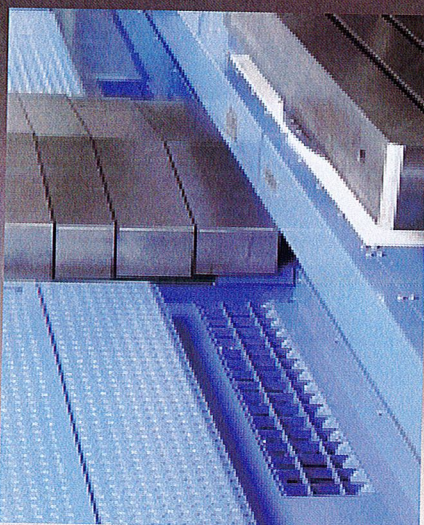


Various Equipment

Various convenience and operability



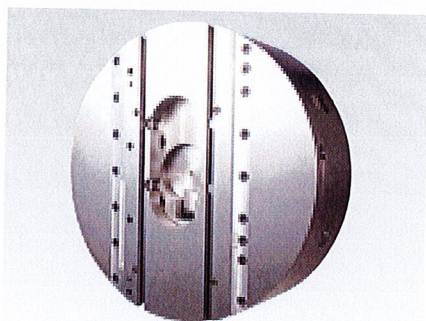
Automatic tool changer (option)



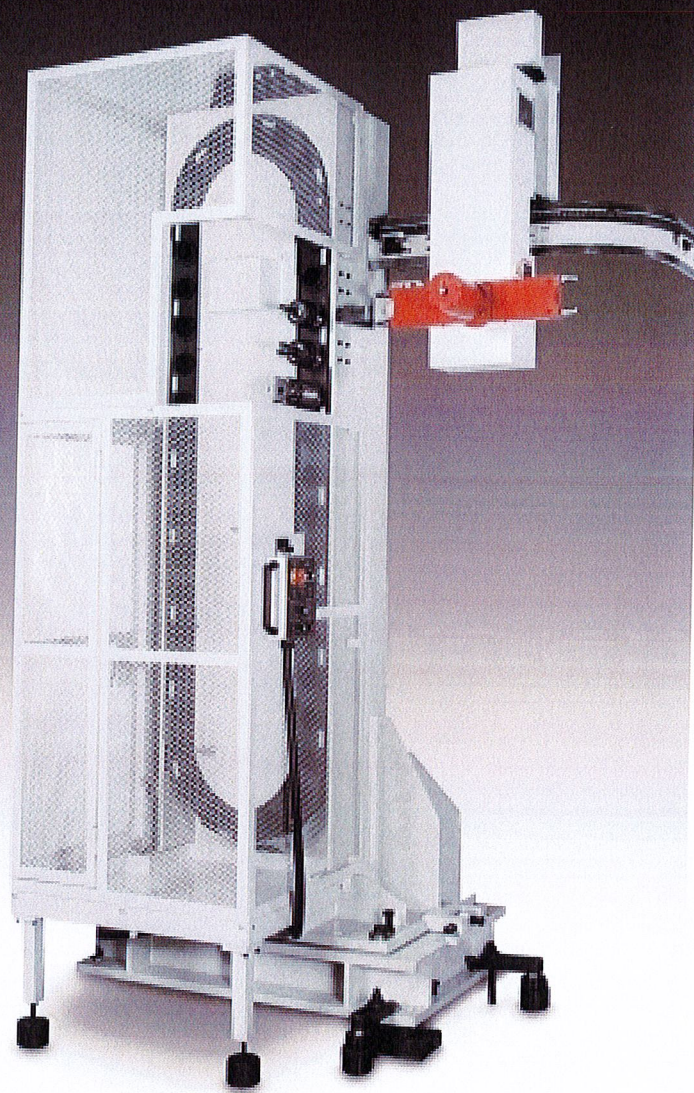
Easy chip removal (DB250CM)



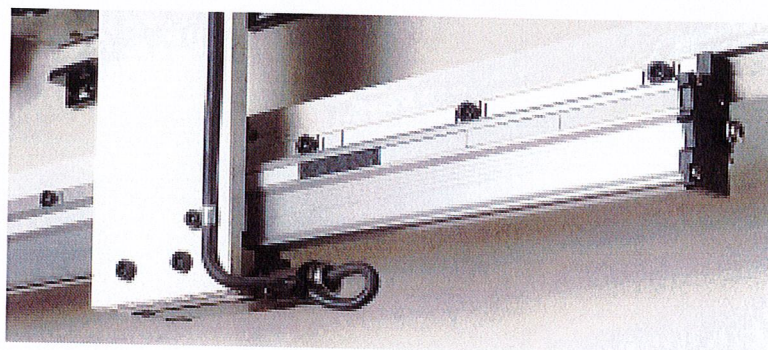
Angular milling attachment
(DB130C ; option)



Face plate (DB130C ; option)



Tool Magazine (40/60/90 Tools ; option)



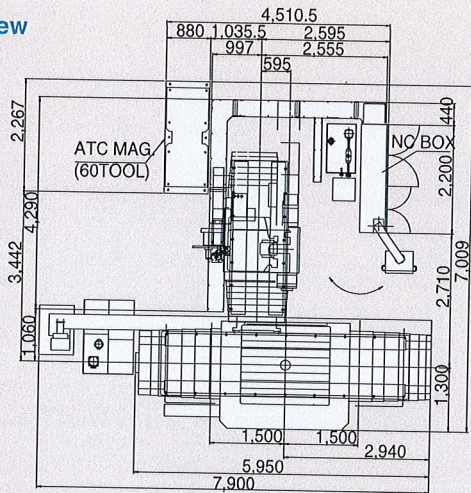
Glass scale (DB250CM:Std, DB130C/250T:Opt)

External Dimensions

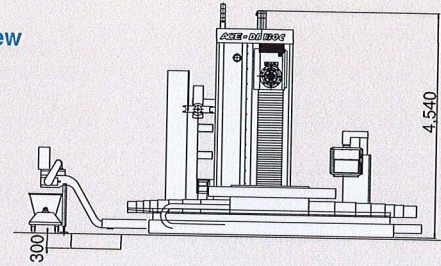
ACEDB130C

unit : mm

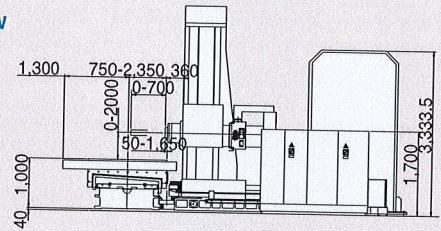
Top View



Front View

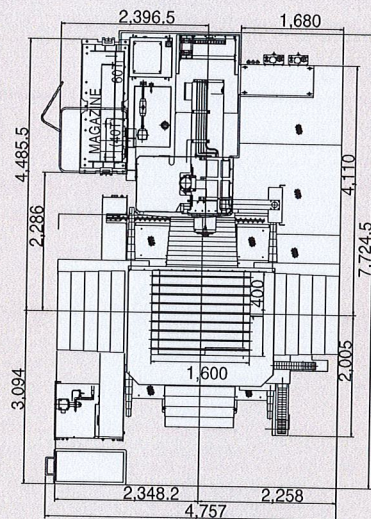


Side View

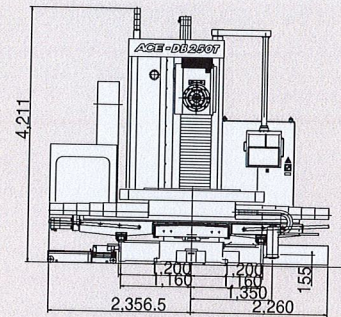


ACEDB250T

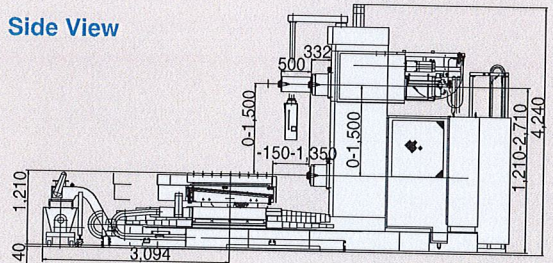
Top View



Front View

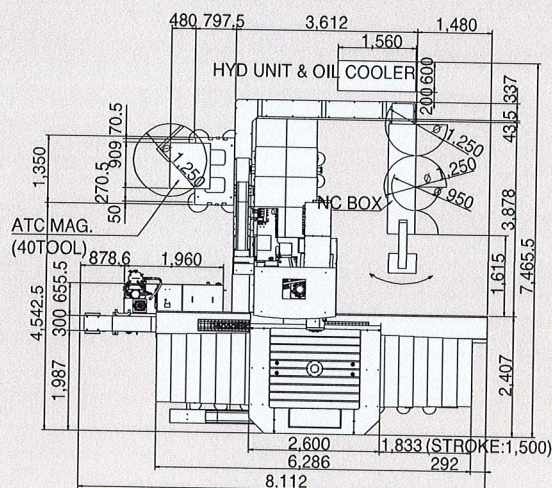


Side View

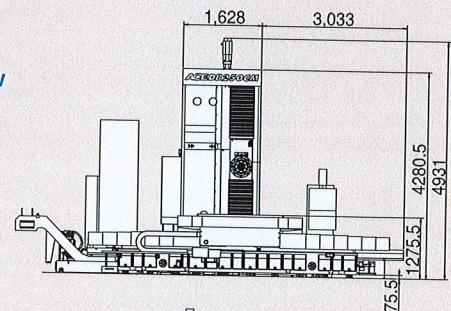


ACEDB250CM

Top View



Front View



Side View

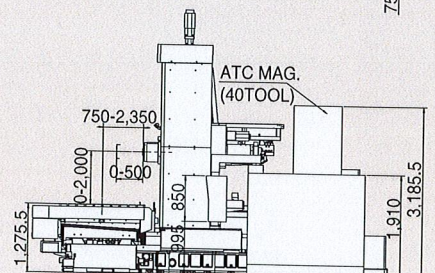
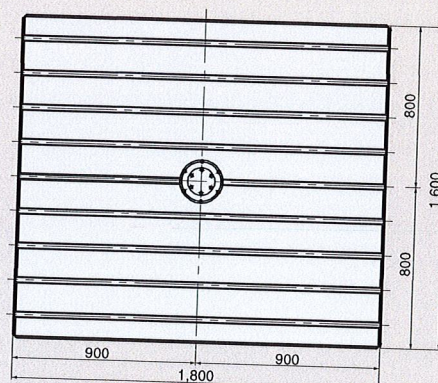
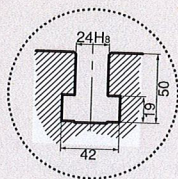


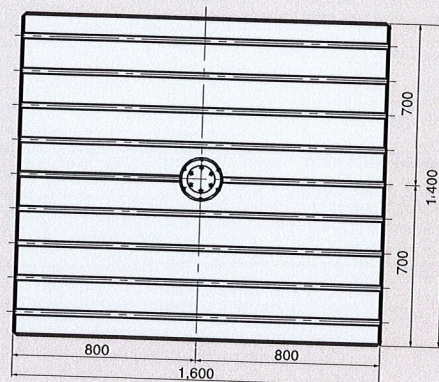
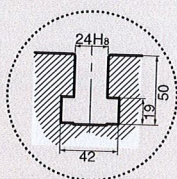
Table Dimensions

unit : mm

ACE DB 130 C / DB 250 CM



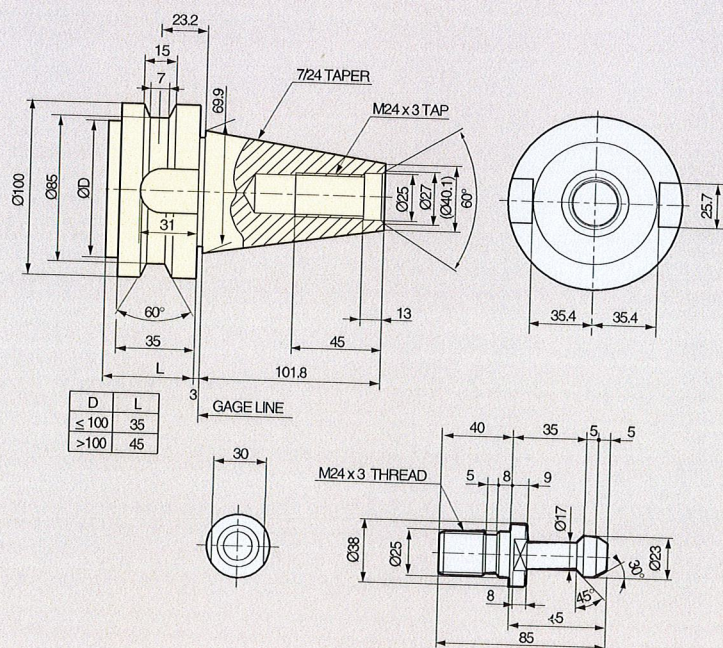
ACE DB 250T



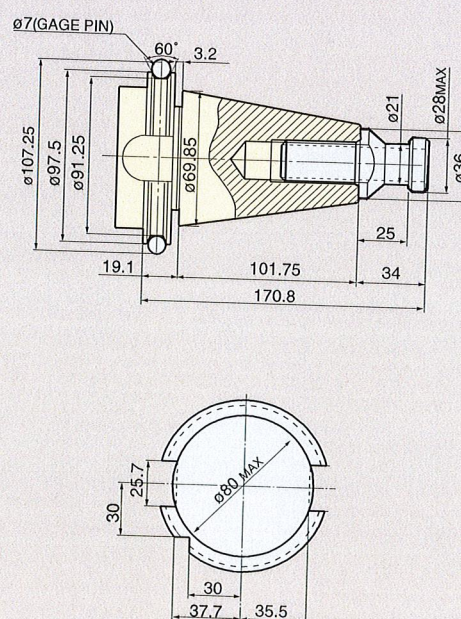
Tool Shank

unit : mm

- **BT50 Tool (Standard)**



- **DIN50 Tool (Option)**



Machine Specifications

Descriptions			ACE-DB250T	ACE-DB130C	ACE-DB250CM
Travel	X-axis(table longitudinal)	mm	2,000	3,000{4,000}	3,000
	Y-axis(spindle vertical)	mm	1,500	2,000	
	Z-axis(table/column cross)	mm	1,500	1,600{2,000}	1,600
	W-axis(spindle axial)	mm	500	700	500
	Distance from spindle center to pallet top	mm	0 ~ 1,500	0 ~ 2,000	
	Distance from spindle nose to table center	mm	550 ~ 2,050	750 ~ 2,350	
Table	Table size	mm	1,400 × 1,600	1,600 × 1,800 {2,000 × 1,800}	1,600 × 1,800
	Table loading capacity	kg	7,000	15,000	
	Table surface			9-24H8	
	Index degree (by rotary table & indexing pin)	deg		90	
	Continuous rotary table	deg		0.001	
Spindle	Max. spindle speed	rpm	6,000	2,500	6,000
	Spindle taper			ISO #50 7/24 Taper	
	Max. spindle torque	N.m	599.8	3,353.6	599.8
	Boring spindle diameter	mm	-	130	-
	Quill diameter	mm	250	-	250
Feedrate	Rapid traverse rate(X/Y/Z/W)	m/min		10/10/10/10	
	Cutting feedrate	mm/min		4,000	
Automatic tool changer	Type of tool shank			MAS403 BT50	
	Tool storage capacity			{40/60/90}	
	Max. tool diameter	mm		130	
	Max. tool diameter without adjacent tools	mm		250	
	Max. tool length	mm		600	
	Max. tool weight	kg		25	
Automatic pallet changer	Method of tool selection			Fixed address	
	Number of pallet	EA	-	{2}	
	Type		-	{Parallel shuttle}	
	Pallet size	mm	-	{1,600 × 1,600}	
	Pallet loading capacity	kg	-	{7,500}	
Motor	Spindle motor(30min)	kW	30	26	30
	Feed motor(X/Y/Z/B/W)	kW	9.0/9.0/9.0/4.0/4.0	9.0/0.0/9.0/7.0/4.0	
Power source	Electric power supply (Rated capacity)	kVA	70	75	75
	Compressed air supply	MPa		0.54	
Tank capacity	Coolant tank capacity {Opt}	l	{280}	{450}	
	Lubrication tank capacity	l	4.8 l × 2ea	4.8 l × 1ea, 11.6 l × 1ea	
Machine size	Machine height	mm	4,000	4,600	4,950
	Machine dimensions (L × W)	mm	5,000 × 7,800	6,700 × 7,900	7,500 × 8,200
	Machine weight	kg	24,000	34,000	43,000

Note : Dimensions in { } are optional

Standard Features

- 0.001, continuous rotary table
- 90, indexing table
- Chip cover for slide ways
- Chip tray
- Leveling block and foundation plate
- Manual pulse generator (Portable type)
- Operator call lamp (red, green yellow)
- Rigid tapping
- Spindle oil cooling unit
- Spindle orientation stop device
- Thread cutting device
- Tool clamp / unclamp device
- W-axis clamp device
- Y-axis clamp device
- Y-axis protective covering from chip

Optional Features

- Angle plate
- Angular milling attachment*2
- Automatic pallet changer (APC)*1
- Automatic tool changer (ATC)
- Automatic tool length measurement with sensor
- Safety guard
- Chip conveyor & chip bucket
- Face plate*2
- Feed back system
- Flood coolant device
- Spindle support*2
- Table covering
- Table size extension*2
- Through the spindle coolant preparation
- Through the spindle coolant system
- X-axis extension*2
- Z-axis extension*2

*1 ACE DB130C/DB250CM only

*2 ACE DB130C only

- in alphabetic order

We do not responsible for difference between the information in the catalogue and the actual machine.

NC Unit Specifications(Fanuc18i-M)

AXES CONTROL

- Controlled axes	5 (X,Y,Z,B,W)
- Simultaneously controllable axes	
Positioning(G00)/Linear interpolation(G01) : 3 axes	
Circular interpolation(G02, G03) : 2 axes	
- Backlash compensation	
- Emergency stop / overtravel	
- Follow up	
- Least command increment :	0.001mm / 0.0001"
- Least input increment :	0.001mm / 0.0001"
- Machine lock	all axes / Z axis
- Mirror image	Reverse axis movement (setting screen and M - function)
- Stored pitch error compensation	
Pitch error offset compensation for each axis	
- Stored stroke check 1	Overtravel controlled by software

INTERPOLATION & FEED FUNCTION

- 2nd reference point return	G30
- Circular interpolation	G02, G03
- Dwell	G04
- Exact stop check	G09, G61(mode)
- Feed per minute	mm / min
- Feedrate override (10% increments)	0 - 200 %
- Jog override (10% increments)	0 - 200 %
- Linear interpolation	G01
- Manual handle feed (1 unit)	
- Manual handle feedrate	0.1/0.01/0.001mm
- Override cancel	M48 / M49
- Positioning	G00
- Rapid traverse override	F0 (fine feed), 25 / 50 / 100 %
- Reference point return	G27, G28, G29
- Skip function	G31

SPINDLE & M-CODE FUNCTION

- M- code function	M 3 digits
- Spindle orientation	
- Spindle serial output	
- Spindle speed command	S5 digits
- Spindle speed override (10% increments)	50 - 150 %

TOOL FUNCTION

- Cutter compensation C	G40, G41, G42
- Number of tool offsets	99 EA
- Tool length compensation	G43, G44, G49
- Tool number command	T3 digits

PROGRAMMING & EDITING FUNCTION

- Absolute / Incremental programming	G90 / G 91
- Auto. Coordinate system setting	
- Background editing	
- Canned cycle	G73, G74, G76, G80 - G89, G99
- Circular interpolation by radius programming	
- Custom macro B	
- Decimal point input	
- I / O interface	RS - 232C
- Inch / metric conversion	G20 / G21
- Label skip	
- Local / Machine coordinate system	G52 / G53
- Maximum commandable value	±99999.999mm (±9999.999 inch)
- No. of Registered programs	125 EA
- Optional block skip	
- Optional stop	M01
- Part program storage	160 m
- Program number	O4-digits
- Program protect	
- Program stop / end	M00 / M02,M30
- Programmable data input	
Tool offset and work offset are entered by G10, G11	
- Rigid tapping	G84, G74
- Sub program	Up to 4 nesting
- Tape code	ISO / EIA Automatic discrimination

- Thread cutting

- Work coordinate system

G54 - G59

OTHERS FUNCTIONS (Operation, Setting & Display, etc)

- Alarm display	
- Alarm history display	
- Clock function	
- Cycle start / Feed hold	
- Display of PMC alarm message	Message display when PMC alarm occurred
- Dry run	
- Graphic display	Tool path drawing
- Help function	
- Loadmeter display	
- MDI / DISPLAY unit	9.5" mono LCD, Keyboard for data input, soft-keys
- Memory card interface	
- Operation functions	Tape / Memory / MDI / Manual
- Operation history display	
- Program restart	
- Run hour and part number display	
- Search function	Sequence NO. / Program NO.
- Self - diagnostic function	
- Servo setting screen	
- Single block	

OPTIONAL SPECIFICATIONS

- 3-dimensional coordinate conversion	
- 3-dimensional tool compensation	
- 3rd / 4th reference return	
- Addition of tool pairs for tool life management	128 / 512 pairs
- Additional controlled axes	max. 6 axes in total
- Additional work coordinate system	G54.1 P1 - 48 (48 pairs)
- Additional work coordinate system	G54.1 P1 - 300 (300 pairs)
- AI HPCC* (High Precision Contour Control) with 64 bit Risc	600 block preview
- Automatic corner override	G62
- Chopping function	
- Coordinate rotation	G68, G69
- Cylindrical interpolation	G07.1
- Data server	
- Dynamic graphic display	Machining profile drawing
- Exponential interpolation	
- Extended part program editing	
- F15 tape format	
- Figure copying	G72.1, G72.2
- Handle interruption	
- Helical interpolation	
- High speed skip function	
- Involute interpolation	G02.2, G03.2
- Look ahead control	G08
- Machining time stamp function	
- MDI / DISPLAY	10.4 inch color LCD
- NANO AICC (AI Contour Control)	80 block preview
- No. of Registered programs	200 / 400 / 1,000 EA
- Number of tool offsets	200 / 400 / 499 / 999 EA
- Optional angle chamfering / corner R	
- Optional block skip addition	9 blocks
- Part program storage	320 / 640 / 1,280 / 2,560 m
- Playback function	
- Polar coordinate command	G15 / G16
- Polar coordinate interpolation	G12.1 / G13.1
- Programmable mirror image	G50.1 / G51.1
- Remote buffer	
- Scaling	G50, G51
- Single direction positioning	G60
- Stored stroke check 2 / 3	
- Tool life management	
- Tool offset memory C	Geometry / Wear and Length / Radius offset memory
- Tool position offset	G45 - G48

Sales & Support Network



Doosan Infracore Online Marketing Support Solutions

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Design and specifications are subject to change without prior notice.

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