



HEAVY DUTY DOUBLE COLUMN MACHINING CENTER

DCM SERIES

Model: DCM 21 / 24A / 28
32 / 36 / 42 / 48

DCMS SERIES

Model: DCMS 24 / 28 / 32 / 36
42 / 48 / 54

CNC-TAKANG

CNC-TAKANG CO., LTD.
MANUFACTURER & EXPORTER

FEATURES

- **Excellent structural rigidity**

Cast iron components use FEA (Finite Element Analysis) to optimize rigidity and anti-vibration properties. Prevents cutting resonance, prolongs tool life and increases work piece accuracy and production capabilities.

- **Optimized spindle box**

Optimized design, rectangular ratio 1:1.125 provides rigid Z axis travel. Spindle box interior has rib reinforcements to increase cutting and feeding rigidity and stability.

- **Optimized Z axis balance system**

Twin N₂ tank counter-balance loop design. Driver set firmly attached to Z axis. Provides precision response to servo motor and high thrust machining requirements on Z axis.

- **Optimized feeding system**

X, Y, Z axes are coupled with heavy duty, high precision class P linear guideways, with 0.003-0.005 mm low friction, low viscosity, optimizes high driven sensitivity and increases great dynamic accuracy.

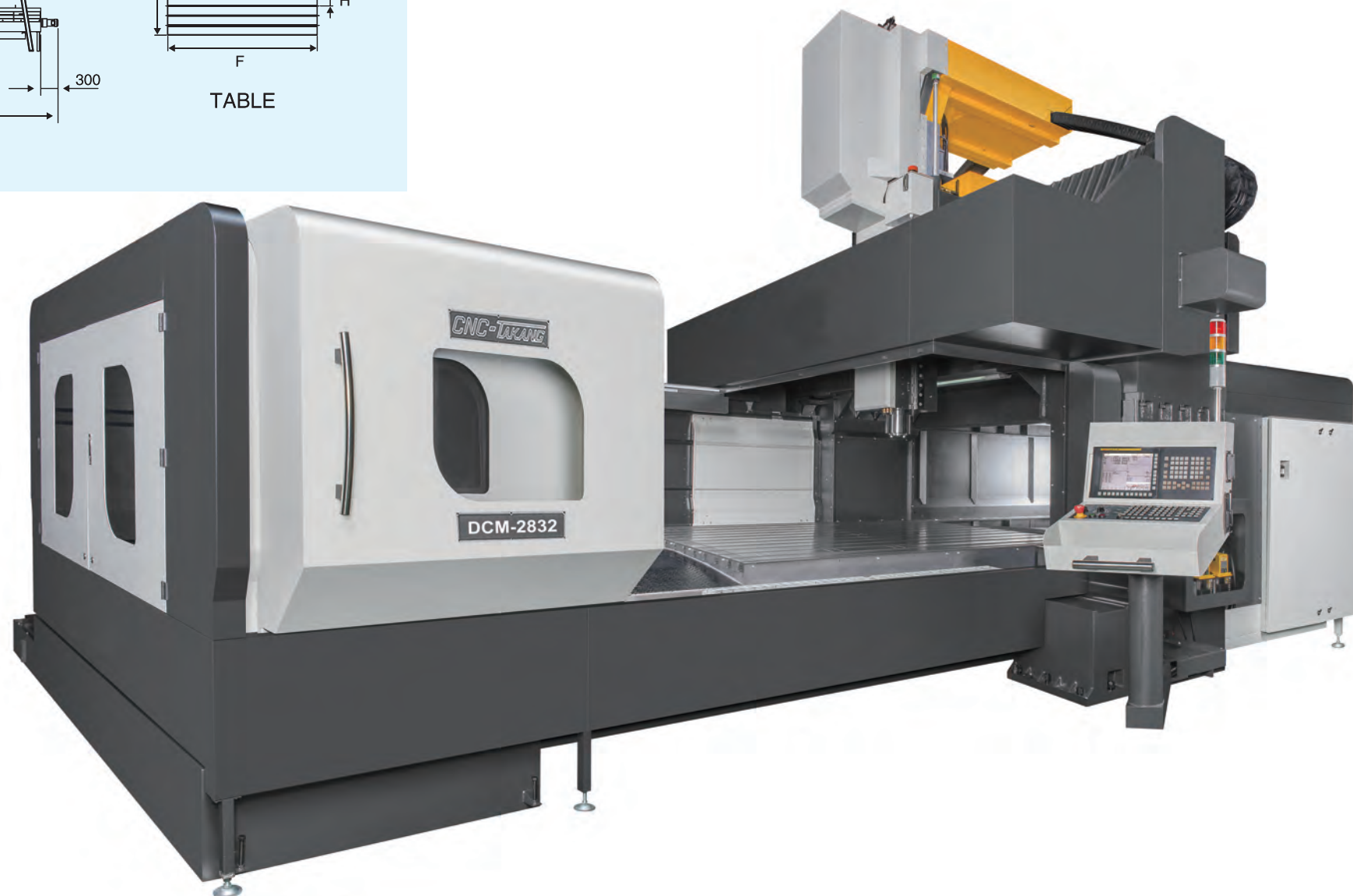
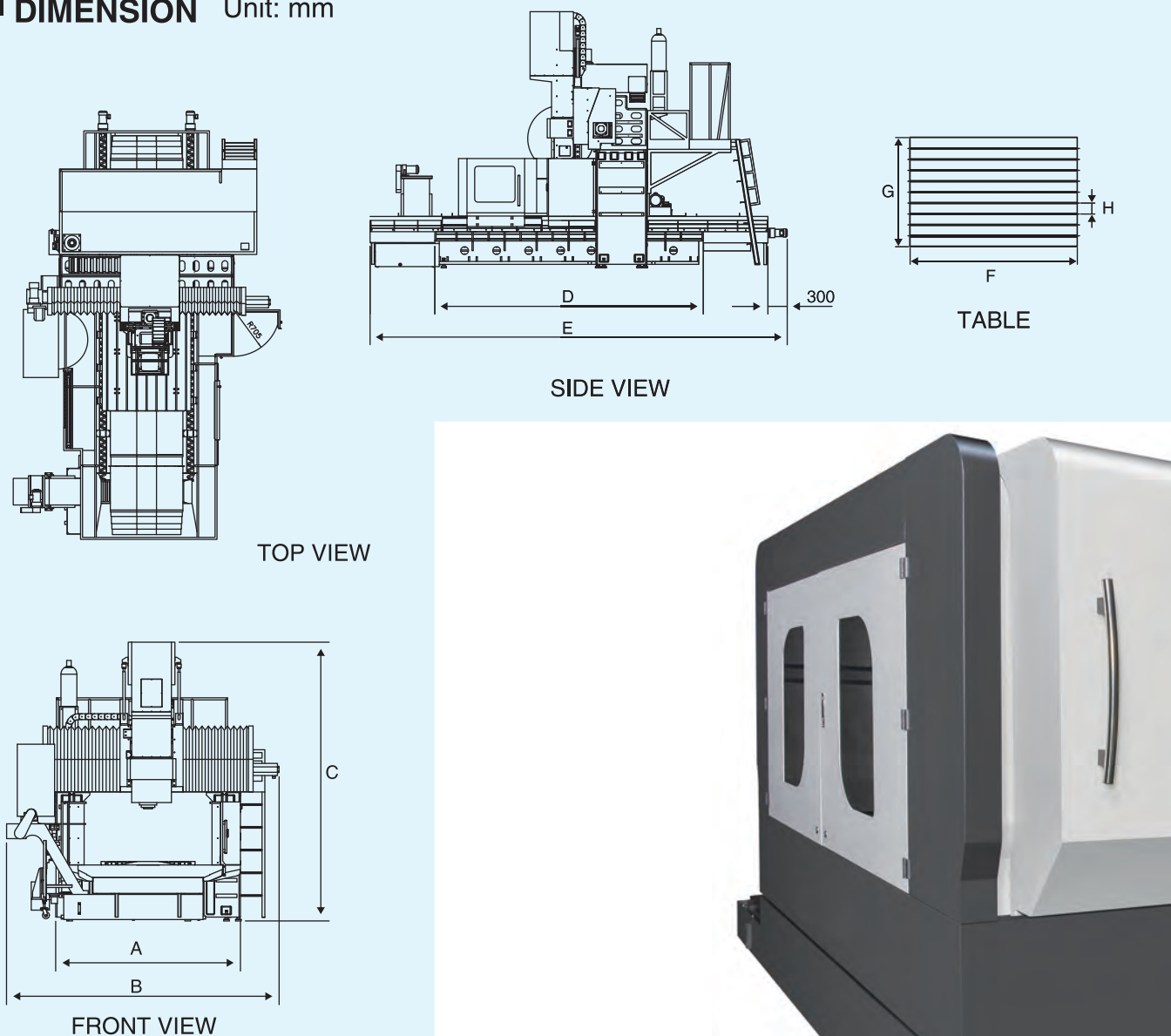
- **Optimized feed structure system**

Three axes coupled with class C3 precision ball screws. Properly pretension from the ends to reduce thermal displacement. Absolute value coordinate system eliminates structural complexity. Ballscrews are specially designed with anti-ram protection devices on the ends.

Powerful spindle, high cutting capabilities

- The BT50 spindle, diameter 100mm, coupled with class P4 precision angular bearings reaches 6000rpm. High torque spindle motor with 1:4 precision high/low speed gear box satisfies cutting requirements in all fields with sufficient horse power and torque.

■ DIMENSION Unit: mm



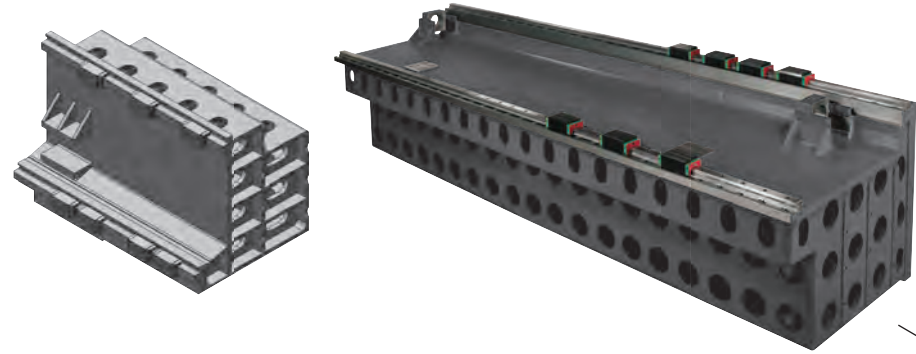
Model	2132	2142	2152	2432A	2442A	2452A	2832	2842	2852	2860	3232	3242	3252	3260	3642	3652	3660	4242	4252	4260
A	2950			3250			4060				4460			4850			5450			
B	4850	4210	4850	4510	5990				6390			8260			6950					
C	4450	4550	4450	4550	5450				5450			5685			5750					
D	6190	8200	10200	6190	8200	10200	6200	8200	10200	11900	6190	8200	10200	11900	8200	10200	11900	8190	10192	11800
E	8850	11100	13100	8850	11100	13100	9200	11200	13200	14600	8500	11200	13200	14600	11200	13200	14600	11350	13350	15200
F	3000	4000	5000	3000	4000	5000	3000	4000	5000	6000	3000	4000	5000	6000	4000	5000	6000	4000	5000	6000
G	1800			2000			2200				2600			3000			3000			
H	150	250	250	250				180				180			200			200		

DCM Series

■ HIGH RIGIDITY STRUCTURE

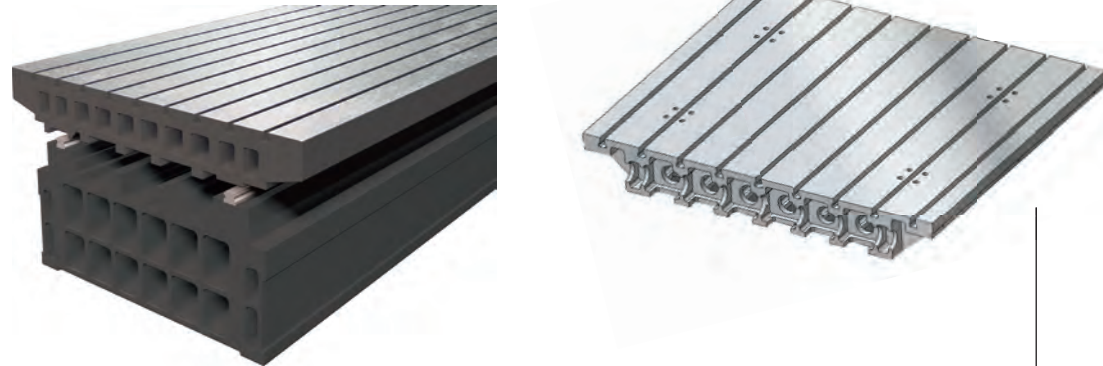
▼ CROSSBEAM

High rigidity, extra wide, box type, stair style structural design optimizes Y and Z axes static rigidity and dynamic precision.



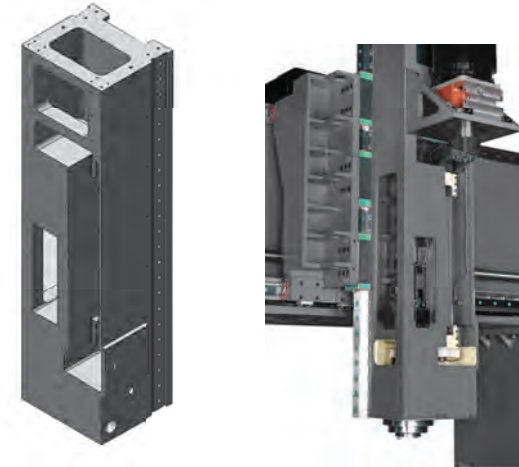
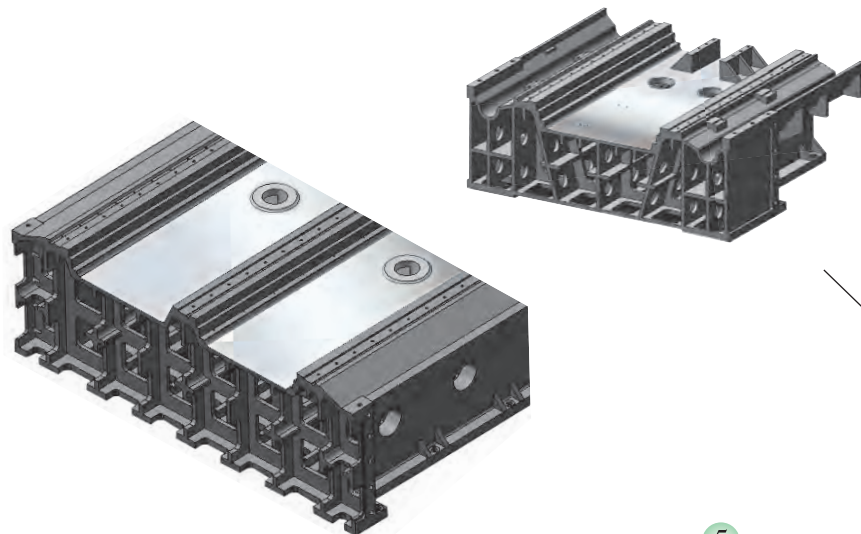
► WORK TABLE

Unique double deck enclosed structure design coupled with extensive high rigidity "HGH" linear guideways to carry heavy duty work pieces. Provides high rigidity and stability, smooth motion and low friction.



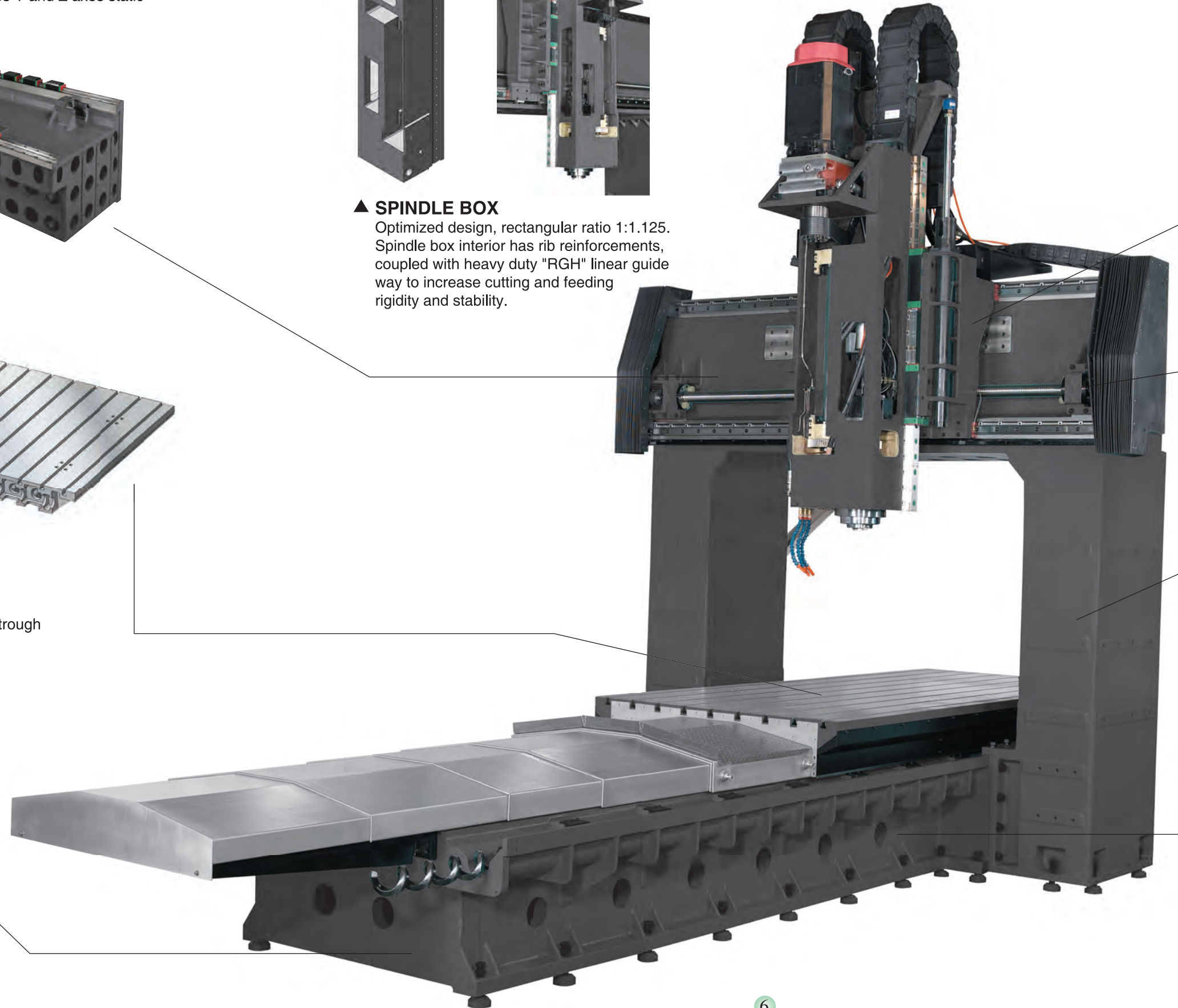
▼ BASE

The rigid box structure with one piece thick walled and ribbed design chip trough (DCM 21 series); three linear guideways (DCM 28~42 series); reinforced extra wide doorway and high rigidity and dynamic accuracy.



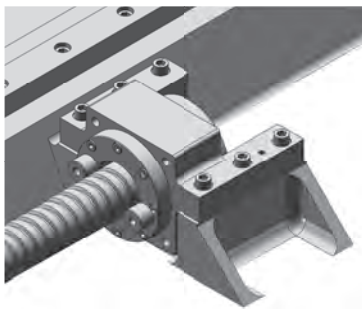
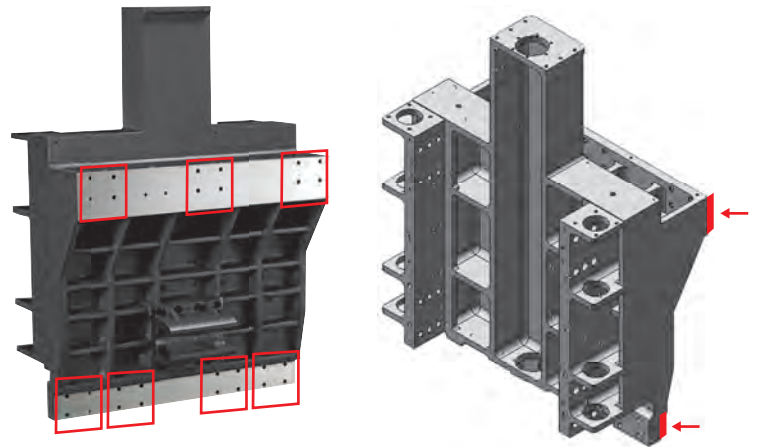
▲ SPINDLE BOX

Optimized design, rectangular ratio 1:1.125. Spindle box interior has rib reinforcements, coupled with heavy duty "RGH" linear guide way to increase cutting and feeding rigidity and stability.



► SLIDEWAY BRACKET

Unique slideway design, there are four "HGH" ballscrew slide blocks on the lower slideway, and three on the upper slideway are coupled with stair style support. Ensure high strength and stability.



◀ BALLSCREWS AND BEARING BASE

X, Y, Z axes coupled with class C3 precision ballscrews reduce thermal displacement. Ballscrew ends are pretensioned and specially designed with anti-ram to protect machine in case of programming error cause over travel.

► VERTICAL COLUMN

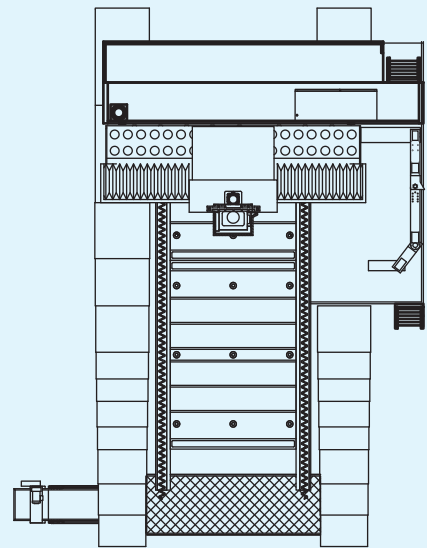
Box-in-box reinforced column structural design replaces conventional hollow design, enhanced anti-pressure and anti-vibration.



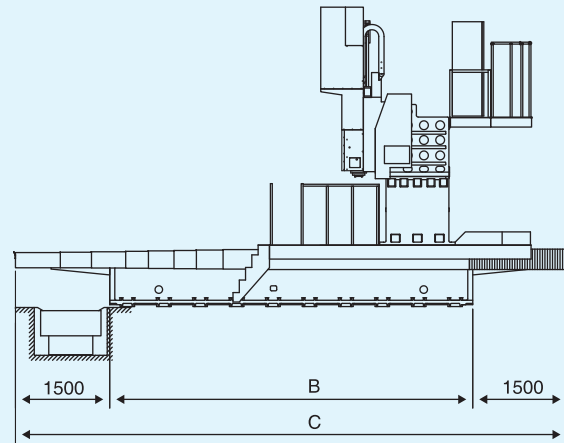
◀ REINFORCED RIBS

Extra wide and thick ribs reinforce base rigidity, absorb vibration and resist curving. One piece design for chip removal trough.

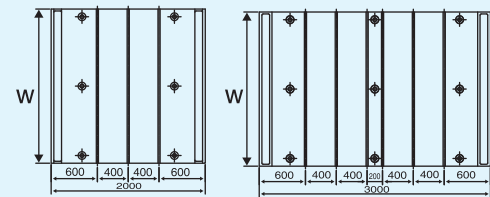
■ DIMENSION Unit: mm



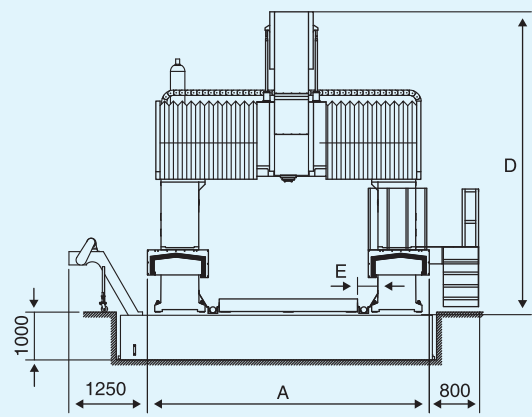
TOP VIEW



SIDE VIEW

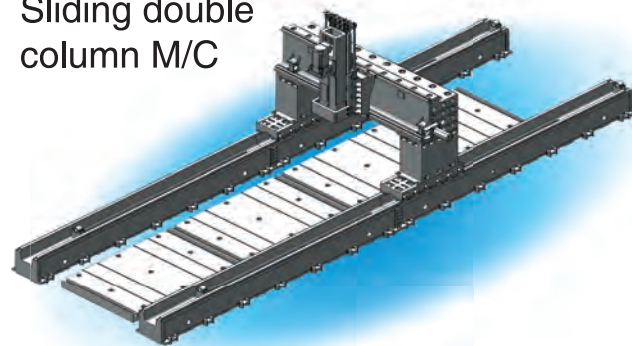


TABLE



FRONT VIEW

Sliding double column M/C



DCMS	2460	2470	2480	2490	24100	24110	2860	2870	2880	2890	28100	28110	3260	3270	3280	3290	32100	32110	3660	3670	3680	3690	36100	36110	4260	4270	4280	4290	42100	42110	4860	4870	4880	4890	48100	48110	5460	5470	5480	5490	54100	54110										
A	3850						4250						4650						5050						5650						6250						6850															
B	8060	9060	10060	11120	12120	13120	8060	9060	10060	11120	12120	13120	8060	9060	10060	11120	12120	13120	8060	9060	10060	11120	12120	13120	8060	9060	10060	11120	12120	13120	8060	9060	10060	11120	12120	13120	8060	9060	10060	11120	12120	13120	8060	9060	10060	11120	12120	13120				
C	11060	12060	13060	14160	15120	16120	11060	12060	13060	14160	15120	16120	11060	12060	13060	14160	15120	16120	11060	12060	13060	14160	15120	16120	11060	12060	13060	14160	15120	16120	11060	12060	13060	14160	15120	16120	11060	12060	13060	14160	15120	16120	11060	12060	13060	14160	15120	16120				
D	5120																																																			
E	220						320						320						320						320						320																					
W	2000						2200						2600						3000						3600						4200						4600															

DCM / DCMS Series

■ QUALITY ASSURED



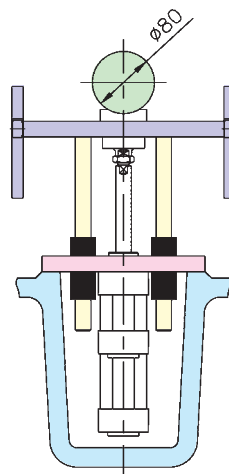
◀ Slide block length coverage about 80% provides strong support, excellent dynamic rigidity.



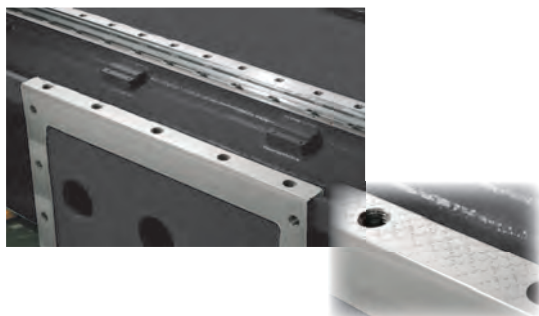
◀ Accumulator Closed Loop Balance System Dual nitrogen tanks balance system, tank pressure and spindle head achieve automatic balancing.



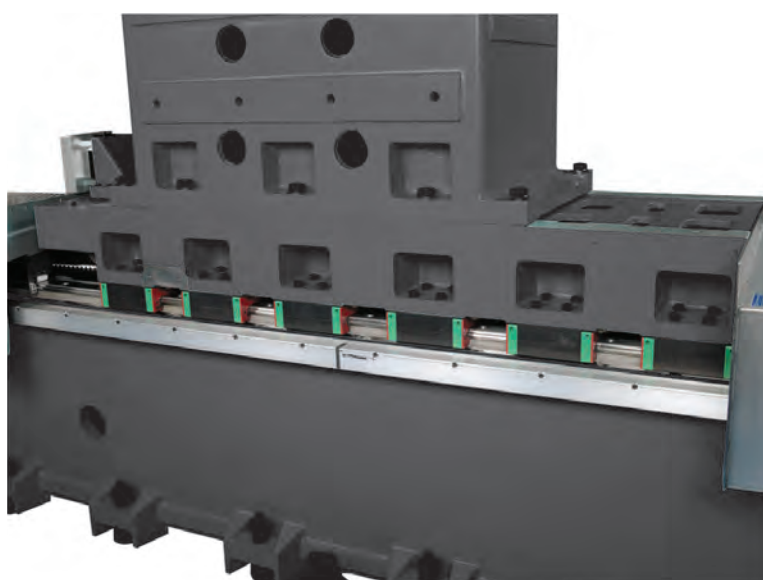
◀ Precision hand scraping replaces spacers in column and horizontal beam, increases strength and rigidity.



◀ Long screw multi-point supported by complete enclosed pneumatic loop. Pressure difference + 0.05kg/cm² per 1.5m maintains screw straightness.



▲ Hand scraped base increases precision and rigidity of the column and base.



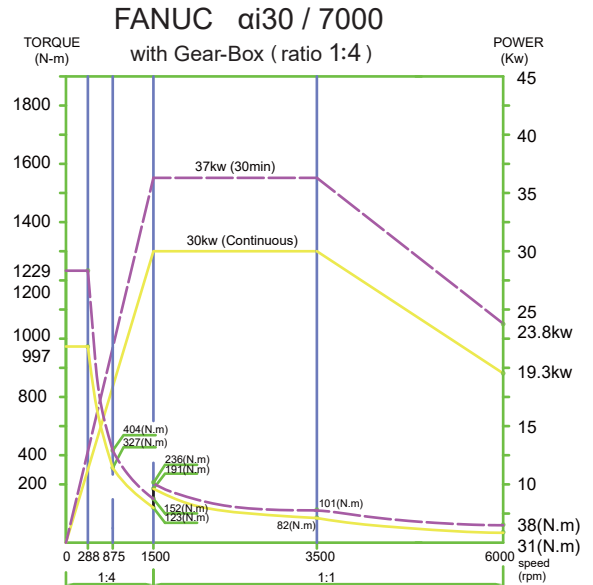
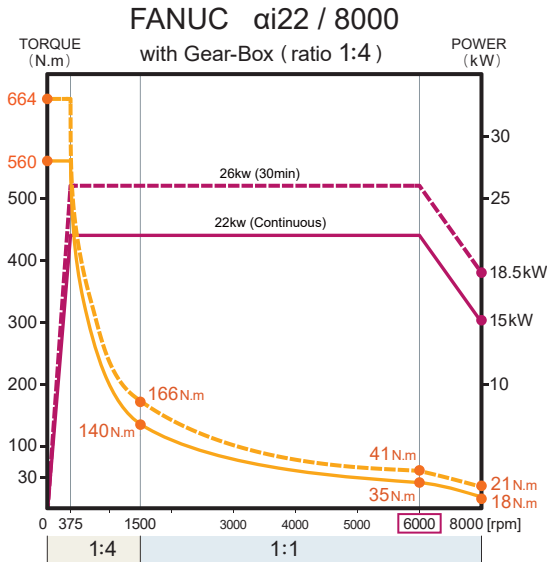
▲ DCMS series, 100 mm interval between column slide blocks. Double lined design optimized moving accuracy.

■ ENSURED ACCURACY



◀ Whole series precision laser calibrated for straightness and surface roughness.

SPINDLE HORSEPOWER AND TORQUE GRAPHS



POWERFUL CUTTING CAPABILITIES



HIGH EFFICIENCY SPINDLE

Spindle uses class P4 angular contact bearings, exterior with oil coolant recycling, prevents thermal deformation of spindle.



TWO SPEED ZF GEAR BOX

Spindle uses ZF DUOPLAN two speed gearbox (1:4). High torque, high efficiency, low noise, fully enclosed / lubricated speed change gearbox.



SURFACE MILLING

Dia. 150 mm, 350 rpm, t = 8mm
400 mm/min, SP load 70%
X load 28%, S45C, RMS12s

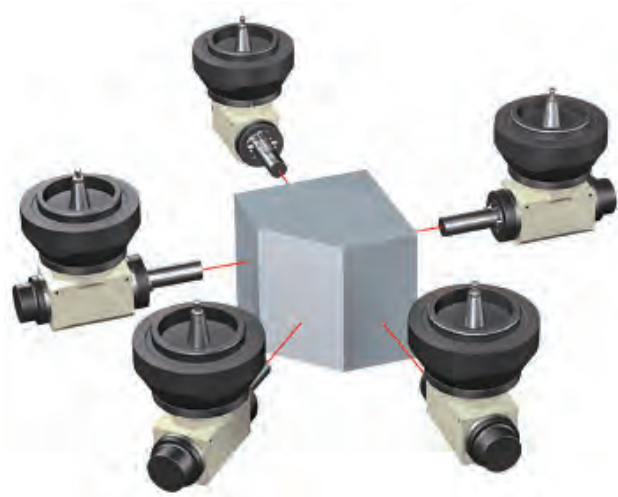
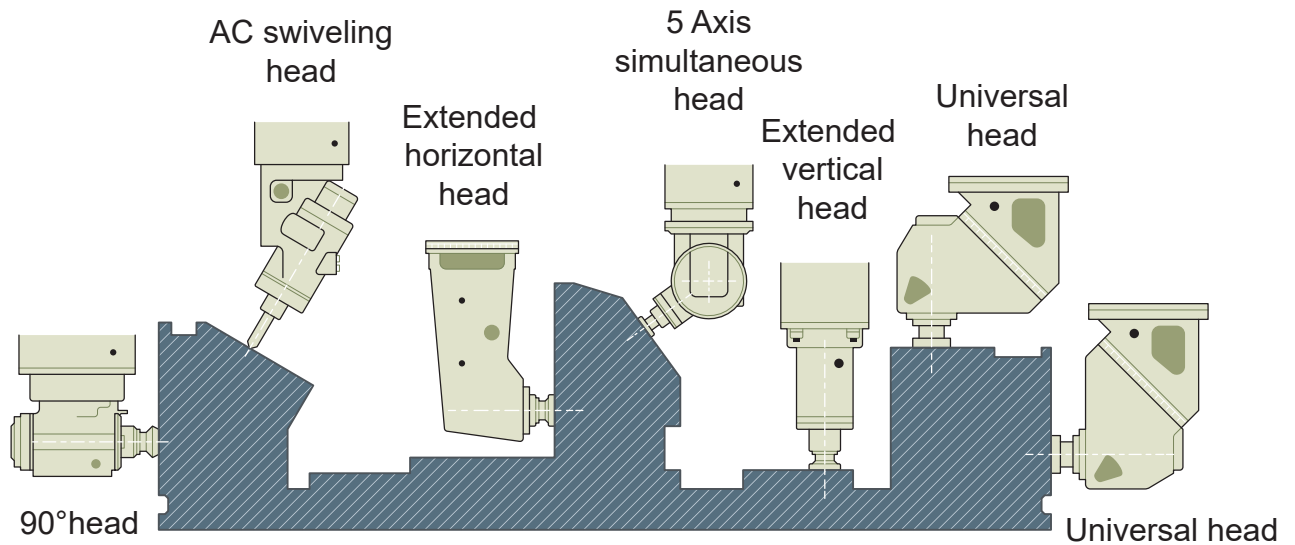


DRILLING

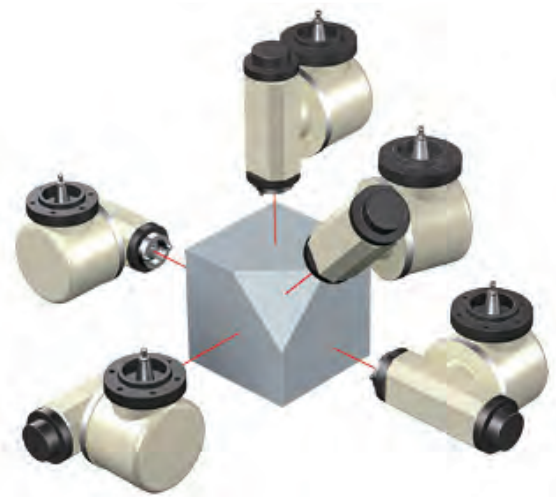
Dia. 48 mm, 1200 rpm, S45C
30 mm/min, Z load 80%
tolerance + 0.1 mm

DCM / DCMS Series

■ OPTIONS (MILLING HEAD)



90° head with auto indexing



5 Axis simultaneous head

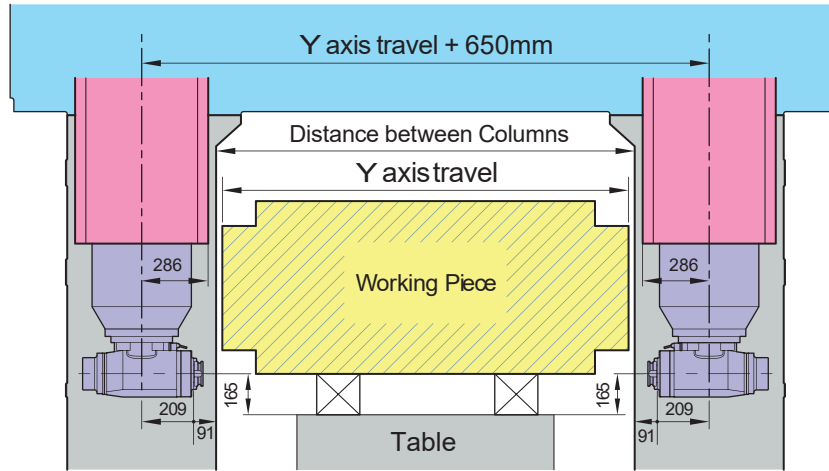


Universal head



AC swiveling head

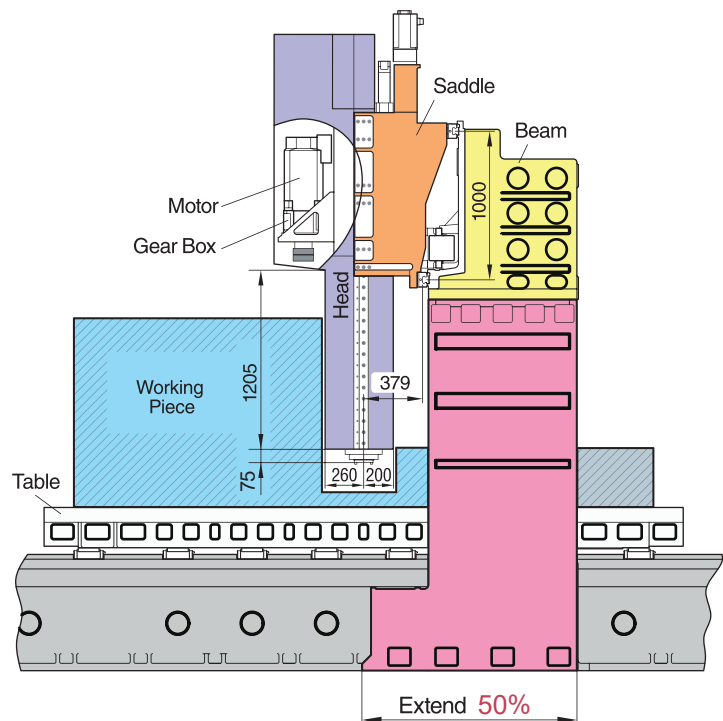
■ MAIN FEATURES



" π " Type horizontal beam; Y axis travel increased by 650 mm, allows for larger work pieces. (Option)



Low distance between spindle head and horizontal beam linear guideway; provides heavy duty cutting precision.



Spindle motor attached to top of spindle head; assists deep hole machining for large work pieces, and effectively protects spindle from thermal displacement.

DCM / DCMS Series

STANDARD ACCESSORIES



Spindle oil chiller



Adjustable axial motor

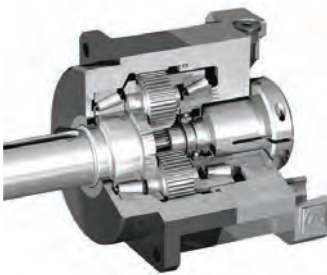


Two sets oil lubricator



High rigidity linear guideway and ball screw

OPTIONS



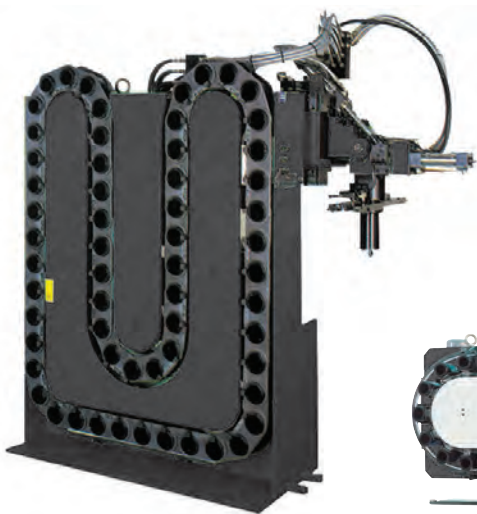
DCM-XX60 and DCMS full series X axis driven by heavy duty reduction gear (1:3)



Coolant chiller



DCMS series machines are precision gear driven when X axis travel is longer than 11M or displacement is faster than 10M/min.



Horizontal and vertical ATC hydraulic tool magazine



Arm type ATC



Auto exchange rest for special spindle head

DCM Series

SPECIFICATIONS

MODEL	DESCRIPTION	DCM 21 Series			DCM 24 Series		
		2132	2142	2152	2432A	2442A	2452A
TABLE	Length	3000 mm (118.1")	4000 mm (157.4")	5000 mm (196.8")	3000 mm (118.1")	4000 mm (157.4")	5000 mm (196.8")
	Width	1800 mm (70.8")			2000 mm (78.7")		
	T-slot (width x pitch x number)	22 mm x 150 mm x 11 (0.86" x 5.9" x 11)			22 mm x 150 mm x 13 (0.86" x 5.9" x 13)		
	Maximum load	15000 kgs	18000 kgs	20000 kgs	15000 kgs	18000 kgs	20000 kgs
TRAVEL	Longitudinal travel (X axis)	3200 mm (126")	4200 mm (165.3")	5200 mm (204.7")	3200 mm (126")	4200 mm (165.3")	5200 mm (204.7")
	Cross travel (Y axis)	2100 mm (82.6")			2400 mm (94.5")		
	Vertical travel (Z axis)	800 mm (31.5") / 1100 mm (43.3") (OPT.)					
	Distance from spindle end to table	180 ~ 980 mm (7" ~ 38.6")	75 ~ 875 mm (2.95" ~ 34.4")		130 ~ 930 mm (5.1" ~ 36.6")	75 ~ 875 mm (2.95" ~ 34.4")	
	Distance from spindle center to column	430 mm (16.9")					
	Distance between columns	2150 mm (86.4")			2450 mm (96.5")		
SPINDLE	Spindle drive motor (Con. / 30 min)	22 kw / 26 kw					
	Spindle speed	6000 rpm					
	Spindle taper	BT50					
FEED	Cutting feed rate	18000 mm / min	15000 mm / min				
	Rapid traverse (X / Y / Z) (M / min)	18 / 20 / 15	15 / 20 / 15	12 / 20 / 15	18 / 20 / 15	15 / 20 / 15	12 / 20 / 15
ATC	Tool storage capacity	24 tools					
	Tool size (full tools)	Dia. 110 mm (4.3")					
	Max. tool size (next pocket empty)	Dia. 200 mm (7.8")					
	Max. tool length	380 mm (14.9")					
	Max. tool weight	18 kgs					
	Tool shank and pull stud	BT50 45°					
MISCELLANEOUS	Power requirement	40 ~ 50 KVA					
	Pneumatic requirement	6.5 kgs/cm ²					
	Machine size length	8400 mm (331")	11100 mm (437")	13100 mm (515.7")	8400 mm (331")	11100 mm (437")	13100 mm (515.7")
	Machine size width	4850 mm (191")			5150 mm (202.8")		
	Machine size height	4570 mm (180") / 5470 mm (215.3")					
	Machine weight	29 ton	33 ton	37 ton	30 ton	35 ton	40 ton

※THE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

■ STANDARD ACCESSORIES:

1. Fanuc 0iMF + 10.4" LCD
2. Spindle oil chiller
3. Spindle air blast
4. Auto coolant, hydraulic and lubrication system
5. Electrical cabinet with heat exchanger
6. Gear box
7. Arm type 24 tools ATC (DCM-21~24A)
Arm type 32 tools ATC (DCM-28~48)
8. Auto door for ATC
9. Dual spiral type chip remover
10. Steel-belt type chip conveyor
11. Semi-enclosed splash guard (DCM-21~24A)
12. Open type splash guard (DCM-28~48)
13. X axis steel telescopic cover
14. Y axis JAVARA cover
15. Air/water cleaning equipment
16. Foot switch for tool away
17. Rigid tapping
18. RS232 / USB / Ethernet interface
19. Work light
20. Leveling screw + foundation bolts
21. Tool box with tools

SPECIFICATIONS

MODEL	DESCRIPTION	DCM 28 Series				DCM 32 Series			
		2832	2842	2852	2860	3232	3242	3252	3260
TABLE	Length	3000 mm (118.1")	4000 mm (157.4")	5000 mm (196.8")	6000 mm (236.2")	3000 mm (118.1")	4000 mm (157.4")	5000 mm (196.8")	6000 mm (236.2")
	Width	2200 mm (86.6")				2600 mm (102.3")			
	T-slot (width x pitch x number)	28 mm x 180 mm x 13 (1.1" x 7" x 13)				28 mm x 200 mm x 13 (1.1" x 7.8" x 13)			
	Maximum load	18000 kgs	20000 kgs	22000 kgs	24000 kgs	18000 kgs	20000 kgs	22000 kgs	24000 kgs
TRAVEL	Longitudinal travel (X axis)	3200 mm (126")	4200 mm (165.3")	5200 mm (204.7")	6000 mm (236.2")	3200 mm (126")	4200 mm (165.3")	5200 mm (204.7")	6000 mm (236.2")
	Cross travel (Y axis)	2800 mm (110.2")				3200 mm (126")			
	Vertical travel (Z axis)	1100 mm (43.3") / 1400 mm (55.1") (OPT.)							
	Distance from spindle end to table	180 ~ 1280 mm (7" ~ 50.4")				150 ~ 1250 mm (5.9" ~ 49.2")			
	Distance from spindle center to column	430 mm (16.9")							
	Distance between columns	2850 mm (112.2")				3250 mm (128")			
SPINDLE	Spindle drive motor (Con. / 30 min)	22 kw / 26 kw (OPT. 30 kw / 37 kw)							
	Spindle speed	6000 rpm							
	Spindle taper	BT50							
FEED	Cutting feed rate	12000 mm / min							
	Rapid traverse (X / Y / Z) (M / min)	15 / 15 / 15	12 / 15 / 15	10 / 15 / 15	10 / 15 / 15	15 / 15 / 15	12 / 15 / 15	10 / 15 / 15	10 / 15 / 15
ATC	Tool storage capacity	32 tools							
	Tool size (full tools)	Dia. 125 mm (4.9")							
	Max. tool size (next pocket empty)	Dia. 220 mm (8.6")							
	Max. tool length	400 mm (15.7")							
	Max. tool weight	20 kgs							
	Tool shank and pull stud	BT50 45°							
MISCELLANEOUS	Power requirement	50 ~ 60 KVA							
	Pneumatic requirement	6.5 kgs/cm ²							
	Machine size length	9400 mm (370")	11400 mm (449")	13400 mm (528")	15400 mm (607")	9400 mm (370")	11400 mm (449")	13400 mm (528")	15400 mm (607")
	Machine size width	6000 mm (236")				6400 mm (252")			
	Machine size height	5200 mm (216.5") / 6100 mm (240.1")							
	Machine weight	44 ton	49 ton	54 ton	59 ton	50 ton	55 ton	60 ton	65 ton

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■ OPTIONS:

- Extra spindle motor
- High pressure coolant thru spindle
- Coolant thru tool holder
- Auto tool length measurement
- Auto workpiece measurement
- Linear scale
- Extra tool magazine
- 90° head (Auto, Semi, Manual)
- Extended head (Auto, Manual)
- Universal head (Fixed type, Manual)
- AC swiveling head (Auto, Manual)
- Five face head (Fixed type)
- CNC rotary table
- Auto exchange rest for special spindle head
- Oil skimmer
- Fully enclosed splash guard (DCM)
- W axis (DCM21 / 24 is not available)
- Y axis travel extend 650mm
- CE Mark
- Transformer (Power supply except 220V)

SPECIFICATIONS

MODEL	DESCRIPTION	DCM 36 Series			DCM 42 Series			DCM 48 Series	
		3642	3652	3660	4242	4252	4260	4852	4860
TABLE	Length	4000 mm (157.4")	5000 mm (196.8")	6000 mm (236.2")	4000 mm (157.4")	5000 mm (196.8")	6000 mm (236.2")	5000 mm (196.8")	6000 mm (236.2")
	Width	3000 mm (118.1")							
	T-slot (width x pitch x number)	28 mm x 200 mm x 15 (1.1" x 7.8" x 15)						28 mm x 200 mm x 17 (1.1" x 7.8" x 17)	
	Maximum load	20000 kgs	22000 kgs	24000 kgs	22000 kgs	24000 kgs	26000 kgs	24000 kgs	26000 kgs
TRAVEL	Longitudinal travel (X axis)	4200 mm (165.3")	5200 mm (204.7")	6000 mm (236.2")	4200 mm (165.3")	5200 mm (204.7")	6000 mm (236.2")	5200 mm (204.7")	6000 mm (236.2")
	Cross travel (Y axis)	3600 mm (141.7")			4200 mm (165.4")			4800 mm (189")	
	Vertical travel (Z axis)	1100mm (43.3") / 1400 mm (55.1") (OPT.) / 1500 mm (59") (OPT.)							
	Distance from spindle end to table	260 ~ 1360 mm / 250 ~ 1750 mm (OPT.) 10.2" ~ 53.5" / 9.84" ~ 68.9" (OPT.)							
	Distance from spindle center to column	470 mm (18.5")							
	Distance between columns	3650 mm (143.7")			4250 mm (167.3")			4850 mm (190.9")	
SPINDLE	Spindle drive motor (Con. / 30 min)	22 kw / 26 kw (OPT. 30kw / 37 kw)							
	Spindle speed	6000 rpm							
	Spindle taper	BT50							
FEED	Cutting feed rate	10000 mm / min							
	Rapid traverse (X / Y / Z) (M / min)	12 / 12 / 15	10 / 12 / 15	10 / 12 / 15	12 / 12 / 15	10 / 12 / 15	10 / 12 / 15	10 / 12 / 15	10 / 12 / 15
ATC	Tool storage capacity	32 tools							
	Tool size (full tools)	Dia. 125 mm (4.9")							
	Max. tool size (next pocket empty)	Dia. 220 mm (8.6")							
	Max. tool length	400 mm (15.7")							
	Max. tool weight	20 kgs							
	Tool shank and pull stud	BT50 45°							
MISCELLANEOUS	Power requirement	50 ~ 60 KVA							
	Pneumatic requirement	6.5 kgs/cm ²							
	Machine size length	11400 mm (449")	13400 mm (528")	15400 mm (607")	11400 mm (449")	13400 mm (528")	15400 mm (607")	13400 mm (528")	15400 mm (607")
	Machine size width	6800 mm (268")			7400 mm (291.3")			8000 mm (315")	
	Machine size height	5500 mm (216.5") / 6450 mm (253.9")							
	Machine weight	62 ton	67 ton	72 ton	68 ton	73 ton	78 ton	75 ton	80 ton

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■ STANDARD ACCESSORIES AND OPTIONS:

Same as p. 15 and 16

SPECIFICATIONS

Model	Description	DCMS-24	DCMS-28	DCMS-32	DCMS-36	DCMS-42	DCMS-48	DCMS-54
TABLE	Length	From 6000 mm to 36000 mm, in step of 1000 mm (from 236" to 1417", in step of 39.4")						
	Width	1600 mm (63")	2000 mm (78.7")	2400 mm (94.4")	2800 mm (110.2")	3400 mm (133.8")	4000 mm (157.4")	4600 mm (181.1")
	T-slot (width x pitch)	28 mm x 500 mm						
	Maximum load	3000 kg / m ²						
TRAVEL	Longitudinal travel (X axis)	From 6000 mm to 36000 mm, in step of 1000 mm (from 236" to 1417", in step of 39.4")						
	Cross travel (Y axis)	2400 mm (94.5")	2800 mm (110.2")	3200 mm (126")	3600 mm (141.7")	4200 mm (165.4")	4800 mm (189")	5400 mm (212.6")
	Vertical travel (Z axis)	1100 mm / 1400 mm (opt)			1100 mm / 1400 mm (opt) / 1500 mm (opt)			
	Distance from spindle end to table	1080 - 2180 mm / 1020 - 2420 mm (OPT.)						
	Distance from spindle center to column	427 mm (16.8")			473 mm (18.6")			
	Distance between columns	2450 mm (96.5")	2850 mm (112.2")	3250 mm (127.9")	3650 mm (143.7")	4250 mm (167.3")	4850 mm (190.9")	5450 mm (214.6")
SPINDLE	Spindle drive motor (con. / 30 min)	22 kw / 26 kw (OPT. 30 kw / 37 kw)						
	Spindle speed	6000 rpm						
	Spindle taper	BT 50						
FEED	Cutting feed rate	6000 mm / min						
	Rapid feed rate (X / Y / Z)	12 / 12 / 10 M / min			10 / 10 / 10 M / min			
ATC	Tool storage capacity	32 tools						
	Tool size (full tools)	Dia.125 mm (4.9")						
	Max. tool size (next pocket empty)	Dia. 220 mm (8.6")						
	Max. tool length	400 mm						
	Max. tool weight	20 kgs						
	Tool shank and pull stud	BT50 45°						
MISCELLANEOUS	Power requirement	70 KVA / 80 KVA (with 30 kw / 37 kw spindle motor) (OPT.)						
	Pneumatic requirement	6.5 kgs / cm ²						
	Machine size length	From 13500 mm to 43500 mm, in step of 1000 mm						
	Machine size width	6500 mm (255.9")	6900 mm (271.7")	7300 mm (287.4")	7700 mm (303.1")	8100 mm (318.9")	8500 mm (334.6")	8900 mm (350.4")
	Machine size height	6500 mm						
	Machine weight	50 up ton	53 up ton	56 up ton	60 up ton	65 up ton	70 up ton	75 up ton

※THE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

■ STANDARD ACCESSORIES:

1. Fanuc 0iMF + 10.4" LCD
2. Spindle oil chiller
3. Spindle air blast
4. Auto coolant, hydraulic and lubrication system
5. Electrical cabinet with heat exchanger
6. Gear box
7. Arm type 32 tools ATC
8. Auto door for ATC
9. Dual spiral type chip remover
10. Steel-belt type chip conveyor
11. Open type splash guard
12. X axis rack-pinion-syn. servo control with two linear scales
13. Y axis rack-pinion control with linear scale (DCMS-48 and up)
14. X axis steel telescopic cover
15. Y axis JAVARA cover
16. Air/water cleaning equipment
17. Foot switch for tool away
18. Rigid tapping
19. RS232 / USB / Ethernet interface
20. Work light
21. Leveling screw + foundation bolts
22. Tool box with tools

■ OPTIONS:

1. Extra spindle motor
2. High pressure coolant thru spindle
3. Coolant thru tool holder
4. Auto tool length measurement
5. Auto workpiece measurement
6. Linear scale
7. Extra tool magazine
8. 90° head (Auto, Semi, Manual)
9. Extended head (Auto, Manual)
10. Universal head (Fixed type, Manual)
11. AC swiveling head (Auto, Manual)
12. Five face head (Fixed type)
13. CNC rotary table
14. Auto exchange rest for special spindle head
15. Y axis steel telescopic cover
16. Oil skimmer
17. W axis (1M~2M)
18. Y axis travel extend 650mm
19. CE Mark
20. Transformer (Power supply except 220V)

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