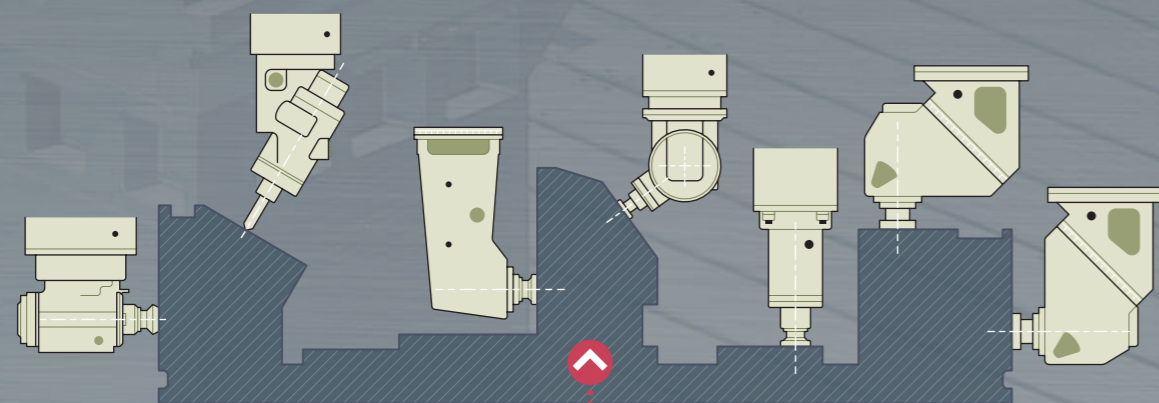
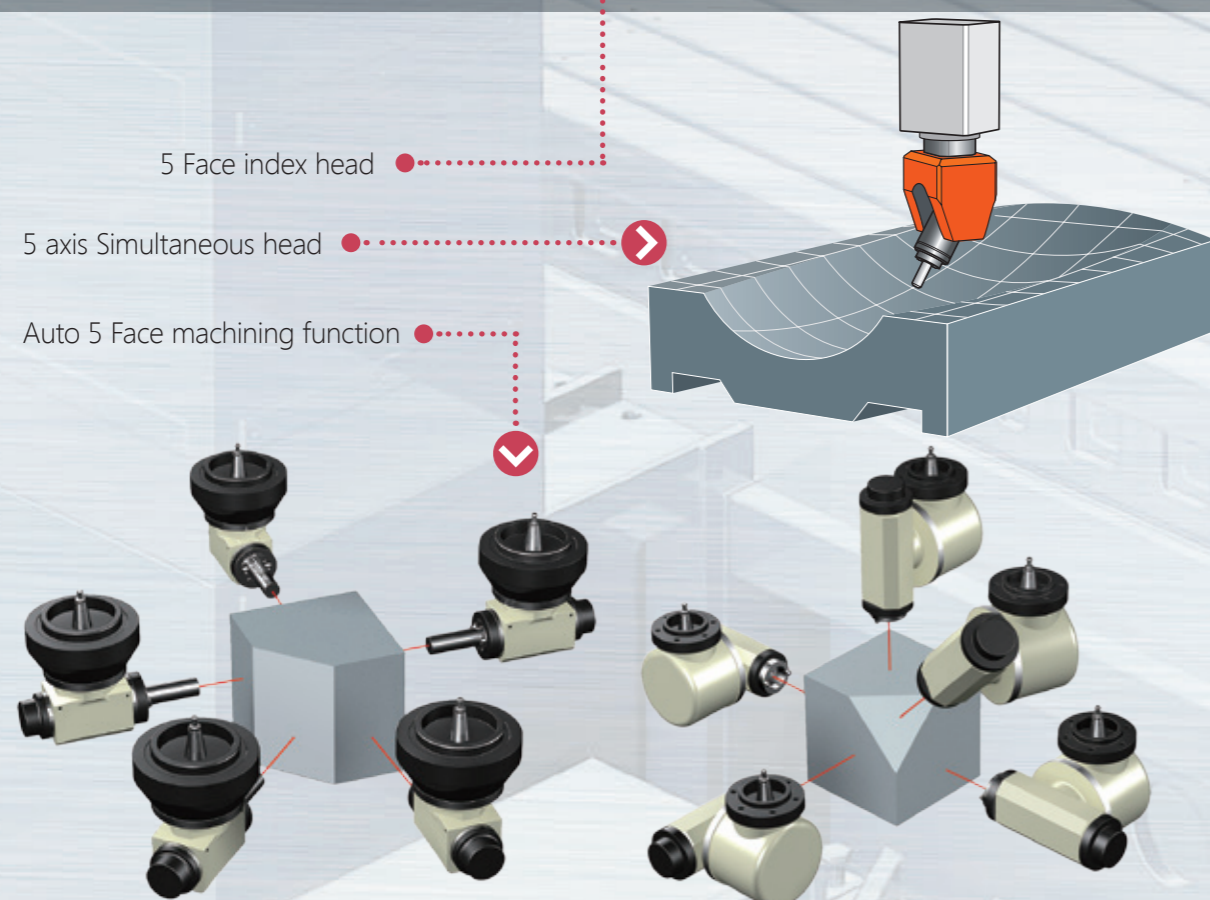


Excellent, Confident, Intellect, Service



CNC FIXED DOUBLE COLUMNS MACHINING CENTER



5 Face index head

5 axis Simultaneous head

Auto 5 Face machining function

FD&FDW
series



Taichung City, 42847, Taiwan

HOTLINE: +49-6158-84772
info@gk-werkzeugmaschinen.de

CNC FIXED DOUBLE COLUMNS MACHINING CENTER

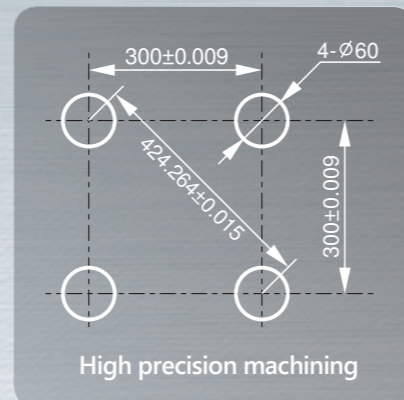


FD Fixed Double Columns

FDW Moving Cross-Rail

TRAVEL

- X**-travel : 3200~6000 mm
- Y**-travel : 2400/2800/3200/3600/4200 mm
- Z**-travel : 800/1100/1400 mm
- W**-travel : 1000~2000 mm



TRAVEL

- X**-travel : 2200~6000 mm
- Y**-travel : 1800/2100/2400/2800 mm
3200/3600/4200 mm
- Z**-travel : 800/1100/1400 mm



Model explain

FDW-3660-5F

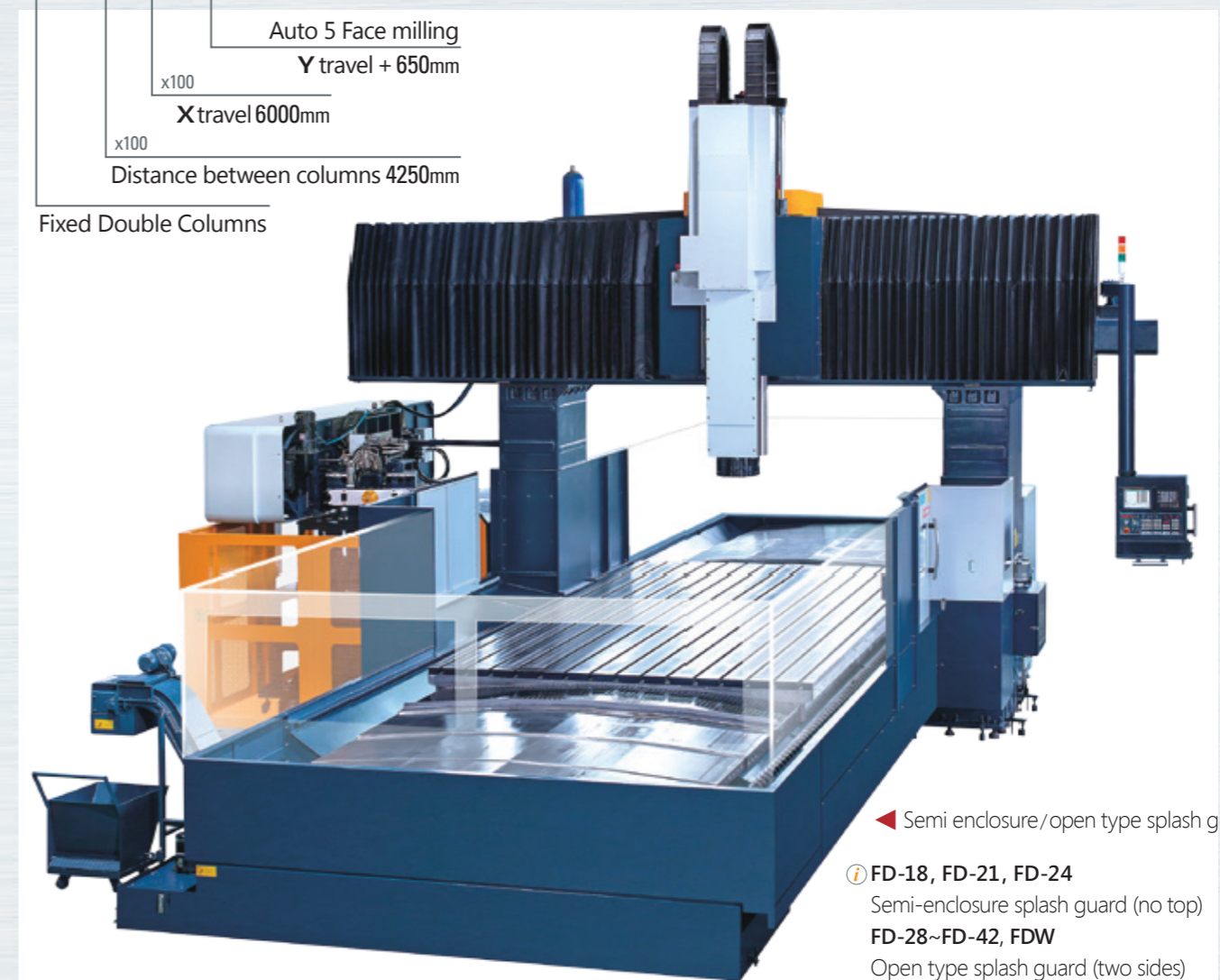
- Auto 5 Face milling
Y travel + 650mm
- x100 X travel 6000mm
- x100 Distance between columns 3650mm
- W type moving cross-rail
- Fixed Double Columns



Model explain

FD-4260-5F

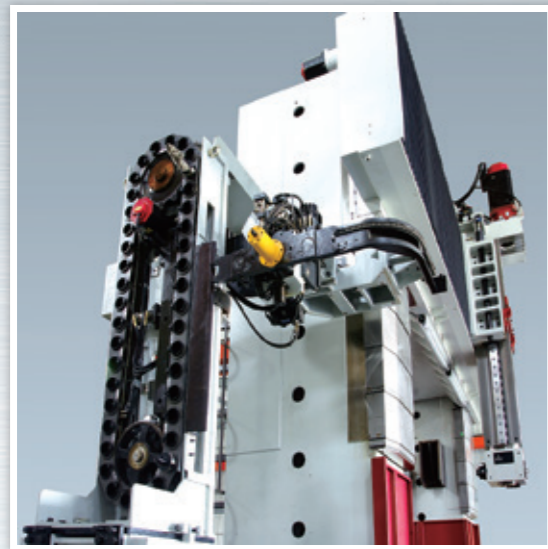
- Auto 5 Face milling
Y travel + 650mm
- x100 X travel 6000mm
- x100 Distance between columns 4250mm
- Fixed Double Columns



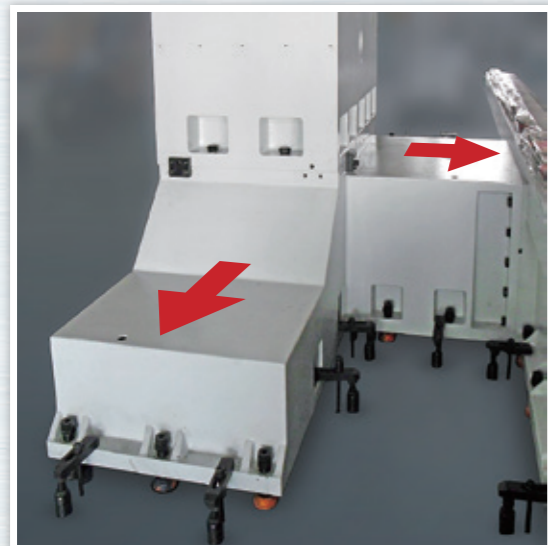
◀ Semi enclosure / open type splash guard

- ① FD-18, FD-21, FD-24
Semi-enclosure splash guard (no top)
- FD-28~FD-42, FDW
Open type splash guard (two sides)

W-type Features



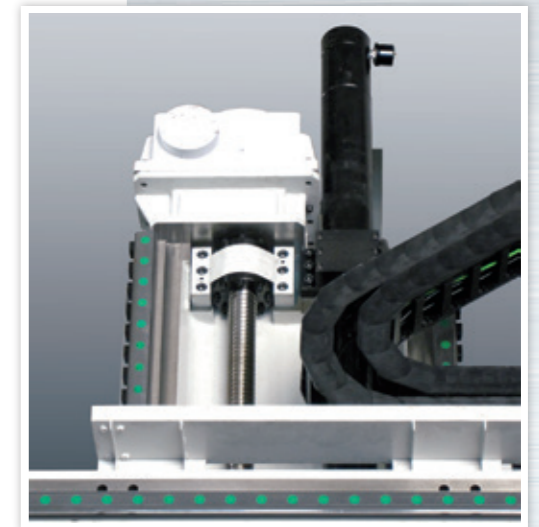
▲ Free position ATC



▲ Enlarge column base



▲ Box-in-box unity cast-iron frame



▲ Synchronous servo control



▲ Three linear guideways column

Structural Design

(For FD-2852)



Rigid roller guide way

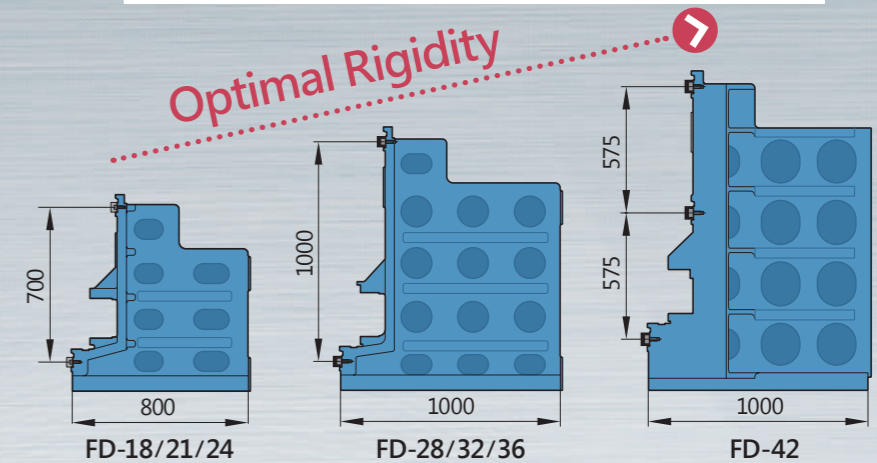


SADDLE

- 3 top / 4 bottom support blocks
- Unity frame with reinforced ribs
- Stair style structural design

SPINDLE BOX (RAM)

- Optimum cross-section 400x450mm² (550x550, 650x650)
- Interior loop ribs reinforcement, rigid roller guide way.



CROSS BEAM

- Box in box unity casting frame
- Optimum bending section modulus
- Optimum rigidity & damping design

TABLE

- Double layer loop frame
- Heavy duty loading

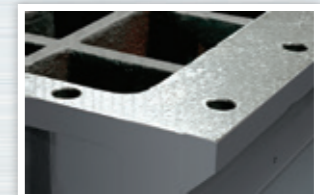


BASE

- Box in box unity casting frame
- FD-28 ~ FD-42 three guideways
- Interior loop ribs reinforcement

COLUMN

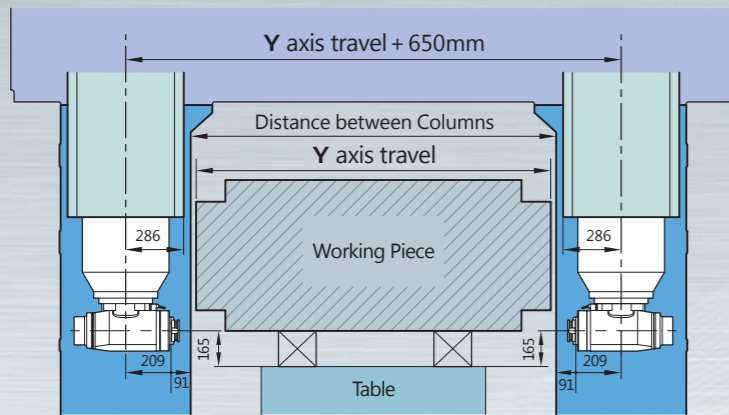
- Box in box unity casting frame
- Hand scraped attach surfaces
- Extend bottom size to improve rigidity
- Optimum rigidity & damping design



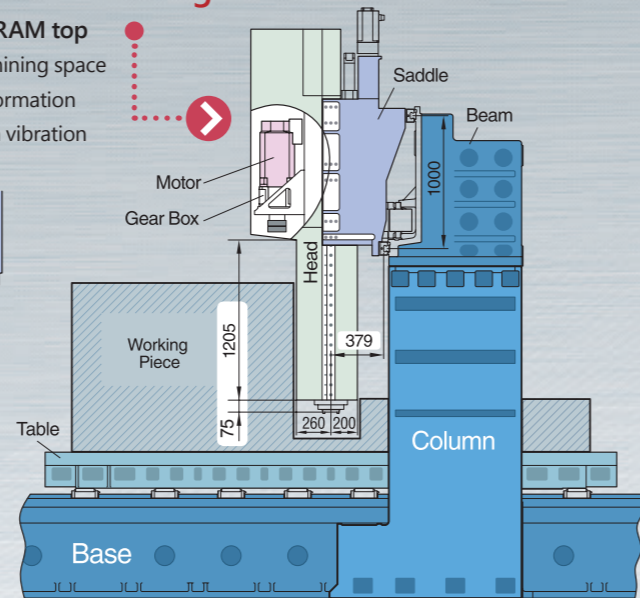
Enlarge Cutting Space

Optimum Transmission Design

- Spindle motor on RAM top**
- Increase deep machining space
 - Isolate thermal deformation
 - Isolate transmission vibration

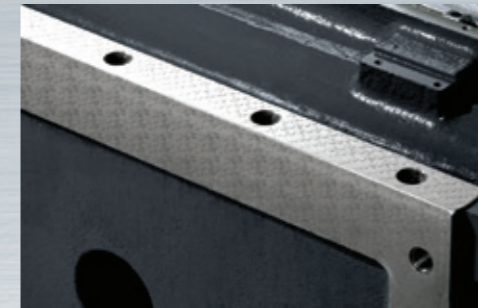


▲ Extend Y-travel for auto-5F cutting space

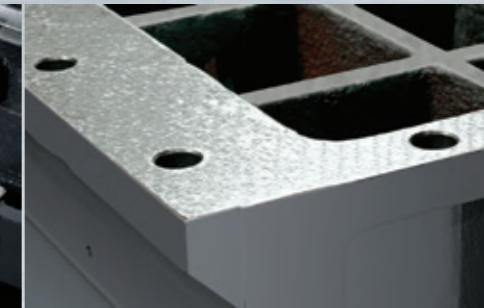


Enlarge column base area ▶ Extend 40%

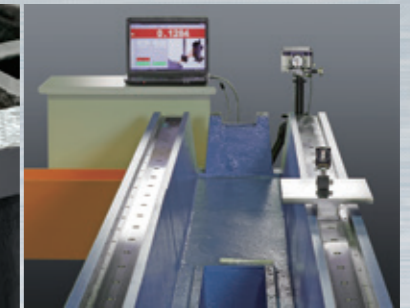
Quality Assurance



All attached surfaces of base by precision hand-scraped.



All attached surfaces of columns by precision hand-scraped.

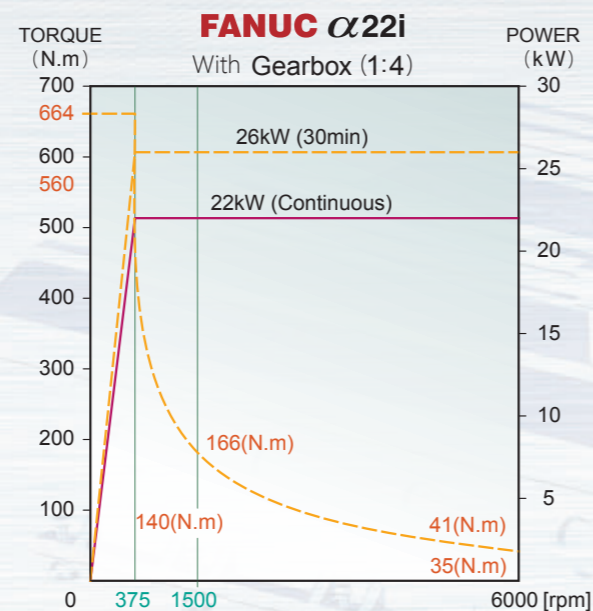
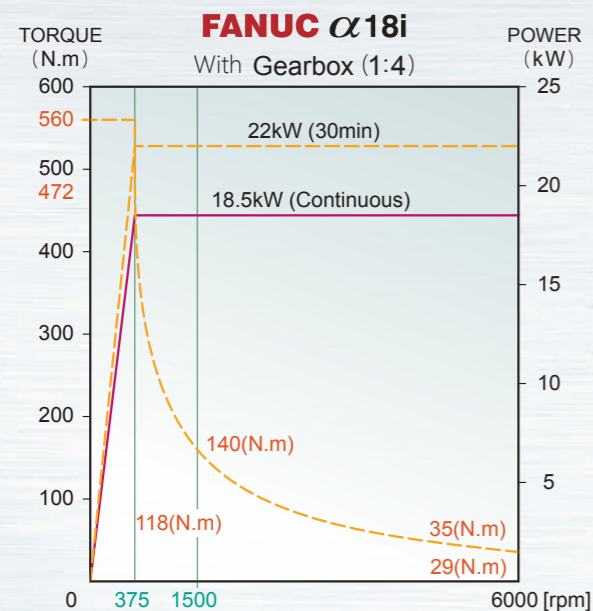


Accuracy and Precision assembly.

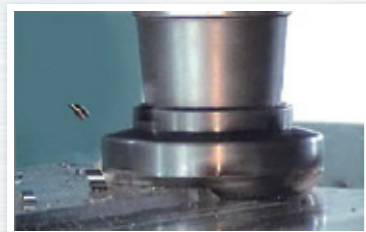
Special Head (Exchange Type)

Type	Automatic	Semi-Automatic	Manual
Head exchange	Auto (hydraulic)	Manual (8 bolts)	Manual (8 bolts)
Head indexed	Auto (5°)	Auto (5°)	Manual (5°/15°)
Tool clamped	Booster	Booster	Bolt

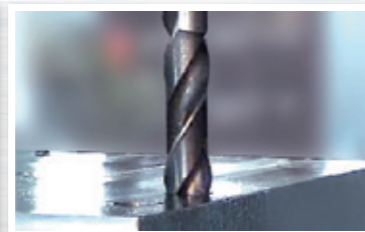
Power Capability



Cutting Record (from FD-1832)



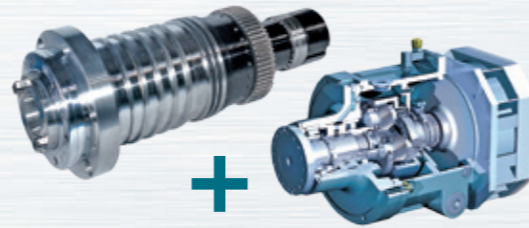
Face cutting S45C
Ø150mm, 350rpm, t=8mm
400mm/min, SP load 70%
X axis load 28%, RMS 12s



Drilling S45
Ø48mm, 1200rpm, h=100mm
30mm/min, Z axis load 80%,
tolerance +0.1mm

Optimum Efficiency Transmission

P4 level precision ball bearing is oil chilled to reduce thermal deformation.



Two speed ZF 2K 250 gearbox
Full enclosure, high performance.

Special Milling Head (Fixed Type)



Universal head



5 Face head



5 Axis simultaneous head

Auto Head exChanger (AHC)



For Auto-Special Milling Head

FD FIXED DOUBLE COLUMNS MACHINING CENTER

Item	Unit	FD-18 Series					FD-21 Series			FD-24 Series		
Model	FD-	1822	1827	1832	1842	1852	2132	2142	2152	2432A	2442A	2452A
Distance between columns (without splash guard)	mm	1850					2150			2450		
Table size	Length	2000	2500	3000	4000	5000	3000	4000	5000	3000	4000	5000
	Width	1500					1800			2000		
Maximum Table Load	ton	12	13	15	18	20	15	18	20	15	18	20
T-slot	Width x Pitch x NO	22 x 150 x 9					22 x 150 x 11			22 x 150 x 13		
Travel	X-axis	2200	2700	3200	4200	5200	3200	4200	5200	3200	4200	5200
	Y-axis	1800					2100			2400		
	Z-axis	800 (Optional 1100)										
Spindle	Nose to table	200 ~ 1000 (200 ~ 1300)			100 ~ 900 (100 ~ 1200)		200~1000 (200~1300)	100 ~ 900 (100 ~ 1200)				
	Center to column	430										
	Taper / Speed / Power	BT50 - 5,000 - 18.5/22kW										
feedrate	Cutting	5 ~ 15,000										
	X axis G00	24	22	20	18	15	20	18	15	20	18	15
	Y/Z axis G00	20/15										
Accuracy (JIS 6338)	mm	Positioning ±0.015 / full travel ; Repeatability ±0.003										
ATC & tool magazine	Capacity / Dia	Cam type ATC 24pcs / Max. dia Ø110 (full tools) ; Ø200 (Adjacent pocket empty)										
	Max tool weight / Length	18kg / 350mm										
	Tool selection	Take shortest direction / M24 P3.0-45°										
Power / Pneumatic		40 ~ 50 KVA / 6.5 kg/cm ²										
Machine size	Length	6400	7400	8400	11100	13100	8400	11100	13100	8400	11100	13100
	Width	4550					4850			5150		
	Height	4570 (5470)										
Machine Weight (app.)	ton	23	26	29	35	40	30	35	40	32	37	42

FD-28 Series				FD-32 Series				FD-36 Series			FD-42 Series		
2832	2842	2852	2860	3232	3242	3252	3260	3642	3652	3660	4242	4252	4260
2850				3250				3650			4250		
3000	4000	5000	6000	3000	4000	5000	6000	4000	5000	6000	4000	5000	6000
2200				2600				3000					
18	18	20	22	18	18	20	22	20	22	24	20	22	24
28 x 180 x 11				28 x 200 x 13				28 x 200 x 15					
3200	4200	5200	6000	3200	4200	5200	6000	4200	5200	6000	4200	5200	6000
2800				3200				3600			4200		
1100 (Optional 1400)													
300 ~ 1400 (300 ~ 1700)													
430													
BT50 - 5,000 - 22/26kW													
5 ~ 10,000													
15	12	10	10	15	12	10	10	12	10	10	12	10	10
15/15							12/15						
Positioning ±0.015 / full travel ; Repeatability ±0.003													
Chain type ATC 32pcs / Max. dia Ø125 (full tools) ; Ø220 (Adjacent pocket empty)													
20kg / 400mm													
Take shortest direction / M24 P3.0-45°													
50 ~ 60 KVA / 6.5 kg/cm ²													
9400	11400	13400	15400	9400	11400	13400	15400	11400	13400	15400	11400	13400	15400
6000				6400				6800			7400		
5500 (6400)													
37	42	47	52	40	45	50	55	48	53	58	53	58	63

FDW FIXED DOUBLE COLUMNS MACHINING CENTER W-type

Item	Unit	FDW-24 Series				FDW-28 Series				FDW-32 Series			
Model	FDW-	2432	2442	2452	2460	2832	2842	2852	2860	3242	3252	3260	
Distance between columns (without splash guard)	mm	2450				2850				3250			
Table size	Length	3300	4300	5300	6200	3300	4300	5300	6200	4300	5300	6200	
	Width	2000				2200				2600			
Maximum Table Load	ton	18	18	20	22	18	18	20	22	18	20	22	
T-slot	Width x Pitch x NO	28 x 180 x 11				28 x 180 x 11				28 x 200 x 13			
Travel	X-axis	3200	4200	5200	6000	3200	4200	5200	6000	4200	5200	6000	
	Y-axis	2400				2800				3200			
	Z-axis	800 (1100)											
	W-axis	1000 (1500) Every 250mm positing											
Spindle	Nose to table	100 ~ 1800 (2100)											
	Taper / Speed / Power	BT50 - 5,000 - 22 / 26kW											
feedrate	Cutting	5 ~ 5000											
	X/Y/Z/W axis G00	10 / 10 / 10 / 2											
Accuracy (JIS 6338)	mm	Positioning ±0.015 / full travel ; Repeatability ±0.003											
ATC & tool magazine	Capacity / Dia	32pcs / Max. dia Ø125 (full tools) ; Ø220 (Adjacent pocket empty)											
	Max tool weight / Length	20kg / 400mm											
	Tool selection	Free position take shortest direction / M24 P3.0-45°											
Power / Pneumatic		60~70 KVA / 6.5 kg/cm ²											
Machine size	Length	9400	11400	13400	15400	9400	11400	13400	15400	11400	13400	15400	
	Width	7300				7700				8100			
	Height	7500 (8400)											
Machine Weight (app.)	ton	42	47	52	57	45	50	55	60	53	58	63	

FDW-36 Series			FDW-42 Series		
3642	3652	3660	4242	4252	4260
3650			4250		
4300	5300	6200	4300	5300	6200
3000					
20	22	24	20	22	24
28 x 200 x 15					
4200	5200	6000	4200	5200	6000
3600			4200		
1100 (1400)					
1000 (1500/2000) Every 250mm positing					
100 ~ 2100 (2400)					
BT50 - 5,000 - 22 / 26kW					
5 ~ 5000					
8 / 8 / 10 / 1					
Rail Level accuracy 0.01 / 1000					
20kg / 400mm					
60~70 KVA / 6.5 kg/cm ²					
11400	13400	15400	11400	13400	15400
8500			9100		
8400 (9300)					
55	60	65	60	65	70

Standard Accessories

- FANUC 0iMD
- Spindle cooler
- Spindle air blast
- N2 Counter balance
- Two stage gearbox (1:4)
- Independent auto lubrication system
- Program end alarm lamp
- Rigid tapping
- Electric cabinet heat exchanger
- USB/RS232/hinet interface
- Coolant system
- Twin spirl type chip remover
- Metal belt chip conveyor with cart
- Cam type ATC 24pcs (FD-18, FD-21, FD-24)
- Chain type ATC 32pcs (FD-28~FD-42, FDW)
- Semi-enclosure splash guard (FD-18~FD-24)
- Open type splash guard (FD-28~FD-42, FDW)
- ATC auto door
- Foot switch for tool away
- Working lamp
- Leveling screw + foundation bolts
- Tool kit & Operator's manual
- Air/ water cleaning equipment
- W axis linear scales (2 pcs)

Optional Accessories

- Mitsubishi / Siemens / Heidenhain
- High pressure coolant thru spindle (CTS)
- Direct drive spindle (8000~15000rpm)
- Built-in Spindle (15000~24000rpm)
- ZF 2K250 gearbox (6000rpm)
- 90° head (Auto, Semi, Manual)
- Extend head (Auto, Manual)
- AC swiveling head (Auto, Manual)
- AHC system (for auto head)
- Toggle head stand (for semi/ manual head)
- Five face head (Fixed type)
- Universal head (Fixed type, Manual)
- Y travel extend 650mm
- Tansformer
- X, Y, Z axis linear scale
- Tool length measurement
- Auto work piece measurment
- CNC rotary (index) table
- Coolant thru tool holder device
- Full enclosure splash guard
- Oil skimmer
- 30/37 kW + ZF 2K300 (4500rpm)
- Heavy duty RAM 550x550 (above FD-28)
- Heavy duty RAM 650x650 (above FD-42)

All data will change based on the actual situation without notice.