F SERIES

NF / HF

High Efficiency Double Column Machining Center

Large Travel
Fully Auto 5-face Machining
High Efficiency Production

- The rigid beam possesses 1.1m width with stepped structure design, and large span in Y axis benefits to rigidity.
- Y axis adopts 65mm ultra-load guide way not only enhances more than 40% rigidity on higher cutting load but also prolongs the lifetime.
- The position of 3 roller type guide way is symmetric and lateral two rails with large span are symmetric to the center of table load*s gravity. The middle rail and the ballscrew are designed with the minimal span, and aligned to the center of the motion, which achieves the high dynamic straightness in full travel.

Multi-Angel Machining

F series

NF Specification | NF-xx23/30 Series

MODEL			UNIT	NF-3223/30	NF-4223/30	NF-5223/30	NF-6223/30	NF-8223/30	NF-10223/30
TRAVEL									
X axis travel			mm	3,100	4,100	5,100	6,100	8,100	10,100
Y axis travel			mm	2,300/ 3,000					
Z axis travel	Box way / single ballscrew		mm	920/ 1,020(OPT.)					
	Linear way, Enclosed Box Ram/Dual ballscrews		mm	1,000(OPT.)/ 1,200(OPT.)/ 1,400(OPT.)					
Distance from spindle nose to table	Box way / single ballscrew	Z axis=920	mm	150-1,070				100-1,020	
		Z axis=1,020	mm	250-1,270(Column+200mm)				200-1,220(Column+200mm)	
	Linear way, Enclosed Box Ram /Dual ballscrews	Z axis=1,000	mm	235-1,235(Column+200mm)				185-1,185(Column+200mm)	
		Z axis=1,200	mm	135-1,335(Column+300mm)				185-1,385(Column+400mm)	
		Z axis=1,400	mm	135-1,535(Column+500mm)				185-1,585(Column+600mm)	
Distance between columns (port width)			mm	2,400					
TABLE									
Dimension			mm	3,000x2,050	4,000x2,050	5,000x2,050	6,000x2,050	8,000x2,050	10,000x2,050
T-slot(Width x Number x Pitch)			mm	28x11x200(150)					
Max. table load			kg/m	13,000	16,000	20,000	22,000	24,000	26,000
SPINDLE									
Spindle motor (cont./ 30 min. rated)			kW	18.5/ 22(22/ 26OPT.)(30/ 37OPT.)					
Spindle speed	Box way / single ballscrew	2-step gear	rpm	4,000/ 6,000(OPT.)					
	Linear way, Enclosed Box Ram/ Dual ballscrews	2-step gear	rpm	4,000/ 6,000(OPT.)					
		Direct-driven	rpm	10,000(OPT.)					
Spindle taper			-	ISO NO.50					
FEED									
Cutting feed rate			mm/min	1-10,000				1-7,000	
Rapid traverse	X axis		m/min	24	18	12.5	10	8	
	Y axis		m/min	20/15					
	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15					
		Enclosed Box Ram/Dual ballscrews	m/min	12					
3 axis motor power (FANUC)	X axis		kW	7	9				
	Y axis		kW	4.5					
	Z axis	Box way / single ballscrew	kW	7					
		Linear way, Enclosed Box Ram/Dual ballscrews	kW	4.5×2					
ACCURY(X,Y,Z)(Measured by laser instrument)									
Positioning accuracy	Refer to JIS B6333		mm	±0.005/ 300, ±0.010/ Full travel			±0.005/ 300, ±0.012/ Full travel		±0.005/ 300, ±0.015/ Full travel
	Refer to ISO 10791-2		mm	P0.022		P0.032	P0.042		P0.045
Repeatability	Refer to JIS B6333		mm	±0.003					
	Refer to ISO 10791-2		mm	Ps0.016		Ps0.025	Ps0.033		Ps0.035
ATC									
ATC capacity	Vertical type tool change		pcs	40/ 60(OPT.)					
	Floor-standing vertical type tool change		pcs	40(OPT.)/ 60(OPT.)					
	Floor-standing vertical-horizontal type tool change		pcs	40(OPT.)/ 60(OPT.)					
Max. tool weight			kg	25					
Tool shank			-	ISO NO.50					
Pull stud			-	P50T-1					
OTHER									
Power requirement			kVA	60					
Pneumatic requirement			kg/cm^2	6					
Machine net weight			kg	30,400/32,500	35,800/37,800	41,100/43,200	46,000/48,000	59,200/61,500	68,300/70,600
Machine gross weight			kg	37,900/38,500	44,300/46,800	52,600/52,200	57,000/59,600	71,200/73,500	85,800/88,100
Max. space (LxWxH)	Vertical type tool change		m	11.2x6.8x4.9	13.2x6.8x4.9	15.2x6.8x4.9	17.2x6.8x4.9	22x6.8x4.9	26x6.8x4.9
	Floor-standing vertical type tool change		m	11.2x8.5x4.9	13.2x8.5x4.9	15.2x8.5x4.9	17.2x8.5x4.9	22x8.5x4.9	26x8.5x4.9
	Floor-standing vertical-horizontal type tool change		m	11.2x9.0x5.2	13.2x9.0x5.2	15.2x9.0x5.2	17.2x9.0x5.2	22x9.0x5.2	26x9.0x5.2

* For details, please refer to Machine Specification.
* The manufacture reserves the right to modify the design, specifications mechanism, etc.

NF Specification | NF-xx26/33 Series

MODEL			UNIT	NF-3226/33	NF-4226/33	NF-5226/33	NF-6226/33	NF-8226/33	NF-10226/33
TRAVEL									
X axis travel			mm	3,100	4,100	5,100	6,100	8,100	10,100
Y axis travel			mm	2,600/ 3,300					
Z axis travel	Box way / single ballscrew		mm	920/ 1,020(OPT.)					
	Linear way, Enclosed Box Ram/Dual ballscrews		mm	1,000(OPT.)/ 1,200(OPT.)/ 1,400(OPT.)					
Distance from spindle nose to table	Box way / single ballscrew	Z axis=920	mm	150-1,070				100-1,020	
		Z axis=1,020	mm	250-1,270(Column+200mm)				200-1,220(Column+200mm)	
	Linear way, Enclosed Box Ram /Dual ballscrews	Z axis=1,000	mm	235-1,235(Column+200mm)				185-1,185(Column+200mm)	
		Z axis=1,200	mm	135-1,335(Column+300mm)				185-1,385(Column+400mm)	
		Z axis=1,400	mm	135-1,535(Column+500mm)				185-1,585(Column+600mm)	
Distance between columns (port width)			mm	2,750					
TABLE									
Dimension			mm	3,000x2,450	4,000x2,450	5,000x2,450	6,000x2,450	8,000x2,450	10,000x2,450
T-slot(Width x Number x Pitch)			mm	28x13x200(150)					
Max. table load			kg/m	13,000	16,000	20,000	22,000	24,000	26,000
SPINDLE									
Spindle motor (cont./ 30 min. rated)			kW	18.5/ 22(22/ 26OPT.)(30/ 37OPT.)					
Spindle speed	Box way / single ballscrew	2-step gear	rpm	4,000/ 6,000(OPT.)					
	Linear way, Enclosed Box Ram/ Dual ballscrews	2-step gear	rpm	4,000/ 6,000(OPT.)					
		Direct-driven	rpm	10,000(OPT.)					
Spindle taper			-	ISO NO.50					
FEED									
Cutting feed rate			mm/min	1-10,000				1-7,000	
Rapid traverse	X axis		m/min	24	18	12.5	10	8	
	Y axis		m/min	20/15					
	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15					
		Enclosed Box Ram/Dual ballscrews	m/min	12					
3 axis motor power (FANUC)	X axis		kW	7	9				
	Y axis		kW	4.5					
	Z axis	Box way / single ballscrew	kW	7					
		Linear way, Enclosed Box Ram/Dual ballscrews	kW	4.5×2					
ACCURY(X,Y,Z)(Measured by laser instrument)									
Positioning accuracy	Refer to JIS B6333		mm	±0.005/ 300, ±0.010/ Full travel			±0.005/ 300, ±0.012/ Full travel		±0.005/ 300, ±0.015/ Full travel
	Refer to ISO 10791-2		mm	P0.022		P0.032	P0.042		P0.045
Repeatability	Refer to JIS B6333		mm	±0.003					
	Refer to ISO 10791-2		mm	Ps0.016		Ps0.025	Ps0.033		Ps0.035
ATC									
ATC / capacity	Vertical type tool change		pcs	40/ 60(OPT.)					
	Floor-standing vertical type tool change		pcs	4 (OPT.)/ 60(OPT.)					
	Floor-standing vertical-horizontal type tool change		pcs	40(OPT.)/ 60(OPT.)					
Max. tool weight			kg	25					
Tool shank			-	ISO NO.50					
Pull stud			-	P50T-1					
OTHER									
Power requirement			kVA	60					
Pneumatic requirement			kg/cm^2	6					
Machine net weight			kg	36,400/38,400	41,400/43,900	46,400/48,900	51,000/53,900	60,000/63,900	69,000/73,900
Machine gross weight			kg	40,100/42,100	46,400/48,900	51,400/53,900	56,000/58,900	66,000/69,900	75,000/79,900
Max. space (LxWxH)	Vertical type tool change		m	11.2x7.2x4.9	13.2x7.2x4.9	15.2x7.2x4.9	17.2x7.2x4.9	22x7.2x4.9	26x7.2x4.9
	Floor-standing vertical type tool change		m	11.2x8.8x4.9	13.2x8.8x4.9	15.2x8.8x4.9	17.2x8.8x4.9	22x8.8x4.9	26x8.8x4.9
	Floor-standing vertical-horizontal type tool change		m	11.2x9.3x5.2	13.2x9.3x5.2	15.2x9.3x5.2	17.2x9.3x5.2	22x9.3x5.2	26x9.3x5.2

* For details, please refer to Machine Specification.
* The manufacture reserves the right to modify the design, specifications mechanism, etc.

F series

NF Specification | NF-xx32/39 Series

MODEL			UNIT	NF-3232/39	NF-4232/39	NF-5232/39	NF-6232/39	NF-8232/39	NF-10232/39
TRAVEL									
X axis travel			mm	3,100	4,100	5,100	6,100	8,100	10,100
Y axis travel			mm	3,200/ 3,900					
Z axis travel	Box way / single ballscrew		mm	920/ 1,020(OPT.)					
	Linear way, Enclosed Box Ram/Dual ballscrews		mm	1,000(OPT.) / 1,200(OPT.) / 1,400(OPT.)					
Distance from spindle nose to table	Box way / single ballscrew	Z axis=920	mm	150-1,070				100-1,020	
		Z axis=1,020	mm	250-1,270(Column+200mm)				200-1,220(Column+200mm)	
	Linear way, Enclosed Box Ram /Dual ballscrews	Z axis=1,000	mm	235-1,235(Column+200mm)				185-1,185(Column+200mm)	
		Z axis=1,200	mm	135-1,335(Column+300mm)				185-1,385(Column+400mm)	
		Z axis=1,400	mm	135-1,535(Column+500mm)				185-1,585(Column+600mm)	
Distance between columns (port width)			mm	3,250					
TABLE									
Dimension			mm	3,000x2,450	4,000x2,450	5,000x2,450	6,000x2,450	8,000x2,450	10,000x2,450
T-slot(Width x Number x Pitch)			mm	28x13x200(150)					
Max. table load			kg/m	13,000	16,000	20,000	22,000	24,000	26,000
SPINDLE									
Spindle motor (cont./ 30 min. rated)			kW	18.5/ 22(22/ 26OPT.)(30/ 37OPT.)					
Spindle speed	Box way / single ballscrew	2-step gear	rpm	4,000/ 6,000(OPT.)					
	Linear way, Enclosed Box Ram/ Dual ballscrews	2-step gear		4,000/ 6,000(OPT.)					
		Direct-driven		10,000(OPT.)					
Spindle taper			-	ISO NO.50					
FEED									
Cutting feed rate			mm/min	1-10,000				1-7,000	
Rapid traverse	X axis		m/min	24	18	12.5	10	8	
	Y axis		m/min	15/15					
	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15					
		Enclosed Box Ram/Dual ballscrews	m/min	12					
3 axis motor power (FANUC)	X axis		kW	7	9				
	Y axis		kW	4.5					
	Z axis	Box way / single ballscrew	kW	7					
		Linear way, Enclosed Box Ram/Dual ballscrews	kW	4.5×2					
ACCURY(X,Y,Z)(Measured by laser instrument)									
Positioning accuracy	Refer to JIS B6333		mm	±0.005/ 300, ±0.010/ Full travel			±0.005/ 300, ±0.012/ Full travel		±0.005/ 300, ±0.015/ Full travel
	Refer to ISO 10791-2		mm	P0.022		P0.032	P0.042		P0.045
Repeatability	Refer to JIS B6333		mm	±0.003					
	Refer to ISO 10791-2		mm	Ps0.016		Ps0.025	Ps0.033		Ps0.035
ATC									
ATC capacity	Vertical type tool change		pcs	40/ 60(OPT.)					
	Floor-standing vertical type tool change		pcs	40(OPT.) / 60(OPT.)					
	Floor-standing vertical-horizontal type tool change		pcs	40(OPT.) / 60(OPT.)					
Max. tool weight			kg	25					
Tool shank			-	ISO NO.50					
Pull stud			-	P50T-1					
OTHER									
Power requirement			kVA	60					
Pneumatic requirement			kg/cm^2	6					
Machine net weight			kg	40,500/42,500	44,500/48,000	50,500/54,000	55,500/58,500	64,500/68,500	73,500/78,500
Machine gross weight			kg	44,500/46,500	49,500/53,000	55,500/59,000	60,500/63,500	70,500/74,500	79,500/84,500
Max. space (LxWxH)	Vertical type tool change		m	11.2x7.8x4.9	13.2x7.8x4.9	15.2x7.8x4.9	17.2x7.8x4.9	22x7.8x4.9	26x7.8x4.9
	Floor-standing vertical type tool change		m	11.2x9.4x4.9	13.2x9.4x4.9	15.2x9.4x4.9	17.2x9.4x4.9	22x9.4x4.9	26x9.4x4.9
	Floor-standing vertical-horizontal type tool change		m	11.2x10 x4.9	13.2x10 x4.9	15.2x10 x4.9	17.2x10 x4.9	22x10 x4.9	26x10 x4.9

* For details, please refer to Machine Specification.
* The manufacture reserves the right to modify the design, specifications mechanism, etc.

F series

HF Specification | HF-xx35/42 Series

MODEL			UNIT	HF-4235/42	HF-5235/42	HF-6235/42	HF-8235/42	HF-10235/42
TRAVEL								
X axis travel			mm	4,100	5,100	6,100	8,100	10,100
Y axis travel			mm	3,500/ 4,200				
Z axis travel	Box way / single ballscrew		mm	920/ 1,020(OPT.)				
	Linear way, Enclosed Box Ram/Dual ballscrews		mm	1,000(OPT.) 1,200(OPT.) / 1,400(OPT.)				
Distance from spindle nose to table	Box way / single ballscrew	Z axis=920	mm	280-1,200				
		Z axis=1,020	mm	180-1,200				
	Linear way, Enclosed Box Ram /Dual ballscrews	Z axis=1,000	mm	165-1,165				
		Z axis=1,200	mm	165-1,365(Column+200mm)				
		Z axis=1,400	mm	165-1,565(Column+400mm)				
Distance between columns (port width)			mm	3,500				
TABLE								
Dimension			mm	4,000x3,000	5,000x3,000	6,000x3,000	8,000x3,000	10,000x3,000
T-slot(Width x Number x Pitch)			mm	28x13x250(150)				
Max. table load			kg/m	20,000	24,000	28,000	32,000	36,000
SPINDLE								
Spindle motor (cont./ 30 min. rated)			kW	22/ 26(30/ 37OPT.)				
Spindle speed	Box way / single ballscrew	2-step gear	rpm	4,000/ 6,000(OPT.)				
	Linear way, Enclosed Box Ram/ Dual ballscrews	2-step gear	rpm	4,000/ 6,000(OPT.)				
		Direct-driven	rpm	10,000(OPT.)				
Spindle taper			-	ISO NO.50				
FEED								
Cutting feed rate			mm/min	1-7,000				
Rapid traverse	X axis		m/min	10		8		
	Y axis		m/min	10/10				
	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15				
		Enclosed Box Ram/Dual ballscrews	m/min	12				
3 axis motor power (FANUC)	X axis		kW	9				
	Y axis		kW	4.5				
	Z axis	Box way / single ballscrew	kW	7				
		Linear way, Enclosed Box Ram/Dual ballscrews	kW	4.5×2				
ACCURY(X,Y,Z)(Measured by laser instrument)								
Positioning accuracy	Refer to JIS B6333		mm	±0.005/ 300			±0.005/ 300	
	Refer to ISO 10791-2		mm	P0.040		P0.045		P0.050
Repeatability	Refer to JIS B6333		mm	±0.003				
	Refer to ISO 10791-2		mm	Ps0.028		Ps0.035		Ps0.040
ATC								
ATC / capacity	Vertical type tool change		pcs	40/ 60(OPT.)				
	Floor-standing vertical type tool change		pcs	40(OPT.)/ 60(OPT.)				
	Floor-standing vertical-horizontal type tool change		pcs	40(OPT.)/ 60(OPT.)				
Max. tool weight			kg	25				
Tool shank			-	ISO NO.50				
Pull stud			-	P50T-1				
OTHER								
Power requirement			kVA	65				
Pneumatic requirement			kg/cm^2	6				
Machine net weight			kg	57,000/59,000	63,000/65,000	69,000/71,000	83,000/85,000	99,000/100,000
Machine gross weight			kg	61,000/63,000	68,000/70,000	75,000/77,000	91,000/93,000	107,000/108,000
Max. space (LxWxH)	Vertical type tool change		m	14x8.2x5.1	16x8.2x5.1	18x8.2x5.1	23x8.2x5.1	28x8.2x5.1
	Floor-standing vertical type tool change		m	14x9.4x5.1	16x9.4x5.1	18x9.4x5.1	23x9.4x5.1	28x9.4x5.1
	Floor-standing vertical-horizontal type tool change		m	14x10x5.2	16x10x5.2	18x10x5.2	23x10x5.2	28x10x5.2

* For details, please refer to Machine Specification.
* The manufacture reserves the right to modify the design, specifications mechanism, etc.

HF Specification | HF-xx40/47 Series

MODEL			UNIT	HF-4240/47	HF-5240/47	HF-6240/47	HF-8240/47	HF-10240/47
TRAVEL								
X axis travel			mm	4,100	5,100	6,100	8,100	10,100
Y axis travel			mm	4,000/ 4,700				
Z axis travel	Box way / single ballscrew		mm	920/ 1,020(OPT.)				
	Linear way, Enclosed Box Ram/Dual ballscrews		mm	1,000(OPT.)/ 1,200(OPT.)/ 1,400(OPT.)				
Distance from spindle nose to table	Box way / single ballscrew	Z axis=920	mm	280-1,200				
		Z axis=1,020	mm	180-1,200				
	Linear way, Enclosed Box Ram /Dual ballscrews	Z axis=1,000	mm	165-1,165				
		Z axis=1,200	mm	165-1,365(Column+200mm)				
		Z axis=1,400	mm	165-1,565(Column+400mm)				
Distance between columns (port width)			mm	4,000				
TABLE								
Dimension			mm	4,000x3,500	5,000x3,500	6,000x3,500	8,000x3,500	10,000x3,500
T-slot(Width x Number x Pitch)			mm	28x15x250(150)				
Max. table load			kg/m	20,000	24,000	28,000	32,000	36,000
SPINDLE								
Spindle motor (cont./ 30 min. rated)			kW	22/ 26(30/ 37OPT.)				
Spindle speed	Box way / single ballscrew	2-step gear	rpm	4,000/ 6,000(OPT.)				
	Linear way, Enclosed Box Ram/ Dual ballscrews	2-step gear	rpm	4,000/ 6,000(OPT.)				
		Direct-driven	rpm	10,000(OPT.)				
Spindle taper			-	ISO NO.50				
FEED								
Cutting feed rate			mm/min	1-7,000				
Rapid traverse	X axis		m/min	10		8		
	Y axis		m/min	10/10				
	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15				
		Enclosed Box Ram/Dual ballscrews	m/min	12				
3 axis motor power (FANUC)	X axis		kW	9				
	Y axis		kW	4.5				
	Z axis	Box way / single ballscrew	kW	7				
		Linear way, Enclosed Box Ram/Dual ballscrews	kW	4.5×2				
ACCURY(X,Y,Z)(Measured by laser instrument)								
Positioning accuracy	Refer to JIS B6333		mm	±0.005/ 300			±0.005/ 300	
	Refer to ISO 10791-2		mm	P0.040		P0.045		P0.050
Repeatability	Refer to JIS B6333		mm	±0.003				
	Refer to ISO 10791-2		mm	Ps0.028		Ps0.035		Ps0.040
ATC								
ATC 式/ capacity	Vertical type tool change		pcs	40/ 60(OPT.)				
	Floor-standing vertical type tool change		pcs	40(OPT.)/ 60(OPT.)				
	Floor-standing vertical-horizontal type tool change		pcs	40(OPT.)/ 60(OPT.)				
Max. tool weight			kg	25				
Tool shank			-	ISO NO.50				
Pull stud			-	P50T-1				
OTHER								
Power requirement			kVA	65				
Pneumatic requirement			kg/cm²	6				
Machine net weight			kg	58,000/60,000	64,000/66,000	70,000/72,000	84,000/86,000	100,000/101,000
Machine gross weight			kg	62,000/64,000	69,000/71,000	76,000/78,000	92,000/94,000	108,000/110,000
Max. space (LxWxH)	Vertical type tool change		m	14x8.7x5.1	16x8.7x5.1	18x8.7x5.1	24x8.7x5.1	28.5x8.7x5.1
	Floor-standing vertical type tool change		m	14x10x5.1	14x10x5.1	18x10x5.1	24x10x5.1	28.5x10x5.1
	Floor-standing vertical-horizontal type tool change		m	14x10.5x5.2	16x10.5x5.2	18x10.5x5.2	24x10.5x5.2	28.5x10.5x5.2

* For details, please refer to Machine Specification.
* The manufacture reserves the right to modify the design, specifications mechanism, etc.

NF / HF Standard & Optional Accessories

Standard

1 FANUC 0iMF PLUS controller
2 Box way 4,000rpm 2-step gear type spindle
3 Z axis travel 920mm (Box way)
4 Spindle cooling system
5 Twin hydraulic cylinders with pressured Nitrogen auxiliary counterweight system
6 X, Y axis ballscrew support device (X axis ≧4m · Y axis ≧3m)
7 Centralized auto lubrication system
8 Independent lubrication oil collector
9 Air blast through spindle
10 Wash gun and pneumatic interface
11 Cutting fluid cooling system
12 Vertical type tool magazine 40 tools
13 Enclosed sheet metal guard without roof (NF series X axis ≦6m)
14 Four piece sheet metal guard (NF series X axis ≧ 8m) (all HF series)
15 Screw type chip conveyor on table sides
16 Caterpillar type chip conveyor / Water tank
17 Heat exchanger for electrical cabinet
18 Swiveling arm type operation panel
19 Working lamp
20 Operation cycle finish and alarm light
21 Movable manual pulse generator
22 Footswitch for tool clamping
23 RJ45 interface
24 XYZ-axis absolute pulse coder feedback
25 XYZ-axis travel hard limits protection
26 Spindle cutting load software protection
27 Auto power off function
28 Vision Wide FX graphical user interface
29 Foundation pads and bolts kits
30 Adjustment tool and tool kits
31 Technical manuals (operation, maintenance manual and circuit diagram)

Optional

1 FANUC 31 iB/ SIEMENS 828D / HEIDENHAIN TNC640 / SIEMENS ONE / MITSUBISHI M80 TypeA/ MITSUBISHI M830
2 Box way : 6,000rpm 2-step gear type spindle
3 Linear way/Enclosed Box Ram :
4,000/6,000rpm 2-step gear type spindle
10,000/12,000rpm direct driven type spindle
8,000/12,000rpm Built-in type spindle
4 Z axis travel 1,020mm (Box way)
5 Z axis travel 1000/1200/1400mm (Linear way/Enclosed Box Ram · for gear/ direct-driven / built-in type spindle)
6 Column heighten 200/400/600/800mm
7 Spindle ring cutting coolant device (for no head attachment)
8 Coolant through spindle system 20/70 bar
9 Coolant through tool holder 5/18 bar cutting fluid system
10 Oil skimmer
11 Oil mist cooling device
12 Oil mist recycle device
13 Vertical type tool magazine 60 tools
14 Floor-standing vertical type tool magazine 40/60 tools
15 Floor-standing vertical-horizontal type tool magazine 40/60/90 tools
16 Four piece sheet metal guard (NF series X axis≦6m)
17 Enclosed sheet metal guard with roof (NF series X axis≦6m) (not for NF-xx32/39 and HF series)
18 Enclosed sheet metal guard without roof (NF series X axis ≧ 8m) (all HF series)
19 Helical bladed screw conveyor on table sides
20 Chip cart
21 Air conditioning for electrical cabinet
22 Wireless remote control manual pulse generator
23 3-axis independent manual pulse generator (Only for FANUC)
24 XYZ axis linear scale feedback
25 Sub working table
26 Rotary table
27 Interface reserved for fourth axis
28 The interface of coolant through spindle
29 Z-axis retract function at power failure
30 Auto measurement system
31 Auto warm up
32 Transformer
33 Spindle thermal compensation system (STC)
34 Switch for tool clamping

Optional accessories for auto head attachments

1 Auto AC 90° angular head/ AC 2 axis head/ AC extended head
2 Auto AC milling head/ small head/ custromized head attachment
3 Floor-standing vertical-horizontal type tool magazine 40/60/90 tools (For NF-xx30/33/39、HF-xx42/47 series)
4 Manual swiveling arm type head bracket on operation side
5 Auto swiveling arm type head bracket on operation side
6 Multi-heads magazine (For NF-xx30/33/39、HF-xx42/47 series)
7 Auto AC 90° angular head/ AC 2 axis head/ AC extended head offered the CTS system

※For the specification of each model, please contact our sales representatives.