



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.





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								1	'			
X axis travel			mm	3,100	4,100	5,100	6,100	8,100	10,100			
Y axis travel			mm			2,300/	3,000		l			
	Box way / sing	le ballscrew	mm		920/ 1,020(OPT.)							
Z axis travel	Z axis travel Linear way, Enclosed Box Ram/Dual ballscrews		mm		1,000(OPT.)/ 1,200(OPT.)/ 1,400(OPT.)							
		Z axis=920	mm		150-	1,070		100-	1,020			
Distance from spindle nose to table Distance bet TABLE Dimension T-slot(Width Max. table lose) Spindle mot Spindle speed	Box way / single ballscrew	Z axis=1,020	mm		250-1,270(Col	umn+200mm)		200-1,220(Co	lumn+200mm)			
from spindle		Z axis=1,000	mm			umn+200mm)		100-1,020				
nose to table	Linear way, Enclosed Box Ram		mm			umn+300mm)						
	/Dual ballscrews	2 0.113 1,200	mm			umn+500mm)						
D'ata a la la		Z axis=1,400	mm		133-1,333(COI		00	165-1,565(C0	1011111+600111111)			
	tween columns	(port width)	IIIIII			2,4	00					
				2 2 2 2 2 2 2 2		5.000.0.050		0.000.0050	40.000.0050			
Dimension			mm	3,000x2,050	4,000x2,050	5,000x2,050	6,000x2,050	8,000x2,050	10,000x2,050			
T-slot(Widtl	-slot(Width x Number x Pitch) lax. table load					28x11x2	00(150)		I			
Max. table l	oad		kg/m	13,000	16,000	20,000	22,000	24,000	26,000			
SPINDLE												
Spindle mo	tor (cont./ 30 m	in. rated)	kW			18.5/ 22(22/ 260	PT.)(30/ 370PT.)					
	Box way / single ballscrew	2-step gear				4,000/ 6,0	000(OPT.)					
Spindle speed	Linear way,	2-step gear	rnm			4,000/ 6,0	000(OPT.)					
	Enclosed Box Ram/ Dual ballscrews	Direct-driven	rpm			10,000	(OPT.)					
Spindle tap	er		-			ISO N	0.50					
FEED												
Cutting fee	d rate		mm/min		1-10	,000		1-7	,000			
	X axis		m/min	24	18	12.5	10		8			
Rapid	Y axis		m/min	20/15								
traverse		Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15								
	Z axis	Enclosed Box Ram/Dual ballscrews	m/min			1	2	185-1,385(Colu 185-1,585(Colu 8,000x2,050 24,000 1-7, 8 0.012/ Full travel				
	X axis		kW	7			9					
3 axis motor	Y axis		kW	4.5								
power (FANUC)	7	Box way / single ballscrew	kW			7	7					
	Z axis	Linear way, Enclosed Box Ram/Dual ballscrews	kW			4.5	×2					
ACCURY(X,	Y,Z)(Measured b	y laser instrument)										
Positionina	Refer to JIS B6	333	mm	±0.0	05/ 300, ±0.010/ F	ull travel	±0.005/300,	± 0.012/ Full travel	±0.005/300, ±0.015/Full			
accuracy	iirig		mm	P0.	022	P0.032	P0.	200-1,220(Column+200 185-1,185(Column+400 185-1,385(Column+400 185-1,585(Column+600 8,000x2,050 10,000 24,000 26, 1-7,000 8 ± 0.012/Full travel ±0.005/300, 0.042 P0.	P0.045			
	Refer to JIS B6	333	mm			±0.003						
Repeatability	Refer to ISO 10	791-2	mm	Ps0.	.016	Ps0.025	Ps0	Ps0.035				
ATC												
	Vertical type t	ool change	pcs			40/60	(OPT.)					
ATC capacity		ertical type tool change	pcs			40(OPT.)/	60(OPT.)					
capacity		al-horizontal type tool change	pcs			40(OPT.)/	60(OPT.)	P0.042 P0.04				
Max. tool w		7,	kg				5					
Tool shank			-			ISO N						
Pull stud						P50						
OTHER							• •					
Power requ	iromont		LAZA			6	<u> </u>					
			kVA									
	requirement		kg/cm²	30 400/22 500	35 900/27 900			50 200/61 500	60 200/70 600			
Machine ne			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			
	oss 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			
				11.2x6.8x4.9	13.2x6.8x4.9	15.2x6.8x4.9	17.2x6.8x4.9	22x6.8x4.9	26x6.8x4.9			
	Vertical type to		m	4420= 10	1226711	4500510	172 67 11	22.0	26 2 7 7 7			
Max. space (LxWxH)	Floor-standing ve	ool change ertical type tool change al-horizontal type tool change	m	11.2x8.5x4.9 11.2x9.0x5.2	13.2x8.5x4.9 13.2x9.0x5.2	15.2x8.5x4.9 15.2x9.0x5.2	17.2x8.5x4.9 17.2x9.0x5.2	22x8.5x4.9 22x9.0x5.2	26x8.5x4.9 26x9.0x5.2			

^{*} For details, please refer to Machine Specification.

 $[\]mbox{\ensuremath{^{\ast}}}$ The manufacture reserves the right to modify the design, specifications mechanism, etc.



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		
			mm		2,600/3,300						
	Box way / single	hallscrew									
TRAVEL											
	Ellical way, Eliciose						(01 1.)/ 1,400(01 1.	1	1 020		
Distance						<u>'</u>					
	_	,				•			-		
	Linear way,	,						8,100 10,10 100-1,020 200-1,220(Column+200n 185-1,185(Column+400n 185-1,585(Column+600n 8,000x2,450 10,000x 24,000 26,00 1-7,000 8 ± 0.012/Full travel ±0.005/300,±0. 042 P0.04			
tubic		Z axis=1,200	mm						lumn+400mm)		
		Z axis=1,400	mm		135-1,535(Col	umn+500mm)			lumn+600mm)		
Distance bet	ween columns (ן	oort width)	mm			2,7	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 Pitc	h)	mm			28x13x2	200(150)				
Max. table lo	oad		kg/m	13,000	16,000	20,000	22,000	24,000	26,000		
SPINDLE											
	or (cont./ 30 min	. rated)	kW			18.5/ 22(22/ 260	OPT.)(30/ 37OPT.)				
	Box way /	-									
Spindle											
speed	Enclosed Box Ram/	. 3	rpm								
		Direct-driven				· · · · · · · · · · · · · · · · · · ·	· ,				
Spindle tape	er		-			ISON	10.50				
FEED											
Cutting feed	l rate		mm/min			1-10,000		1-7	,000		
	X axis		m/min	24	18	12.5	10	8			
Rapid	Y axis		m/min	20/15							
traverse	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15							
		Enclosed Box Ram/Dual ballscrews	m/min				12				
	X axis		kW	7	7 9						
3 axis motor power	Y axis		kW	4.5							
(FANUC)	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	Refer to JIS B63	33	mm	±0.005/300, ±0.010/		Full travel $\pm 0.005/300$,		± 0.012/ Full travel	\pm 0.005/300, \pm 0.015/ Full tra		
accuracy	Refer to ISO 107	791-2	mm	P0.	022	P0.032	P0.	042	P0.045		
	Refer to JIS B63	33	mm			± 0.	.003				
Repeatability	Refer to ISO 107	791-2	mm	Ps0	.016	Ps0.025	Ps0	.033	Ps0.035		
ATC						<u> </u>					
	Vertical type to	ol change	pcs			40/60	O(OPT.)				
ATC /		ertical type tool change	-			4 (OPT.)	60(OPT.)				
capacity		al-horizontal type tool change		40(OPT.)/ 60(OPT.)							
Man taal		ai-nonzontai type tooi change									
Max. tool we	eignt		kg	25							
Tool shank			-	ISO NO.50							
Pull stud			-	P50T-1							
OTHER											
Power requi	rement		kVA			6	0				
Pneumatic r	equirement		kg/cm²			(5				
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 gro	ss 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		
	Vertical type to	ol change	m	11.2x7.2x4.9	13.2x7.2x4.9	15.2x7.2x4.9	17.2x7.2x4.9	22x7.2x4.9	26x7.2x4.9		
Max. space		ertical type tool change		11.2x8.8x4.9	13.2x8.8x4.9	15.2x8.8x4.9	17.2x8.8x4.9	22x8.8x4.9	26x8.8x4.9		
	Floor-standing v				1	1		1	1		
(LxWxH)		al-horizontal type tool change		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.



Specification | NF-xx32/39 Series

MODEL			UNIT	NF-3232/39	NF-4232/39	NF-5232/39	NF-6232/39	NF-8232/39	NF-10232/3					
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										
. axis craver	Box way / single	e hallscrew	mm	920/ 1,020(OPT.)										
Z axis travel		ed Box Ram/Dual ballscrews	mm		1	000(OPT.) / 1,200		T)						
	Lilleal way, Lilciose					1,070	(011.)7 1,400(01	·	1 020					
D'	Box way / single ballscrew	Z axis=920	mm			·			·					
Distance from spindle		Z dXIS=1,020	mm		250-1,270(Col									
nose to table	Linear way,	Z axis=1,000	mm		235-1,235(Col	•								
tubic	Enclosed Box Ram /Dual ballscrews	Z axis=1,200	mm		135-1,335(Col			8,100 10 T.) 100-1,020 200-1,220(Column+2 185-1,185(Column+40 185-1,585(Column+60 8,000×2,450 10,00 24,000 20 1-7,000 8 ± 0.012/Full travel ±0.005/30 042 Pi	mn+400mm)					
		Z axis=1,400	mm		135-1,535(Col	umn+500mm)			mn+600mm)					
Distance bet	ween columns (p	oort width)	mm			3,2	50							
TABLE														
Dimension			mm	3,000x2,450	4,000x2,450	5,000x2,450	6,000x2,450	8,000x2,450	10,000x2,45					
T-slot(Width	x Number x Pitc	h)	mm			28x13x2	200(150)		'					
Max. table lo	ad		kg/m	13,000	16,000	20,000	22,000	24,000	26,000					
SPINDLE														
	or (cont./ 30 min	. rated)	kW			18.5/ 22(22/ 260	OPT.)(30/ 37 OPT.)							
	Box way /	2-step gear				4,000/ 6,								
Spindle	single ballscrew Linear way,	2-step gear				4,000/ 6,								
speed	Enclosed Box Ram/	Direct-driven	rpm											
C	Dual ballscrews	Direct-driven				10,000								
Spindle tape	r		-			ISO N	10.50							
FEED														
Cutting feed	rate		mm/min		I	1-10,000			,000					
	X axis		m/min	24	18	12.5	10	8						
Rapid	Y axis		m/min	15/15										
traverse	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min	15										
		Enclosed Box Ram/Dual ballscrews	m/min		ı		12							
2	X axis		kW	7 9										
3 axis motor power	Y axis	I	kW	4.5										
(FANUC)	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	Refer to JIS B63	333	mm	± 0.00	5/300, ±0.010/	Full travel $\pm 0.005/300$,		± 0.012/ Full travel	±0.005/300, ±0.015/Full1					
accuracy	Refer to ISO 10	791-2	mm	P0.	022	P0.032	P0.	042	P0.045					
Repeatability	Refer to JIS B63	333	mm			± 0.	003							
nepeatability	Refer to ISO 10	791-2	mm	Ps0	.016	Ps0.025	Ps0	.033	Ps0.035					
ATC														
	Vertical type tool change			40/60(OPT.)										
ATC	Vertical type to	ool change	pcs			40/60	(OFT.)	40(OPT.)/ 60(OPT.)						
		ool change vertical type tool change	-											
	Floor-standing	_	pcs				60(OPT.)							
capacity	Floor-standing verti	vertical type tool change	pcs			40(OPT.) /	60(OPT.)							
Capacity Max. tool we	Floor-standing verti	vertical type tool change	pcs pcs kg			40(OPT.)/ 40(OPT.)/ 2	60(OPT.) 60(OPT.) 5							
capacity Max. tool we Tool shank	Floor-standing verti	vertical type tool change	pcs pcs kg			40(OPT.)/ 40(OPT.)/ 2 ISO N	60(OPT.) 60(OPT.) 5							
capacity Max. tool we Tool shank Pull stud	Floor-standing verti	vertical type tool change	pcs pcs kg			40(OPT.)/ 40(OPT.)/ 2	60(OPT.) 60(OPT.) 5							
Max. tool we Tool shank Pull stud OTHER	Floor-standing vertified by Fl	vertical type tool change	pcs pcs kg -			40(OPT.)/ 40(OPT.)/ 2 ISO N P50	60(OPT.) 60(OPT.) 5 IO.50							
capacity Max. tool we Tool shank Pull stud OTHER Power requii	Floor-standing verticity Floor-standing vertic	vertical type tool change	pcs pcs kg - kVA			40(OPT.)/ 40(OPT.)/ 2 ISO N P50	60(OPT.) 60(OPT.) 5 10.50 T-1							
Max. tool we Tool shank Pull stud OTHER Power requir	Floor-standing verticity of the standing ver	vertical type tool change	pcs pcs kg kVA kg/cm²			40(OPT.)/ 40(OPT.)/ 2 ISO N P5C	60(OPT.) 60(OPT.) 5 10.50 T-1							
capacity Max. tool we Tool shank Pull stud OTHER Power requir Pneumatic re Machine net	Floor-standing verticity of the standing ver	vertical type tool change	pcs pcs kg - kVA kg/cm² kg	40,500/42,500	44,500/48,000	40(OPT.)/ 40(OPT.)/ 2 ISO N P50 6	60(OPT.) 60(OPT.) 5 10.50 T-1 0 5 55,500/58,500	64,500/68,500						
Max. tool we Tool shank Pull stud	Floor-standing verticity of the standing ver	vertical type tool change	pcs pcs kg kVA kg/cm²	44,500/46,500	49,500/53,000	40(OPT.)/ 40(OPT.)/ 2 ISO N P50 6 6 50,500/54,000 55,500/59,000	60(OPT.) 60(OPT.) 5 10.50 1T-1 0 5 55,500/58,500 60,500/63,500	70,500/74,500	79,500/84,50					
capacity Max. tool we Tool shank Pull stud OTHER Power requir Pneumatic re Machine net Machine gro	Floor-standing verticity of the standing ver	vertical type tool change cal-horizontal type tool change	pcs pcs kg - kVA kg/cm² kg			40(OPT.)/ 40(OPT.)/ 2 ISO N P50 6	60(OPT.) 60(OPT.) 5 10.50 T-1 0 5 55,500/58,500							
capacity Max. tool we Tool shank Pull stud OTHER Power requir Pneumatic re Machine net	Floor-standing verticity Floor-standing vertic	vertical type tool change cal-horizontal type tool change	pcs pcs kg kVA kg/cm² kg	44,500/46,500	49,500/53,000	40(OPT.)/ 40(OPT.)/ 2 ISO N P50 6 6 50,500/54,000 55,500/59,000	60(OPT.) 60(OPT.) 5 10.50 1T-1 0 5 55,500/58,500 60,500/63,500	70,500/74,500	73,500/78,500 79,500/84,500 26x7.8x4.9 26x9.4x4.9					

^{*} For details, please refer to Machine Specification.

 $[\]mbox{\ensuremath{^{\ast}}}$ The manufacture reserves the right to modify the design, specifications mechanism, etc.



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							
	dis travel display					920/ 1,020(OPT.)					
Z axis travel			mm		1,000(OP	T.) 1,200(OPT.) / 1,4	8,100 10,100 T.) 11,400(OPT.) 00mm) 00mm) 8,000x3,000 10,000x3,000 0) 32,000 36,000				
	Rox way / Z axis=920		mm	280-1,200							
Distance			mm	180-1,200							
from spindle nose to		,	mm			165-1,165					
table		-	mm		165	-1,365(Column+200r	nm)				
			mm			-1,565(Column+400r	8,100 100(OPT.) 8,000x3,000 32,000 400 400 400 400 400 400 400				
Distance het	ween columns (,	mm			3,500	,				
TABLE	ween columns (port width)				2,500					
Dimension			mm	4,000x3,000	5,000x3,000	6,000x3,000	8.000x3.000	10.000x3.000			
	y Number v Pita	-h)	mm	.,000,000	3,000,3,000	28x13x250(150)		. 5,530,3,000			
		/	kg/m								
SPINDLE			9/ 111	20,000	27,000	20,000	32,000	30,000			
	or (cont / 30 min	rated)	kW			22/ 26(30/ 37 OPT.)					
Spiriale moto	Box way /	I _	IVAA								
Spindle	single ballscrew			4,000/ 6,000(OPT.)							
speed	Enclosed Box Ram/	2-step gear Direct-driven	rpm			4,000/ 6,000(OPT.)					
	Dual ballscrews	Direct-driven	_	10,000(OPT.)							
Spindle tape	r		-			ISO NO.50					
FEED						4.7.000					
Cutting feed			mm/min		-	1-7,000					
	X axis		m/min								
Rapid traverse	Y axis Box way / single hallscrew		m/min	10/10							
	Z axis	Box way / single ballscrew Linear way/ Dual ballscrews	m/min m/min			15 12	8				
	X axis	Enclosed Box Ram/Dual ballscrews	kW			9	8,000×3,000 10,000×3 32,000 36,00 8 8 8 P0.005/300				
3 axis motor	Y axis		kW	4.5							
power (FANUC)		Box way / single ballscrew	kW			7					
(. /)	Z axis	Linear way, Enclosed Box Ram/Dual ballscrews	kW			4.5×2					
ACCURY(X.Y.	Z)(Measured by	laser instrument)	KVV			113 2					
	Refer to JIS B6		mm		±0.005/300		±0.0	05/300			
Positioning accuracy	Refer to ISO 10		mm	P0.0		PO		P0.050			
	Refer to JIS B6		mm			±0.003		1			
Repeatability	Refer to ISO 10		mm	Ps0.	.028		8,000x3,000 10,000x3, 0) 32,000 36,000 PT.) TT.) 8 8 200005/300 P0.045 P0.050	Ps0.040			
ATC											
	Vertical type to	ool change	pcs			40/ 60(OPT.)					
ATC /		vertical type tool change	pcs	40 (OPT.) / 60(OPT.)							
capacity		ical-horizontal type tool change	pcs			40(OPT.)/ 60(OPT.)					
Max. tool we			kg			25					
Tool shank	J		- Kg	ISO NO.50							
Pull stud						P50T-1					
OTHER											
Power requir	rement		kVA			65					
						6					
Pneumatic re Machine net	-		kg/cm²	57,000/59,000	63,000/65,000	69,000/71,000	83,000/85,000	99,000/100,000			
			kg		68,000/70,000	75,000/77,000	91,000/93,000	107,000/100,000			
Machine gro	_		kg	61,000/63,000							
Max. space	Vertical type to		m	14x8.2x5.1	16x8.2x5.1	18x8.2x5.1	23x8.2x5.1	28x8.2x5.1			
(LxWxH)		vertical type tool change	m	14x9.4x5.1 14x10x5.2	16x9.4x5.1 16x10x5.2	18x9.4x5.1 18x10x5.2	23x9.4x5.1 23x10x5.2	28x9.4x5.1 28x10x5.2			
	rioor-standing vert	ical-horizontal type tool change	m	1771083.2	10/10/2	10/10/2	2371083.2	20/10/07/2			

^{*} For details, please refer to Machine Specification.

^{*} The manufacture reserves the right to modify the design, specifications mechanism, etc.



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							
	Box way / singl	e ballsc	rew	mm			920/ 1,020(OPT.)					
Z axis travel			am/Dual ballscrews	mm		1,000(OPT.)/	1,200(OPT.)/ 1,400(OPT.)				
	Rox way / Z axis=920		mm	280-1,200								
Distance	Box way / single ballscrev	., -	Z axis=1,020	mm		180-1,200						
from spindle			Z axis=1,000	mm			165-1,165					
nose to table	Linear way, Enclosed Box R	-	Z axis=1,200	mm		165	-1,365(Column+200r	mm)				
	/Dual ballscrew	/S	Z axis=1,400	mm			-1,565(Column+400r	8,100 (OPT.) 8,000x3,500 32,000 8				
Distance hot	ween columns (į			mm		103	4,000	8,100 10,10 10,				
TABLE	ween columns ()	JOIL WIC	utii)				1,000					
Dimension				mm	4,000x3,500	5,000x3,500	6,000x3,500	8 000x3 500	10 000x3 500			
	x Number x Pito	·h)		mm	4,000,3,300	3,000,3,300		0,000,3,300	10,000,3,300			
		.11)			28x15x250(150)							
Max. table lo	au			kg/m	20,000	24,000	28,000	32,000	30,000			
SPINDLE				1.147			22/26/20/2====					
Spindle moto	otor (cont./ 30 min. rated)			kW			22/ 26(30/ 37OPT.)					
Spindle			2-step gear				4,000/ 6,000(OPT.)					
speed	Linear way, Enclosed Box R	am/ 🖳	2-step gear	rpm -			4,000/ 6,000(OPT.)					
	Dual ballscrews	5 [Direct-driven		10,000(OPT.)							
Spindle tape	r			-			ISO NO.50					
FEED												
Cutting feed	rate			mm/min	1-7,000							
	X axis			m/min	10 8							
Rapid traverse	Y axis	-		m/min	10/10							
tiaveise	Z axis	Linear w	/ / single ballscrew vay/ Dual ballscrews	m/min			15					
		Enclosed E	Box Ram/Dual ballscrews	m/min			12					
3 axis motor	X axis			kW	9							
power	Y axis		/	kW	4.5							
(FANUC)	Z axis		y / single ballscrew	kW			7					
ACCURV/V V	7)///		inclosed Box Ram/Dual ballscrews	kW			4.5×2					
	Z)(Measured by		istrument)			+0.005/300		+00	05/300			
Positioning accuracy	Refer to JIS B63			mm	DO.	±0.005/300 .040	DO.					
accuracy	Refer to ISO 10			mm	Ρ0	.040		045	P0.030			
Repeatability	Refer to JIS B63			mm	D 0	0.20	±0.003	00mm) 00mm) 8,000x3,500 10,000x3,) 32,000 36,000 T.) T.) 8 8 8 \$ 0.005/300 0.045 P0.056 60.035 Ps0.04	D-0.040			
ATC	Refer to ISO 10	791-2		mm	Ps0.028 Ps0.035 Ps0							
ATC	Voutila	- l - l	200				40/ 60(OPT.)					
ATC 式/	Vertical type to			pcs								
capacity			type tool change	pcs	40(OPT.)/ 60(OPT.)							
May to 1		cal-norizo	ontal type tool change	pcs	40(OPT.)/ 60(OPT.)							
Max. tool we	ignt			kg	25							
Tool shank				-			ISO NO.50					
Pull stud				-			P50T-1					
OTHER												
Power requi				kVA			65					
Pneumatic re	-			kg/cm ²		I	6		T			
Machine net	weight			kg	58,000/60,000	64,000/66,000	70,000/72,000	84,000/86,000	100,000/101,00			
	cc woight			kg	62,000/64,000	69,000/71,000	76,000/78,000	92,000/94,000	108,000/110,00			
Machine gro	33 Weigitt	Vertical type tool change			14,07,51	16x8.7x5.1	18x8.7x5.1	24x8.7x5.1	28.5x8.7x5.1			
Max. space	_	ool char	nge	m	14x8.7x5.1	10/01/7/311		= TROWN ROTT	=======================================			
	Vertical type to		nge type tool change	m m	14x8.7x5.1 14x10x5.1	14x10x5.1	18x10x5.1	24x10x5.1	28.5x10x5.1			

^{*} For details, please refer to Machine Specification.

^{*} The manufacture reserves the right to modify the design, specifications mechanism, etc.



MF/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
- Enclosed sheet metal guard without roof (NF series X axis ≤6m)
- Four piece sheet metal guard (NF series X axis \geq 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