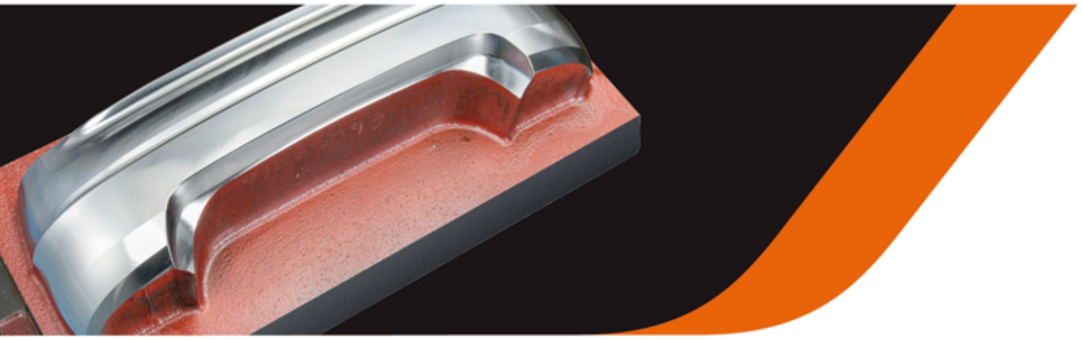
VISION WIDE
Solution . Satisfaction . Smile

SF SERIES



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ISO9001 ISO14001 DESIGN AWARD

SF-E-202502

SF SERIES

High Efficiency Double Column Machining Center

VISION WIDE
Solution . Satisfaction . Smile

VISION WIDE TECH CO., LTD.

Full range of specification
High C/P value

SF series the Most Popular Machining Center

- **High Cost-performance ratio**
- **Complete range of specification**
- **Fulfill various kinds of machining requirements**

Apply on parts and molds machining, in particular.
Strong structural design and manufacturing quality ensure best machining performance and accuracy.

- **Spindle speed:** 4,000~12,000rpm
- **Rapid traverse:** 24m/min
- **Cutting feed rate:** 10m/min
- **X-axis travel:** 2.1 / 2.6 / 3.1 / 4.1m
- **Y-axis travel:** 1.6 / 2.0 / 2.2 / 2.6m
  2.3 / 2.7 / 2.9 / 3.3m
- **Z-axis travel(box way):** 800 / 1,020mm
- **Z-axis travel(linear way):** 800 / 1,000mm

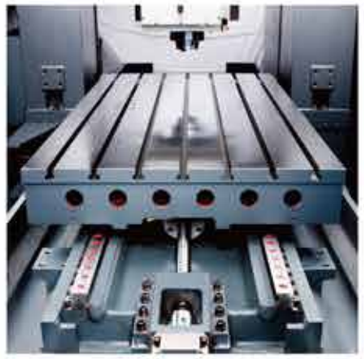
Photo: SF-3116 model with enclosed sheet metal guard with roof (opt.)

Photo: SF-2116 model with enclosed sheet metal guard without roof

SF series

Full range of specification
High C/P value

Optimal Rigid Structure Configuration



X axis

Ultra-wide base with high rigidity table enlarge table load capacity and ensures the best dynamic leveling accuracy.

X axis with backlashless gear deceleration mechanism transmission enhances axial thrust by 3 times, and significantly improves the axial thrust feed.

Y axis

3 linear guide ways with large span stepped design makes spindle head closed to beam structure which effectively increases machine's rigidity and cutting load.

Direct driven feeding system eliminates transmission error between servo motor and ball-screw and lead to high position accuracy.

These design feature guarantee best surface quality and surface precision during high speed cutting.

Z axis

Z axis 15m rapid traverse and high acceleration/deceleration performance achieve contour accuracy of high speed mold machining.

Economical twin hydraulic cylinders with compressed Nitrogen assistance counterweight system, achieve.
achieve:

- Smoother movement
- Z-axis holds it position when power failure happens
- Excellent performance on electricity saving

- **Whole casting structure provides long term accuracy stability.**
- **Ultra-wide column structure with big dimension section provides the best rigid support of spindle and YZ axis.**
- **Ambient Temperature Compensation and Spindle Thermal Compensation functions can be chosen to ensure the accuracy change within 0.02mm which influenced by environmental temperature change.**

SF-2116 model with gear type spindle 6,000rpm

SF series

Full range of specification
High C/P value

High Speed and Precise Accuracy Cutting Performance

Bumper Mold

- Material: FC300
- Size: L1,000 x W400 x H350mm
- Long spindle nose is the benefit to enhance the tool rigidity and reduce the cutting vibration.
- High Roughness Mold: Ra0.8 μm
- D20R10 ball end tool reciprocating projection machining:
  Pitch: 0.5mm
  Spindle speed: 10,000 rpm
  Feed rate: 4,000 mm/min

Mold Base High Feedrate Machining

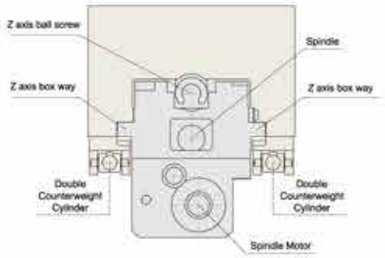
- Material: Mold Steel
- Size: 800 x 500 x 250mm
- High positioning accuracy: Boring positioning accuracy 0.006 mm (Pitch 400x700mm)
- 12,000 RPM High speed spindle:
  High material removal rate Q240cc/min
  High feed cutting: D32, F 10 m/min
  Vc 220 m/min, S 2,000 rpm

Mask Core Mold

- Material: S45C
- Size: 300 x 200 x 100 mm
- High speed and high accuracy mold machining
- High contour accuracy:
  98.5% points error < 0.02mm
  85.8% points error < 0.012mm
- 45° Project zig-zag cutting
- D12R6 ball end tool
- Spindle speed: 10,000 rpm
- Feed rate: 4,000 mm/min

Optimal Central Symmetric Spindle System Design. Strong, Stable, Durable and Scalability

- Minimum distance between spindle center and Z-axis roller way not only shortens cutting lever arm but also significantly improves rigidity.
- Symmetric spindle gravity configured, Z-axis ball-screw, spindle center and spindle motor configured at gravity point of Z-axis box structure centerline provide the best feed precision and thermal equilibrium.
- Gear spindles are made of Japan-made JIS-0 grade gears.
- 2-step gear type spindle provides high torque and high speed characteristics to ensure heavy cutting ability on surface finish.



Cutting Ability

Face milling:
Tool dia.:125mm
Cutting feed:1,000mm/min
Cutting width:100mm
Cutting depth:5mm
Removal rate:500cc/min

High feed machining:
Tool dia.:40mmx4inserts
Cutting speed:2,400rpm
Cutting feed:10m/min
Cutting depth:1mm
Cutting width:32mm
Removal rate:320cc/min

Indexable insert drilling:
Tool dia.:60mm
Cutting speed:800rpm
Cutting feed:160mm/min
Removal rate:450cc/min
Coolant through spindle

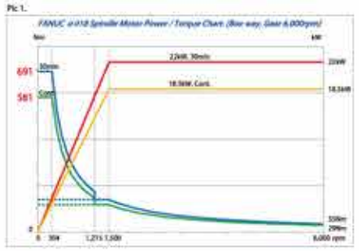
spindle power=22/26kW, speed=4,000rpm, material=S45C(mid carbon steel)
position = 1/2x(z travel)

Spindle Power and Torque Charts

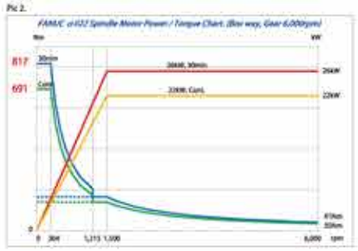
FANUC Controller

Driven type	Pic. No.	Motor type	Speed(rpm)	Power(KW)	Torque(Nm)	Tool type
Box Way						
Gear	1	FANUC α iI 18 (STD)	6,000	18.5 / 22	581 / 691	# 50
	2	FANUC α iI 22	6,000	22 / 26	691 / 817	# 50
	3	FANUC α iI 18	4,000	18.5 / 22	748 / 890	# 50
	4	FANUC α iI 22	4,000	22 / 26	890 / 1,052	# 50
Linear Way						
Direct-driven	5	FANUC α iI 22	10,000	22 / 26	140 / 166	# 50
		FANUC α iIT 22	10,000	22 / 26	140 / 166	# 50
	6	FANUC α iI 26	10,000	26 / 30	238 / 350	# 50
		FANUC α iIL 26	12,000	26 / 30	238 / 350	# 40
Built-in	7	FANUC BiI180LL	8,000	L: 22 / 26 H: 37 / 45	L: 552 / 653 H: 186 / 226	# 50
	8	FANUC BiI60LL	12,000	L: 18.5 / 22 H: 30 / 37	L: 352 / 420 H: 120 / 147	# 50

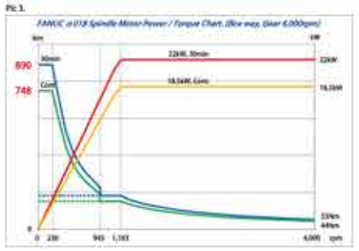
Pic 1.



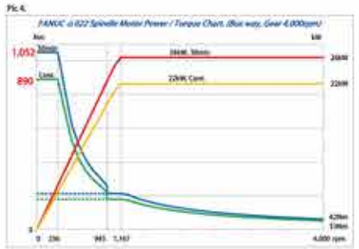
Pic 2.



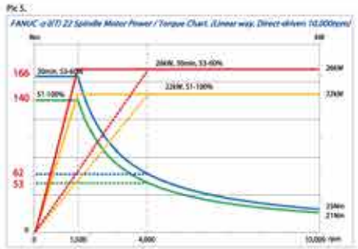
Pic 3.



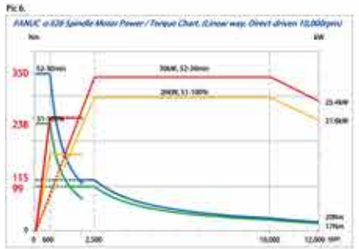
Pic 4.



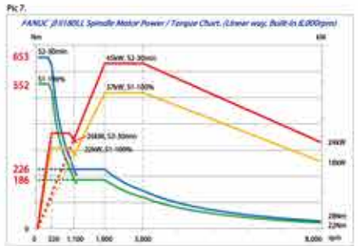
Pic 5.



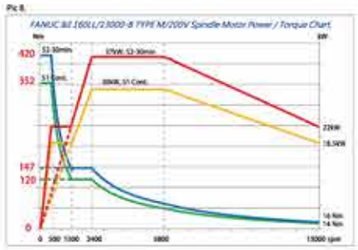
Pic 6.



Pic 7.



Pic 8.

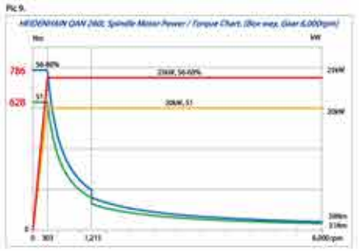


Spindle Power and Torque Charts

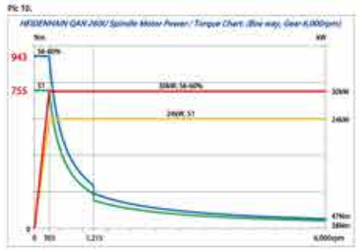
HEIDENHAIN Controller

Driven type	Pic. No.	Motor type	Speed(rpm)	Power(KW)	Torque(Nm)	Tool type
Box Way						
Gear	9	HEIDENHAIN QAN 260L	6,000	20 / 25	628 / 786	# 50
	10	HEIDENHAIN QAN 260U	6,000	24 / 30	755 / 943	# 50
	11	HEIDENHAIN QAN 260L	4,000	20 / 25	808 / 1,010	# 50
	12	HEIDENHAIN QAN 260U	4,000	24 / 30	970 / 1,213	# 50
Linear Way						
Direct-driven	13	HEIDENHAIN QAN 260U	10,000	24 / 30	153 / 191	# 50
	14	HEIDENHAIN QAN 260UH	10,000	22 / 30	140 / 191	# 50
	15	HEIDENHAIN QAN 260LH	12,000	20 / 25	127 / 159	# 40
		HEIDENHAIN QAN 260LH	12,000	20 / 25	127 / 159	# 50

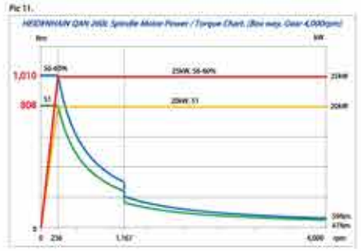
Pic 9.



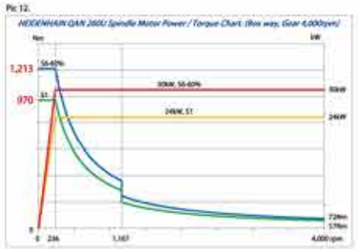
Pic 10.



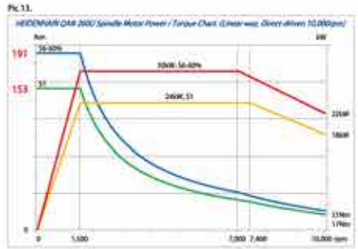
Pic 11.



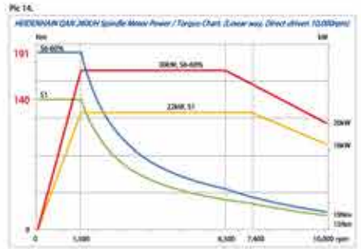
Pic 12.



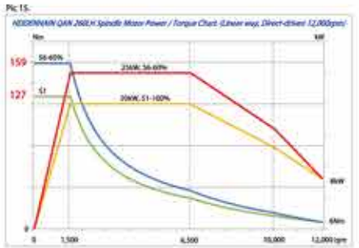
Pic 13.



Pic 14.



Pic 15.



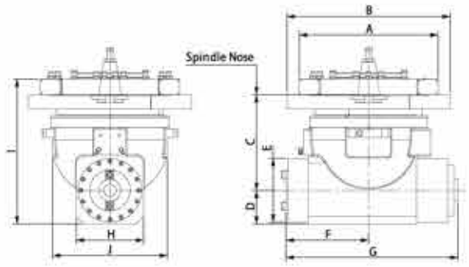
SF series

Full range of specification
High C/P value

Auto Multi-Angle Head Attachment

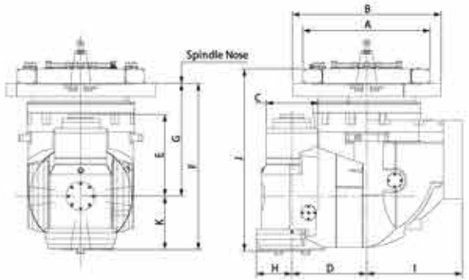
AC 90° angular head

Item	AC 90° angular head	
	G2	G4
Max. speed	3,000rpm	5,000rpm
Max. power	26kW	
Tool clamping	Auto hydraulic clamping	
Head clamping	Auto hydraulic clamping	
C-axis indexing	Auto 1° / 5°	Auto 1°/ 2.5°/ 5°
Machining coolant	External nozzle	Spindle nose nozzle
Coolant Through Spindle(opt.)	20 bar. / 70 bar.	20 bar. / 70 bar.
A	Ø436	Ø325
B	Ø436	Ø420
C	300	279.5
D	100	100
E	Ø200	Ø200
F	259	259.5
G	515.7	501
H	212	216
I	486	432.3
J	Ø352	Ø346



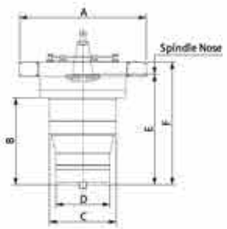
AC 2-axis head

Item	AC 2-axis head	
	G2	G4
Max. speed	3,000rpm	5,000rpm
Max. power	26kW	
Tool clamping	Auto hydraulic clamping	
Head clamping	Auto hydraulic clamping	
C-axis indexing	Auto 1°	Auto 1°/ 2.5°/ 5°
B-axis indexing	Auto 5°	Auto 1°/ 2.5°/ 5°
Machining coolant	External nozzle	Spindle nose nozzle
Coolant Through Spindle(opt.)	20 bar. / 70 bar.	20 bar. / 70 bar.
A	Ø436	Ø325
B	Ø436	Ø420
C	Ø200	Ø202
D	350	165
E	300	274
F	573.5	572
G	388.5	387
H	122.5	101
I	329.5	299
J	627.3	621
K	259	185



AC extended head

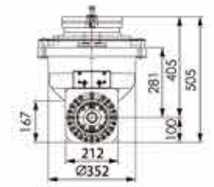
Item	AC extended head 300mm		AC extended head 420mm	
	G2	G4	G2	G4
Max. speed	4,000rpm	5,000rpm	4,000rpm	5,000rpm
Max. power	26kW			
Tool clamping	Auto hydraulic clamping			
Head clamping	Auto hydraulic clamping			
C-axis indexing	Auto 1°			
Machining coolant	External nozzle	Spindle nose nozzle	External nozzle	Spindle nose nozzle
Coolant Through Spindle (opt.)	N / A	20 bar. / 70 bar.	20 bar. / 70 bar.	20 bar. / 70 bar.
A	Ø436	Ø420	Ø436	Ø420
B	300	300	427	427
C	Ø230	Ø230	Ø230	Ø230
D	Ø185	Ø185	Ø185	Ø185
E	374	384	501	501
F	423	422.5	570	550

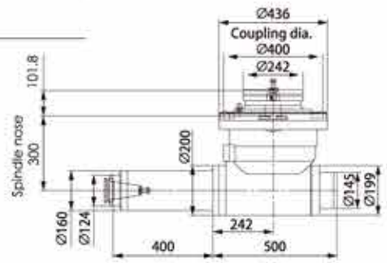


Powerful and Precision Boring Head Attachment

400mm AC 90° spindle extension head

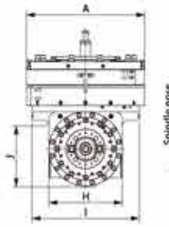
Item	400mm AC 90° spindle extension head
	G2
Max. speed	2000 rpm
Max. power	26 kW
Tool clamping	Manual hydraulic clamping
Head clamping	Auto hydraulic clamping
C-axis indexing	(1°) / 5°
Machining coolant	External nozzle
Coolant Through Spindle(opt.)	N/A

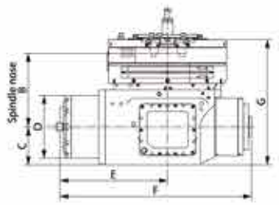




AC 90° angular head (Strong)

Item	AC 90° angular head (Strong)	
	G2	G4
Max. speed	3,000 rpm	3,000 rpm
Max. power	26 kW	26 kW
Tool clamping	Auto hydraulic clamping	Auto hydraulic clamping
Head clamping	Auto hydraulic clamping	Auto hydraulic clamping
C-axis indexing	Auto 1°/5°	Auto 1°/2.5°/5°
Machining coolant	External nozzle	External nozzle
Coolant Through Spindle(opt.)	N/A	20/50 Bar
A	Ø436	Ø420
B	300	259
C	122.5	133
D	Ø210	Ø220
E	381.5	381.5
F	638.2	679.6
G	528	441
H	250	260
I	Ø352	Ø380
J	207	213





SF series

Full range of specification
High C/P value

Intelligent Multi-Face Machining

5-axis Level Tool Point Center Management TCPM

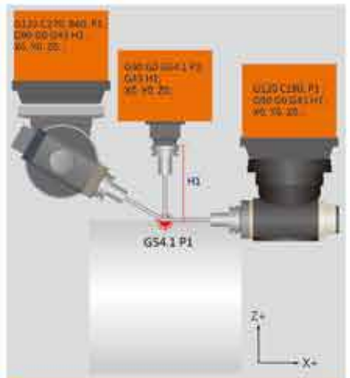
Each type of head attachment with tool center point management, takes vertical workpiece as origin benchmark, and converts the workpiece coordinates to any new specified plane of workpiece coordinates automatically.

Auto Coordinates Tool axis 3D Conversion

3-axis mechanical coordinates system can be automatically converted to machining coordinates system, easily achieving face milling, end milling, drilling and rigid tapping machining operations in different directions.

Head Attachment Dimensions Correction

Intelligent compensation on each type of head attachments.The compensation including rotation center, tool size, workpiece coordinates system correction management. It greatly simplifies the complexity of programming and operation to achieve perfect auto multi-angle machining.



TCPM0.04mm

Accurate Kinematic Compensation

Auto Compensating Attachment Heads:

Auto compensating horizontal head center and spindle center.
Auto compensating mechanism mass center and revolution center.

3D Coordinates Management:

1.V/H tool length and diameter compensation.
2.V/H working coordinate affine transformation.
3.V/H manual interrupting.
4.V/H 3D rigid tapping.

Heavy Cutting Ability

Through Cutting Depth Test to Show Excellent Heavy Cutting Rigidity

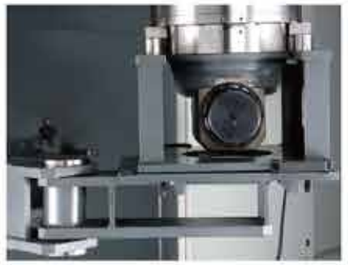
Test SPEC.: 22/26kW, 4,000rpm spindle with G2 Series

Head attachment	Extended head	90 degree angular head	2-axis head
Tool type	BT-50 face milling tool-diameter Φ125/5 edge		
Cutting material	S45C	S45C	
Spindle speed(rpm)	600	600	
Feed rate(mm/min)	1,000	1,000	
Machining width(mm)	100	100	
Machining depth	4	5	
Removal rate(cc/min)	400	500	

Auto Head Storage Unit

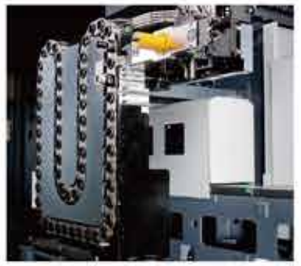

Table type head bracket


Auto swiveling arm type head bracket (on operation side)


Manual swiveling arm type head bracket(on operation side)


Multi-heads magazine(magazine side)

Tool Magazine


Floor-standing vertical-horizontal type tool magazine(opt.)


Extended head exchange on vertical type(opt.)


AC 90 degree angular head exchange on horizontal type(opt.)


Vertical type tool magazine to save floor space, 40 tools magazine (60 tools opt.)


Floor-standing vertical type tool magazine(opt.)

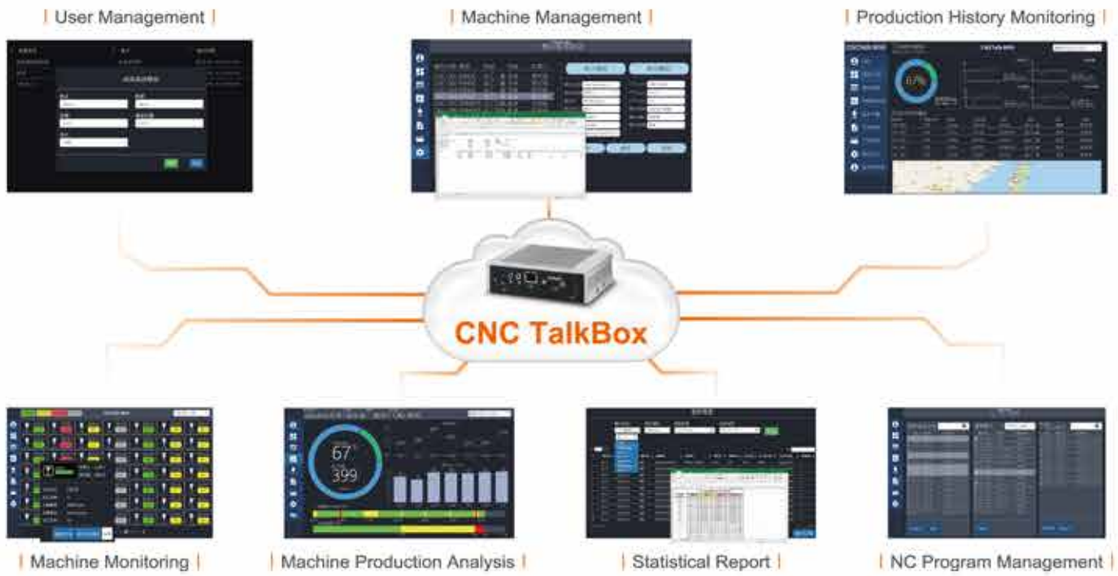

Auto tool exchange, tool to tool 3 sec. in vertical type

SF series

CNC TalkBox

Monitoring Software for Supporting Multiple Controllers

Make Production Management Clear at A Glance



Intelligent Factory Management Can Be in Everywhere

CNC TalkBox possesses computing, storage and industrial Internet functions. After computing, the production information can be uploaded to the cloud database or mobile devices to achieve the less hardware managements and the optimal mobile data exchanging capacity.

Economic

Small hardware devices for rapid introduction of industrial Internet of Things (IoT).

Stable

Timely record of production log is a benefit to analyze process and increase production capacity.

Expandable

Complete data collection can make better decisions for process, dispatch, tool and material management.

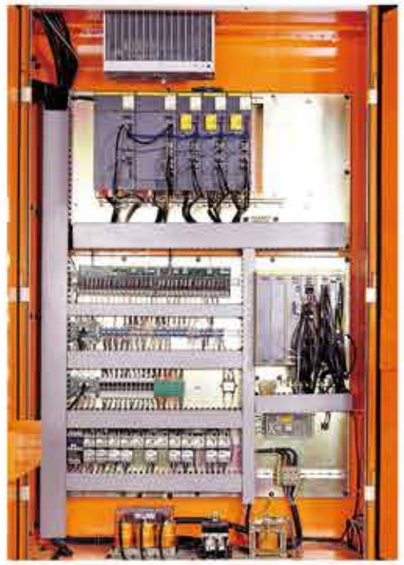
Full range of specification
High C/P value

Safe, Friendly and Reliable Operation Device

- Safe and reliable electrical circuit design
- CE compliant safety circuit design
- CE compliant EU regulation electrical parts for whole machine
- Anti-interference design on motor power cables
- Heat exchanger for electrical cabinet
- Hardware overtravel limit protection
- Motor overload and voltage phase failure protection
- Main power protecting device
- Ethernet and RJ45 interface
- USB port

Fast tool length measurement device at magazine side for mold cutting

Coolant through spindle



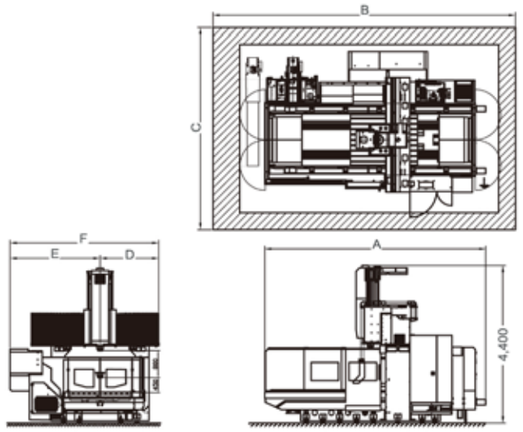
Centralized auto lubrication system

Modularized machine design for oil cooling device and hydraulic unit

Multi-segment sliding door at operation side and external door in front and back side. Swiveling arm type operation panel is standard and overhead pendulum type operation panel is option.

Full range of specification
High C/P value

Machine Dimension

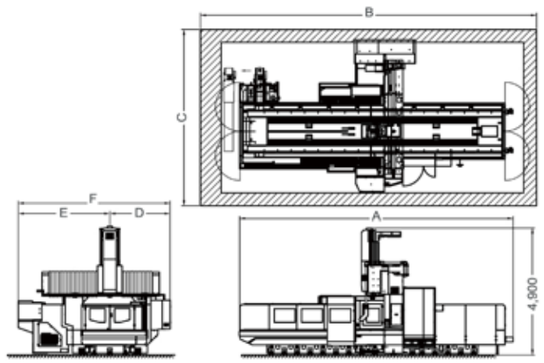


SF-xx16/20/22/26 dimension

(Vertical type tool change: standard column height , box-way Z axis 800 mm)

Unit:mm

Model	A	B	C	E	D	F
SF-2116	6,565	9,400	5,900	2,435	1,545	3,980
SF-2616	7,565	10,400				
SF-3116	8,565	11,400				
SF-4116	10,565	13,400				
SF-2120	6,565	9,400	6,300	2,635	1,745	4,380
SF-2620	7,565	10,400				
SF-3120	8,565	11,400				
SF-4120	10,565	13,400				
SF-3122	9,000	12,000	6,600	3,300	1,900	5,200
SF-4122	11,500	14,000				
SF-5122	13,500	16,000				
SF-3126	9,000	12,000	7,000	3,500	2,100	5,600
SF-4126	11,500	14,000				
SF-5126	13,500	16,000				

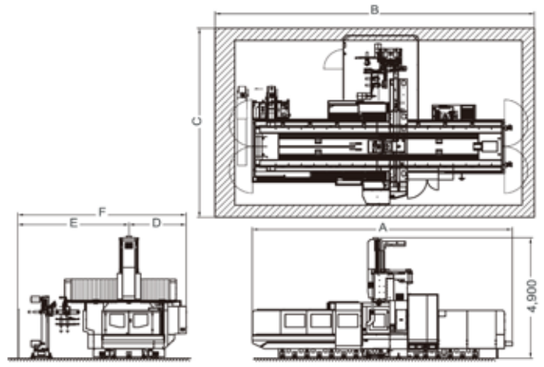


SF-xx23/27/29/33 dimension

(Floor-standing vertical type tool change: columns add 200mm, box-way Z axis 1,020 mm)

Unit:mm

Model	A	B	C	E	D	F
SF-2123	6,565	9,400	6,600	3,340	2,135	5,475
SF-2623	7,565	10,400				
SF-3123	8,565	11,400				
SF-4123	10,565	13,400				
SF-2127	6,565	9,400	7,000	3,540	2,335	5,875
SF-2627	7,565	10,400				
SF-3127	8,565	11,400				
SF-4127	10,565	13,400				
SF-3129	9,000	12,000	7,300	4,200	2,500	6,700
SF-4129	11,500	14,000				
SF-5129	13,500	16,000				
SF-3133	9,000	12,000	7,700	4,400	2,700	7,100
SF-4133	11,500	14,000				
SF-5133	13,500	16,000				



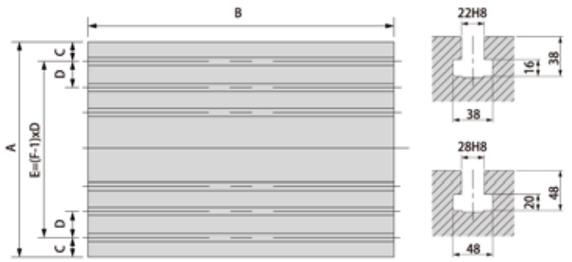
SF-xx23/27/29/33 dimension

(Floor-standing vertical-horizontal type tool change, multi-heads magazine: columns add 200mm , box-way Z axis 1,020 mm)

Unit:mm

機型	A	B	C	E	D	F
SF-2123	6,565	9,400	7,400	4,530	2,315	7,260
SF-2623	7,565	10,400				
SF-3123	8,565	11,400				
SF-4123	10,565	13,400				
SF-2127	6,565	9,400	8,000	4,730	2,335	7,460
SF-2627	7,565	10,400				
SF-3127	8,565	11,400				
SF-4127	10,565	13,400				
SF-3129	9,000	12,000	8,300	5,400	2,500	7,900
SF-4129	11,500	14,000				
SF-5129	13,500	16,000				
SF-3133	9,000	12,000	8,700	5,600	2,700	8,300
SF-4133	11,500	14,000				
SF-5133	13,500	16,000				

Table and T-slot

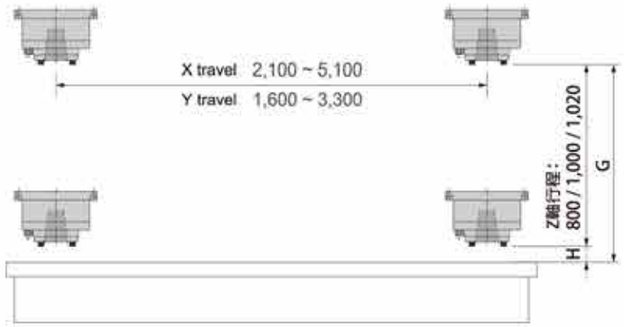


Unit:mm

Model	T-slot	A	B	C	D	E	F(pcs)
SF-2116/2123	T22	1,500	2,000	110	160	1,280	9
SF-2616/2623	T22	1,500	2,500	110	160	1,280	9
SF-3116/3123	T22	1,500	3,100	110	160	1,280	9
SF-4116/4123	T22	1,500	4,100	110	160	1,280	9
SF-2120/2127	T22	1,800	2,000	100	160	1,600	11
SF-2620/2627	T22	1,800	2,500	100	160	1,600	11
SF-3120/3127	T22	1,800	3,100	100	160	1,600	11
SF-4120/4127	T22	1,800	4,100	100	160	1,600	11
SF-3122/3129	T28	2,100	3,300	150	180	1,800	11
SF-3126/3133							
SF-4122/4129	T28	2,100	4,300	150	180	1,800	11
SF-4126/4133							
SF-5122/5129	T28	2,100	5,300	150	180	1,800	11
SF-5126/5133							

SF series

Working Range

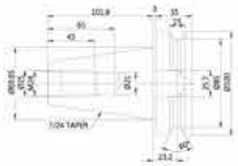


Unit:mm

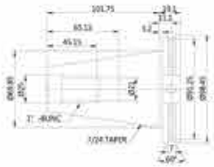
Spindle type		Z axis travel	H	G
Box way	Gear type	800	150	950
		1,020	130	1,150
Linear way	Direct-driven 10,000rpm#50	800	115	915
		1,000	115	1,115
	Direct-driven 12,000rpm#50	800	150	950
		1,000	150	1,150
	Direct-driven 12,000rpm#40	800	128	928
		1,000	128	1,128
	Built-in	800	75	875
		1,000	75	1,075

Tool Shank and Pull Stud Dimension

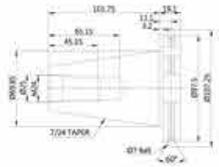
Tool shank
BT-50,MAS403



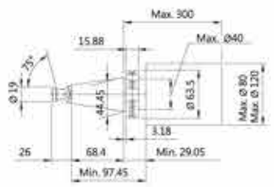
Tool shank
CAT-50,ANSI B5.50



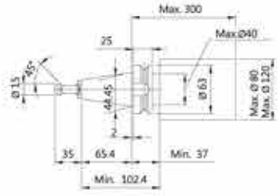
Tool shank
DIN-50,DIN 69871/ISO 7388/1



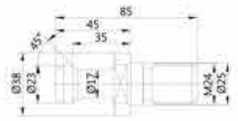
Tool shank DIN-40



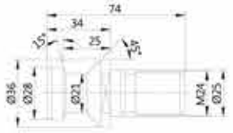
Tool shank BT-40



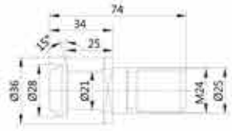
Pull stud bolt
MAS403 P50T-1



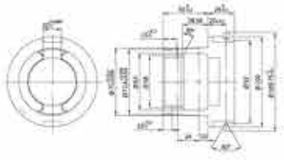
Pull stud bolt
DIN-50, DIN 69872



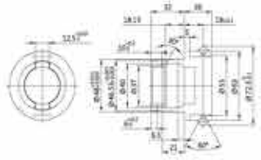
Pull stud bolt
DIN-50, ISO 7388/2/A



Tool shank HSK-A100



Tool shank HSK-A63



Full range of specification
High C/P value

Specification | SF-xx16/ xx20 Series

MODEL			Unit	SF-2116	SF-2616	SF-3116	SF-4116	SF-2120	SF-2620	SF-3120	SF-4120
TRAVEL											
X axis			mm	2,100	2,600	3,100	4,100	2,100	2,600	3,100	4,100
Y axis			mm	1,600				2,000			
Z axis	Box way		mm	800 / 1,020 (Opt.)				800 / 1,020 (Opt.)			
	Linear way		mm	800 (Opt.) / 1,000 (Opt.)				800 (Opt.) / 1,000 (Opt.)			
Distance from spindle nose to table	Box way	Z axis=800	mm	150~950 (standard column) / 350~1,150 (column heightened 200mm)				150~950 (standard column) / 350~1,150 (column heightened 200mm)			
		Z axis=1,020	mm	130~1,150 (column heightened 200mm)				130~1,150 (column heightened 200mm)			
	Linear way	Z axis=800	mm	115~915 (standard column) / 315~1,115 (column heightened 200mm)				115~915 (standard column) / 315~1,115 (column heightened 200mm)			
		Z axis=1,000	mm	115~1,115 (column heightened 200mm)				115~1,115 (column heightened 200mm)			
Distance from spindle center to column			mm	453				453			
Distance between columns (port width)			mm	1,650				2,050			
TABLE											
Table size (X direction x Y direction)			mm	2,000 x 1,500	2,500 x 1,500	3,000 x 1,500	4,000 x 1,500	2,000 x 1,800	2,500 x 1,800	3,000 x 1,800	4,000 x 1,800
T-slot (Width x Number x Pitch)			mm	22 x 9 x 160				22 x 11 x 160			
Max. table load			kg	8,000	9,000	10,000	12,000	8,000	9,000	10,000	12,000
SPINDLE											
Spindle speed	Box way	2-step gear	rpm	6,000 / 4,000 (Opt.)				6,000 / 4,000 (Opt.)			
	Linear way	Direct-driven*	rpm	10,000 (Opt.) / 12,000 (Opt.)				10,000 (Opt.) / 12,000 (Opt.)			
		Built-in*	rpm	8,000 (Opt.) / 12,000 (Opt.)				8,000 (Opt.) / 12,000 (Opt.)			
Spindle power (cont. / 30 min.)			kW	18.5 / 22 (22 / 26 Opt.)*				18.5 / 22 (22 / 26 Opt.)*			
Spindle torque (cont. / 30 min.)			Nm	581 / 748 (Opt.)*				581 / 748 (Opt.)*			
Spindle taper			-	BBT-50				BBT-50			
FEED											
Cutting feed rate			mm/min	1~10,000				1~10,000			
Rapid traverse (X / Y / Z)			m/min	24 / 24 / 15			18 / 24 / 15	24 / 24 / 15			18 / 24 / 15
X / Y / Z motor power (FANUC)			kW	4 / 4 / 4			7 / 4 / 4	4 / 4 / 4			7 / 4 / 4
ATC											
ATC capacity	Vertical type tool change		pcs	32 / 40 (Opt.)				32 / 40 (Opt.)			
	Floor-standing type vertical tool change		pcs	-				-			
	Floor-standing type V/H tool change		pcs	-				-			
Max. tool diameter (full / next pockets empty)			mm	Ø 125 / Ø 180				Ø 125 / Ø 180			
Max. tool weight *1			kg	20				20			
Tool shank			-	BT50 / CAT50				BT50 / CAT50			
Pull stud			-	P50T-1				P50T-1			
ACCURY											
Positioning accuracy (JIS B6333)*2			mm	±0.005 / 300, ±0.010 / Full travel				±0.005 / 300, ±0.010 / Full travel			
Positioning accuracy (ISO-10791)*2			mm	P 0.018	P 0.018	P 0.020	P 0.020	P 0.018	P 0.018	P 0.020	P 0.020
Repeatability (JIS B6333)*2			mm	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003
Repeatability (ISO-10791)*2			mm	Ps 0.015	Ps 0.015	Ps 0.018	Ps 0.018	Ps 0.015	Ps 0.015	Ps 0.018	Ps 0.018
OTHERS											
Power requirement			kVA	50				50			
Pneumatic pressure requirement			kg/cm²	6				6			
Machine gross weight			kg	20,000	22,000	24,000	27,500	21,000	23,000	25,500	29,500
Floor space (LxWxH)	Vertical type tool change		m	9.4 x 5.9 x 4.4	10.4 x 5.9 x 4.4	11.4 x 5.9 x 4.4	13.4 x 5.9 x 4.4	9.4 x 6.3 x 4.4	10.4 x 6.3 x 4.4	11.4 x 6.3 x 4.4	13.4 x 6.3 x 4.4
	Floor-standing type vertical tool change		m	-	-	-	-	-	-	-	-
	Floor-standing type V/H tool change		m	-	-	-	-	-	-	-	-

* Please refer to special specification for dimension of direct driven spindle and built-in spindle.

* 1: Max. tool length: 380 mm. Max. support torque: 2.5 kgf-m

* 2: Please refer to "Accuracy inspection report", "Positioning accuracy & Repeatability accuracy list of SF series"

SF series

Full range of specification
High C/P value

Specification | SF-xx22/ xx26 Series

MODEL			Unit	SF-3122	SF-4122	SF-5122	SF-3126	SF-4126	SF-5126
TRAVEL									
X axis			mm	3,100	4,100	5,100	3,100	4,100	5,100
Y axis			mm	2,200			2,600		
Z axis	Box way		mm	800 / 1,020 (Opt.)			800 / 1,020 (Opt.)		
	Linear way		mm	800 (Opt.) / 1,000 (Opt.)			800 (Opt.) / 1,000 (Opt.)		
Distance from spindle nose to table	Box way	Z axis=800	mm	150~950 (standard column) / 350~1,150 (column heightened 200mm)			150~950 (standard column) / 350~1,150 (column heightened 200mm)		
		Z axis=1,020	mm	130~1,150 (column heightened 200mm)			130~1,150 (column heightened 200mm)		
	Linear way	Z axis=800	mm	115~915 (standard column) / 315~1,115 (column heightened 200mm)			115~915 (standard column) / 315~1,115 (column heightened 200mm)		
		Z axis=1,000	mm	115~1,115 (column heightened 200mm)			115~1,115 (column heightened 200mm)		
Distance from spindle center to column			mm	453			453		
Distance between columns (port width)			mm	2,350			2,750		
TABLE									
Table size (X direction x Y direction)			mm	3,300 x 2,100	4,300 x 2,100	5,300 x 2,100	3,300 x 2,100	4,300 x 2,100	5,300 x 2,100
T-slot (Width x Number x Pitch)			mm	28 x 11 x 180			28 x 11 x 180		
Max. table load			kg	14,000	16,000	18,000	14,000	16,000	18,000
SPINDLE									
Spindle speed	Box way	2-step gear	rpm	6,000 / 4,000 (Opt.)			6,000 / 4,000 (Opt.)		
	Linear way	Direct-driven*	rpm	10,000 (Opt.) / 12,000 (Opt.)			10,000 (Opt.) / 12,000 (Opt.)		
		Built-in*	rpm	8,000 (Opt.) / 12,000 (Opt.)			8,000 (Opt.) / 12,000 (Opt.)		
Spindle power (cont. / 30 min.)			kW	18.5 / 22 (22 / 26 Opt.)*			18.5 / 22 (22 / 26 Opt.)*		
Spindle torque (cont. / 30 min.)			Nm	581 / 748 (Opt.)*			581 / 748 (Opt.)*		
Spindle taper			-	BBT-50			BBT-50		
FEED									
Cutting feed rate			mm/min	1~10,000			1~10,000		
Rapid traverse (X / Y / Z)			m/min	20 / 20 / 15			20 / 20 / 15		
X / Y / Z motor power (FANUC)			kW	5.5 / 4 / 4			5.5 / 4 / 4		
ATC									
ATC capacity	Vertical type tool change		pcs	32 / 40 (Opt.)			32 / 40 (Opt.)		
	Floor-standing type vertical tool change		pcs	-			-		
	Floor-standing type V/H tool change		pcs	-			-		
Max. tool diameter (full / next pockets empty)			mm	Ø 125 / Ø 180			Ø 125 / Ø 180		
Max. tool weight *1			kg	20			20		
Tool shank			-	BT50 / CAT50			BT50 / CAT50		
Pull stud			-	P50T-1			P50T-1		
ACCURY									
Positioning accuracy (JIS B6333) *2			mm	±0.005 / 300, ±0.010 / Full travel			±0.005 / 300, ±0.010 / Full travel		
Positioning accuracy (ISO-10791) *2			mm	P 0.020	P 0.020	P 0.027	P 0.020	P 0.020	P 0.027
Repeatability (JIS B6333) *2			mm	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003
Repeatability (ISO-10791) *2			mm	Ps 0.018	Ps 0.018	Ps 0.023	Ps 0.018	Ps 0.018	Ps 0.023
OTHERS									
Power requirement			kVA	50			50		
Pneumatic pressure requirement			kg/cm²	6			6		
Machine gross weight			kg	26,000	30,000	34,000	26,500	30,500	34,500
Floor space (LxWxH)	Vertical type tool change		m	12 x 6.6 x 4.4	14 x 6.6 x 4.4	16 x 6.6 x 4.4	12 x 7 x 4.4	14 x 7 x 4.4	16 x 7 x 4.4
	Floor-standing type vertical tool change		m	-	-	-	-	-	-
	Floor-standing type V/H tool change		m	-	-	-	-	-	-

* Please refer to special specification for dimension of direct driven spindle and built-in spindle.

* 1: Max. tool length: 380 mm. Max. support torque: 2.5 kgf-m

* 2: Please refer to "Accuracy inspection report", "Positioning accuracy & Repeatability accuracy list of SF series"

Specification | SF-xx23/ xx27 Series

MODEL			Unit	SF-2123	SF-2623	SF-3123	SF-4123	SF-2127	SF-2627	SF-3127	SF-4127
TRAVEL				Y+700				Y+700			
X axis			mm	2,100	2,600	3,100	4,100	2,100	2,600	3,100	4,100
Y axis			mm	2,300				2,700			
Z axis	Box way		mm	800 / 1,020 (Opt.)				800 / 1,020 (Opt.)			
	Linear way		mm	800 (Opt.) / 1,000 (Opt.)				800 (Opt.) / 1,000 (Opt.)			
Distance from spindle nose to table	Box way	Z axis=800	mm	450~1,250 (column heightened 300mm)				450~1,250 (column heightened 300mm)			
		Z axis=1,020	mm	230~1,250 (column heightened 300mm)				230~1,250 (column heightened 300mm)			
	Linear way	Z axis=800	mm	415~1,215 (column heightened 300mm)				415~1,215 (column heightened 300mm)			
		Z axis=1,000	mm	215~1,215 (column heightened 300mm)				215~1,215 (column heightened 300mm)			
Distance from spindle center to column			mm	453				453			
Distance between columns (port width)			mm	1,650				2,050			
TABLE											
Table size (X direction x Y direction)			mm	2,000 x 1,500	2,500 x 1,500	3,000 x 1,500	4,000 x 1,500	2,000 x 1,800	2,500 x 1,800	3,000 x 1,800	4,000 x 1,800
T-slot (Width x Number x Pitch)			mm	22 x 9 x 160				22 x 11 x 160			
Max. table load			kg	8,000	9,000	10,000	12,000	8,000	9,000	10,000	12,000
SPINDLE											
Spindle speed	Box way	2-step gear	rpm	6,000 / 4,000 (Opt.)				6,000 / 4,000 (Opt.)			
	Linear way	Direct-driven*	rpm	10,000 (Opt.) / 12,000 (Opt.)				10,000 (Opt.) / 12,000 (Opt.)			
		Built-in*	rpm	8,000 (Opt.) / 12,000 (Opt.)				8,000 (Opt.) / 12,000 (Opt.)			
Spindle power (cont. / 30 min.)			kW	18.5 / 22 (22 / 26 Opt.)*				18.5 / 22 (22 / 26 Opt.)*			
Spindle torque (cont. / 30 min.)			Nm	581 / 748 (Opt.)*				581 / 748 (Opt.)*			
Spindle taper			-	BBT-50				BBT-50			
FEED											
Cutting feed rate			mm/min	1~10,000				1~10,000			
Rapid traverse (X / Y / Z)			m/min	24 / 20 / 15			18 / 20 / 15	24 / 20 / 15			18 / 20 / 15
X / Y / Z motor power (FANUC)			kW	4 / 4 / 4			7 / 4 / 4	4 / 4 / 4			7 / 4 / 4
ATC											
ATC capacity	Vertical type tool change		pcs	-				-			
	Floor-standing type vertical tool change		pcs	32 / 40 (Opt.)				32 / 40 (Opt.)			
	Floor-standing type V/H tool change		pcs	32 (Opt.) / 40 (Opt.) / 60 (Opt.)				32 (Opt.) / 40 (Opt.) / 60 (Opt.)			
Max. tool diameter (full / next pockets empty)			mm	Ø 125 / Ø 180				Ø 125 / Ø 180			
Max. tool weight *1			kg	20				20			
Tool shank			-	BT50 / CAT50				BT50 / CAT50			
Pull stud			-	P50T-1				P50T-1			
ACCURY											
Positioning accuracy (JIS B6333) *2			mm	±0.005 / 300, ±0.010 / Full travel				±0.005 / 300, ±0.010 / Full travel			
Positioning accuracy (ISO-10791) *2			mm	P 0.018	P 0.018	P 0.020	P 0.020	P 0.018	P 0.018	P 0.020	P 0.020
Repeatability (JIS B6333) *2			mm	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003
Repeatability (ISO-10791) *2			mm	Ps 0.015	Ps 0.015	Ps 0.018	Ps 0.018	Ps 0.015	Ps 0.015	Ps 0.018	Ps 0.018
OTHERS											
Power requirement			kVA	50				50			
Pneumatic pressure requirement			kg/cm²	6				6			
Machine gross weight			kg	22,500	24,500	26,500	30,500	24,000	26,000	28,000	32,000
Floor space (LxWxH)	Vertical type tool change		m	-	-	-	-	-	-	-	-
	Floor-standing type vertical tool change		m	9.4 x 6.6 x 4.9	10.4 x 6.6 x 4.9	11.4 x 6.6 x 4.9	13.4 x 6.6 x 4.9	9.4 x 7.0 x 4.9	10.4 x 7.0 x 4.9	11.4 x 7.0 x 4.9	13.4 x 7.0 x 4.9
	Floor-standing type V/H tool change		m	9.4 x 7.4 x 4.9	10.4 x 7.4 x 4.9	11.4 x 7.4 x 4.9	13.4 x 7.4 x 4.9	9.4 x 8.0 x 4.9	10.4 x 8.0 x 4.9	11.4 x 8.0 x 4.9	13.4 x 8.0 x 4.9

* Please refer to special specification for dimension of direct driven spindle and built-in spindle.

* 1: Max. tool length: 380 mm. Max. support torque: 2.5 kgf-m

* 2: Please refer to "Accuracy inspection report", "Positioning accuracy & Repeatability accuracy list of SF series"

SF series

Full range of specification
High C/P value

Specification | SF-xx29/ xx33 Series

MODEL			Unit	SF-3129	SF-4129	SF-5129	SF-3133	SF-4133	SF-5133
TRAVEL					Y+700			Y+700	
X axis			mm	3,100	4,100	5,100	3,100	4,100	5,100
Y axis			mm		2,900			3,300	
Z axis	Box way		mm		800 / 1,020 (Opt.)			800 / 1,020 (Opt.)	
	Linear way		mm		800 (Opt.) / 1,000 (Opt.)			800 (Opt.) / 1,000 (Opt.)	
Distance from spindle nose to table	Box way	Z axis=800	mm		450~1,250 (column heightened 300mm)			450~1,250 (column heightened 300mm)	
		Z axis=1,020	mm		230~1,250 (column heightened 300mm)			230~1,250 (column heightened 300mm)	
	Linear way	Z axis=800	mm		415~1,215 (column heightened 300mm)			415~1,215 (column heightened 300mm)	
		Z axis=1,000	mm		215~1,215 (column heightened 300mm)			215~1,215 (column heightened 300mm)	
Distance from spindle center to column			mm		453			453	
Distance between columns (port width)			mm		2,350			2,750	
TABLE									
Table size (X direction x Y direction)			mm	3,300 x 2,100	4,300 x 2,100	5,300 x 2,100	3,300 x 2,100 3,000 x 2,450 (Opt.)	4,300 x 2,100 4,000 x 2,450 (Opt.)	5,300 x 2,100 5,000 x 2,450 (Opt.)
T-slot (Width x Number x Pitch)			mm		28 x 11 x 180			28 x 11 x 180	
Max. table load			kg	14,000	16,000	18,000	14,000	16,000	18,000
SPINDLE									
Spindle speed	Box way	2-step gear	rpm		6,000 / 4,000 (Opt.)			6,000 / 4,000 (Opt.)	
	Linear way	Direct-driven*	rpm		10,000 (Opt.) / 12,000 (Opt.)			10,000 (Opt.) / 12,000 (Opt.)	
		Built-in*	rpm		8,000 (Opt.) / 12,000 (Opt.)			8,000 (Opt.) / 12,000 (Opt.)	
Spindle power (cont. / 30 min.)			kW		18.5 / 22 (22 / 26 Opt.)*			18.5 / 22 (22 / 26 Opt.)*	
Spindle torque (cont. / 30 min.)			Nm		581 / 748 (Opt.)*			581 / 748 (Opt.)*	
Spindle taper			-		BBT-50			BBT-50	
FEED									
Cutting feed rate			mm/min		1~10,000			1~10,000	
Rapid traverse (X / Y / Z)			m/min		20 / 20 / 15			20 / 20 / 15	
X / Y / Z motor power (FANUC)			kW		5.5 / 4 / 4			5.5 / 4 / 4	
ATC									
ATC capacity	Vertical type tool change		pcs		-			-	
	Floor-standing type vertical tool change		pcs		32 / 40 (Opt.)			32 / 40 (Opt.)	
	Floor-standing type V/H tool change		pcs		32 (Opt.) / 40 (Opt.) / 60 (Opt.)			32 (Opt.) / 40 (Opt.) / 60 (Opt.)	
Max. tool diameter (full / next pockets empty)			mm		Ø125 / Ø180			Ø125 / Ø180	
Max. tool weight *1			kg		20			20	
Tool shank			-		BT50 / CAT50			BT50 / CAT50	
Pull stud			-		P50T-1			P50T-1	
ACCURY									
Positioning accuracy (JIS B6333)*2			mm		±0.005 / 300, ±0.010 / Full travel			±0.005 / 300, ±0.010 / Full travel	
Positioning accuracy (ISO-10791)*2			mm	P 0.024	P 0.024	P 0.027	P 0.025	P 0.025	P 0.027
Repeatability (JIS B6333)*2			mm	±0.003	±0.003	±0.003	±0.003	±0.003	±0.003
Repeatability (ISO-10791)*2			mm	Ps 0.020	Ps 0.020	Ps 0.023	Ps 0.021	Ps 0.021	Ps 0.023
OTHERS									
Power requirement			kVA		50			50	
Pneumatic pressure requirement			kg/cm²		6			6	
Machine gross weight			kg	28,500	32,500	37,000	29,000	33,000	37,500
Floor space (LxWxH)	Vertical type tool change		m	-	-	-	-	-	-
	Floor-standing type vertical tool change		m	12 x 7.3 x 4.9	14 x 7.3 x 4.9	16 x 7.3 x 4.9	12 x 7.7 x 4.9	14 x 7.7 x 4.9	16 x 7.7 x 4.9
	Floor-standing type V/H tool change		m	12 x 8.3 x 4.9	14 x 8.3 x 4.9	16 x 8.3 x 4.9	12 x 8.7 x 4.9	14 x 8.7 x 4.9	16 x 8.7 x 4.9

※ Please refer to special specification for dimension of direct driven spindle and built-in spindle.

※ 1: Max. tool length: 380 mm. Max. support torque: 2.5 kgf-m

※ 2: Please refer to "Accuracy inspection report", "Positioning accuracy & Repeatability accuracy list of SF series"

Standard & Optional Accessories

Standard

1. FANUC 0iMF Plus Controller
2. 6,000 rpm 2-step gear type spindle (Z axis box way)
3. Spindle cooling system
4. Twin hydraulic cylinders with pressured nitrogen counterbalance system for Z axis
5. Centralized auto lubrication system
6. Independent lubrication oil collector for 3 axes
7. Air blast through spindle
8. Wash gun and pneumatic interface
9. Cutting fluid system (including pump & coolant tank)
10. Vertical type tool magazine 32 tools
11. Enclosed sheet metal guard (without roof)
12. Swiveling arm type operation panel
13. Screw type chip augers on table sides
14. Steel belt chip conveyor
15. Heat exchanger for electrical cabinet
16. Working lamp
17. Operation cycle finish and alarm light
18. Movable manual pulse generator
19. Foot switch for tool clamping
20. RJ45 interface
21. X/Y/Z axis absolute pulse coder feedback
22. X/Y/Z axis travel hard limits protection
23. Spindle overloading protected by software
24. Remote monitoring software-standard(CNC TalkBox)
25. Auto power off function
26. Vision Wide FX graphical user interface (only for FANUC Controller)
27. Foundation pads and bolts kits
28. Adjustment tool and tool kits
29. Technical manuals (operation, maintenance manual and circuit diagram)

Optional

1. FANUC 31iB / HEIDENHAIN TNC 640 / SIEMENS 828D / SIEMENS ONE / MITSUBISHI M80 TypeA / MITSUBISHI M830S Controller
2. 4,000 rpm 2-step gear type spindle (Z axis box way)
3. 8,000 / 12,000 rpm built-in spindle
4. 10,000 (BT-50) / 12,000 (BT-40) rpm direct driven spindle
5. Z axis travel 1,020 mm (box way spindle head, for AC head attachment)
6. Z axis travel 800 / 1,000 mm (linear way spindle head)
7. Column heightened 200 / 300 / 400 / 500 mm
8. Spindle ring cutting fluid device (vertical spindle / for no head attachment)
9. Coolant through spindle system 20 / 70 bar
10. Coolant through tool holder system 5 / 18 bar
11. Coolant through tool holder interface
12. Button for tool clamping
13. Oil skimmer
14. Oil mist cooling device (MQL)
15. Vertical type tool magazine 40 / 60 tools
16. Floor-standing vertical type tool magazine 32 / 40 / 60 tools
17. Floor-standing vertical-horizontal type tool magazine 32 / 40 / 60 tools
18. Enclosed sheet metal guard (with roof)
19. Helical blade chip augers on table sides
20. Chip cart
21. Air conditioner for electrical cabinet
22. X/Y/Z axis linear scale
23. X/Y/Z axis independent manual pulse generator (only for FANUC)
24. Sub working table
25. Rotary table
26. Interface reserved for fourth axis (hydraulic device and electrical interface)
27. Spindle cutting load hardware protection device
28. Tool axis retract function at power failure
29. Anti-collision and process simulation software
30. Remote monitoring software-professional(CNC TalkBox)
31. Auto workpiece measurement
32. Auto tool measurement
33. Transformer
34. Auto warm up
35. Spindle temperature thermal compensation system (STC)

Optional Accessory for Head Attachment

1. Z axis travel 1,020 mm (box way spindle head, for AC head attachment)
2. Auto AC 90° angular head / AC 2-axis head / AC extended head
3. Small head / customized head attachment
4. Manual 90° angular head / extended head / universal head
5. Manual swiveling arm type head bracket on operation side (one head attachment)
6. Auto swiveling arm type head bracket on operation side (one head attachment and one cover)
7. Multi-heads magazine on magazine side(For SF-xx23 / 27 / 29 / 33 series)
8. CTS interface is available on AC 90° angular head & AC 2-axis head. (Air through spindle is not available.)

※ Vision Wide reserves the right to modify specifications without prior notice.