

# CNC VERTICAL BORING MILLS

## SC 11 - 53 CNC/MSF - Series



### FEATURING

SC 11-17 CNC/MSF - series - Single piece column and base of close grain cast iron construction, sliding cross rail, right vertical working support with RAM and automatic tool changers (ATC - 12 or 16 seats).

SC 22-53 CNC/MSF - series - heavily ribbed double column construction, right vertical working support with RAM and automatic tool changers (ATC - 12 or 16 seats).

Heavily ribbed design

Hardened and ground ways.

The vertical working support with forged alloy steel RAM for turning - milling - boring operations.

Slow feed box and faceplate locking.

Ball screws for 2 or 4 axes are preloaded for high accuracy.

Heidenhain linear and rotary encoders.

Live spindle and C-axis

Table with 4 jaws, reversible type.

Automatic pulse lubrication.

Table is driven by 2 or 3 range auto. shifting gear box for high table speed and torque capability.

Cross rail indexing in 100 or 200 mm increments.

### Since 1916

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TEHNICAL SPECIFICATION	unit	SC11 CNC/MSF	SC14 CNC/MSF	SC17 CNC/MSF	SC16/22 CNC/MSF	SC22 CNC/MSF	SC27 CNC/MSF	SC33 CNC/MSF	SC43 CNC/MSF	SC53 CNC/MSF	
STRUCTURE		SINGLE COLUMN					DOUBLE COLUMN				
Max. swing	mm	1100	1400	1650	2000	2200	2650	3300	4300	5300	
Max. turning height (under the crossrail)	mm	700	900	1100	-	1400	1800	2100	1800	1800	
-2H (version)	mm	900	1100	1300	-	1600	2000	2300	2000	2000	
-H (version)	mm	<b>1200</b>	<b>1400</b>	<b>1600</b>	<b>1600</b>	<b>1900</b>	<b>2300</b>	<b>2600</b>	<b>2300</b>	<b>2300</b>	
<b>STANDARD</b>	mm	-	1600	1800	-	2100	2500	2800	2500	2500	
H (version)	mm	-	-	-	-	2400	2800	3100	2800	2800	
2 H (version)	mm	-	-	-	-	-	-	3300	3000	3000	
3H (version)	mm	-	-	-	-	-	-	-	3300	3300	
4H (version)	mm	-	-	-	-	-	-	-	-	-	
Table diameter	mm	900	1200	1450	1600	2000	2500	3000	4000	4000 (5000)	
Max work piece weight	daN	5000	6000	8000	12000	12000	15000	18000	18000	18000	
Tapered roller bearing (standard)	daN	7000	7000	11000	-	25000	30000	30000	30000	30000	
Crossed roller bearing (version)	daN	-	-	-	-	-	-	-	60000	80000	
Hydrostatic sustentation bearing	daN	-	-	-	-	-	-	-	-	-	
Table speed range	r.p.m.	3+350	2+250	2+200	10+300	1+143	1+112	1+90	1+90	1+90	
- Standard	r.p.m.	3+500	2+400	2+300	-	1+250	1+150	1+120	1+110	-	
- Optional	%/min	0,01-5	0,01-4,5	0,01-4	0,01-3,33	0,01-3,5	0,01-3	0,01-2,5	0,01-2	0,01-2	
Table slow feed range	mm/min	-	-	-	-	-	-	-	-	-	
Main motor power	kw	40,45	40,45	40,51	55	55	55	55,60	55,60	55,60	
- Standard	kw	51,55,60	51,55,60	55,60	60,71	60,71	60,71	71	71,100	71,100;132	
- Optional											
RAM travel Z <sub>1</sub> (Z <sub>2</sub> ) axes	mm	1000	1250	1250	1250	1250	1250	1500	1500	1500	
- Standard	mm	1200	1500	1500	1500	1500	1500	1800	1800	1800	
- Optional											
RAM section	mm	225x225	225x225	225x225	250x250	250x250	250x250	250x300	250x300	250x300	
- Standard	mm	-	-	250x250	-	-	-	-	-	300x300	
- Optional											
Feed range	mm/min	1+6000	1+6000	1+6000	1+6000	1+6000	1+6000	1+6000	1+6000	1+6000	
- Working feed range	mm/min	1+10000	1+10000	1+10000	1+8000	1+8000	1+8000	1+8000	1+8000	1+8000	
- Rapid feed range		(12000)	(12000)	(12000)		(12000)	(12000)	(12000)	(12000)	(12000)	
Live spindle (milling boring)	ISO 50	ISO 50	ISO 50	ISO 50	HSK 100	ISO 50	ISO 50	ISO 50	ISO 50	ISO 50	
- Cone	RPM	2500	2500	2500	3000	2500	2500	2500	2500	2500	
- Spindle rotation speed standard	RPM	3000	3000	3000	3000	3000	3000	3000	3000	3000	
- Spindle rotation speed optional	kw	15(11;18)	15(11;18);22	18(22);28	22	18(22);28	18(22;28);32	18(22;28);32	18(22;28);32	18(22;28);32	
- AC motor								32	37	37	
Automatic tool changer magazin	Number	12	12;(16)	12;(16)	12;(16)	12;(16)	12;(16)	12;(16)	12;(16)	12;(16)	
Total weight of the machine	daN	14000	18000	24000	34000	34000	41000	47000	58000	68000	
Overall dimensions	mm	5100x 4000x 3600	5500x 4500x 4200	5800x 5000x 4500	6500x 7000x 5800	6500x 7000x 6000	7000x 7000x 8000	7600x 8000x 9000	7300x 10000x 9000	7300x 11000x 9000	
CNC	-	SIEMENS / GE - FANUC / FAGOR									
HYDRAULIC COMPONENTS	-	REXROTH / ATOS / VICKERS / PARKER									
ELECTRICAL COMPONENTS	-	SIEMENS / SCHNEIDER - TELEMECANIQUE									

## STANDARD ACCESSORIES:

- Standard tool holders for turning and milling
- Set of 4 jaws
- Guards for table
- Guard for guide ways of the cross rail
- Slow feed box
- Lighting installation
- Maintenance Manuals operators manual, CNC manual, programming instruction, electrical wiring diagram, PLC program

## SPECIAL ACCESSORIES:

- Special tool holders for turning
- Tool holders for milling – boring
- Angular milling device
- Universal milling device
- Grinding device
- Cooling system
- Tool coolant system
- Operator elevator
- Chip conveyor
- Full enclosure
- Set of hard jaws
- Set of soft jaws
- Renishaw tool probe
- Renishaw part touch probe

## OPTIONS:

- Hydrostatic guideways for vertical working support.
- Left vertical working support for turning – milling – boring with ATC-12 or 16 seats for SC22; 27; 33; 43; 53 series
- Faceplate with automatic gripping dies for SC 11; 14; 17; 22 series
- Automatic tool changers with 16; 24; 48; 60 tools
- Versions for max turning height; max work piece weight; table speed range; RAM travel; RAM section; main motor power
- Main drive with Siemens “master-slave” system.
- Pallet system for SC 11;14;17series.
- The electrical, electronic, hydraulic and lubrication equipment can be made according to the request of the customer.