

SMEC

MCV 5200L

VERTICAL MACHINING CENTER



SMEC Co., Ltd.
157-10, Goldenroot-ro, Juchon-myeon,
Gimhae-si, Gyeongsangnam-do, Korea
Tel +82 55 340 4800
Fax +82 55 340 4740



www.asmec.com

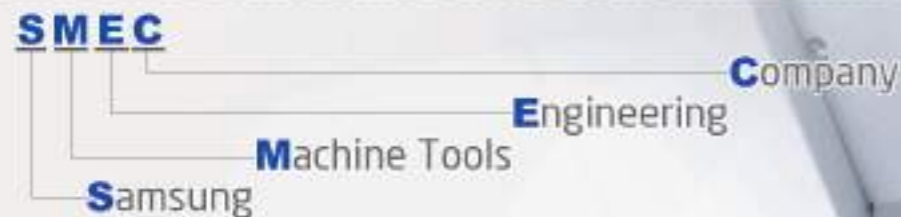


<https://www.youtube.com/c/smecmachinetools>

SMEC
Smart One,
Global One



- 1988 - Started as Samsung Heavy Industries Machine Tools Business
- 1989 - Horizontal and vertical machining center technology partnership with OKK Japan
- 1991 - Turning center and vertical machining center technology partnership with Mori Seiki
- 1996 - 5-sided processing center technology partnership with Toshiba
- 1999 - Spun out from Samsung Aerospace Industries and established SMEC Co., Ltd



High Speed and Precision Vertical Machining Center! High Rigidity Arch Type Structure Adopted!

- Low centered one piece bed with triangle rib design
- Biggest X axis stroke(1,550mm) and table in its class
- High rigidity and precision with high rigid saddle and arch column structure
- 4 rows Y axis LM Guide way prevents overhang
- High speed and precision direct spindle

Spindle

Spindle Speed
12,000 rpm

Spindle Motor(2.5min/30min/연속)
18.5/ 15/11 kW

Spindle Torque
117.8/95.5/70.1 Nm

Spindle is sustained by 4 rows P4 speedy angular ball bearing reducing temperature increasing to realize high speed and precision machining.
By adopting Direct Drive type spindle minimize vibration to excellent machining for nonmetal surface finishing.

Dual Contact Spindle (BBT 40)

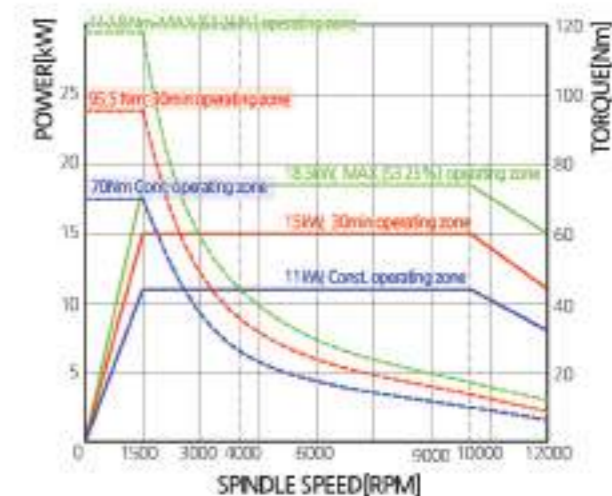
Dual contact system to contact both main spindle surface dually by measuring elastic deformation of spindle surface that occurs when main spindle is damped.

- Simultaneous contact to both main spindle surface and taper increases rigidity and reduces vibration.
- Increases machining capacity and surface roughness even under harsh condition.
- 100% compatible with existing tools (BT 40)



Big Plus BBT40
(Simultaneous Dual Contact)

Main Spindle Power & Torque Diagram



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High Rigidity Z axis Arch Column Structure

Arch column structure with optimal structure analysis makes excellent performance for high rigidity and high precision machining.



High Rigidity Saddle without Overhang on X axis

Bed maximum X axis stroke 1,550mm in its class and high rigidity saddle it is fit for various and stable as well as long work piece machining

4 Raws Guide Way Bed on Y axis

Bed with 4 raws support on Y axis is max. span L/M Guide way structure in its class to minimize over hang.



Tool Magazine

30ea standard tool storage capacity is the maximum in its class. Also the shortest distance moving system can make it possible to set up next tool within short time.

Maximum Tool Capacity: **30ea**



the most advanced mechanism of high-speed technology

Easy Maintenance with Centralized Utility

With HALS Lubrication(HMGP-303S), a strong oil layer formed on guide surface leads prevention of abrasion during high load working and Gel-type grease provides comfortable environment by preventing coolant oil from being decayed (Extends the lifetime of the coolant more than three times)



HYD. UNIT (HAWE Hydraulic)

HAWE Hydraulic unit from Germany Radial piston pump working only during operation guarantees reduced power consumption, improved durability and high reliability.



Twin arm type auto tool changer

It is Twin arm swing type by memory random method and has no error during tool changing and minimize idle time.

Tool Changing Time : **1.3 sec**

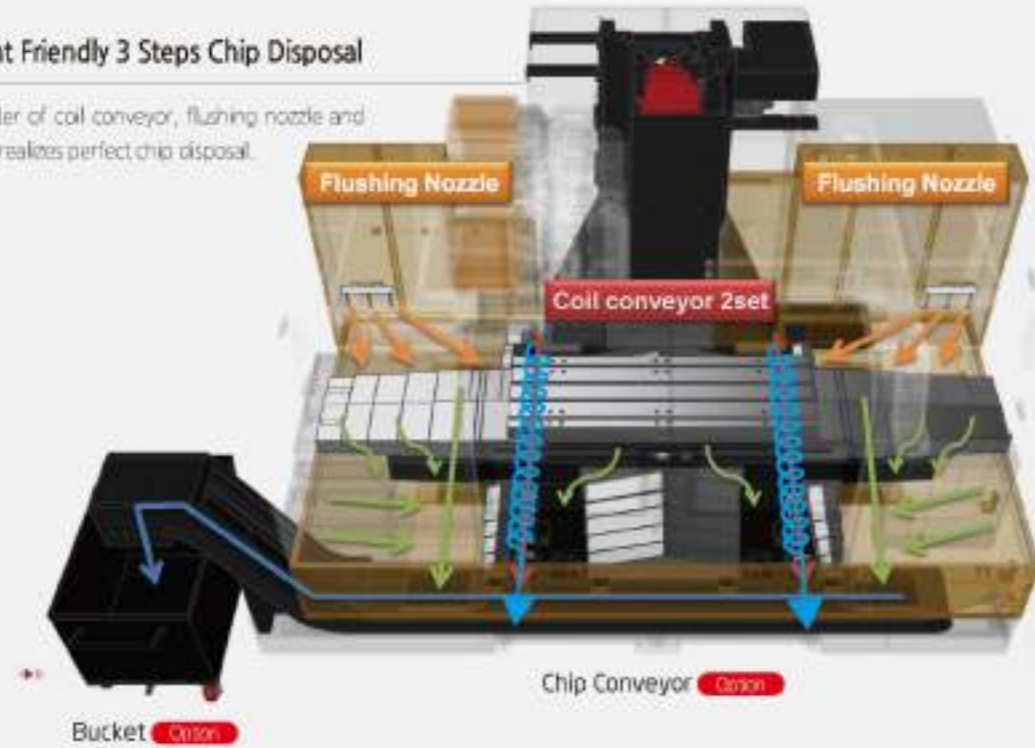
Ballscrews supported by anchored both ends / Opt. Nut Cooling System(X,Y-Axis only)

Load deformation on Support bearing caused by thermal displacement is decreased, extending lifespan of support bearings.

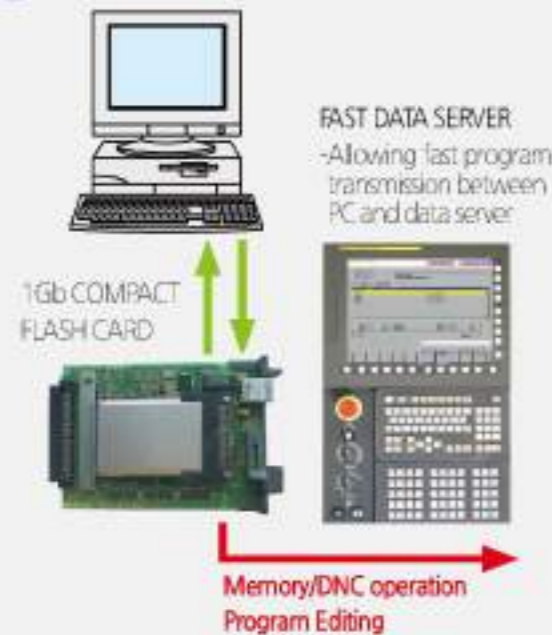


Environment Friendly 3 Steps Chip Disposal

Progress in order of coil conveyor, flushing nozzle and chip conveyor realizes perfect chip disposal.



Std. SMEC Package 2 (FAST DATA SERVER + AICC II)



User friendly centralized control panel.

- ① CRT : 10.4 inch color LCD
- ② Bigger BEZEL switch size : 50% larger than the conventional switch size
- ③ Addition of MG standby tool ho
- ④ Addition of MG change button
- ⑤ Addition of 4th and 5th axis switch
- ⑥ Spindle Override : 50-120% (15 step) → 50-150% (20 step change)
- ⑦ Feed Override : 0-1260 (16 step) → 0-5000 (21 step change)
- ⑧ Addition of spare buttons for fixtures

Fully Enclosed Splash Guard!

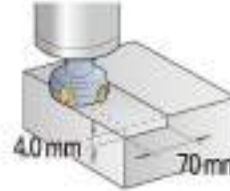
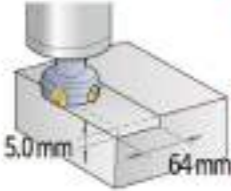
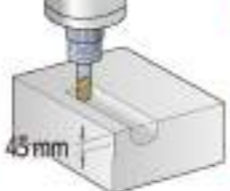
- Magazine Door for manual tool setting
- User friendly stair for easy maintenance



Pendant arm / Operation panel

Pendant/panel designed by considering user space and convenience improves working environment.

Cutting Capacity (BT40 11/15KW)

Face mill	Carbon Steel (SM45C)	Face mill	Aluminum (AL6061)	End mill	Carbon Steel (SM45C)
Ø100mm Face mill (SZ)	Cutting amount 182 cm^3/min	Ø80mm Face mill (SZ)	Cutting amount 403 cm^3/min	Ø30mm End mill (SZ)	Cutting amount 65 cm^3/min
	Spindle speed 600 r/min		Spindle speed 1,500 r/min		Spindle speed 230 r/min
	Feedrate 650 mm/min		Feedrate 1,260 mm/min		Feedrate 48 mm/min

High precision



Optional Accessories



Machine Dimensions

unit : mm

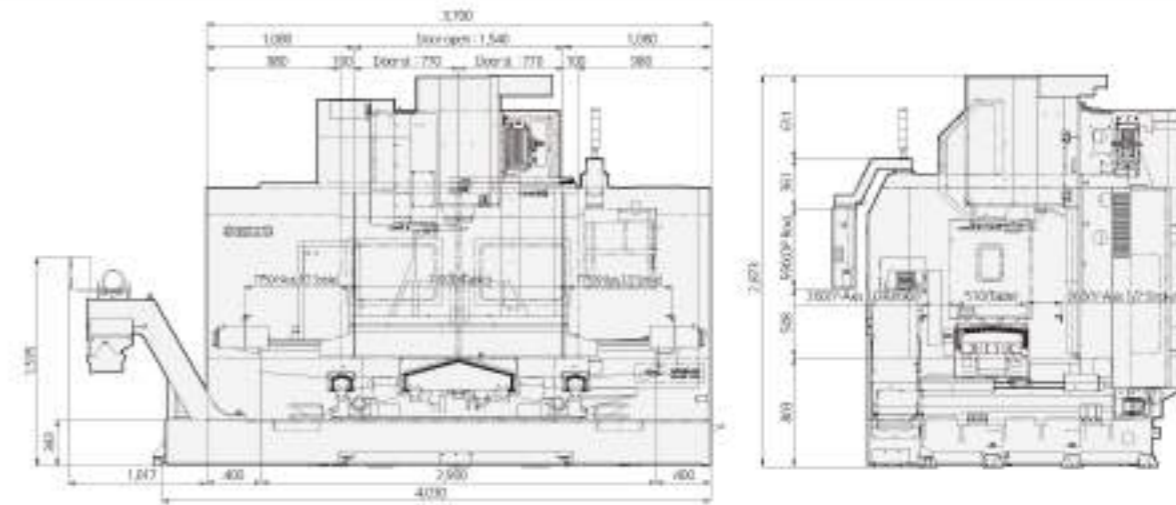
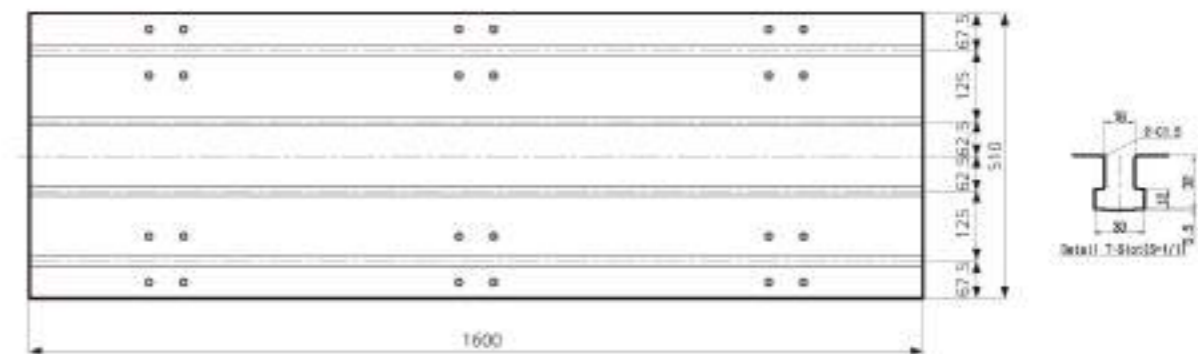


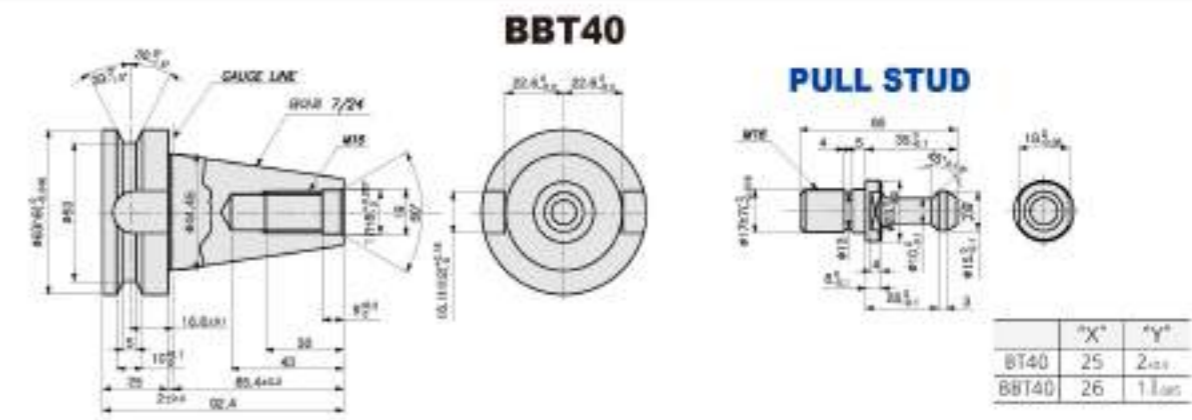
Table & T-Slot

unit : mm



Tool Shank

unit : mm



Major Specifications

DESCRIPTION		MCV 5200L	
Travel	X-axis	mm	1,550
	Y-axis	mm	520
	Z-axis	mm	520
	Distance from table surface to spindle nose	mm	150-670
	Distance from column to spindle center	mm	640
Table	Table size	mm	1,600 x 510
	Max. loading capacity	kgf	800
Spindle	Spindle speed	min ⁻¹	12,000
	Max. Torque	N.m	117.8/95.5 / 70.1
Feedrate	Rapid Traverse(X/Y/Z)	m/min	30/30/30
	Cutting feedrate(X/Y/Z)	mm/min	1-15,000
ATC	Tool shank	-	Ø8140(B140)
	Tooling changing method	-	Double arm swing
	Tool changing time (T-T)	sec	1.3(60Hz), 1.6(50Hz)
	Magazine capacity	ea	30
	Tool Selection Method	-	Memory/Random
	Max. Tool Diameter(Adjacent empty)	mm	Ø80 [125]
	Max. tool length / weight	mm/kgf	300 / 8
	Full stud type	-	MAS P40T-1
Motors	Spindle motor(2.5m/s ² 30min/cont.)	KW	15 / 11
	Feed motor(X/Y/Z)	KW	3 / 3 / 3
Power supply	VA	34	
Floor space (LxWxH)	mm	2,826 x 4,030 x 2,946	
Machine weight	kgf	8,000	
CNC system		Fanuc Oi-MF	

*Design and specifications subject to change without notice.

Standard Accessories

- Full splash guard
- Coolant system
- Leveling parts level plate, bolt, etc.)
- Standard tools and tool box
- Lubrication system
- Work light(LED)
- 3 step patrol lamp
- Rigid tapping
- Spindle override
- Spindle
- Door inter lock
- Spindle Head Cooling System
- Bed flushing
- KCS specification
- MPG handle
- Manual and parts list

Optional Accessories

- Air gun
- Air blow
- Coolant gun
- Rotary table
- Oil slinger
- Coolant level gauge
- Through spindle coolant (TSC 20BAR/30PAR/70BAR)
- MPG handle(3ea)
- Air conditioner for electric cabinet
- Tool measuring system
- Lift up chip conveyor (HINGE TYPE) and chip bucket
- Mist collector

NC Specifications (FANUC Oi-MF)

Item	Specification	F Oi-MF		
Controlled axis	Controlled axis	X,Y,Z(A,B)		
	Max. controlled axis	4(6) AXES		
	Max. simultaneously controlled axis	4		
	Least input increment	0.001mm / 0.0001"		
Operation functions	Manual handle feed	X1, X10, X100		
	Feed per minute	G94		
	Feed per revolution	G95		
Interpolation functions	Linear interpolation	G01		
	Circular interpolation	G02, G03		
	Dwell	G04		
	Cylindrical interpolation	G70.1		
	Reference position return	G28		
Feed function	Reference position return check	G27		
	Rapid traverse feedrate override	F0, 25%, 50%, 100%		
Spindle function	Feedrate override	0-200%		
	Spindle override	○		
Tool functions	Rigid tapping	○		
	Tool function	T4-Dgt / T2-Dgt	T2-Dgt	
	Tool nose radius compensation	G40 - G42	○	
	Tool offset pairs		400	
	Tool geometry / wear offset	GEOMETRY & WEAR DATA	○	
	Tool life management		○	
	Tool path graphic display		○	
	Automatic tool compensation		○	
	Program input	Absolute / incremental programming		○
		Multiple repetitive cycle	G70 - G76	○
Canned cycle		G90, G92, G94	○	
Inch / metric conversion		G20 / G21	○	
Program restart			○	
Retraction for rigid tapping			○	
Max. programmable dimension		+99999.999mm/99999.9999"	○	
M function		M3-dgt	○	
Custom macro			○	
Canned cycle for drilling			○	
Direct drawing dimension programming			○	
Programmable data input		G10	○	
Optional block skip			○	
Workpiece coordinate system		G52 - G59	○	
Number of registerable programs			400EA	
Setting and display	Help function	ALARM & OPERATION DISPLAY	○	
	Run hour / parts count display	RUNNINGTIME & PART NO. DISPLAY	○	
	Spindle & servo load display	SPINDLE & SERVOLOAD DISPLAY	○	
	Self-diagnosis function		○	
	Extended part program editing	COPY, MOVE, CHANGE OF NC PROGRAM	○	
	Display screen		10.4" color	
Data input/output	Memory card input / output		○	
	USB memory input / output		○	
Editing operation	Part program storage size	512kbyte, 256kbyte	512kbyte	
Manual guide I	Manual Guide I		Opt.	