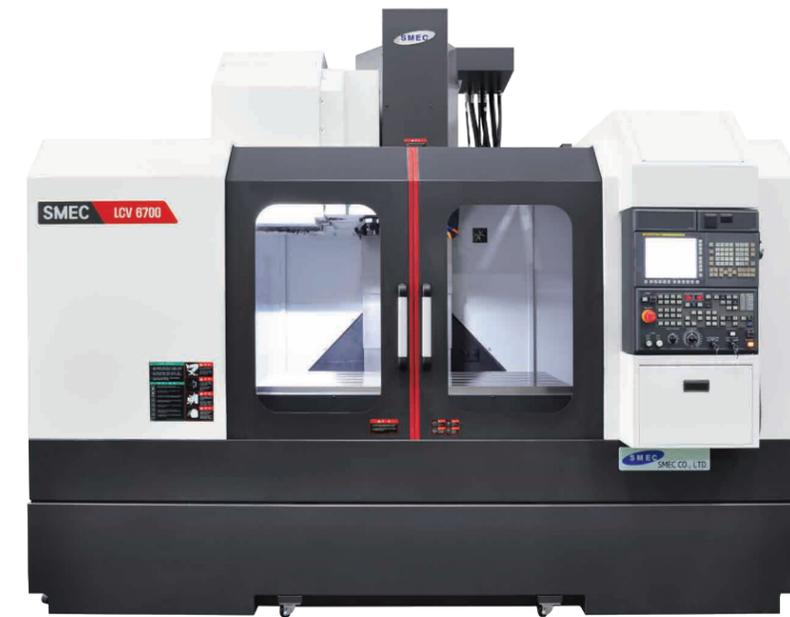


SMEC

LCV 6700

VERTICAL MACHINING CENTER



SMEC
SMEC America Corp.

14 West Forest Avenue Englewood, NJ 07631 USA
Office: +1 201-227-7632
Email: sales@smecamerica.com

www.esmecamerica.com
www.youtube.com/smecmachinetoolsamerica



◆ Design and specifications subject to change without notice.

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SMEC
SMEC America Corp.



Company History

- 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**
- 2018 - **SMEC America Corp** established to provide factory support to the distributor network and customers

LCV 6700

Superb structural design offering best-in-class heavy duty and precision machining

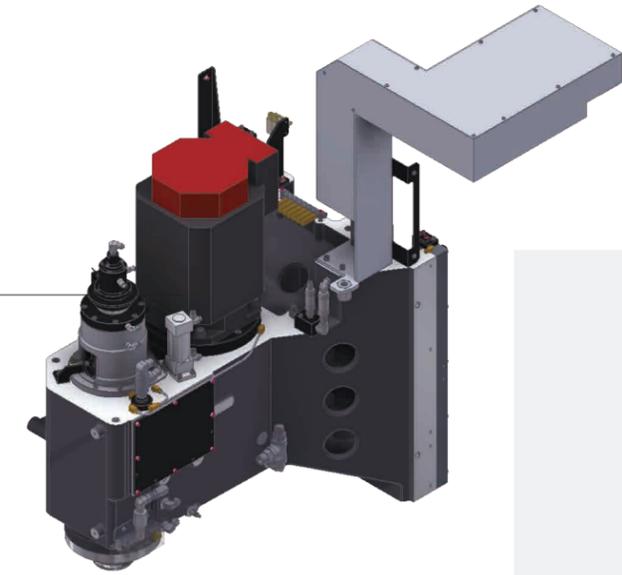
- High rigidity spindle offering high speed and high precision
- Stable machine structure
- High productivity with short non-cutting time
- Lineup offering various spindle options
 - high speed, high precision direct motor type (8,000 / 12,000rpm)
 - gear motor type (6,000rpm) available with various options such as through spindle cooling
 - built-in spindle type (20,000rpm) for high quality mold machining

GEARED HEAD TYPE

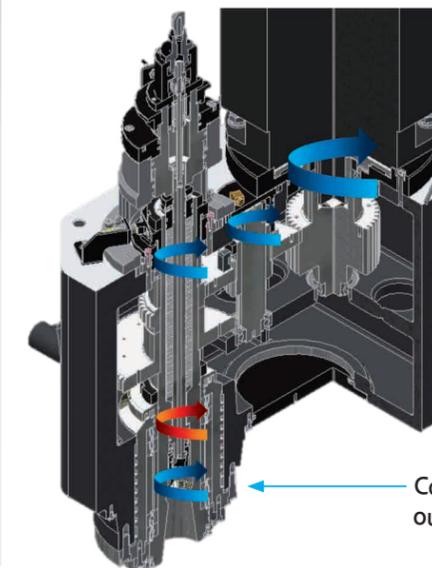
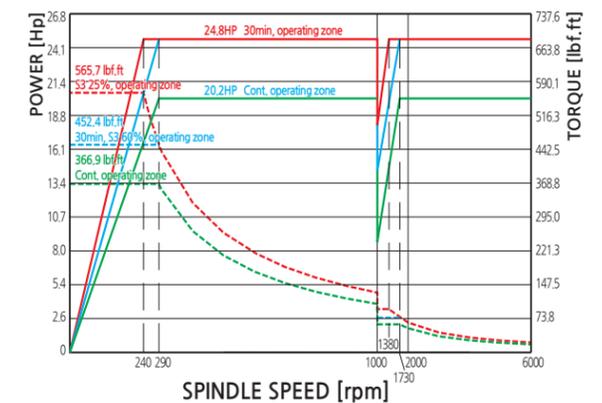
Spindle Speed
6,000 rpm

Spindle Motor
20.1 / 24.8 Hp

Spindle Torque
366.9 / 565.7 ft-lbs



Sub-Spindle Power & Torque Diagram



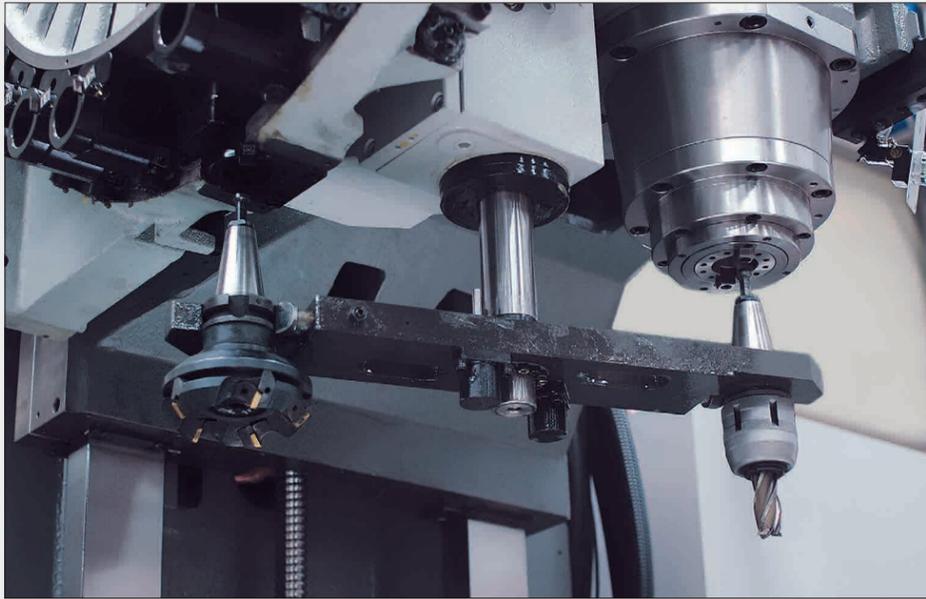
JACKET circulation cooling system

Adopting semipermanent Grease lubrication system on bearing, minimize thermal displacement by Jacket circulation cooling through Fan Cooler on bearing housing, showing stable performance to take longer spindle life time.
Minimize thermal displacement by standard spindle motor base cooling system.
Highly effective cooling via supply of cooling oil to the gears.

Gear and bearing cooling

Coolant circulation inside and outside of spindle housing

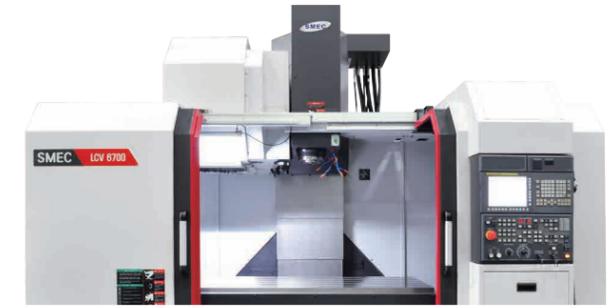
High-speed tool changer being driven by enhanced technologies



Double Swing arm type auto tool changer

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

Tool to Tool : **2.5sec**



Tool Magazine

Highest tool storing capabilities in its class to be suitable wide machining area and adopting a cartridge type port for easy repair

Tool Magazine Capacity(ea) : **30**



Description		LCV 6700
Table Size	inch	61.02 × 26.38
Travel(X/Y/Z)	inch	53.15/26.38/25.59
MAX. Load	lbs	2,204
Rapid Traverse Rate(X/Y/Z)	ipm	1,181/1,181/944.8





Bed

Wide Box guideways provide excellent support for the saddle to prevent table overhang, and a rigid triangular rib body structure ensures minimal machine vibration and structural deformation even during heavy machining.

Saddle : Bed Guide
101.2" : 47.24"



Pendant arm / Operation panel

Pendant/panel design by considering user space and convenience improve working environment

High efficiency Spindle Head Cooling System

For long-term continuous high-speed operation, a coolant system may be installed to maintain room temperature. The coolant system circulates coolant oil around the spindle bearings to prevent thermal expansion due to the spindle temperature, ensuring high precision machining. (Built-in : Std.)



Centralized utility check

With the centralized utility check layout, operators can easily check operation status of lubrication, bearing fluid, air supply. Etc

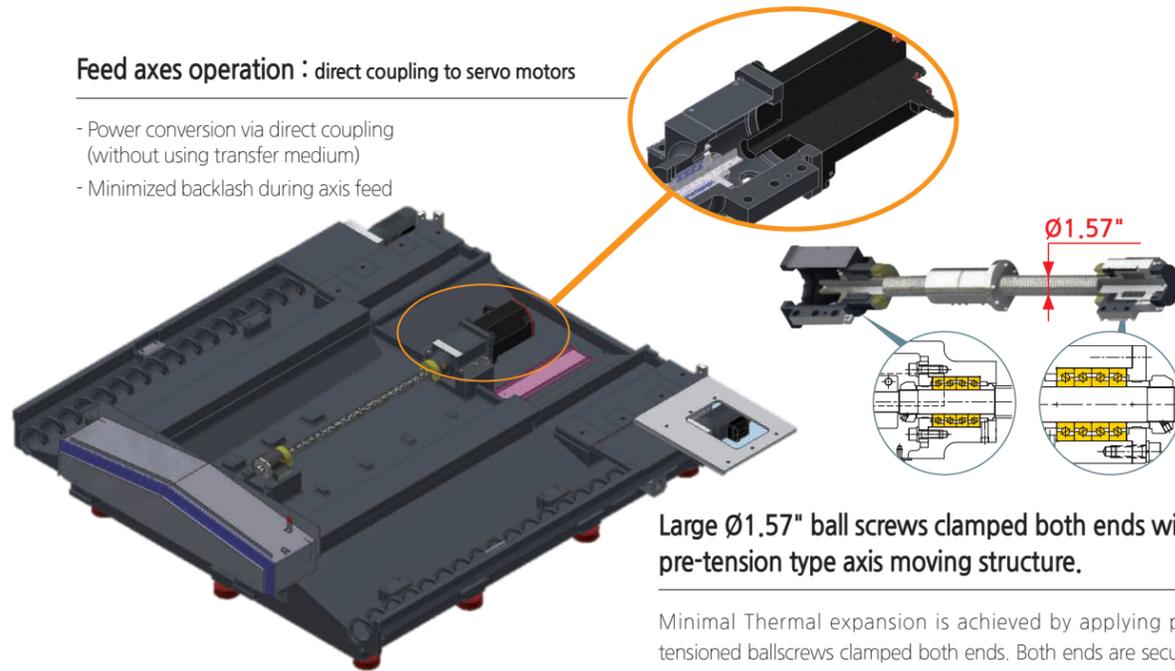
Automatic Lubrication Dispenser

Automatic lubrication dispenser uses LHL-X100 oil making strong oil layer to prevent abrasion on guide way. Gel type grease prevent coolant rotten to provide fresh environment.
 <Extend over three times of coolant life time>



Feed axes operation : direct coupling to servo motors

- Power conversion via direct coupling (without using transfer medium)
- Minimized backlash during axis feed

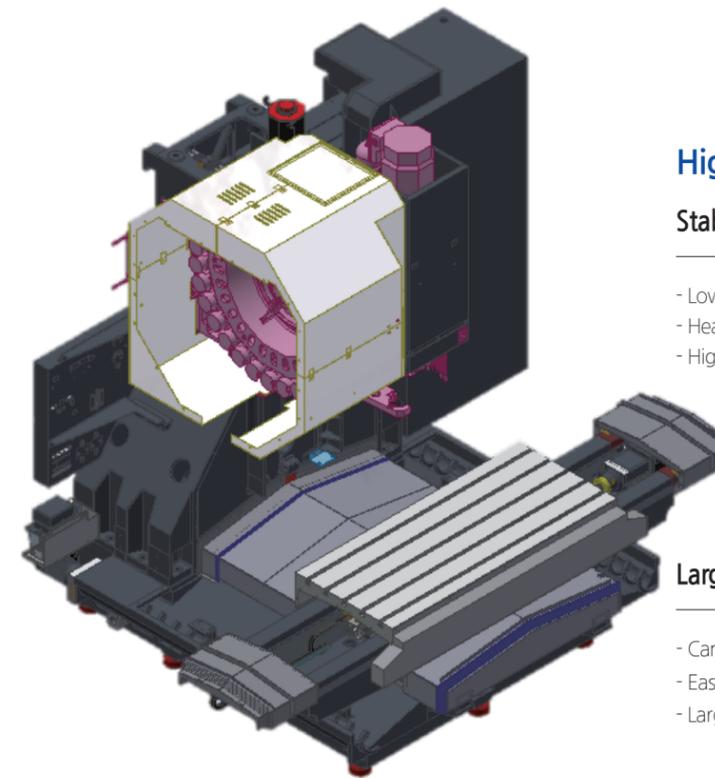
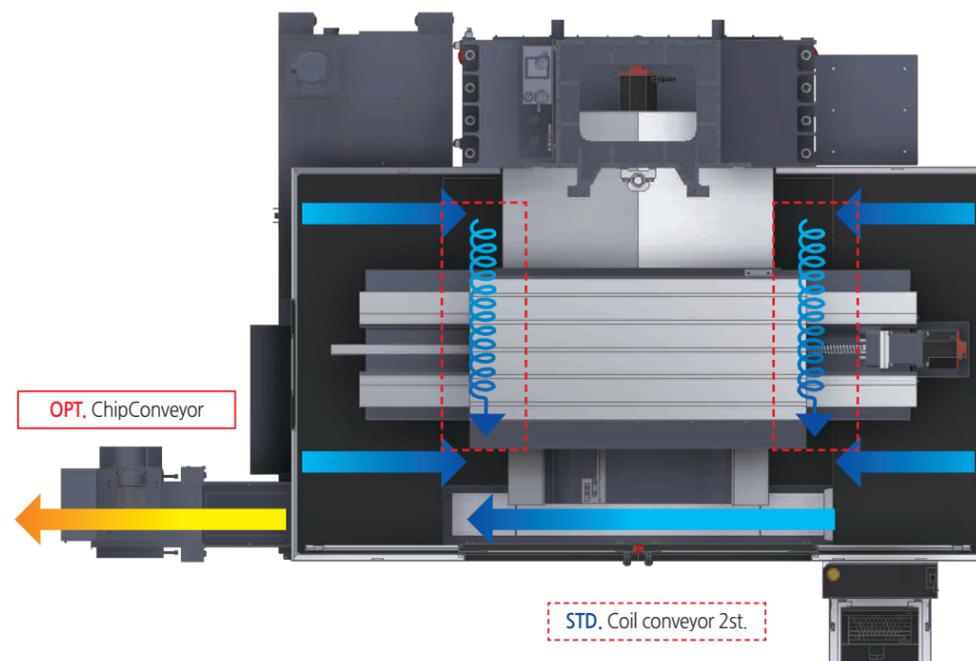


Large Ø1.57" ball screws clamped both ends with pre-tension type axis moving structure.

Minimal Thermal expansion is achieved by applying pre-tensioned ballscrews clamped both ends. Both ends are secured by four P4 class high precision thrust angular bearings and the bearings are lubricated by forced lubrication system to provide extended life of the bearings.

Designed for superb chip discharge

- Inclined surface on all SLIDE COVERS and BASE COVERS.
- Standard inclined chute installed where chips fall so they are discharged to the coolant tank on the left-side



High rigidity & performance travel system

Stable Machine Structure

- Low center of gravity design and stable wide bed surface
- Heat treated and polished slideways
- High rigidity box-type body with triangular rib structure

Largest-in-Class Internal Area

- Can fit up to Ø320 large rotary table
- Easy to wire/pipe for automation
- Largest-in-class work space



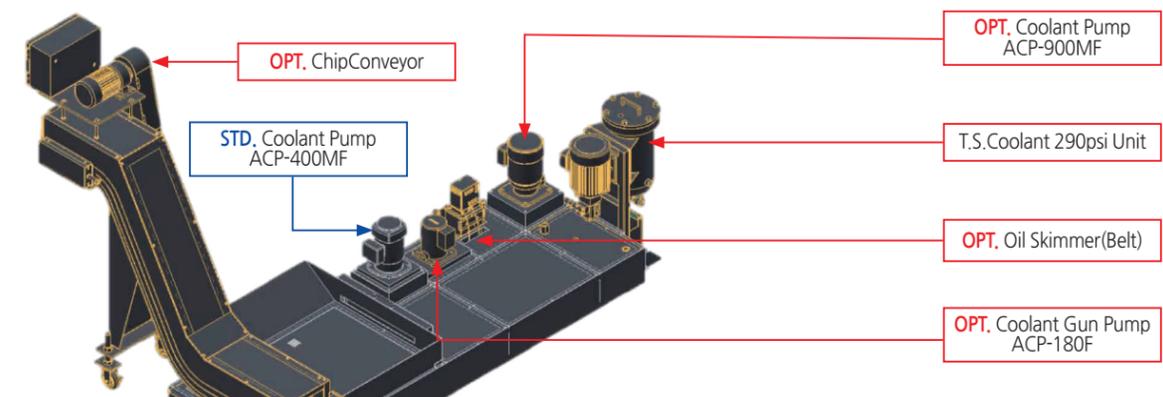
LCV 6700

Stroke :53.15x26.38x25.59inch (Table : 61.02x26.38)

Automatic Lubrication Dispenser

Removable coolant tank

Put coolant tank on left side of the machine for easy coolant exchange and cleaning as well as pump maintenance.

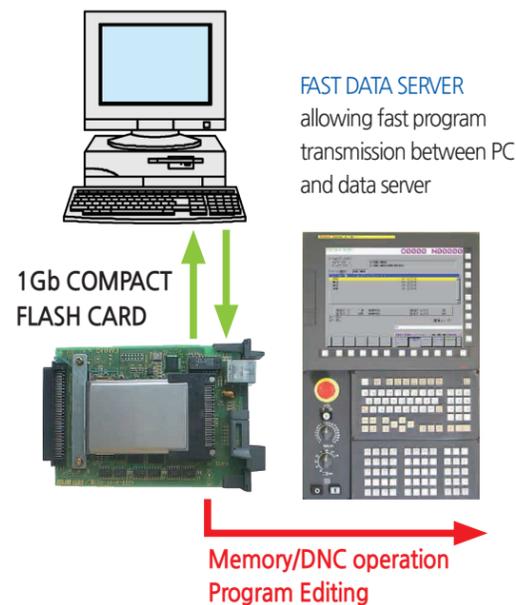


User friendly centralized control panel.



- ① CRT : 10.4 inch color LCD
- ② Bigger BEZEL switch size : 50% larger than the conventional switch size
- ③ Addition of MG stand-by tool No
- 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)
Feed Override
0~1260 (16 step)
→ 0~5000 (21 step change)
- ⑦ Addition of spare buttons for fixtures

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



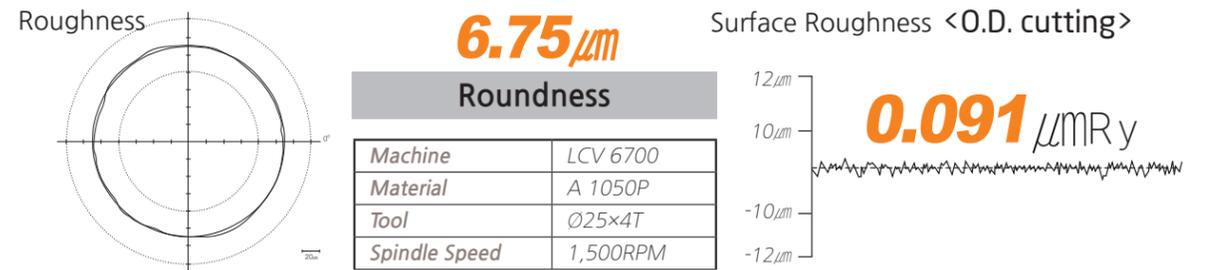
High Precision, High Speed AICC II

CNC MODEL	FOi -MD	31i
Block Look Ahead	200	200
Nano Interpolation	○	○
Decel Before Interpolation	Linear	Linear, Bell-Shaped
Acceleration Setting for Each Axis	○	○
Automatic Corner Deceleration	○	○
Radial Speed Clamp	○	○
Deceleration Speed Clamp	○	○

Cutting Capacity (CAT50 20/24.6HP)

Face mill	Carbon Steel (SM45C)	Face mill	Alumium (AL6061)	Drill	Carbon Steel (SM45C)
Ø4.9" Face mill (6Z)	Cutting amount 17.57 in³/min Spindle speed 600 rpm Feedrate 17.7 ipm	Ø4.9" Face mill (6Z)	Cutting amount 30.9 in³/min Spindle speed 800 rpm Feedrate 41.7 ipm	Ø2.3" Drill	Cutting amount 13.7 in³/min Spindle speed 720 rpm Feedrate 3.1 ipm

High Precision

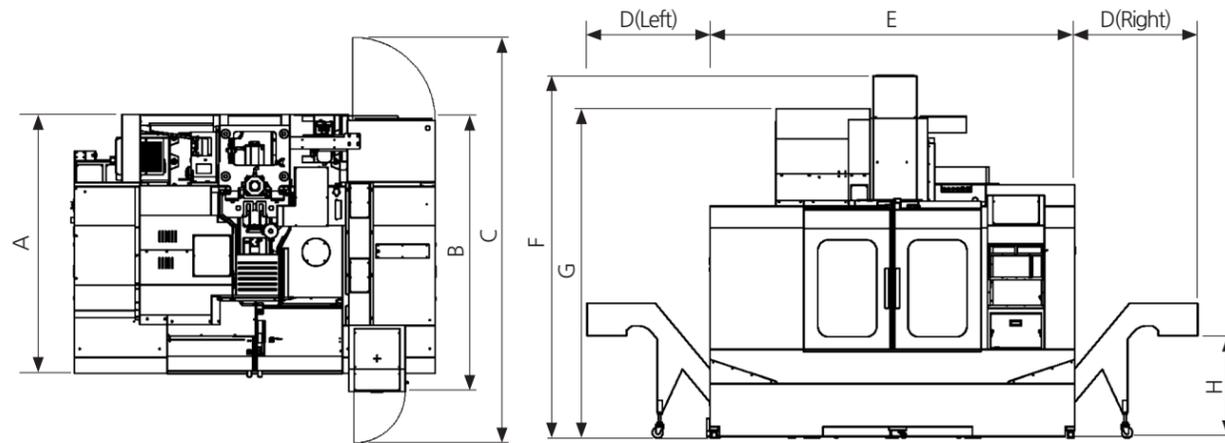


Optional Accessories



Machine Dimensions

Unit : inch



A (wide)	B (with controller box)	C (max. wide)	D (with chip conveyor)	E (length)	F (height)	G (shipping height)	H (discharge)
95.66	102.36	149.60	45.11	133.85	124.40	120.23	37.40

ATC Interference

Unit : inch

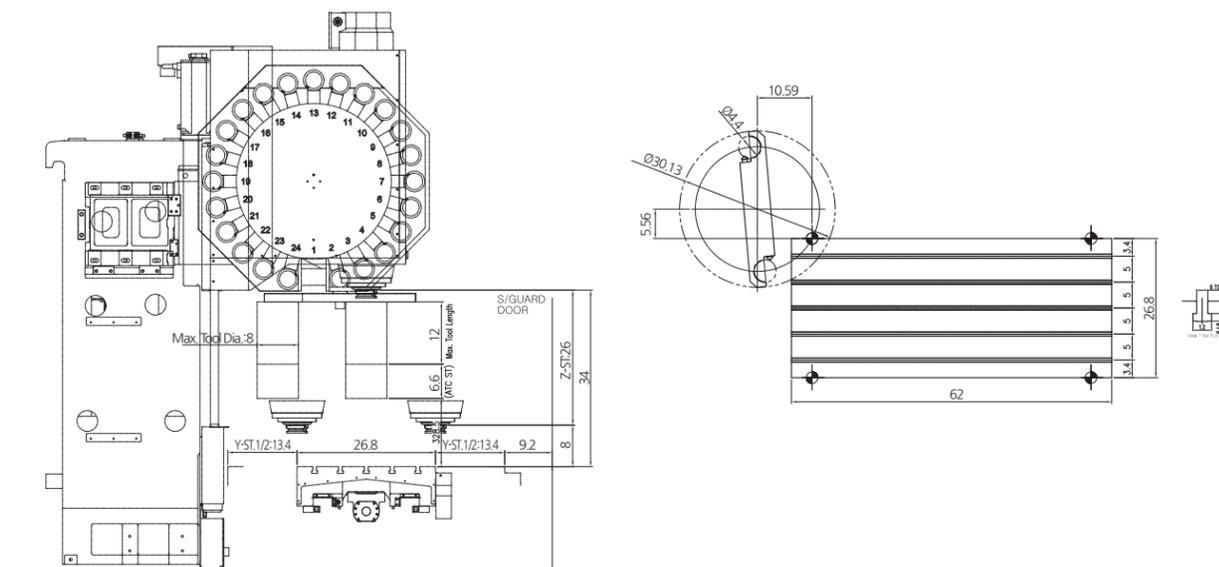
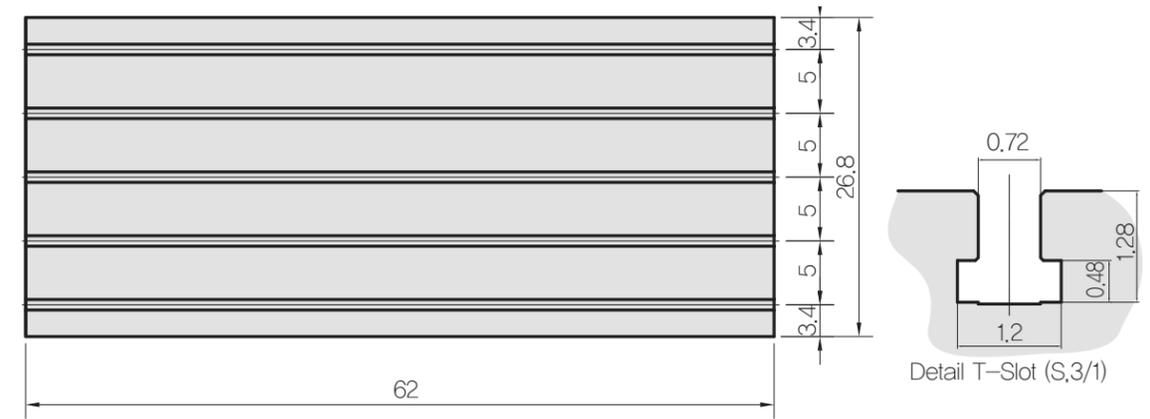


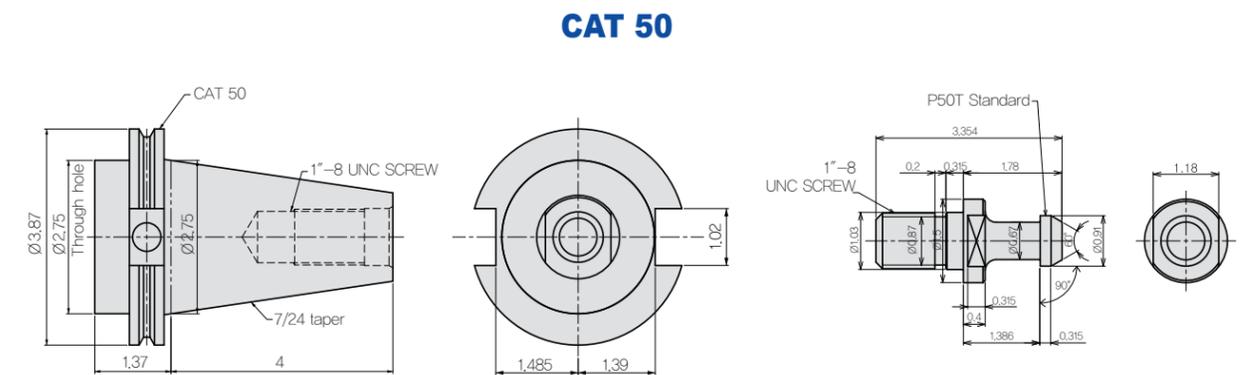
Table & T-Slot

Unit : inch



Tool Shank

Unit : inch



Major Specifications

DESCRIPTION		LCV 6700	
Travel	X-axis	inch	53.15
	Y-axis	inch	26.38
	Z-axis	inch	25.59
	Distance from table surface to spindle nose	inch	7.87~33.46
Table	Table size	inch	61.02X26.38
	Loading capacity	lbs	2,204
Spindle	Spindle speed	rpm	6,000
	Motor (Cont./Max)	hp	20.1/24.8
	Torque (Cont./Max)	ft-lbs	366.9/565.7
Feedrate	Rapid traverse(X/Y/Z)	ipm	1,181/1,181/944
	Cutting feedrate(X/Y/Z)	ipm	1~393.7
ATC	Tool shank	-	CAT50
	Tooling changing method	-	Double Arm Swing
	Tool changing time (T-T)	sec	2.5
	Magazine capacity	ea	30
	Tool Selection	-	Memory Random
	Max. tool dia [adjacent empty]	inch	3.94[7.87]
	Max. tool length / weight	inch/lbs	11.8/33
	Pull stud type	-	MAS P50T-1F
Power supply	kVA	32	
Floor space (LxWxH)	mm	133.8x95.6x124.4	
Machine weight	kgf	24,250	
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
- 3 step patrol lamp
- Rigid tapping
- Spindle override
- Spindle tachometer
- Door inter lock
- KCS specification
- MPG handle
- Manual and parts list
- 10.4" LCD OP Screen

Optional Accessories

- Air gun
- Air blow
- Coolant gun
- Rotary table
- Oil skimmer
- Coolant level gauge
- Through spindle coolant (TSC 20Bar)
- MPG handle(3ea)
- Air conditioner for electric cabinet
- Tool measuring system
- Lift-up chip conveyor (HINGE TYPE / SCRAPPER TYPE)

NC Specifications / FANUC Oi-MF

Item		Specification	F Oi-MF
Controlled axis	Controlled axes		XYZ,(A,B)
	Max. controlled axes		4(6) AXIS
	Max. simultaneously controlled axes		4
Operation functions	Least input increment	0.001mm / 0.0001"	○
	Manual handle feed	X1, X10, X100	○
	Feed per minute	G94	○
Interpolation functions	Feed per revolution	G95	○
	Linear interpolation	G01	○
	Circular interpolation	G02, G03	○
	Dwell	G04	○
	Cylindrical interpolation	G70.1	○
Feed function	Reference position return	G28	○
	Reference position return check	G27	○
Spindle function	Rapid traverse feedrate override	F0, 25%, 50%, 100%	○
	Feedrate override		0~200%
Tool functions	Spindle override		○
	Rigid tapping		○
	Tool function	T4-Digt / T2-Digt	T2-Digt
	Tool nose radius compensation	G40 ~ G42	○
	Tool offset pairs		400
	Tool geometry / wear offset	GEOMETRY & WEAR DATA	○
	Tool life management		○
Program input	Tool path graphic display		○
	Automatic tool compensation		○
	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/±9999.9999"	○
	M function	M3 digit	○
	Custom macro		○
	Canned cycle for drilling		○
	Direct drawing dimension programming		○
	Programmable data input	G10	○
	Optional block skip		○
Setting and display	Workpiece coordinate system	G52 ~ G59	○
	Number of registerable programs		400EA
	Help function	ALARM & OPERATION DISPLAY	○
	Run hour / parts count display	RUNNING TIME & PART NO. DISPLAY	○
	Spindle & servo load display	SPINDLE & SERVO LOAD DISPLAY	○
	Self-diagnosis function		○
	Extended part program editing	COPY,MOVE, CHANGE OF NC PROGRAM	○
Data input/output	Display screen	10.4" color	
Editing operation	Memory card input / output		○
	USB memory input / output		○
Manual guide i	Part program storage size	512Kbyte, 256Kbyte	512Kbyte
	Manual Guide I		Opt.