

# HYBRID TYPE VERTICAL MACHINING CENTER

HYST Series | HYST 5700L | HYST 6700

## **SMEC**

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- 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



#### Hybrid Machining Center (X / Y-axis LM Guide, Z-axis Box Guide)

Z-axis Box Guide enhances rigidity and enables heavy duty cutting

X / Y-axis with LM Guides improve travel precision and significantly reduces non-cutting time



## Hybrid Type HYST Series HYST 5700L/6700

#### Largest in class X-axis travel and table with low-center of gravity design

- largest in class X-axis travel of 62.26 inch (HYST 5700L)
- largest in class table size of 66.93 × 22.45 inch (HYST 5700L)
- easy user accessibility with a table surface height of 35.44 inch
- with 4 rows of Roller LM-Guides in the Y-axis, overhang is prevented
- high strength and high precision with the highly rigid saddle and arched column design
- maximized space efficiency with the compact design

Category		HYST 5700L	HYST 6700
Travel (X/Y/Z)	inch	62.26/22.45/20.48	53.15/26.38/25.60
Table size	inch	66.93 × 22.45	61.03 × 26.38
Table loading capacity	lb	2,204.63	2,866.01
Table surface	inch	0.71 × p4.93 × 4ea	0.71 × p4.93 × 4ea
Max. spindle speed	rpm	12,000	6,000(CAT50)/8,000(CAT50)/12,000(CAT40)
Tool-to-tool time	sec	1.3(60Hz), 1.6(50Hz)	1.3(60Hz), 1.6(50Hz)
Rapid traverse (X/Y/Z)	ipm	1,181.12/1,417.33/1,181.12	1,417.33/1,417.33/1,181.12
Tool storage capacity	EA	30	30

#### **Easy Accessibility**

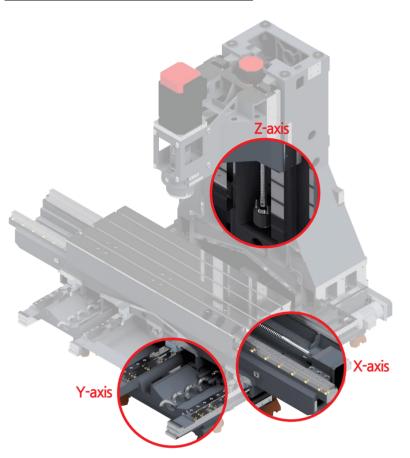
The low center of gravity design and minimized gap between the front cover and table edge allows easy load/unload of materials with minimal operator effort and easier machine maintenance

#### **Operator Convenience**

The high performance NC option (S4 package), standard operator-centric OP Panel (15" screen) and eco-friendly coolant system maximizes operator convenience

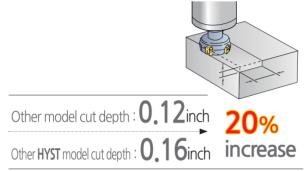
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#### Hybrid Machining Center



A new type of hybrid machining center that combines the high speed traverse of LM Guide Type machining centers and the rigidity of Box Guide Type machining centers

#### X / Y-axis : Roller Type LM Guide Z-axis : Box Guide



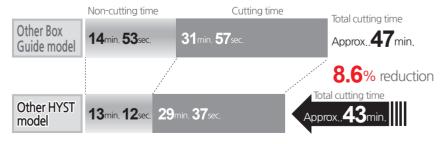
 $\ensuremath{\mathbin{\times}}$  When cutting with the same cutting conditions

#### Roller type LM guide way

The use of roller type LM guide ways with excellent responsiveness minimizes the amount of noise generated during travels and greatly shortens non-cutting times.

- Enhanced speed, rigidity and durability
- Compared to ball type LM guides, it significantly improves wear resistance, thus improving travel precision and durability

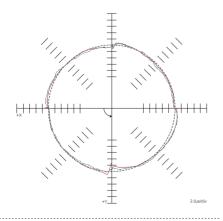




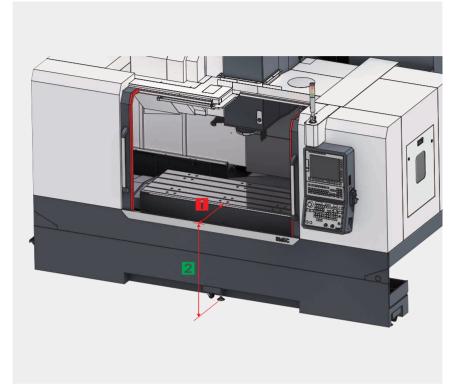
\* The above results are based on certain cutting conditions and may differ depending on the cutting condition

### Specifically design machine structure to provide high-quality precision

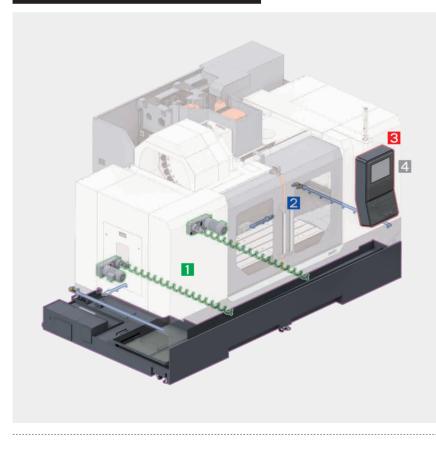
- High-rigidity single-piece bed designed with a low-center of gravity box structure
- Overhang prevented through the adoption of the widest-in-class saddle for the roller type LM guideway
- High speed, high rigidity direct spindle



#### Superior Accessibility



#### Operator Convenience



- Compact design minimizes installation footprint
- Effective chip discharge
- Centralized OP Panel for user convenience
- With the door opened, a hoist can be brought in past the center point of the table, making it very easy to move heavy materials into the machine
- The distance between the cover and the table was minimized for easy loading/unloading of materials and to allow access to the entire table surface

1 Distance between front door and table HYST 5700L : **8.67** inch HYST 6700 : **9.85** inch

Distance from floor to table top HYST 5700L : **35.44** inch HYST 6700 : **37.41** inch

#### 1 Coil Conveyor

The 2 standard internal coil conveyors efficiently removes the chips that are created during machining

#### 2 Bed Flushing(HYST 5700L:STD, HYST 6700:OPT)

The standard bed flush system installed along the sides of the machine prevents chip build-up and ensure effective chip removal

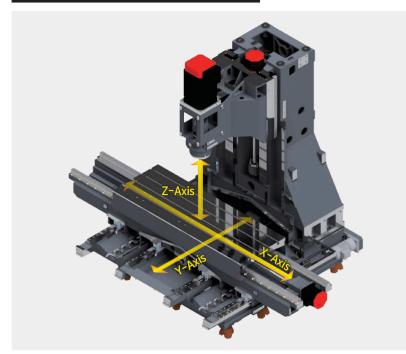
#### 3 Operator-centric OP Panel

The swivel-type OP Panel is easy to work with and the QWERTY keyboard and high visibility buttons and efficient arrangement improves operator convenience

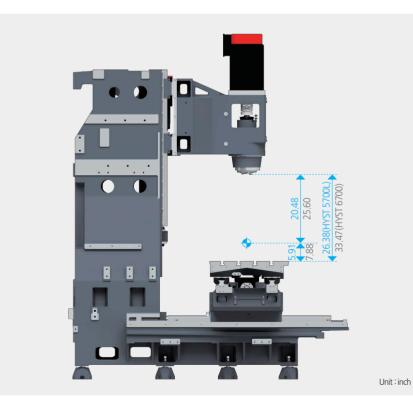
### Machining Performance EnhancingHigh Performance NC Options Made Standard

The large 15" LCD display, data server and various NC options are made standard to significantly improve machining performance

#### 🗛 Machine Design



Model	Travel (inch)			
	X-axis	Y-axis	Z-axis	
HYST 5700L	63.00	22.45	20.48	
HYST 6700	51.19	26.38	25.60	



The application of Roller Type LM Guides to X and Y axes minimizes the noise created during travel and the superior accel / decel minimizes the non-cutting time

The application of Box Guide to only the Z-axis minimizes backlash while minimizing the disadvantages that other fully box-guide machines have with horizontal travel (X/Y).

#### Highly Rigid Saddle with no X-axis Overhang

The highly rigid saddle enables reliable machining of various materials and is suitable for long materials

#### 4 Row Y-axis Guide Way Bed (HYST 5700L)

Overhang is minimized with the 4 rows of LM Guides supporting the Y-axis with the widest in class span

#### Z-axis High Rigidity Arched Column

The arched column ensures high rigidity and high precision machining performance

#### Quill-Type Head stock



High speed direct drive head - high precision and efficient cooling operation

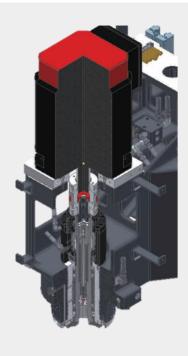
The standard quill-type head enables high speed, ultra precise machining while providing greater rigidity and minimizes thermal growth with forced heat dissipation

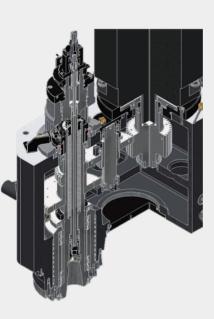
#### Spindle to table-top distance



SMEC Machine Tools









#### High Efficiency Spindle Cooling System (12R STD)

For long-term high speed continuous operation, an oil cooler may be installed to circulate chilled oil around the spindle bearings to prevent thermal growth in the spindle and allow high precision machining The ultra precision spindle is supported by 4 rows of P4 class high-speed angular bearings allowing high speed, high precision machining with the direct-coupled head that minimizes thermal growth through forced heat dissipation.

#### Direct Drive Type HYST 5700L / HYST 6700 CAT40

Max spindle speed : **12,000**rpm Power (Cont/Max) : **14.76/24.8** HP Torque (Cont/Max) : **51.63/87.03**lbs.ft

#### HYST 6700 CAT50

Max spindle speed : **8,000**rpm Power(Cont/Max) : **14.76/20.12**HP Torque(Cont/Max) : **105.48/211.68**Ibs.ft

#### Gear Head Type HYST 6700 CAT50

Max spindle speed : **6,000**rpm Power(Cont/ Max) : **20.12/24.81**HP Torque(Cont/Max) : **367.34/611.59**lbs.ft

#### JACKET Circulation Cooling

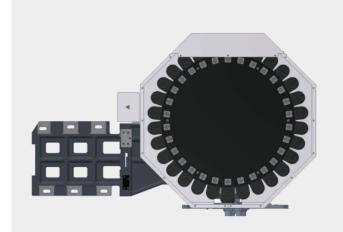
Semi-permanent grease lubrication applied to the bearings, while thermal growth is minimized using jacket circulation cooling around the bearing housing (a source of heat) via a Fan Cooler, ensuring stable performance and extending the lifetime of the spindle.

#### Standardized Dual-Contact Spindle

The dual-contact system that provides taper and flange contact when tool holders are clamped into the spindle

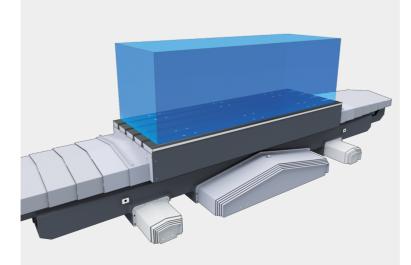
- with both the taper and flange in contact, improved stability with reduced vibration
- improved machining capability and surface finish under extreme conditions
- 100% compatible with current tools

#### ATC / Magazine





#### 👆 Table



#### ATC Magazine

Designed with a standard 30 tool magazine with short travel distance to enable quick tool changes

Fast and errorless tool changes are made possible using the memory random technique and double arm type tool changer, minimizing non-cutting time

#### HYST 5700L / HYST 6700 CAT40

Tool storage capacity : **30** Tool-to-tool time : **1.3(60Hz)**sec Max. tool dia.(adjacent empty) : **3.15(4.93)**inch Max. tool length : **11.82**inch Max. tool weight : **33.07**lb

#### HYST 6700 CAT50

Tool storage capacity : **30** Tool-to-tool time : **2.45(60Hz)**sec Max. tool dia.(adjacent empty) : **3.94(7.68)**inch Max. tool length : **11.82**inch Max. tool weight : **33.07**lb

Table size and Table loading capacity were increased to support larger work area

#### HYST 5700L

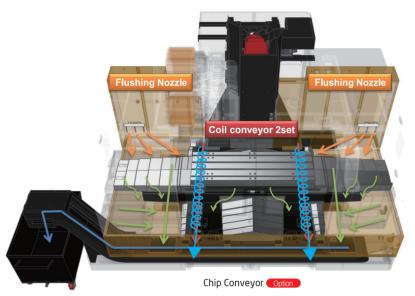
Table size : 66.93×22.45inch Table surface : 0.71H8×p4.93×4ea Table loading capacity : 2,204.63lb

#### HYST 6700

Table size : 66.03×26.38 inch Table surface : 0.71H8×p4.93×5ea Table loading capacity : 2,866.01 lb



#### Eco-Friendly Chip Disposal



Bucket Option

#### 👆 Automated Coolant Supply

Complete chip discharge through the series of chip disposal processes by the coolant nozzle, bed flush, coil conveyor and chip conveyor

- the large, rectangular S/GUARD design and rear coolant tank ensures easy chip removal
- using bed flushing, complete chip disposal off the surface of the bed
- the chip conveyor can be installed in either the left or right direction according to the required layout for efficient chip disposal

Large capacity coolant tank located behind the machine enables easy coolant exchange, tank cleaning and pump maintenance

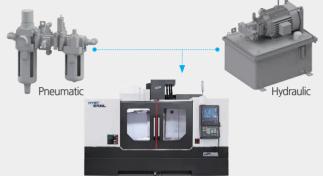


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#### Options

#### Rotary Table and Air/Hyd Fixture Preparation

Components necessary for the installation of rotary table and fixtures may be added during assembly wherein hydraulic or pneumatic preparation may be selected.



#### Tool Measurement Probe

Various automated tool diameter, length and lifetime measuring devices may be installed.

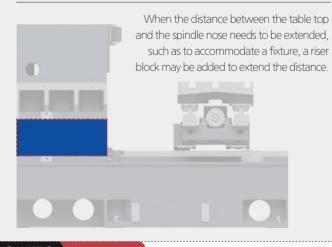


Measurement method : Touch probe Repeatability : ± 1 µm

 $\label{eq:constraint} \begin{array}{l} \mbox{Measurement method}: \mbox{Non-contact} \\ \mbox{Repeatability}: \pm 0.1 \ \mbox{$\mu$m} \\ \mbox{Min, tool detection}: 0.03 \mbox{mm} \end{array}$ 

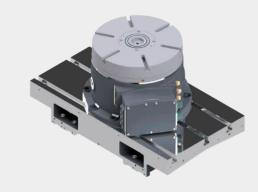


#### High Column



#### NC Rotary Table

When using an NC rotary table, multi-axis machining of diverse shapes is possible.



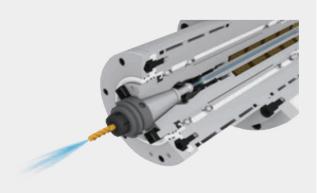
#### Chip Conveyor

Equipment meant to remove chips created during machining



#### Through Spindle Cooling (TSC)

The TSC option may be added to improve machining effectiveness



#### Cutting Performance

#### CAT40 Face mill (Ø3.15inch) / Carbon steel (SM45C)

Chip removal rate (inch <sup>3</sup> /min)	Spindle speed (r/min)	Feedrate (ipm)	
23.82	1.500	106.30	

#### CAT50 Face mill (Ø4.93inch) / Carbon steel (SM45C)

Chip removal rate (inch <sup>3</sup> /min)	Spindle speed (r/min)	Feedrate (ipm)	
22.84	968	30.48	

## 0.14inch 0.14inch 0.24inch 1 3.94inch

#### CAT40 End mill (Ø1inch) / Carbon steel (SM45C)

Chip removal rate (inch <sup>3</sup> /min)	Spindle speed (r/min)	Feedrate (ipm)	
2.71	1,528	5.44	

#### CAT50 End mill (Ø1inch) / Carbon steel (SM45C)

Chip removal rate (inch <sup>3</sup> /min)	Spindle speed (r/min)	Feedrate (ipm)	
2.49	895	31.74	

# 0.12inch 0.36ineh

#### CAT40 U-Drill (Ø1.97inch) / Carbon steel (SM45C)

Cutting rate (inch <sup>3</sup> /min)	Spindle speed (r/min)	Feedrate (ipm)	
13.90	1,500	8.27	

#### CAT50 U-Drill (Ø1.97inch) / Carbon steel (SM45C)

Cutting rate (inch <sup>3</sup> /min)	Spindle speed (r/min)	Feedrate (ipm)	
13.90	1,500	8.27	

# Ø1.97inch

#### CAT40 Tap / Carbon steel (SM45C)

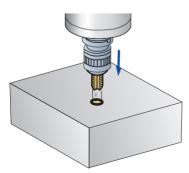
Feedrate (ipm)	Spindle speed (r/min)	Tap size (mm)	
8.35	742	M30×3.5	

#### CAT50 Tap / Carbon steel (SM45C)

Feedrate (ipm)	Spindle speed (r/min)	Tap size (mm)	
38.04	276	M30×3.5	

TEST conditions : 12,000rpm [CAT40] 8,000rpm [CAT50]

\* The above data is based on internal testing. Values may change depending on cutting conditions.

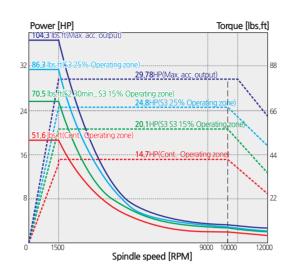


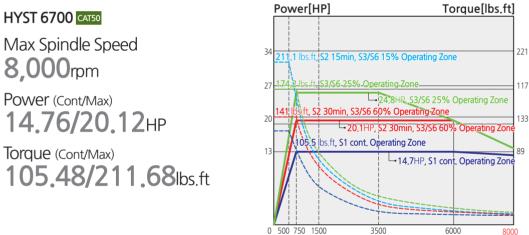
#### Spindle Power & Torque Diagram

Direct Drive Type HYST 5700L HYST 6700 CAT40

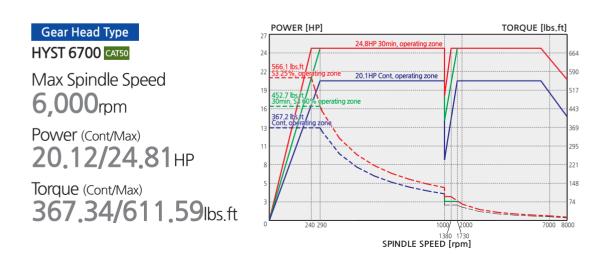
Max Spindle Speed 12,000rpm

Power (Cont/Max) 14.76/24.8HP Torque (Cont/Max) 51.63/87.03lbs.ft









#### Tool Shank

Unit : inch

**CAT40** 

CAT50

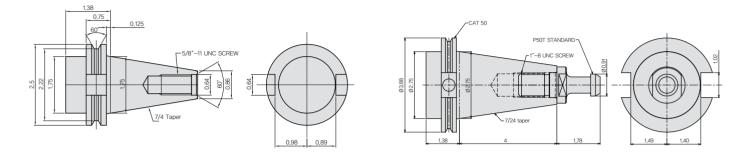
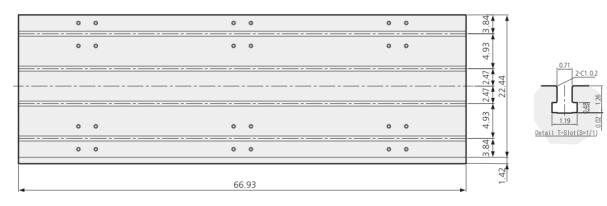


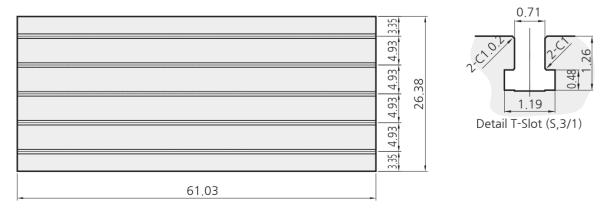
Table & T-Slot

Unit : inch

#### **HYST 5700L**

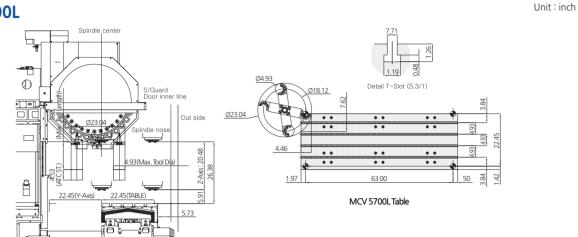


#### HYST 6700

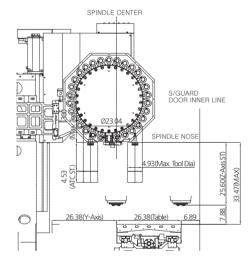


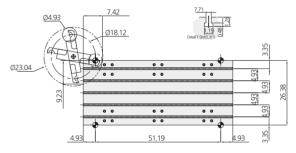
#### ATC Interference

#### HYST 5700L

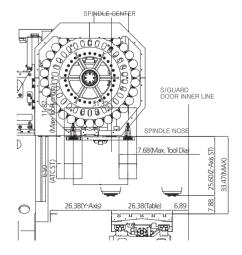


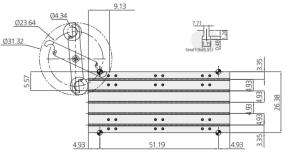
#### HYST 6700(BT 40/30MG)





#### HYST 6700(BT 50/30MG)





#### 😽 Standard / Optional

Cate	gory	HYST 5700L	HYST 6700 BT40 BT50
Spindle			
	6R(Gear)	Х	X O
	8R	Х	X O
RPM	12R	•	0 X
	15R	Х	0 X
	6R/8R	0	0
Spindle chiller	12R	•	٠
ATC			
	CAT40	•	٠
	CAT50	0	0
Spindle chiller	BBT40	0	0
	HSK-A63	X	X
Pull Stud	45°	•	•
Table & Column		-	•
T-slot table			
	200mm	0	•
High column	300mm	0	0
r ligh column	400mm	0	0
Coolant Equipme		0	0
FULL SPLASH GUA			
	KD		0
Shower coolant		0	~
Coolant gun		0	0
Bed flushing		•	0
Air gun		0	0
Air blow	/	0	0
	(with tool measuring device)	0	0
Internal screw con		•	•
Chip conveyor,	Left	0	0
HINGE	Right	0	0
	Rear	Х	Х
Chip conveyor,	Left	0	0
SCRAPER	Right	0	0
	Rear	Х	Х
Chip bucket	STD (380ℓ)	0	0
	Rotating (200ℓ)	0	0
Electrical Equipme	ent	r	
3 step patrol lamp	& buzzer	•	•
Elec. cabinet light		0	0
Remote MPG		0	0
3-axis MPG		•	•
Work counter	GUI	•	٠
Total counter	GUI	•	٠
Tool counter	GUI	•	٠
Multi counter	GUI	•	•

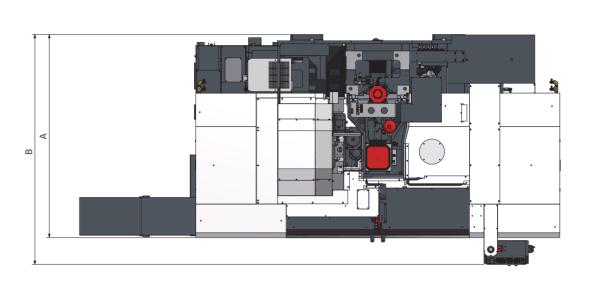
	• : Standa	ard ⊖∶Opti	onal X : N/A
Category	1	HYST 5700L	
Electrical equipment			
Residual current breaker		0	0
AVR (Auto Voltage Regula	ator)	0	0
Transformer	50kVA	0	0
Auto power off	Jonar	0	0
Power outage backup mc	dule	0	0
Z-axis drop prevention		•	•
Precision machining opt	ion	•	-
AICC II (AI Contour Cont		•	•
Jerk control	,	•	•
Smooth tolerance plus co	ntrol	•	•
Machining condition selec		•	•
Machining quality selection		•	•
Data server		•	•
Manual guide i		•	•
Measurement			
Workpiece contact	TACO	0	0
check device	SMC	0	0
Auto tool measuring devi	ce	0	0
Tool breakage detection		0	0
	X-axis	0	0
Linear scale	Y-axis	0	0
	Z-axis	0	0
Coolant level detection		0	0
Environmental	I		
Air conditioner		0	0
Oil mist collector		0	0
Oil skimmer		0	0
Fixture & automation	t		
A to allow	STD	0	0
Auto door	High speed	Х	Х
Auto shutter		Х	Х
Operation sub-console		0	0
NC rotary table		0	0
NC rotary table interface		0	0
Potany table control	+1 axis	0	0
Rotary table control	+2 axis	0	0
Add. M-code (4 sets)		0	0
Robot interface		0	0
I/O expansion		0	0
Hydraulic equipment			
Hydraulic unit for fixtures		0	0
Safety device			
Door interlock		•	٠
KCs		•	•

\* For detailed information, please contact your local SMEC dealer.

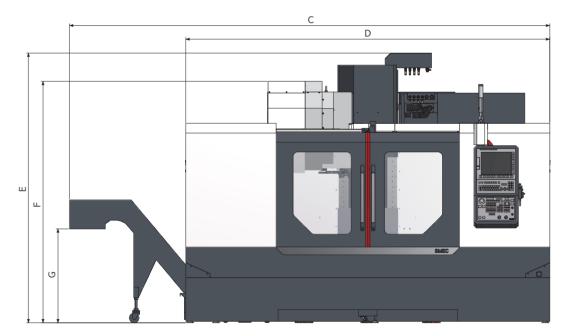
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#### Top view

Unit : inch



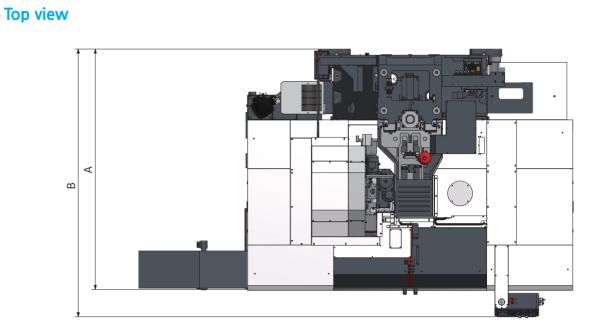
#### **Front view**



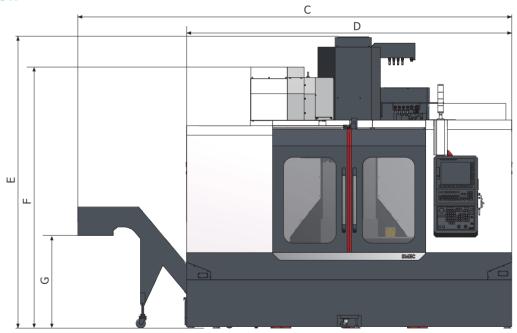
Model	A	B	<b>C</b>	D	E	F	<b>G</b>
	Length	Length (incl OP Panel)	Width (incl C/C)	Width	Height (max)	Height (magazine)	Height (C/C disposal chute)
HYST 5700L	82.64	93.57	195.04	147.80	109.71	98.22	38.19

#### - Machine Dimensions

Unit : inch



#### **Front view**



Model	A Length	B Length (incl OP Panel)	<b>C</b> Width (incl C/C)	D Width	E Height (max)	F Height (magazine)	<b>G</b> Height (C/C disposal chute)
HYST 6700(CAT50)		106.30	176.70	131.89	124.41	117.84	38.19
HYST 6700(CAT40)		106.30	176.70	131.89	119.89	113.08	38.19

#### Machining Solution (STD)



High performance NC options to improve machining performance provided as standard



Without S4 Package



15 inch LCD monitor standard						
AICC II (AI Contour Control II)	Efficient accel/deceleration (200 block look ahead)					
Jerk control	Speed control during acceleration changes					
Smooth tolerance plus control	Stable curved shape forming					
Machining conditions selection function	Adjust accuracy level according to					
Machining quality selection function	machining conditions					
Manual Guide i	Visual machining check and setup guide					
Data server	Transfer large program files					
Part program storage	2MB (5,120M)					
Number of registered programs	1,000ea					

#### IoT Solution (OPT)





#### NC-Gate / IoT-Gate

The NC-Gate / IoT-Gate that was developed in-house with our ICT technology is a universal gateway that not only interworks with our machine tools, but machine tools from other manufacturers, robots, automation equipment, and analog / digital sensors as a network device capable of bi-directional communication.

Supported drivers : Fanuc / Mitsubishi / Siemens NC, Modbus TCP, DeviceNet, Profibus, Ethernet, AI/DI/DO



#### SMEC User Interface



#### Fanuc Oi MF Plus

- 15'' LCD color display
- Part program size 2MB
- High quality designed OP Panel
- SMEC Custom S/W
- Portable M.P.G

SMEC Custom S/W displayed using MDI's 😅 button or OP Panel's 📴 button



 CUSTOM : Provide operator convenience and improve productivity using the support function for tool management and additional device setting.

#### **SMEC HMI**



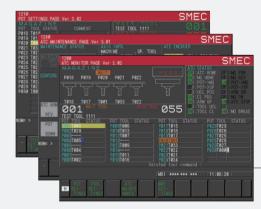
#### M/G-Code check function

Allows the operator to directly read the M/G-Code on the machine for easy application programming

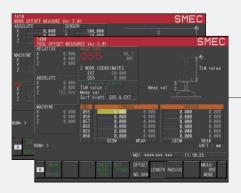


#### PMC alarm check function

When a PMC alarm occurs, the cause and countermeasures are described in detail, making operation and maintenance more convenient



ATC Magazine status check, setting and maintenance function



Work coordinates, tool setting support function



Counter for each T-Code

#### Hachine Specifications

X-axis travel Y-axis travel Z-axis travel	inch inch	63.00
	inch	
Z-axis travel		22.45
	inch	20.48
Spindle to table surface	inch	5.91~26.38
Table size	inch	66.9 × 22.45
Table loading capacity	lb	2,204.63
Table surface	inch	0.71H8 × p4.93 × 4ea
Spindle speed	rpm	12,000
Power (Cont/Max)	HP	14.76/29.78
Torque (Cont/Max)	lbs.ft	51,63/104.30
X-axis rapid traverse rate	ipm	1,181.12
Y-axis rapid traverse rate	ipm	1,417.33
Z-axis rapid traverse rate	ipm	1,181.12
Cutting feed (X/Y/Z)	ipm	0.0394~590.56
Tool shank	-	BT40
Pull stud	-	MAS P40T-1
Tool storage capacity	ea	30
Max tool diameter (adjacent empty)	inch	Ø3.15(4.93)
Max tool length / weight	inch/lb	11.82/33.07
Tool-to-tool time	sec	1.3(60Hz), 1.6(50Hz)
Tool changing method	-	Double Arm Swing
Tool select type	-	Memory random
Size (with SIDE chip conveyor) L×W×H	inch	147.80(195.04) × 82.64 × 109.71
Weight	lb	15,433.36
Coolant tank capacity gal		105.67
ver supply	kVA/V	32/220
		FANUC 0i-MF Plus
	Table loading capacity   Table surface   Spindle speed   Power (Cont/Max)   Torque (Cont/Max)   X-axis rapid traverse rate   Y-axis rapid traverse rate   Z-axis rapid traverse rate   Cutting feed (X/Y/Z)   Tool shank   Pull stud   Tool storage capacity   Max tool diameter (adjacent empty)   Max tool length / weight   Tool-to-tool time   Tool select type   Size (with SIDE chip conveyor) L×W×H   Weight	Table loading capacityIbTable surfaceinchSpindle speedrpmPower (Cont/Max)HPTorque (Cont/Max)lbs.ftK-axis rapid traverse rateipmY-axis rapid traverse rateipmZ-axis rapid traverse rateipmCutting feed (X/Y/Z)ipmTool shank-Pull stud-Pool storage capacityeaMax tool diameter (adjacent empty)inchMax tool length / weightinch/lbTool select type-Size (with SIDE chip conveyor) L×W×HinchWeightlbk capacitygalver supplyk/A/V

 $\ast\,$  Design and specifications are subject to change without notice.



#### Machine Specifications

	Category		HYST 6700(BT50)	HYST 6700(BT40)	
	X-axis travel	inch	53.15	53.15	
Travel	Y-axis travel	inch	26.38	26.38	
	Z-axis travel	inch	25.60	25.60	
	Spindle to table surface	inch	7.88~33.47	7.88~33.47	
Table	Table size	inch	61.03 × 26.38	61.03 × 26.38	
	Table loading capacity	lb	2,866.01	2,866.01	
	Table surface	inch	0.71H8 × p4.93 × 5ea	0.71H8 × p4.93 × 5ea	
Spindle	Spindle speed	rpm	Direct 8,000   Gear 6,000	Direct 12,000	
	Power (Cont/Max)	HP	Direct 14.76/20.12   Gear 20.12/24.81	14.76/24.8	
	Torque (Cont/Max)	lbs.ft	Direct 105.48/211.68   Gear 367.34/611.59	51.63/87.03	
	X-axis rapid traverse rate	ipm	1,417.33	1,417.33	
	Y-axis rapid traverse rate	ipm	1,417.33	1,417.33	
Feedrate	Z-axis rapid traverse rate	ipm	1,181.12	1,181.12	
	Cutting feed (X/Y/Z)	ipm	0.0394~590.56	0.0394~590.56	
	Tool shank	-	BT50	BT40	
	Pull stud	-	Direct MAS P50T-1   Gear MAS P50T-1F	MAS P40T-1	
	Tool storage capacity	ea	30	30	
170	Max tool diameter (adjacent empty)	inch	Ø3.94(7.68)	Ø3.15(4.93)	
ATC	Max tool length / weight	inch/lb	11.82/33.07	11.82/17.64	
	Tool-to-tool time	sec	2.45(60Hz), 2.75(50Hz)	1.3(60Hz), 1.6(50Hz)	
	Tool changing method	-	Double Arm Swing	Double Arm Swing	
	Tool select type	-	Memory random	Memory random	
	Size (with SIDE chip conveyor) L×W×H	inch	131.89(176.70) × 99.49 × 124.41	131.89(176.70) × 99.49 × 119.89	
/lachine	Weight	lb	22,046.23	22,046.23	
Coolant tank capacity gal		105.67	105.67		
Electric power supply kVA/V		kVA/V	32/220	32/220	
Controller			FANUC 0i-MF Plus	FANUC 0i-MF Plus	

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#### NC Specification / FANUC



	Category	0 <i>i</i> -MF Plus
	Controlled axes	Х, Ү, Ζ
	Max simultaneously controlled axes	4
Controlled axis	Least input increment	0.001mm / 0.0001"
	Built-in stroke limit	Soft overtravel 1, 2, 3
	Machine lock	•
	Manual handle feed	X1, X10, X100
	Dry run	•
	Single block	•
Operation function	Feed per minute	G94
	Feed per revolution	G95
	DNC operation	Ethernet, CF card
	Retraction for rigid tapping	•
	Linear interpolation	G01
	Circular interpolation	G02, G03
	Dwell	G04
	Cylindrical interpolation	G70.1
	Skip	G31
	Fine surface machining	•
Interpolation function	Smooth tolerance control	•
	Nano smoothing	•
	Polar coordinate interpolation	X
	Reference position (zero) return	G28
	Reference position (zero) return check	G27
	2nd, 3rd, 4th reference point return	G30
	Rapid traverse override	F0, 25%, 50%, 100%
	Feedrate override	0~200%
	Jog override	0 ~ 5,000 mm/min
	Al look ahead	20 block
Feed function	Al contour control II	200 block
	Look ahead block expansion (F0i) (400 Block)	0
	High-speed processing	X
	Look ahead block expansion (F31i)	X
	Jerk Control	•
	Spindle orientation	•
Spindle function	Rigid tapping	M29
	Spindle override	50 ~ 150%
	Tool number command	T2-Digt Tool number
	Tool nose radius compensation	G40 ~ G42
	Tool offset pairs	400 pairs
Tool function	Tool geometry / wear offset	•
	Tool length offset	•
	Tool life management	•
	Tool path graphic display	

•: STD O: Optional (): Option X: N/A

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#### **NC** Specification / FANUC



		• STD () Optional () Option X · N/A			
	Category	0 <i>i</i> -MF Plus			
	Absolute / incremental command	G90/G91			
	Repeating canned cycle	X			
	Repeating canned cycle 2	X			
	Canned cycles	X			
	Drilling canned cycle	G73/74/76, G80~89			
	Decimal point input	•			
	Inch / metric conversion	G20 / G21			
	Program restart	•			
	Sub program call	•			
Program input	Max programmable value	±99999.999mm/±9999.9999"			
	M function	3 digit			
	Custom macro	•			
	Addition of custom macro common variables	#100~#199, #500~#999 (#98000~#98499)			
	Programmable data input	G10			
	Tape code	ISO / EIA			
	Optional block skip	•			
	Workpiece coordinate system	G52 ~ G59			
	Addition of workpiece coordinate system	48(300) pairs			
	Embedded ethernet	•			
Interface function	Fast ethernet	100 Mbps			
	Alarm and operator history display	•			
	Run hour and parts count display	•			
	Loadmeter display	•			
	Self diagnosis function	•			
Setting and display	Extended part program editing	•			
	Machining condition selection function (10 levels)	•			
	Machining quality level adjustment (3 levels)	•			
	Display screen	15" LCD			
	Multi-language display	25 language			
	Fast data server	0			
Data input/output	RS232C interface	•			
	Memory card input / output	•			
	USB memory input / output	•			
	Part program storage size	2MB			
- 10	Number of registered programs	1,000EA			
Editing operation	Manual guide i	•			
	Manual guide Oi	0			

 $lacetic{}:\mathsf{STD}$   $\bigcirc$  : Optional ( ) : Option X : N/A



14 West Forest Avenue Englewood, NJ 07631 USA Office: +1 201-227-7632 Email: sales@esmecamerica.com www.smecmachinetools.com/eng

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