

MITSUI SEIKI QUOTATION NUMBER: M1539-01

DATE: October 13, 2006

SUGGESTED HW550S CONFIGURATION FOR:

MODEL HW550S WITH 31iM FANUC CONTROL

(In accordance with our standard terms and conditions)

HW55S Base Price, FOB, Port of Entry, Duty paid, U.S. Dollars

\$443,750.00

MACHINE SPECIFICATIONS:

1) Working Capacity

Table longitudinal stroke (X axis) : 750 mm (29.53")

Spindle head vertical stroke (Y axis) : 800 mm (31.50")

Column travel stroke (Z axis) : 850 mm (33.46")

Distance from table surface to spindle axis : 50 - 850 mm (1.96" - 33.46")

Distance from spindle nose to table center : 150 - 1000 mm (5.9" - 39.37")

Interference of whole machine cover with work piece on pallet

In machine: 850mm diameter (Ø 33.46")

In two station automatic pallet changer (2 APC): 1000mm diameter (Ø 39.37")

Machine Origin positions

X axis Y and Z axes : Stroke Center Stroke plus (+) end of machine travel

B axis : 0° (X axis parallel with edge locator of pallet)

5) Power Required

Electrical Service Required: AC 220/200V 3 phase 50/60HZ, 52 KVA

9) Numerical Control Equipment

CNC Control: Fanuc 31i (Fanuc 30i is optional)

10) Standard Machine Color

Standard Paint Specification: RAL 7032

NOTE: Custom machine colors are available as an option. Please supply the corresponding RAL number or sample paint chip.

MACHINE STANDARD FEATURES:

ST100-67	15,000 RPM spindle Spindle speed 150~ 15,000 RPM Two speed built-in AC 22/18.5 Kw motor, Spindle taper : ISO R297 Taper N0. 50T Spindle diameter : 90 mm diameter ID (3.5" Ø) Tool clamp force : 2,500 kg (5,510 lb.) Spindle speed S4 digit direct command : 150~15,000 RPM Override 50~120% Spindle motor : AC 22/18.5 kW (30/25 hp) (15min/cont. rating) Spindle torque (Max): 166 Nm (122 lbft) (ED-15min) Spindle torque (15 min / Cont.): 117 / 353 Nm (86/ 260lbft) Spindle lubrication : Oil & Air Lubrication Air requirement 07 MPa, 1.4 m3/min Spindle cooling : Spindle lubrication oil temp. control Spindle orientation : Electric servo system	STD
ST240-47	Automatic pallet changer Number of pallets: 2 x (550 x 550mm) Pallet change method : Direct turn type Pallet changing time : Approx 12 sec. Pallet turn on APC : Manual pallet turning device by each 90° Working surface : 550 x 550 mm (21.65" x 21.65") B axis table index angle : 1° (360 positions) Max permissible load on pallet : 800 kg. (1,760 lb.) Pallet Surface: M16 tapped hole, 24PI 100mm grid hole pattern Height from floor to table top : 1,200 mm (47.25") (Installed in front of the machine) Optional Features: B axis infinite (option): 0.001° (360,000 positions) T slot pallets (option) : T slots(H18) x 5 (with 30 mm thicker pallet) With Optional T-slot Pallet Height from floor to table top T slot pallets (option): 1,230 mm (48.42") Pallet changing time : 10 seconds	STD

CONTROL STANDARD FEATURES:

F3031-078	BACKLASH COMPENSATION: MAX 9999 PULSES on each axis	STD
F3031-081	BELL SHAPED ACCELERATION / DECELERATION BEFORE pre-reading interpolation	STD
F3031-198	EMBEDDED PC (Ethernet)	STD
F3031-507	PART PROGRAM STORAGE SIZE 160M (64KBYTE)	STD

INCLUDED MACHINE OPTIONS: (Included in the 'List Price' below)

OP180-10	Infinite indexing B axis table with rotary encoder feedback Rotary encoder feedback: 0.001° indexing (360,000 positions) Indexing servo motor: FANUC MODEL Alpha 22/2000 3KW Rotation speed: 0.1 - 3,600° (10 rpm) Indexing accuracy: ±3 sec. Repeating accuracy: ±1.5 sec. Max. permissible load: 1200 kg. (2600 lbs) 4th axis control, and simultaneously 4 axes control included	\$27,290.00
OP210-65	121 tools storage ATC, random selection Tool storage capacity: 120 tools Tool selection mode: Fixed pot number, bi-directional random selection Tool shank: 50T(JIS B6339) Maximum tool length: 450 mm (17.7") (Max. length 450mm 17.7" available W/in tool weight 15 kgs/33 lb.) Maximum tool diameter: 125 mm Ø (5" Ø) Maximum tool diameter w/o adjacent tools: 380 mm Ø (15" Ø) for T shape 216 mm Ø (8.5" Ø) 216 mm full circle cutter Maximum tool weight: 25 kg.(55 lb.) Maximum moment: 31.4 Nm (3.2 kgm) Tool change time (tool to tool): 2 seconds Tool change time (chip to chip): 15 sec (from stroke center if rapid traverse is 24 M)	\$56,330.00

OP400-15	AMCS-7-H Higher level inductive type spindle probe system without printer System software consumes 65m of part program memory and 22 sets of registerable program area. function (F3031-405)	\$16,470.00
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Note: OP400.15 requires:

- 1) High speed skip F3031-415 and multi skip function (F3031-405)
- 2) Coordinate rotation (F3031-335)

OP400-20	AMCS-7- with MP-700 type probe Renishaw MP-700 Spindle Probe upgrade (optical interface with Non-lobing probe)	\$4,125.00
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OP500-85	Rigid tap function Synchronized Z Axis feed with spindle speed for tapping without using tension/compression type tap holder (G84.2, G84.3) For high speed tapping with small tap	\$4,200.00
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OP500-30	Beacon light (2 tier) 2 lights for alarm (red), and stop (yellow) M00, M01, M02, M30 (Signal light)	\$955.00
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INCLUDED CONTROL OPTIONS: Included in the 'List Price' below)

F3031-024	ADDITION OF CUSTOM MACRO COMMON VARIABLES 600	\$620.00
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F3031-033	ADDITIONAL WORK PIECE COORDINATE 48	\$620.00
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F3031-039	AI CONTOUR CONTROL I (LOOK AHEAD BLK MAX. 30) (Look ahead block: Max 30) including: Cutting feed interpolation before linear acceleration/deceleration, Auto- corner override, Feed speed clamp by circular radius, Bell shape acceleration/ deceleration before look ahead interpolation	\$2,055.00
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F3031-129	COORDINATE SYSTEM ROTATION	\$415.00
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F3031-138	CUSTOM MACRO: G65 (SINGLE CALL), G66 (Modal call), G67 (Cancel)	\$1,985.00
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F3031-279	HELICAL INTERPOLATION	\$1,440.00
F3031-288	HIGH SPEED SKIP	\$620.00
F3031-303	INCH / METRIC CONVERSION	\$210.00
F3031-471	OPTIONAL BLOCK SKIP (9 SETS)	\$475.00
F3031-483	PART PROGRAM STORAGE 128KB (320 M)	\$425.00
F3031-501	PART PROGRAM STORAGE 8MB (20,480 M)	\$1,645.00
F3031-570	READER/PUNCHER INTERFACE (2CH)	\$610.00
F3031-651	STORED LIMIT CHECK BEFORE MOVE	\$415.00
F3031-660	STORED STROKE CHECK 2, 3	\$415.00
F3031-672	TAPE FORMAT FOR FS15	\$1,030.00
F3031-693	TOOL LIFE MANAGEMENT FUNCTION A (MAX 256 PAIRS)	\$620.00
F3031-717	TOOL OFFSET (G45 ~ G48)	\$1,030.00
F3031-726	TOOL OFFSET MEMORY C (GEOMETRY / WEAR & LENGTH / WEAR MEMORY)	\$1,030.00
F3031-735	TOOL OFFSET PAIRS 200-PAIRS	\$825.00

Total LIST PRICE for the above configured HW550S	\$569,605.00
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