

October 18, 2022

AFFINITY MANUFACTURING LTD.
7505 134A Street
Surrey, British Columbia V3W 7B3

Attention: Mr. Alex Chen

AKIRA SEIKI PERFORMA H3-XP HORIZONTAL MACHINING CENTRE

Dear Alex,

Thank you for the opportunity to quote the following **AKIRA SEIKI PERFORMA H3-XP HORIZONTAL MACHINING CENTRE**.



AXES TRAVEL

X-axis column longitudinal travel	14"
Y-axis head vertical travel	14"
Z-axis table travel	13.8"
B-axis rotary table increment	0.001°

ACCURACY

positioning	±0.00016"
repeatability	0.00008"

TABLE

pallet A	12.6" x 12.6"
pallet B	12.6" x 12.6"
maximum part diameter x height	18.5" x 18.5"
maximum table load	629 lbs.
bolt size x pitch	80mm x 60mm
height from the floor	approximately 41"

BALL SCREWS

X-axis double anchor/double nut/constant tension	1.417" diameter
Y-axis double anchor/double nut/constant tension	1.417" diameter
Z-axis double anchor/double nut/constant tension (uses flexless mechanical coupler)	1.417" diameter

AXES DRIVE MOTORS

X-axis A/C brushless high torque	2,800 lb. thrust
Y-axis A/C brushless high torque	2,800 lb. thrust
Z-axis A/C brushless high torque	2,800 lb. thrust
B-axis A/C brushless high torque	1,200 lb. thrust
X/Y/Z/B-axis servo drive	digital control intelligent AC servo system



FEED RATES

X/Y/Z-axis rapid traverse (can be overridden 100%, 50%, 25%, 1%)	1,889" per minute
X/Y/Z-axis cutting traverse (can be overridden from 0% to 150% in 10% increments)	from 0 to 700" per minute
minimum input increment	0.0001" or 0.001mm

RIGID TAPPING

maximum tapping speed	4,000 rpm
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SPINDLE

cartridge type with cooler	from 20 to 15,000 rpm
motor	20hp high torque
drive	digital
air blast	85 psi

AUTOMATIC TOOL CHANGER

tool storage capacity	120 tools
tool change time	1.8 seconds
arm actuation	positive high speed cam
tool call system T-2 digits	bi-directional
maximum tool diameter with adjacent empty pocket	5.5"
maximum tool diameter with full pockets	3.8"
maximum tool length	12"
maximum tool weight	14 lbs.
tool shank	CAT#40
retention stud	MAS-1
spindle orientation	electrical

FRAME

leveling screws for sag + tram control 4 each
 hydraulic counter balance for the head standard

SLIDEWAYS

X-axis HWN linear RG-35
 Y-axis HWN linear RG-35
 Z-axis HWN linear RG-35

LUBRICATION

Automatic X/Y/Z-axis ball screw and way system 2 quarts

FLOOD COOLANT SYSTEM

capacity 60 US Gallon
 coolant pump motor ½ hp
 shower coolant pump motor ½ hp
 coolant spray gun (with coil hose) standard

CHIP REMOVAL

belt type chip conveyor forward/reverse

POWER REQUIREMENTS

electricity 205-235V 3-phase with ground rod (#2 - #4 wire) 28kVa/90 amps
 compressed air 90-110 psi / 4cfm

MACHINE DIMENSIONS + WEIGHT

width 156"
 depth 76"
 depth with chip conveyor 112"
 height 83"
 weight 12,500 lbs.

FANUC 0-IMF / AKIRA MI645 CONTROL SPECIFICATIONS

CONTROLS

number of controlled axes	6 (X, Y, Z, B+)
number of simultaneously controlled axes	4 (X, Y, Z, B)
minimum input	0.0001" or 0.001mm

SPINDLE FUNCTION

spindle speed command	S (5 digits)
spindle speed clockwise	M3
spindle speed counter-clockwise	M4
spindle stop	M5
spindle speed override in 5% increments	40-150%

FEED FUNCTIONS

rapid feed	G0
linear feed	G1
circular feed (CW, CCW)	G2, G3
feed rate override in 10% increments	0-200%
dwel stop time command	G04 P or X
zero return to home	G27, G28, G29, G30
manual pulse generator	0.0001", 0.001", 0.01"
jog feed	0-393" per minute
dry run speed regardless of feed command (20 selections)	0-393" per minute
rapid traverse override	1%, 25%, 50%, 100%

TOOL FUNCTIONS

tool number command
 tool length measurements
 tool diameter compensation (100 each)
 tool length compensation (100 each)

T-2 digits command
 input from handle
 G40, G41, G42
 G43, G44, G49

MEMORY + MISCELLANEOUS FUNCTIONS

10.4" colour LCD screen with soft keys
 ISO/EIA auto recognition code input
 USB port with RS232C input/output interface
 Baud rate minimum to maximum
 host link feature through RS232C Baud rate (Mi645)
 included memory storage
 number of programs
 registered program numbers

standard
 standard
 standard
 110-19,200
 38,400
 1 meg.
 200
 1-99999999

PROGRAMMING FUNCTIONS

64-bit RISC hi speed machining with look ahead (Mi645)
 64-bit RISC hi speed machining with look ahead (Mi645)
 command systems incremental / absolute
 inch / metric
 fixture offsets (54 total)
 maximum programmable dimension
 fixed canned cycles
 special canned cycles
 mill boring cycles (CW, CCW)
 custom macros with local and common variables
 helical interpolation full or partial quadrant
 rigid tapping L/H, R/H (,R1 used at end)
 subprogram call and return
 sub-programming

G05.1 Q1
 G05 P10,000
 G91 / G90
 G20 / G21
 G54-G59/P1-P48
 9999.9999"
 G73-G76, G80-G89
 G34-G36
 G123, G13
 G65, G66, G67
 G2, G3
 G74, G84
 M98, M99
 nesting 8 deep

FEATURES

- Fanuc Oi-MF control
- high torque digital drives with A/C brushless motors;
- heavy ribbed wall meehanite castings are utilized on bed, column and saddle providing high rigidity for heavy cutting, accuracy and longevity;
- high precision linear ways provide high speed precision machining and produce excellent finishes;
- a long nose spindle design is used to keep the headstock clear of specialized work fixtures and to allow cutting of intricate cavity configurations;
- the tool changer is of the reliable side mount arm type and is located outside the work cube for chip-free tool changes;
- fully enclosed sheet metal guards aid in containment of chips and coolant and the twin chip augers with chip conveyor and shower coolant system aid in continuous operation.

STANDARD AND INCLUDED EQUIPMENT

- 0.001° B-axis rotary table
- belt type chip conveyor
- M-function (M25) (on or off)
- indexer M-function (M27)(with fin sig)
- one level memory upgrade
- 120 position automatic tool changer in lieu of the standard 36 position automatic tool changer
- PCMCIA DNC data server with one gig CF card
- tool pre-setter (touch type hard wired probe)
- Renishaw radio controlled part probe system
- coolant through spindle with 325 PSI canister filter (6 month warranty)
- 2nd year warranty

THE PRICING

LEADWELL MH-500i HORIZONTAL MACHINING CENTRE **\$339,900 US**

OPTIONAL EQUIPMENT

6-STATION AUTOMATIC PALLET CHANGER **\$148,000 US**

TERMS AND CONDITIONS

The pricing

The shown pricing is in US funds and is F.O.B. Livermore, California, USA apart from the included Renishaw part probe system which is installed on the machine at the customer's facilities in Surrey, British Columbia. Applicable taxes are extra. CSA approval is included in the pricing.

The payment terms

30% with order, 60% before pick-up, 10% 30 days after delivery.

Warranty

Twenty-Four (24) months / 6000 hours (whichever comes first) from date of delivery when given normal and proper usage, care and maintenance.

Delivery

Standard machine with 2-pallet changer: Stock, subject to prior sale. Machine with 6-pallet changer: 12 months, subject to confirmation at the time of purchase.

Customer's responsibility

Provide a single concrete slab level foundation per the machine foundation requirements, power to the machine by a certified electrician and hydraulic + way lube oil plus coolant fluid for the machine.

Masteel's responsibility

Assemble / level the machine on the customer's shop floor, complete the machine installation and accuracy test and one day of basic machine operator training.

Please note that this proposal is subject to change without notice. Therefore, all the information is subject to confirmation at the time of purchase.

Sincerely,

MASTEEL AMERICA CORPORATION

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