

YASDA

YASDA PRECISION TOOLS K.K.

1160 Hamanaka Satocho-cho, Okayama 719-03, Japan

Phone:0665-64-2511 Fax:Int.0865-64-4535

Osaka Office

Osaka-Ekimae Daiichi Bldg., 1-3-1-1000, Umeda,Kita-ku, Osaka, 530 Japan

Phone:06-341-1661 Fax:Int.06-348-0737

Lichron Machine Tools AB
 Attn.: **Mr. Ake Lindberg**
 Norregardsvagen 17,
 Box. 297, 541 26 Skovde
 Sweden

Our ref : Your P.O.No. 20000599 dated 2000-9-18

Your ref :

Date : **September 19, 2000**

Order Confirmation

Customer : Strom
Your Order No. : 2000599
Our Quotation No. : SW-20007-R1

YASDA Precision Center: H30 i-2APC-60T

Description	Q'ty	Price in Yen
92 1. BASE MACHINE: H30 i-2APC-60T		
1-1. Axis travel		
Travel ranges X / Y / Z		: 650 x 560 x 560 mm
Distance from B axis turning center to spindle center		: -375 ~ 275 mm (X axis)
Distance from A axis turning center to spindle center		: -200 ~ 360 mm (Y axis)
Distance from B axis turning center to spindle nose		: 150 ~ 710 mm axis)
Minimum resolution of X, Y, Z		: 0.001 mm
1-2. Table (A axis)		
Table working surface		: 300 x 300 mm
Max. loading capacity		: 80 kg
Max mass of moment		: 8 kg·m
Table surface configuration		: 32-M16 tapped holes
Min. table indexing angle		: 0.001°
Max. diameter of workpiece		: φ 400 mm, Max loading height: 300 mm
1-3. Table (B axis)		
Range of table rotation angle		: -120 ~ +45deg.
Min. table indexing angle		: 0.001°

- 1-4. **Spindle**
 - Spindle speed range : 120 - 12,000 min-1
 - Spindle drive motor : AC22 /18.5 kW (30 min/ cont. rating)
 - Spindle nose taper : 7/24 taper No. 40 (Big plus)
 - Spindle bearing inner diameter : ϕ 70 mm
 - Type of pull stud : MAS403 P40T-1
 - (*) in case of spindle center through coolant: JIS 40P
- 1-5. **Feedrate**
 - Rapid traverse - X / Y / Z axes : 40,000 mm/min.
 - Feedrate : Max. 20,000 mm/min.
 - Jog feedrate : Max. 5,000 mm/min.
 - A axis table indexing rate : max. 15 min.-1
 - B axis table indexing rate : max. 10 min.-1
- 1-6. **Base machine weight (with ATC/APC)** : 11000 kg
- 1-7. **Total electric power requirement** : Max. 49 kVA
- 1-8. **Required power supply** : AC 200V, 50 / 60 Hz
(*)Transformer is not included
- 1-9. **Required pneumatic supply** : 0.5 - 0.8 MPa, 800 NL/min.
- 1-10. **CE / EMC countermeasure** : Included

2. STANDARD EQUIPMENT

- 2-1. **Hydraulic unit** : Output discharge 12L/min (7MPa)
- 2-2. **Automatic lubrication for guideway** : Tank capacity 1.0L
- 2-3. **Spindle head cooling system** : 4300kcal/h (50Hz)
- 2-4. **Oil mist lubrication unit for spindle bearing:** tank capacity 1.0L
- 2-5. **Automatic tool changer (ATC)**
 - Tool storage capacity : 60 tools / 60 tools magazine stand
 - Type of tool shank : MAS BT40
 - Max. dia of tool : ϕ 100 mm
 - Max. length of tool : 300 mm
 - Max. weight of tool : 7 kg
- 2-6. **Automatic Pallet Changer (APC)**
 - Number of pallets : 2 pallets
 - Pallet changing system : Direct turn system
 - Pallet working surface : 300 x 300 mm
 - Pallet chucking mechanism : Curvic coupling
- 2-7. **Coolant system** : 4 flood nozzles, Tank capacity 500L
: Shower coolant
- 2-8. **Chip conveyor** : Twin screw and scraper conveyor A type
- 2-9. **Splash guard** : with roof
- 2-10. **Lighting** : Fluorescent lamp
- 2-11. **Optical scale feedback, X,Y,Z,A & B** : Heidenhain optical scale
- 2-12. **Manual pulse coder** : equipped

Quot.: No.: SW-20007-R1

- 2-13. I / O interface : RS-232C
- 2-14. Automatic power-off function : equipped
- 2-15. Earth leakage breaker : equipped
- 2-16. Standard machine colour : RAL-1013 Oyster white (Upper)
Dark brown (Lower)
- 2-17. Leveling jack screws : 1 set

3. NUMERICAL CONTROL UNIT

- 3-1 - NC control unit : Fanuc 16i-MA, 9.5" Monochrome LCD
- 3-2 - Part program storage length : 640m
- 3-3 - Number of registerable programs : 200
- 3-4 - Number of tool offset : 99 pairs
- 3-5 - Tool offset memory : Memory C
- 3-6 - Custom macro B : Common variable 82
- 3-7 - Automatic corner override : Included
- 3-8 - Background editing : Included
- 3-9 - Rigid tap : Included
- 3-10 - High speed machining function : HAS-0
- 3-11 Control axes : 5 axes
- 3-12 Simultaneously controlled axes : 5 axes
- 3-13 Least input increment : 0.001 mm, 0.001 degree
- 3-14 Interlock
- 3-15 Emergency stop
- 3-16 Overtravel
- 3-17 Stored stroke check 1
- 3-18 Stroke limit check before move
- 3-19 Follow-up
- 3-20 Backlash compensation
- 3-21 Stored pitch error compensation
- 3-22 Program number search
- 3-23 Sequence number search
- 3-24 Buffer register
- 3-25 Dry run
- 3-26 Single block
- 3-27 Manual reference position return
- 3-28 Manual handle feed
- 3-29 Manual handle feed rate : x1, x10, x100
- 3-30 Positioning : G00
- 3-31 Exact stop : G09, G61
- 3-32 Linear interpolation : G01
- 3-33 Multi-quadrant circular interpolation : G02, G03, CW, CCW
- 3-34 Dwell
- 3-35 Reference position return : G28
- 3-36 Reference position return check : G27

Quot. No.: SW-20007-R1

3-37	Rapid traverse override	: 0, 1, 5, 25, 50, 100%
3-38	Feed per minute	
3-39	Tangential speed constant control	
3-40	Automatic acceleration / deceleration	
3-41	Linear acceleration/deceleration after cutting feed interpolation	
3-42	Feedrate override	: 0~200%
3-43	Override cancel	
3-44	Tape code	: EIA RS244 / ISO840 automatic recognition
3-45	Label skip	
3-46	Control in/out	
3-47	Program number	: 04-digit
3-48	Absolute / incremental programming	
3-49	Decimal point programming/pocket calculator type decimal point programming	
3-50	Plane selection	: G17, G18, G19
3-51	Workpiece coordinate system	: G52~G59
3-52	Manual absolute on and off	
3-53	Sub-program call	: 4 folds nested
3-54	Canned cycles for drilling	
3-55	Circular interpolation by R programming	
3-56	Auxiliary function	: M3-digit
3-57	Auxiliary function lock	
3-58	Multiple command of auxiliary function	: 3
3-59	Spindle speed function	: S-5 digit, binary output
3-60	1st. Spindle orientation	
3-61	1st. Spindle output switching function	
3-62	Tool function	: T8 digit
3-63	Tool length compensation	: G43, G44, G48
3-64	Cutter compensation C	
3-65	Part program edition	
3-66	Program protect	
3-67	Clock function	
3-68	Program display	
3-69	Self-diagnostic function	
3-70	Alarm display	
3-71	Alarm history display	
3-72	Reader / puncher interface A	: RS232C
3-73	External data input	

Machine price incl. Packing / FOB charges

1

OPTIONAL EQUIPMENT

05 COOLANT

92.05.01 Spindle center through coolant 3.5 MPa, incl. coolant temperature control

1

Quot.: No.: SW-20007-R1

06 For FLEXIBLE MACHINING

92.06.01	Automatic tool length compensation and tool breakage sensing system		1
		required memory 50m	
92.06.02	Auto-measuring system, without Printer	required memory 176m	1

07 MISCELLANEOUS

92.07.05	Transformer (Nunome) type NET060EN H		1
----------	--------------------------------------	--	---

14 NC (for Fanuc 16i-MA)

92.14.13	Number of registerable program	: 1000	1
92.14.16	Helical interpolation		1
92.14.33	Display language; English		1
92.14.28	Custom macro	: common variable 600	1

16 CIF CHARGES

CIF Skovde