



HALES MACHINE TOOL INC

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PRE – OWNED 1999 DAEWOO DMH-400

Heavy Duty, High Precision Horizontal Machining Center

The Daewoo DMH-400 is designed for heavy cutting, long-term high accuracy, and superior surface finishes. Classic manufacturing methods and ultra rigid construction are combined with advanced technological features to provide exceptional value.

FEATURES

- * Fanuc 16MC Control
- * Pallet rotation at pallet loading station
- * Oil jacket spindle cooler
- * Built-in Spindle Motor
- * Memory Random ATC
- * Rigid tapping
- * High precision spindle with two double-row cylindrical roller bearings and two angular contact ball bearings preloaded by stepped sleeve
- * Massive Meehanite cast iron bed
- * 115 PSI High-Pressure through the spindle coolant
- * Hydraulic oil cooler assures constant hydraulic pressure and flow rate
- * Pallet clamping by 4-cone type pins
- * Servomotors mounted directly to the ball screws by flexible coupling
- * Large 84 gallon coolant tank

SPECIFICATIONS

CAPACITY:

X axis travel

23.6 inches

Y axis travel	22.0 inches
Z axis travel	22.0 inches
Pallet table size	15.75" x 15.75"
Allowable Load	880 pounds
Indexing	1 degree
T-slot width	(4) .708"
Changing method	Rotary shuttle
Pallet change time	5 seconds

SPINDLE:

Spindle nose to pallet center	5.9-27.9 inches
Spindle center to pallet top	1.97-24.0 inches
Spindle taper	ISO No. 40
Spindle speed range	120 - 12,000 RPM
A.C. spindle motor (30 min.)	30 HP
Maximum spindle torque	149 ft-lbs

AUTOMATIC TOOL CHANGER:

Number of Tools	60
Tool Shank	CAT 40
Max. Tool Dia.	3.5"
<i>with empty adjacent pockets</i>	5.51"
Max. Tool Length	11.81"
Max. Tool Weight	22 lbs.
Tool change time (tool to tool)	1.5 seconds
Tool change time (chip to chip)	4 seconds

MOTION:

X and Z axis rapid traverse rate	1,575 IPM
Y axis rapid traverse rate	1,575 IPM
Cutting Feed	.04 - 630 IPM
Least command increment	.0001"
X, Y and Z axis servo motor	4.7 Hp
X, Y and Z axis ball screw diameter	1.97 inches

GENERAL:

Machine Height	110"
Floor Space Required (W x D)	105" x 122"
Machine Weight	26,400 lbs.
KVA	65
Voltage Required	205 - 235 Volts / 3 Phase

CONSTRUCTION

*** BED, COLUMN, AND SADDLE:**

The bed is a rigid one-piece casting with heavy ribbing to prevent deformation during heavy cutting. Fine grain Meehanite cast iron is used for its excellent dampening characteristics. Massive guideways support the column for maximum rigidity. Four cones locate the pallet and a large diameter curvic coupling affords accuracy in the index. The saddle is fully supported the full length of travel. The rigid box type column casting is heavily ribbed to prevent twisting or distortion.

*** SPINDLE, HEADSTOCK, AND COLUMN:**

The heavy-duty 40 taper spindle is supported by angular contact & cylindrical roller bearings. The bearings are precision class P4 (AFBMA B7) and are permanently grease lubricated. A 30HP A.C. motor drives the spindle. A refrigerated spindle cooling system maintains a constant temperature for high accuracy, regardless of the ambient temperature or cutting conditions. Cooling oil is circulated through jackets in the spindle head. An encoder is attached to the spindle to allow rigid tapping.

*** GUIDEWAYS:**

All axis feature heavy-duty linear motion guideways for unsurpassed long-term rigidity and accuracy. The Y axis is counter balanced by hydraulic cylinder for smooth slide movement. All guideways are fully protected from chips and damage.

*** AUTOMATIC TOOL CHANGER:**

The 60-tool double-arm ATC provides fast and reliable exchange of tools. Using random access this tool changer delivers instant waiting tool availability even during short cutting cycle times. The cam actuated exchange arm provides a fast, 1.5 second tool to tool and 4 second chip to chip cycle time.

*** BALL SCREWS AND AXIS DRIVES:**

Each axis is driven by a high precision double-nut ballscrew. The ballscrews are centered between the guideways. The ballscrews are supported on both ends by angular contact thrust bearings. This double pretension design provides outstanding positioning repeatability with virtually no thermal growth. All axes have large diameter 1.97" ball screws which are connected directly to oversize Fanuc A.C. servo drive motors without gears or belts, to eliminate backlash. Each axis has a flexible coupling to protect the ball screw in the event of a sudden impact. These couplings can be quickly reset.

*** CHIP REMOVAL AND COOLANT SYSTEM:**

The fully enclosed chip guard, with wide sliding doors in the front, is provided as standard equipment. A telescopic cover, inclined at a 30 degree angle, directs chips into the trough to keep the area around the table clean. From the trough, chips are flushed onto the standard Turbo chip conveyor by the base coolant to make quick and easy work of chip removal at the front of the machine. The large 84-gallon coolant tank is isolated from the machine bed to prevent heat transfer. High volume flood & through the spindle coolant are standard. A 5 H.P. multi stage pump provides 115 PSI through the spindle coolant.

*** LUBRICATION:**

Automatic lubrication is provided to the guideways, ball screws, and spindle. Way lubrication oil is delivered by piston distributors that precisely meter the volume of the oil. Low-level alarm prevents machine from restarting.

STANDARD FEATURES

- * FANUC 16M controller
- * Turbo hinge type chip conveyor (42" discharge height)
- * Automatic tool changer
- * Automatic pallet changer with (2) T-slotted pallets
- * Full chip covers
- * Flood and 115 PSI through the spindle coolant system
- * Hydraulic unit with refrigerated oil cooler
- * Telescopic covers
- * Work light
- * Automatic lubrication system
- * Operator call light
- * Spindle load meter
- * Leveling pads
- * Operation and maintenance manual

PRICE FOR MACHINE AS DESCRIBED WITH FANUC CONTROL

PRICE.....\$ 69,900.00

VINTAGE 1999

VERY LOW HOURS

Power on = 19,198 hours

Operation hours 14,236

Cut Time 8,367 hours

FOB HAM LAKE, MN (LOADED ON A TRUCK)

AS IS WHERE IS

INSTALLATION AND TRAINING NOT INCLUDED

IN PLANT UNDER POWER AND READY FOR VIEWING

THIS MACHINE IS IN EXCELLENT CONDITION, VERY CLEAN AND HAS SEEN A STEADY DIET OF ALUMINUM AND PLASTIC

FANUC 16M-C CONTROL FEATURES

The FANUC 16MC is a high performance digital CNC control incorporating a modern 32 bit microprocessor, 32 bit data bus interface and high speed memory. The FANUC 16MC delivers reliable, accurate performance.

- * 14" color monitor
- * 3 simultaneously controllable axes
- * High Speed 32 bit microprocessor and bus
- * Tape storage length: 525 feet (63 K)
- * Registerable programs: 63
- * Pitch error compensation
- * Backlash compensation
- * Tape code: EIA, ISO Automatic recognition
- * Self diagnostic functions
- * Minimum programmable increment: 0.0001"
- * Automatic acceleration / deceleration

Programming features:

- * Rigid tapping
- * Macro B
- * Helical interpolation
- * Background Editing
- * Circular interpolation by radius designation
- * Absolute/incremental programming (G90,91)
- * G54-59 Fixture Offsets
- * Coordinate system setting (G92)
- * Inch/metric programming
- * Cutter compensation C (G40-42)
- * Tool length compensation (G43,44,49)
- * Canned cycles for drilling, boring, and tapping (G73,74,76,80-89,98,99)
- * Decimal point programming
- * Tape format for F15
- * Reference point return (G27-G30)
- * Subprogram - 4 holds nested
- * Exact stop

Standard operation features:

- * Mirror image
- * Manual pulse generator
- * Absolute position encoders
- * 64 tool offsets
- * Run hour display
- * Parts count display
- * Input/output interface (RS232C)

Standard operation features continued:

- * Program protect key
- * Keyboard type manual data input (MDI)
- * Feed rate override
- * Spindle speed override
- * Manual jogging
- * Rapid traverse override
- * Tape code: EIA, ISO Automatic recognition
- * Clock Function

